

ANNUAL REPORT AND
FINANCIAL STATEMENT
2019



ASSOCIATION OF THE
INTERNET INDUSTRY

The image features a decorative border at the top and bottom composed of a grid of small squares in various colors including red, pink, purple, blue, teal, orange, and yellow. The central text reads "20eco19" in a light gray sans-serif font. The "eco" portion is replaced by a red rounded square containing the word "eco" in white lowercase letters, with three small white squares positioned below each letter.

20eco19



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*Oliver J. Sume
Attorney-at-Law
Chair of the Board
Board Member for Policy, Law & Regulations*

1. Foreword

Dear Readers,

The Internet and digitalisation are increasingly evolving into global topics that also require international ground rules. It therefore comes as no surprise that a growing number of digital policy regulatory approaches are being adopted at European level, and that such approaches are carving out fundamentally important pathways. When copyright reform was adopted in April 2019 – a reform which we as an association continuously monitored and commented critically on, and whose original Article 13 led to massive protests by Internet users worldwide – the implications of such developments started to finally dawn on many members of the public.

Bearing such developments in mind, it is both right and important that the eco Association has been present in Brussels for a number of years now, maintaining contacts with MEPs and Commission officials and representing the

positions of the Internet industry. Since the beginning of 2019, eco's Brussels office has been located in a new and even more central location, one which is in close proximity to the EU institutions. Its prestigious premises open up further opportunities to invite people to political events and discussions on location. In the coming years, we intend to make intensive use of these opportunities and to further expand upon them.

As the association representing the interests of the Internet industry, we were heavily engaged in the European elections in May 2019. As part of our internally developed communication campaign #EUVoteForDigital19, we conducted a successful and constructive exchange with numerous Internet politicians at the Bundestag and EU levels on the leading issues of European digital policy, and managed to position topics of importance to the Internet

industry on the media agenda in the context of the EU election.

What I would also like to highlight in this context are the transatlantic roundtables on data protection and the EU/US Privacy Shield, which we organised in this format for the first time. The roundtables took place in Berlin, Brussels and Washington, together with our American partner association, the i2Coalition, and brought us into a very productive dialogue with MEPs and company representatives.

A key topic of digital transformation became that of "artificial intelligence" (AI), a topic to which the new EU Commission under President Ursula von der Leyen intends to also devote a great deal of attention. In 2019, I already believed that it was critically important that we as an association took on this key topic for the future at an early stage in order to be able



to actively shape central political and strategic market developments in the field of AI.

Our study "Artificial Intelligence – Its Potential and the Lasting Transformation of the German Economy", which we published together with Arthur D. Little and the Vodafone Institute in November 2019, attracted a great deal of attention in the industry as well as in the media and politics. The study forecasts that AI technologies will yield huge market potential for almost all industries. At the eco://kongress 2019, we discussed the opportunities and challenges this will bring together with high-profile guests such as Rafael Laguna de la Vera, the head of the new German "Agentur für Sprunginnovationen" ("Agency for Disruptive Innovations"). The event was entitled "Shape the Internet of the Future with Artificial Intelligence", and also took place in November in Cologne. I am positive that the topic of AI will

remain one of the foremost topics for eco in the coming years.

Another topic close to my heart which I would like to mention here is our new eco initiative, Ladies in Tech (LiT), which was launched by Lucia Falkenberg and her team in 2019, with great support from the association's communication department. The aim of the initiative is to network women in the digital industry, to strengthen their positions in the world of work and within companies, and to campaign for more diversity and equality in the digital and Internet industry. As current figures show, in our industry, women are unfortunately still underrepresented, underpaid, and disadvantaged in many other respects. Employers in the digital sector are thus continuing to leave untapped the great potential of women within the workforce.

I consider it our duty and responsibility as the leading European Internet association to draw attention to such shortcomings and to commit ourselves to ensuring that the Internet industry becomes an industry in which women can enjoy the same career opportunities as men. I will therefore continue to campaign personally to see Ladies in Tech continue to grow as an eco initiative and to become a strong international network for women in the tech industry.

This new year is something special for the eco Association, because in 2020 we are celebrating 25 years of eco! We have chosen to mark this anniversary with the motto "25 Years of Internet with Responsibility", as this is the principle around which we have been driving and shaping the development of the Internet and digital transformation for a quarter of a century now.

I am looking forward to having this motto brim full of life together with you, our members – and of course, I am also looking forward to celebrating the past 25 years gone by with you!

On this note, I would like to thank all members, my colleagues on the Board, eco's management team and, of course, all employees for their excellent and trustful cooperation in the past year.

Your

Oliver J. Süme



Harald A. Summa
Chief Executive Officer

2. Report from the Management

2.1 Confident on the Road to Digital Sovereignty

Confidence. That's the term that springs to mind when I look back on last year. As in previous years, we achieved so much together in 2019. For this I would like to thank not only our dedicated team members in Cologne, Berlin and Brussels. A sincere thanks goes also to the well over a thousand companies that are engaged under our association's umbrella and who show the outside world what we insiders have long known: Our industry is important and it is dynamic. It is also diverse and vibrant.

On the following pages you can read in detail about what we have achieved, the passion with which we have taken on and tackled specialist issues, the major initiatives we have launched, and how – as a competent voice which resonates in political circles – we have championed the visions and goals of our members.

While our activities may seem very varied at first glance, I would like to draw your attention to what all of them have in common: to the one goal we all share, a goal to which we direct all our efforts and which is the reason that the term "confidence" is what strikes me when looking both back and ahead.

The foundation of our business, the Internet, is a global infrastructure, and naturally it brings us also into the field of global competition. On the one hand, this competition is of a classic market-based nature, where economic interests are what are at play. On the other hand, it is also a competition of ideologies – and increasingly so. In this competition, the European Union and its record-breaking export champion, Germany, are not in the position they could be, bearing in mind their economic strength and their significance for world history.

Some observers come to the conclusion that Europe, wedged between two giants, does not

have much room for manoeuvre. Personally, I have never been inclined to adopt this passive and resigned attitude and I have always been able to maintain my positive attitude without any reservations. However, my thinking in this regard has not always represented that of the majority. For me, 2019 marks the year in which the general mood shifted and now is more reflective of my mindset.

A visible sign of this is a European initiative with visionary dimensions: GAIA-X. As the Association of the Internet Industry, we have been involved in this project from the very outset. Even at the first meetings, where little



more was achieved than an exchange of ideas, soundings and declarations of intent, the growing confidence of the participants was palpable. And the goal is certainly ambitious. Existing cloud services are already established, they work reliably, are cost-effective, and an increasing number of companies are moving more and more workflows to the clouds of their choice.

Given this, what is the point of such an initiative and why should it be a European one?

Starting and succeeding with a completely new service in such a market environment would

not make sense if the existing offer were to be merely duplicated. If we want to lead GAIA-X to competitiveness, we have to deliver more than what is offered by the dominant players. We have to further develop the whole idea of cloud services. We have to bring new concepts for new services to the market, and we have to do so with an overall convincing, all-inclusive package. What we want to create here is an ecosystem.

The opportunity is there, because the digital world remains dynamic. Industry that is already data-driven today will generate even more data in the future, not least as a result of

the implementation of 5G. Storing, processing, analysing and distributing this data and, based on this data, managing existing value chains more efficiently or creating new ones – this is already a challenge. The ever-increasing volume of data is creating enormous opportunities. These must be recognized and developed with innovative solutions.

The European Union sees itself as a "common area of freedom, security and justice". Security is also a top priority for GAIA-X. Currently, many companies use cloud services by means of connections via the public Internet. How their data is sent to and from the cloud and which stations it passes through is largely outside of their control.

What are more secure are connections where users and providers can connect directly to each other via an Internet Exchange. There, they can exchange data with the highest level of security and with very low latency, not only from one point to the next, but also from one point to many others. Such private "one-to-many" connections can be scaled as required. Technically, there is nothing to prevent a company from interconnecting its entire digital ecosystem in this way.

In GAIA-X we see the groups of participants emerging from these processes as a "federation". It could therefore also be said that companies are thereby building their own Internet, based on the same protocols and technologies as the

public Internet, but privately, with transparent transmission paths. "Build your own Internet" is one of the possible scenarios with which GAIA-X could convince companies worldwide to become part of the European offer.

I believe that we can succeed in this, and I believe that we are creating far more than just another offering in the multi-faceted cloud spectrum. I wrote above that we are focusing all of our activities on one overarching goal. If you know our association, you know what that goal is called: Sovereignty. An industry that wants to act with sovereignty in the digital world of the 21st century, that wants to act in a self-determined and effective manner, has no choice but to ensure that an adequate digital infrastructure is made available. Shortly before our 25th birthday, we started taking big steps in the right direction – and that is why I am looking confidently into our common, digital future.

Your

Harald A. Summa



Alexander Rabe
Managing Director

2.2 Pooling Expertise – Creating Added Value

eco's role as an association centres on pooling the expertise of our members and enabling them to engage in an intensive exchange – not only with each other, but also with representatives of other (user) industries, politics and the media. This is the foundation upon which our activities are built. In this way, positions, alliances and new business models are generated, which in turn create added value for our members.

The know-how of our members enables us to create visibility for the industry, to shape political framework conditions, and to promote new technologies. In 2019, we once again

managed to achieve all of this in an exemplary manner, as this report so impressively documents on the pages that follow.

Listed below are just a few **highlights**:

The **study on the economic potential of artificial intelligence (AI)**, which we compiled together with Arthur D. Little and the Vodafone Institute – and which dealt with individual industry segments relevant to Europe as an industry location, such as manufacturing, logistics, and retail – attracted a great deal of positive attention from the media and politics. Our early positioning in this important field and the related presentation of our professional expertise played a decisive role, at the end

of 2019, in eco's receiving the award for the Service-Meister project, which is financed by the German Federal Ministry for Economic Affairs and Energy (BMWi). This project emerged as a winner in the German federal government's AI innovation competition and will now be implemented by eco as consortium leader over the next three years.

Thanks to the **"Connected and Autonomous Mobility" guidelines**, which we developed together with several member companies and which we presented and discussed in Munich, we were able to position ourselves as experts on the future topic of mobility. This was a critical first step that enabled us to engage in talks and to initiate joint projects with important

strategic partners such as the German Association of the Automotive Industry (VDA), the General German Automobile Club (ADAC), Deutsche Bahn and other stakeholders.

Both topics – AI and connected mobility – will continue to engage us as an Internet industry in the coming years and will enable us to conduct far-reaching exchanges within and outside of our existing membership structure.

In addition, the **"Alliance for the Strengthening of Digital Infrastructures in Germany"**, a member initiative launched under the umbrella of eco, has opened up many new opportunities for us as an association: Together with members and other stakeholders in the Internet industry,



we have been able to underscore the importance of the ecosystem of digital infrastructures. As a result of these activities, we have, for example, gained direct access as an association to the **European cloud infrastructure project GAIA-X** initiated by the German Federal Ministry for Economic Affairs and Energy (BMWi). Here we were involved in various discussions and draft concepts which informed the development of this project. In addition, as part of the Alliance, we have developed and published the first concepts for the sustainable development of digitalisation and the role of data centres in times of the global "Fridays for Future" movement, which we will concretize in further detail in 2020.

On the occasion of the Digital Summit of the German federal government in Dortmund, the Alliance, together with Andreas Pinkwart, Minister of Economics and Digital Affairs of the federal state of North Rhine-Westphalia (NRW), was once again able to organise a tour of the Internet sites and make the ecosystem of digitalisation tangible for politicians and media representatives.

Last but not least, we made important progress in the further **internationalisation** of eco, which consolidate our strengths in this area: Within the framework of a cooperation agreement with the Internet Society (ISOC), eco plans to support a targeted multi-stakeholder approach through various jointly implemented regional and global projects and events. In addition, joint initiatives addressing privacy, encryption, Internet access and capacity building are to be advanced with the aim of promoting an open Internet.

Together with our US partner association i2Coalition, for the first time we held joint transatlantic roundtables in Berlin, Brussels and Washington, D.C. focusing on the importance of data protection.

Also for the first time, the Internet Governance Forum brought together and hosted its international community in Germany in 2019. After many years of intensive support by eco for this multi-stakeholder dialogue, we used the occasion of this "home game", along with many of

our members, to give due recognition to both the importance of digitalisation and the international expertise involved.

In order to bring these manifold activities and projects to fruition, we have taken various measures in 2019 to secure our association's work for the long-term, to further increase our effectiveness, and to make our association fit for the future.

The first measure that you will certainly all be aware of was the adjustment of membership fees, the first adjustment introduced since our foundation. We're pleased that our members have supported this decision and that we can therefore look to the future with greater strength and, in the interests of our members, continue to represent your interests at our locations in Cologne, Berlin and Brussels.

In order to gain a better insight into precisely those needs and interests of our members, for the first time, in 2019, we organised an interactive members' workshop, in which members were actively involved in pitching their ideas for projects and topics.

Based on the outcomes, we have, for example, further customised the field of knowledge transfer. The basis for this had already been set with our eco Academy. Now we have responded directly to the feedback and are continually expanding the offer with new formats such as our virtual interactive webinars.

Internally within the association, we have also focused on our association strategy, which was established in 2018 and which places a clear emphasis on content-oriented association work. With this in mind, we initially strengthened the Digital Business Models division and merged the activities of selected competence groups in order to further develop relevant topics under the umbrella of this division. The resulting leaner structures have enabled us to directly address new and future-oriented topics, above all the topic area of AI.

We are on a very good path. I look forward to working with you in positioning the eco Association and its activities in 2020 in such a way that our voice will continue to be heard, and that we will be able to support the Internet industry with appropriate responsibility in its many activities as we move into the future.

Cordially yours

Alexander Rabe



3. Association Development

3.1 Finances

As in previous years, eco – Association of the Internet Industry can look back on a successful business year in 2019, having enjoyed an increase in revenues in all areas.

Following the successful concept from 2018, the association once again focused on holding high-quality events. These included the Certified Senders Alliance (CSA) Summit, the Internet Security Days, and the repeat of the recently conceived day-long event combination of the eco://kongress and the eco://award. The high number of participants not only led to additional revenues in 2019, but also improved and strengthened eco's reputation in the national and international Internet community.

Added value for our members in 2019 was provided in particular by the study "Artificial Intelligence – Its Potential and the Lasting Transformation of the German Economy", the expansion of digital events in the form of webinars, and dotmagazine, published regularly in English.

In 2019, the eco Association was able to record an increase of 61 member companies and additional income of 36,516 Euro, which represents a growth of 1.9 percent in comparison to 2018. In direct comparison to the previous year, the trend of acquiring new member companies declined slightly, whereas the other areas improved strongly. Another important driver of eco's growth was the strong 17.5 percent increase in sales of the CSA (7.8 percent in the previous year).

In addition, public subsidies helped eco to increase revenues by 35.4 percent compared to the previous year. This increase in income resulted, among other things, from the successful completion of the SIWECOS project at the end of the financial year. A large portion of this is also due to the very successful trial project "Service-Meister", which was able to convince with its concept during its five-month project period. It passed the further competition phase and has secured further public funding for the eco Association for the next three financial years – alongside the approved extension and increase for the AUDITOR project.

As in previous years, other revenue included inter alia remuneration in kind, reimbursement of expenses incurred, and the offsetting of personnel costs. It also included income from the "eco External Data Protection Officer" service, which generated a positive result in the 2019 financial year. The corresponding costs are reflected in legal and consulting fees.

The results of the subsidiaries are largely positive in 2019. eco Service GmbH recorded a slight loss due to, among other things, lower sponsoring income, but this was offset in the balance sheet by offsetting the profit carried forward from previous years.

In 2019, the eco Association achieved a good increase in revenue of 11.0 percent with a moderate cost increase of 8.5 percent.

In the coming 2020 budget, the eco Association continues to expect increasing membership numbers and a good development of the CSA's service revenues, as well as an increase in funding contributions through new projects, and plans on a balanced result.



Revenue and Expenditure in 2019					Budget for the Financial Year 2020	
eco e.V.	Actual Value 2019 in Euro	Percentage	Actual Value 2018 in Euro	Change from preceding year in percent	Planned for 2020 in Euro	Percentage
Income						
Member fees	1,913,879	52.4 %	1,877,363	1.9 %	2,408,500	56.9 %
Public funding	528,813	14.5 %	390,495	35.4 %	578,300	13.7 %
Generated proceeds	931,392	25.5 %	792,567	17.5 %	1,125,000	26.6 %
Other*	278,785	7.6 %	231,024	20.7 %	119,305	2.8 %
Total revenue	3,652,869	100.0 %	3,291,449	11.0 %	4,231,105	100.0 %
Issues						
Personnel costs	1,874,404	51.8 %	1,753,345	6.9 %	2,131,759	50.5 %
Administrative costs	156,481	4.3 %	230,292	-32.1 %	428,290	10.1 %
Occupancy costs	140,570	3.9 %	131,972	6.5 %	158,093	3.7 %
Contributions	50,783	1.4 %	18,799	170.1 %	50,130	1.2 %
Travel costs	129,414	3.6 %	114,126	13.4 %	174,825	4.1 %
Investments	24,826	0.7 %	33,262	-25.4 %	30,000	0.7 %
Marketing/Projects	1,038,312	28.7 %	858,663	20.9 %	1,109,288	26.3 %
Administrative/accounting/ legal costs	77,029	2.1 %	135,853	-43.3 %	48,000	1.2 %
Other/taxes**	125,845	3.5 %	56,567	122.5 %	91,458	2.2 %
Total costs	3,617,664	100.0 %	3,332,879	8.5 %	4,221,843	100.0 %
Surplus/deficit	35,205		-41,430		9,262	

* Other revenue: including charging benefits for cars, offsetting of personnel costs, reimbursement of advanced costs, etc.

** Other expenditure: Bank fees, artists' social security contributions, insurances, further education, advanced costs, etc.



Katrin Mielke
Membership Manager

3.2 Europe's Largest Internet Association

With more than 1,100 member companies from over 70 countries, eco is Europe's largest Internet association.

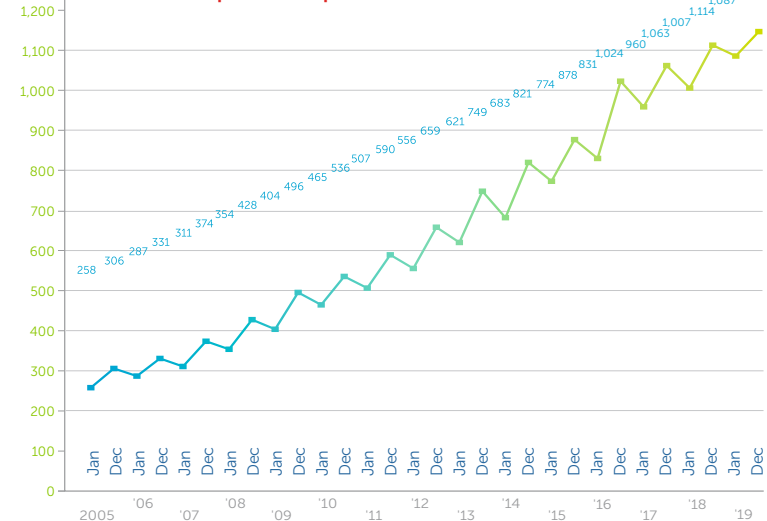
Since its foundation in 1995, eco has played a decisive role in shaping the development of the Internet. The association promotes new technologies, infrastructures and markets, forms framework conditions, and represents the interests of its members vis-à-vis politics and in (inter) national committees. Key topics are reliability and the strengthening of digital infrastructure, IT security and trust, as well as ethics and self-regulation. eco is committed to a free, technologically-neutral and network-neutral Internet.

At more than 100 events, eco members receive information on key current and future developments and work with experts to develop guidelines and quality standards for the market. They take the opportunity to inform and present themselves on location and to meet potential business partners and customers. eco enables the intensive exchange of knowledge between specialists and executives from the Internet industry, other branches of industry, and important representatives from politics, academia and society.

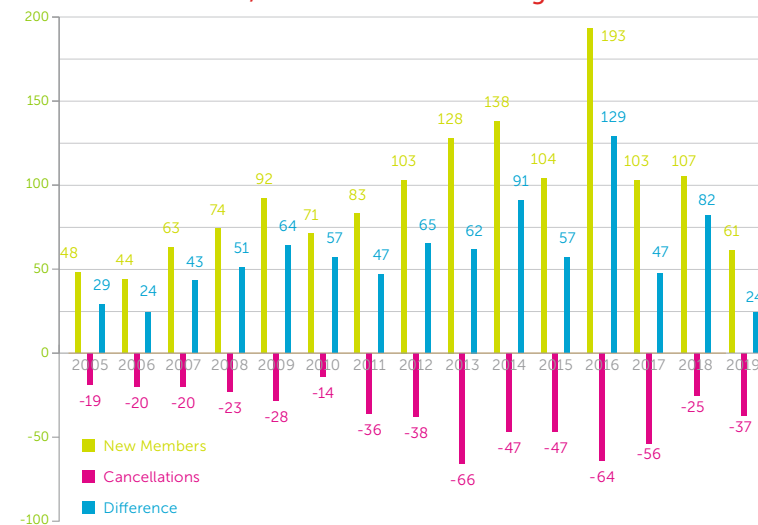
The list of all eco members can be found in Chapter 13, and more on the benefits for members at:

international.eco.de/about-eco/membership

Membership Development 2005–2019



New Members, Cancellations and Mergers 2005–2019



3.3 eco Association Structure and Presidency Committee

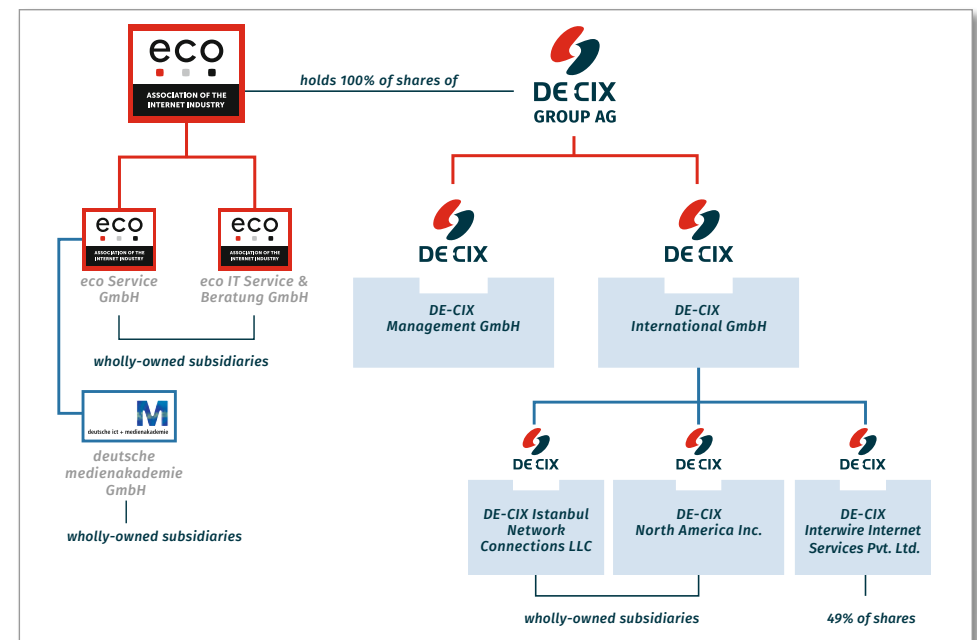
In 2018 the Board signed the asset transfer documents of the eco subsidiaries DE-CIX Management GmbH and DE-CIX International GmbH into the DE-CIX Group AG. In so doing, eco changed from being the parent of the DE-CIX companies to becoming the sole shareholder of DE-CIX Group AG, which acts as a holding company. The link between the association and the holding company takes the form of Felix Höger, Chair of the Supervisory Board and his Vice Chair Klaus Landefeld, both of whom are also members of the eco Board. The Supervisory Board of DE-CIX Group AG is rounded off with Rudolf van Megen.

eco Presidency Committee

During the 2018 AGM, the establishment of the eco Presidency Committee that was to assist the eco Board and senior management in a consultative manner was agreed upon. The intention is to

enable high-level representatives from industry, research, the media and politics to provide valuable stimulus with their expertise, helping the association to identify on-trend digital topics more rapidly and to more broadly apprehend their impact, as well as to extend the Internet industry perspective by integrating multiple points of view and lines of thought from other fields. The committee is also intended to enable the promotion of an interdisciplinary exchange of views and experiences on the opportunities and challenges of digital transformation.

The position of eco Honorary President has been occupied since 2017 by Prof. Michael Rotert, who, prior to this position, spent 17 years as Chair of the Board. The eco Presidency Committee will be successively expanded. The first four committee members are:



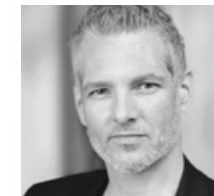
Prof. Anja Feldmann
Director of the Max Planck
Institute for Computer
Science and
Leibniz Prize winner



*Stefanie Kemp
Group Chief Innovation,
Transformation, Digitisation
with the Lowell Group
(from January 2020:
Head of Development at
Easy Software AG)*



*Saskia Steinacker
Global Head of Digital
Transformation at Bayer AG
and Member of the
High-Level Expert Group
of the EU Commission for
Artificial Intelligence*



Oliver Weimann
Start-up Specialist, Initiator
of the RuhrSummit and
Managing Director of
ruhr:HUB



eco Board 2019

Oliver J. Süme

Chair of the eco Board
eco Board Member for Policy, Law & Regulations
Attorney-at-Law/Partner Fieldfisher (Germany) LLP

Klaus Landefeld

Vice Chair of the eco Board
eco Board Member for Infrastructure & Networks
CEO nGENn GmbH

Felix Höger

eco Board Member for Online Services/ Cloud Computing
Chair of Supervisory Board DE-CIX Group AG
CEO Höger Management GmbH

Prof. Dr. Norbert Pohlmann

eco Board Member for IT Security
Professor and Managing Director of the Institute for Internet Security – if(is)

Prof. Michael Rotert

eco Honorary President
Managing Partner maxspot GmbH

4. Reports from the Board

4.1 Policy, Law & Regulations

The Internet industry, digitalisation and the digital transformation of the economy, society and state have continuously gained in importance in recent years. Internet and network policy topics have correspondingly moved into the spotlight at national, European and international levels and have become the subject of a large number of legal, political, and regulatory discussions, as well as political activities.

For successful digital transformation and the shaping of important key technologies such as artificial intelligence (AI), the industry also requires political support. In 2019, eco committed itself wholeheartedly to this cause and actively participated in numerous digital policy debates at national and European level: AI, the importance of digital infrastructures, the 5G mobile communications standard, blanket data retention and copyright are just some of the central topics that were the focus of attention in this year.

A further major topic on 2019's political agenda was digital sovereignty. At the Digital Summit in Dortmund at the end of September, the German federal government presented its thinking regarding the conception of a high-performance, secure and sovereign European data infrastructure under the name of GAIA-X. eco fundamentally supports this project. Reliable digital infrastructures are the key to Germany's digital sovereignty and to an agile, digital eco-system in which data can be shared in confidence, and where innovative applications can be developed and brought to market.

Another topic subject to much discussion in 2019 was the expansion of the 5G mobile communications network. A political debate took place across parties and political groups on the security requirements necessary for the 5G rollout and on what standards should be prescribed for it in order to address dependencies and security concerns vis-à-vis manufacturers and providers. To this end, the German Federal Network Agency (BNetzA) had already published a draft for new security requirements for telecommunications network operators in

October. With the draft, the BNetzA simultaneously launched a consultation, one in which eco participated.

The law on blanket data retention was again a much-discussed topic at German national and European level in 2019. At the end of September, the German Federal Administrative Court suspended the proceedings on the lawsuit (supported by eco) which had been filed against blanket data retention, and asked the European Court of Justice (EUCJ) for a preliminary ruling on the compatibility of German blanket data retention with EU law. The EUCJ must now decide whether the German rules are compatible with the Data Protection Directive and the EU Charter of Fundamental Rights.

On 6 July 2019, the new EU Copyright Directive came into force. National legislators now have until 7 June 2021 to transpose it into their own laws. In the course of this implementation, many grave errors that were made in the drafting of the directive stand to be corrected. In its coalition agreement, the German federal government spoke out expressly against upload filters



*Oliver J. Süme, Attorney-at-Law
Chair of the eco Board
Board Member for Policy, Law & Regulations*



*Henning Lesch, Attorney-at-Law
Head of Capital Office
Head of Policy, Law & Regulations Division*

and rejected them as disproportionate. This was also reiterated in the German federal government's statement made during the vote in the European Council. It remains to be seen whether the German federal government will take these principles into account when it comes to its national implementation.

In May 2019, new elections were held in Europe. eco took the European elections as an opportunity to position itself with an EU Agenda for a Modern Digital Policy. The new EU Commission came into office on 1 December, with Ursula von der Leyen already having been elected President in July. The President of the Commission announced that she wanted to initiate measures for AI regulation within her first 100 days in office. In addition, the political guidelines of the new EU Commission included proposals for the taxation of large digital corporations,

revamping the e-Commerce Directive, and establishing a "Cyber Unit" to accelerate the exchange of information in the EU.

At the beginning of December, the minister presidents of Germany's federal states adopted the State Media Treaty. It is expected to come into force in September 2020, and was subject to last-minute changes that significantly restrict the functionality of user interfaces. eco expressed criticism that such specifications are neither user-friendly nor conducive to innovation. In addition, inconsistencies with EU law pose a threat, as the new regulations are not in line with the EU Directive on Audiovisual Media Services (AVMS).

At the end of the year, plans by the German Federal Ministry of Justice (BMJV) to amend the German Network Enforcement Act (NetzDG)

and to combat hate crime were released. In addition to a reporting obligation for social networks, special provisions for data collection and dissemination as well as for the issuing of passwords are to be built into the Telemedia Act. This will not only apply to social media providers, but to all services coming under the remit of the Telemedia Act. These include email providers, website and forum operators, online shops, chat and messenger services, and cloud services. Telemedia service providers are thus faced with enormous organisational and cost-intensive challenges.

Looked at from the perspective of political representation, 2019 was an eventful year, with key courses being set at both German national and European levels – courses which are important for the business location and competitive conditions of the Internet industry.

eco will continue to monitor and accompany the important political processes for its member companies in the coming year and work for optimal political conditions for the Internet industry.

The current position papers, position statements, background papers, and PR activities are available on the eco division's website at:
www.eco.de/politik-recht



*Prof. Dr. Norbert Pohlmann
Board Member for IT Security*

4.2 IT Security

IT security is the largest influencing and acceptance factor for the increasingly important process of digitalisation. Topics of special significance currently are blockchain, artificial intelligence (AI), and IT security, as well as 5G and IoT security. But the topic of sovereignty is also gaining new importance.

Trust services based on blockchain technologies represent new possibilities for more security and trustworthiness in the context of digitalisation. Some examples of particular challenges are the appropriate implementation of distributed blockchains, crypto-agility, and appropriate governance. In the area of IT security, however,

AI will also ensure an increase in the detection rate of attacks, more support for the cybersecurity experts (who are still few and far between), a reduction of their workload, the improvement of existing cybersecurity solutions, and thus an increase in the level of IT security of digitalisation.

Both 5G and IoT security are becoming increasingly important aspects for these future communications and IT infrastructures, without which the necessary user acceptance cannot be achieved. In the current political environment, there is a growing debate concerning which technologies and services need to be developed or offered independently of international market

leaders. GAIA-X is a project which intends to promote IT sovereignty in Germany and in Europe with corresponding security standards and values.

The most important question is: What do we need in order to shape our future independently and successfully? The fundamental questions that need to be answered to this end include: In which IT fields does it make sense to be sovereign? In what areas do we need to work together? Where do we need international standards? For which IT technologies is open source useful?

eco Members' Workshop

The developments in the Internet industry are as fast and dynamic as the medium itself – constantly changing technologies, framework conditions, and content require continual exchange between all market players. With this in mind, the eco Association, for the first time, ran a successful exclusive C-Level Members' Workshop in 2019. The following questions were discussed: Which strategic topics are driving the Internet industry? Which entrepreneurial challenges will the Internet industry face in 2020 and onwards? How can we master these topics and challenges together through political lobbying, studies, initiatives or further measures? How do we need to align eco to these topics and challenges? Where should eco focus its energy and resources in order to successfully shape the Internet industry?

The eco Association's members were invited to present their ideas. In six-minute pitches, they were able to present lightning speeches on the podium in Berlin. Following this, all participants entered into discussion to specify topics, and explore opportunities – and determine the eco agenda of tomorrow.

The following topics were jointly selected by the members:

1. eco Academy and universities for the further development of specialists required for digitalisation – concerted action for topics and practical implementation
2. A common eco blockchain platform for rapid innovations and as a long-term trust service
3. The certification of AI systems to increase the level of trust
4. Joint development of an IoT marketplace for products and services – open innovation for small and medium-sized enterprises (SMEs)

DNS over HTTPS

With the help of "DNS over HTTPS" (DoH), DNS resolution occurs over the HTTPS protocol. The privacy and security of users can be improved by preventing the interception and manipulation of DNS data through man-in-the-middle attacks. The potential advantages of DoH are quickly and easily understood, but the changes to IT infrastructures and new risks are not as easy to predict. For this reason, eco held an international workshop with important players in December to develop a common position. Since there are very many and varying interests,

the joint coordination of the results is still in progress.

Project SIWECOS

The project "Secure Websites and Content Management Systems" (SIWECOS), which was initiated in 2016, was extended again in 2019 with funding from the German Federal Ministry for Economic Affairs and Energy (BMWi), which made it possible to expand the service to include five further security scanners. Furthermore, the service was migrated to a new container solution, so that it became independent of proprietary hosting solutions. At over 30 events, SIWECOS was presented and explained to the target group of SMEs. Within the context of the project, over 1,400 company websites have been examined by the SIWECOS security scanners and their level of security checked. The results of this study clearly demonstrate how much work still needs to be done by SMEs to protect their web presence. At the same time, it also makes recommendations as to how these challenges can be met.

Internet Security Days

On 26 and 27 September 2019, IT security experts, security managers and users met at Phantasialand in Brühl to learn about current threats and new strategies during the extensive conference programme and exhibition. The approximately 600 participants engaged in an in-depth exchange of ideas concerning the focal topics of cyber crime, emergency planning, compliance, and secure identities and infra-

structures, and left with many good ideas and approaches for their own companies.



IT Security Specialist Advisory Board

The focal points developed by the IT Security Specialist Advisory Board in 2019 were implemented and processed by the competence groups. The IT Security Specialist Advisory Board met with the eco Board, the competence group leaders, and the management again in 2019 to discuss the topics to be addressed in 2020 and determine the focal points of work.

Competence Group Anti-Abuse

The CG Abuse is a closed group and is mainly used for confidential communication and exchange among ISPs and hosters. In 2019, a two-day cross-border meeting was held between the eco CG Abuse, the ISPA and the University of Vienna. In early December, representatives of the CG Abuse met in Cologne with the State Criminal Police Office (LKA) of North Rhine-Westphalia, and the Central Bureau and Contact Office for Cyber Crime North-Rhine Westphalia (ZAC NRW) to discuss preventative measures and possible ways of reacting to cyber crime. Based on work already done in 2018, the CG Abuse published a white paper on the "Legitimate Use of Crypto-Mining". Driving topics in 2019 were also DoH and DNSSEC, for which the CG developed position and policy papers. The CG also spoke with international representatives about their experiences in this area.

Competence Group Security

One important topic that was dealt with and discussed by the CG Security was quantum computing and the resulting requirements for IT security. At a CG Security meeting, for example, the cryptographic consequences, crypto-agility, hybrid solutions, and challenges posed by the technology were discussed, and the development of Google's quantum computer and its impact on the economic use of quantum chips was addressed.

Surveys from 2018 showed that emergency and risk management would be a top IT security

topic for 2019. In collaboration with the Cologne Chamber of Industry and Commerce, the CG Security held a workshop on cyber risk management, which informed participants on the intent and purpose of cyber risk management and the methodological procedures related to IT and data risks. Further interesting topics were emergency planning and business continuity management, which were dealt with in depth at a meeting early in the year.

Congresses and trade fairs

In 2019, eco was again present at numerous IT security events. The association was represented at the it-sa in Nuremberg at a joint stand with six sub-exhibitors, and together with SIWECOS presented the free website check for SMEs. eco was also on location as an exhibitor at the international RSA Conference in San Francisco. In addition, eco successfully organised its own event formats, in particular roadshows on SIWECOS. eco was also present at events with security authorities such as the congress of the Federal Office for Information Security (BSI), and the association's partner networker NRW's IT-Trends Security event.



Felix Höger

Board Member for Online Services/Cloud Computing

4.3 Online Services/Cloud Computing

In 2019, we reached a new rung of quality in the debate on cloud technologies, interconnection and digitalisation. This time, the impetus came not from technology, but from politics: Europe is gradually realising that it has to do something about its dependency when it comes to key digital technologies, and that it needs its own concept of a Digital Single Market to achieve this. The old continent has woken up.

Public cloud goes private

From the narrower perspective of the cloud market, we are currently experiencing the storming of the last bastion of traditional information technology. The US hyperscalers

have adapted their strategy to this: If all local server capacities are not to be uploaded to their cloud data centres, they want to at least make "on-premise IT" an external branch of their own technology stacks. To achieve this, hyperscalers are equipping companies with a complete cloud package for the company-own data centre.

Software will soon only speak cloud

We are seeing the same tendency with enterprise applications: the cloud is the dominant pattern. Enterprise software today is rarely programmed from square one as a monolithic block of code which is then installed on customers' servers. Instead, developers assemble software from standardised micro components.

These micro services, however, are executed and operated in hyperscaler clouds, which provide development environments as Platform-as-a-Service. The charm of this approach lies in the high scalability in the cloud and the high level of interoperability with other applications of the same type, as they all use the same micro services. And now such programs are also run on-premises.

The sense of increasing dependency

Uniformity and interoperability are currently based on standards implemented by larger providers within their portfolios. Yet if company-own private clouds in themselves are run on the appliances of a hyperscaler, companies will not be able to change their public cloud service providers with ease. Everything is too interdependent. In this way, companies deliver themselves not only into the hands of the technology and pricing of a manufacturer; they also have

to surrender themselves to the regime of an individual provider when it comes to cybersecurity and data protection.

The needs of the industry and transformed sectors

It should not be forgotten that it is the innovative power of the hyperscalers that enable today's possibilities for a digital economy from which we all benefit. Yet technical monocultures – even from the cloud – cannot cater for the complex demands of an economy in transformation. The problem starts with issues of outdated IT: according to a Lünendonk study from 2019, almost two thirds of all companies operate their business applications in the classical way, i.e. without the cloud. One third do not want to rely on the cloud in the next two years either.



Even sectors in the process of digital transformation need solutions beyond the cloud mainstream, such as interconnected industrial production. What use is excellent interoperability within a cloud if a business partner relies on the technology of a different hyperscaler or on industry-specific solutions? Industry consortia have long since established their own industry networks for cross-sector data processing, for example for mass data analysis by artificial intelligence or local real-time computing in the Internet of Things.

Data sovereignty as the basis for digital prosperity

At its core, the digital economy is the creation of value from data – but in order to achieve this, we need to exchange, connect and collaboratively process data. This is not possible without technical interoperability and, most importantly, trust. Only binding rules and standards ensure that citizens and companies retain effective control over their data. Without this data sovereignty, there can be no trust and no exchange, no Big Data in medical research, no interconnected industrial production, no digital administration, no smart cities, and no self-driving cars.

eco and EuroCloud working towards a Digital Single Market

This insight is currently catching on more and more in Europe. In the Member States of the European Union and in Brussels, an awareness is emerging that we need to formulate – and

implement – a European response to the question of citizens' and companies' digital sovereignty. Initiatives such as GAIA-X and the future EU Data Strategy are evidence of a broad political process being set in motion, at the end of which lies rules and standards for a Digital Single Market in the EU. eco and EuroCloud Deutschland have been working towards this goal since the very beginning. We were able to make important contributions to this end again in 2019.

New EuroCloud Board Members for a cloud market in transformation

At the helm of the association, we will provide even more support to additional sectors of the German cloud industry through further personnel. To this end, the new composition of the EuroCloud Deutschland Board of Managers includes Dr. Jens Eckhardt, Prof. Norbert Pohlmann, Felix Höger, Thomas Noglik, and Bernd Krakau.



The two new members of the Board, Bernd Krakau, Chief Representative Portfolio & Digital at Datagroup SE, and Thomas Noglik, CEO

of Contabo, enrich the association with their substantial industry expertise in the systems integrator business and the managed services provider segment. In this way, we are actively supporting our members during the transformation of their businesses and represent the interests of German infrastructure operators, providers, and systems integrators in the current cloud initiatives at national and European level.

EuroCloud supporting GAIA-X

The most important political initiative in this respect in 2019 was most certainly GAIA-X. Initiated by the German Federal Ministry for Economic Affairs and Energy (BMWi) and the German Federal Ministry of Education and Research (BMBF), along with several companies and research institutes, the GAIA-X project intends to develop the blueprint for a high-performance and competitive, secure and trustworthy data infrastructure in Europe.

It's important to be realistic here – putting a European stamp on the global market for digital services will be a tough task and a lengthy democratic process. eco and EuroCloud Deutschland are actively bringing their European contacts, years of experience, and the interests of their members to the numerous working groups and committees. Several partners in Europe are approaching us to find out what exactly is behind GAIA-X. Their tenor is that they expressly welcome the fact that Germany has taken the initiative!

The first GDPR certification for the cloud industry

Another European initiative, the EU General Data Protection Regulation (GDPR), is evidence that something along these lines is possible: It sets the global gold standard for the protection of privacy online. As a member of the AUDITOR consortium, EuroCloud Deutschland is working to ensure that the cloud industry can have its services certified according to the GDPR. With our experience, we help convert data protection criteria into relevant technical audit rules. In 2019, as a first in Europe, we succeeded in being certified for the German market by the German Accreditation Authority (Deutsche Akkreditierungsstelle – DAKKS). The next step is the first independent certification for the entire European Union.

Digital technology for a prospering society

With our work, we contribute to the step-by-step promotion of the Digital Single Market in Europe. Only in this way will our continent be in a position to make use of the strategic advantages of digital technologies for progress and prosperity in Europe. Ultimately, high-performance digital infrastructures are the key to the future fields of the 21st century.



Klaus Landefeld
Vice Chair
Board Member for Infrastructure & Networks

4.4 Infrastructure & Networks

In addition to the categories “Broadband”, “Data Protection” and “IT Security”, the key topics for 2019 in this division were the two focal points “Network Security” and “Access to Stored Data”.

“Network Security” dealt primarily with the security of data networks against espionage and sabotage, and secondarily with the security of end devices and services. This development was driven by an unexpected governmental proponent, which had previously been known to weaken rather than strengthen network security. As early as the beginning of the year, security policymakers took up and pursued demands for strict control of the hardware and software solutions used by network operators

and for the complete exclusion of components from Chinese production. It required all conceivable efforts to avert this suggestion for the time being and to transpose it into regulations suitable for practical application.

The focus on “access to stored data” covered the planning for comprehensive rights of access to stored inventory, connection and content data for the security authorities in Germany and abroad. A whole assortment of planned national and international regulations are not only designed to significantly expand access rights, but will in particular also extend the circle of companies that are obliged to provide information from several thousand to several million.

But let us look at the individual topic areas in detail:

Broadband, 5G and digital infrastructures

The auction of frequencies for the use of 5G technology, which ended on 12 June 2019, is certainly the biggest event of 2019 in the digital infrastructure sector. In addition to the further development of the networks towards 5G, there was another important change: In the process, successful bids were submitted by four instead of the previous three companies, and these now plan to offer 5G services to the public. What this intensified competition will mean for the market, however, will only become clear in the coming years. For the foreseeable future, the new entrant will only be able to provide nationwide access through cooperation agreements with the incumbents.

The de facto changeover of the German federal government's broadband subsidy to a pure fibre optic subsidy, along with the upcoming regulation on the EU codex, raises questions about the future form of universal service, wholesale products, and last mile access in the fibre optic sector. These topics were taken up by the German Federal Network Agency (BNetzA), as well as within the framework of industry meetings. The eco Academy also addressed this development in its Broadband Forum.

In addition to the German federal programme, eco also monitored the support programmes of

the German federal states and actively accompanied them in Hesse, Lower Saxony and North Rhine-Westphalia.

In addition, the digital infrastructure sector also addressed, among other things, the efficiency of data centres, future broad-scale network structure, and the requirements of edge computing.

Broadband measurement

With regard to the measurement tool of the German Federal Network Agency (BNetzA), the project group “Broadband Measurement” and the contracted company were unable to agree on the further process. The quality of the measurement results and their relevance as evidence of poor performance on the part of the broadband provider remained controversial throughout 2019. Measurement procedures, positioning and implementation are still unsuitable as verification of performance in individual cases. The contracted company did not take up the offer submitted to set up a common measurement platform for the verification of measurement procedures and measurement results.

Network security and monitoring

The providers' security concepts establish the security of data networks in Germany and are reviewed by the German Federal Network Agency (BNetzA). This is regulated in Section 109 Telecommunications Act (TKG), which was reviewed as a result of the political discussions. Contrary to the wishes of individual politicians,

it was not the legal regulation itself but the security catalogue for Section 109 TKG that was subsequently amended. This documents the rules and requirements according to which the providers develop security concepts. After consulting with the companies in June 2019, the security catalogue was adapted to meet the supposedly increased security requirements.

We are unable to be satisfied with these changes, as operational implementation represents another significant burden on network operators in their daily operations, without providing any real added value in terms of security compared to operators' previous concepts.

Transmission on a public network has never been, is never, and never will be, effectively protected against espionage and state surveillance. This is all the more true when using an over-the-air interface. The authenticity and integrity of a data transmission must also be ensured end-to-end by means of suitable protocols, and cannot under any circumstances be left to the discretion of the Internet – this, against the backdrop that, as a rule, multiple providers are responsible for the data on its way through the Internet.

The extent to which prescribed state measures to control network operation can take on a significant scale was made clear in 2019 by the new Russian law for a "sovereign Internet". A law – based as a precondition on, among

other things, the existing laws on inland storage and comprehensive blanket data retention – now prescribes the installation of filter infrastructure in backbone lines. The devices are expected to be able to map all measures, from filtering individual services to completely separating the "RuNet" from the rest of the global Internet. The reason given for the law is that of protection of the Russian Internet against attacks and sabotage by state actors – the tonality sounds frighteningly similar in this respect.

For those members interested in the status of the proceedings conducted by our subsidiary DE-CIX, it remains to be reported that the German Federal Constitutional Court did not reach a decision on the G10 complaint in 2019. The Federal Administrative Court suspended DE-CIX's further legal action against the orders based on the BND Act in November 2019 until a decision on the validity of the legal basis has been made. A decision by the Federal Constitutional Court on the BND law is expected in the course of 2020.

Access to stored data

A central topic in 2019 was access to stored data for national and international law enforcement agencies. At the German national level, several draft laws were presented which simplify access to stored data for federal and state security authorities and also significantly expand this access. Worth mentioning are the drafts for a law on the harmonisation of the



constitution, for amendments to the Federal Police Act, and for the IT Security Act 2.0.

Particular mention must be made of the amendment to the German Telemedia Act proposed in December 2019 as part of the draft German law on combatting right-wing extremism and hate crime. This is intended to extend the obligations to release data, which have until now only applied to telecommunications operators, to all providers of telemedia services. If the draft act were to come into effect, then, expressed in figures, instead of the current 6,000 companies, around 2.7 million companies would be obliged to provide information on inventory and transaction data of their service.

What all drafts have in common is sweeping access to inventory data even for administrative offences, extended access to traffic data,

and the release of content data such as cloud data by court order.

At the international level, too, attempts were continued to establish a corresponding level of access: At EU level, these are the e-Evidence Regulation and the 2nd Additional Protocol to the Council of Europe's Budapest Convention. On the US side, these are the CLOUD Act and the negotiations conducted with the EU Commission.

Despite extensive discussions at EU level with DG Home and the Council bodies, and numerous discussions at UN level with CDET, UNODC, and within the I&J Policy Network, many problems remain unresolved from a provider perspective. These include the challenges of authenticating international requests and establishing a secure transmission path for the data to be transmitted.



Another fundamental problem is that information can only be obtained on the basis of the legal system of the requesting state. This regularly makes it impossible for providers to check incoming requests: In contrast to the previous system of MLATs, in which a provider receives a verified request from a national agency, under the present drafts providers are directly confronted with requests from the authorised agencies of the investigating country.

The information must also be provided to the extent customary under the law of the requesting state. This also applies in the case where this is significantly higher than the amount of information allowed to be provided under the provider's respective national law.

Even in the current drafts, the demands made by eco last year have not been taken into account. These include the exemption of suppliers from unlawful orders, and reasonable time limits for the examination of orders. In addition, eco had called for compensation for costs that corresponded to the regulations of the target country and not those of the requesting state.

It was noted positively that all measures relate exclusively to existing data and there is no need to store data beyond the company's own operational requirements. Due to a submission by the German Federal Administrative Court to the European Court of Justice in September 2019, the regulations relating to blanket data retention remain suspended, at

least in Germany, and now are a matter for the European jurisdiction.

Within the scope of our cooperation with the Internet Society (ISOC), we also dealt with the extraordinary level of data access by security authorities and the associated question of the extent and permissibility of encryption possibilities and secure devices with regard to the required monitoring possibilities.

Cybersecurity & IT security

Cybersecurity and IT security were important aspects of the activities of this division. These ranged from the legal framework of the proposed amendments to the Telecommunications Act (TKG), the Federal Office for Information Security (BSI) Act, and the IT Security Act 2.0, through to the hearings of the Internal Committee on Cybersecurity, the Digital Agenda for Hardware and Software Security Committee, the Router-TR working group and the German Federal Ministry of the Interior's (BMI) National Pact for Cybersecurity.

The central position of eco has always been the uncompromising increase of security without mandated backdoors, the hoarding of security vulnerabilities, or the weakening of the underlying encryption algorithms. Ultimately, this is the only way, in a digitalised society, to stringently further develop the IT security required for citizens, companies and public institutions.

During the BSI's "Secure Information Society Think Tank", participants discussed issues of liability and usability, as well as international cooperation and the social handling of risks. In addition, standards and minimum requirements were discussed for making the information technology of the future secure in the interplay between users, companies and authorities.

Furthermore, eco accompanied the development and adoption of the UP KRITIS industry standards in the relevant areas.

In the context of events, the question of the limits of state and private action in cyber space was increasingly raised. This was discussed, for example, with regard to digital warfare by states, use by security authorities as a preventive measure, and the action of state or even private bodies in the context of hack-backs for "digital self-defence" in order to react to attacks against their own infrastructure and IT systems.

Data protection

In the area of data protection, following the entry into force of the GDPR in 2018, a shift in the discussion can be observed towards uniform application and sovereignty over data.

Great efforts have been made both at German federal level and between the European data protection authorities to find a uniform application of the provisions of the GDPR for violations and their sanctions. But the road to harmonisation is long. Moreover, many data

protection authorities within the EU operate with very limited resources. Germany has already reacted here: Following a 33 percent increase in staffing levels for the 2019 financial year, the German Federal Commissioner for Data Protection, as the body directly responsible for most of our member companies, received a further 25 percent increase in staffing levels for 2020.

The questions of data sovereignty, of "Who owns my data? Who owns my digital me?" or simply the migration between services, as well as the interoperability of messenger services, arose repeatedly throughout the year. Among other things, these discussions were also driven by the negotiations on the EU ePrivacy Regulation, which has still not been adopted.

A new issue raised was the question of the use of IoT protocol data – both by companies and by law enforcement and intelligence agencies. The use of such data, which has so far not been clearly classified as personal, but which can be easily correlated to personal data, is currently not clearly regulated. In all likelihood, this will require legal clarification in the near future.



Prof. Michael Rotert
Honorary President

4.5 Report Honorary President

The year 2019 was very successful for the entire eco Association and I am proud to be Honorary President. I am happy to contribute my more than 35 years of experience in the Internet community and support the association in a range of areas.

2019 was an important year, especially for the area of Internet governance in Germany. A multi-stakeholder association was founded for the German IGF branch (IGF-D), in whose board I am involved. This association is intended to ensure that work on this very important topic can be carried out in a more structured manner and that communication can be more professional.

The fact that Internet governance is not a marginal topic in Germany was impressively demonstrated by the worldwide Internet Governance Forum (IGF), which took place in Berlin in November. Germany was host to the world and thanks to the well-suited location and excellent organisation by the German Federal Ministry of Economic Affairs and Energy (BMWi), there were many fruitful discussions. Internet governance enjoyed high visibility in Germany – not only in politics, but also in industry and society. It became clear that, within the global Internet, it is also necessary to have global discussions on all aspects of the Internet. Of course, I was not the only eco representative on site, as it was our association that introduced and organised the German IGF many years ago, thus confirming the importance of the topic.

What the IGF-D is for Germany and the United Nations' IGF is for the world, the European Dialogue on Internet Governance (EuroDIG) is for Europe. In 2019, the excellently-organised 12th EuroDIG was held in the Hague, with great participation of all stakeholder groups. From the very beginning in 2008, eco has been supporting the project and, in 2014, organised the EuroDIG meeting in Berlin, with the highest-ever attendance.

Other important activities that I was involved in for eco in 2019 included:

- The Governance Circle (essentially a discussion forum with general industry participation, not only Internet-related, organised by Ernst & Young),
- The IT security congress of the German Federal Office for Information Security (BSI) (eco has a seat on the programme advisory board),

- ISOC Germany (national grouping, of which I am a founding member, of the worldwide Internet Society founded in 1991),
- The ISPA-UK Award (English Internet Service Provider Award, of which I have been a jury member for over ten years), and of course
- The Digital Summit of the German federal government, where eco has been involved almost from the beginning.

As in previous years, the eco participation in the Council of Europe in Strasbourg cannot be omitted from the list. On the one hand, I have an observer role in the Steering Committee on Media and Information Society (CDMSI) and, on the other hand, I am active in the advisory board of the audiovisual information centre. The project "Self-regulation of online skill games and eSports providers" was further expanded upon in the year under review. Among other things, the University of St. Gallen was commissioned to undertake a study on this topic.



*Henning Lesch, Attorney-at-Law
Head of the Capital Office
Head of Policy, Law & Regulations Division*

5. Political Representation

The Policy, Law & Regulations division coordinates all eco Association activities which concern the legal and regulatory framework for Internet and network policy. Through its Capital Office in Berlin and its office in Brussels, eco delivers on-location representation of the political interests of its members and keeps them up-to-date on current developments and legislative initiatives.

The Policy, Law & Regulations division brings together eco's expertise on the range of relevant topics and ensures a clear political positioning of the association vis-à-vis political stakeholders. The division's industry positions on the key Internet policy topics allow members' interests to directly inform political debate and to flow

into accompanying event formats and political press and public relations work.

Looked at from the perspective of political representation, the year 2019 was defined by a multitude of debates in digital policy. The ministries involved in the German federal government's "Digitalisation Implementation Strategy" engaged in key digital policy priority projects and took steps to implement these. In terms of digital policy, the year 2019 can be regarded as having initially been somewhat slow and faltering, but as the year progressed, it took on an increasing tempo. In part, this led to uncoordinated and inconsistent plans and presented the Internet industry and the digital sector with completely new challenges.

The German Commission of Experts on Competition Law 4.0 concluded its work and recommended approaches for making competition law future-proof, particularly at the European level. In addition, work began on the 10th amendment of the German Act against Restraints of Competition (GWB-Novelle). In the area of IT security, there was still little concrete activity in the year under review. An "IT Security Act 2.0", which had been scheduled for 2019, was not delivered. The expansion of digital infrastructures remains one of the central challenges for the German federal government in order to move closer to realising the goal of the Gigabit Society by 2025, as agreed in the coalition agreement. The political debate focused on the expansion of the 5G mobile communications network. Security

requirements and reservations vis-à-vis manufacturers and providers were the topics accorded particular attention. The German Federal Network Agency (BNetzA) had already published a draft for new security requirements for telecommunications network operators.

When it came to the topic of blockchain, 2019 saw the German federal government starting to take action. A consultation process was conducted which laid the foundations for a blockchain strategy, which was published in autumn 2019. The German Federal Ministry for Economic Affairs and Energy (BMWi) presented the "National Industrial Strategy 2030", incorporating strategic guidelines for the German federal government's industrial policy. It highlights the importance and key role that the



Internet, artificial intelligence (AI), and other digital technologies will play in Germany's structural transformation in the coming years.

Two years after the introduction of the German Network Enforcement Act (NetzDG), plans of the German Federal Ministry of Justice (BMJV) were announced in mid-December, which envisage an expansion of legal regulation to combat hate crime and which go far beyond the original intention of the act. In other developments, work on the German federal government's "Shaping Digitalisation" implementation strategy and its projects offered eco the opportunity to actively participate in the political process.

Furthermore, in 2019 the topic of AI gained increasing importance in German and European politics. The German federal government had already established a Data Ethics Commission and published its "National AI Strategy". In the German Bundestag, a special Study Commission has been established to focus exclusively on the topic. An extensive analysis of the various regulatory approaches to AI in Germany, France and the EU was carried out as part of the AI study conducted by eco, Arthur D. Little and the Vodafone Institute. The analysis also contextualised the findings in terms of the global debate on AI and its regulation. At the European level, the EU Commission intends to present an initiative on AI within its first 100 days in office – to commence in all likelihood with a white paper. In addition, the EU Parlia-

ment will address the topic in several initiative reports.

At the federal state level in Germany, developments of particular relevance were the reform of media regulation, the implementation of the Audiovisual Media Services Directive (AVMD), and the amendment of the Interstate Media Treaty. The German federal government achieved a breakthrough with the federal states in the area of education, marked by the adoption of the Digital Pact. Film funding is to be revised in the context of the upcoming amendment to the Federal Film Funding Act (FFG-Novelle). The German federal government has launched initial polls and consultations for this purpose. eco has commented on the relevant projects on the basis of position statements and actively participated in the consultations.

On the basis of a digital policy federal state compass, eco undertook an analysis of the digital policy programs, digital strategies, or digital agendas of the 16 German federal states. The analysis both highlighted how the federal states have recognized the importance of digitalisation and have already developed their own digitalisation strategies, while also identifying what priorities they are setting at federal state level. The main challenges facing the federal states are implementation measures for broadband expansion, in particular drawdown of funding and concrete expansion measures. The adoption of e-government, specific measures to promote start-ups and digitalisation,

and educational concepts are recognized by the federal states as important, but need to be implemented more consistently.

At European level, 2019 was heavily influenced by the end of the legislative term and the European elections held in the Member States in May. The end of the legislative term meant that, on the one hand, important legislative procedures such as the ePrivacy and e-Evidence regulations were not brought to a close, while on the other hand, some dossiers were hastily concluded at the expense of rigor and broad political debate. The European Copyright Directive was adopted – only at the second attempt – by the European Parliament, despite numerous associated controversial and unresolved issues.

The Policy, Law & Regulations division used the occasion of the European election year to develop industry positions on European Internet and digital policy together with its member companies and to position itself accordingly. eco developed an EU agenda for a modern digital policy and formulated 19 key digital policy demands for the 2019 European elections. Under the title of #EUVoteForDigital19, these were embedded in a communication and event concept with which the division actively accompanied the upcoming European elections.

From the outset of the EU Parliament's and Commission's 9th legislative term, which began in the year under review, it was clear that an increasing importance and focus were to be

accorded to digital policy issues. The presentation of the political guidelines and work programme for the European Union by the newly elected President of the European Commission, Ursula von der Leyen, provided an initial outlook on the thematic priorities which were to be on the political agenda. Measures envisaged were for the regulation of AI, taxation of digital companies, and the revamping of the e-Commerce Directive.

The Digital Services Act is intended to revamp or replace the e-Commerce Directive, which has been in force since 2000, and this will be one of the central legislative processes at European level in the field of digital policy. Other priorities are to be a European "Green Deal", an economy that works for people, promotion of the European way of life, the strengthening of Europe in the world, and a new push for European democracy.

Many digital policy issues were of significance for the Internet industry in Germany and Europe. In 2019, the topics that follow stood particularly in the focus of the work of the eco division.





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5.1 Legislative Processes & Focus Topics

IT security

For many years now, IT security has been the subject of controversial debate in Germany. A new IT security law for Germany (IT-SiG 2.0) is expected to be introduced in the near future. A draft bill that had yet to be approved was made public at the end of March 2019. eco availed of this opportunity to comment on central aspects of the published draft with a key points paper. The topic was also discussed in the German Bundestag in several hearings in various committees, in which eco Board Member Klaus Landefeld participated as an expert and presented the association's viewpoint. In parallel, eco coordinated a position paper with its members, with this too being

published in April 2019. This paper took up and discussed the questions regarding liability rules for the area of IT security.

At the European level, the Cybersecurity Act, which eco had commented on and intensively monitored in the previous year, came into force. The ongoing discussion on the handling of encryption by security authorities also prompted eco, together with the Internet Society (ISOC), to send an open letter to the Group of Seven (G7) and to present the challenges and framework conditions for a proportionate encryption policy in a background paper.

Security catalogue

At the beginning of 2019, the debate on the security of telecommunications networks and the trustworthiness of network equipment providers came into political focus against the backdrop of infrastructure expansion in line with the 5G mobile communications standard. In order to represent the interests of its member companies, eco also actively participated in the debate on this topic. Several position statements were written, while eco also participated in the hearing of the German Federal Network Agency (BNetzA). For eco and its member companies, secure and trustworthy infrastructures are of fundamental importance, but unfortunately many extraneous arguments

and questions were dragged into the debate. The catalogue of security requirements as laid out in Section 109 of the German Telecommunications Act (TKG) is expected to be published in 2020. It is to be expected that 2020 will also see a link-up between the planned IT Security Act 2.0 and the TKG.

Artificial intelligence

Politicians are pursuing the topic of AI with increasingly high levels of interest. Discussions about regulations and how to design and manage AI-based systems and technologies are now at full throttle. With its Guidelines for the Handling of AI, eco had already positioned itself at an early stage on this topic, and



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created points of reference for further debate. The Policy, Law & Regulations team utilised its study with Arthur D. Little and the Vodafone Institute to explore, in the course of a larger examination, the approaches being adopted to regulating AI in Germany, France and the EU, and to analyse these in the context of regulatory approaches in the USA and China. The study also paved the way for the forthcoming debates on AI in 2020. In this context, regulation is expected to take place at the European level in particular. At the beginning of 2019, a High-Level Expert Group (AI-HLEG) had already explored the ethical issues of AI. eco contributed to this debate and commented on the group's work.

Digital tax

At European level, the debate on the introduction of a digital tax remained in play. In the end, the European Commission and the Member States agreed initially to wait for the negotiations on a digital tax at the level of the Organisation for Economic Cooperation and Development (OECD) until the end of 2020. eco subsequently published a paper setting out requirements for the taxation of digital business models and the resulting revenues and pointed out the need for an international consensus on this issue. In autumn 2019, a composite consultation was held by the OECD on the determination of profits of digital companies and the allocation of taxing rights between

jurisdictions, with eco contributing to this consultation.

Platform regulation

The debate on regulation of digital platforms continued into 2019. The "Platform-to-Business Regulation" was passed, which imposes additional information obligations on providers of online intermediary services vis-à-vis their business customers. On this occasion, eco drew attention once again to key aspects of platform regulation and reiterated its demand that digital business models must not be placed at a disadvantage.

Regulation of competition

In Germany, the work of the Commission of Experts on Competition Law 4.0 set up by the German Federal Ministry for Economic Affairs and Energy (BMWi) – work which had been closely accompanied by eco – drew to a close. On the basis of the study published by the BMWi in 2018 on "Modernising the law on abuse of market power", and the recommendations of the Commission of Experts on Competition Law 4.0, an unofficially published draft of the 10th amendment of the German Act against Restraints of Competition (GWB-Novelle) surfaced in autumn 2019. The draft outlines the legal framework for a focused, proactive and digital Competition Law 4.0.



From the point of view of the Internet and digital industry, what must be particularly scrutinised are proposals for lowering the intervention threshold so that abusive conduct by companies with major cross-market importance can be regulated by the GWB-Novelle. On the basis of the newly-created rule of law, the intention is to create a special antitrust legal provision to regulate companies with major cross-market significance for competition. It remains to be seen which concrete revisions and extensions will be transposed from the unofficial into the official draft.

German Federal State Media Treaty

At federal state level in Germany, the long-running discussion on the regulation of user interfaces for smart TVs and other TV platforms continued to unfold, as did the discussion of regulation of intermediaries under media law. After the federal states' submission of a first discussion draft in late summer 2018, a second draft was presented in summer 2019. eco commented on the initiative in the form of position statements and actively participated in the consultations. Once again, eco spoke out against restrictive regulations on the design of user interfaces and also criticised having media intermediaries involved at the level of a state treaty.

The State Media Treaty, which also transposes the European AVMS Directive for Germany, was adopted on 5 December 2019. The State Media Treaty is to be signed by the federal states' minister presidents in spring 2020 and,



Photo: maxkabakov

following referral in the state parliaments, is expected to enter into force in September 2020.

German Federal State Treaty on Gambling

The German federal states have concretized the discussions on a comprehensive new regulation of the gaming industry and intend to present a draft state treaty (Federal State Treaty on Gambling – GlüStV) in January 2020. This is intended to relax the previous strict policy which banned gambling, which has proved ineffective in the digital age. The markets for sports betting and online gaming are to be opened up to private operators through the granting of licenses. eco has participated in the consultation process on the basis of a position statement.

Telemedia regulation

On adoption of the 3rd Telemedia Amendment Act in 2017, its evaluation was scheduled for 2019. In the course of the evaluation, eco reiterated its criticism of website blocking without judicial approval, which had been introduced in the course of the legislative process. In parallel, the amendment of the 4th Telemedia Amendment Act was initiated. eco also expressed its views on this amendment. The legislative process for the 4th Telemedia Amendment Act has not yet been completed. eco will continue to keep track of the discussion on the act, the debate on the associated blocking, and the redesign of the media regulation.

e-Commerce Directive/Digital Services Act

For eco and its members, the topic area of liability and responsibility, as well as the e-Commerce Directive and the liability regime anchored within it, are of major relevance. In this context, eco takes a critical stance when it comes to the Digital Services Act announced by the European Commission, which will flow from the review of the e-Commerce Directive (ECD) introduced in 2000. While much has changed since it was introduced, the ECD has not lost any of its core current relevance. As early as May 2019, eco organised an event on the implementation and functioning of the ECD at its Berlin office. Based on the results of the discussion and in consultation with the members, guidelines for the ECD were developed.

The discussions at EU level are expected to start in spring 2020 with a consultation in the ordinary legislative process. A corresponding legislative proposal is expected to follow. The discussions on content filters, hate speech, and the extension of the liability of Internet service providers are once again likely to become more heated. eco will participate in the consultation and, in debates which are likely to be both difficult and lengthy, will advocate in particular for the retention of the limitation of liability and a fair distribution of responsibilities.

Data protection/ePrivacy

The deliberations at European level on the ePrivacy Regulation – a regulation which, alongside the GDPR, is intended to address the confidentiality of electronic communications in networks and on end-devices – could not be brought to a successful conclusion in 2019. While the European Parliament had already adopted its position in 2017, the Member States have not yet been able to arrive at a common stance. By May 2020, the European Commission will have presented a report on the evaluation and review of the GDPR, which entered into force in 2018.

In this context, it will also be of interest to see if and when the ePrivacy Regulation will be adopted and what form it might take. The negotiations in the EU Council of Ministers on

the draft ePrivacy Regulation floundered at the end of 2019.

What was met with criticism was that the regulation could end up establishing data protection legislation for electronic media and services parallel to the GDPR – and in some cases could be incompatible with it – thus potentially creating a great deal of legal uncertainty in the digital industry. Shortly before the year end, the new Commissioner, Thierry Breton, decided to keep his options open. It is likely that discussions will only proceed in the first half of 2020 under the Croatian Council Presidency.

Blanket data retention

In September 2019, four requests for preliminary rulings on blanket data retention were

heard orally before the EUCJ. The appeals submitted came from Belgium, the United Kingdom, and two from France. The judgments are expected in the course of 2020. The appeals were directed against various aspects of the essentially identical surveillance practices: the legislator obliges providers of telecommunication services to, on request, hand over telephony and Internet data of their customers stored for operational purposes to investigative authorities and, in some cases, to security authorities. In a landmark decision on blanket data retention, however, the EUCJ had already ruled in 2016 that a general retention of data without cause is fundamentally impermissible. The Directive on Privacy and Electronic Communications, as interpreted in accordance with the EU Charter of Fundamental Rights, stands in the way of such retention.

A case from Germany is also pending before the EUCJ concerning the compatibility of its legal regulation on blanket data retention. In September 2019, the German Federal Administrative Court suspended the eco-supported proceedings of SpaceNet AG against blanket data retention, and referred the question of compatibility of German blanket data retention with EU law to the EUCJ in a preliminary ruling procedure.

The EUCJ will decide whether the German rules are compatible with the ePrivacy Directive and the EU Charter of Fundamental Rights and thus make a decision on the fate of blanket

data retention in Germany. In 2020, the Supreme European Court will rule on the blanket data retention regulations in Belgium, France and the United Kingdom. These pending rulings will also reveal whether the EUCJ will adhere to its strict case law on general and unrestricted blanket data retention without cause – as stipulated in Germany.

Draft German Harmonisation Act for the Protection of the Constitution

At the end of March 2019, an unofficial draft on the harmonisation of the powers of the secret services was made public. From eco's point of view, there were many points against which criticism needed to be levelled. The powers envisaged could not be regarded as moderate, while no intention was expressed to strengthen the monitoring of the services. However, both are provided for in the coalition agreement. The powers provided for in the draft would in some cases lead to a considerable weakening of IT security. eco adopted a position on this draft. In the course of 2020, a follow-up draft bill by the German Federal Ministry of the Interior (BMI) is expected. eco will continue to take a clear stance in favour of IT security as a guarantor of an Internet with responsibility and a safeguard against the erosion of the Internet.

e-Evidence Regulation

eco has already commented critically on the e-Evidence Regulation regarding the provision of traffic and communication data to other EU



Photo: maxkabakov

Member States for the purposes of law enforcement, which was advanced by the European Commission in the last legislative term. The compatibility of the regulation with fundamental rights, its meaningfulness, and the very need in the first place to supplement existing mechanisms for requests for information are open to question. In eco's view, trust in the use of digital services should not be eroded by authorities' access requests.

In the meantime, the European Parliament has also addressed the issue of e-evidence and, in line with eco, has published various reports that reflect eco's concerns. The legislative process at European level is expected to continue at the beginning of 2020, involving a final report by the European Parliament and subsequent trilogue negotiations.

Terrorist content on the Internet

Towards the end of the legislative term, the previous EU Commission once again presented a proposal on how it intends to make companies more obligated to combat the dissemination of terrorist content online. The proposal provides for short reaction times of one hour, deletion recommendations, as well as preventative measures (such as upload filters). eco has clearly spoken out against these measures, which would be unworkable in practice, especially for SMEs, and has heavily criticised the renewed discussion on upload filters. After minor improvements made by the European Parliament, the trilogue negotiations began at

the end of 2019 and will continue into the coming year.

Copyright

After almost three and a half years, the deliberations on updating copyright law in the context of the Digital Single Market were concluded in May 2019. The resulting DSM Directive came into force in the summer and is to be implemented by all EU Member States by July 2021. It comprises in particular of highly-contested regulations for a European ancillary copyright law for press publishers as well as so-called value gap measures (a licensing obligation and impending content filters). France has already begun corresponding legislative measures for the implementation of ancillary copyright law for press publishers and upload filters. The former are to come into force as early as the start of 2020. The Netherlands and Germany followed on the heels of France with implementation proposals.

eco has been closely monitoring the developments since 2016 and, among other things, submitted a corresponding statement on the DSM Directive to the German Federal Ministry of Justice and Consumer Protection (BMJV) in September 2019. According to initial information, the implementation in Germany is also to be split up – dealing initially with ancillary copyright law at the beginning of 2020, followed up later by value gap regulations. eco will monitor further developments and accompany them accordingly.



Photo: MATJAZ SLANIC

Combatting right-wing extremism and hate crime on the basis of the NetzDG

The debates on disinformation and hate speech continued unabated in 2019. On the basis of the German Network Enforcement Act (NetzDG), social network operators such as Facebook, Google and Twitter are obliged to submit a bi-annual transparency report on user complaints, how they are dealt with, and the numerical changes in illegal content. The numerical changes evidenced in the transparency reports suggest that social network operators are being alerted to an increasing amount of illegal

content. Essentially, a detailed analysis of the transparency reports shows that the sensitivity of users with regard to illegal content has increased. However, only just under a third of all reported complaints were ultimately due to illegal content and led to the actual take-down of content. Despite this positive development, the calls for further measures did not subside.

Against the background of developments in the summer and autumn of 2019, numerous ideas for revising the NetzDG – such as strengthen-



Photo: utah778

ing state powers, introducing a reporting obligation, or an obligation to operate server locations – were debated at the various political levels within the European Union. Over the course of the deliberations on the proposed measures, it gradually emerged that the amendment is to take place in a two-stage process. In the first step, agreement is to be reached on measures to effectively combat illegal content. In the second step, the NetzDG in its present form (reporting obligations, handling of complaints, etc.) is to be amended.

Shortly before the year end, the German Federal Ministry of Justice and Consumer Protection (BMJV) published a draft law on combatting right-wing extremism and hate crime. The aim of the draft is to combat hate and incitement to hatred on the Internet on a targeted basis. Among other things, it proposes changes concerning the disclosure of passwords by telemedia service providers, the introduction of an obligation to report with IP addresses and port numbers, and the establishment of interfaces between the German Federal Criminal Police Office (BKA) and telemedia service

providers. In a key points paper, eco has commented critically on the draft, particularly in view of matters related to European and constitutional law, as well as data protection law.

For 2020, eco has prepared a comprehensive position statement on the law on combatting right-wing extremism and hate crime. eco will accompany the further legislative process on the law on combatting right-wing extremism and hate crime and the further revision of the NetzDG.

Energy and climate policy

Issues from the fields of energy and climate policy, such as energy costs, efficiency standards and sustainability aspects, are becoming increasingly important from the perspective of digital infrastructure operators. eco took part in the consultation on the Directorate General for Competition's revision of the European Guidelines for State Aid for Environmental Protection and Energy in the summer of 2019, in order to ensure that the calls made at European level by the Alliance for Strengthening Digital Infrastructures in Germany were taken on board. The consultation primarily addressed the cost situation – resulting from the effects of the Renewable Energy Act (EEG) levy – and possible contributions of digital infrastructures to increasing efficiency, such as heat recovery.

Just a few days after the new European Commission took office, Commission President Ursula von der Leyen presented the European

“Green Deal” in December 2019. The Green Deal is an overall strategy aimed at achieving a climate-neutral transformation of the European economy by 2050 and is intended to revise numerous existing legal instruments such as the Energy Efficiency Directive, the Ecodesign Directive's work programme, and the Guidelines for State Aid for Environmental Protection and Energy. In addition, new legal instruments such as a European Climate Law are to be created. A wide range of climate policy debates were also held at national level. eco commented on the outcome of the German Climate Cabinet's deliberations, namely the Climate Protection Programme 2030. With a view to the future, the year 2019 has shown that the digital and Internet industry is increasingly being brought on board in the discussions on future energy and climate policy. eco will continue to closely track this development and incorporate the demands of the digital and Internet industry into further discussions.

Regulatory framework for the telecommunications sector

Despite the original plans, the responsible ministries were not able to submit a draft regulatory framework for telecommunications in 2019. The legislative procedure is intended to transpose the European Electronic Communications Code (EECC) into national law. In view of the long-standing applicability of such a European framework, its significance and impact on the entire telecommunications and Internet industry is clear.



Photo: ahlobystov

Aside from this transposition, the draft of the German ministries is intended to address further topics, such as security in telecommunications networks and manufacturers' responsibilities. eco and its member companies have contributed to inter-association statements and association letters, for example with regard to the key points "protection from cost traps" of the German Federal Ministry of Justice and Consumer Protection (BMJV), the contract summary pursuant to Art. 102 of the EEC and an associated legal act of the EU Commission, as well as the German Telecommunications Act amendment (TKG-Novelle) regarding consumer protection regulations. eco will continue to advocate for the interests of its members in order to arrive at effective and appropriate regulation.

German Act to Facilitate the Deployment of High-Speed Digital Networks (DigiNetzG)

For eco, the expansion of gigabit-capable networks is an extremely important topic, both from the point of view of the companies expanding the networks, and from that of the content providers. The expansion is to be significantly accelerated through telecommunication companies' right to joint laying of networks. This is the purpose of the German Act to Facilitate the Deployment of High-Speed Digital Networks (DigiNetzG). In the summer of 2018, reform plans to this effect began to take shape. The current version of Section 77i of the German Telecommunications Act amendment (TKG-Novelle) was published in the Federal Law Gazette on 12 December, 2019.

eco did not consider the reform to be necessary and had advocated for keeping the change to a minimum. In contrast to the first edition of the draft, the curtailment of the right to joint laying of networks which has now been introduced applies only to publicly subsidised broadband expansion. From eco's point of view, the new, more moderate regulation will prevent the emergence of territorial monopolies for broadband networks. Scope for innovative offers from telecommunications providers remains and effective competition is still guaranteed.

Net neutrality

At the end of 2019, the Body of European Regulators for Electronic Communications (BEREC) presented a draft update of the Net Neutrality

Guidelines for consultation. These guidelines are intended to ensure that the responsible authorities in the Member States apply the European Telecom Single Market Regulation (TSMR) in a consistent manner. Among other things, the draft provides for new requirements for the assessment of zero rating offers. The updated guidelines are expected to be published in 2020.

In the USA, the extensive repeal of the regulations favouring net neutrality was more or less ratified in October 2019. In contrast, the TSMR in Europe can be seen as a competitive advantage for content providers and telecommunications network operators – through the legal certainty it offers and its appropriate

regulations for balancing interests, which also benefit end-users.

Internet governance

The topic of Internet governance, which deals primarily with questions concerning the future composition of Internet policy and the future technical and administrative regulation of the Internet, has become increasingly important in recent years, both at European and international level. eco has been working for many years to strengthen the successful multi-stakeholder dialogue on Internet governance and is convinced that this model is the best approach for developing a sustainable Internet governance system that is supported by broad societal acceptance. Policymakers and companies, as well as all other stakeholders, should therefore get actively involved in those bodies engaged in discussing the future shape of the Internet and Internet policy.

Internet Governance Forum

In 2019, Germany hosted the Internet Governance Forum (IGF) for the first time, which took place from 25 to 29 November at the Estrel Congress Centre in Berlin. At the conference, held under the motto of "One world, one net, one vision", representatives of international governments and business and non-governmental organisations, as well as civil society participants exchanged views on current Internet governance issues. The 14th meeting of the IGF was opened by António Guterres, Secretary-General of the United Nations, and

by German Chancellor Angela Merkel. In their speeches, both warned against a splintering in the Internet. Chancellor Angela Merkel also spoke out in favour of "guiding rails" in technical development. She said it was important to discuss what we want and don't want, especially in the field of AI. Not everything that is technically feasible is also appropriate from an ethical point of view.



eco's participation in the IGF took myriad forms. As a prelude to the event, the German Federal Ministry for Economic Affairs and Energy (BMWi) hosted the High-Level Internet Governance Exchange, where Chair of the eco Board Oliver J. Süme had the opportunity to represent eco and its member companies. On the so-called "Day Zero", eco hosted its own panel discussion on the needs and demands of SMEs for the Internet of the future. Board Member Klaus Landefeld was represented at one of the eco-hosted workshops "Exceptional Access and the Future of the Internet Security". Honorary President Prof. Michael Rotert and eco's Thomas Rickert were actively involved in a range of keynote speeches and workshops.

In addition, eco was represented with its own exhibition stand in the IGF Village.

IGF-D

The Internet Governance Forum Deutschland (IGF-D), initiated by eco and organised jointly with other partners, is an open and informal multi-stakeholder discussion platform for the government, the private sector and civil society, as well as for representatives of the technical and academic community in Germany. Central to its activities are questions related to the social, economic and political development of the Internet.

On 11 September 2019, the IGF-D took place at the German Federal Ministry for Economic

Affairs and Energy (BMWi). In his keynote speech, Federal Minister of Economics Peter Altmaier emphasised the high relevance of the multi-stakeholder format and asserted that politics depend on the momentum and expertise of non-state actors. Looking ahead to the global United Nations IGF, which was also due to take place in Germany at the end of November, he stressed that, going forward, the German federal government would continue to support the inclusive and broad-based approach of involving as many actors as possible in shaping the most important development for the future.

The numerous panel discussions addressed the current challenges of digitalisation, not only in



Photo: rolffimages



Germany, but also at European and international level. It was unanimously agreed that digitalisation should contribute to greater sustainability and serve the common good. When it comes to the field of AI, the conclusion was drawn that greater attention should be paid to how technologies can be used for purposes and goals for the benefit of society. On the topic of infrastructure, there was a broad consensus among the participants that the expansion of the 5G network in Germany must be understood as a strategic task and must be further promoted. It was noted that additional challenges exist in the areas of data protection, IT security and cybersecurity.

Debates which also featured at the event were those on hate speech and questions of digital participation, which are becoming increasingly relevant – and not only in Germany. During the IGF-D, the establishment of the Internet Governance Forum Deutschland e.V. (sponsor association) was announced. Professor Michael Rotert is a member of the IGF-D Steering Committee and will in future also serve as a board member of the sponsor association.

EuroDIG

The European Dialogue on Internet Governance (EuroDIG) is the most important Internet dialogue taking place at European level where

stakeholders from industry, government, academia and civil society exchange experiences and views on the future shape of the Internet.


 The EuroDIG logo consists of the word "EuroDIG" in a large, bold, white sans-serif font, with "European Dialogue on Internet Governance" in a smaller, white sans-serif font below it. The logo is set against a dark blue rectangular background.

EuroDIG 2019 took place under the motto of "Cooperating in the Digital Age" on 19 and 20 June in The Hague, the Netherlands. Keynote speeches, plenary sessions and workshops

focused on current developments and upcoming issues of Internet policy. The central topics of discussion were technical security, personal integrity and fundamental rights.

In her opening speech, Pauline Krikke, Mayor of The Hague, underlined the importance of an open and free, but also secure Internet. She expressed her belief in the power of openness and international cooperation, specifying that a better world could not be developed in the 21st century without involving cyber space. On behalf of eco, Honorary President Prof. Michael Rotert actively participated in the multi-stakeholder dialogue.



Photo: Melpomenem

Competence Group Law & Regulations

The Competence Group Law & Regulations is a platform for discussion and information for eco members. It is where content coordination happens, position papers are prepared, inquiries on legal and regulatory topics are answered, and where eco's general positioning on the relevant Internet and network policy topics and questions is discussed. Members are given the opportunity through the CG to actively participate in legislation at German federal and state, as well as the EU level, and thus to participate in the development of legal policy.

In the year under review, the CG Law & Regulations had numerous points of contact with the political and regulatory arena. The meetings were used to provide an outlook and overview on current legal policy issues and legislative projects and to discuss these together with the member companies.

One core focal topic was the Digital Services Act announced by the European Commission to replace the e-Commerce Directive, which has been in force since 2000. The Digital Services Act is set to become one of the central digital policy legislative processes at European level. As early as May 2019, eco organised an event

on the implementation and functioning of the e-Commerce Directive and, together with member companies, discussed possible courses of action in follow-on workshops. Arising from these discussions, guidelines for the e-Commerce Directive were developed in consultation with members. As such, eco had already paved the way and positioned itself at an early stage for deliberation on possible proposals and prepared itself for the upcoming consultation.

Against the background of the announced IT Security Act 2.0, the CG advanced its discussion about IT security in Germany and Europe.

The debate about new liability rules for IT products and their design was taken up and further pursued in a workshop, culminating in the publication of a position statement. Policies were developed in conjunction with member companies, thus setting the stage for eco's further positioning around liability issues, warranty, and IT and product safety. Further topical points of contact for the CG arose from the European ePrivacy and e-Evidence Regulation, in the areas of platform regulation, the amendment of the regulatory framework for telecommunications, and the debate on the State Media Treaty.



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5.2 eco Complaints Office: Combatting Illegal Internet Content and Youth Media Protection

For over 20 years now, the eco Complaints Office has been fighting successfully against illegal content on the Internet and is committed to ensuring that illegal content is taken down and criminal offences are reported to the authorities. In fulfilling this commitment, cooperation with the various actors and neutral and transparent processes are of equal importance.

The work is based on voluntary cooperation with society as a whole, and its fundament is that of the self-regulation of providers and the engagement of Internet users. From the outset,

eco has cooperated with law enforcement agencies in the fight against child sexual abuse material and other illegal Internet content. In addition, the eco Complaints Office is the contact point for eco members, for the state, society and politics.

Dedicated to combatting illegal content on the Internet

Internet users can report suspected illegal Internet content to the eco Complaints Office, free of charge and anonymously, for example under international.eco.de/eco-complaints-office. The Complaints Office's lawyers then assess whether the reported content violates German

law and take appropriate measures if necessary.

The eco Complaints Office can also be reached via the portal www.internet-beschwerdestelle.de/en/index.html, which it operates together with the German Association for Voluntary Self-Regulation of Digital Media service providers (FSM), as well as via the German information platform for young people jugend.support.

Statistics 2019: Facts & figures

The total number of complaints in 2019 remained largely the same as the previous

year. With regard to the protection of minors in the media, 27,093 cases were reported. Of these, 4,654 cases were justified, which is 50.3 percent higher than in the previous year.

Depending on the type of violation and server location, the justified complaints were forwarded to the law enforcement agencies, the content provider, the host or platform provider, and/or members of the INHOPE network. In terms of content, the majority of complaints concerned depictions of the sexual abuse and sexual exploitation of minors, defined in Section 184b of the German Criminal Code as Child Pornography.

The take-down times for depictions of sexual abuse of children has remained virtually unchanged. In total, 95.5 percent of the illegal Internet content reported upon by the eco



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Complaints Office, such as depictions of sexual abuse, incitement to hatred, and depictions of violence, were taken down worldwide. This shows once again that self-regulation works – also internationally.

Network and committee work/political engagement in 2019: an excerpt

20 years INHOPE – eco represented on the INHOPE Executive Board

INHOPE (the International Association of Internet Hotlines, www.inhope.org) was founded in 1999 by eco, among others. The international umbrella organisation of Internet hotlines which accept complaints in particular concerning depictions of the sexual abuse of minors, consists in the meantime of more than 45 complaints offices in over 40 countries. In INHOPE's anniversary year, eco continued to advocate for

the targeted expansion of the network and for promoting the worldwide take-down of child abuse depictions in the country of origin (Notice & Takedown). In addition, eco worked actively in the further development of the database for the exchange of complaints within the network, and of the INHOPE statistics.

At the invitation of the Taiwanese INHOPE member, eco Complaints Office Consultant Peter-Paul Urlaub delivered talks in December 2019 on both the legal situation in Germany concerning the protection of children and young people and on the topic of "Best Practices in Hotline Development". The occasion was the international network ECPAT's conference on the online safety of children, which took place in Taiwan. Since June 2018, Peter-Paul Urlaub, eco Complaints Office Consultant, has been a member of the INHOPE Executive Board.

Safer Internet Centre Germany

As (co-)operator of the portal www.internet-beschwerdestelle.de/en, the eco Complaints Office has been part of the German Safer Internet Centre (www.saferinternet.de) since 2008. In addition to eco, other members of the consortium are FSM, jugendschutz.net, "Nummer gegen Kummer", and klicksafe (operated by the Rhineland-Palatinate State Media Commission and the North Rhine-Westphalia Media Authority).

In 2019, the German Safer Internet Centre received further EU funding under the Connecting Europe Facility (CEF). The complaint offices receive financial support in particular for the processing of complaints about depictions of the sexual abuse of minors and complaints about racist Internet content.

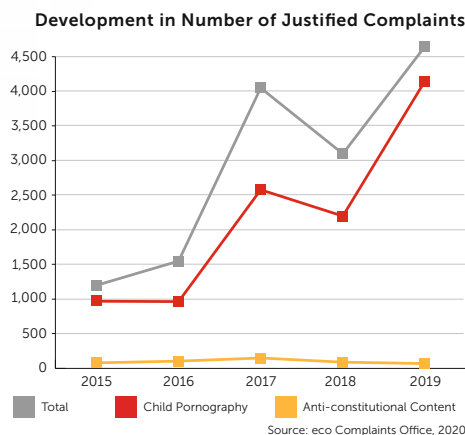
Exchange with other relevant parties in the field of youth media protection

Over the course of several meetings, the exchange with the Commission for the Protection of Minors in the Media (KJM) and the North Rhine-Westphalia Media Authority (LFM NRW) was further pursued. These meetings facilitated an exchange of experiences on applying the relevant provisions of the youth media protection law.

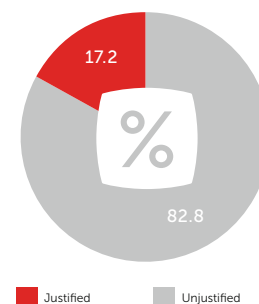
The German Federal Review Board for Media Harmful to Minors (BPjM) is responsible not only for indexing content harmful to young people, but also for the further development of youth media protection. The eco Complaints Office therefore engaged in continuous exchange with the BPjM. Through its participation in the launch event for the future workshop "Digital welfare – from the child's perspective" in October 2018, the Complaints



eco COMPLAINTS OFFICE



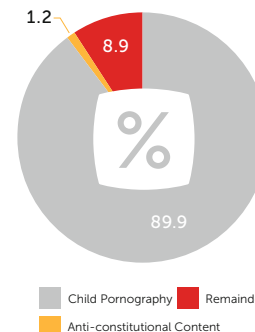
Proportion of Justified Complaints 2019 (Excluding Spam)



Number of justified complaints: 4,654

Source: eco Complaints Office, 2020

Justified Complaints 2019 (Excluding Spam)



Source: eco Complaints Office, 2020

Office has been involved from the very outset in the BPjM's further development processes for youth media protection. Since summer 2019, Sebastian Fitting, Consultant eco Complaints Office, has assumed the role of Youth Protection Expert with USK online (Entertainment Software Self-Regulation). This has enabled him to expand his contact with the USK.

Law enforcement agencies

The cooperation with law enforcement agencies was able to be further expanded in the year under review: Since the beginning of 2019, the eco Complaints Office has been a member of the North Rhine-Westphalian initiative "Prosecute, don't just delete". Here, it has joined forces with media supervisory authorities, law enforcement agencies, and media companies in order to ensure the protection of freedom and democracy by supporting not only the rapid

take-down of hate speech on the Internet, but also its rigorous criminal prosecution. In addition to the regular exchange on hate speech content and its legal assessment, the initiative involves in particular a coordinated and optimised procedure for transferring criminal charges filed by participants to the Central Bureau and Contact Office for Cyber Crime North Rhine-Westphalia (ZAC NRW) of the Cologne Public Prosecutor's Office, which specializes in this area.

Amendment to the youth media protection legislation

In the political context, the announced (and in the meantime activated) amendment to the youth media protection legislation was an important topic. The amendment is intended above all to take account of the changing behaviour of minors when it comes to media use, and to

enable their untroubled participation in relevant media in safe interaction spaces. The Complaints Office accompanied this amendment process in a variety of ways, including through participation in the Future Workshop of the German Federal Review Board for Media Harmful to Minors (BPjM). It was also the subject of the Youth Media Protection Expert Lunch, which was attended by representatives of the German Federal Ministry for Family Affairs, Senior Citizens, Women and Youth (BMFSFJ).

Future Dialogue on Social Networks

Once again in 2019, the German Federal Ministry of Justice and Consumer Protection (BMJV) convened the Future Dialogue on Social Networks. The two events of the Future Dialogue focused on the protection and support of data subjects and the origins and effects of hate and incitement to hatred in social networks.

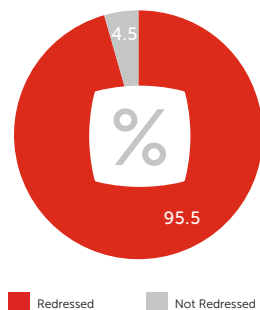
Annual Report of the eco Complaints Office

Transparency is essential for the work of a complaints office. This being the case, in March and April 2019, eco launched the third independent Annual Report of the eco Complaints Office at two political breakfasts, in Berlin and Brussels respectively. The keynote speakers were Dr. Tobias Schmid, Director of the State Media Authority of North Rhine-Westphalia, and the MEP Tiemo Wölken.

Youth Media Protection Expert Lunch & eco Youth Protection Officer Service

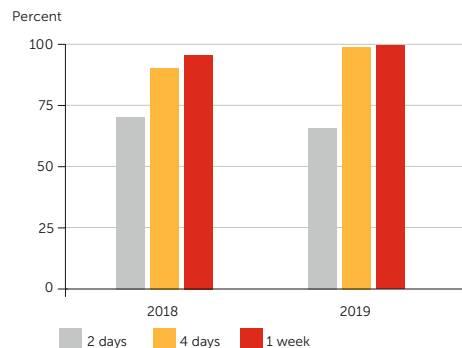
The portfolio of the eco Complaints Office is rounded off by individual services in the area of youth media protection that are offered independently of the general complaints work. As such, when it comes to assessing online

Total Success Rate for Web-based Content 2019



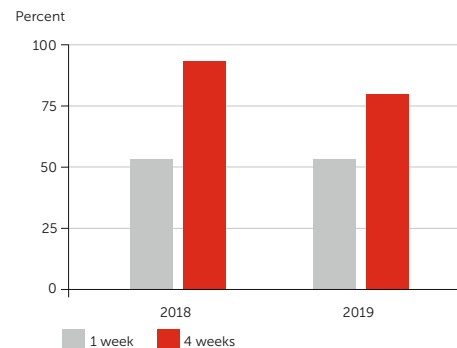
Source: eco Complaints Office, 2020

Take-Down Rates Child Pornography (German Cases)



Source: eco Complaints Office, 2020

Take-Down Rates Child Pornography (All Cases)



Source: eco Complaints Office, 2020



offers and necessary measures, members can benefit both from the Office's fully legally-qualified personnel and its 20 years of expertise in the field of youth media protection.

Youth Media Protection Expert Lunch
With the "Youth Media Protection Expert Lunch", the eco Complaints Office offers an open forum targeted exclusively at association members who are active in the field of youth media protection, with the aims of enhancing exchange of experiences, gathering information, and allowing dialogue to be initiated with the Complaints Office and among members. The in-person meetings take place two to three times a year, with additional relevant parties and external experts sometimes also invited to contribute. The following are the focal topics of the Youth Media Protection Expert Lunch: The application of the German

Interstate Treaty on the Protection of Minors in the Media (JMStV) and the corresponding regulations in the German Criminal Code (StGB); legal developments in youth media protection in its broadest sense; "digital trends"; and the activities of the eco Complaints Office.

In 2019, two face-to-face meetings and two teleconferences took place. The further development of youth media protection was a key topic of these meetings.

eco Youth Protection Officer Service
The roles and functions of the youth protection officers are:

- Advising the provider
- Contact person for users
- Point of contact for official oversight

Youth protection on the Internet is a task for society as a whole. With the eco Youth Protection Officer Service, both eco members and external companies have the opportunity to make their contribution to this cause.

Certain telemedia providers with content that is developmentally-impairing or youth-endangering, as well as providers of search engines, may also be obliged to appoint a Youth Protection Officer in accordance with Section 7 of the German Interstate Treaty on the Protection of Minors in the Media (JMStV). With the eco Youth Protection Officer Service, the eco Complaints Office is happy to support telemedia providers in the implementation of this obligation or in the voluntary appointment of a Youth Protection Officer.

The Service offers the following functions and benefits:

- Comprehensive consultation on matters relating to youth protection
- A neutral point of contact vis-à-vis users
- A minimisation of liability risk
- Prevention of official fines and written warnings
- An increase in user trust through effective youth protection
- Current information and updates on developments and legal changes in the area of youth media protection

Further information on the working approach, statistics and services of the eco Complaints Office is available at: international.eco.de/eco-complaints-office, as well as in its 2019 Annual Report.



Melanie Busse
Office and Events Manager
Berlin Office

5.3 Events and Highlights of the Policy, Law & Regulations Division

In 2019, the Policy, Law & Regulations division organised 20 events in the eco Capital Office premises or at external locations. A total of around 1,000 guests took part in the events in 2019.

The division's events are primarily aimed at political representatives and interested stakeholders from the political arena in Berlin and Brussels, as well as eco member companies. Here, eco's focused target group includes federal ministers, state secretaries, spokespersons on Internet policy from parliamentary groups, members of the German Bundestag and their colleagues, and representatives of the ministries and federal states.

In accordance with tradition, the year 2019 began with the New Year's receptions at eco's representative offices in Berlin and Brussels. Numerous other events such as the policy

breakfasts in Berlin and Brussels, the afternoon "Schoko & Sushi" lunch format, and evening events like the popular eco pol/Talks remained an integral part of the activities during the year 2019.

An excerpt of the division's event highlights follows below.

eco New Year's Reception in Berlin: Perspectives for future-oriented data protection

The New Year's Reception on 29 January 2019 was held in keeping with tradition at the eco Capital Office in Berlin. The evening was opened

with a short welcoming speech by Oliver J. Süme, eco Chair of the Board, who, after providing a brief review of 2018's turbulent political year, focused in particular on the top issues of digital policy going forward. As Oliver J. Süme reported, the Association of the Internet Industry sees the cross-cutting issues of digitalisation, data ethics and European data protection law in particular as urgent areas; ones for which close exchange, cooperation and coordination with the German Federal Commissioner for Data Protection, but also with many other stakeholders from federal and European politics, the user industry, NGOs and trade unions will be essential in the coming years.



The new German Federal Commissioner for Data Protection, Ulrich Kelber, responded directly to eco's offer of dialogue and proceeded with a keynote speech on "Perspectives for future-oriented data protection in the digital world": Data protection does not have to be a hindrance to innovation, he said, but rather promotes it, in the instance that users have confidence in the security of new technologies.



Ulrich Kelber therefore very much welcomed the fact that industry associations such as eco keep their members up to speed on the legal situation and advise them on implementation approaches. Businesses need factual information and above all comprehensible, practical recommendations on how to implement the data protection rules.

The speeches were met by rousing applause from the approximately 150 guests of the evening. The latter comprised principally of member companies and representatives of the German Bundestag, ministries and the Internet industry.

pol/Talk SPECIAL #EUVoteForDigital19: What digital agenda does Europe need?

In the run-up to the European elections in May 2019, eco wanted to discover just how well positioned the European Union is in terms of digitalisation: What are the biggest challenges, the biggest opportunities for Europe in the context of digital transformation? With this in mind, the Association of the Internet Industry issued invitations to a total of three special pol/Talks in February, April and May, with a view to conducting the ultimate EU Party Check.



In addition to having an Internet industry representative on stage, each eco Party Check – in keeping with the format of the TV duel of the leading candidates in the election campaign – featured one European political representative from each of the main parties: the CDU/CSU (Christian Democrats and Christian Social Union), the SPD (Social Democrats), Bündnis 90/Die Grünen (The Greens), FDP (Free Democrats) and Die Linke (The Left). Each Party Check had five question rounds of twelve minutes apiece on the respective topic of the evening, with two-minute statements per speaker and per question.



eco started the event series on 19 February with an invigorating Internet Policy Party Check on the topic of "Opportunities and challenges of a common Digital Single Market". If the EU wants to achieve its ambitious goals, for example in the areas of cybersecurity, copyright, digital infrastructure, and 5G technology, it should implement a modern Internet policy decisively and with consistency. In the context of the Election Check, eco urged that the focus be on strengthening the common Digital Single Market and its development into an integral part of the European Single Market. As a top priority, eco expressed once more the urgent need for action in the area of data protection: The EU must ensure that the Member States implement and apply the GDPR uniformly and consistently, and the European Data Protection Board should also involve the Internet industry more closely in its work.

The second EU Digital Policy Party Check took place on 9 April in Berlin with the focus topic being "Digital infrastructures and security". Secure digital infrastructures are the backbone of digitalisation and a prerequisite for further connectivity and the application of high-performance future technologies such as AI. However, the conclusion emerging from the evening was that Europe as a whole is not well-positioned in this area, with only four percent of the data available worldwide being hosted in the EU.

On 7 May, eco then discussed the results of the Internet Policy Party Check at the grand finale of the pol//talk SPECIAL #EUVoteForDigital19 event series. Among others in attendance were Nicola Beer, Member of the Bundestag, former Minister of State and Secretary General of the Free Democrats; Saskia Esken, Member

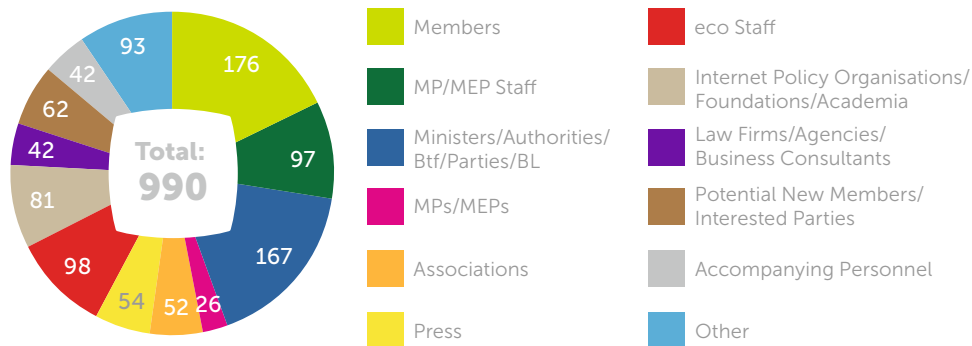
of the Bundestag (SPD); Manuel Höferlin, Member of the Bundestag (FDP); and Margit Stumpp, Member of the Bundestag (Bündnis 90/Die Grünen).

The upshot was that the parties were largely in agreement as to which key digital policy topics should be prioritised: Here, IT security in connection with product liability and minimum standards was of central importance to all parties. The parties were also largely consistent in their critical stance on the recently-adopted European copyright reform and in particular on the threat of upload filters in this regard. eco had already called for a clear rejection of the new copyright reform in its EU Agenda for Modern Digital Policy-Making, which it published in the run-up to the EU elections.

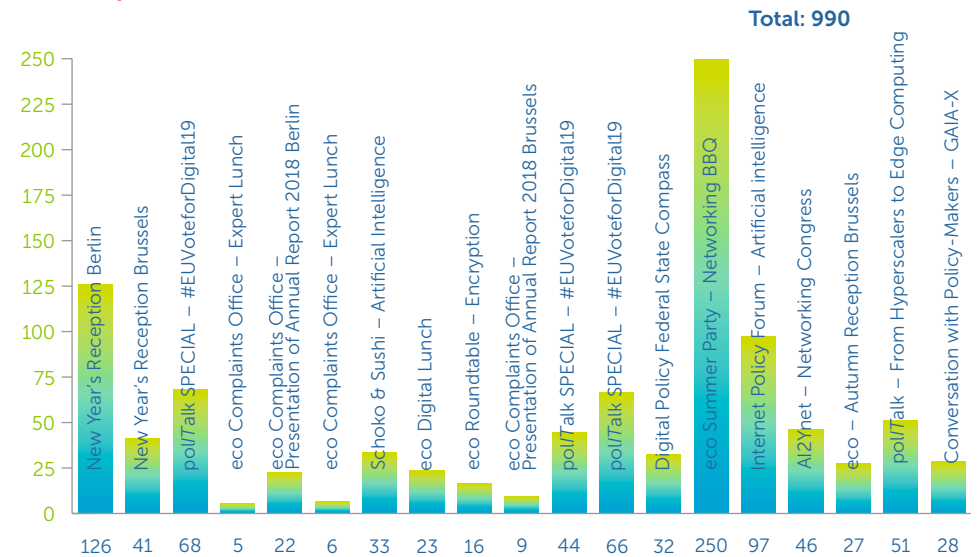
Networking BBQ: Internet industry celebrates at the eco Summer Party

At the eco Summer Party on 29 August, which took place in keeping with tradition in the Berlin Kalkscheune, the "who's who" of the Internet industry and German federal politics came together again in 2019. The Vice Chair of the eco Board Klaus Landefeld opened the evening and the highly-lauded buffet for the 300 guests from ministries, the Bundestag, industry, the press, and the Internet community. The Summer Party offered the opportunity to discuss the topics and trends of the weeks to come, while at the same time allowing those present to tune themselves back into everyday political life. During the relaxed networking which took place over cold drinks and grilled delicacies, industry met face-to-face with politics.

Target Groups Reached at eco Berlin Events 2019



Participants at eco Berlin Events 2019



Internet Policy Forum 2019: “The Internet of the Future – High-Performance and Trustworthy”

At the Internet Policy Forum on 10 September, which took place in the atrium of the Deutsche Bank, representatives of the Internet industry engaged in a discussion with representatives from politics and academia before an audience of around 100 guests. Among others, Steffen Bilger, Parliamentary State Secretary at the German Federal Ministry of Transport and Digital Infrastructure (BMVI), debated with various representatives on the key points for a future-oriented Internet and digital policy.

Digital sovereignty in the form of efficient and secure digital infrastructures is a key success factor and is crucial for the future viability of Germany as a business location.

The Internet industry therefore supports the German federal government's plans to develop a European cloud. Ultimately, data sovereignty and access to data are key success factors for a data-driven economy, especially for developments in the field of AI.





6. Association Communication

Association communication in 2019 was shaped by the consolidation of the two primary locations, Cologne and Berlin. The objective of this was two-fold: to achieve holistic communication on both the political and economic aspects of the key topics set in 2018, these being IT security, digital infrastructures, and digital ethics & governance; and to enable consistent 360-degree communication which also strategically integrates social media channels into the communication as a whole.

The principle of "quality over quantity" paid off strongly in the association communication in 2019. Above all through the maintenance of top editorial contacts, high-level media cooperation opportunities, and the provision of well-written content, the team was able to enjoy a 15 percent increase in the proportion of leading media reporting about eco.

After Michael Frenzel, at his own behest, stepped down from the leadership of the Association Communication department in order to be able to devote more of his time to his positions in local politics, the Deputy Head Sidonie Krug was appointed as Head of Communications and assumed the responsibility for the PR teams in Cologne and Berlin in May 2019.

In order to cater for the growing responsibilities of the social media channels and at the same time to strengthen the interface between the Association Communication and Marketing departments, Hanna von der Au joined the team as a writer in February 2019. The Berlin team also received support in October 2019 in the form of a new Junior PR Specialist for Political Communication, Laura Treskatis. Florian Bode, who had been a student assistant for many years in the eco Capital Office, left eco in September 2019 due to his graduation.

F.l.t.r.:

*Sidonie Krug
Head of Communications
Spokesperson Political Communication*

*Christin Patricia Müller
Senior PR Specialist for Policy and Law
Deputy Spokesperson Political
Communication*

*René Bernard
PR Editor*

*Hanna von der Au
Writer*

*Laura Treskatis
Junior PR Specialist for Political
Communication*

6.1 Communication of Industry Topics

A strategic focus of the eco Association in 2019 was "artificial intelligence" (AI), which meant that this topic was also strongly promoted in the association's communication. The association addressed the topic of AI with studies, surveys and events, and was thus able to undertake successful agenda setting and, as a "first mover", benefited from a great deal of public attention. eco provided new facts and figures for the market with the study "Artificial Intelligence – Its Potential and the Lasting Transformation of the German Economy". The figures collected for the first time for Germany were presented by eco together with Arthur D. Little and project partner Vodafone Institute at a very successful press conference at the eco://kongress in November 2019. Around 350 media publications, including all the important leading media in Germany, reported on the concrete effects that AI can be expected to have on companies in Germany.

Competence groups taking up AI topics

AI also played a major role in communicating the work of the competence groups: In spring, eco presented the guide "Connected and Autonomous Mobility" at a press conference in Munich. The IoT Business Trends in July focused on AI in the form of smart voice assistants. Furthermore, the market and opinion research institute Civey conducted a survey on behalf of the eco Association on the usage behaviour with regard to digital voice assistants, the results of which were well received by the press.

Security remains top issue

In 2019, IT security and trust were once again the topics with the widest coverage in the eco industry communication. The cybersecurity topic area generated a total of around 970 press reports. eco also investigated the role of AI in this, for example to ward off cyber attacks, by conducting a survey among IT specialists.



The 2019 edition of the IT Security Study examined the threat situation for the tenth time. eco presented the results to the public in the form of several press releases on different aspects. An eco study, which was cited in many industry media publications, examined the potential of blockchain-based solutions in small and medium-sized enterprises (SMEs).

The reports on security vulnerabilities in company websites were also well received. Within the framework of the SIWECOS project, which ended in 2019, eco examined thousands of websites of SMEs multiple times with security scanners. For the publication of regional results, eco entered into exclusive agreements with regional media such as the Rheinische Post. On the occasion of the 50th anniversary of the Internet on 29 October, eco's industry communication informed the public about how far German companies from a range of industries have come in terms of digitalisation. One of the publications of particular interest to

journalists was the white paper "Utilization of Waste Heat in the Data Center". In the course of several editorial visits, eco presented the white paper "Legitimate Use of Crypto-Mining".

eco://awards – a communicative highlight

The 18th eco://awards were a communicative highlight in the autumn. The winners of this prestigious Internet industry award were announced by the association communication immediately after the award ceremony. Many media publications reported in particular about the special "Ladies in Tech" award for Stefanie Kemp.

Towards the end of the year, the starting shot was fired for communication of the Service-Meister project. The news on this topic immediately attracted a lot of press coverage and rounded off the year's industry communication – which in 2019 was generally characterized by artificial intelligence – with an AI-related topic.



6.2 Political Communication

Political communication is, as our own comparative analysis of the political press activities of other digital associations (Bitkom, BITMi, BVDW, etc.) shows, still an important unique selling point for eco, which is on a par with the larger Bitkom and ahead of all other actors.

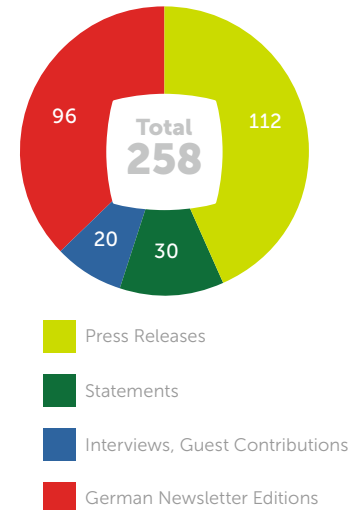
The main focus of political communication in 2019 was on the European elections in May, which eco accompanied with the EU Vote for Digital campaign developed by the Association Communication department. At the heart of the campaign were three evening events with Bundestag and EU Internet politicians, based on the TV format of candidate duels. The events, which were very well received by the Berlin digital community, were flanked by classic media work and online communication. The "European Digital Agenda", which was formulated on the subject by the Law & Regulations division, was thus successfully disseminated.

As more and more Internet policy issues are also regulated at EU level, issues such as copyright and data protection were at the top of the communications agenda in 2019. The numerous media enquiries on these topics prove that eco has established itself well in the editorial offices as an expert on international Internet policy issues.

The public debate on how to deal with hate speech and illegal Internet content, as well as the regulatory approaches that have emerged in this context in the form of the German Network Enforcement Act (NetzDG) and the law on combatting right-wing extremism and hate crime, led to great media interest in the eco Complaints Office, as had already been the case in 2018.

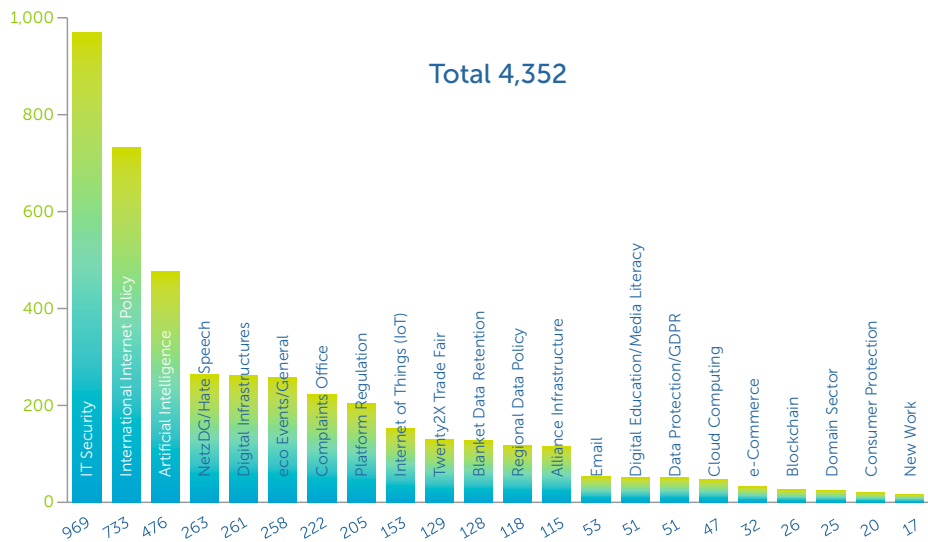
On the one hand, the office has established itself as an expert on the topic and thus as a popular contact for interviews and, at the same time, it is an excellent proof point in eco communication for the argumentation for less regulation and greater corporate self-responsibility. The presentation of the Complaints Office Annual Report in Berlin, and for the first time in Brussels, resulted in its own right in more than 200 media reports.

PR Activities 2019 in Total
(Industry & Political)

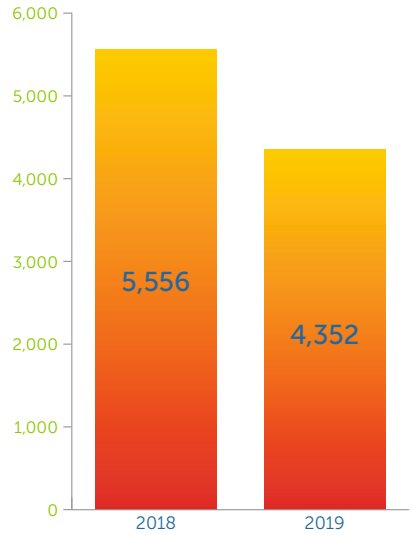




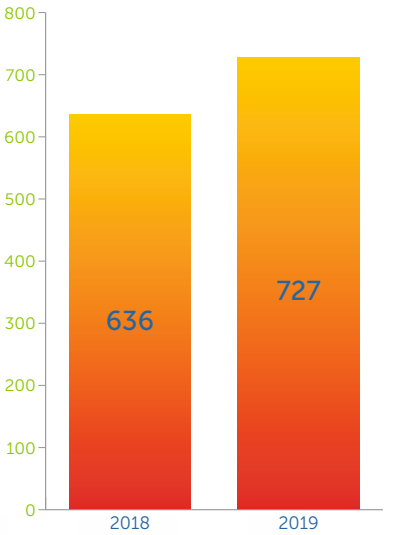
Press Publications Topics eco 2019
(Print and Online, Selection)



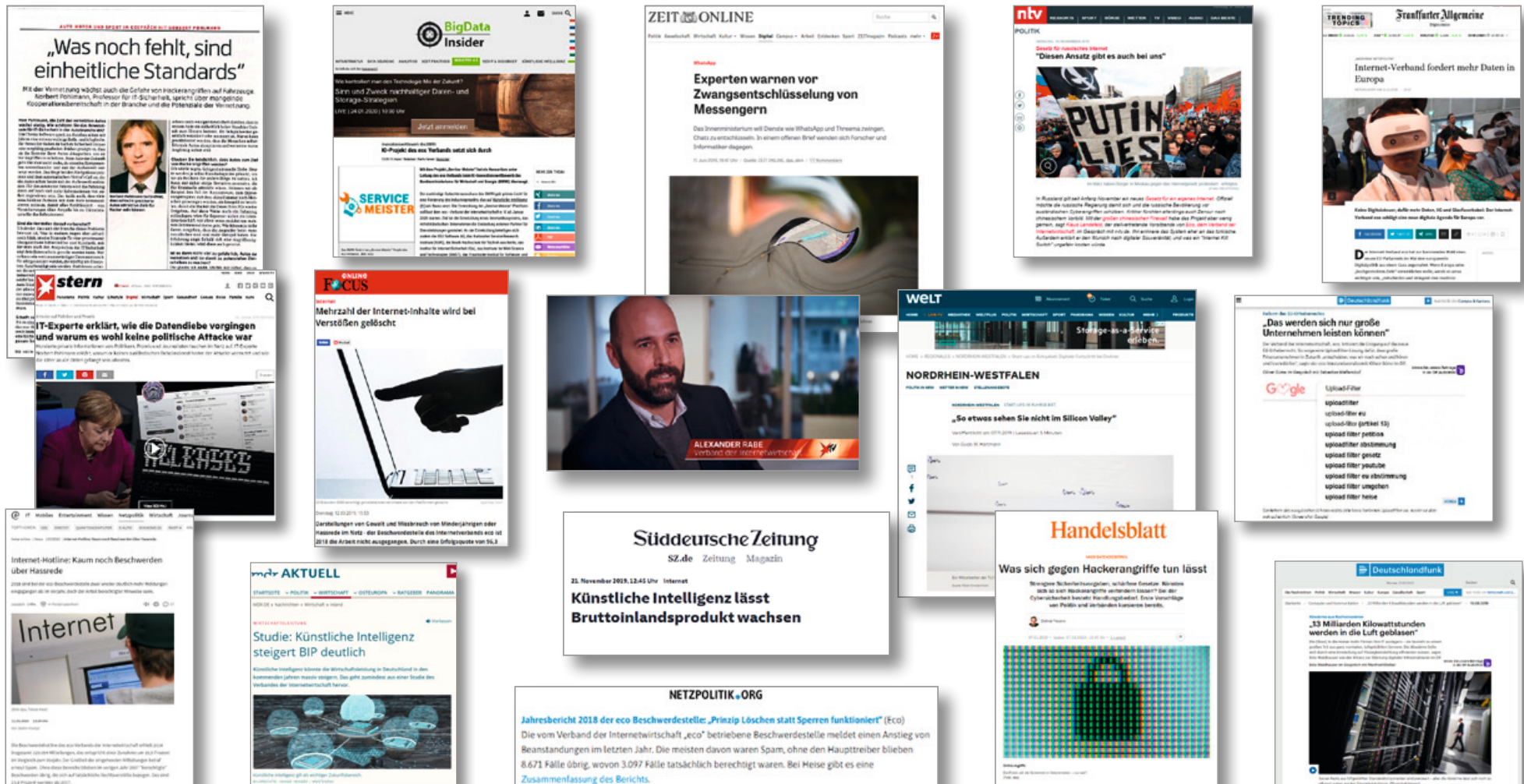
Media Evaluation in Annual Comparison (Print and Online)

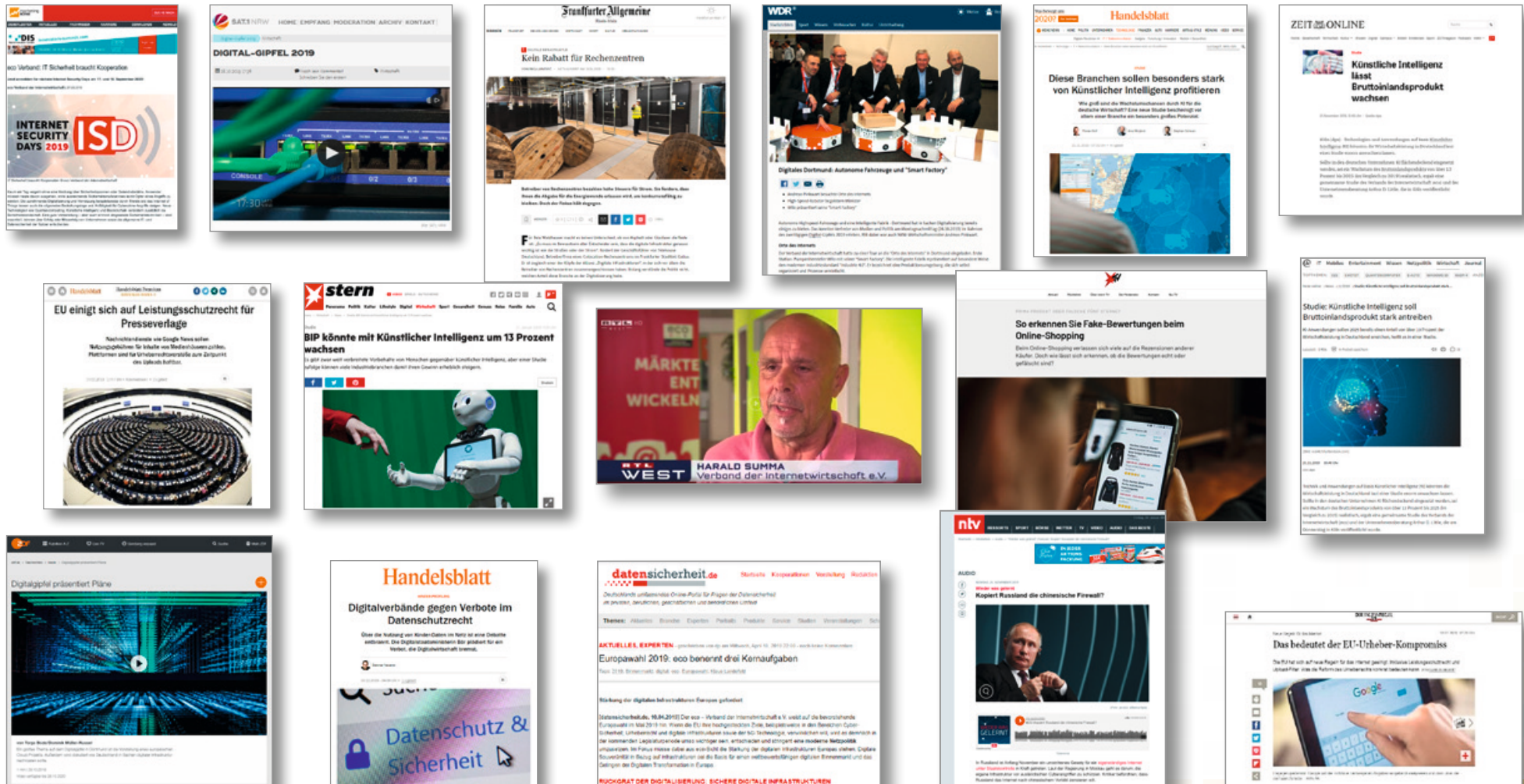


Proportion of Leading Media in Annual Comparison



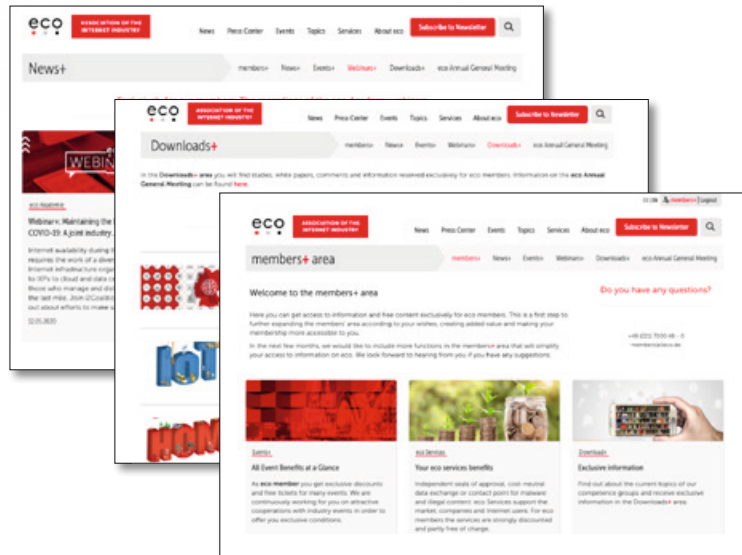
6.3 Selected Media Highlights







Benjamin Büttrich
Head of Web Development



6.4 eco Websites

In 2019, the websites at www.eco.de, international.eco.de and dotmagazine.online continued to function as the central platform for the association's content, initiatives and events.

They were able to significantly increase their reach compared to 2018. The increasing internationalisation of eco was also reflected in the increasing visitor numbers to the English-language offers. Since increased opt-in requirements and data protection-oriented browser settings limit the evaluation options, this development can be seen as very positive.

The visitor numbers demonstrate that eco's initiatives and cooperation projects for an "Internet with responsibility" continued to gain in importance, as did the Complaints Office, the Certified Senders Alliance, and also the areas of IT security and cloud services.

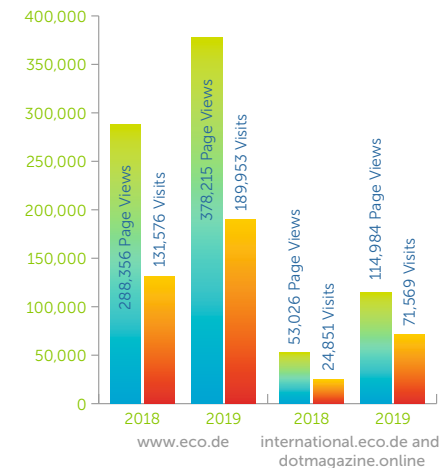
In 2019, eco once again organised over 100 events with members and partners, all of which were also accompanied on the websites. Particularly popular were the websites for the Internet Security Days and the eco://kongress, the latter which also included the presentation of the eco://awards.

members+ Area – exclusive content for members only

For several years now, all eco members have been granted exclusive and free access to members+, the protected online area on the international.eco.de website. Here, for example, members can find exclusive studies and news, thus providing members with significant added value. The range of services available there is constantly being expanded and the attractiveness of eco membership is steadily increasing.

By the end of 2019, over 30 percent of eco members were already using the members+ area. The exclusively available content that members downloaded there included, in particular, the full version of the eco study "Arti-

Visits to Association Websites



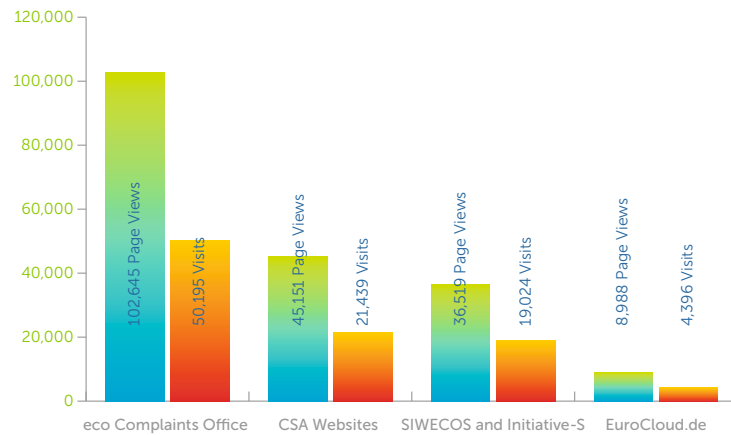
ficial Intelligence – Its Potential and the Lasting Transformation of the German Economy" and the GDPR Playbook. In addition, further studies, guidelines, and white papers, as well as all information on the eco Annual General Meeting and the eco annual reports of the past years were available for download.

In the protected news section, logged-in members benefited from statements, exclusive information and offers. In the events section of the members+ area, they received exclusive discounts and free tickets for events.

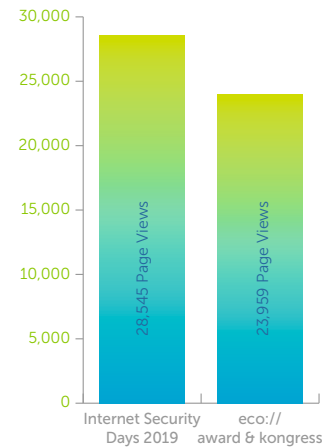
But continuing education was also not left out of the equation: Recordings of the eco Academy webinars can be viewed again in the members+



Visits to eco Services & Initiatives 2019 (Selection)

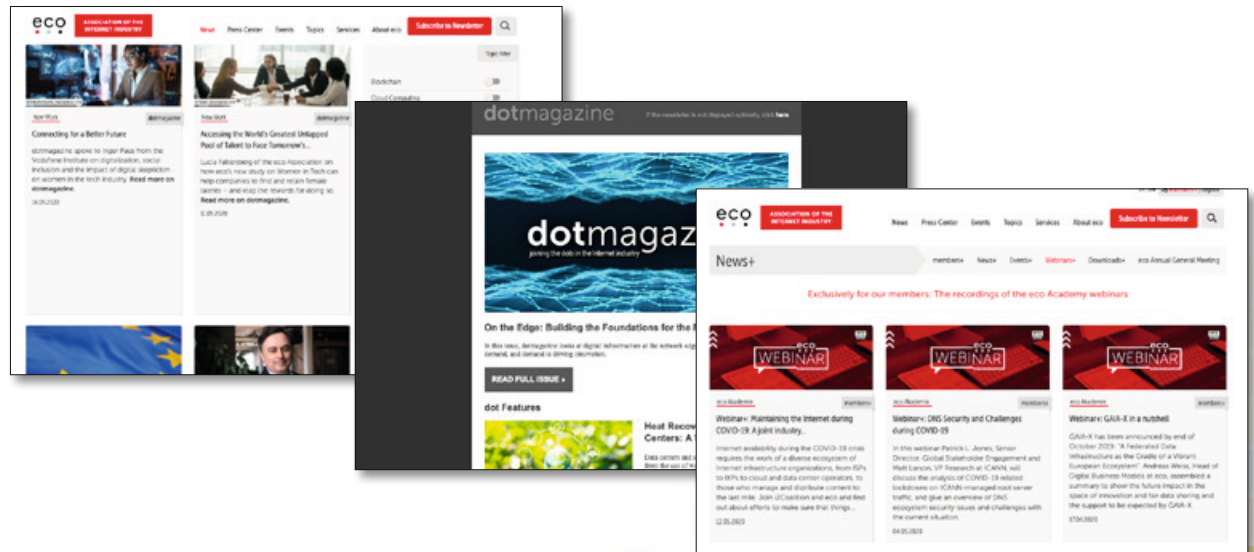


Visits to Event Pages (Selection)



area. A GDPR course is also available as one of the highlights. The online course provides an overview of the General Data Protection Regulation, and is intended to outline the changes in data protection law so that eco members can identify any need for action for their companies.

Are you an eco member, but do not yet have access to the members+ area? Then contact us at members@eco.de and we will be happy to help you.





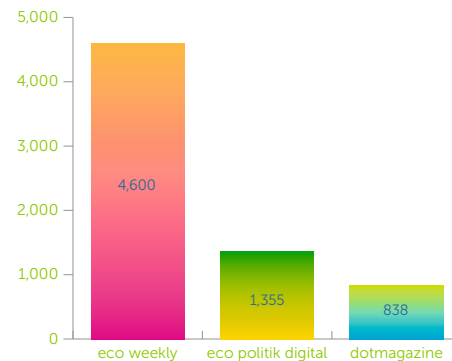
6.5 eco Media

Newsletter: Two become one

Since 2012, the eco German-language newsletters "eco compact" and "eco events" have been published in weekly rotation. In mid-2019, the changeover to the new XCampaign mailing software was accompanied by a new concept and redesign: Since the beginning of July, the German-language "eco weekly" is published every week and is enjoying increasing popularity – as evidenced by the rising subscriber and usage figures. The free weekly newsletter provides information about news, trends and services from the eco Association, guidelines and surveys on key topics of the Internet industry, and information on top industry events. In addition, interviews with the leading minds of the digital industry can be found there. eco members have the optional Newsletter+ extension at their disposal, with which they can receive current membership benefits directly into their email inbox without visiting the members+ area.

In addition, the German-language newsletter "eco politik digital" provides all interested parties with political information from the German capital and Brussels by email free of charge every two weeks.

eco Newsletter Subscribers
(as of December 2019)



Social media: highly topical and compressed

The association's flickr account contains more than 53,000 photos that have already been viewed almost seven million times. On Twitter, Facebook, LinkedIn and XING, eco provides a wide range of information in compact form. More information on this can be found in Chapter 6.6.

Joining the dots in the Internet industry

First published in 2017, dotmagazine provides information about the whole spectrum of the Internet industry: With monthly focus topics, the online magazine impressively documents the experience and expert knowledge of the association, its members and partners. In terms of content, the spectrum ranges from

infrastructure to the countless applications and business cases that make the Internet possible in the first place. In addition, the newsletter dotmagazine is published twice a month in English and is aimed at interested parties from all over the world. More about this can be found in Chapter 7, eco International.

YouTube: Diversity in the moving image

eco's YouTube channel vividly reflects the diversity of the association's activities: From event documentation to expert interviews and specialist briefings, the videos are both informative and entertaining. In 2019, for example, the audience received impressions of the CSA Summit, eco://award and eco://kongress. A highlight here was the video interview with

Rafael Laguna de la Vera, founding director of the Agentur für Sprunginnovation ("Agency for Disruptive Innovation"), on the future of digitalisation and AI. Also very popular are the interesting interviews "dotmagazine meets ...", which offer in-depth insights into the Internet industry. In the series "Ladies in Tech", inspiring female specialists and managers in the Internet industry have their say.

Further information is available at:



www.eco.de/newsletter



www.flickr.com/ecoev



www.youtube.com/ecoAssociation



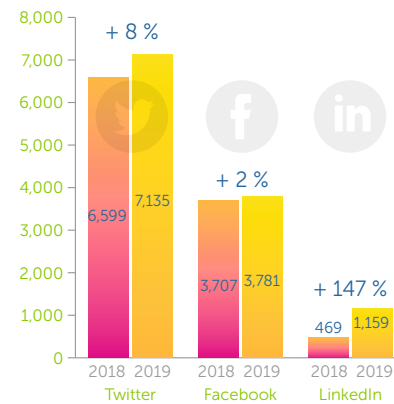
6.6 Social Media

In 2019, eco focused on the strategic reorientation of its social media channels. On the one hand, it was necessary to find solutions to the changes in Facebook's business model and the associated adjustments to the algorithm, as this further limited the organic reach of corporate accounts. On the other hand, the objective was to increase the performance of the individual channels, use resources more efficiently, and focus more on user engagement as a central key performance indicator (KPI). This was accompanied by a measure to sharpen the content mix by orienting content more closely to the specific target groups of the individual channels and, above all, to encourage greater participation.

LinkedIn at the centre of activities

Against this background, the activities on LinkedIn in particular were strategically repositioned and intensified. With around 14 million users in the DACH region (Germany, Austria, Switzerland), the business network is one of the central contact points for digital B2B communication. Greater organic reach and the ability to address stakeholders directly in the business context formed the argumentation for stronger engagement on the platform. The eco LinkedIn Corporate Account has been home to German-language posts since summer 2019 and covers all association activities: from political communication and eco events to

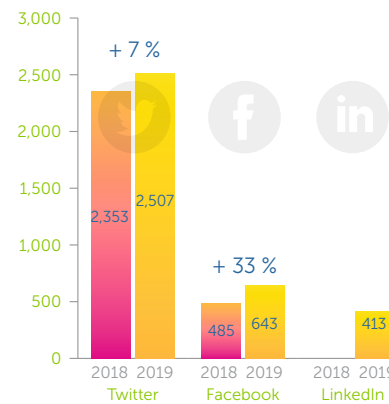
Development in Follower Numbers



white papers and interviews with top decision-makers in the Internet industry. The activities of eco International were outsourced to a dedicated LinkedIn focus page at the beginning of autumn. The result speaks for itself: The number of followers on LinkedIn increased by 147 percent compared to the previous year. The reach of the individual postings and the commitment rate also increased significantly.

Overall, the number of followers on all eco social media channels increased compared to the previous year. The reach per post also developed positively across all platforms. The central topics that concerned the Internet

Development in Reach per Post

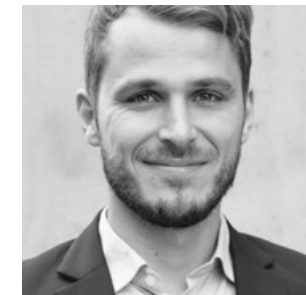


community and thus also the eco followers were: the European Copyright Directive including upload filters and ancillary copyright, content and messages from the eco Complaints Office, eco events, as well as white papers and the activities on #LiT Ladies in Tech.



For further information see:

-  [@eco_de](https://twitter.com/eco_de)
- [@eco_en](https://twitter.com/eco_en)
- [@CSA_eco](https://twitter.com/CSA_eco)
-  www.eco.de/linkedin
- www.linkedin.com/showcase/eco-association
-  www.facebook.com/ecoverband
-  www.xing.com/net/ecoassociation



F.l.t.r.:

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eco International Communications

C  it Kinsella
Project Manager
eco International

Eil  n Geraghty
Project Manager
eco International Communications

B  la Herting
Junior Project Manager
eco International Communications

7. eco International

The international association activities were further expanded in 2019. Not only did eco move into new premises in Brussels, but the association was also more strongly present in the context of joint events with international partners. As a result of the signing of the Memorandum of Understanding with the Internet Society, the network of strong international partnerships was successfully extended.

International members

In 2019, eco's membership included more than 500 companies from outside of Germany – distributed across more than 70 countries. The ten countries with the most member companies were the Russian Federation, the United States, United Kingdom, France, Austria, the

Netherlands, Bulgaria, Switzerland, Italy and Poland.

Cooperation partnerships

The cooperation between eco and the US-based partner association, the Internet Infrastructure Coalition (i2Coalition), was deepened in 2019. Alongside the regular exchange of content on Internet policy topics in Berlin, Brussels and Washington D.C., the focus in this year was placed on the panel discussion format "Transatlantic Dialogue". The high-level roundtables took place in the above-mentioned cities, with a focus on the future of the EU-US Privacy Shield on both sides of the Atlantic, and the results were summarized in a set of papers.

In addition, eco and the association of the European registries for country-specific top-level domains, CENTR, continued their existing cooperation and content exchange. Thus, Thomas Rickert and Lars Steffen from eco took part in, among other things, the Registrar Day and the CENTR General Assembly in Brussels.

The continued cooperation between eco and CISPE, the alliance of Cloud Infrastructure Services Providers in Europe, was also successful. The two associations were in regular fortnightly contact to discuss positions and a range of topics. In January, the anniversary of the Elys  e Treaty served as an opportunity to also renew the cooperation between EuroCloud France and EuroCloud Deutschland_eco.



During the international Internet Governance Forum 2019 in Berlin, eco Chair of the Board Oliver J. Süme and Rinalia Abdul Rahim, Senior Vice President of Strategy at the Internet Society (ISOC), signed a Memorandum of Understanding, in order to give future orientation to the existing cooperation between the two associations.

Events

In 2019, eco was represented at a range of international events. The year kicked off in January with a meeting of the European data centre associations in Amsterdam. In February, the initial "Transatlantic Dialogue" roundtable took place in the European Parliament with Willem Debeuckelaere, Vice Chair of the European Data Protection Board (EDPB), and the second episode took place in the eco Capital

Office in Berlin with Peter Schaar, former German Federal Commissioner for Data Protection and Freedom of Information. The roundtable in Washington D.C. with Andrew Steele, Privacy Shield Administrator at the Trade Administration, followed in May. The series on the future of the EU-US Privacy Shield was organised in close cooperation with the i2Coalition. On the occasion of the G20 meeting in July, the two associations published a joint statement on the topic.

In March, the eco Competence Group Security was again represented at the RSA Conference 2019 in San Francisco, with a booth and the exclusive "eco Security Dinner" for association members. The association was also involved at CloudFest, contributing to a number of activities. Throughout the year, Thomas Rickert,

Wolf-Ulrich Knoben and Lars Steffen represented eco members at all ICANN Meetings and, together with DENIC, organised the "German Night", which has become established beyond the bounds of the German-speaking community and at which the national and international members of eco and DENIC come together to network. This year again, the CSA Summit was a highlight for the international community in the eco event calendar.

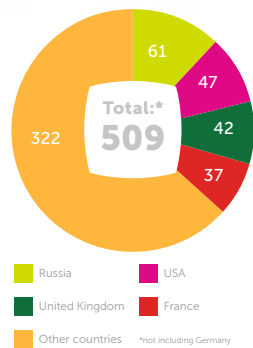
The close cooperation between eco and ISOC was accompanied by a range of joint events in Berlin and Brussels, as well as a webinar on the topic of encryption. On the occasion of the G7 Summit, a joint statement was published calling for strong encryption technology.

The international Internet Governance Forum 2019 took place in November in Berlin – the first time it has ever been hosted in Germany. The eco board members Oliver J. Süme and Klaus Landefeld, eco Managing Director Alexander Rabe, and eco Director Names & Numbers Thomas Rickert were present on a range of panels. eco was also represented at a trade booth.

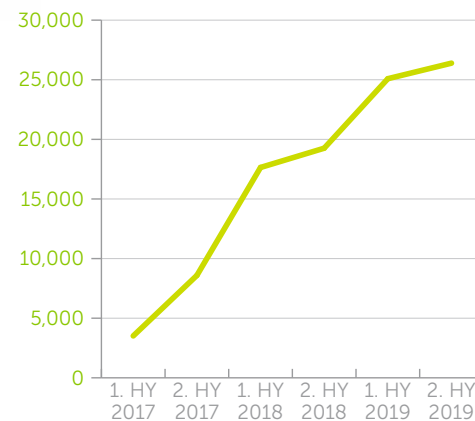
Further events where eco was represented at the international level in 2019 included: M3AAWG, MWC, AI: Governing the Game Changer, the 5th German-Belgian Conference, RIPE78, EuroDIG, EuroSSIG, a German-Swedish Exchange on Artificial Intelligence, the ICANN-Studienkreis, Internet & Jurisdiction Conference, and TechWeek. A range of international members were also nominated and honoured in the eco://awards.



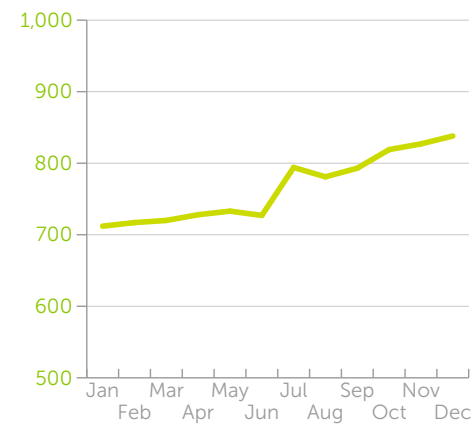
Geographical Distribution of International Members 2019



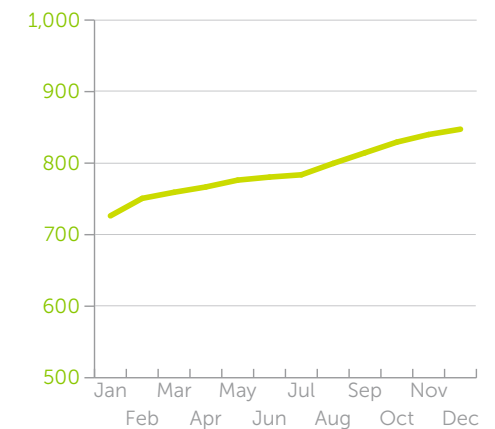
dotmagazine Website Visits Growth Since Inception



dotmagazine Newsletter Subscriptions 2019



Twitter @eco_EN Followers Development 2019



International communications

dotmagazine

dotmagazine, eco's English-language online magazine with changing Internet-related topics, continued to grow in its readership and contributors during 2019, with close to 40 percent growth in website visitors over the year.

Over 50,000 visitors from all around the world availed themselves of the quality content from eco, eco partners, and eco members, which includes articles, text interviews, podcasts, and video interviews. Throughout 2019, dotmagazine published close to 70 articles from member companies and over 40 eco stories, as well as articles from partner associations and

projects that the eco Association supports. The team also undertook training in video interviewing and editing and conducted English-language interviews with speakers from the CSA Summit, the eco://kongress, and the Internet Security Days, published throughout the year in dotmagazine.

dotmagazine is open to all eco members. Topics are chosen to enable eco members from anywhere along the value chain to become involved – from the basic infrastructure through to the service layers. Interested members can contact dotmagazine@eco.de for more information.

Newsletter

The dotmagazine/eco International newsletter, sent out as a rule every two weeks, was relaunched with a new tool in mid-2019. Subscriptions grew in the course of the year by 17 percent.

The newsletter highlights the latest articles published on dotmagazine, and provides a news-ticker of recent eco highlights for an international audience. Newly-released eco white papers, studies, and guideline papers published in English are also featured, as are projects in which eco is involved. In addition, in 2019 a regular rubric, "The View from the Political Arena", provided legislative updates from Brussels, Berlin and Washington.

Social media

Twitter followers increased by 16 percent over the course of 2019. A new English-language LinkedIn page was launched in October 2019, which had 120 followers by the end of the year.

News, studies, reports and further support

The international team continued its translation and support work for other eco teams, including DE-CIX, the CSA and EuroCloud, in 2019. This included close to 140 news items published on international.eco.de (up 12.5 percent on the volume produced in 2018).

Publications translated in the course of the year also included the annual reports of the



eco Association, the eco Complaints Office, DE-CIX, the Ethics Compendium, white papers on connected cars, crypto-mining, blockchain in SMEs, and heat recovery in data centres, the eco study on artificial intelligence, the updated eco portfolio, a large number of reports, position papers, contracts, training documents, and updated legal documents.

Further information is available at:

international.eco.de
dotmagazine.online





Executive Board of DE-CIX Group AG

Harald A. Summa

CEO

Chair

Ivo Ivanov

COO

Vice Chair

Sebastian Seifert

CFO

8. eco Services & Initiatives

8.1 DE-CIX

From Frankfurt to the world: In 2020 DE-CIX celebrates its 25 years of "Excellence in Interconnection". The world's leading Internet Exchange operator DE-CIX looks back on a quarter of a century of Internet history "Made in Germany". In the anniversary year, DE-CIX is placing customers and partners in the focus. The campaign "Without You" is designed to demonstrate to these trailblazers and facilitators loyalty and gratitude for the world-wide success of DE-CIX. Now is the ideal time to look back at recent decades, as well as at the business year 2019.

1995 heralded the birth of DE-CIX (German Commercial Internet Exchange) in the old post office in the Gutleut quarter of Frankfurt. This was the moment when three Internet service providers – MAZ from Hamburg, EUnet from Dortmund, and XLink from Karlsruhe – connected their networks. The aim was to promote local digital interconnection and establish (cost-) efficient data exchange via Internet Exchanges (IXs).

In the mid-nineties, data streams between different providers in Germany had to cross the Atlantic twice – even if the sender and recipient were actually only a few kilometres apart.

With the idea of the interconnection of networks, DE-CIX was in the right place at the right time, because high-speed information exchange was exactly what DE-CIX could offer its customers.

Back in 1995, Frankfurt was already the telecommunications capital of Germany, and in the meantime, it has developed into Europe's largest Internet hub. Today, with over 20 locations on 4 continents, DE-CIX is the world's largest carrier and data centre-neutral interconnection ecosystem, with DE-CIX Frankfurt serving as the largest Internet Exchange in the world.

Non-stop technical innovations

The technological progress at DE-CIX can be seen, among other things, in the development of the speed of data transmission. 25 years ago, the standard connection to DE-CIX was still 10 Mbit/s via Ethernet. Today, this has increased by a factor of ten thousand to 100 Gbit/s, and thanks to the DE-CIX Apollon platform even up to 400 Gbit/s is possible today at DE-CIX Frankfurt. In December 2019, DE-CIX in Frankfurt recorded a throughput of over 8.1 Terabits per second for the first time, and with this, again broke its own world record. DE-CIX has become the first Internet Exchange provider to use patch-robots in order to connect or upgrade customers.



DE-CIX Group AG – Supervisory Board

Felix Höger

Chair of the Supervisory Board

eco Board Member

CEO, Höger Management GmbH

Klaus Landefeld

Vice Chair of the Supervisory Board

Vice Chair of the eco Board

Rudolf van Megen

Member of the Supervisory Board

CEO, S.T.O.L. Verwaltung GmbH

International expansion of the DE-CIX success model

In parallel to the expansion of DE-CIX in Frankfurt to further locations and the development of further Internet Exchanges in Germany, DE-CIX opened its first international Internet Exchange, UAE-IX in Dubai, in 2012. With that, the starting shot was fired for rapid expansion, which experienced another highlight in 2015 with the setting up of DE-CIX New York – now the largest Internet Exchange in the region. The international expansion continued in 2016 with DE-CIX Madrid, the fastest-growing IX in the world. With the opening of interconnection hubs in Mumbai, Chennai, Kolkata and Delhi, the company enjoyed an exceptionally successful entry into the Indian market in 2018, followed in 2019 by entering South East Asia,

with locations in Johor Bahru and Kuala Lumpur (Malaysia).

The DE-CIX business year 2019: Technical innovations and strong growth characterize positive result

In the consolidated annual financial statement for 2019, the global turnover across all company parts grew by more than 10 percent in comparison to the previous year to 39.6 million Euro. Revenues from international activities grew by more than 28 percent in comparison to 2018, and represented almost 15 percent of total income in 2019.

At the Global Carrier Awards 2019, DE-CIX was awarded as the Best Internet Exchange – for the fourth time in the last five years. The

Global Carrier Awards are awarded annually and honour innovations, vision, and exceptional services, both in the regional and in the global telecommunications market.

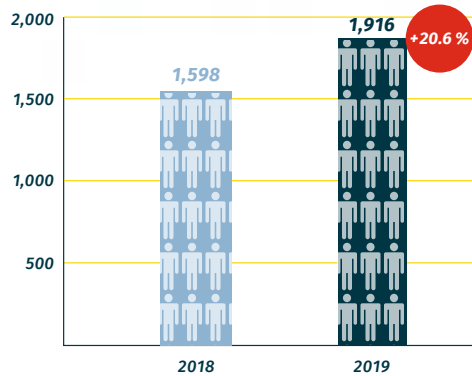
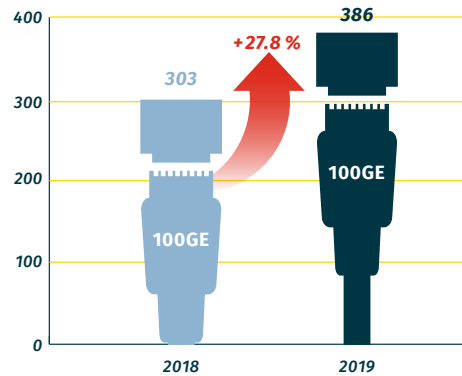
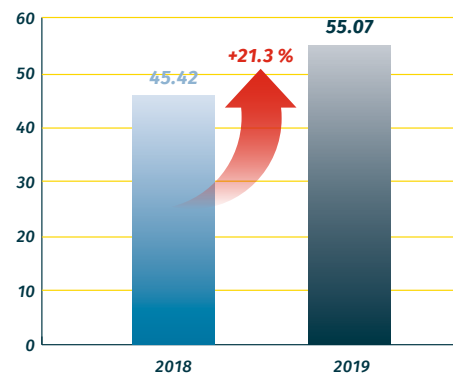
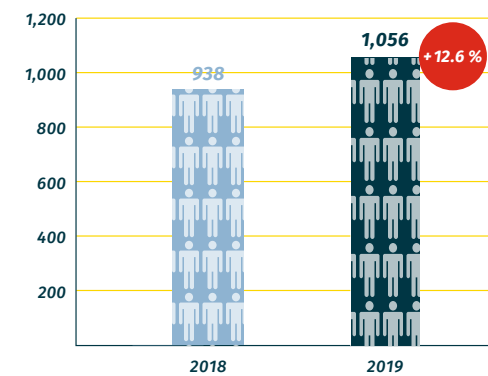
Innovation first! – DE-CIX again at the technological forefront in 2019

The world's leading Internet Exchange operator DE-CIX joined forces with the IX operators AMS-IX and LINX in 2019 to develop a common Application Programming Interface (API) to easily provision and configure Interconnection services. This IX-API will improve productivity for customers and partners. It allows users to self-manage their existing and new interconnection services, such as peering, more effectively, from ordering new ports to monitoring provisioning processes.

Only a few years after the introduction of 100-Gigabit Ethernet (GE) access technology, in 2019 DE-CIX climbed to the next step of technological development. In reaction to the growing needs for more data capacity, in 2019 DE-CIX became the first Internet Exchange provider in the world to offer 400GE access technology. The expansion was realised on the basis of the DE-CIX Apollon platform, which uses Nokia routers as one component.

Once around the world: global and regional growth in 2019

In 2019, DE-CIX experienced further growth across all regions and business units. In addition to announcing its market entrance in South East Asia, DE-CIX extended its reach through more enabled sites and more access sites

DE-CIX Global
Total CustomersDE-CIX Global
Total 100GE PortsDE-CIX Global
Total Customer Bandwidth (Terabits)DE-CIX Germany
Total Customer Growth

where networks can connect. The expanded service portfolio contributed substantially to the growth in customers, connected networks (ASNs), and connected bandwidth at the 20 Internet Exchanges operated by DE-CIX around the world during 2019.

DE-CIX enjoyed more than 20 percent growth in customers globally in 2019, bringing the total figure to over 1,900 customers. Continued growth in excess of 27 percent in 100GE ports was also in part responsible for the 21 percent growth in connected customer bandwidth, which reached a massive 55 Terabits during the year.

Significant growth in the home market of Germany

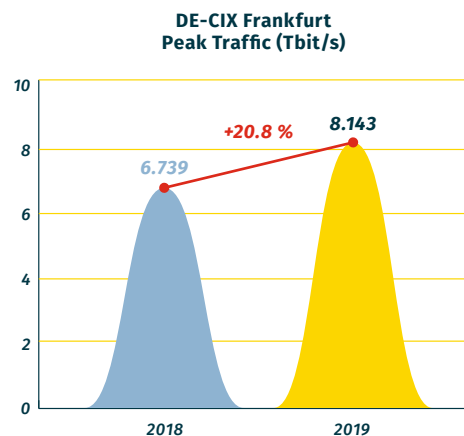
In the home market of Germany, total customer numbers connected to DE-CIX Exchanges grew by close to 13 percent to well over 1,000 in 2019. A range of important industry customers increased their connection capacities to the German Internet Exchanges significantly during the year. In addition, a major international automotive manufacturer and a large German-wide chain of retail stores came to DE-CIX. These consulted with DE-CIX regarding their interconnection strategy and usage, and now use services like InterconnectionFLEX and DirectCLOUD.

DE-CIX Frankfurt breaks own world record

In 2019, Frankfurt continued its record-breaking streak. A significant milestone was achieved by exceeding the number of 900 ASNs. The connected customer bandwidth rose by 12.8 percent to over 41 Terabits. Further growth was achieved in Frankfurt through upgrades, with existing customers ordering 128 upgrades across all services in 2019. DE-CIX Frankfurt also set new peak traffic world records: in September breaking the data throughput mark of 7 Terabits per second (Tbit/s), and in December hitting 8.1 Tbit/s. Four new enabled sites were connected to the Frankfurt Exchange during 2019, in this way adding the Rhine-Neckar Region to DE-CIX Frankfurt through PFALZKOM GmbH.

Getting closer to the edge – considerable growth in regional Germany

The success of DE-CIX in Frankfurt was complemented by further positive developments at the regional IXs in Germany. The Internet Exchanges in Hamburg, Dusseldorf and Munich experienced aggregated growth of over 50 percent in customers and nearly 80 percent in connected customer bandwidth. Both Hamburg and Munich individually enjoyed growth of more than 50 percent in ASNs, while growth in Dusseldorf rocketed, with over 80 percent growth in ASNs. This positive growth in regional networks is indicative of the success of the DE-CIX strategy of bringing networks closer to the edge, and of the popularity of the DE-CIX GlobePEER Remote service.

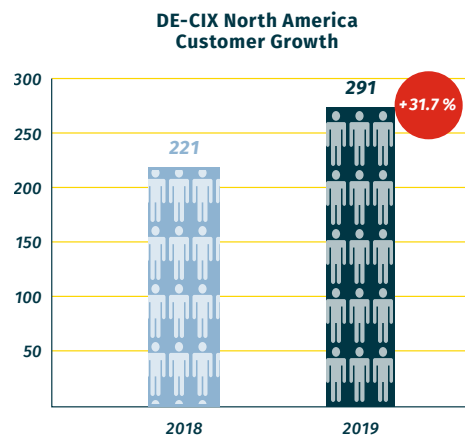


DE-CIX international business also growing fast

Globally, DE-CIX was successful across the board in 2019. Customer numbers at the individual Exchanges grew by over 30 percent, an aggregated increase of 203 customers to the established and developing DE-CIX locations around the world.

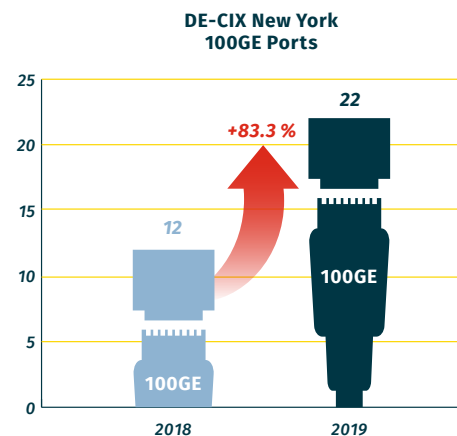
DE-CIX North America

DE-CIX North America grew strongly again in 2019. In total, there was more than 30 percent growth in customer numbers and customer bandwidth. By the middle of the year, DE-CIX North America Inc.'s business had already crossed the break-even point, and the business year as a whole was successful.



DE-CIX New York, which celebrated its 5th birthday in 2019, hit a landmark with a peak traffic of 580 Gbit/s (up 54 percent) and is currently ranked number five of all IXs in the US. Customers at the Exchange increased by close to 30 percent. The great demand for 100GE ports continued to have a strong impact, with orders nearly doubling during 2019, and customer bandwidth increasing by a quarter.

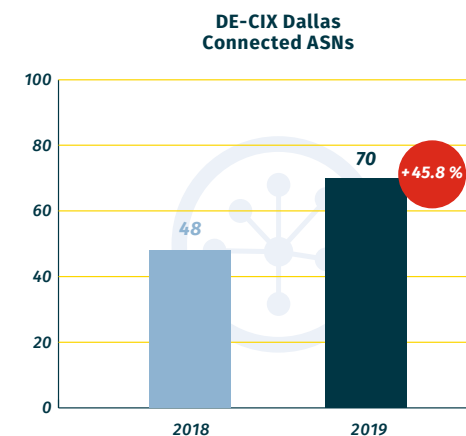
DE-CIX Dallas has now been placed in the top 20 list for IXs in the US. The Exchange experienced an increase in peak traffic of 74 percent in 2019, rising to over 110 Gbit/s. 100GE port orders began to take off, and customer bandwidth grew by over 65 percent. Customer numbers and ASNs both increased by 45 percent, ending the year with 70 networks connected to the Exchange.



DE-CIX Southern Europe

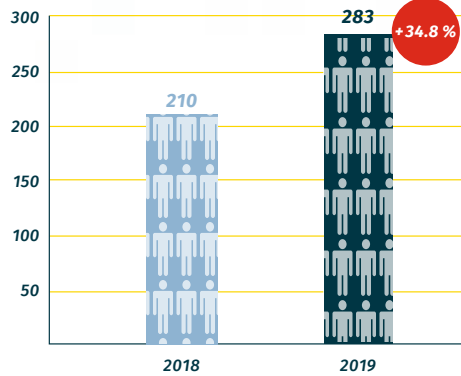
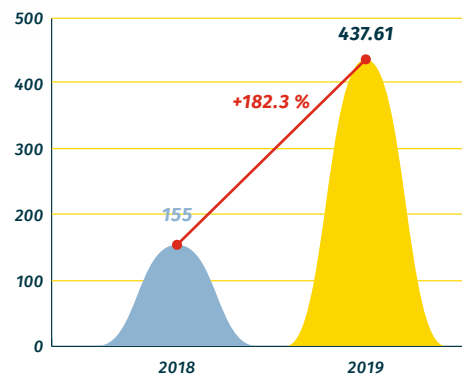
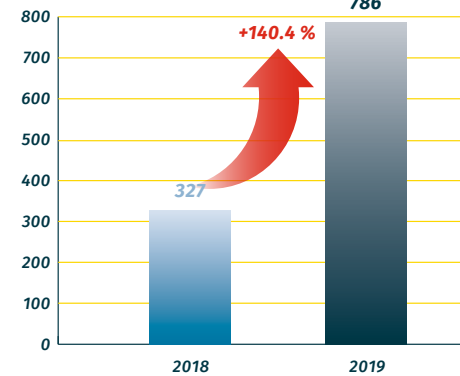
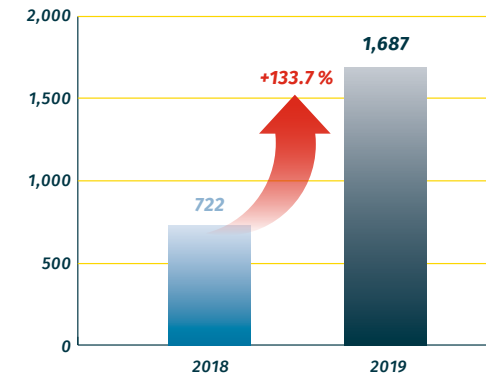
DE-CIX's Internet Exchanges in Southern Europe (Lisbon, Madrid, Marseille and Palermo) enjoyed further success and substantial growth in 2019. The region experienced total growth in customers of almost 35 percent, with an increase of 60 percent in customer bandwidth.

DE-CIX Madrid, the flagship IX in southern Europe, continued to enjoy strong growth. With 175 connected ASNs (up 41 percent) in just 4 years of operation, and peak traffic nearly tripling in 2019 to reach 437 Gbit/s, it has exceeded all expectations. The GlobePEER Remote service was launched at DE-CIX Madrid in 2019, connecting the Spanish capital to the other DE-CIX Exchanges.



ASNs in Marseille grew by over 30 percent in 2019, resulting in more than 90 connected ASNs by the end of the year. Customer bandwidth increased by 28 percent during the year, and peak traffic almost doubled, reaching 68 Gbit/s. A GlobePEER Remote connection between DE-CIX Marseille and UAE-IX in Dubai was also launched in 2019. Meanwhile, at DE-CIX Palermo, customer bandwidth grew by more than 60 percent. The GlobePEER Remote service was launched in Palermo, connecting it to the other DE-CIX Exchanges.

DE-CIX Lisbon, launched early in 2019, took off rapidly and by the end of the year already had close to 30 connected networks. With 60 percent of these coming from West Africa, Lisbon has opened the gateway for African networks to Southern Europe.

DE-CIX Southern Europe
Customer GrowthDE-CIX Madrid
Peak Traffic (Gbit/s)DE-CIX Istanbul
Customer Bandwidth (Gbit)Mumbai-IX
Customer Bandwidth (Gbit)

From Moscow to Malaysia: The global DE-CIX interconnection equator continues to grow

In March 2019, DE-CIX and MSK-IX, the leading IX operator in Russia, launched a partnership. The two strategically important IXs were successfully interconnected over GlobePEER Remote. At the end of the reporting year there were more than 400 ASNs actively peering over "DE-CIX Moscow powered by MSK-IX". The partnership is to be expanded in the future to further locations.

DE-CIX Istanbul enjoyed more than 55 percent growth in ASNs during 2019, and almost doubled its peak traffic during the year, up 94 percent to reach 150 Gbit/s. The Exchange connected its first 100GE customer early in 2019, with a further 100GE ports sold during the year. As a

result, connected customer bandwidth also grew strongly in 2019, increasing by 140 percent. The number of customers using the GlobePEER Remote service to DE-CIX Frankfurt doubled during the year.

Further east, "UAE-IX powered by DE-CIX" in Dubai was upgraded to the Apollon advanced platform in 2019. This allowed the introduction of the access-and-service model, giving connected networks access to the range of DE-CIX services – for example, the DirectCLOUD. As well as this, UAE-IX was connected to DE-CIX Marseille using GlobePEER Remote.

UAE-IX experienced significant growth in 2019 through customer upgrades, with connected customer bandwidth increasing by more than 50 percent during the year. There was a

44 percent rise in the number of 10GE ports sold. Data exchanged via the IX also saw an increase, with peak traffic rising by 17 percent to 122 Gbit/s.

On the Indian subcontinent, Mumbai-IX grew strongly during 2019. Customer numbers increased by more than 40 percent during the year, and connected customer bandwidth more than doubled, rising to nearly 1,700 Gbit/s. By the end of 2019, the Exchange had over 180 ASNs. In addition to Mumbai, three new locations were launched in India in the first half of 2019: Chennai, Delhi and Kolkata.

At the end of 2019, DE-CIX entered South East Asia, announcing its market entrance by creating a joint venture with the local technology group "Starwing Technology". The new joint

venture company "DE-CIX Malaysia" will collectively take over the Johor Bahru Internet Exchange (JBIX), located in Johor Bahru, in close proximity to Singapore. A second Internet Exchange will also be built up in Kuala Lumpur.

New Interconnection Services pave the way to a successful future

To reach new target groups and to respond to the changes brought about by digitalisation, DE-CIX developed several new Interconnection Services in 2019 and brought them to market. Alongside services like FlexPOP and InterconnectionFLEX, in future Closed User Groups will also be offered. Here, the DE-CIX interconnection ecosystem can be used to establish dedicated user groups (federations) as logically separated services. The first dedicated Closed User Group at DE-CIX is the Microsoft Azure



Peering Service. Through the direct exchange of data with Microsoft, the service enables a direct connection with the highest possible quality with regards to security, bandwidth and latency.

DE-CIX Cloud Exchange - DirectCLOUD and GlobePEER Remote continuing to gain ground

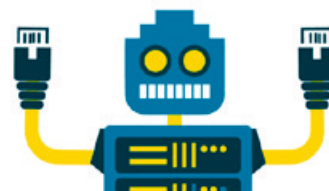
The existing DE-CIX services also enjoyed strong growth in 2019. By the end of 2019, networks using the DirectCLOUD service had built up a total capacity of 830 Gbit for the use of cloud connectivity. In Frankfurt alone, more than 50 cloud providers are connected. In addition, the service is now no longer only available directly at DE-CIX, but also through more than 30 certified DirectCLOUD data centres and more than 30 certified DirectCLOUD ISPs.

In the case of the GlobePEER Remote service, which interconnects the Internet Exchanges in Frankfurt, Dusseldorf, Hamburg, Munich, New York, Marseille, Lisbon, Madrid, Palermo and Istanbul, there was a growth in orders of 50 percent. The connection from Frankfurt to the German regional DE-CIX Internet Exchanges enjoyed the largest number of orders in 2019.

Together we're stronger: the DE-CIX Partner Programme

In 2019, as in previous years, further work was undertaken in a variety of forms to create new partnerships with data centres, cloud service providers, Internet service providers, network operators and also resellers. These partners were responsible for bringing in almost 1,000 orders of DE-CIX services in 2019, sold to their customers across all Internet Exchanges. The top

Top 3 Reseller 2019



three resellers in 2019 were Angola Cables, Core-Backbone and GlobeNet.

Further information on DE-CIX growth in 2019 is available in the Annual Report at:
www.de-cix.net

More on the anniversary campaign is available at:
withoutyou.de-cix.net



DE CIX
25
YEARS



F.l.t.r.:

Julia Janssen-Holldiek

Director

Astrid Braken

Legal Counsel

Stephan Hradek

Systems Engineer

Sebastian Kluth

Technical Lead

Maïke Marx

Marketing & Customer Relations

Florian Mielke

Manager Business Development

Qadir Rostamzada

Marketing & Business Development

8.2 Certified Senders Alliance

The Certified Senders Alliance (CSA) looks back at a successful year with a growing international orientation in 2019, and continues to work on legal and technical standards and their implementation to improve the quality of commercial emails.

The Certified Senders Alliance (CSA) was founded in 2004 as a central certification body for email senders. The joint project with the German Dialog Marketing Association (DDV) establishes high legal and technical quality standards and certifies companies that meet them. Certification offers numerous advantages: In addition to improving the delivery of emails to recipients, organisations can also counteract poor reputation and dissatisfied recipients, as well as penalties for legal violations.

Growth with an international focus

As in previous years, CSA enjoyed steady growth in 2019. Specialist contributions, many communicated internationally, and positive recommendations within a stable network ensured continued interest in quality standards: The CSA received 234 enquiries regarding certification. However, only half of the applications actually submitted by companies resulted in a certification.

This ratio corresponds to that of the previous year and shows the sustained high-quality standard demanded by the CSA. At the end of 2019, the CSA was processing 69,100 IP addresses of certified senders, corresponding to a growth of six percent in comparison to the previous year.

Visits to many international trade fairs and conferences formed the basis for deepening the cooperation with international anti-spam associations and mailbox providers. The majority of the newly-certified companies and partners are based outside of Germany, which shows that the CSA is successfully implementing its internationalisation strategy.

Added value for participants

The protection of a company's brand in marketing involves the protection of the company's domain and IP reputation for email marketing. In the age of the information flood and dangerous spoofing attacks, companies must send emails that are relevant for the user, that correspond to current quality standards, and that allow the right conclusions to be drawn about the identity of the sender.



The CSA set itself the goal for 2019 of supporting certified senders in the best-possible way to protect their existing and future reputation. To achieve this, new internal tools were further expanded, as were partnerships. Justice was also done to the increasing relevance visible in the market of the domain reputation in comparison to the IP reputation: In cooperation with mailbox providers and senders, the pilot was drawn up for a Domain Whitelist, which is now undergoing continuing conceptual development.

The CSA legal and technical criteria themselves were also adapted to the current requirements of mailbox providers and current legal bases, in order to reflect the requirements of the market in the best-possible way.

Dissemination of quality standards

The Europe-wide communication concept was further developed in 2019 and the number of clippings grew by 20 percent in comparison to the previous year, increasing to 300 clippings in the countries Germany, France, Spain, Italy and Poland.

The CSA Summit, with around 140 participants from 15 countries, and with presentations by many international experts from renowned companies (including Verizon Media, Westwing, Cyren, 1&1, etc.) was again a complete success. During this event, the CSA itself also provided relevant content and was able to further solidify the CSA Summit as an internationally-relevant industry event. More about this can be found in Chapter 10.1.2.

Strong need for consultation continues, also regarding the General Data Protection Regulation (GDPR)

The quality control of the CSA Whitelist is always of the highest priority for the CSA. This is due to the promise of quality made to mailbox providers, as well as the promise made to senders that they are on the legally safe side.

Even though the manual checks of certified senders have largely been automated since 2017, individual consultations by the eco Complaints Office represent an important pillar in ensuring quality. As a result of uncertainties among senders, the General Data Protection Regulation, which came into effect in 2018, also led to the need for intensive consultations.



Further information is available at:
www.certified-senders.org



8.3 deutsche ict + medienakademie/eco Academy

For more than 20 years, the deutsche ict + medienakademie has been providing executives with deep knowledge on new high-tech trends from a range of perspectives. As a company within the eco Group, it is responsible for the operation of the eco Academy.

In the context of the deutsche ict + medienakademie, specialists bring together current developments in the areas of new media and new communication, IT, telecommunications and the Internet on one neutral platform, on the basis of well-founded studies, reports and experience. In the eco Academy, the company offers members of the association and other interested parties the optimal mixture of

high-quality, neutral professional development and expertise in the daily business of the Internet industry. For this, the Academy uses a range of formats, such as expert panels, inhouse training & coaching, and from 2020 onwards, webinars & e-learning.

Expert panels & conferences

In 2019, the ict + medienakademie organised around 30 events, in the context of which they provided 900 executives with valuable knowledge, as well as both well-founded and well-balanced information. Among others, the topics included Big Data, data centres, future computing, artificial intelligence (AI), the Internet of Things (IoT), and infrastructure, as well as digitalisation law and Human Resources 4.0.

Around two thirds of the events were organised for the eco Academy, and many more were supported by the eco Association.

With around 200 high-level speakers, it was possible to offer a platform for knowledge exchange in a form that is unique in Germany.

Examples of events included:

AI for SMEs

AI for seeing, speaking and listening, searching, understanding, behaviour and learning, for robotics or in chatbots, in the office, at home and underway – everyone is talking about AI. After repeated high expectations for AI and periodic visits to the Gartner “Valley of Tears”,

most experts now expect that the technology and applications are definitely on the way up. Supported by, among others, the BMWi Service-Meister project, KI Bundesverband, DFK – the German association for specialists and managers – and the Digital Hub Cologne, the eco Academy analysed the status quo and discussed forecasts.

Who rules the Internet?

Interconnection is the motive and driving force for the majority of all research, for innovation, and for new business models. While the essential technical parameters are improving without pause, the major players are changing, time-honoured technologies are being seen more critically, and states are intervening. With



speakers from, among others, ICANN, Nokia, the German Federal Ministry for Economic Affairs and Energy (BMWi), and the European Parliament, the Academy took a well-founded and balanced look into the future.

24th Broadband Forum

For many years, the deutsche ict + medienakademie has dedicated itself to the development of digital infrastructure in Germany, in conjunction with the Broadband Forum (Breitband-Forum). With knowledgeable speakers from very different areas of the sector, the 24th Breitband-Forum, entitled "Breitband goes Company", saw discussions regarding fibre optics, coax, super vectoring and 5G. Given that it was hosted in the European Headquarters of Huawei Technologies, it was possible for participants to see and try out 5G equipment. Over the past 20 years, the Breitband-Forum has become established as a

meeting-place for the sector, and offers the possibility to break away from speaker-fronted presentations and get into direct interaction with experts.

Cooperation partnerships and support

As a neutral platform, the deutsche ict + medienakademie cooperates with a wide range of associations and institutions. Many of the events were organised as joint events or with the support of partners. This included, for example, BREKO, Digital Health Germany, FK TG, Fraunhofer, GIMI, the Trade and Industry Chamber Cologne, IfKom, Rheinische University of Applied Sciences, the City of Cologne and VATM.

In addition, the deutsche ict + medienakademie was entrusted with a range of projects from the industry. Here, the focus is on developing the concept for content, the didactical structure, and the choice of speakers.



eco Academy Corporate Training & Coaching

In the second half of 2019, Corporate Training & Coaching for the staff of eco member companies was started under the auspices of the eco Academy. The new service was presented at the eco://kongress, during which interest was aroused and the first concrete measures could be agreed upon. Most importantly, customer orientation is the highest priority.

The customers define the focus and the requirements for the company-internal training programmes – the Academy develops qualification concepts tailor-made to the requirements. Intensity, content and extent are oriented towards the existing knowledge and learning goals of the participants.

Further information is available at:
www.eco.de/akademie





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Head of Member
Services



Cornelia Schildt
Project Manager
IT Security



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Security Analyst

8.4 Cybersecurity Services

8.4.1 SIWECOS

The German federal government-funded SIWECOS project started in 2016. Since the completion of the beta phase at the end of 2017, operations have been carried out as a service which is continually further developed and marketed.

The project was successfully continued in 2018, and in October the German Federal Ministry for Economic Affairs and Energy (BMWi) agreed to extend funding for a further twelve months.

In 2019 the service was expanded to include five further security scanners and the architecture was comprehensively adapted. SIWECOS was also presented at more than 30 events for the target group of small to medium-sized enterprises (SMEs), as well as for the web developer community from the CMS environment and multipliers like the DIHK and the Federal Office for Information Security's Alliance for Cybersecurity (Allianz für Cybersicherheit).

SIWECOS primarily helps SMEs to detect and eliminate vulnerabilities on their websites. In cooperation with the Ruhr University Bochum, several free website scanners, which check registered websites for security vulnerabilities on a daily basis, are made available for this

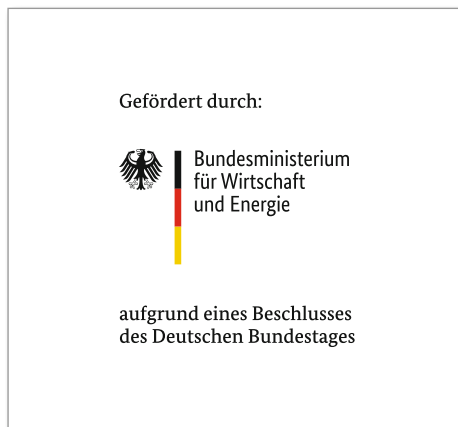
purpose. An improved website scanner from Initiative-S, which has been continued as a part of SIWECOS since 2018, is also used. If a vulnerability is detected, the website operators receive an automated notification, and additional recommendations are available on the project website to close this vulnerability.

According to the assessment of specialists, SIWECOS is an internationally competitive service which can be measured on a technical basis against established scan products. In comparison to the services available in the market, SIWECOS has the USP that the service is made available as an open-source solution. The SIWECOS Hosted Service is also seen by international specialists as an innovation: As a world-wide first, the service helps web hosts

to prevent server-side attacks on the CMS without the need for a website operator to take immediate action.

New functions

In the course of the project, a range of scans for new vulnerabilities which were not known at the start of the project (e.g. Padding-Oracle, Bleichenbacher and TLS POODLE) were developed and integrated into SIWECOS. Through the active interaction with web developers, security experts, and SMEs themselves, it became clear during the project that there was further need to expand the SIWECOS portfolio to include further scanner elements and modules, and thus to make a long-term sustainable all-round package available for SMEs.



For this purpose, additional modules and functions were developed. On the one hand, this included two new scans for vulnerabilities in mail servers and open ports. These are designed to detect configuration errors on the part of the SME, and in this way prevent third parties being able, for example, to get access to personal data, such as a customer data base, or read confidential emails. Mail servers and open ports can represent a critical gateway into a company network.

A new web crawler provides support for SMEs, in that the SIWECOS scanner not only scans the homepage for vulnerabilities, but also sub-pages such as those for a web shop or a contact form. Through these functions, the impact of the SIWECOS protection has been increased enormously.

By means of a CMS fingerprinting-tool, which version of a Content-Management System (CMS) is being used can be ascertained. This allows outdated versions, which often have vulnerabilities, to be detected faster and, above all, automatically.

Sensitisation through the network

The measures for sensitising were intensified. Here, increased emphasis was placed on synergies with other initiatives, associations and institutions, in order to gain as great a reach as possible to SMEs. The cooperation with Mittelstand-Digital and Go Digital should be especially highlighted.

Value was placed on creating an attractive offer for SMEs that would accompany them through all phases of the IT security process.

SMEs should receive support beginning with sensitisation, on to offering concrete solutions, and through to the implementation. Only in this way can IT security ultimately be established as a continual process for SMEs.

Improving interoperability

Optimisations were also undertaken on the server-side organisation in 2019. The individual SIWECOS services were rolled out in the Google Cloud platform (GCP) and orchestrated in Docker containers. As a result, it became possible to migrate the services without great effort from one infrastructure – like Google Cloud – to another. In the course of the year, this became necessary, given that the SIWECOS team determined that the platform in use had reached its limits. Ultimately, the team found a competent partner among the eco member companies which provided a cloud hosting solution for SIWECOS and became involved in the project as a sponsor. The migration to the new platform took place seamlessly, which demonstrates that the restructuring of the SIWECOS code basis had been implemented successfully.

SME-Check shows need to catch up

As part of the project, more than 1,400 websites were examined by SIWECOS with the security scanner, and it was determined that 39 percent of the websites scanned did not use HTTPS. Around 14 percent of the websites checked used certificates that were out of date or had been implemented incorrectly. The

SIWECOS scan also found that critical vulnerabilities remained widespread. In around 8 percent of the websites examined, the server was vulnerable to a POODLE exploit, which can enable an attacker to decrypt communication. 5.6 percent of the websites were potentially vulnerable to attack by means of Padding-Oracle. In around 25 percent of the websites checked, the version of the CMS or the plugins used could be ascertained. A third of these sites worked with a version with known vulnerabilities.

SMEs also have a need to catch up when it comes to protection against phishing attacks: 33 percent of all SME websites examined had machine-readable email addresses, while 14 percent had readable telephone numbers.

SIWECOS was funded by the German Federal Ministry for Economic Affairs and Energy (BMWi) as part of the "IT Security in Business" initiative until the end of October 2019. The project is a cooperation between the eco Association and the Ruhr University Bochum. It receives technical support from CMS Garden – the umbrella association for open-source content-management systems in Germany – and the Bochum-based IT-security start-up Hackmanit GmbH. The project leadership is in the hands of eco.

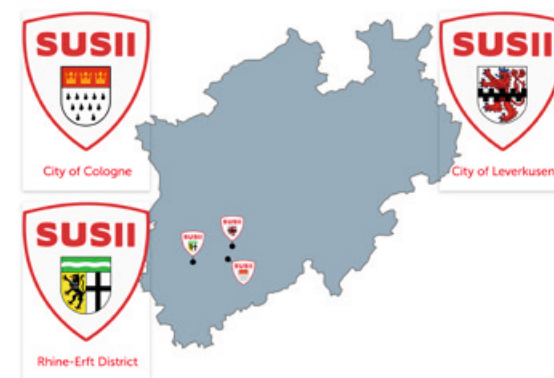
Further information is available at:
siwecos.de/en



Michael Weirich
Security Analyst



Sebastian Fitting
Consultant Complaints Office



8.4.2 SUSII (Smart-and-Secure-on-the-Internet)

“SUSII – Smart and Secure on the Internet” is an Internet security portal aimed at both citizens and small to medium-sized enterprises in North Rhine-Westphalia.

As a joint project between local police authorities and eco, SUSII is a central point of contact on cyber crime, with a focus on both first aid and prevention. The target group is addressed with a local “flavour” – for example, for Cologne at www.susii.koeln. The project summarises important tips on cyber crime prevention in simple language. For example, a memorable set of IT rules was developed and published in the local Cologne dialect. The project makes use of eco's expertise as well as the police's wealth

of experience, and contributes to strengthening cooperation with local law enforcement agencies, but also to further deepening existing contacts with the local industry in the field of IT security.

Following its successful launch in 2016 in cooperation with the Cologne police, in 2017 the initiative was launched for the City of Leverkusen and the Rhine-Erft district to lively media interest. It was possible to win important municipal partners as patrons, with the Mayor of Leverkusen and the District Administrator of the Rhine-Erft district. SUSII is also supported by the Chambers of Trades, Chambers of Industry and Commerce, media partners, and NetCologne as the sponsor of the project websites.

SUSII underway

The interaction within the cooperation is continually maintained and joint events are organised. In 2019 this occurred, for example, on Safer Internet Day in February and during Cybersecurity Month in October. During these events, citizens and staff of companies, both in Cologne and in the Rhine-Erft district, were sensitised and informed about relevant topics through presentations and in direct conversations at a booth set up in the pedestrian zone.

The project is designed so that, in future, cooperation partnerships can be formed with other regions and other cities in North Rhine-Westphalia, in order to create versions with the respective local flair there as well.

All local SUSII pages can be reached centrally at:

www.susii.nrw



Clarissa Benner, LL.M.

*Attorney-at-Law
Legal & Compliance*

Ivo Ivanov

Head of Legal & Compliance

**DATA PROTECTION
OFFICER**

Data Protection Service for international companies

International companies are also facing a challenge to ensure they are and remain compliant with the GDPR. The law is not only relevant for European companies – it applies to any company that has customers within the EU, regardless of where they are based.

eco can provide the expert know-how that international companies need to ensure their processes are compliant and to keep them that way, to train their staff, and to react to security incidents. eco can also act as the EU Representative for non-European companies that are required by law to appoint one. eco supports its members in operating in a data protection-compliant manner and in presenting themselves optimally on the market. Members are continually kept abreast of current data protection legal topics. eco thus contributes to the stronger sensitisation of companies for the relevance and significance of data protection.

The data protection services are provided in cooperation with the law firm Rickert Rechtsanwälts-gesellschaft mbh and dp.institute Data Protection Consulting GmbH.

Further information is available at:
international.eco.de/eco-data-protection-service

8.5 eco External Data Protection Officer

Since the General Data Protection Regulation (GDPR) came into effect in May 2018, the eco External Data Protection Officer service has enjoyed a good reception among the members.

In particular small and medium-sized enterprise members often struggle with the complexity of the GDPR and are concerned about the high sanctions of the supervisory authorities. The clients of the eco service wish for support in adapting their company processes to the requirements of the GDPR. But support in the implementation of new processing procedures and training and sensitisation of staff with regard to data protection is also in high demand.

Advantages of an External Data Protection Officer

Above all, telecommunications and Internet industry companies are in the focus when it comes to data protection, because for them the processing of data involves significant risks. Some member companies have therefore decided to appoint an eco External Data Protection Officer. In this way, they not only save on internal resources, but they can also avoid any conflicts of interest which can arise from an internal Data Protection Officer's other roles in the company. The risk of liability is also outsourced when using the eco service. The eco Data Protection Officers are qualified data protection experts whose focus is on the telecommunications and Internet industries.

Further need for adaptation

Again in 2019, the eco Data Protection Officers supported the users of the service in the adaptation of company processes to the regulations of the GDPR and the new German Federal Data Protection Act (BDSG-neu) through data protection audits, workshops, and with advice on legal questions relating to data protection. However not all uncertainties have been resolved. There is still a need for adaptation.

In 2020, eco will continue to support the clients of the service with regard to further forthcoming regulations. If member companies have decided to cover the topic of data protection internally, the eco Data Protection Experts can provide these members with advice in the form of workshops and audits. In this way, eco helps to make companies even more aware of the importance of data protection.



Andreas Weiss

Director EuroCloud Deutschland_eco



Peter Koller

Senior Project Manager Cloud Computing



8.6 EuroCloud Deutschland_eco e.V.

The great hype surrounding cloud computing seems to be over. Media reporting has now long since been driven by other buzzwords like “artificial intelligence”, “self-driving cars”, and “edge computing”. But rather than fall into despair in the “Valley of Tears”, cloud service providers have been enjoying continued growth.

The majority of companies have now moved to using cloud services. And this growth is likely to continue unabated into the future. Cloud services are the enabling technologies for the new hype topics mentioned above. Profitable business models here still need to develop, but one of the winners will with certainty be the

cloud providers. 2019 was also a successful year for EuroCloud Deutschland. Growth in member numbers is confirmation of the success of the work. At the same time, the newly-appointed board provided orientation for future association work. EuroCloud thanks Thomas von Bülow and Markus Stahl for their many years of engagement as board members, and welcomes on board Bernd Krakau and Thomas Noglik.

Events

The EuroCloud Competence Group Open Cloud opened the year in January with a practical workshop in Frankfurt on one of the hottest application topics in the cloud area. Under the motto of “Kubernetes, an exciting research

journey”, Burkhard Noltensmeier from teuto.net first presented the theoretical foundations, before the participants were given the chance to gain personal experience – from the installation of a Kubernetes cluster through to the deployment of microservice applications – on their own laptops.

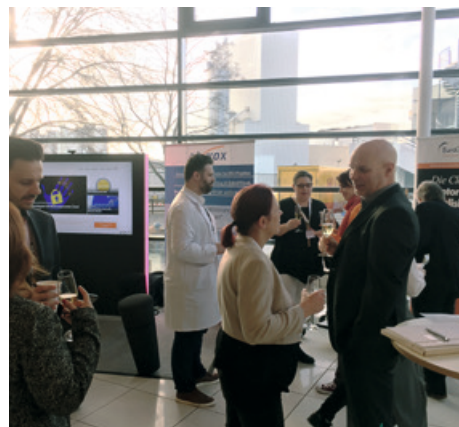
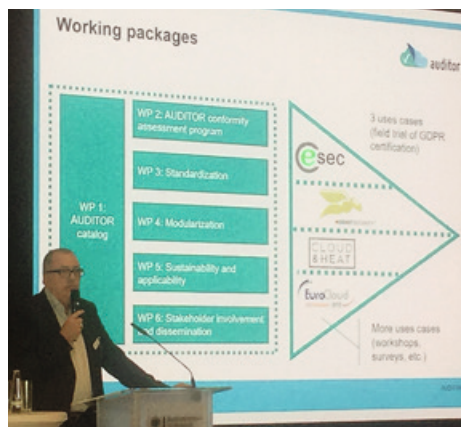
In February, the EuroCloud Competence Group Business Communications invited members, experts, and other interested parties to the AI Business Breakfast at the Call Centre World in Berlin. During this, participants took the opportunity for relaxed networking and a specialist exchange on the topic “AI in customer communication”.

In March, another event highlight in the cloud sector followed: CloudFest in EuropaPark, in Rust. EuroCloud Deutschland was of course

represented with its own booth, and enjoyed making many new contacts and having interesting discussions (see also Chapter 10.1.7).

On 4 April, EuroCloud Deutschland organised a Munich Breakfast Meeting to discuss “10 Factors for more transparency in cloud business”. In an informal round, Thomas Niessen, Managing Director of the Trusted Cloud Competence Network, clarified why transparency – from the offer through to the exit criteria – can be important for economic success, and how it can be achieved.

During the “Forum Cloud & Outsourcing Services” at the Comarch Digitalisation Impulse Day in the ESO Supernova Planetarium & Visitors Centre in Garching on 25 June, Andreas Weiss from EuroCloud Deutschland discussed with experts from IBM how cloud solutions



can make business processes more flexible and can facilitate digitalisation in companies.

The label Trusted Cloud and the advantages for cloud service providers was the topic of a webinar in July. Christine Neubauer, Project Manager in the Trusted Cloud Competence Network, clarified the background and assessment criteria of the seal of quality for trustworthy cloud services. In addition, she described ten factors for greater transparency which help customers in reaching decisions.

At the end of August, EuroCloud Deutschland, together with networker NRW, was again represented with a booth at the IDG System House Congress in Dusseldorf. Here, it could be seen that the topic of cloud computing has a particular relevance for systems integrators, and many new interesting contacts were made.

On 11 September, the CG Open Cloud established an OpenNebula TechDay in Frankfurt in cooperation with the OpenNebula Foundation in Spain. The core of the event was a hands-on workshop, which was complemented by a range of presentations relating to the European OpenStack-Alternative.

In November, the community booth with eco at the TechWeek in Frankfurt followed. This has practically become a tradition, and the presence at the fair was again a complete success. The mixture of exhibitors and topics dealing with digital transformation in particular led to many interesting discussions with visitors at the booth.

The final high point from the event perspective comprised of the eco://kongress and eco://award on 21 November in Cologne. In the category Cloud, the winner was oneclick AG.

Europe

Even though the focus of the association is on Germany, it was also active in 2019 at the European level.

At the beginning of the year, on the occasion of the anniversary of the Elysée Treaty, EuroCloud France and EuroCloud Deutschland announced a closer cooperative partnership. The goal is to work more intensively together on solutions and positions for a Digital Single Market in Europe. In addition, the associations agreed on regular consultations, with the objective of expanding the business relationships of the members.

On the premises of the German Federal Ministry for Economic Affairs and Energy (BMWi) in Berlin on 2 April, the high-level international "EU DSM Cloud Stakeholder Conference" took

place. The participating experts presented an exceptional opportunity for gaining information on the importance of cloud computing for the European Single Market, as well as on the status of the Cybersecurity Act and the "Free Flow of Data" initiative. In conjunction with this, Andreas Weiss, Director of EuroCloud Deutschland, presented the project AUDITOR.

Cloud-first policy

At the beginning of July at the event "How to transform governments through a smart cloud policy" organised by CISPE (Cloud Infrastructure Services Providers in Europe) in Brussels, Andreas Weiss discussed the possibilities of a pan-European cloud-first policy. During this, the guidelines "Buying Cloud Services in Public Sector" was presented. This was developed by CISPE with the support of the Cloud Danish Community, the Cloud Industry Forum, DHNL,



the eco Association/EuroCloud Deutschland, EuroCloud France, and ISPCONnect. The guidelines present experiences of partners, organisations and members in the shaping of public procurement in the cloud market. Together, the coalition represents thousands of companies, that together make up the European cloud ecosystem.

GAIA-X

At the Digital-Gipfel 2019 in Dortmund, the project GAIA-X (see Chapter 9.1.1) was introduced to the broader public. However, the concept had been worked on considerably earlier, and both EuroCloud and eco had already been involved at a very early stage.

EuroCloud Deutschland is naturally continuing to support the project and is endeavouring to actively involve its members and represent their interests in the concrete implementation phase in the relevant committees and workstreams. At the end of 2019, two webinars were held on the topic.

AUDITOR

The AUDITOR project, in whose consortium EuroCloud Deutschland is a member, made great progress in 2019. The research project supported by the German Federal Ministry for Economic Affairs and Energy (BMWi) serves to develop a data protection certification, on the basis of the GDPR, that will be applicable Europe-wide.



In April, Version 0.9 of the revised catalogue of criteria was published. This formed the foundation for the first pilot certifications, successfully undertaken with the companies Cloud&Heat Technologies GmbH, Hornetsecurity GmbH, and ecsec GmbH.

The experience gathered here flowed directly into the preparations for the next major project milestone – accreditation through the German national accreditation body, DAkkS. The official submission of the AUDITOR certification procedure for the examination of its accreditation potential was planned for early 2020. With the conclusion of the accreditation, AUDITOR would be – at least Germany-wide – the first certification procedure in accordance with Article 43 of the GDPR.

In addition to this, there were a range of activities throughout the year to increase



awareness of and to further publicise the AUDITOR project. AUDITOR was, for example, represented with a booth at the "Tage der digitalen Technologien" in Berlin in May, and was introduced at a number of events. Articles also appeared in a range of media regarding the project, including the Handelsblatt and the magazine "Datenschutz und Datensicherheit" (Data Protection and Data Security – DuD). There were also personal visits and discussions with representatives from politics and supervisory authorities. For example, at the end of March there was a meeting with the German Federal Commissioner for Data Protection and Freedom of Information (BfDI), Ulrich Kelber, and representatives of the BfDI in Bonn.

AUDITOR was also presented at the international level. In April, a workshop took place in Brussels, with the involvement of around 30 participants. Additionally, the project was



presented in conjunction with the Canada Roadshow of the BMWi, and the Forum Digitale Technologien (FDT), and enjoyed considerable interest from the Canadian representatives. The current status of the project was also presented on the occasion of the meeting of the German-Chinese working group on accreditation and assessment of conformity in Peking under the leadership of the German ministry.

In November 2019, the original funding period of the AUDITOR research project came to an end. As a result of the considerable attention and the project's high relevance, this was extended for a further two years, until November 2021. This phase should in particular be used for further internationalisation and ultimately for the accreditation as a certification procedure at the European level. In addition, the standardisation of the procedure for the certification of compliance with the GDPR by cloud services will be concluded as DIN SPEC 27557.

Further information is available at:
www.eurocloud.de



Andreas Weiss
Head of Digital Business Models



8.7 Service-Meister

The project Service-Meister was able to assert itself successfully in 2019 in the German federal government's German AI Innovation Competition. The panel of experts from the Federal Ministry for Economic Affairs and Energy (BMWi) recommended support for the industry project, which uses artificial intelligence (AI) as a basis, and representatives of the consortium were honoured by State Secretary Dr. Ulrich Nussbaum in Berlin.

"We are pleased that the panel has confirmed the high relevance of the Service-Meister project for the industry", says Andreas Weiss, Head of Digital Business Models at the eco Association. "With Service-Meister, SMEs can access the knowledge and technology they need anywhere, anytime."

Under the leadership of eco, the research project Service-Meister brings together the accumulated innovative power of partners from research (Beuth Hochschule, KIT, Fraunhofer ISST, University of Koblenz and the Westphalian University of Applied Sciences), technology partners (USU, Inovex, grandcentrix and Trusted Cloud) and leading small to medium-sized industry partners (Würth, Atlas Copco, Trumpf, Krohne and KEB). A range of eco members are involved, both as partners of the consortium and as associate partners.

The Service-Meister consortium commenced work on 1 January 2020, in order to develop an AI-based ecosystem in the area of Industry 4.0 over a period of three years and with a funding volume of 14.5 million Euro. The service platform spanning multiple plants, departments, and companies will be especially tailored to the challenges of German small and medium-sized enterprises (SMEs).

An important sub-goal is to enable less-qualified staff to offer complex services with the help of digital guides, such as AI-based ServiceBots and Smart Services. A second sub-goal is a platform for digitalised service knowledge, in order to enable cross-company scalability of service. Through this, a service ecosystem will evolve which will combat the skills shortage in Germany and will keep German SMEs competitive in the long-term.

The specific objective is to digitalise maintenance processes, maintain the availability of production plants, and market internal service knowledge externally – all of this with the use of procedures from the area of AI, to make innovation easily accessible for SMEs. Service-Meister will realise an open AI platform for all maintenance procedures. In order to develop AI functions, the project is based on tandems between user companies and implementation partners.

Further information is available at:
www.servicemeister.org/en



Roland Broch
Senior Project Manager Digital Infrastructures
Project Manager Datacenter Star Audit

8.8 Datacenter Star Audit

The goal of the Datacenter Star Audit is the assessment of the performance of data centre infrastructure on the basis of an objective catalogue of criteria. In 2005, the first ideas for the Datacenter Star Audit were already being mooted. A year later came the market introduction and, since then, numerous data centres have been certified with this independent assessment instrument.

Alongside the holistic look at the redundancy of the data centre, the following security aspects also flow into the assessment: 1. Organisational Security, 2. Structural Building Security, 3. Supply Security, and 4. Technical Security. The customers of data centre operators benefit here

from increased market transparency. The auditing itself can be used as a basis for assessments by auditors, banks and insurance companies.

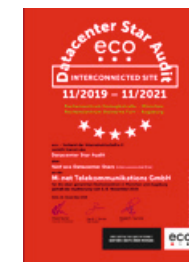
In 2019, the two M-net Telekommunikations GmbH data centres in Munich and Augsburg were again successfully re-certified in the Single Site category. Both locations were additionally awarded the highest possible rating of 5 stars in an Interconnected Site certification, which attests to a cross-site and secure redundancy and backup strategy.

Furthermore, the location in Augsburg was awarded a green star as an "Approved Energy Efficient Data centre" for especially energy-

efficient data centre operation. This star certifies that the operator places especial importance on energy efficiency, has implemented initial measures, has established this as a continual activity, and that the management actively supports this.

Alongside the presentation of certificates in 2019, preparatory workshops were successfully undertaken for audits planned for 2020.

Further information is available at:
www.dcaudit.com





Matthias Kurzhals
Coordinator CEBRA and Coordinator
School Development, Berufskolleg Ennepetal



8.9 CEBRA

With the CEBRA initiative, eco imparts up-to-date and immediately applicable business knowledge, and the participants qualify with a Certificate of “Counselor for E-Business Related Assignments”.

The accreditation, participant administration, test administration, and certification are processed in cooperation with the Vocational College Ennepetal. In addition to the coordination input of Matthias Kurzhals, Head of School Development at the Vocational College Ennepetal, a student assistant supports the administrative processes, as well as the maintenance and further development of the learning platform and learning content.

On the one hand, the initiative is geared in particular towards vocational schools or comparable educational institutions who choose to provide their students/participants with up-to-date e-business training. On the other hand, it is aimed at companies seeking further training for their employees working in e-business-related areas.

The action-oriented CEBRA learning modules allow cloud-based learning over the eco-cebra.de Moodle server.

Certified e-business knowledge – practical and flexible

Applying a case study approach, the training offers practical content and places the focus

on imparting competence-oriented action strategies for solving real problems encountered in e-business. Having acquired the multi-layered learning, the participants demonstrate their progress in regular online tests and in a final examination.

After successfully passing their exam, the participants receive a certificate issued by eco, which certifies their extensive knowledge and skills in the topic of e-business. In 2019, the initiative attracted new schools, particularly in North Rhine-Westphalia. More than 400 participants at vocational colleges and other educational institutions took advantage of the offer and successfully acquired certification.

In 2019, the maintenance of the technical platform and further development of the content was again the focus of activities. Additionally, teachers from a range of schools were trained in the handling of the platform and were regularly supported in their initial experience with courses.

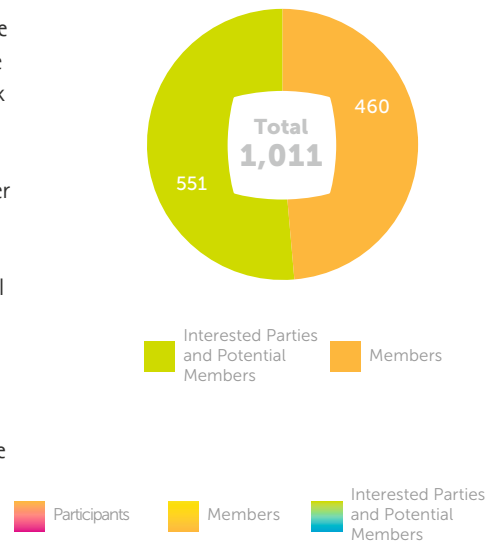
Further information is available at:
www.eco-cebra.de



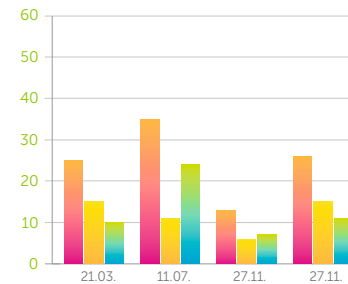
9. Reports on eco Focus Topics

eco shapes the Internet – in all its facets. While some areas such as security and digital infrastructures have been in focus since the association's inception, over the course of time the spectrum of the Internet and thus also the content work has changed. In 2019, eco's work included strengthening the Digital Business Models division and bringing topics such as online marketing and e-commerce together under this umbrella. Thanks to the leaner structures, it has been possible to address new future-oriented areas of expertise, especially artificial intelligence. In CG meetings on important focal points, members were not only able to obtain information, but were also once again able to actively participate and contribute to the development of joint statements and white papers.

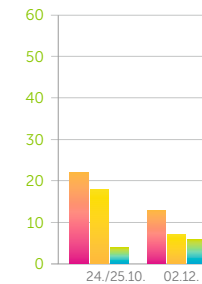
Participants of CG Meetings
2019 in Total



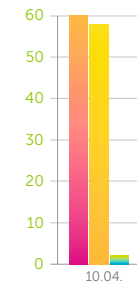
CG (Infrastructure-)Security



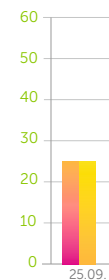
CG Abuse



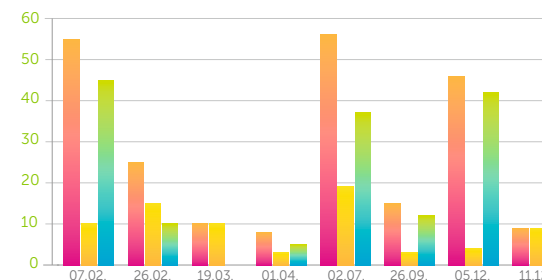
CGs Abuse, E-Mail, Names & Numbers



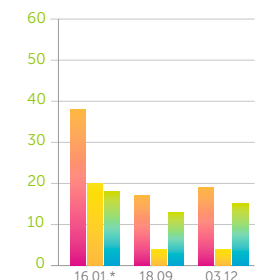
CG E-Mail



CG Internet of Things (IoT)

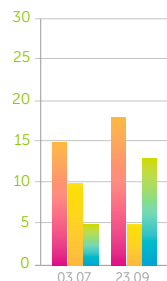


CG Blockchain

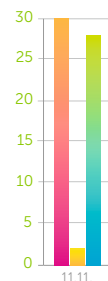


* in connection with CG E-Mail

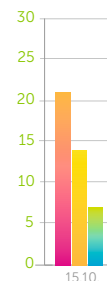
CG New Work (LiT)



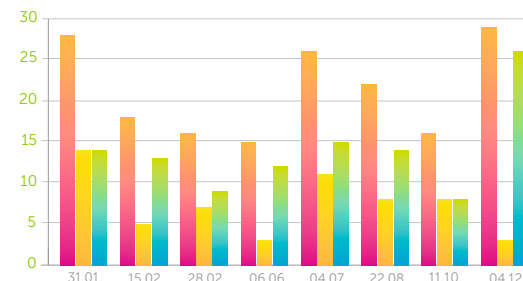
CG Online Marketing



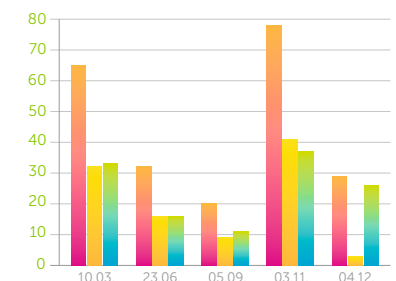
CG Networks



Datacenter Expert Group



Names & Numbers Forum





Andreas Weiss
Head of Digital Business Models



Hauke Timmermann
Project Manager Digital Business Models
Member Services

9.1 Digital Business Models

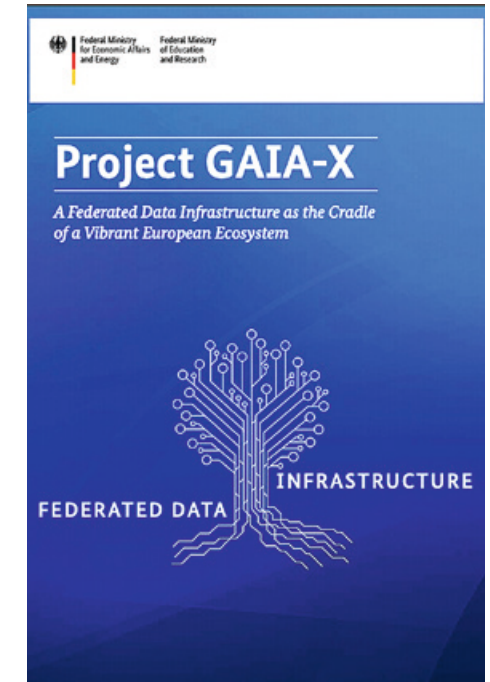
Since the newly created Digital Business Models department was presented for the first time in the 2018 Annual Report, it has grown significantly and has been consistently expanded. In addition to the government-funded projects Service-Meister (see Chapter 8.7) and GAIA-X, which were launched in 2019, “artificial intelligence” (AI) – as a key technology of digitalisation – was a very present cross-sectional topic.

Further information is available at:
www.eco.de/digitale-geschaeftsmodelle

9.1.1 GAIA-X

Digital sovereignty in the form of high-performance and secure digital infrastructures is a major factor for success and is essential for the future of Europe as an industry location. The project GAIA-X is designed to enable such a competitive data infrastructure for Europe. The project is being supported by representatives of the German federal government, as well as industry and research institutions.

An intelligent mixture of digital infrastructure providers is required, as is the strengthening of the location for such providers. In order to be able to make sovereign business decisions in the times of digital transformation, user companies – whether they be small and medium-sized enterprises (SMEs), global players, or public administration – require orientation with regard to the availability of trustworthy infrastructures.



© BMWi

The initiators of GAIA-X want a transparent and legally-secure data ecosystem for Europe, as a counterpoint to the existing tangle of individual projects, operators, technologies and legal regulations. It should in future be easier for SMEs in particular to combine different services and to change service providers as needed. eco has been heavily involved in the development of GAIA-X in the context of discussions and the drafting of concepts.



Source: BMWi



GAIA-X serves three objectives

1. Data Sovereignty:

Europe's companies and organisations must always have the choice of where and with whom they store and process data, and from where they source digital services. GAIA-X's objective is to prevent monopolies and thus Europe's one-sided dependency on large non-European platform providers. SMEs in particular are to benefit from the market transparency and easy access to custom-made offers.

2. Data Availability:

When data becomes the most important resource, Europe's companies, authorities, institutions and citizens need guarantees, in order to exchange data in a trustworthy, secure and transparent manner. This is also the case if this data goes through the hands of many people, systems and steps in the value chain.

3. Innovation:

GAIA-X is designed to encourage innovation in Europe and strengthen the data-based economy. The cloud and edge services brought together under the banner of GAIA-X support digital business models from Europe, which can grow to be globally competitive on this infrastructure.

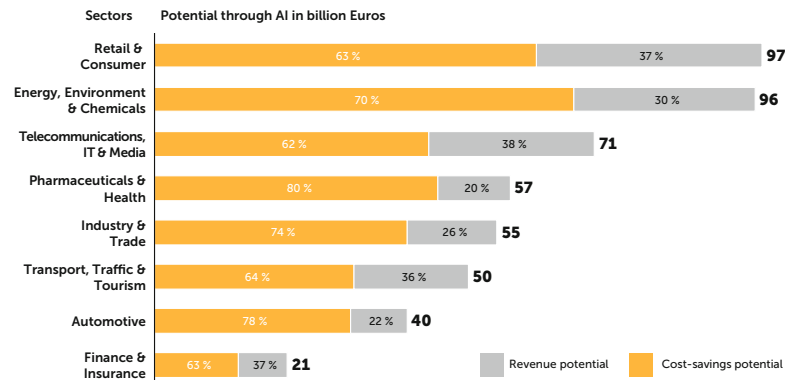
GAIA-X is designed to unite European providers within an ecosystem with common rules, standards and technologies. Providers from outside of Europe are also welcome, as long as they

adapt to the requirements. In order to participate in GAIA-X, providers must be certified by independent experts with regard to aspects like IT security, service levels, the degree of data sovereignty realised, and terms and conditions. For this, the ecosystem should rely on proven audit and certification procedures. The initiators of GAIA-X intend to found a European organisation by mid-2020. The first technical solutions are also to be realised in the same year.

Further information is available at:

www.dotmagazine.online/focus/gaia-x

Potential of Artificial Intelligence for German Companies in 2025, According to Sector, in Billions of Euro



Source: Arthur D. Little, eco e. V. Note: Public Sector and Agriculture not included for the time being

9.1.2 Artificial Intelligence

Technologies and applications based on artificial intelligence (AI) have enormous economic potential.

The study "Artificial Intelligence: Its Potential and the Lasting Transformation of the German Economy" – jointly prepared in 2019 by eco and Arthur D. Little, and supported by the Vodafone Institute – examined for the first time what effects can be expected for companies in Germany through AI, and did so on the basis of 150 use cases. The conclusion: If AI is used on a nationwide basis, GDP growth of over 13 per cent by 2025 (compared to 2019) is realistic. This corresponds to a total potential of around

488 billion Euro. Of this amount, approximately 330 billion Euro (70 percent) would be attributable to cost savings and approximately 150 billion Euro (30 percent) to revenue potential for all industries. From eco's point of view, German industry also needs political tailwind for a successful introduction of AI technologies. The national AI Strategy presented by the German federal government at the end of 2018 must now be implemented rapidly and further concretized.

AI2Ynet and KI-ASSIST

In order to further push forward the topic of AI, eco also participated as a network partner in the



AI project AI2Ynet and carried out a workshop on the topic of "Code of Conduct – organisational requirements for a marketplace for AI innovations", the results of which were presented at the AI2Ynet network congress in Berlin in September.

eco demonstrated social commitment in the field of AI by supporting the KI-ASSIST project funded by the German Federal Ministry of Labour and Social Affairs (BMAS), which aims to support disabled people through the use of AI in their professional rehabilitation.

Further information is available at:
www.eco.de/kuenstliche-intelligenz





Prof. Dr. Georg Rainer Hofmann
Leader, Competence Group E-Commerce

Hauke Timmermann
eco Point of Contact for E-Commerce
Member Services

9.1.3 E-Commerce

High expectations are placed on the potential of AI as a key technology. In public discussions, experts make the assumption that AI technologies and AI applications will soon be part of everyday life. In the meantime, AI-based applications have entered almost unnoticed into areas such as retail and advertising.

But how should companies in retail and related industries strategically align themselves in order to use AI in an effective way in the future? What acceptance problems do companies and their customers have? eco held an event on these topics on 17 September in Cologne. As part of this, a joint publication

was produced by eco and the University of Applied Sciences Aschaffenburg on the subject of "AI in Retail".

In February, eco published the results of a representative e-commerce survey which had been conducted on behalf of the association by the market and opinion research institute YouGov at the end of 2018. Around half (49 percent) of Germans compare the prices of local shops with those in online retail. However, if the bricks-and-mortar retailer offers competitive prices and delivery conditions, 69 percent of Germans prefer to shop there. The integration of online functions for the benefit of the customer always brings advantages for the bricks-and-mortar retailer.

In June, the Competence Group dealt with the topic of returns management in online retailing. The alleged mass destruction of returned goods by online retailers had triggered a corresponding discussion. Leader of the Competence Group Prof. Georg Rainer Hofmann commented that, "In fact, German consumers make only moderate use of their right to return items. The return rates for online retailers are around ten percent – potentially also significantly lower, depending on the type of goods."

Further information is available at:
www.eco.de/e-commerce





Dr. Torsten Schwarz
Leader, Competence Group Online Marketing

Hauke Timmermann
eco Point of Contact for Online Marketing
Member Services

9.1.4 Online Marketing

On 11 November, Dr. Torsten Schwarz, Leader of the eco Competence Group Online Marketing, organised an information industry exchange under the auspices of the VI User Forum, again held in Frankfurt. To start off, there were interesting lightning speeches, among others from QVC Germany, Alnatura GmbH and JAKO-O GmbH. Following this, the focus of the event was on a workshop in which, in various groups, representatives of the companies engaged in an exchange on their experiences and current challenges, as well as best practices, in email marketing.

Internet use by German companies

Not even two out of ten companies protect their Internet domain effectively against

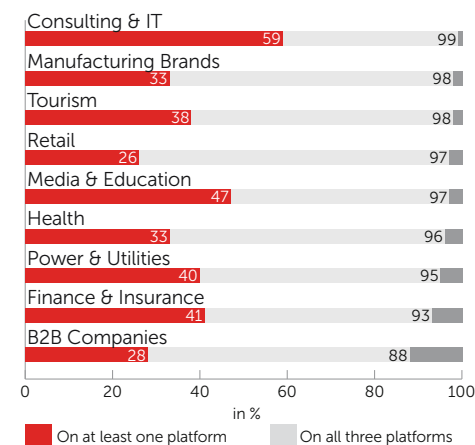
phishing attacks by cyber criminals. This is the finding of the study "Internet Use by German-Speaking Companies", which eco published in 2019. The occasion was the 50th anniversary of the Internet – on 29 October 1969 scientists transferred data between two computers for the first time, from Los Angeles to the Stanford Research Institute.

Using 13 criteria, this study examined in detail the Internet usage of the 5,048 most important companies in the German-speaking world. For example, the following questions were investigated: How good is the visibility in search engines, the loading time of the website, and how safe are companies from cyber attacks? What about the social media channels,

and do the newsletters meet all legal requirements? The study results showed differentiated answers for different industries. In particular, companies from the consulting and IT sector were further ahead than others in terms of security and social media, but airline websites also performed better than average.

The study identified the greatest need to catch up, especially among smaller companies, in the area of domain security. Just 17 percent of companies regularly checked whether third parties were sending fake emails in their name. A mere 4 percent of the respondents had decided how these emails should be handled. "It is frightening how many companies ignore the protection of their sender domain, although the first step is

Presence on Facebook, Twitter & XING



Source: eco Study "Internet Usage of German-Speaking Companies", 2019

associated with neither great monetary nor time expenditure", commented CG Leader and co-author Dr. Torsten Schwarz on the study results.

The study also sees great potential for optimisation in the loading time of websites on mobile devices. In addition to the analysis of the current status quo, the study enables companies to compare themselves with benchmarks from the respective industry, but also to uncover optimisation potential for their own Internet use. They can also find best practices, for example to increase their security.

Further information is available at:
www.eco.de/online-marketing



9.2 Digital Infrastructures

High-performance digital infrastructures are of central importance for the economic functioning of digital ecosystems and for Germany as a whole as a business location. This includes a secure network infrastructure and high-performance data centres as the backbone of digitalisation.



Alexander Rabe
eco Managing Director

Dr. Béla Waldhauser
Spokesperson for the Alliance for the Strengthening
of Digital Infrastructures in Germany



9.2.1 Alliance for the Strengthening of Digital Infrastructures in Germany

2019 was also a very successful year for the Alliance for the Strengthening of Digital Infrastructures in Germany, which was founded in 2018 under the umbrella of eco. The steering committee was extended to include Amazon Web Services as a new member. Other members of the Advisory Board were NetCologne Gesellschaft für Telekommunikation mbH, noris network AG and Cloud&Heat Technologies GmbH.

Since 2019, a new cooperation with the initiative "MINT – Creating the Future" has opened up interesting opportunities to address the issue of digital education and the shortage of skilled workers. In addition, the new cooperation part-

ner KI Bundesverband provides evidence of the relevance of strong digital infrastructures from the perspective of user companies in the future-oriented "artificial intelligence" (AI) sector.

Digital sovereignty in the focus of political communication

In the context of a range of formats and appointments, the Alliance was also able to address its positions and demands in 2019 in direct exchange with political representatives. On 2 April, for example, a constructive exchange took place in the eco Capital Office during a Digital Lunch with Manuel Höferlin, Member of the Bundestag and member of the Bundestag's

Digital Agenda Committee, about the importance of digital infrastructures for a functioning ecosystem and what it takes to strengthen Germany and Europe as a business location in the long term.

On 9 April, eco Board Member Klaus Landefeld discussed the importance of digital infrastructures for digitalisation in Europe with the now Federal Chair of the SPD, Saskia Esken, the MEP Svenja Hahn (FDP), the Member of the Landtag Rasmus Andresen (Bündnis 90/Die Grünen, Schleswig Holstein) and the Member of the Bundestag Maik Beermann (CDU) during the Internet Policy Party Check in the eco event series #EUVoteForDigital19, in the run-up to the European elections.

How is Hesse positioned digitally for the future in comparison to other German states? Alliance

representatives discussed these and other questions together with Tobias Eckert, the digital and economic policy spokesperson of the SPD parliamentary group in the Hesse state parliament, at the annual future thinking conference in Flörsheim am Main on 11 April. Moderated by eco Managing Director Alexander Rabe, the panellists addressed important political demands. This included, among other things, a strategic strengthening and further development of Germany as a data centre location through targeted promotion of existing infrastructures as well as the establishment of powerful and energy-efficient hyperscalers in order to be able to play a central infrastructure role in the digital world of tomorrow, also in the field of AI.

As part of the international networking activities of the Alliance, eco Managing Director



Alexander Rabe took part in a delegation trip organised by the Smart Data Forum in June together with representatives of the German Federal Ministry of Economics and Energy (BMWi) and the project management agency DLR. The aim of the trip was a German-Swedish exchange on specific current and planned AI initiatives and measures, against the background of the two national AI strategies published in 2018, in order to identify and discuss possible fields of cooperation. Important representatives of the German AI ecosystem participated in the trip to ensure a broad coverage of German perspectives in the discussions and workshops. The topic "Digital Infrastructures", especially the question "Where does AI live?", was presented and discussed directly on the first day of the trip in the kick-off workshop under the title of "Scaling AI in Europe – Architectures and Governance of Future AI Platforms".

On 10 September at the eco Internet Policy Forum, Alliance Spokesperson Dr. Béla Waldhauser discussed issues with Steffen Bilger, Parliamentary State Secretary at the German Federal Ministry of Transport and Infrastructure (BMVI), under the title of "The Internet of the future – how digital sovereignty in Germany and Europe will secure the future viability of the business location".

The topic of digital sovereignty was also the focus of a polITalk on 24 October in Berlin. The European cloud project GAIA-X, presented by the German Federal Ministry of Economic Affairs and Energy (BMWi) in 2019, also played an important role in this context. eco and the Alliance have closely accompanied and supported this project from the very beginning. At the polITalk under the title of "From Hyperscalers and Edge Computing", Alliance Spokesperson Dr. Béla Waldhauser and Carsten Kestermann



from Amazon Web Services discussed the opportunities and challenges of Europe as a location for digital infrastructures with Jörg Bienert from KI Bundesverband and Marco-Alexander Breit, Head of the Artificial Intelligence Unit at the BMWi.

On the day prior to the presentation of GAIA-X at the Digital Summit in Dortmund on 28 and 29 October, the steering committee member DE-CIX, and Harald A. Summa in his function as Chair of the Board, were also prominently placed: Harald A. Summa gave a keynote speech on high-performance digital infrastructures and discussed the topic in the panel with, among others, Thomas Jarzombek, the BMWi representative for the Digital Economy.

On the day before the Digital Summit, as part of the BMWi's Digital Summit Platform Economy/FG 1 "Digital Sovereignty", eco also con-

ducted an information tour for the second time under the flag of the Alliance, on the topic "Places of the Internet". This was attended by high-ranking guests from the world of politics, such as Thomas Jarzombek and the North Rhine-Westphalian Minister of Economic Affairs Andreas Pinkwart, as well as numerous media representatives. This year, the aim was to provide live experience of digital platforms and their use, and to better understand the benefits and potential of digitally sovereign platforms and their ecosystems. Accordingly, after the tour, attention was focused on the tour and the exhibits presented on it in numerous regional and national media publications, from print to TV, and via footage either explicitly or implicitly – and the Alliance narrative was taken up.

Further information is available at:
digitale-infrastrukturen.net



Roland Broch

*Senior Project Manager Digital Infrastructures
Overall Coordination of the Datacenter Expert Group*

Dr. Béla Waldhauser

*Leader, eco Competence Group Data Center Infrastructure
Spokesperson for the Alliance for the Strengthening of
Digital Infrastructures in Germany*

Marc Wilkens

Leader, eco Competence Group Data Center Efficiency

9.2.2 Datacenter Expert Group

In 2019, the experts of the Datacenter Expert Group were again active in various competence group meetings, workshops and panel discussions.

At the start of the year, representatives of the CG met with other European data centre associations from BeNeLux, Scandinavia, Ireland and Great Britain at the Kickstart conference in Amsterdam on 15 January, to exchange views on common topics such as location policy, energy efficiency, and market development.

On 31 January, the "Presentation and evaluation of risk in data centres and IT companies" was the focus of a joint CG meeting with the two leaders, Dr. Béla Waldhauser and Marc Wilkens.

Helmut Oppitz and Magnus Kneisel from Securi-thon GmbH, as well as Robert Hellwig from Car-mao GmbH, were attained as additional speakers.

Data centre as an energy hub

The fact that data centres can make a contribution to sustainability as flexible energy hubs was demonstrated in an exemplary manner at the workshop on the EU project CATALYST on 28 February. During the meeting moderated by CG Leader Marc Wilkens, Vasiliki Georgiadou from GreenIT Amsterdam informed participants about the role data centres can play in the future in a smart grid ecosystem.

What opportunities and challenges arise for data centres in international competition? This

and other questions were discussed by Dr. Béla Waldhauser and other experts at a panel of the Alliance for the Strengthening of Digital Infrastructures at the congress Future Thinking 2019 in Flörsheim on 11 April. Contact persons of the Competence Group were available to answer questions from interested visitors at the eco booth during the accompanying conference exhibition.

Edge computing – developments, drivers and business models

What are the key developments, drivers and business models for edge computing? This question was the focus of a workshop to which the Competence Group had invited members on 3 September in the DE-CIX MeetingCenter Frankfurt. Moderated by Dr. Béla Waldhauser and supported by Ulrich Terrahe from DC-CE

RZ-Beratung, Dr. Wilhelm Greiner from LAN-Line, and Ulrike Ostler from DataCenter-Insider, the participants discussed different aspects of edge computing in four topic groups. The workshop was complemented by keynote speeches delivered by Dr. Marius Feldmann from Cloud&Heat Technologies GmbH, Wolfram Rinner from GasLINE GmbH & Co. KG, Michael Nicolai from Rittal GmbH & Co. KG, and Tilo Heckmann from Telefónica Germany.

As part of the Datacenter Live 5.0 congress on 10 October at the Hermann Rietschel Institute of the Technical University of Berlin, eco Managing Director Alexander Rabe gave the guests an insight into the political issues of the industry with his keynote speech "From Edge Computing to Hyperscalers".



Data Centre World and the eco://awards

At Data Centre World on 13 and 14 November at Messe Frankfurt, the Competence Group contributed two panel discussions and a lecture slot (see Chapter 10.1.8).

In the context of the eco://awards presented on November 21, RWE Supply & Trading GmbH together with Riello Power Systems GmbH was honoured in the Data Centre Infrastructure category for a solution that makes data centres a partner in the energy transition. Other nominees in this category were A1 Telekom Austria AG and Heidelberg iT Management GmbH & Co KG.

On 4 December, the Competence Group, together with the Deutsche Unternehmensinitiative Energieeffizienz e.V. (DENEFF) invited

guests to the "Expert Roundtable on Energy Efficiency in Data Centres" in Frankfurt. Supported by Martin Bornholdt, Managing Director of DENEFF, Dr. Béla Waldhauser and Marc Wilkens discussed, among other things, the opportunities and risks of heat recovery in data centres as well as energy efficiency indicators in the context of the KPI4DCE 2.0 project.

Support of roadshow formats

In addition to the official meetings of the Competence Group, the 2019 programme was appropriately complemented by content support and the organisation of roadshow formats at the eco locations in Berlin and Frankfurt. Under the title of "Electrical operational security in the data centre", a total of six speakers were guests at the Berlin Capital Office on 6 June and at the DE-CIX MeetingCenter on 22

August. On the topic of the "F-Gas Regulation for Data Centres", eco hosted the conference in Berlin on 11 October and in Frankfurt on 28 November.



White Paper: Utilization of Waste Heat in the Data Center

The white paper "Utilization of Waste Heat in the Data Center" was published together with the "Netzwerk energieeffiziente Rechenzentren" (NeRZ) in June. The short study describes the possible uses for waste heat from data centres and shows innovative technical approaches, such as multi-functional high-performance heat recovery systems or waste heat utilisation in water-cooled IT systems.

The white paper is available for download at: <https://go.eco.de/Data-Center-Waste-Heat-Utilization>

Further information is available at: international.eco.de/datacenter



Lorenz Grehlich
Leader, Competence Group Networks



Roland Broch
Senior Project Manager Digital Infrastructures
eco Point of Contact Networks

9.2.3 Networks

Under the leadership of Lorenz Grehlich, Head of Technical Development at M-net Telekommunikations GmbH, the Competence Group Networks was successfully relaunched in 2019.

At the inaugural meeting on 15 October 2019, more than 20 experts from the area of network operations came together at M-net Telekommunikations GmbH in Munich. The CG is broadly targeted at all those who build and/or operate networks or are involved in them – in other words, technical decision-makers at ISPs and carriers, but also network equipment suppliers or academics researching new network technologies. For the future, the aim is to create a platform where decision-makers can

exchange ideas and experiences openly and confidentially on diverse network-related topics.

After an introductory round, the participants of the inaugural meeting were treated to a broad range of keynote talks. Stephan Rettenberger of ADVA Optical Networking SE spoke about programmable optical transmission technologies and new ways to make better use of the fibre optic infrastructure. The analyst and independent management consultant Gerd J. Simon spoke about "Security aspects in fast-growing network infrastructures", as well as liability scenarios for operators. Susanne Wesselmann from GasLINE GmbH & Co. KG identified five development drivers for the growing demand for fibre: network rollouts by existing mobile network operators, the 5G market entry of new mobile providers, the roll-out of regional campus networks, the structural

change in the landline market (HFC, FTTH), and the growing need for data centre capacity and edge computing.

What is the value of engagement in ICANN for network operators and ISPs? Wolf-Ulrich Knochen, Vice Chair of the ICANN ISPCP (ISPs and Connectivity Providers Constituency) was able to demonstrate this vividly and convincingly. Where does Germany currently stand in the current ranking of digital infrastructures, 5G coverage, and ultrafast broadband? Dr. Nico Grove from the Institute for Infrastructure Economics & Management provided answers to these and further questions from the group of experts, and mapped out corresponding scenarios for the future.

Public Clouds are far more than infrastructure. Holger Nicolay, Interxion Deutschland GmbH,

demonstrated this clearly in his keynote talk and looked into potential new areas of business for telecommunication providers. The talk on "World politics in the network – Interacting with global equipment suppliers" by Lorenz Grehlich brought the presentations to a conclusion and subsequently offered the participants plenty of opportunity for discussion.

Looking to the future, the CG would like to discuss where the journey could go for fibre optics and 5G. But other issues are also in focus, for example: What is the situation with next-generation technologies, and which access options have the lead? What comes after MPLS et al, and how is Software Defined Networking (SDN) changing business concepts? In 2020, the participants want to agree on the challenges to be confronted together and develop concepts for day-to-day business.

Further information is available at:
international.eco.de/networks





Stephan Zimprich

Leader, eco Competence Group Blockchain



Lars Steffen

Director eco International

9.3 Blockchain

The eco Competence Group Blockchain continued its work in 2019 by setting a number of priorities for the use of the technology through its events. These included: "Blockchain & Email", "Blockchain & Smart Contracts", and "Blockchain & Asset Tokenisation". The CG published a white paper on the topic "Blockchain in SMEs" and was represented at the Blockchain Masters. In addition, eco was intensively involved in the blockchain strategy of the German federal government.

Blockchain & Email

In the eco Cologne office on 16 January, the eco CGs Blockchain and E-Mail met with about

30 experts and interested parties. Using two blockchain-based projects for email verification and double opt-ins, the groups discussed whether the technology can create additional trust in the email ecosystem. The topic was looked into in greater depth in a workshop at the CSA Summit in April.

On 25 January, CG Leader Stephan Zimprich represented eco at the Senate workshop "Blockchain Metropolis Hamburg".

Blockchain Summit Nuremberg, XO Future & eco white paper

On 8 May, Stephan Zimprich and Lars Steffen from eco were on location at the "Blockchain Summit" in Nuremberg. The CG presented its work with both the workshop "Asset Tokenization" and at its own booth.

On June 3, the FDP parliamentary group in the Bundestag invited participants to the "XO Future: blockchain@fdpbt". Here, eco Managing Director Alexander Rabe presented the association's activities regarding blockchain technology.

In August, eco published the white paper "Blockchain in SMEs".



Blockchain & Smart Contracts

On 19 September, the eco CG Blockchain met in Hamburg to discuss the topic of smart contracts. Many ideas in the blockchain environment are based on self-executing contracts. The speakers showed possible applications, challenges and development potentials, as well as attack scenarios and countermeasures.

netforum 2019 & GDPR Playbook

The following day, Stephan Zimprich spoke at the Strategy Congress for Digitalisation organised at Lake Constance by the eco member dtm-group.

In November, eco published the playbook "Blockchain and responsibility according to the GDPR" in cooperation with the member DWF LLP.

Asset Tokenization & Blockchain Masters

For the last meeting of the year, the CG met on 3 December in the eco Capital Office. Ultimately, blockchain-based crypto tokens have become an alternative to traditional forms of financing. Legal challenges and useful application possibilities were discussed. On 11 December at the Blockchain Masters in Cologne, around 100 experts discussed ways to become part of the blockchain-based society.

Further information is available at:
www.eco.de/blockchain



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Director, Names & Numbers
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9.4 Names & Numbers

The eco Names & Numbers Forum is one of the largest representative interest groups of the domain industry. Its membership of more than 160 member companies comprises of registries, registrars, back-end providers, consultants and experts from the secondary market, covering the entire spectrum of the industry. As a long-standing member of the ICANN community, Thomas Rickert represents the interests of eco members in the GNSO and was significantly involved in the IANA Stewardship Transition. The eco Names & Numbers Forum works in cooperation with a broad network of partners.

The work of the eco CG Names & Numbers Forum in 2019 continued to be largely dominated by the "Expedited Policy Development Process (EPDP) on the Temporary Specification for gTLD Registration Data" for the implementation of the General Data Protection Regulation for the Whois of domain names. Further topics were the discussions on the "DNS-over-HTTPS" protocol and the handling of illegal content on the Internet.

Domain pulse

In German-speaking countries, the Domain pulse marks the traditional launch of the season of conferences and meet-ups for the domain name industry. Organised by SWITCH, the Swiss registry for the country code ending .ch, the

congress took place on 18 and 19 February in Bern City Hall. eco was on location with the CG Director Thomas Rickert and Lars Steffen.

64th ICANN Meeting

From 9 to 14 March, with the ICANN64 Community Forum, the first of three ICANN 2019 Meetings took place in Kobe, Japan. Data protection in the context of Whois, Universal Acceptance, and the increasing attacks on the DNS infrastructure were just some of the topics covered by the broad agenda.

The Universal Acceptance Steering Group (UASG) held its first cross-community session on the last day, moderated by Christian Dawson from i2Coalition and Lars Steffen. The activities

of the UASG were covered by a series of blog posts and articles – among others in dotmagazine.

In addition, the "Internet Service Providers and Connectivity Providers Constituency" (ISPCP) again hosted one of their regular outreach events in Kobe. The aim is to get in contact with local companies of the ISP and provider industry and to share information about the work of the ISPCP within ICANN.

CloudFest & DNSSEC Working Meeting

Thomas Rickert and Lars Steffen also represented eco at the 2019 CloudFest in Rust from 23 to 29 March. Alongside Christian Dawson from the American partner association i2Coalition,



Thomas Rickert led a best-practice based discussion on what should be considered when implementing the GDPR in companies. The UASG sponsored the CloudFest Hackathon, in which eco Board Member Klaus Landefeld also took part. Lars Steffen moderated the final presentation of the results by CMS Garden. In a podcast interview for dotmagazine, the partner project ID4me reported on the latest develop-



ments and milestones achieved in the open source platform for storing and managing login data.

In April the eco Abuse, E-mail and Names & Numbers CGs met for a joint working meeting in the run-up to the CSA Summit in Cologne. More than 60 participants from different countries exchanged views on DNSSEC and on how to increase its dissemination. The UASG was one of the sponsors of the CSA Summit in this year. John Levine, a member of the UASG Ambassador Program, delivered a presentation on "Email Address Internationalization (EAI) in Mail Systems and its Emerging Security Threats" and was available afterwards for questions and an interview for dotmagazine.

3rd Global Conference of the Internet & Jurisdiction Policy

The third conference of the Internet & Jurisdiction Policy Network took place from 3 to 5 June in Berlin. Together with the Internet Governance Forum Deutschland (IGF-D), the conference was one of the two kick-off events for the International Internet Governance Forum (IGF) in Berlin in late November. On behalf of eco, Board Member Klaus Landefeld and Lars Steffen were in attendance in order to actively support the association members in the working groups "Data & Jurisdiction" and "Domains & Jurisdiction". The goal of the Internet & Jurisdiction Policy Network is to develop framework conditions and processes to address situations where activities on the global Internet are assessed and treated differently in different jurisdictions. It also aims to establish dialogue and consensus mechanisms for joint action.



EuroDIG

On 19 and 20 June the annual EuroDIG, which eco has also supported as a sponsor for several years, took place in The Hague. Honorary President Prof. Michael Rotert and Lars Steffen were on location for the association. In his role as UASG Outreach Co-Coordinator, Lars Steffen was a member of the team for the Universal Acceptance Workshop on Day Zero, and on the first day of the conference he was a panellist



at the GDPR Roundtable of the non-governmental organisation ARTICLE 19 from the United Kingdom.

65th ICANN Meeting

The ICANN65 Policy Forum took place in Marrakech from 24 to 27 June. Besides the "Temporary Specification for gTLD Registration Data", conference participants engaged in intensive and rather contentious discussions on the new "DNS-over-HTTPS" protocol and its possible effects on the Domain Name System (DNS). The ISPCP, among others, decided to develop its own position paper on the topic.

The allocation of the Top-Level Domain (TLD) ".amazon" to the company of the same name was again intensively discussed in Marrakech, as a number of South American countries want to prevent the allocation of the TLD.

In September, the eco Academy organised a roundtable discussion in the eco premises in Cologne revolving around the questions of who governs the Internet and what the Internet of the future will look like. Among the high-profile speakers and participants was Maarten Botterman, who shortly afterwards was appointed as the new Chair of the ICANN Board of Directors at the ICANN66 Annual General Meeting in Montréal.

IGF 2019, the Greek .eu domain & DNS Abuse Framework Initiative

At the international IGF in Berlin at the end of November, Thomas Rickert took the opportunity to discuss the launch of the Top-Level Domain .eu in Greek with Giovanni Seppia, External Relations Manager at the responsible registry EURid. In addition, Michele Neylon, CEO of Blacknight Internet Solutions, delivered eco an

interview about the "DNS Abuse Framework" initiative. Both contributions were published in dotmagazine. At the IGF, Thomas Rickert participated in panel discussions on how to handle illegal content on the Internet and on the security of connected IoT devices. Lars Steffen was centrally involved in organising the sessions on Universal Acceptance, both from the UASG and the Dynamic Coalition on DNS Issues.

66th ICANN Meeting

The ICANN66 Annual General Meeting took place in Montréal from 2 to 7 November. Wolf-Ulrich Knoen was confirmed as Chair of the ISPCP for another year. At this meeting, Cherine Chalaby handed over the position of Chair of the ICANN Board to Maarten Botterman.

Thomas Rickert worked in Montréal with the EPDP team on the final report of the working

group with a view to completely replacing the "Temporary Specification for gTLD Registration Data" in future with a community-developed policy. In particular, the question of whether a Unified Access Model should be centralized or decentralized was discussed intensively.

Before the meeting, Christian Dawson and Lars Steffen concluded their activities as Outreach Co-Coordination of the Universal Acceptance Steering Group (UASG), but continue to support the activities of the working group. A cross-community session was dedicated to the topic of DNS abuse in Montréal and the "New gTLD Subsequent Procedures Working Group" (SubPro) is also making progress on the path towards the next round of applications for new Top-Level Domains.



New members of the Names & Numbers Steering Committee

Since 2017, a "Steering Committee" has accompanied the work of the eco Names & Numbers Forum in its function as an organisational body for the working group. After its first two years in service, at the end of 2019 there was a first change of personnel in the 16-member team, which comprises of representatives from all areas of the domain industry. The committee meets regularly at ICANN meetings or coordinates the activities of the working group in telephone conferences. The current members of the Steering Committee are: Jasmine Begg (Neustar), Gavin Brown (CentralNic), Paul Diaz (Public Interest Registry), Oliver Elste (Smart-NIC), Dirk Krischenowski (dotBERLIN), Martin Küchenthal (LEMARIT), Reg Levy (Tucows), Michele Neylon (Blacknight Internet Solutions), Katrin Ohlmer (DOTZON),

Ulrich Retzlaff (1&1 IONOS), Jonathan Robinson (Afilias), Michael Salazar (Minds + Machines Group), Tobias Sattler (united-domains), Giovanni Seppia (EURid), Richard Wein (nic.at) and Alan Woods (Donuts). The Names & Numbers Forum would like to thank the retired members very much for their commitment and their cooperation.



Additional participation

In order to further support and represent association members, Thomas Rickert and Lars Steffen participated in a number of other events throughout the year. In October, for example, both were present at the Registrar Day and the CENTR General Assembly in Brussels.

From 6 to 10 January 2019, Lars Steffen attended the face-to-face meeting of the UASG in Washington D.C., which met at the ICANN Engagement Center with the aim of setting the strategic course for 2019. Thomas Rickert was on location as representative of the ISPCP at the EPDP face-to-face meeting in Los Angeles. On 5 September, the eco Names & Numbers Forum hosted the 5th Domain stammtisch.nrw, involving an informal exchange among members at the office of Thomas Rickert.



Further information is available at:
international.eco.de/names-numbers



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9.5 E-Mail

New developments in the field of email are also one of eco's focal points.

In addition to current trends and guidelines for reliable email marketing, the focus is on technical content that is of key importance for senders and recipients. Quality assurance and quality enhancement also play a major role, especially within the framework of the Certified Senders Alliance (CSA, see Chapter 8.2). The eco Competence Group E-Mail is also an integral part of the German Internet industry with regard to the development of common standards for emails. Via the group, technical problems of all kinds are solved informally and unbureaucratically and agreements on new developments are reached.

The CG E-Mail is a closed group, as the handling of email is a sensitive subject; the data is valuable and needs protecting, and in order to find solutions to new challenges participants have to be able to talk more openly about their systems than would be possible in a public forum. However, participation in the group is possible for all eco ISPs. Furthermore, the group may also extend invitations to further qualified persons to participate in the CG.

The CG E-Mail is led by recognized experts: senders (ESPs) are represented by André Görmer, Senior Manager Deliverability with mapp; while Patrick Ben Koetter, Managing Director of sys4, represents ISPs.

At the beginning of April 2019, in the run-up to the CSA Summit, the CG E-Mail met together with the CG Abuse and with selected

international guests to discuss the topic of DNSSEC and to learn about experiences from other countries. In addition, a framework paper on DNS over HTTPS (DoH) and DNSSEC was jointly developed, which serves as a baseline for internal discussion and decision-making.

In September, the CG E-Mail met again to discuss the latest developments regarding the Sender Policy Framework, DMARC, DKIM and ARC, and to address the question of how DMARC can be implemented in compliance with the GDPR. The increasingly widespread use of Accelerated Mobile Pages (AMP) was also in the focus of the participants and was the subject of intense debate. Participation at M³AAWG was also reported on.

Brand Indicators for Message Identification (BIMI) and feedback loops were also topics for

the CG E-Mail in 2019 – as was work undertaken on its own collaboration platform for the CG members. In addition, the CG was able to gain additional interesting membership in 2019, allowing the group to comprise of a strong cross-section of the business areas in the email sector.

Further information is available at:
international.eco.de/e-mail



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9.6 New Work

For the Competence Group New Work, the year's predominant topic was artificial intelligence (AI) and its impact on work processes, working structures, and on new recruiting solutions. In this respect, the CG in 2019 was particularly interested in offering an enhanced understanding of the possibilities and options for using AI in the digital working world and in setting in train a specific impetus for trustworthy handling of innovative technologies.

At the beginning of the year, eco published the Digital Ethics Compendium, in which the CG contributed core statements on a digital working world underpinned by ethical principles.

Particularly in the area of the digital working world, it is important to embrace the current creative role of AI, to establish internal company guidelines for a meaningful, people-centred use of AI, and to assign a high priority to the topic of further training within the framework of personnel development.

Shaping the transformation of the working world together

In March, the CG dealt with the question of the ethical challenges that the digital transformation of the working world poses to our society, and participated in the development of a corresponding working paper published by the University of Applied Sciences Aschaffenburg. The CG Leader Lucia Falkenberg is co-author of the chapter "Attractiveness of employers in the context of digitalisation", where she emphasises that digitalisation should be shaped collec-

tively and that any form of ideological trench warfare should be avoided.

Webinars

At the CG members' workshop in August, the topic of "(further) development of experts for digitalisation" received the clearest support, confirmed by a majority of member votes. Nowadays it is possible to keep knowledge up-to-date on a flexible basis and independent of location. As such, eco decided to establish a concept for user-oriented webinars on the trend topics of the Internet industry. The aim is to offer webinars that are of high quality, compact and uncomplicated, and that provide eco members with a high-profile platform as speakers and experts.

AI Study & LiT

At the end of the year, the CG contributed several core statements to the eco study "Artificial Intelligence: Its Potential and the Lasting Transformation of the German Economy". In the working world, not only does the use of innovative digital technologies go hand in hand with new freedoms and more flexibility, changing functions, and new job profiles – but it also paves the way for the further integration of additional groups of applicants: above all, Ladies in Tech. As women are still lacking in visibility in the Internet industry, eco has dedicated a new initiative to their cause. More on this can be found in Chapter 9.9.

Further information is available at:
international.eco.de/new-work



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eco Expert Mobility*

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9.7 Internet of Things/Mobility

What will connected mobility of the future look like? Why is artificial intelligence (AI) ultimately also a matter of good education? And what does intelligent connectivity for intelligent IoT applications look like? Answers to these questions were delivered in 2019 by the eco Competence Group Internet of Things.

Smart City & Smart Mobility Congress

A Civey survey commissioned by eco in May 2019 showed that 43 percent of Germans are convinced that they will reach their destination faster with self-driving cars. And on 24 May this destination was: Munich. Here, for the first time, the association presented its guide-

lines "Connected and Autonomous Mobility". At the Corso Leopold cultural festival in Munich, Thorsten Stuke, eco Expert Mobility, presented the guide at an eco congress. Experts from industry, politics and administration discussed questions on the traffic system of tomorrow: What will the mobile ecosystem of the future look like? How much protection does cooperative driving need? And which updates does the legal system need?

e-shelter Partner Forum and TechWeek

Right from the word go, the mobility topic picked up tempo at eco. On 26 September in Frankfurt, Thorsten Stuke presented the guidelines at the invitation of the eco member com-

pany e-shelter. In his keynote speech, he addressed the cross-cutting field, presented what the intelligent transport world could look like, and underlined the role the Internet industry plays in the ecosystem.

On 13 November at the digital transformation event TechWeek, everything also revolved around mobility. Here, the CG organised a panel discussion, in which Thorsten Stuke and Marco Müller-ter Jung from the member company DWF Germany Rechtsanwaltsgesellschaft took part. The latter is a specialist solicitor for IT law who had addressed the legal mobility questions about liability and warranty in the guidelines.

IoT Future Trends: Payment

The NFC function and app are all that are needed to make payments on the move. What is part of everyday life in Asia needs even more commitment from politics and retail in Germany, as a Civey survey commissioned by the eco Association in spring revealed. In Germany, only one of every 20 respondents uses the function. What has to happen so that more Germans make mobile payments – this was discussed by the CG at the IoT Future Trends on 7 February at BioCampus Cologne. The CG Leader Dr. Bettina Horster and Thorsten Stuke moderated the event, at which representatives of prominent companies such as Google, Uber and Deutsche Bank presented and engaged in discussions. Around 60 guests took part.



Mobile World Congress Barcelona

From 25 to 28 February, everything in Barcelona revolved around smart connected technologies. In cooperation with NRW.International, the CG IoT organised a guided tour at MWC Barcelona for the first time. Under the banner of "Artificial Intelligence", the tour visited stands such as those of Estonia, Huawei, Microsoft and Daimler. More than 20 visitors took part in the tour, which was organised and moderated by Dr. Bettina Horster.

Hannover Industry Fair

How does the industry profit from machine learning? What technologies does a smart factory need? At the Hannover Industry Fair on 1 April, the CG hosted a discussion forum, exchange and business lunch. Dr. Bettina Horster organised an exclusive guided tour, in which approximately 20 interested parties took part.



IoT Business Trends: Internet of the voice

Always take medication on time, travel more comfortably by car, and get defective machines repaired faster: Voice assistants and AI make all of this possible. The smart speakers more or less read every wish from our lips or enter into dialogue – a dialogue that was at the heart of this year's IoT Business Trends on 2 July.

More than 60 guests accepted eco's invitation to Düsseldorf, including AI expert and pioneer De Kai, who has been teaching and researching as a professor and lecturer in Hong Kong and Berkeley (USA) for more than 30 years. The conclusion of his talk: AI needs human experience. How human an AI technology ultimately becomes is determined by how well we educate and raise it.



IoT Future Trends: 5G

Intelligent IoT applications need intelligent mobile communications. In December, the CG therefore focused on the mobile communications standard 5G. It's not just the industry that is looking to 5G to increase productivity – for example, in saving costs, optimising logistics processes, and manufacturing more flexibly. Learning, artificially intelligent systems are also dependent on real-time data, as provided by 5G.

"5G is becoming a productivity turbo for companies, especially in the production trade of small to medium-sized enterprises", said Dr. Bettina Horster. Genuine insiders from Detecon, Telefónica, umlaut, and from the Competence Center 5G.NRW provided many surprising insights into the topic.



From Smart City to Smart Home

The IoT brings the Smart City to life. But how exactly? eco illustrated this at a roundtable on 6 June in Dortmund and a presentation on 11 September at the Digital Week in Kiel. The focus of both events was a study that eco jointly published in 2017 with Arthur D. Little. The study looks at the Smart City market and its opportunities within the 2017 to 2022 timeframe. What operating concepts the Smart Home needs, and how intelligent assistance systems can support a self-determined life in old age: these were the topics of the SmartHomeNRW expert panel, in which eco participated alongside member companies on 26 September.

Further information is available at:
international.eco.de/internet-of-things



Photo: @antispameurope



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Cornelia Schildt
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Michaela Templin
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Member Services

9.8 Security

In order to increase trust in the Internet, the topic of security is of the utmost importance to eco. In addition to a broad range of initiatives and services, a dedicated Competence Group deals with issues relating to the security of (IT) infrastructures. A further Competence Group named "Anti-Abuse" serves as a forum for member-internal exchange on current abuse topics. Once a year, for its "IT Security Study", eco asks experts about their most important security topics, the threat situation, and current trends.

9.8.1 Competence Group Security

The eco CG Security deals with important questions concerning the security of the (IT) infrastructures of the Internet industry. The topics range from personal and organisational security, to the protection of IT systems (servers, networks) and the security of mobile communications technology (tablets, smartphones, Wi-Fi), through to questions of security management and employee awareness.

Preparation for emergencies and business continuity management

On 21 March, around 25 IT experts from member companies met for the first CG meeting in 2019, which was held under the motto of "Black-out – well equipped for emergencies". Kicking off the series of talks, Stefan Möller from TÜV Trust IT reported from the field of advisory practice. He emphasised how important the preparation for emergencies, their detection, assessment and treatment is for business. Daniel Gilles from the German Federal Office for Information Security (BSI) then presented the framework of basic IT protection for emergency planning. The BSI standard 100-4 provides companies with clear and detailed instructions on how to prepare for IT emergencies.

Marcus Bärenfänger from Prior 1 used the example of data centres to show what preparation for emergencies looks like in practice. For the most important incidents, for example, emergency cards are available with the respective contacts and instructions, so that every employee can take the necessary steps in case of an emergency.

Finally, Thomas Kuhlow from the Chemical Park Knapsack explained why not only technical aspects are important in an emergency. As he stated, good crisis communication begins long before the incident. After a networking break, the workshop section of the event began, in which the participants worked in small groups to devise an emergency plan.



Cyber Risk Management Workshop

On 11 July, an interactive workshop on cyber risk management was held in cooperation with the Cologne Chamber of Commerce and Industry. The aim of the four-hour workshop was to convey the meaning and purpose of cyber risk management to the participants, in order for them to understand the methodical procedures and steps of risk management regarding IT and data risks, and to learn how to apply these in their companies. Using a fictitious company as a basis, the 35 participants went through the process of risk management in small groups, with this involving five steps:

- Sense and purpose of risk management, including the definition of risk and its significance for the company and its management,
- Methods and procedures for detecting threat scenarios for the company (threat analysis),



- Methods and procedures for detecting weak points in the company (weak point analysis),
- Methods and procedures for determining risks in the company (risk analysis),
- Methods and procedures for risk reduction or risk treatment (from overall to residual risk).

Quantum computing and crypto agility

On 27 November, approximately 25 experts from the IT security sector discussed the topic of quantum computing and the danger of decryption with the CG Leader Oliver Dehning. After the welcome and a round of introductions, the participants were presented with a wide range of keynote speeches:

"There is a 1:5 probability that there will be a quantum computer in ten years that will break RSA-2048 within a day." (Michele Mosca, November 2019)



With this citation, Dr. Manfred Lochter from the German Federal Office for Information Security (BSI) wanted to make clear to the participants just how quickly a quantum computer could be exploited for economic purposes in the not-too-distant future. In his talk on "Quantum computing and the conscious risk of decryption, quantum technology and information security", he highlighted the cryptographic effects, crypto agility, hybrid solutions and challenges associated with the technology. In conclusion, he said: "The cryptographic transition will (and must) come, but countermeasures are already possible today – don't panic (Corporal Jones)."

In his presentation "Breakthrough in quantum computing? What does the 'superiority' of Google's quantum chip mean?", Dr. Wolfgang Stieler of Technology Review focused on the



development of Google's quantum computer and its impact on the commercial use of quantum chips. This was followed by a networking break, which gave the participants the opportunity to exchange views on the topics.

Christian Seegebarth & Frank Byszio from D-Trust GmbH, a German federal printing office company, rounded off the series of keynote talks.

Further information is available at:
international.eco.de/eco-security

9.8.2 IT Security Study

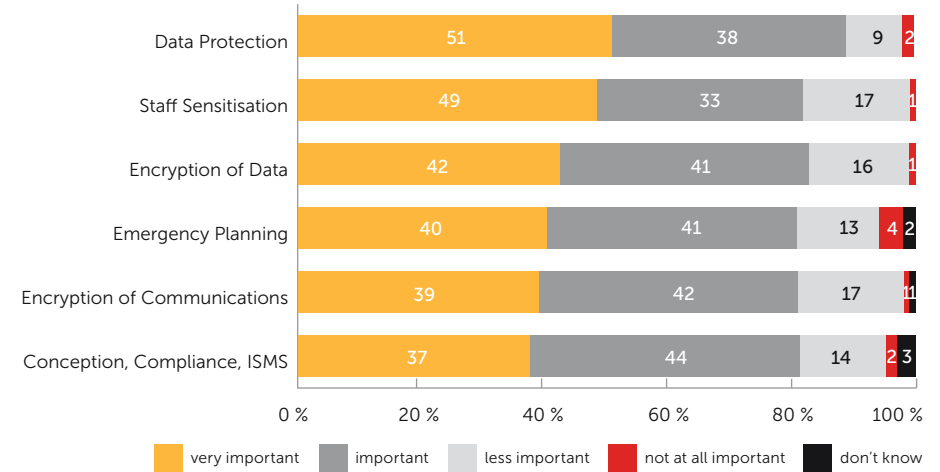
The IT security threat situation is continuing to grow. This is the view of 90 percent of security experts in Germany surveyed by eco for the IT Security Study 2019. Companies are reacting to this by developing emergency plans. The study found that 57 percent of the IT security experts questioned have defined internal processes or developed an emergency plan in case of a cyber crime incident. A further 27 percent are currently in the process of developing such an emergency plan. This represents a considerable increase: In 2018, only 32 percent of companies had an emergency plan.

"The staff responsible for IT security in small and medium-sized enterprises are becoming more and more aware of the great danger posed by cyber criminals, and are searching for new ways to prepare themselves for a potential attack", says Oliver Dehning, Leader of the eco CG Security. The growing awareness of the dangers is leading to companies being increasingly prepared to invest in the training of their staff. 41 percent train and sensitise their own staff regularly regarding cyber dangers, and 38 percent do this at least occasionally. Only 14 percent do not take measures to train and sensitise their staff.

Emergency planning is currently one of the top security topics for the companies surveyed. 80 percent assessed this topic as important or very important. Only staff sensitisation (important for 81 percent), encryption of data (important for 82 percent), and data protection (important for 89 percent) were rated as more important.

Despite increasing efforts regarding these security topics, only 46 percent of those surveyed assess the protection of their own company as very good (11 percent) or good (35 percent). A further 35 percent believe their protection is merely sufficient, and 19 percent assess it as insufficient. In fact, in the previous year there was at least one serious security incident in every fourth company among the companies involved in the study. Ransomware, DDoS attacks, and CEO Fraud lead the list of attacks, ahead of website hacking and data theft.

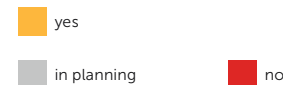
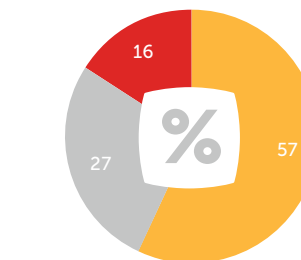
Security Topics 2019



Source: eco IT Security Study 2019

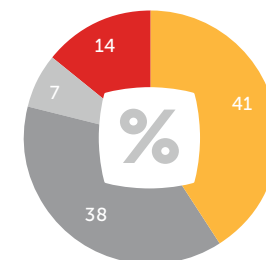
Taking Precautions

Does your company have internal processes or an emergency plan for the case of a cyber crime incident?



Source: eco IT Security Study 2019

Do you train and sensitise your staff on the topic of cyber crime?



Source: eco IT Security Study 2019



Patrick Ben Koetter
Leader, Competence Group Anti-Abuse



Michael Weirich
Security Analyst



9.8.3 Competence Group Anti-Abuse

The eco Competence Group Anti-Abuse (CG Abuse) is comprised of representatives from the anti-abuse departments of German web hosting companies and Internet Service Providers, as well as select experts from the anti-abuse field.

The CG Abuse has a particularly strong culture of confidentiality and this allows a positive and open exchange between the specialist units of companies, many of whom are ordinarily each other's competitors. At the beginning of 2019, the CG comprised of 69 participants from 35 companies and institutions. In 2019 three CG meetings, each with a different thematic focus, took place. At the beginning of April, in the run-up to the CSA Summit, the CG Abuse

met together with the CG E-Mail and selected international guests to discuss the topic of DNSSEC and to learn about experiences from other countries. On this occasion, a framework paper on DoH and DNSSEC was also jointly developed, which serves as a baseline for internal discussion and decision-making.

In cooperation with the Internet Service Providers Austria (ISPA), the CG Abuse met with representatives of CERT.at and ISPA members at the University of Vienna in order to extend the degree of contact between the neighbouring countries. Included amongst the range of subjects presented were the Austrian NIS implementation, cyber committees and initiatives, and the work of the Abuse teams.

At the beginning of December, the Cologne Cyber Crime Roundtable was held in cooperation with the State Criminal Police Office (LKA), and involved a discussion on cooperation between the Public Prosecutor's Office and providers. Representatives of the LKA, the Central Bureau and Contact Office for Cyber Crime North-Rhine Westphalia (ZAC NRW) of the Cologne Public Prosecutor's Office, the eco "Cybercrime Competence Centre" hotline, and the CG Abuse discussed the specificities, prevention measures, and possible approaches to reacting to the topic of cyber crime. The necessity of appropriate emergency management was emphasised.

Based on the preparatory work done in 2018, the CG Abuse published the white paper "Legitimate Use of Crypto Mining" in 2019. The annual planning for 2020 is also based on the successful concept of previous years and fore-

sees three meetings and a continuation of the established format of specialist presentations and the confidential exchange of experiences and views among the participants. In 2020, the CG will develop a workshop on the use of Kibana in day-to-day business and promote the standardisation of customer abuse reports. Another driving topic in the field of abuse will be anomaly detection. In addition, going forward into 2020, the CG members also intend to address topics such as data sharing, as well as a presentation of the individual teams and their work and tools, also from other European countries.

Furthermore, the focus will remain on important future topics such as DNSSEC and DoH. To this end, the CG works closely with representatives of the German Federal Office for Information Security (BSI), who participate regularly in the CG meetings.



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9.9 LiT – Ladies in Tech

The digital industry is booming. Each and every day, new digital business models, job profiles and positions are emerging. Companies are urgently seeking specialists and managers. For eco, the promotion of women and diversity is therefore a key issue for the future viability of both Germany and Europe as digital locations.

The industry offers women outstanding career prospects. In addition, more and more companies are realizing that mixed teams are demonstrably more creative and efficient, as heterogeneous perspectives lead to better solutions. In order to give successful female specialists and managers a stronger voice and inspire others,

eco has launched the initiative "LiT – Ladies in Tech".

This initiative encompasses, among other things, networking events, the establishment of a panel of female speakers, and a series of interviews in which inspiring female specialists and managers in the Internet industry take the floor.

Multiple opportunities for participation

LiT offers a platform for exchange – on both a digital and analogue basis. The initiative is as vibrant and diverse as the Internet industry itself. Men are therefore also more than welcome to get involved, because promoting the industry's female heroes can only succeed if male supervisors and colleagues also serve as allies for

women. In solidarity with them, eco is campaigning for the topic of women in the tech sector and diversity. It is achieving this by bringing women onto the stage of important panels and events, promoting their digital visibility, politically advocating their interests, and inspiring even more women to join this great industry.

For member companies and interested parties, eco offers numerous opportunities to participate in the LiT initiative: whether as a role model show-cased in eco's interview series, as a speaker at one of over 100 eco events, as a host for the LiT networking events, or as a source of citations for eco's studies, such as the German-language "Women in the Internet Industry", commissioned from the Institute for

Innovation and Technology (iit) Berlin in 2019, or eco's own international study "Women in Tech Across the Globe: A Good Practice Guide for Companies". Whether it's to do with activities for Girls' Day or International Women's Day, ideas for workshop topics or webinars on "Women and Career" – suggestions and feedback are always welcome.

Role models are essential

In order to attract more women to the Internet industry, eco started the interview series "Women in the Tech Industry" on the occasion of International Women's Day 2019. The goal of this series is to highlight the importance of female role models, in keeping with the motto: "If she can see it, she can be it".



Inspiring female specialists and managers have their say in the interview series. They describe their career paths and give professional tips, as well as talking about their own role models, the challenges in a male-dominated environment, and why working in the Internet industry is both worthwhile and fun.

The interviews are published on the eco website and teased in the eco newsletter and on the association's social media channels. eco is grateful and happy for all the inspiring digital women who were on board as interview partners in 2019, who included, among others: Dr. Yvonne Bernard from Hornetsecurity, Melanie Buck from GoDaddy, Kenza Ait Si Abbou Lyadini from Deutsche Telekom, Tijen Onaran from

Global Digital Women, Donya Amer from the Bosch Group, Magdalena Rogl from Microsoft, Stefanie Kemp from the Lowell Group, Gudrun Scharler from Unitymedia, Mareike Jacobshagen from Interxion, and Dr. Laura Dornheim from eyeo.

LiT on tour: The analogue network meetings

On 3 July 2019, around 30 women met for the first time at the Club Astoria in Cologne to promote the topic of LiT. It was a great evening with many interesting conversations, meet-ups and ideas as to how to make the Internet industry more diverse and to promote the topic of gender diversity. The evening was kicked off by eco members Gudrun Scharler,

Chief Operation Officer at Unitymedia, and Melanie Buck, Chief of Staff at the webhoster GoDaddy. In autumn 2019, LiT were guests at the Rotonda Club in Dusseldorf, where Stefanie Kemp from the Lowell Group gave interesting insights into her professional career and Bettina S. Wolff, proprietor of the Leaders Academy Cologne-Dusseldorf, focused on the topic of "Women and Leadership".

LiT eco://award special prize

"Ladies in Tech" were also in the spotlight at the eco://award in November, and one in particular: Stefanie Kemp, Head of Business Transformation, Innovation and Digital at Lowell Group and Member of the eco Presidency Committee. Stefanie Kemp has wholeheartedly

supported the LiT initiative from the very outset, leading to her receipt of the eco://award special prize. Her career path from nurse to CIO in leading companies reveals the enormous potential of the digital industry. She harnesses her passion for the IT industry to pave the way for other women and to inspire them for tech jobs. The special "Ladies in Tech" award honoured her outstanding work, her exceptional contribution to female executives in the Internet industry, and her strong commitment to the digitalisation of society and the economy.

Further information is available at:
www.dotmagazine.online/topics/women-in-tech



Christiane Skiba
Branch Manager Cologne
Head of Marketing & Events



10. eco Events 2019

With thousands of participants at over 100 events, 2019 was yet again an action-packed event year for eco. It was the goal of the event team to develop and offer suitable formats to meet the diverse needs of members and interested parties: Whether it was a small-scale exchange among experts, interesting roadshows, networking meetings held in a unique atmosphere, or informative congresses where ideas and experiences could be exchanged – the spectrum was once again vast.

But the number of participants is not the decisive criterion for successful eco events; once more, the event team attached greater importance to that little bit extra in terms of quality, location, catering, merchandise and

accompanying materials. The presentation of the eco://awards was a hit with its casino theme, which was reflected everywhere – from the room and table decoration, to the acts and exquisite food, all the way to the programme booklet. The Internet Security Days were also striking in the spectacular setting of Phantasia-land near Cologne, and offered impressive opportunities for information and exchange.

The events presented in this chapter make clear just how much work and thought has been put into the smallest detail to make sure that participants feel comfortable and get the most out of their attendance. This can only be achieved if everyone works hand in hand, something the team has once again managed to do!

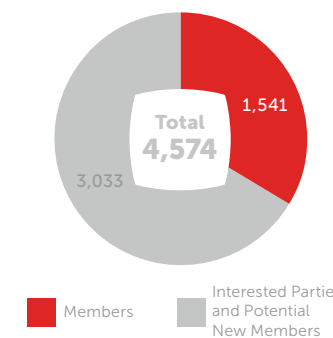
The events helped to stimulate enthusiasm among many people for the association and gifted participants with memorable moments.

But it wasn't only at eco events that eco specialists got to hold discussions with high-ranking experts, decision-makers of innovative companies from various industries, and leading politicians. To represent the interests of the Internet industry, they were also present at numerous trade fairs, conferences and partner events around the globe.

The year 2020 will be shaped by the 25th anniversary of the eco Association. Exciting events and experiences are planned under the motto of "Internet with Responsibility".

More on all of this can be found on the following pages, while the current event overview is available at: www.eco.de/events and international.eco.de/events

eco Events: Total Number of Participants





10.1 Event Highlights

10.1.1 eco New Year's Reception as part of the PASSAGEN

With around 200 guests from industry, academia, art and politics, eco officially started the year 2019 with its New Year's Reception in Cologne. As part of the PASSAGEN (Cologne's interior design week), eco invited guests to its Cologne premises on 17 January to get an outlook on the year ahead. At the event, eco introduced the founding members of its new Presidency Committee: Prof. Anja Feldmann, Director at the Max Planck Institute for Computer Science and Leibniz Prize winner; Saskia Steinacker, Global Head of Digital Transformation at Bayer AG and member of the EU Commission's High-Level Expert Group for Artificial Intelligence;

and Stefanie Kemp, Group Head of Innovation, Transformation, and Digital Technology with the Lowell Group.

"It is our goal as an association to identify on-trend digital topics more rapidly and to more broadly apprehend their impact; to extend our Internet industry perspective by integrating multiple points of view and lines of thought from other fields; and to further promote the interdisciplinary exchange of views and experiences on the opportunities and challenges of digital transformation. I am particularly pleased that, with the first three members of

our Presidency Committee, we have been able to recruit experts from the operator industry and from academia, who together will infuse our perspective with valuable impetus and ideas", stated eco Chair of the Board Oliver J. Süme.

The New Year's reception was rounded off perfectly by delectable finger foods, drinks and atmospheric live music.

The exhibition LIGHT OBJECTS by Julius Schmiedel & Guillermo Federico Heinze leant the event impressive lighting and was the trigger for some interesting discussions. The exhibition

played with forms, colours, light and shadow, with each viewer experiencing the exhibition from his or her own perspective. Julius Schmiedel employs 3-D in the production of his light works and effects, and his programmed light kinetics prompted surprise and delight. Guillermo Federico Heinze captured eternal moments with his holograms and the magic of light. Fascinating insights opened up new perspectives. In the days following the reception, the exhibition drew many more visitors to the PASSAGEN.



10.1.2 CSA Summit: “Email Just for You”

In April 2019, the CSA welcomed their certified senders, partners, and interested parties to the CSA Summit in the “Design Offices” right in the centre of Cologne. With around 140 participants from 15 nations and top-class speakers from the industry, the CSA Summit further established itself as an international congress.

18 email experts from renowned companies explained their perspectives on the motto “Email Just for You”, under which the entire event was presented. Smaller workshops rounded off the three-day event. Julia Janssen-Holldiek, Director of the CSA, introduced the summit's topic and was pleased to greet the

international audience. She explained that the motto of the CSA Summit 2019 reflected both the importance of a desired individual form of address and the quality standards in email marketing. She presented the CSA's work on email standards in 2018 under the newly expanded mission of the CSA, namely, “We create and enable quality standards and promote new technologies for commercial emailing”.

Mark Robbins from Salesforce concentrated on customer/user experience in his presentation on interactive emails. He gave basic advice for designing interactive emails and illustrated their potential by divulging that his entire set of slides during his talk had been presented in an email, in Apple Mail.

The presentation on schema.org was shared between Dr. Conny Junghans, Data Scientist from 1&1 Mail & Media on the receiver side and Magnus Eén, Deliverability Manager from Westwing on the brand side. Dr. Conny Junghans took the floor first to describe schema.org's background. She explained that schema.org is attempting to develop a “smart inbox” – a digital assistant to help manage emails. Before a machine can support the processing of an email, it needs to understand what the email is about.

From domain alignment to Doichain Tobias Herkula from Cyren is responsible for filtering billions of emails per day. As such, his presentation included advice for senders and brands as to how to avoid being caught in his

spam filters. In this context, he presented “domain alignment” as an important part of brand identity.

Leonie Jonker from Paula's Choice Skincare Europe opened her talk with a message for marketers: Email metrics don't tell the whole story. She explained that open rates offer only limited insight and do not provide an accurate picture of what customers really think about campaigns. She named customer care feedback as a good additional option for obtaining information and commented that unsubscribe rates and online surveys can certainly help measure sentiment to a certain degree, but that there is much more to be gained through direct and structured customer feedback.



The presentation that followed, delivered by John Levine from the Universal Acceptance Steering Group at ICANN, was about "Email Address Internationalisation" (EAI). As he explained, this is a relatively new phenomenon that is essentially used by computer users who cannot read English characters. EAI will become particularly popular in countries such as Thailand and India, where there is an educated population that can neither speak nor write in English. He gave the state of Rajasthan as an example, where the Indian government is currently issuing email addresses in Hindi (the UASG has produced a case study on this topic), before finally stating that EAI is not difficult to implement, but that it is important to prepare for it.

Stephan Zimprich from Fieldfisher began his talk with a short explanation of the character-

istics of blockchain that make it interesting from a legal perspective: It is a transparent form of documentation that is revision-proof, meaning its history cannot be changed. Before giving the floor to André Moll, Stephan Zimprich concluded that blockchain can be used to prove that double opt-in has actually occurred – and in a revision-proof manner.

André Moll's vision sees Doichain becoming a movement in which many people cooperate and decide together on the future direction of the Doichain initiative.

Marcel Becker from Verizon and Seth Blank from Valimail provided an entertaining closing session for the CSA Summit 2019. As Marcel Becker commented, these are exciting times in the email market. Things are accelerating. The email industry is working together to create

highly personalised experiences for their shared customers. The industry is reshaping itself right before our eyes, with a number of recent acquisitions. Marcel Becker sees this as a confirmation that new and exciting things are already occurring in the industry or are on the brink of happening.

Dinner, drinks and music offered everyone the opportunity to network and continue discussions in the sunny courtyard of the "Design Offices". On the following day, the CSA and select experts offered workshops at which participants could delve even more specifically into individual areas.

Further information is available at:
summit.certified-senders.eu





10.1.3 ISDs: IT Security Requires Cooperation

Around 600 security experts joined the discussion on how to achieve secure and trustworthy digitalisation at the Internet Security Days (ISDs) on 26 and 27 September 2019 at Phantasialand near Cologne.

Those responsible must work together and pool their technologies and IT security expertise. This is the only way to meet the security challenges of an increasingly digitalised and interconnected world. "We have to work together to actively minimise the risk" – it was with these words that security expert and eco Member of the Board Prof. Norbert Pohlmann opened the ISDs 2019. He continued by stating that the necessary higher level of security and

the resulting secure and trustworthy digitalisation could, however, only be achieved through cooperation. "Users, companies and the state have to create synergies and interact better with each other", he urged.

Security in the real world transferred to virtual worlds

Two days of workshops, keynote speeches, security sessions, and panel discussions under the motto "Game of IT Security" conveyed a broad spectrum of know-how – excellent networking opportunities and an accompanying exhibition were also included. eco and heise Events organised the ISDs jointly for the fourth time. They invited Gordan Mühl, Global CTO Cybersecurity and Privacy Protection from

Huawei Technologies to attend as a keynote speaker. "We have to combat online attacks better – there is room for improvement particularly in development processes", said the security expert. "We need to ensure our personal security – not only in the physical world, but also online. Devices are increasingly interconnected, so it is necessary to transfer security to the world of software and also apply it there", he said in his launch of the official programme.

In three parallel tracks, the participants were then given exceptional insights into all current topics of Internet security. The topics covered were cyber crime, information security and compliance, emergency planning, secure iden-

ties and infrastructures, and the future of security. The practical applicability was the focus of workshops, each of which was attended by a restricted number of participants.

In the evening, a special networking event awaited the participants at the Internet Security Night. Participants enjoyed an exclusive meal at the stylish location STOCK's in Phantasialand and took advantage of unique networking opportunities while enjoying cool drinks. The rollercoaster Black Mamba was available exclusively to participants.



The human factor can increase security

On the Friday, the programme started with a presentation by Major Bernd Kammermeier from the Centre for Cybersecurity of the German Armed Forces. He conveyed insider knowledge on Locked Shield 2019, the largest real-time cyber defence exercise in the world. The lawyer Dr. Paul Malek explained how managers can detect and avoid liability scenarios for damage from cyber attacks.

The human factor was once again a focal topic in 2019: Katja Dörlemann from SWITCH spoke of the tension between users and security, asking the question: What are the prejudices, stereotypes, and unconscious incompetence that people demonstrate, and how can they

handle their own data in a responsible and self-determined manner? The closing keynote speech of the ISDs, "Why do people ignore IT security rules?", was given by Prof. Angela Sasse from the Horst-Görtz-Institute for IT Security of the Ruhr-University in Bochum.

The experts then left Phantasialand with many new contacts and ideas as to how to continue mastering the challenges of cybersecurity.

The 10th ISDs are planned for 2020.

Further information is available at:
www.eco.de/isd





10.1.4 eco://kongress: Shaping the Internet of the future with AI

The visionary implementation of new technologies such as artificial intelligence (AI) is changing how we live and work. At the eco://kongress 2019 on 21 November in Cologne, the eco Association discussed the central challenges and solutions with pioneers and trailblazers from politics, the industry and society.

eco Chair of the Board Oliver J. Süme welcomed around 300 participants to the Wolkenburg mansion in Cologne. He stated that a GDP increase of over 13 percent by 2025 is realistic if cross-sector application of AI occurs soon. According to the results of a recent eco study in collaboration with Arthur D. Little and the

Vodafone Institute, the greatest cost-saving potential lies in AI-supported production. "We need finally to get moving now, because Germany as an industry location can no longer afford dragging of feet and wrangling when it comes to the application of AI", he said.

Future-oriented mindset for society

"We not only need to move, we need to take great leaps in order to catch up in the area of AI", Rafael Laguna de la Vera, Founding Director of the Agentur für Sprunginnovationen (the Agency for Disruptive Innovations), explained in the subsequent keynote speech. "We have great companies and fantastic people. Let's get to work on creating the digital requirements and framework conditions for disruptive inno-

ventions", he urged. In a panel, he then entered into discussion with Guido Brinkel from Microsoft Germany, Tim Buchholz from Otto, Inger Paus from the Vodafone Institute, and Charlotte Rengier from Bayer.

Moderated by Katie Gallus, the discussion topic was the future of AI and its importance for the economy and society. "The economic and business potential is enormous. We just need to tap into it", said Inger Paus. Tim Buchholz emphasised, "We should understand what problems people have and how we can solve these with the help of technology, not ask the other way around: I have AI, now what am I going to do with it?"

Focal topic city, country, future

After a lunch break with networking, the congress participants devoted their time to developments for Smart City ecosystems and the connected mobility of the future. Stefan Stroh, Chief Digital Officer of Deutsche Bahn AG (the German Rail), opened his keynote speech with the exciting thesis: "Our mobility today is largely inefficient, painful and irresponsible." He explained which measures Deutsche Bahn is taking to achieve comprehensive digitalisation and the development of end-to-end mobility services.

Alongside Stefan Stroh, the subsequent panel included Joachim Astel from noris network AG, Dr. Sebastian Gross from Unitymedia, Stephan Hohmann from NetCologne, and Roland Werner



from Uber. Moderator Markus Schaffrin from eco joined them in exploring how a liveable, citizen-friendly, climate-friendly, energy- and resource-saving Smart City of the future can emerge. According to an eco study, the key to this is cooperation between companies. Dr. Sebastian Gross confirmed this, as in his opinion, future value creation will only take place within networks. He would like to see the discussion move away from infrastructure and technology and towards solutions. Stephan Hohmann emphasised that the basic prerequisites for AI are digital infrastructure, broad coverage of fibre optic networks, and data availability.

Industry 4.0 with AI – the industry is becoming smart

"The transformation of value chains requires a transformation of digital infrastructures",



Dr. Thomas King, Chief Technology Officer of the DE-CIX Group AG explained in his keynote speech after the coffee break. His presentation referred among other initiatives to the GAIA-X project of the German Federal Ministry for Economic Affairs (BMWi), in which DE-CIX, eco and EuroCloud are involved. The goal is to create a secure, sovereign and open data infrastructure which corresponds to European values and enables growth in innovation.

To what extent are IoT and AI revolutionising industrial production facilities and processes? This question was discussed by Dr. Thomas King with the participants of the subsequent panel: Stephan Boch from Atlas Copco IAS, Luise Kranich from the FZI Center for Information Technology, Dr. Alexander Löffler from Miele, and Ralf Olschner from KROHNE Messtechnik. Luise Kranich started the discussion,



saying "AI is nothing but statistics on speed. Logic, calculations – there's little magic to it". She continued, stating that AI is, more to the point, an instrument and we need to learn to handle it. In order to get companies off the ground, it is important to communicate the benefits and share success stories and guidelines. Ralf Olschner explained that the willingness of companies and customers to share data, draw patterns from it, and let these patterns flow into actions and services is crucial.

How to tap into the potential of AI

In the third panel, the central topics again reflected those that had run through the entire congress: It is necessary to understand people and create solutions for their problems. These innovative ideas need fertile ground in the shape of appropriate framework conditions, so that Germany can benefit from value creation.



The visionary implementation of technologies and applications based on AI offers enormous economic potential. But we need to start moving, or even better, to take leaps, in order to tap into this potential. Infrastructures, services, platforms and data pools will be essential to maintaining digital sovereignty.

Further information is available at:
international.eco.de/eco-kongress-2019



10.1.5 eco://awards: Glamorous awards ceremony in "Casino Royale"

After a stunning musical prelude with title melodies of well-known James Bond movies, it was clear to the 250 participants in the festively-decorated rooms of the Wolkenburg event location: The 18th eco://awards on 21 November in Cologne was going to be a very special evening.

Golden fountains, a red carpet, decks of playing cards with sponsor logos, poker chips and "diamonds" set the scene for an evening at the "Casino Royale". This meant that the winners on the night were not only the nominees and prize winners, but in fact all those who attended the presentation of the renowned eco://awards.

After the welcoming and honouring of companies who have been members for many years, the awards for trend-setting solutions were announced in six categories. For this, the expert jury with important figures from industry, academia and the media had spent the previous few weeks intensively considering numerous outstanding concepts which were submitted by companies from all over Europe.

Over the course of a festive gala dinner, the nominated solutions in the Categories Data-centre Infrastructure, Hosting, Security, Domains, Cloud and Innovation/Digital Business Models were presented and then the prize winners were announced. The special prize for "Ladies in Tech" went to Stefanie Kemp to

honour her outstanding commitment to female business leaders in the Internet industry. Throughout the award ceremony, various acts of the Stardust Gala Circus, alongside exquisite delicacies, contributed to an unforgettable evening.

Prof. Andreas Pinkwart, Minister of Economics, Innovation, Digitalisation and Energy for the federal state of North Rhine-Westphalia (NRW), congratulated the winners personally. He expressed his conviction that Germany is making enormous progress in digitalisation and has the potential to become one of the digital forerunners in Europe. Especially in NRW, there are hidden gems in Science & Research and in the region's companies.

After the presentation of the coveted eco://awards, further highlights awaited the distinguished guests from business, politics and society, as did further opportunities to network with the other attendees. Accompanied by music, all could enjoy delicious cocktails; handmade, but also – in line with digitalisation – mixed by a machine. Game tables invited the guests to try their luck at the casino. A card magician and acrobats entertained viewers and a party with DJ, live vocals, and a saxophone player rounded off a great evening.

See further pictures from the evening in the album:

[flickr.com/ecoev](https://www.flickr.com/photos/ecoev/)



The winners of the eco://awards 2019

The following solutions convinced the jury with their creativity, innovativeness, and market potential and won the coveted award in their respective category:

Cloud

oneclick AG, for the oneclick™ Platform – the simplest, fastest, and most secure way to connect users with all business applications and data.

Data Centre Infrastructure

RWE Supply & Trading GmbH and Riello Power Systems GmbH, for the holistic UPS-Battery-Solution Master+, which turns data centres into partners of the energy transition and allows them, with the operators, to benefit from the opportunities on the energy market.

Domains

EURid vzw, for its Domain Name Registration Abuse Prevention System. The system can, through machine learning, identify whether a newly registered Domain Name is being used abusively.

Hosting

luckycloud GmbH, for their eponymous cloud hosting platform from Germany – secure, high-performance, and customer-oriented.

Innovation/Digital Business Models

ClearVAT AG, for the EU VAT Clearing Solution. ClearVAT is the first – and as yet only – pan-European payment service provider for legally compliant calculation, collection and remittance of VAT in cross-border EU retail.

Security

DRACoon GmbH, for a filesharing solution that helps with the challenge of storing, administering, and sharing data securely. DRACoon is the market leader in the area of Enterprise Filesharing in the German-speaking region and gives the world back sovereignty of its data.

Special Award

The Special Award "Ladies in Tech" honoured Stefanie Kemp, Group Chief Innovation & Transformation of the Lowell Group, for outstanding work, her exceptional contribution for female business leaders in the Internet industry, and her great dedication to the digitalisation of society and the economy.

Further information is available at:
international.eco.de/eco-award-2019





10.1.6 it-sa with joint stand and programme event

The it-sa has established itself as the leading international platform for cybersecurity and is the IT security specialist trade fair with the most exhibitors worldwide.

In 2019, about 750 exhibitors from 25 countries, spread over four halls, presented the latest IT security solutions. More than 15,500 international trade visitors visited the fair from 8 to 10 October 2019 in Nuremberg, Germany.

eco was a cooperation partner of the trade fair and invited visitors to its joint stand, at which current security solutions were presented.

Moderated discussion rounds and livestreams supported the visibility of the partners on location and in the social media channels. Exhibitors at the eco joint stand were Dr. Hörtkorn GmbH, ExperTeach Society for Network Competence mbH, Fidelis Cybersecurity, Netskope, IT-Seal GmbH and SIWECOS.

The accompanying congress programme "Congress@it-sa" once again offered attendees the chance to get themselves informed in depth and to exchange views across all industries. Within the framework of the it-sa insights, eco presented the project SIWECOS – Secure Websites and Content Management Systems for

SMEs. eco also supported the programme event of the German Federal Ministry for Economic Affairs and Energy (BMWi) on "IT security in plain language: communication and usability as the better defence?" One of the key topics at the congress was how practical IT security measures can be implemented in German enterprises for all users.





10.1.7 CloudFest “Hyperscaler Enablement”

Expert panels, hackathons, keynotes and rollercoasters make the CloudFest the world's leading industry event for the international cloud and hosting industry every year. From 23 to 29 March, the tech festival took place in 2019 at EuropaPark Rust under the motto of “Hyperscaler Enablement”.

eco and EuroCloud Germany were naturally once again on location as co-exhibitors and organisers of panel discussions. Among other topics on the agenda of the eco panels were “Women in the Tech Industry” as well as the ePrivacy Regulation and its implications and challenges for the industry.

On 26 March, Melanie Buck, Director of Change Management at GoDaddy, and Yvonne Bernard, Head of Product Management at Hornetsecurity, gave a joint presentation on “Why Women-in-Tech Should Be Inclusive”. They presented and discussed their recommended approach for increasing the number of successful women in the tech area of the IT industry. In the evening eco invited all those interested in the topic to a networking event.

On 27 March, Thomas Rickert, eco Director Names & Numbers, acted as moderator for the panel “Navigating the Culture Change on Privacy Your Company Needs to Take”. Together with the participants Ridley Ruth, COO at Dropsuite, and David Snead, General Counsel

at cPanel, he discussed both how companies can meet the changed compliance requirements of the GDPR and ePrivacy Regulation, and whether the global culture and paradigm shift towards more privacy is already at full throttle.

In addition, Thomas Rickert, together with Christian Dawson from the i2Coalition, explained what needs to be considered when implementing the GDPR in companies. The Universal Acceptance Steering Group (UASG) sponsored the CloudFest Hackathon, in which eco Board Member Klaus Landefeld also took part. Lars Steffen from eco moderated the final presentation of the results by CMS Garden.





10.1.8 Data Centre World/TechWeek on digital transformation

With over 5,000 specialist visitors, Data Centre World/TechWeek 2019 was one of the year's most important trade fairs held in Germany, bringing together all of the core topics of digital transformation under one roof. The event took place on 13 and 14 November at the Frankfurt Trade Fair Centre.

eco and EuroCloud Deutschland were once again able to play an active role in the design of the conference programme and organised a total of six content slots in the fields of data centres, mobility and artificial intelligence (AI).

Two panel discussions focused on current developments in the data centre market. Within the

framework of the opening panel "RZ-Standort Deutschland" ("DC Location Germany") – moderated by Roland Broch of eco – renowned operators from the field of digital infrastructures discussed Germany's current competitive factors in relation to other European countries. The panel included Volker Ludwig from NTT Ltd, Wolfram Rinner from GasLINE GmbH & Co. KG, Harald Kriener from DE-CIX, and Michael Emmer from SpaceNet AG.

On the other hand, "The European Colocation Market – a Stocktaking" looked at the developments in the European colocation market. Judith de Lange from the Dutch Datacenter Association, Harald Kriener, Jörgen Venot from Data Center Group GmbH, Marc Fröse from

Etx Everywhere Deutschland GmbH, Matteo Giampaolo from ITnet S.r.l., and Staffan Reveman from the Reveman Energy Academy were party to the discussion on this topic.

How can innovations in the field of critical infrastructure operation be promoted and developed to market maturity? This was the question addressed by the panel "Research and Innovation for Critical Infrastructures". eco Competence Group Leader Marc Wilkens, together with Marina Köhn from the German Federal Environment Agency (UBA), reported on the current status of the research project KPI4DCE 2.0, which deals with the development of energy efficiency indicators for data centre operation.

In the field of mobility, the focus was on connected and autonomous mobility. eco expert Thorsten Stuke discussed the challenges for data protection, warranty and liability law with the panel participants.

What is the status of AI in SMEs? This was the focus of the final panel on AI, which focused on an AI-based service ecosystem as part of the Service-Meister project.



Werner Theiner
Manager South Germany Office (until end 2019)
Sponsoring



10.1.9 Highlights eco South Germany Office & Sponsoring

With a range of highlights and recurring event formats, in 2019 the South Germany Office succeeded once more in its role for members in Bavaria as a reliable contact and intermediary between the industry, politics and academia.

The continued steady growth in membership aimed for by the Office was once more realized in 2019. An additional task was to implement the Office's activities in a cost-neutral manner. All eco events could be completely financed by sponsoring and even a small surplus could be achieved. For the events, the main target groups – decision-makers from the industry, politics and resellers – could be attracted with over 90 percent precision.

One event highlight was the "Smart Mobility and Smart City Summit", held in Munich in May 2019. This was utilised by the City of Munich as the opening event for the Munich Mobility Mile and was attended by renowned drivers of mobility, digitalisation and urban planning.

Recurring formats such as the Munich Breakfast Round, the monthly eco After Work Events, and the nationwide ISD Breakfast Roadshow offered members ample opportunities to exchange ideas and increase their own visibility. In addition, Werner Theiner, in his function as Manager of the South Germany Office, was present at over 20 events as moderator, keynote speaker, and in discussion panels.

The South Germany Office was also responsible for organising and marketing the partner stand at the IT security trade fair it-sa in Nuremberg. With a mix of member companies and new manufacturers from the security sector, the sponsors and visitors to the fair were offered an attractive platform for business initiation and development. For more information, see Chapter 10.1.6.

In addition, the sponsoring and speaker setup for the eco://kongress 2019 and the ISDs was decisively and successfully driven by the Office.

The South Germany Office also took over the project management of the Initiative Digital –

an interest group of leading German trade associations.



10.2 eco Celebrates 25 Years of Internet with Responsibility

It has been almost a quarter of a century since visionaries and pioneers joined forces in Bonn and founded the eco Association on 26 June 1995. At the time, nobody could imagine just how deeply the Internet would change the economy or private life.

"For many people, it is one of the most important needs besides electricity and water for coping with day-to-day life, and we only realise how dependent we are on it when it's not there", says Harald A. Summa, eco founding member and today's CEO.

As the Internet grew, the association's responsibilities also increased. However, the goals

pursued then as now are the same: shaping the development of the Internet, fostering new technologies, infrastructures and markets, and representing the interests of the Internet industry in politics and in international committees.

Nothing has changed the economy and society in the past years as much as digitalisation and the interconnection of all things over the Internet. eco has been accompanying and shaping this digital transformation for 25 years and has played a decisive role in many developments. And yet we are only at the very beginning, and insecurities are spreading: How do we protect our data? Can the infrastructure withstand the increasing load? How can people

of all ages discover the new possibilities and turn them into opportunities?

eco anniversary campaign "25 Years of Internet with Responsibility"

Within the context of its 25th anniversary, eco is facing these challenges and intends to counter the negative debates with a constructive perspective. Together with its members and partners, the association is embarking on a digital time-travel journey in 2020, the core of which is the responsible handling of the Internet. "We are committed to a free, technology-neutral, and high-speed Internet, and are firmly convinced that our handling of digital technologies must be oriented towards ethical values. We intend to convey this fundamental attitude

through our campaign, provide valuable insights and outlooks, and shape current digital debates accordingly", says eco Managing Director Alexander Rabe.

Become part of the campaign

An essential component of the eco anniversary campaign are event formats such as the Internet Security Days in Brühl and the Internet Policy Anniversary Forum. The highlight, however, will most certainly be the eco birthday celebration in Cologne with around 500 important Internet pioneers, visionaries, innovators, and decision-makers from the industry and politics.

In addition, there are many other exciting formats at which one can present and position



oneself and participate. From publications on the eco social media channels or in the various eco media, to anniversary websites, there are a variety of possibilities online.

Various video and podcast formats are planned with leading figures and the movers and shakers of digitalisation. In addition, exciting print projects are planned in which you can become involved, for example with a contribution to the eco Internet Study or the eco book on the history of the internet.

Take the chance to become part of the eco campaign and benefit from access to the eco network of over 1,100 active members from the Internet industry, as well as from a far-reaching

brand presence. Let us work together to develop a customised solution for you.

Further information is available at:

www.eco.de/25jahre
<https://25jahre.eco.de>

Milestones of the Internet can be found here:

www.eco.de/ueber-eco/historie





10.3 Further eco Events



eco events 2019			
Date	Event	Subject	Place
16.01.19	CG Blockchain & CG E-Mail	More Security in Email Traffic?	Cologne
17.01.19	CG Leaders' Meeting	Meeting of all CG Leaders	Cologne
17.01.19	New Year's Reception Cologne	Outlook for the New Year	Cologne
23.01.19	eco Academy	Always-on: Connectivity, Communication and Consequences	Cologne
29.01.19	New Year's Reception Berlin	Outlook for the New Year	Berlin
30.01.19	eco Academy	IoT – in Search of Added Value Among Billions	Cologne
30.01.19	EuroCloud – Workshop	Kubernetes, an Exciting Research Journey	Frankfurt
31.01.19	CG Data Center	Risk Presentation and Evaluation of Data Centers and IT Companies	Frankfurt
31.01.19	Breakfast Round	Smart City	Munich
04.02.19	Steering Committee Alliance for the Strengthening of Digital Infrastructures in Germany	Digital Lunch with Manuel Höferlin, MdB and member of the Federal Digital Agenda Committee	Frankfurt
06.02.19	New Year's Reception Brussels	Outlook for the New Year	Brussels, Belgium
07.02.19	Transatlantic Dialogue Part I	The Future of the EU-US Privacy Shield	Brussels, Belgium
07.02.19	IoT Future Trends	Payment in the Internet of Things	Cologne
08.02.19	Breakfast Round	Smart City	Munich
12.02.19	Transatlantic Dialogue Part II	The Future of the EU-US Privacy Shield	Berlin
13.02.19	eco Academy	Pivotal Point Future Computing	Sankt Augustin
15.02.19	CG Data Center – DC Breakfast	Differential Current Measurement and Energy Efficiency	Frankfurt
19.02.19	polITalk SPECIAL	#EU-Election/digital19	Berlin
21.02.19	Breakfast Round	Security	Frankfurt
22.02.19	Breakfast Event – SIWECOS ROADSHOW	Security Update	Frankfurt
26.02.19	eco Academy	Human Machine Interface	Berlin
26.02.19	CG IoT	Guided Tour MWC Barcelona	Barcelona, Spain
28.02.19	CG Data Center – CATALYST Workshop	Converting Data Centres in Energy Flexibility Ecosystems	Frankfurt
05.03.19	eco Security Dinner	RSA 2019	San Francisco, USA
10.03.19	Names & Numbers Forum	ICANN64, German Evening	Kobe, Japan
11.03.19	eco Complaints Office – Expert Lunch	Youth Media Protection	Berlin
12.03.19	eco Complaints Office	Presentation Annual Report 2018	Berlin
14.03.19	Breakfast Event	Security Update	Stuttgart
19.03.19	CG IoT	Advisory Board Meeting	Cologne
20.03.19	eco Academy	Are You Still Searching or Is Someone Searching for You?	Cologne
21.03.19	CG Security	Blackout – Preparation for Emergencies	Cologne
28.03.19	AI Bundesverband and eco: Two associations, one mission	Signing of a Memorandum of Understanding	Berlin
29.03.19	eco Schoko & Sushi	Artificial Intelligence	Berlin
01.04.19	CG IoT	Guided Tour Hannover Messe	Hannover



eco events 2019			
Date	Event	Subject	Place
02.04.19	ISOC & eco Round Table	Encryption	Berlin
02.04.19	Steering Committee Alliance for the Strengthening of Digital Infrastructures in Germany	Digital Lunch with Manuel Höferlin, MdB and Member of the Federal Digital Agenda Committee	Berlin
03.04.19	Digital Infrastructures	MINT: Creating the Future and the Alliance for the Strengthening of Digital Infrastructures in Germany	Berlin
03.04.19	eco Complaints Office	Presentation Annual Report 2018	Brussels
05.04.19	EuroCloud – Munich Breakfast Round	10 Factors for Greater Transparency in the Cloud Business	Munich
09.04.19	pol/Talk SPECIAL	#EU-Election/digital19	Berlin
10.04.19	CG Abuse, CG E-Mail, Names & Numbers Forum & CSA Members	DNSSEC	Cologne
10–12.04.2019	CSA Summit 2019	Email Just for You	Cologne
11.04.19	eco Academy	Digitalisation – New Legal Strategies Inevitable?	Cologne
11.04.19	Panel: Alliance for the Strengthening of Digital Infrastructures in Germany	Edge Computing – Development, Drivers and Business Models	Flörsheim am Main
07.05.19	pol/Talk SPECIAL	#EU-Election/digital19	Berlin
14.05.19	eco Academy	Data Centers: Hyper-Scaled, Software-Defined and Cloud-Integrated	Frankfurt
16.05.19	SIWECOS ROADSHOW	Initiative Digital	Eberberg
22.05.19	eco Academy	Future Work, New Work, HR 4.0	Dusseldorf
22.05.19	Transatlantic Dialogue Part III	The Future of the EU-US Privacy Shield	Washington D. C., USA
23.05.19	Mobility	Launch Event	Munich
24.05.19	Smart City & Smart Mobility	Congress in the Framework of the Corso Leopold	Munich
27.05.19	eco Complaints Office – Expert Lunch	Youth Media Protection	Berlin
04.06.19	Trusted Cloud	Listing Workshop	Cologne
05.06.19	eco Academy	Digital Car 2025: So How "New" Is the Car Really?	Cologne
06.06.19	Service-Meister	Artificial Intelligence for SMEs	Frankfurt
06.06.19	CG Data Center	Electrical Operational Safety in the Computer Centre	Berlin
06.06.19	Smart City Round Table	Smart City	Dortmund
16.05.19	eco	Annual General Meeting	Cologne
18.06.19	EuroCloud	Annual General Meeting	Cologne
23.06.18	Names & Numbers Forum	ICANN65, German Evening	Marrakesh, Morocco
26.06.19	Digital Country Comparison	eco Does the Digital Country Comparison	Berlin
28.06.19	Service-Meister	Workshop	Munich
01.07.19	Workshop "AI2Ynet"	Code of Conduct for an AI Innovations Market Place	Cologne
02.07.19	IoT Business Trends 2019	How Alexa, Google, Cortana & Co. are Changing Companies	Dusseldorf
03.07.19	eco Roundtable eco	Kick-off Meeting DigitalHUB	Frankfurt
03.07.19	LiT	Ladies in Tech	Cologne



eco events 2019

Date	Event	Subject	Place
04.07.19	CG Data Center	Electrical Operational Safety in the Computer Centre	Munich
11.07.19	CG Security – Workshop in the Digital Lab of the Cologne Chamber of Commerce	Cyber Risk Management	Cologne
12.07.19	The Trusted Cloud Label	Benefits for Cloud Service Providers and Decision-Making Processes	Webinar
17.07.19	eco Academy	AI Goes SME: In the Fast Lane?	Cologne
22.07.19	SIWECOS ROADSHOW	Initiative Digital	Preißenberg
26.07.20	Service-Meister Workshop	Platform Economics with Prof. Buxmann	Cologne
08.08.19	eco Academy	Expert Round Table Digital Buildings	Cologne
22.08.19	CG Data Center	Electrical Operational Safety in the Computer Centre	Frankfurt
29.08.19	eco Academy	Focus Smart Energy: Concretise Added Value	Dusseldorf
29.08.19	Members' Workshop	Shaping the Internet of the Future Together	Berlin
29.08.19	eco Summer Party	Networking BBQ	Berlin
03.09.19	eco Round Table	DigitalHUB	Frankfurt
03.09.19	CG Meeting Workshop EDGE Computing	Developments, Drivers, Business Models	Frankfurt
05.09.19	Names & Numbers Forum	5th Domain .nrw stammtisch	Bonn
09.09.19	SIWECOS ROADSHOW	Initiative Digital	Potsdam
10.09.19	SIWECOS ROADSHOW	Initiative Digital	Kiel
10.09.19	AI2Ynet Networking Congress	Artificial Intelligence for SMEs	Berlin
10.09.19	Network Policy Forum	The Internet of the Future – Powerful and Trustworthy	Berlin
12.09.19	Digital Infrastructures	Guarantor for the Digitalisation of the German Industry	Kiel
17.09.19	Acceptance Factors of Artificial Intelligence Methods in Business	Presentation of the Study Results	Cologne
18.09.19	CG Blockchain	Blockchain & Smart Contracts	Hamburg
23.09.19	Press Briefing	Facts and Background on the Lawsuit of the Internet Provider SpaceNet AG Against Blanket Data Retention Supported by eco	Webinar
23.09.19	LiT	Ladies in Tech	Dusseldorf
24.09.19	Conversation with Policy-Makers	Artificial Intelligence Strategy of the German Federal Government – Impulses for the Data Economy	Berlin
25.09.19	eco Academy	The Future Internet Between Business-as-Usual and Disruption?	Cologne
25.09.19	CG E-Mail	Sender Policy Framework, DMARC, DKIM, ARC and AMP	Cologne
25.09.19	eco Fall Party	Fall Reception	Brussels, Belgium
26.09.19	CG IoT & Smart Home (Round Table)	User Interfaces in AAL	Duisburg
26/27.09.2019	Internet Security Days 2019	IT Security Requires Cooperation	Brühl
30.09.19	GAIA-X	Sneak Preview	Webinar
11.10.19	CG Data Center	F-GAS Regulation / Blue Angel	Berlin
15.10.19	CG Networks	Constituting Meeting	Munich



eco events 2019			
Date	Event	Subject	Place
24.10.19	Digital Infrastructures	pol/Talk: From Hyper-Scalers to Edge Computing	Berlin
24/25.10.2019	CG Abuse	NIS Implementation & "Cyber" Bodies and Initiatives in Austria	Vienna, Austria
28.10.19	Digital Infrastructures	Digital Summit 2019: Press Release Tour "Places of the Internet" – Experience Digital Platforms	Dortmund
03.11.19	Names & Numbers Forum	ICANN66, German Evening	Montréal, Canada
07.11.19	F-Gas Regulation for Data Centers	What Significance Does the New F-Gas Regulation Have for Operators of Air Conditioning Systems in Data Centers?	Munich
11.11.19	CG Online Marketing	Informal Exchange of Experience Among Professional Users	Frankfurt
13.11.19	Data Centre World	Panel: Computer Center Location Germany – Competitive Factors in European Comparison	Frankfurt
13.11.19	TechWeek	Connected and Autonomous Mobility: Challenges for Data Protection, Warranty and Liability Law	Frankfurt
14.11.19	Data Centre World	Panel: The European Colocation Market – a Stocktaking	Frankfurt
18.11.19	SIWECOS ROADSHOW	Initiative Digital	Starnberg
21.11.19	eco://award	Solutions for the Opportunities of Tomorrow	Cologne
21.11.19	eco://kongress	Design the Internet of the Future with Artificial Intelligence	Cologne
25.11.19	IGF 2019	Panel: Needs and Demands of SMEs for the Internet of the Future – Dialogue Between SMEs, the Internet Industry and the IGF Community	Berlin
27.11.19	CG Security	Advisory Board Meeting	Berlin
27.11.19	CG Security	Quantum Computing	Berlin
28.11.19	F-Gas Regulation for Data Centers	What Significance Does the New F-Gas Regulation Have for Operators of Air Conditioning Systems in Data Centers?	Frankfurt
02.12.19	CG Abuse & LKA & ZAC-NRW & eco Complaints Office	Cooperation between the Public Prosecutor's Office and Providers	Cologne
03.12.19	CG Blockchain	Asset Tokenization – the Future of Project Financing?	Berlin
04.12.19	CG Data Center Round Table: Energy Efficiency in Data Centers	Best Practices, Field Reports and Solutions Around the Topic of Energy Efficiency	Frankfurt
05.12.19	IoT Future Trends	5G and the IoT: Hype, Hope, High-Speed	Cologne
09.12.19	GAIA-X	Relevance for Cloud Providers, MSPs and System Houses	Webinar
11.12.19	CG IoT	IoT Advisory Board Meeting	Cologne
11.12.19	Conversation with Policy-Makers	GAIA-X – A Connected Data Infrastructure as the Cradle of a Vital European Ecosystem	Berlin
11.12.19	F-Gas Regulation for Data Centers	What Significance Does the New F-Gas Regulation Have for Operators of Air Conditioning Systems in Data Centers?	Vienna, Austria
11.12.19	Blockchain Masters 2019	Always Better Use Cases?	Cologne
18.12.19	Names & Numbers Forum	DNS over HTTPS	Cologne



10.4 Events in Cooperation with eco

Events in cooperation with eco 2019

Date	Event	Organiser	Place
07–09.01.2019	Names & Numbers Forum @ UASG F2F Meeting	UASG	Washington D. C., USA
25.01.19	IT's Breakfast January – IT Security in the Media	nrr.uniTS	Bochum
30/31.01.2019	Monetizing Car Data – Implementing New Data-Driven Business ...	Handelsblatt	Munich
06.02.19	Future Workplace Conference	toplink	Darmstadt
11/12.02.2019	Digital:Relaunch	infopark	Berlin
12.02.19	5th Forum 3D Printing and Law	dwf	Cologne
14.02.19	DIGITAL FUTURE Congress	AMC Media Network GmbH & Co. KG	Frankfurt
14.02.19	5th BIG DATA Marketing DAY	SM:ILe	Munich
19.02.19	5th BIG DATA Marketing DAY	SM:ILe	Vienna, Austria
20.02.19	AI Business Breakfast @ CCW	CG Business Communication	Berlin
20.02.19	E-Commerce Berlin Expo	E-commerce Capitals Sp. z o.o. Sp. k.	Berlin
22.02.19	IT's Breakfast February – DevSecOps & Security Automation: Agile Security and Pragmatic Solutions	nrr.uniTS	Bochum
28.02.19	Channel meets Cloud	IDG	Munich
04–08.03.2019	RSA Conference 2019	RSA	San Francisco, USA
09–14.03.2019	Names & Numbers Forum @ ICANN64	ICANN	Kobe, Japan
11/12.03.2019	BIG DATA Paris	Corp-Agency	Paris, France
12.03.19	Internet World Expo	Ebner Media Group GmbH & Co. KG	Munich
13/14.03.2019	seclT 2019	Heise	Hannover
19.03.19	17th SmartHome NRW Expert Panel	National Associations of the SmartHome Initiative Germany	Daun
23–29.03.2019	eco & EuroCloud @ CloudFest 2019	WHD	Rust
26.03.19	eco @ AI & Data Science Meetup Ruhrgebiet – Special Event	Ruhrgebiet AI & Data Science Meetup	Essen
26.03.19	DI² – Digital Infrastructure Investment	kapena GmbH	Frankfurt
27.03.19	15th IT Trends Security	networker NRW e.V.	Bochum
02.04.19	EU Strategy – DSM Cloud Stakeholder Conference	Competence Network Trusted Cloud e.V.	Berlin
05.04.19	Online Marketing Conference	qualitytraffic GmbH	Bielefeld





Events in cooperation with eco 2019

Date	Event	Organiser	Place
11.04.19	Future Thinking and German Data Center Award 2019	dc-ce RZ-Beratung GmbH & Co. KG	Frankfurt
08.05.19	E-Marketing Day Rhineland	Rhineland Chamber of Industry and Commerce	Aachen
08.05.19	eco @ Market & Technology Blockchain Summit	WEKA-Fachmedien GmbH	Nuremberg
09.05.19	13th Annual Event	kölner forum medienrecht	Cologne
14.05.19	5th Digital Future Science Match	Tagesspiegel	Berlin
16.05.19	FOX AI Summit 2019	digitalhub cologne	Cologne
18.05.19	7th Domain Regulars' Table Munich	Tobias Sattler	Munich
21.05.19	Event Marketing Conference	SM:lle	Vienna, Austria
27.05.19	Blockchain Professional – Development and Deployment	Chainsulting	Berlin
28.05.19	Digital Misfits Festival	Digital Misfits	Cologne
28.05.19	Event Marketing Conference	SM:lle	Munich
03.06.19	eco @ XO Future: blockchain@fdpbt	Parliamentary Group of Free Democrats in the German Bundestag	Berlin
05/06.06.2019	Virtual Dialogue Marketing Conference	OnetoOne	Online
05.06.19	Cybersecurity – Trigger for More Growth?	TEC	Frankfurt
17.06.19	VideoTech 2019	deutsche medienakademie GmbH	Cologne
18.06.19	Blockchain Professional – Development and Deployment	Chainsulting	Frankfurt
24–27.06.2019	Names & Numbers Forum @ ICANN65	ICANN	Marrakesh, Morocco
25.06.19	Impulse Day Digitalisation	Cosmarch	Garching near Munich
26.06.19	Smart Villages – THIS is the Promise of the Internet	deutsche medienakademie GmbH	Wetzlar
26.06.19	Digital Leadership Summit #4	Summit Events UG	Cologne
27/28.06.2019	ICT² – The Challenge	NDIX	Enschede, the Netherlands
28.06.19	IT's Breakfast June – Best of GDPR – Myths, Penalties, Concrete Actions: This is the way to do it	nrr.uniTS	Bochum
02.07.19	Does "Digital" Make Everything More Complex?	deutsche medienakademie GmbH	Sankt Augustin
03.07.19	How to Transform Governments Through a Smart Cloud Policy	CISPE	Brussels, Belgium
03.07.19	Service-Meister @ Handwerk digital	German Confederation of Skilled Crafts	Dortmund
10.07.19	Standards & Norms Workshop	Ai2Ynet	Berlin



Events in cooperation with eco 2019

Date	Event	Organiser	Place
10.07.19	What's the Future of CASB and SWG?	netskope	Webinar
12.07.19	Women Power – Opportunities for Women in Digitalisation	mainproject digital	Obernburg
12.07.19	The Trusted Cloud Label – Advantages for Cloud Service Providers and Their Customers' Decision-Making Processes	Trusted Cloud e.V.	Webinar
27.08.19	System House Congress Opportunities	IDG Business Media GmbH	Dusseldorf
05.09.19	KITS Conference – Quality Infrastructure IT Security	DIN	Berlin
11–13.09.2019	solutions.hamburg	Silpion Events GmbH	Hamburg
11.09.19	Smart City Conference: The German Smart City Market	digital week Kiel	Kiel
11.09.19	OpenNebula Cloud TechDay	Open Nebula	Frankfurt
11.09.19	eco @ XI Internet Governance Forum Germany (IGF-D)	IGF-D e.V.	Berlin
11.09.19	Networked Health: If doctors knew what doctors, patients ...	deutsche medienakademie GmbH	Cologne
17–19.09.2019	eco @ The Future of Personnel, Europe	Koelnmesse	Cologne
18.09.19	Datacloud Ireland	BroadGroup	Dublin, Ireland
18.09.19	Innovation Conference	noris network	Nuremberg
18/19.09.2019	CG Data Center & CG Blockchain @ netforum 2019 – the Strategy Congress for Digitalisation	dtm.group	Meckenbeuren
19.09.19	TEC Annual Conference	TEC	Frankfurt
26.09.19	Datacloud Africa Leadership Summit 2019	BroadGroup	Accra, Ghana
26.09.19	21st Expert Round SmartHomeNRW	National Associations of the SmartHome Initiative Germany	Duisburg
28.09.19	8th Domain Regulars' Table Munich	Tobias Sattler	Munich
08–10.10.2019	5G Connected Mobile Machines Expo	Deutsche Messe	Hannover
08–10.10.2019	IT Security Fair and Congress (it-sa) 2019	Nürnberg Messe	Nuremberg
08.10.19	3rd Digital Marketing 4Heroes Conference	SM:lle	Munich
10.10.19	Live DataCenter 5.0 Congress	dc-ce RZ-Beratung GmbH & Co. KG	Berlin
15.10.19	3rd Digital Marketing 4Heroes Conference	SM:lle	Munich
24/25.10.2019	Ada Lovelace Festival	Euroforum Deutschland GmbH	Berlin
28/29.10.2019	Edison Conference Smart Home	Edison	Bochum
29.10.19	#solutionsHUB: Cloud, Data, Security	solutionsHUB	Hamburg



Events in cooperation with eco 2019

Date	Event	Organiser	Place
29.10.19	24th Broadband Forum "Broadband goes Company"	deutsche medienakademie GmbH	Düsseldorf
02–07.11.2019	Names & Numbers Forum @ ICANN66	ICANN	Montréal, Canada
05.11.19	Artificial Intelligence – New Age of Customer Experience	German Federal Ministry of Finance (BMF)	Bonn
05–07.11.2019	Expo for Digital Business	ENTERFAIRS	Online
06.11.19	Edge Global Congress 2019	BroadGroup	Austin, Texas, USA
06.11.19	Electrical Operational Reliability in Data Centres	dc-ce RZ-Beratung GmbH & Co. KG	Vienna, Austria
11.11.19	Sensors: With the IoT to Technology Everywhere?	deutsche medienakademie GmbH	Duisburg
12.11.19	Digital Congress for SMEs	German Federal Ministry for Economic Affairs and Energy (BMWi)	Berlin
13.11.19	Innovation Conference	noris network	Munich
13/14.11.2019	TechWeek/Data Center World Frankfurt	Messe Frankfurt	Frankfurt
15.11.19	Digital Health – Healthtech Start-ups from Singapore & Germany	Digital Health Germany	Cologne
19.11.19	Roadshow Cybercrime	Chamber of Industry and Commerce Düsseldorf	Düsseldorf
19.11.19	Moving Pictures: Just Internet "Platforms" Now?	deutsche medienakademie GmbH	Cologne
19.11.19	Event Innovation Forum	SM:ile	Vienna, Austria
25/26.11.2019	Nordic Domain Days 2019	NDD	Stockholm, Sweden
29.11.19	IT's Breakfast November – When a blind man cries – Stories from incident response and forensics	nrv.uniTS	Bochum
03/04.12.2019	Artificial Intelligence in Automotive	Euroforum Deutschland GmbH	Munich
03.12.19	Cyber Crime – a Threat for SMEs?!	Economic Development Hamm	Hamm
03.12.19	Datacloud Nordic	BroadGroup	Copenhagen, Denmark
04.12.19	TEC Telecom Market After the 5G Auction – Local Frequencies and a New Player!	TEC	Frankfurt
04.12.19	Future Locations Brandenburg? Digital Strategies for More Participation and Equal Opportunities in Town and Country	Regional Group Berlin/Brandenburg of the German Informatics Society	Berlin
04.12.19	IT Security Days NRW	Chamber of Industry and Commerce NRW	Hagen
several dates	DevCamp – WE PLAY TECH	DevCamp	various locations
several dates	IT Job Shuttle	young targets GmbH	various locations
several dates	Campus Hackathon	young targets GmbH	various locations
several dates	Aschaffenburg Lecture Series	mainproject digital	various locations



11. Memberships and Cooperations

11.1 Representation in Pivotal Committees

As an association, one of eco's most important tasks is the representation of its members' interests vis-à-vis politics and in both national and international committees. Along with the main office in Cologne, eco has its own Capital Office in Berlin and representation in Brussels, so that it can be in situ at all relevant political decision-making processes. eco represents the interests of its members in these committees and initiatives, among others:



11.2 Council for Digital Ethics

"To identify – and not overstep – the ethical limits of digitalisation in the interest of citizens": this is the motto of the Hessian Council for Digital Ethics. In 2018, the Council for Digital Ethics was established by the German federal state of Hesse under the leadership of its Minister President Volker Bouffier. Harald A. Summa, CEO of eco and DE-CIX is a member of the Council. The aim is to develop a charter for digital ethics as a guideline not only for the Hessian federal state government, but also as a format for the voluntary commitment of other actors. The Council is to address issues related to autonomous systems, artificial intelligence, digital ethics, data protection, data security and competition.



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At the second meeting of the Council in March 2019, Volker Bouffier handed over the chair to Hessian Digital Minister Prof. Kristina Sinemus, "in order to integrate the work of the Council even more strongly into the policy of digitisation". The Minister was very pleased "to now chair and coordinate the Council for Digital Ethics. Hesse is the only federal state to have set up such a body, thus laying the foundation for building a bridge between the digital and analogue worlds".

The Council for Digital Ethics aims to find future-oriented and innovative answers to current challenges. Harald A. Summa hopes that the body will engage in forward-looking, constructive and open discussions on how to shape digitalisation in a way that motivates people and addresses their fears and aspirations.

11.3 KI Bundesverband

Artificial intelligence (AI) is the key technology of digitalisation in the 21st century and has the potential to become a "game changer" for traditional business processes and models. Germany must now also position itself quickly and sustainably as a digital location if it wants to survive on the global AI market in the future. In addition to clarifying legal and social issues, important prerequisites for this are the resolute promotion of education and innovation in the field of AI.



Within the framework of a cooperation agreement officially signed in March 2019, eco and the German federal association for AI, the KI Bundesverband, want to tackle these issues together in the future and develop solutions offered by the industry. "Our experience in the fields of infrastructure, certification and auditing is perfectly complemented by the strong market expertise of the KI Bundesverband and its primarily application-driven members", explained eco Member of the Board Prof. Norbert Pohlmann.

A first concrete project that the two associations want to drive forward is the introduction of the new AI quality seal that the KI Bundesverband has developed: "A credible and transparent quality control for the ethical use of AI can become an important location factor for the European digital location. The AI Quality Seal is an important step here", said Jörg Bienert, President of the KI Bundesverband, and added: "I am pleased that eco will contribute its experience in the certification of products and services. Together with eco, we will create the framework for a beneficial and value-oriented application of artificial intelligence."

Further information is available at:
www.ki-verband.de



*Daniel Brans
CEO
networker NRW e.V.*

11.4 networker NRW

Further changes marked the year 2019 at networker NRW e.V. The association started the year with a new team and continued to build on the partnership with eco.

The associations accompanied each other at formats such as the 15th IT-Trends Security in Bochum's Ruhr Stadium, the 9th Internet Security Days, and the eco://kongress as well as the eco://award.

In addition to the road show Cyber Crime with the State Criminal Police Office (LKA) of North-Rhine Westphalia, networker NRW and eco presented further IT security breakfasts under the label of nrw.uniTS with chambers of

industry & commerce in the Rhineland and under the motto of "IT's Breakfast" at the joint member G DATA CyberDefense AG in Bochum. Networker NRW and EuroCloud Germany were also represented at the System House Congress in Dusseldorf. For the first time, there was a joint stand at the HANDWERK DIGITAL in Dortmund, where eco presented the idea of the Service-Meister project to the target group and member companies could also join the stand.

Also new in the calendar of events was the participation of a networker NRW joint stand with three member companies at the DIGITAL FUTUREcongress in Essen, where numerous member companies were also represented with their own stands and enjoyed preferential con-



ditions. Established for many years, but now with a regular accompanying exhibition, networker NRW presented almost 20 companies over three events at the Essen ComIn Talks. In addition to training and further education in times of digital change, the focus was on AI-based business models and the topic of digital leadership.

As license partner in NRW for ISIS12, the Information Security Management System in Twelve Steps, more than 20 consultants were qualified and certified via networker NRW in 2019.

New office in Essen-Rüttenscheid

The unexpected move to the Girardethaus in the Essen district of Rüttenscheid represented a major change. This was made necessary by the change of use of the long-standing technology centre ComIn. At the new location, networker NRW now has its own event area for up to 20 participants, which can also be made available to member companies.

networker NRW sees itself as the network of personal contacts around corporate IT in NRW. With its approximately 180 members, it is a platform for professional exchange, joint activities and information. It is the contact point for IT issues for all companies, institutions and media as well as a supporter in the



search for suitable IT service providers. In order to present its members and their topics, it organises a range of events formats; ranging from IT consultation hours and theme evenings to the "IT Trends" business congress.

Further information is available at:

www.networker.nrw

networker  **NRW**
Der IT Verband 



11.5 Cooperation Partners

eco cooperates intensively with a large network that actively supports the association's work. The partners include, among others:

- Afnic – Association Française pour le Nommage Internet en Coopération
- Allianz für Cyber-Sicherheit
- Bundesverband IT-Mittelstand e.V. (BITMi)
- CENTR – Council of European National Top Level Domain Registries
- CISPE – Cloud Infrastructure Services Providers in Europe
- CMS Garden e.V.
- Digitale Stadt München e.V.
- Fraunhofer-Verbund IUK-Technologie
- Hamburg@work e.V.
- i2Coalition – Internet Infrastructure Coalition
- ID4me AISBL
- IfKom – Ingenieure für Kommunikation e.V.
- KI Bundesverband e.V.
- Leuven Security Excellence Consortium vzw
- media:net berlinbrandenburg e.V.
- mib – Mittelstand in Bayern e.V.
- networker NRW e.V.
- Signal Spam
- TeleTruST – Bundesverband IT-Sicherheit e.V.

Further information on the partner network is available at:

www.eco.de/eco-partner



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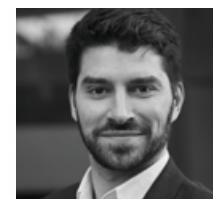
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Köln; FRESH INFO +++, Hennef; Frey – International Business Consulting, Heusweiler; Friedrich Böhm Consulting e. K., Bochum; FTK e.V. Forschungsinstitut für Telekommunikation und Kooperation, Dortmund; Fuchs macht, Odenthal; Fujifilm Recording Media GmbH, Kleve [G] G DATA CyberDefense AG, Bochum; G-Core Labs S.A., Luxembourg; G-FIT Gesellschaft für innovative Telekommunikationsdienste mbH & Co. KG, Regensburg; G&L Geißendörfer & Leschinsky GmbH, Köln; G3 Comms Ltd., United Kingdom; Gameforge 4D GmbH, Karlsruhe; Gandi SAS, France; GasLINE GmbH & Co. KG, Straelen; GBI HQ Coöperatief UA, Netherlands; GCI Network Solutions, United Kingdom; GÉANT Vereniging, United Kingdom; GELSEN-NET Kommunikationsgesellschaft mbH, Gelsenkirchen; Gemnet LLC, Mongolia; Genesis-Software GmbH, Bochum; Georg Rainer Hofmann – Unternehmensberatung, Lützelbach; GFN Glasfasernetz Olfen GmbH, Olfen; GFOS Technologieberatung GmbH, Essen; GG Software AS, Norway; GGEW net GmbH, Bensheim; Giants For Renting Computer Systems Company W.L.L., Kuwait; Gitoyen, France; Global Access Internet Services GmbH, München; Global Cloud xChange, Ireland; Global Switch FM GmbH, Frankfurt am Main; Global Village GmbH, Voerde; GlobalConnect A/S, Denmark; GlobalConnect NN A/S, Denmark; GlobalDots Services and Support GmbH, Berlin; GlobalNet JSC, Russian Federation; GLOBE Development GmbH, Münster; Globe telecom, Philippines; GlobeNet Cabos Submarinos America, Inc., United States of America; GNC-Alfa CJSC, Armenia; GoDaddy.com, LLC, United States of America; Google Germany GmbH, Hamburg; grandcentrix GmbH, Köln; GRASS-MERKUR GmbH & Co. KG, Hannover; greenSec GmbH, Unterhaching; gridscale GmbH, Köln; Gronau IT Cloud Computing GmbH, Berlin; GTT, United States of America; GTT GmbH, Frankfurt am Main; Gulfnet Communications Co., Kuwait [H] Haak GmbH, Heiligenhaus; HALLAG Kommunal GmbH, Austria; Hambach & Hambach Rechtsanwälte PartG mbB, München; Hamburg Top-Level-Domain GmbH, Hamburg; Hamburg@work e.V., Hamburg; Hasso Plattner Institut für Softwaresystemtechnik GmbH, Potsdam; Hawe Telekom sp. z o.o. w restrukturyzacji, Poland; Hees



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iWelt AG, Eibelstadt; IX Reach LTD., United Kingdom [J] JAGUAR NETWORK SAS, France; JasTel Network Co., Ltd., Thailand; JL-Automation GmbH, Bochum; Jobware GmbH, Paderborn; Johannes Gutenberg-Universität Mainz – Zentrum für Datenverarbeitung, Mainz; JSC Capital, Russian Federation; JSC Mediasoft Ekspert, Russian Federation; JSC RICT, Russian Federation; JSC Ufanet, Russian Federation; JSK Severnoe Volokno, Russian Federation [K] K-Opticom Corporation, Japan; Kakao Corp., Republic of Korea; Kalaydo GmbH & Co. KG, Köln; KAMP Netzwerkdienste GmbH, Oberhausen; Kantonsschule Zug, Switzerland; Kentix GmbH, Idar-Oberstein; Keppel Data Centres Holdings Germany GmbH, Frankfurt am Main; KEVAG Telekom GmbH, Koblenz; Key-IT Geßner-Steiner GbR, Bochum; Key-Systems GmbH, St. Ingbert; Keycom PLC, United Kingdom; keyweb AG, Erfurt; Kingston Technology GmbH, München; Klaus vom Ende – Dianet, Duisburg; KLESYS Consulting GmbH, Kalkar; Knipp Medien und Kommunikation GmbH, Dortmund; koelnkommunikationswerkstatt gmbh, Köln; KomMITT – Ratingen GmbH, Ratingen; Komro GmbH, Rosenheim; Konica Minolta Business Solutions Europe GmbH, Langenhagen; Korbank S.A., Poland; KPMG IT Service GmbH, Berlin; KPN EuroRings B.V., Frankfurt am Main; KPS digital GmbH, Dortmund; KraftCom, Austria; KSG Kraftwerks Simulator Gesellschaft mbH, Essen; KT Corporation, Republic of Korea; KT-NET Communications GmbH, Austria; KUMA IT-Solutions GmbH, Moers; KünzlerBachmann Directmarketing SIG AG, Switzerland; KVANT-TELECOM CJSC, Russian Federation [L] LANTA Ltd., Russian Federation; Larsen Data ApS, Denmark; Lasotel, France; LeaseWeb Deutschland GmbH, Frankfurt am Main; LeaseWeb Network B.V., Netherlands; legitimis GmbH, Bergisch Gladbach; LEITWERK AG, Appenweiler-Urloffen; Leitwert GmbH, Ingolstadt; LEMARIT GmbH – Business Domain Management, Harrislee; LEON Sp. z o.o., Poland; Lepida SpA, Italy; Liberty Global Services BV, Netherlands; Limelight Networks Inc. – Int'l HQ, United States of America; Link11 GmbH, Frankfurt am Main; LinkedIn Ireland Unlimited Company, Ireland; Links2U GmbH, Essen; Linode, LLC, United States of America;

LinzNet Internet Service Provider GmbH, Austria; Liquid Telecom, United Kingdom; LLC ArpNet, Russian Federation; LLC DataCenter M100, Russian Federation; LLC Equant, Russian Federation; LLHost Inc., Belize; LogoSoft d.o.o., Bosnia and Herzegovina; LSEC – Leaders in Security, Belgium; Luxembourg Online SA, Luxembourg; LuxNetwork S.A., Luxembourg; LWLcom GmbH, Bremen [M] M-net Telekommunikations GmbH, München; M247 Ltd., United Kingdom; m2m-Tailors, Lünen; Mabs4.0 Deutschland GmbH, Düsseldorf; Machine Zone, United States of America; macworx GmbH & Co. KG, Dortmund; Magna International (Germany) GmbH, Sailauf; maincubes one GmbH, Frankfurt am Main; Manx Telecom Ltd., United Kingdom; Marx & Marx Versicherungsmakler GmbH & Co. KG, Dortmund; Mastertel, Russian Federation; Mattner-Consulting, Dortmund; MAXnet Systems, Russian Federation; maxspot GmbH, Landau; McAfee Germany GmbH, Unterschleißheim; MDlink online service center GmbH, Magdeburg; Meanie, Netherlands; Media Exchange GmbH, Unterföhring; Media Network Services AS, Norway; media.net berlinbrandenburg e.V., Berlin; mediaBEAM GmbH, Ahaus; Mediainvent Service GmbH, Austria; Medianova Internet Hiz. Tic. A.S., Turkey; Megaspaces Internet Services GmbH, Landau; Melbikomas UAB, Lithuania; Menerga GmbH, Mülheim an der Ruhr; MEO – Serviços de Comunicações e Multimédia, S.A., Portugal; Metalliance ISP Systems e. K., Berlin; Metroset, Russian Federation; mgm technology partners GmbH, München; mib Mittelstand in Bayern e.V., Landsberg am Lech; Micron21 Datacentre, Australia; Microsoft Deutschland GmbH, München; Minds + Machines Group Ltd., United States of America; Minimax GmbH & Co. KG, Bad Oldesloe; Mitsubishi Electric Europe B.V., Ratingen; Mittwald CM Service GmbH & Co. KG, Espelkamp; MIVITEC GmbH, München; MK Netzdienste GmbH & Co. KG, Minden; MoBerries GmbH, Berlin; Mobicomnetworks, Mongolia; Mobifone Global JSC, Vietnam; Mobile Telecommunications Limited, Namibia; mobile.international GmbH, Kleinmachnow; Modern Solutions, Russian Federation; Mohawe Systemanalyse, Bergisch Gladbach; MOLDTELECOM S.A., Moldova; Monzoon Networks



(Deutschland) GmbH, Hohentengen; movingimage EVP GmbH, Berlin; msg systems AG – Niederlassung Essen, Essen; MSK-IX JSC, Russian Federation; MTS PJSC, Russian Federation; MTX Services s.à r.l. Linkey, Luxembourg; Multimedia Polska S.A., Poland; MVM NET Ltd., Hungary; myLoc managed IT AG, Düsseldorf; myNET gmbh, Austria; Myra Security GmbH, München; mywire Datentechnik GmbH, Mannheim-Käfertal **[N]** n@work Internet Informationssysteme GmbH, Hamburg; Naitways, France; National Research Centre "Kurchatov Institute", Russian Federation; Nauka-Svyaz Ltd., Russian Federation; Naukowa I Akademicka Siec Komputerowa (NASK), Poland; Naver Business Platform Europe GmbH, Frankfurt; NDIX bv, Netherlands; neomatt GmbH, Essen; neotel DOO, Macedonia; NERIM SAS, France; NESSUS GmbH, Austria; Net at Work GmbH, Paderborn; net services GmbH & Co. KG, Flensburg; net.DE AG, Hannover; NET1 Ltd., Bulgaria; NetAachen GmbH, Aachen; NetArt Telekom sp. z o.o., Poland; NetAssist Ltd., Spain; NetByNet Holding LLC, Russian Federation; NetCologne GmbH, Köln; NetCom BW GmbH, Ellwangen; Netcom Kassel Gesellschaft für Telekommunikation mbH, Kassel; netcup GmbH, Karlsruhe; NetEarth UK Ltd., United Kingdom; Neterra Ltd., Bulgaria; NETHINKS GmbH, Fulda; NetIX Communications, Bulgaria; NetLan, Bulgaria; Netorn LLC, Russian Federation; netplace Telematic GmbH, München; NETPLANET GmbH, Austria; netplus.ch, Switzerland; Netrouting, Netherlands; Netsign networks GmbH, Berlin; Netskope UK Ltd., United Kingdom; NetUSE AG, Kiel; Network Platforms, South Africa; networker NRW e.V., Essen; Networx-Bulgaria Ltd., Bulgaria; Neue Medien Münnich GmbH, Friedersdorf; Neumann Consulting, Marienmünster; Neupart GmbH, Ratingen; Neuronnexion, France; neusta software development West GmbH, Essen-Rellinghausen; Neustar, Inc., United States of America; New Continuum Holdings, United States of America; Newsletter2Go GmbH, Berlin; Nexeon Technologies, Inc., United States of America; nexiu GmbH, Wehrheim; next layer Telekommunikationsdienstleistungs- und Beratungs GmbH, Austria; nextindex GmbH & Co. KG, Bochum; nfon AG, München; NFOrc Entertainment B.V.,

Netherlands; nGENn GmbH, Wehrheim; nic.at GmbH, Austria; NMMN New Media Markets & Networks IT-Services GmbH, Hamburg; Nokia Solutions and Networks GmbH & Co. KG, München; noris network AG, Nürnberg; NOVATEL EOOD, Bulgaria; NRM Netzdienste Rhein-Main GmbH, Frankfurt am Main; NTT Europe Ltd. Head Office Europe, United Kingdom; NTT Germany AG & Co. KG, Bad Homburg; numetris AG, Essen; NürnbergMesse GmbH, Nürnberg; NYNEX satellite OHG, Darmstadt **[O]** Oath (EMEA) Limited, Ireland; OBTEL Ltd., Russian Federation; OCULD Solutions GmbH, Berlin; ODN OnlineDienst Nordbayern GmbH & Co. KG, Fürth; OEV Online Dienste GmbH, Düsseldorf; OFIGO GmbH & Co. KG, Essen; oja.at GmbH, Austria; Omani Qatari Telecommunications Company SAOG (Ooredoo Oman), Oman; OMCnet Internet Service GmbH, Quickborn; One.com, Denmark; oneclick AG, Switzerland; ONECOM Global Communication Ltd., United Kingdom; Online Solutions Group GmbH, München; Onstage Online GmbH, Austria; OODRIVE Germany GmbH, München; OOO "TK Telecom", Russian Federation; Ooredoo Qtel (Qatar Telecom), Qatar; Oosha Limited, United Kingdom; Opal Telecom, United Kingdom; Open Peering B.V., Netherlands; Open Systems Germany GmbH, Düsseldorf; Open-Xchange AG, Olpe; OpenCarrier eG, Düsseldorf; OpenDNS, United States of America; Opteamax Infrastructure GmbH, Rheinbreitbach; Orange Romania SA, Romania; Oriental Power Holdings Ltd., China; ORTHOS Consult GmbH & Co. KG i.G., Essen; OSN Online Service Nürnberg GmbH, Nürnberg; OTEGlobe S.A., Greece; OVH SAS, France; OXSEED Logistics GmbH, Bielefeld **[P]** Pacnet Global Headquarter Singapore, Singapore; Pakistan Telecommunication Company Limited, Pakistan; Pallas GmbH, Brühl; Palo Alto Networks GmbH, München; Paltel Palestine Telecommunications Company, State of Palestine; Panvision GmbH, Essen; Parks Informatik GmbH, Essen; PartnerGate GmbH, München; PCCW Global Ltd., Hong Kong; PE Besman Anastasia Aleksandrovna, Belarus; Peering GmbH, Berlin; Penta Infra, Netherlands; Perdix GmbH, Bochum; Peter Rauter GmbH, Austria; Petricore Systems UG (haftungsbeschränkt), Düsseldorf; PFALZKOM GmbH,

Ludwigshafen; Phibee Telecom SARL, France; PIN Co. Ltd., Russian Federation; pir.org The Public Interest Registry, United States of America; PJSC Datagroup, Ukraine; PJSC MegaFon, Russian Federation; plaarconsult – Unternehmens- und IT-Beratung, Erfstadt; plan b digitation GmbH, Berlin; PLDT Global Corporation, Philippines; plentyLeads GmbH, Köln; Plus.line AG, Frankfurt am Main; Plusnet GmbH, Karlsruhe; PlusServer GmbH, Köln; Polkomtel Sp. z o.o., Poland; pop-interactive GmbH, Hamburg; PORTLANE AB, Sweden; portrix Systems GmbH, Hamburg; Poznan Supercomputing and Networking Center PSNC, Poland; PR-TELECOM Zrt., Hungary; Premiere Conferencing Ireland Ltd., Ireland; Previder BV, Netherlands; Prime Telecom S.r.l., Romania; PrimeTel PLC, Cyprus; PRIOR1 GmbH, Sankt Augustin; Private Layer, Panama; Probe Networks, Merzig; Profineon GmbH, Freisbach; Proleagion GmbH, Wiesbaden; provalida GmbH, Bochum; Proximus Luxembourg S.A., Luxembourg; PSW GROUP GmbH & Co. KG, Fulda; Purtel.com GmbH, München **[Q]** Q.One Technologies GmbH, Essen; Quickline AG, Switzerland; Quines Capital GmbH, Düsseldorf; Qwest Germany GmbH, Frankfurt am Main **[R]** R-KOM GmbH & Co. KG, Regensburg; R-PHARM, Russian Federation; r-tec IT Security GmbH, Wuppertal; RiT GmbH, Bochum; RACCOM AD, Bulgaria; Rackspace Germany GmbH, München; Ralf Bender RB C+C, Mühlthal; Ramtel Ltd., Russian Federation; Rascom CJSC, Russian Federation; Ratiodata GmbH, Münster; ratiokontakt GmbH, Hallstadt; Raucamp Consulting, Wülfrath; RCS&RDS S.A., Romania; Realtime Register B.V., Netherlands; Rechenzentrum der Stadt Wien GmbH, Austria; Rechtsanwalt Dörre, Berlin; Redder Telco SRL, Italy; regio[.NET] Upstream GmbH & Co. KG, Ebersburg; regiodot GmbH & Co. KG, Essen; Regionet Schweinfurt GmbH, Schweinfurt; RegionSvayz LTD., Russian Federation; RelAix Networks GmbH, Aachen; Rendszerinformatika Zrt., Hungary; RENTALOAD, France; resch media – web your business, Dortmund; RESET LLC, Russian Federation; retarus GmbH, München; Retelit Digital Services S.p.A., Italy; RETN GmbH, Frankfurt am Main; rh-tec Business GmbH, Bad Oeynhausen; Rickert

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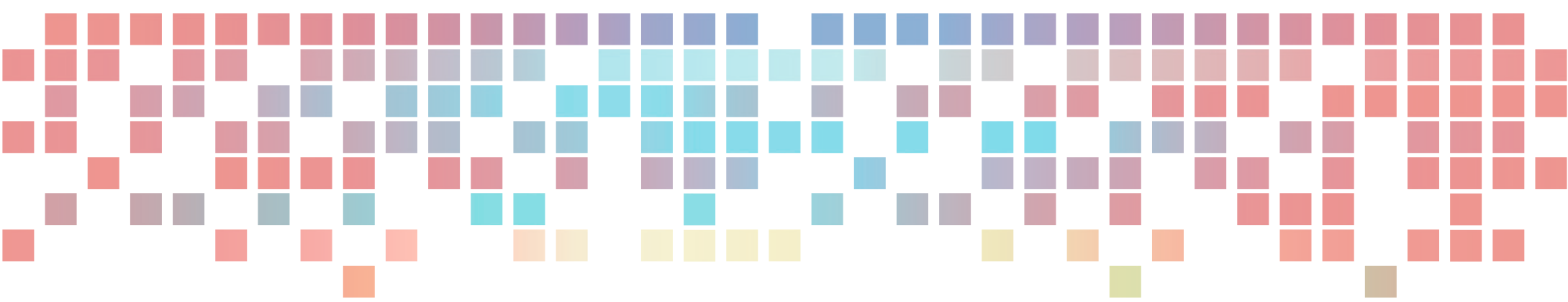
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Telecom Namibia Ltd., Namibia; Telecom TZ Ltd., Russian Federation; Telecom-Birzha, LLC, Russian Federation; TeleData GmbH, Friedrichshafen; Telefónica Germany GmbH & Co. OHG, München; Telehouse Deutschland GmbH, Frankfurt am Main; Telehouse EAD, Bulgaria; Telekom Malaysia Berhad, Malaysia; TELEKOM ROMANIA COMMUNICATIONS S.A., Romania; TELEKOM SLOVENIJE d.d., Slovenia; Telekom Srbija Business Customer Division, Serbia; TelemaxX Telekommunikation GmbH, Karlsruhe; TeleNet, Russian Federation; Telenet Solution Ltd., Russian Federation; Telenor Global Services AS, Norway; TeleTrust – Bundesverband IT-Sicherheit e.V., Berlin; Telia Carrier Germany GmbH, Frankfurt am Main; Teliko GmbH, Limburg; Telkom SA SOC Ltd., South Africa; Telxius Cable España, S.L., Spain; TENET Scientific Production Enterprise LLC, Ukraine; Tenzir GmbH, Hamburg; tetraguard systems GmbH, Euskirchen; teuto. net Netzdienste GmbH, Bielefeld; The Cloud Networks Germany GmbH, München; The unbelievable Machine Company GmbH, Berlin; Thomsen Trampedach GmbH, Switzerland; Thüga SmartService GmbH, Naila; Thüringer Netkom GmbH, Weimar; TI Sparkle Germany GmbH, Frankfurt am Main; TIMOCOM GmbH, Erkrath; TIRASTEL GmbH, Wiesbaden; Titan Networks Internet & Telecommunications Service Providing GmbH, Hofheim am Taunus; TMR – Telekommunikation Mittleres Ruhrgebiet GmbH, Bochum; TMT GmbH & Co. KG, Bayreuth; toplink GmbH, Darmstadt; TOT PUBLIC COMPANY LIMITED, Thailand; Totemo AG, Switzerland; TrafficPlex GmbH, Bremen; Trafo2 GmbH media engineering, Essen; Train Consult Peter Gross, Essen; Transatel, France; TRANSDATA, Norway; Transworld Associates (Pvt) Ltd., Pakistan; TRC FIORD, LLC, Russian Federation; Treml & Sturm Datentechnik GmbH, Offenbach; Trivago N.V., Düsseldorf; tronet GmbH, Troisdorf; Trovent Security GmbH, Bochum; TrunkMobile JSC, Russian Federation; Trusted Network GmbH, Unterschleißheim; Türk Telekom International HU Kft., Hungary; Turk Telekomunikasyon A.Ş., Turkey; TÜV Rheinland Akademie GmbH, Dortmund; TÜV Rheinland Cert GmbH, Köln; TV1 GmbH, Unterföhring; Tvingo Telecom, Russian Federation; Twitch Interactive Inc.,

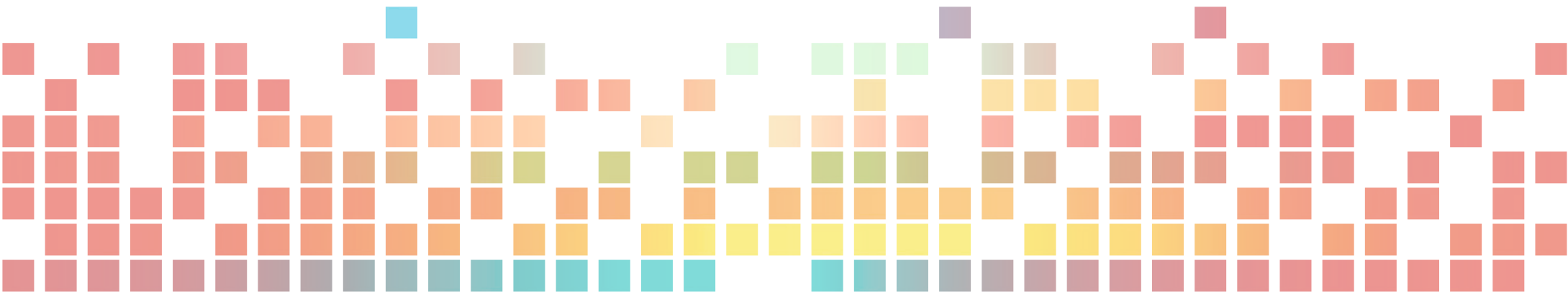
United States of America; Twitter International Company, United Kingdom; TWL-KOM GmbH, Ludwigshafen am Rhein; TYPO3 Association, Switzerland [U] UAB Bitė Lietuva, Lithuania; UAB Nacionalinis telekomunikacijų tinklas, Lithuania; Uber Germany GmbH, Berlin; UBISecure Germany, München; Ucom CJSC, Armenia; UIMC Dr. Voßbein GmbH & Co KG, Wuppertal; Umniah Mobile Company, Jordan; Union Betriebs-GmbH, Rheinbach; Uniontel ZAO, Russian Federation; unique projects GmbH & Co. KG, Duisburg; Unicon GmbH, München; united-domains AG, Starnberg; Universität zu Köln – Seminar für Medien- und Technologiemanagement, Köln; Upcloud Ltd., Finland; URAL WES CJSC, Russian Federation; USU Software AG, Karlsruhe; uvensys GmbH, Linden [V] Vainah Telecom JSC, Russian Federation; Varonis Systems (Deutschland) GmbH, München; VASCO Data Security International GmbH, Switzerland; vB Internet GmbH, München; VdS Schadenverhütung GmbH, Köln; Vectra S.A., Poland; Veeam Software Group GmbH, München; vente-privee.com, France; Vereinigte Stadtwerke Media GmbH, Nusse; VeriSign Netherlands B.V., Netherlands; Verizon Deutschland GmbH, Dortmund; Veronym Holding GmbH, Berlin; Viatel, Frankfurt am Main; Vietnam Telecommunications International (VNPT-I), Vietnam; Viettel Telecom Corporation International Business Center, Vietnam; ViewQwest Private Limited, Singapore; VimpelCom PJSC, Russian Federation; Virtual Internet (UK) Ltd., United Kingdom; VISTEC Internet Service GmbH, Wiesbaden; VIVAI Software AG, Dortmund; VKontakte Ltd., Russian Federation; VL-telecom Ltd., Russian Federation; Vodafone BW GmbH, Köln; Vodafone Enterprise Germany GmbH, München; Vodafone GmbH, Düsseldorf; Vodafone Hessen GmbH & Co. KG, Köln; Vodafone Kabel Deutschland GmbH, Unterföhring; Vodafone NRW GmbH, Köln; VODAFONE Ukraine, Ukraine; Vodafone West GmbH, Köln; Vogel IT-Medien GmbH, Augsburg; Voxility GmbH, Frankfurt am Main; VSE NET GmbH, Saarbrücken; Vshosting s.r.o., Czech Republic; VTEL GmbH, Austria [W] W Kubik GmbH, Bochum; W-IX Ltd., Russian Federation; Wagner Group GmbH, Langenhagen; warescale network, Goch; Webdiscount GmbH & Co. KG,

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