



# annual report

2018

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# AMS-IX in a nutshell

AMS-IX was established in Amsterdam, the Netherlands, in the early nineties to facilitate the exchange of Internet traffic between IP networks. This ‘peering’ allows networks to offer stable, fast and cost-effective Internet services to end-users and business customers.

AMS-IX serves a diverse, unique customer mix: Internet service providers (ISP’s), mobile operators, content providers, hosting and cloud companies, application providers, Content Delivery Networks (CDN’s), gaming companies, companies specializing in financial services and other Internet-related businesses.

AMS-IX believes strongly in the collaborative model that governs our work with other industry parties. For twenty-four years, this model has enabled us to strengthen digital infrastructure in the Netherlands and around the world, positively impacting billions of people.

# A brief history of peering

**The origins of the Internet date back to 1969. In this year, ARPANET was launched, which linked universities' computers across the USA and delivered end-to-end network services to users. Over the years, more networks came about, but there was no real interconnection between them. Why not? Simply because there was no way of reconciling different networks' Acceptable Use Policies without introducing a significant amount of bureaucratic hassle.**



This led managers at the US Computer Science Network (CSNET), which began operations in 1981, to come up with the concept of 'peering'. In essence, peering is a type of standards-based interconnection governing the logistics of traffic exchange that doesn't involve explicit accounting. This, in turn, eventually allowed Internet service providers (ISPs) and content delivery networks (CDNs) to exchange Internet traffic between their networks.

These networks could be physically linked at Internet Exchange Points (IX or IXP). Peering is based on mutual benefits for both parties. It makes the Internet more affordable, more secure and faster and is mostly done without any money changing hands.

Each network connected to an Internet Exchange, such as AMS-IX, may peer with any other connected network, allowing any two connected parties to exchange 'packets' of data. This data is sent to a specific IP address via a router. An exchange operator, such as AMS-IX, only exchanges data within its own metropolitan area. AMS-IX in Amsterdam doesn't link directly to its locations in Hong Kong, Curaçao, Chicago, India and San Francisco. Its customers take care of this themselves. AMS-IX resellers can link to exchanges by providing ports wherever they have a network available. End users don't connect directly to Internet Exchanges. Instead, they rely on the services of Internet Service Providers (ISPs) or telecom companies to do that for them. Accessing multiple networks directly at the Internet Exchange, instead of making several network 'hops' through other parties, improves network performance.

Peering allows parties to decrease network costs, improve network performance, be more autonomous and make their network more redundant.

## **The road ahead...**

Public peering at IXs is changing fast. Drivers include fast-growing IP traffic, lower revenues, rapidly evolving technologies and commercial competition. Innovation, cooperation, partnerships and the ability to create tailor-made solutions for specific audiences will become increasingly important!



PETER VAN BURGEL  
CEO

Similar to 2017, external circumstances influenced our performance in 2018, like consolidation of parties in our ecosystem, integration of services and strong competitors entering our markets with new propositions and additional commercial services. For Amsterdam we were able to decrease our prices per January 1st 2018 and still show a modest revenue growth to EUR 21.5 million. AMS-IX Caribbean and Hong-Kong continue to strengthen their market positions by extending into additional locations and introduce new services.

# Full speed ahead

The AMS-IX India model has shown that sharing knowledge, deliver NOC services and supplying software to our local partner Sify not only contributes to brand awareness, but also results in attracting new parties to AMS-IX's home market in Amsterdam. AMS-IX India is growing steadily and has become an important player in the region.

USA Chicago and Bay Area did not show sufficient revenue growth, therefore both Management Team and Supervisory Board focussed on finding a solution for existing customers in the USA supplying suitable services at similar levels of quality. During the Q4 board meeting, the Supervisory Board adopted the Management Team's proposal to liquidate the US activities unless a suitable party to facilitate customers in the USA was contracted by March 2019.

At the end of 1st quarter 2019, AMS-IX signed an agreement with Epsilon to acquire the majority of the assets of AMS-IX USA, Inc. In order to continue the IX services, Epsilon in turn contracted AMS-IX IX-as-a-Service, ensuring continuity of services and quality for the US customers. The remainder of the liabilities will be liquidated by 3rd quarter 2019. In the annual accounts for 2018, a provision of the total amount of USD 700.000 has been taken for the liquidation of AMS-IX, inc.

We (the Management Team) and a number of assigned people in the organisation implemented the new strategy as adopted by the Supervisory Board and the General Meeting in December 2017, amongst other things leading to the launch of new services such as EasyAccess and IX-as-a-Service (IXaaS).

## Team Developments

In 2018, we received the ISO certification which -amongst other things-means we have documented all of our HR processes. This provides a sound foundation to continue to invest in our people. That investment also shows through the training curriculum and the establishment of a Product Management department. We also contracted a new Health and Safety provider- Arbobotler-, that provides tailor-made solutions around (prevention of) absenteeism. Last but not least, we would like our employees to continuously be involved in the development of AMS-IX which translated into starting to prepare for establishing the Works Council and the Core Team consisting of key representatives of the different teams driving change. In 2019, many of these activities will continue as we constantly invest in our people and drive for personal growth and development.





Corporate Governance

AMS-IX places great value on its corporate governance structure. This provides the organization with a significant degree of independence and neutrality, which contributes to our growth, continuity and global expansion.

In this section, the corporate governance structure is explained in greater detail.

Governance Structure

AMS-IX consists of three separate legal entities: the AMS-IX Association, the AMS-IX limited Company (Besloten Vennootschap or B.V. in Dutch) and its subsidiary AMS-IX USA Inc. The Association is the single shareholder of the Limited Company and the organization and its staff are incorporated in the Company.

The Executive Board of the Association consists of five people and also acts as the Supervisory Board of the Company.

AMS-IX The Company

The Company is empowered to take the majority of the decisions, within the boundaries set by annual and long-term plans approved by the Association and/or Supervisory Board. During board meetings, the Supervisory Board validates plans are executed according to budget and business plan and approves the annual plans and budgets as well as items outside the scope of management control. The Company Management Team reports to the Supervisory Board on a quarterly basis.

Chief Executive Officer of the Company is Peter van Burgel.

He holds this position since February 1st, 2018. Mr. van Burgel chairs the Management Team, which further consists of a CTO, CCO and CFO. Furthermore, the Company consists of technology, commercial and financial departments, as well as human resource and support staff.

Next to operating the Internet Exchange in Amsterdam, the AMS-IX Company also operates AMS-IX Caribbean in Curaçao, AMS-IX India in Mumbai and AMS-IX Hong Kong. At the end of 2018 the company AMS-IX consists of 57 internal people, on top of that the 24/7 first line NOC support is outsourced to a 3rd party.

Risk Management

Main risks for AMS-IX are security and finance related. As to security, AMS-IX performs external audits on a regular basis and potential risks found during audits are subsequently mitigated according to the ISO certification and recommendations by the auditors. As to financial risks we refer to risks and mitigations mentioned on pages 14 and 15 of annual accounts.

2018 Financial Developments

AMS-IX continues to develop its home market, Amsterdam as well as the international business through existing Points of Presence (PoPs) in North America, the Caribbean, India and Hong Kong.

Our Internet Exchange in the Caribbean delivers a positive cash flow, whilst India and Hong Kong are performing at break even.

The activities required for liquidation of AMS-IX USA Inc. will continue in 2019. Therefore, we have taken a provision for USD 700,000 to be able to fulfil our obligations whilst the activities are wound down.

AMS-IX Amsterdam has shown steady growth, and although the revenue did not meet expectations as projected in budget, a positive financial performance before tax is secured due to active monitoring of spend, savings related to previous investments in DWDM equipment and renegotiating supplier contracts.

AMS-IX ORGANISATION STRUCTURE

AMS-IX bodies	Associations	Corporation
Meeting acts as	General Assembly	Shareholders meeting
Board acts as	Executive Board	Supervisory Board
Management acts as	Management	



As a result, a significant portion of required investments to extend the ecosystem are financed by positive cash flow generated in AMS-IX's home market. These developments lead to a consolidated financial profit before tax of EUR 2.1 million for the year 2018. This profit shows large improvement compared to the profit before tax of EUR 1.1 million in 2017 and compared to the budgeted profit before tax for 2018 of EUR 1.0 million.

Even though we took a provision to liquidate remaining obligations in USA, stringent (cost) control and renegotiation of existing contracts continued to contribute to this result. The consolidated results after taxes ends up in a profit of EUR 0.8 million for the year 2018 (2017: loss of EUR 1.5 million), which is EUR 0.4 million higher than we budgeted. Our equity ratio of 2017 has increased to 48.4% (2017: 36.7%), which represents a very healthy financial position.

Overall, the business continues to grow and remains adequately funded. In 2019 our focus is to deliver on our strategy, implementing new services and extending into new markets, but also finish the optimization of our internal processes and implementation of ERP. Based on the sound financial results for 2018, per January 2019 an extensive price decrease is available for all our customers.

"We would like to thank the AMS-IX Supervisory Board and our members for their continued support over the past year."

Amsterdam, May 16th, 2019

- **Peter van Burgel**  
Chief Executive Officer





# International Presence

12

CHICAGO  
3 PoPs

BAY AREA  
4 PoPs

CURAÇAO  
1 PoP

AMSTERDAM  
14 PoPs

6  
IXPs

HONG KONG  
1 PoP

MUMBAI  
2 PoPs

50+  
partners

900+  
connected parties

350+  
cities

500+  
colocations

13



# Strong focus on the product and potential new markets



JESSE ROBBERS  
CCO

Although we were expecting 2018 to be a difficult year, everything worked out fine in the end, due to the fact that the market is changing rapidly.

In January 2018, we launched the first 'Focus on the Product' strategy. The strategy, approved during MORE-IP in May, in our General Meeting, was connected to three main pillars:



**1. Evaluate current products and services.** Our intention was (and is) to help our customers better utilize their port, open up our ecosystem, show what kind of networks are connected to us, share and promote services and make it easy to connect through the AMS-IX ecosystem.



**2. Explore new markets.** For this we introduce the IX-as-a-Service proposition. This new service helps deploy new locations with partners. We had been taking questions from all over the world regarding deployment of a new exchange in a different country and we built a white label internet exchange proposition. This offers the possibility to deploy with a local partner in a specific country. So far, we've seen a great deal of interest from the Middle East, Asia and Africa.



**3. Develop new products and services.** We aim to extend the reach of connecting to AMS-IX, and therefore added the EasyAccess proposition. With EasyAccess, we are enabling connectivity for regions outside of the Amsterdam Metro region.

The 1st and 3rd point were executed in 2018 and the 2nd one is scheduled for 2019. When Peter joined the organization as new CEO in Q2, we translated the strategy into what needs to be done internally - enhancing internal processes and the way we handle sales and marketing, and restructuring the organization - so we can move forward. Since our intention was, and is, to offer new services and open up to new markets and customers, we also decided to introduce a better provisioning system. This became another major focal point, initiated in 2018, which will go live in 2019. The new provisioning system will enhance our billing, offer greater flexibility with regard to enabling applications and third-party services and also provide us with more development opportunities at product level.

Having new services up and running means we also need to look at new markets more closely. In 2018 we already saw customers coming in from new markets, such as the enterprise market, particularly fast-moving consumer goods, logistics and payment services.





In 2019 we will look into ways of communicating who we are, and what we can do to attract more customers from these markets and offer them solutions for improving their business applications. With EasyAccess, we are making it easier for mid-sized and smaller businesses to connect to us, and with the introduction of IX-as-a-Service we are targeting international markets. It is important to look at our customer base and enable, or make visible, the list of applications that we have connected to our platform, as this will attract other customers.

On another level, we re-evaluated our locations in May 2018, as part of our strategy. Our conclusions resulted in the difficult decision to decommission our New York location. The site was decommissioned during Q2 2018, and we would like to thank all our customers for their trust in AMS-IX New York. On the bright side, traffic in Chicago is growing and since the end of 2018 we have seen new traffic peaks almost every month, mainly as a result of changing traffic patterns.

Looking at India, we have expanded our footprint in Mumbai by opening a Point of Presence (PoP) in GPX Data Centre in collaboration with our partner Sify. This was the outcome of re-evaluating our services. Traffic in India is growing steadily and we expect additional growth. In Hong Kong, we carried out a number of joint marketing activities in collaboration with HGC, with good results. Regarding Curaçao, we initiated the deployment of a new Data Centre- Blue NAP- which will be completed by end of Q1 2019. Many new developments are taking place in the Caribbean and South America, where a large number of new sea cables are being built. New traffic patterns are appearing, bringing a great deal of potential as a result of emerging markets. Hopefully, we can make the most of these developments by entering the new data centre.

## Looking ahead to 2019

In an attempt to further optimize utilization of our port, we will be working on extending our reach. For instance, with EasyAccess we will focus on bringing in new customers from other data centres in Europe and we will do the same with the help of our resellers in Asia and South America.


## “With IX-as-a-Service, we will focus on Middle East and Asia.”

We also plan to focus on the enterprise market and try to learn from it. In 2018 we had some successes with the first closed user group for a local city, but we will develop further in 2019, by better positioning ourselves in the market and finding out whether there is room for improvement in the Cloud Interconnect proposition we have in place. We will also offer additional support from our provisioning service team to people who have no peering experience.

In the area of Marketing, we will be celebrating 25 years of AMS-IX in 2019. We will also continue organizing and participating in industry events, but also plan to focus on product marketing.

# Clear targets and enhanced strategy

## Amsterdam

 In 2018 we increased capacity far above our target, reaching 31.5 Tbps capacity connected (from 26.1 Tbps in 2017). Quite impressive!

We also witnessed a significant uptake of our mobile peering services (GRX and I-IPX). An increase in peak traffic had already been noted in 2017, when the European Commission agreed to put an end to roaming charges within EU countries. In 2018, awareness that these charges had disappeared grew, resulting in increased end-user roaming. This, in turn, increased port utilization for GRX customers, mainly by doubling their capacity levels in order to cope with the increased usage. This led to a peak traffic of 146 Gbps in June 2018.

In April 2018, we launched a new service, EasyAccess. In an attempt to make it as easy as possible for parties to connect, we expanded our reach through dedicated transport provider(s). We immediately managed to add a healthy number of customers and decided to make the service available across more European countries. Currently, customers can connect to AMS-IX from 150+ European locations. However, in 2019 we will continue to focus on further expanding the service.

As far as our team is concerned, Elena Ilic, our new Business Development Manager, joined us in May and proved to be a great addition. Overall, our main focus in 2018 was bringing in new customers.

## Hong Kong

In 2018 we saw a good uptake of new connected customers (+11). We successfully added new resellers like Epsilon, and we are planning to add up more. In order to extend our reach and attract more customers, we want to be able to offer our services from more data centres in Hong Kong. We also began to offer the Inter-IPX product in 2018, which was met with positive reactions. At present, our goal is to increase the number of customers by also attracting customers from new segments, e.g. Enterprises.

## India

In Q2 2018 we deployed a new PoP: GPX Mumbai data centre. Most of the customers are present here and we noticed significant growth throughout the year (+25).

In 2019, we plan to be present in more locations and we expect growth to continue.



FROM LEFT TO RIGHT: ERIK VERHOEF, ELENA ILIC, ONNO BOS

## Looking ahead to 2019

In 2019, we will continue to focus on expanding our customer base and increase capacity. To enhance our planning and have a more efficient approach, we will re-assign the existing and targeted new markets amongst ourselves. As a result, we will be able to invest more time in investigating and reaching out to new segments (such as the Enterprise market or Financial Institutions). We will also continue with the introduction of new services, as well as expand EasyAccess globally. An additional major project is IX-as-a-Service, where we offer to operate and manage an internet exchange on behalf of another party, which will be introduced in Q1 and will be expanded further throughout the year.

- Onno Bos



# Exploring and expanding



**NICO SCHEPER**  
CARIBBEAN DIRECTOR

**Q** At AMS-IX Caribbean, we had a busy year. 2018 was taken up by organizational tasks, required to facilitate additional traffic growth. This took longer than anticipated. To be more specific, the first task was related to members that needed to grow their port capacity. This proved time-consuming, due to the fact that our content providers, who are members at the exchange, were busy expanding their capacity.

In 2018, both Google and Akamai expanded their platform capacity – which includes port as well as caching platform capacity. The expansion allows them to increase the volume of content cached at the exchange. Once this had been completed over the course of the year, more content became available to members. In turn, this initiated additional port capacity growth for members. In short: platform capacity increased, port capacity increased and as of now, we should see traffic continue to grow once again.

On a different note, I visited and participated in a number of Caribbean and Latin American events: LACNIC and LAC-IX, the LAC Peering forum, and Capacity Caribbean. These events are very important to us, as this is where we come into contact with our existing - as well as potential new - customers, stakeholders, and partners.

These events provide the ideal context for our business and we will continue to be present at all of them. As Vicepresidente (Vice President) of LAC-IX (The Association of the Internet Exchanges in the Latin America and Caribbean region) it is important to state that at LAC-IX we also follow the same logic by creating a platform where all IX's come together and have an opportunity to meet with each other, exchange feedback and expand their professional network.

**“For 2019, we also plan to work with our partners, customers and stakeholders to determine whether we can realise connectivity to Brazil.”**

## Looking ahead to 2019

As the preconditions for traffic growth have been met in 2018, we should see traffic increase by 25% in 2019. For 2019, we also plan to work with our partners, customers and stakeholders to determine whether we can realise connectivity to Brazil. We consider Brazil a new market for AMS-IX Caribbean and we are very much committed in working with our partners to explore the feasibility of connecting this market. However, ‘exploring feasibility’ may take time. If our customers feel this is a business case for them, then we would like to facilitate that.

Lastly, a major highlight for 2019, is our expansion to a second PoP: the Blue NAP Data Centre. This PoP is scheduled to go live during the first quarter of 2019.

# New Approach



**PHIL MATTE**  
PEERING FACILITATOR

 When we look back on 2018, we see that we are gaining traction at our exchange in Chicago, where we doubled traffic. The total number of connected parties in Chicago remains very consistent. However, although customer numbers have stabilized, there has been a significant increase in traffic. At the beginning of 2018, peak traffic was at about 40 Gb/s and we have almost tripled that, hitting 112 Gb/s in January of 2019.

In December of 2018, our four largest traffic users put in orders to scale up their connections, from doubling the number of ports to a tenfold increase. I'm happy to report that momentum is increasing, especially with these new orders, and I can't wait for the new connections to go into production. The growth may well prove exponential.

We're also optimistic that we'll be seeing this type of growth in our Bay Area location, where traffic also tripled in 2018. Here, we went from around 13 Gb/s in January 2018 to a peak of 35.48 in December.

In 2018 the market around San Francisco was a little more competitive than the year before - Silicon Valley is a particularly competitive environment! The Bay Area has large numbers of smaller 1 Gb users and overall customers and port numbers didn't significantly increase, but traffic levels clearly did.

Of course, there have been some challenges in 2018. Once US companies hit a certain level of traffic, many believe that opting for a private connection over a private network is more efficient, which places them outside our reach. In the USA, a big challenge is getting organisations to move beyond discount pricing and move to 1G through to 100G connections. We'll be focusing strongly on this challenge going forward. In 2018, we also went ahead with our strategy of leaving less productive data centres in New York

In 2019, we will be reevaluating our locations in US as a whole. As proposed by the Management Team, we will proceed with liquidating the US activities, unless a suitable party to facilitate customers in the USA is contracted by March 2019.



# EasyAccess and the year of innovation

 **Aleksandar:** I started working as a Product Manager in March 2018 and Shubham joined in July. I moved to Product Management from the Business Development department. Together with Shubham, most of the year was spent setting up the department and the way of working, and coming up with a good planning for 2019. This focuses on improvements to our existing services as well as improvements, transformations and innovations of internal projects and processes. A major highlight for us was the launch of EasyAccess: a simple solution to connect remotely to our Amsterdam platform. EasyAccess bundles IP transport and AMS-IX peering port into a single cost efficient and robust package.

In the last quarter of 2018, we expanded EasyAccess to a number of European locations. We started with The Netherlands as a test case, and made EasyAccess available in more than 18 data centres in which we had no physical presence. Results were good, and we expanded to more European locations, now totaling more than 160. In 2019, we'd like to improve and expand this service even further.

**Shubham:** 2018 was a learning phase for me. I spent a lot of time learning who our customers are, what our products do and how we are structured internally. Together with Aleksandar, we focused on setting up the department and planning for 2019.

## Looking ahead to 2019

For the largest part of 2018, we were in a reactive mode. In Q4, towards the end of the year, we took control of the situation, and launched 2019 with a massive price reduction, thereby becoming more proactive. For our department, 2019 represents a year of innovation, as well as an introduction to new, key services.

Our focus will be divided across three areas:



SHUBHAM MEHROTRA AND ALEKSANDAR MITROV  
PRODUCT MANAGERS



**1.** Improvements to our existing business and products (making sure they are efficient, performing well, and adding functionality for our end-users)



**2.** Innovation (by creating partnerships with different providers to make sure that we are offering market-competitive services, as well as by focusing on internal innovation in order to be able to achieve more with the same resources)



**3.** Value added professional services (aiming to open up to new customers and markets).

# In a compliance mode



**BASTIAAN GOSLINGS**  
PUBLIC AFFAIRS OFFICER



2018 was another interesting year.

There was a strong focus on compliance and internal processes. Among other things, this was triggered by the GDPR (General Data Protection Regulation) coming into force.

From a regulatory and public affairs point of view, I am traditionally more outward looking, dealing with external stakeholders - mostly public authorities in all their varieties.

Goals are achieved by building and maintaining relationships to inform and educate them on how the Internet works 'under the hood'. We also achieve goals by undertaking lobbying efforts in the course of legislative processes, to influence agenda setting and avoid unintended detrimental side effects of new laws and regulations on the Internet ecosystem.

Getting across what is important to us as an internet exchange, and the ecosystem that we are part of, is essential to that.

Several years ago, we helped set up an industry body - Digitale Infrastructuur Nederland (DINL) - that acts as our primary vehicle for 'evangelising' and getting points that are important to providers of Internet infrastructure on the agenda. While we work together with others to get the shared message across, relevant issues are also closely linked to our overall internal strategy and core organisational values.

Over the years, attention for infrastructure providers has grown, and connectivity has basically become an essential service, like electricity. It has to be available at all times. At the end of 2017, we were officially labelled a provider of 'critical infrastructure' by the Dutch government. In parallel, we were officially regulated as an Internet Exchange in 2018, as part of the implementation of the European Network and Information Security Directive. New obligations follow from this and we will continue to work with the regulatory authorities in 2019 on practical implementation.

Another important highlight of 2018, that ended with a referendum, was new legislation governing the Dutch intelligence agencies. We have been voicing our concerns about this since 2015, together with a diverse and broad group of other stakeholders.

Although we managed to get important elements of the proposed legislation adapted, it did come into effect. Fortunately, it has not had a noticeable effect on the industry.

## Looking ahead to 2019

The events of 2018 will reach practical internal translation and implementation in 2019 and we will continue to work on this. The new legislation which we need to comply with is relatively generic and lower-level legislation still needs to be agreed upon between the regulatory authorities and operators such as ourselves. We need to agree upon the exact steps of the implementation and what is expected of us, which is an important issue. With regard to the GDPR, all policies are in place, but as we are moving to a new ERP system new procedures and processes will have to be defined, configured and enforced.

**“Over the years, attention for infrastructure providers has grown, and connectivity has basically become an essential service, like electricity.”**



# Emphasis on AMS-IX as an A-brand



PETRA WENSING  
MARKETING, COMMUNICATIONS &  
EVENTS MANAGER



A full-on year for the Marketing & Communications department, as we are responsible for all marketing activities, internal and external communications, PR, events and sponsorship! From a business perspective, all our activities complemented and revolved around the organization's main strategy. For 2018, activities included:

- a evaluation of our products and services,
- b exploration of new markets (EasyAccess, IX-as-a-Service) and
- c development of new products and services, which is a long-term plan.

In translating the general strategy into our corporate and communication strategy, we focused on:

- a Strengthening our pride of AMS-IX's position and contribution to the global digital economy and
- b Continuing to position AMS-IX as an A-brand.

In order to achieve our goals, and most importantly to strengthen our image, it is important that we continue educating our stakeholders on what we do, and what our story and mission entail. We value face-to-face contact with them and will continue to realise that by creating new collaborations and partnerships, as well as by organizing or sponsoring industry related events. A personal touch is very important to our community.

### MORE-IP

In May 2018, we organized the 8th edition of MORE-IP, where more than 250 people from our industry came together and discussed the latest developments. It also gave participants the opportunity to expand their network, exchange ideas and share feedback.

On a global level, we organised the Global Peering Forum, which took place in Seattle in April 2018. In September, we organized the European Peering Forum (EPF), which took place in Athens, Greece. Both events were very successful and received excellent reviews from the attendees. We are looking forward to future editions.

### New website

Another major project on our agenda was the development of our new corporate website. Almost all departments were involved in the improvement process and we came up with a fresh design and more user-friendly User Interface (UI). The new website will be launched in the first week of January 2019.

### Communications

Our communication strategy was aligned with the company strategy. A few highlights related to our external communication strategy: we supported the introduction of our new service, EasyAccess with all our communication tools (press releases, posts on social media, external newsletters and so on) and communicated the appointment of our new CEO Peter van Burgel to the media and our customers.

In addition to Blogs (articles on GRX, Google Cache and more written by our employees and published on our website) we also introduced a new Vlog tool: videos created by ourselves and published on the web.



The first one was made by our CTO, Henk Steenman, who talked about protecting vital infrastructures against DDoS attacks. We also introduced a Vlog entitled ‘Community Talk’ in which our customers/ members are given airtime. The first Community Talk featured Erik Bais from A2B Internet and was also focused on the anti-DDoS approach. This new tool received a great deal of attention and positive feedback from our community and we will continue to use it in 2019.

## Looking ahead to 2019

### 25-year Anniversary

2019 is a very exciting year for us! On Friday 7 January 1994, we witnessed a historical moment in time. On that day, the name Amsterdam Internet Exchange was mentioned for the first time in an e-mail. We could not have foreseen that AMS-IX would shape the internet exchange business and become the great company we are all part of today. In 2019, we are celebrating our 25th anniversary. All of our marketing activities (such as our new corporate website and events) will reference this.

Of course, we will start the year by celebrating the occasion with all our employees and we will continue to celebrate with the rest of the world.

### Events and Innovation

MORE-IP is scheduled for June 2019, and our anniversary will be the main theme, pointing out how things started and speculating on how the internet will evolve in the coming years. As a continuation of our strategy, we will focus on introducing new services and exploring different markets (such as the enterprise market). With this in mind, we will sponsor new events, in an attempt to open up to this new audience. Last but not least, we will also be investing our energy in developing innovative marketing techniques while further sharpening our mission and core values!





# Continuous refinement of internal processes, customer support and satisfaction

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**MARIYA ANDONOVA**  
TEAM LEAD CUSTOMER SERVICE

 2018 was a very busy year for Customer Service, as generally we are involved in almost every (internal and external) project – with the exception of strictly technical projects. One of our key focus points was adapting to the GDPR (General Data Protection Regulation), which took up more than half the year.

In the first quarter, we started by defining the scope of GDPR and the impact it would have on AMS-IX. We created an inventory overview of personal customer data that we collect and process, and implemented various fixes. We also drew up an inventory of the systems and applications which the team uses, as well as contractual arrangements with customers, partners, resellers and so on. In the second quarter, we cleaned up legacy customer data.

A major focal point for 2018 was the redesign of the corporate website. It was a cross-departmental collaboration and from our side, we were involved in the web framework, content mapping and copywriting.

Looking at new services, EasyAccess was launched on April 3 with our first transport provider followed by more partnerships throughout the year. To prepare the ground before the launch, we worked on the workflow of onboarding customers, the application forms and orders on the portal and contractual processes. We also finalized testing of the order and provisioning actions to ensure a successful launch of the service and completed related documentation. A point worth mentioning is that as soon as we went live, we almost immediately welcomed new customers.

Lastly, another big project we dealt with was decommissioning AMS-IX New York, which took place in the beginning of June 2018. We worked closely with our local US Peering Coordinator, Phil Matte, to come up with good process planning and execution.

From our side, we were responsible for making various changes on our customer's portal, my.ams-ix.net. We took care of all communication with our customers, processing all the disconnections, contractual changes and so on.

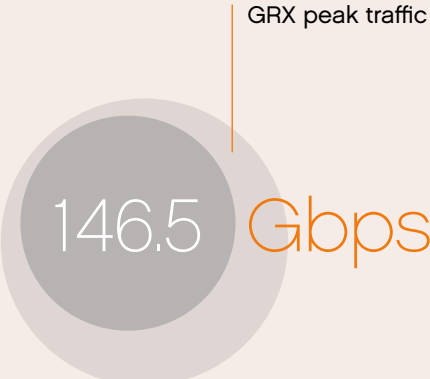
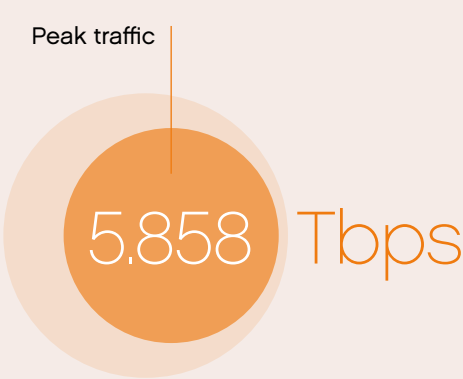
## Looking ahead to 2019

In Q1-Q2 we will be focusing on the implementation of selected Business Applications and on the optimization of our internal processes. We will be busy streamlining the implementation process and making sure all changes are managed smoothly. In addition, we will be assisting with the development of a new customer portal which will offer an enhanced customer experience. To hone EasyAccess, dedicated people will be working on it from our side in 2019.

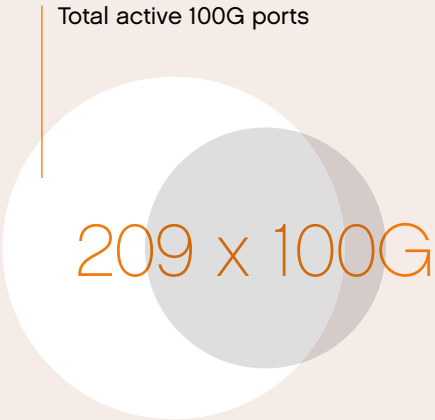
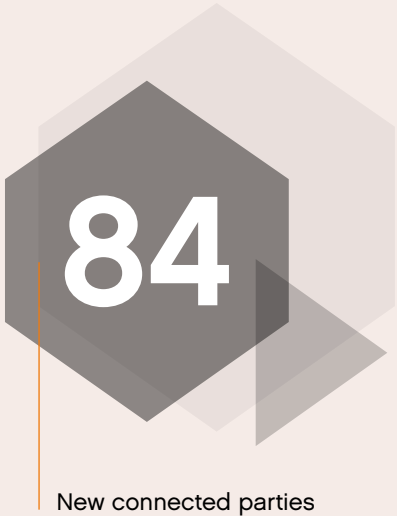
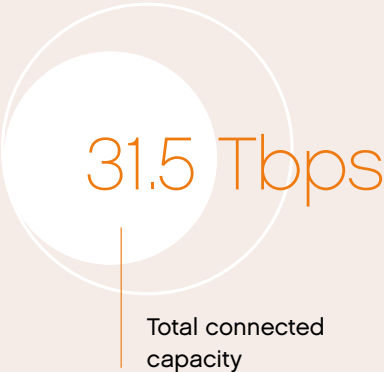
Lastly, IX-as-a-Service is coming up in Q2 and we will be involved in building the service and ensuring its operational readiness.

33

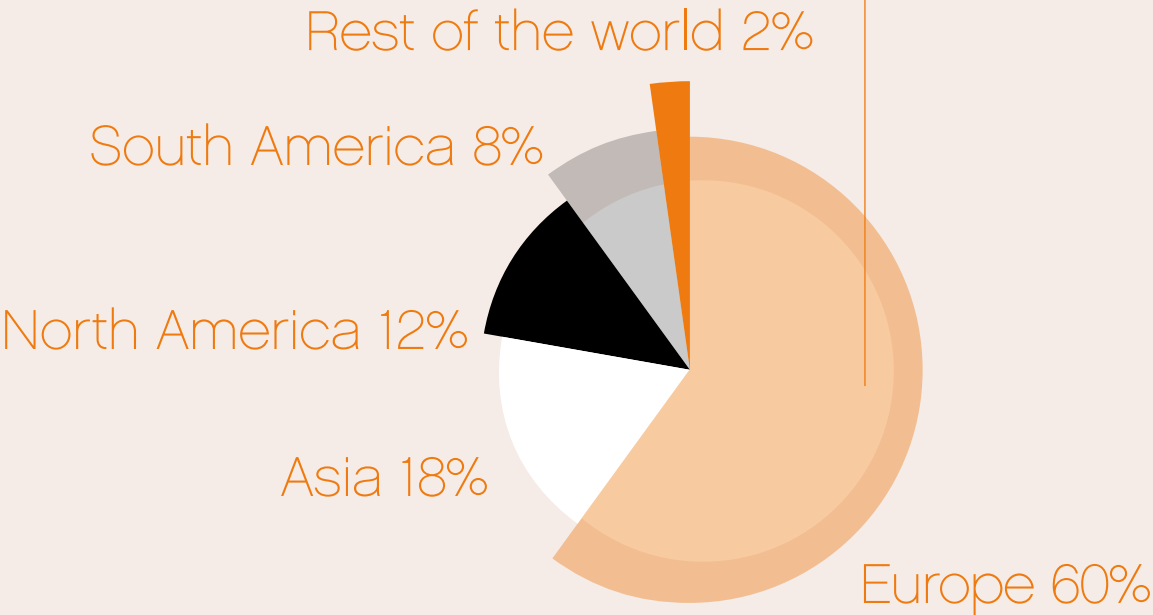
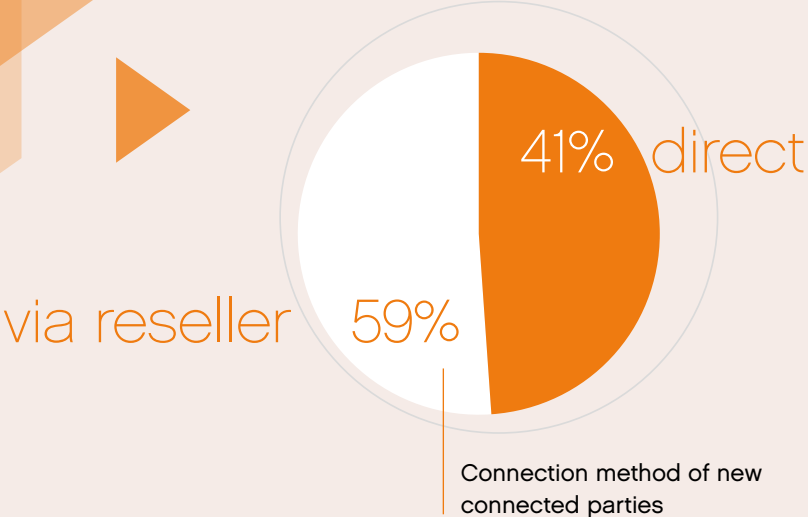
# Figures in Amsterdam



Number of PoPs in AMS-IX Amsterdam



New Connected members and customer's location





# 2018: The year of strategy execution



**🏰** In 2017 a new strategy was agreed upon, in close cooperation between our members, management team, employees and board. Keywords in this strategy were 'adding value', 'creating scale and cost efficiency', 'new business models' and 'cooperate'. 2018 was the first year in which this strategy was executed, under leadership of our new CEO Peter van Burgel, who joined in February.

Visible results to date include the launch of the EasyAccess and IX-as-a-Service initiatives, termination of activities in New York and the announcement of a 20% price decrease for 2019. Concerning our locations in Chicago and Bay Area, the Supervisory Board, during Q4 adopted the Management Team's proposal to liquidate the US activities, unless a suitable party to facilitate customers in the USA is contracted by March 2019. Less visible, however, was all the good work going on in the background: continued rationalization of the technical infrastructure, optimization of roles, systems and processes and a revised direction for the US activities. I expect the results of these activities to become visible in the first half of 2019, as stated in the December 2018 General Meeting.

## Our markets

The promise of AMS-IX, as given in the 2017 strategy documents, is to be the most valued ecosystem and provide thought leadership in the field of IP interconnection. In 2018, the IP interconnection markets continuously changed. Factors such as an ongoing steep price decline in alternative interconnection services (especially IP Transit), new IX providers entering the market, consolidation

in access networks (with large networks increasingly tending to avoid IXes) and concentration of content traffic into fewer than 10 content providers (driving migration from IX services to Private Network Interconnects - PNI's) drove these changes. These trends introduce threats as well as opportunities: high volume traffic streams between large players may be moving to PNIs, but at the same time new players are seeing the value of exchanging traffic with their business partners through a proven, trusted and neutral internet exchange - adding to the ecosystem and the 'long tail' of connected parties.

## Board developments

At the end of 2018, we said farewell to Sylvie LaPerrière after six years of board membership. Working with Sylvie has been an extremely rewarding experience and I would like to thank her for her contributions to AMS-IX, as well as the way in which she managed the board and cooperated with the management team. We continued to rely on the experience of Mark Cooper (who moved to InterXion - Secretary), Eric Loos (BICS - Treasurer) and Alex Bik (BIT) and welcomed new board member Michael Ourabah (BSO Networks). To become more effective in executing our

responsibilities, we increased our focus by creating three small board committees: 'Finance', 'Governance and Compliance' and 'Compensation' - each with its own specific scope and annual planning. In 2018, my second year on the board, I moved from the position of Treasurer to Chair, following the May 2018 General Meeting. I have perceived cooperation within the board, as well as between board and management team, to be very positive.

## Looking ahead

I'm very confident in the future of AMS-IX. We have a seasoned management team, which is well aligned and cooperates constructively with the Executive Board, we have a talented and enthusiastic pool of employees, a sound strategy and healthy financials - nothing can prevent us from reaching our goals,

At my employer, Leaseweb, we have identified two key elements of our culture: 'Get it done' and 'Make it fun' - I recognize these in AMS-IX, too, so here's to a great 2019!

On behalf of the Executive Board of the Association,

**- Bart van der Sloot**

# Board Report

The Executive Board of the Association manages the Association’s business and is also appointed as the Supervisory Board of the AMS-IX Company. The Supervisory Board supervises and advises the CEO & Management Team whilst also ensuring the AMS-IX Company follows the general course of affairs as set out in the annual and long-term strategic plans.

## COMPOSITION OF THE BOARD

Name	Organisation (at the time of election)	Association Board member since	Next re-election	End term of office as a Board member of the Association	Term of office as a Supervisory Board member ends* no later then:
Alex Bik	BIT	24 Nov 2010	Nov 2019	Nov 2022	March 2021
Sylvie LaPerrière	Google	21 Nov 2012	Nov 2018 (stepped down)	N/A	N/A
Mark Cooper	Megaport	20 Dec 2016	Dec 2019	Dec 2028	March 2021
Eric Loos	BICS	20 Dec 2016	Dec 2019	Dec 2028	March 2021
Bart van der Sloot	Leaseweb	20 Dec 2016	Dec 2019	Dec 2028	March 2021
Michael Ourabah	BSO Network	14 Dec 2018	Dec 2021	Dec 2030	

\* If appointed as Supervisory Board member at 8 February 2018.



FROM LEFT TO RIGHT: BART VAN DER SLOOT, SYLVIE LAPERRIÈRE, ERIC LOOS, MARK COOPER AND ALEX BIK

In 2018, the Board held 6 meetings, all in the Amsterdam office. Besides these meetings, the members of the Board and MT members of the Company are in contact regularly to discuss specific topics. The goal of these informal conversations is to ensure the Board remains well informed with regard to the running of the Company’s operations.

During Board meetings, the members of the Board reviewed and discussed matters concerning AMS-IX’s activities, business results, plans and strategy. Among other activities, the Board focused on reviewing the long-term annual

plans and partner agreements as well offering advice on how to react to a changing peering and interconnection market.

In 2018 special attention was given to execution of the strategy as defined in 2017, to redirecting the activities in the US and to transforming the processes, systems and organization structure.



OUR NEW BOARD MEMBER: MICHAEL OURABAH





MEETINGS AND ACTIVITIES OF THE BOARD

Number of Board Meetings	Date	In person/ Remote
118	8 February 2018	In person (5 of 5)
119	27 March 2018	In person (4 of 5)
120	29 May 2018	In person (5 of 5)
121	26 July 2018	In person (4 of 5)
122	31 October 2018	In person (5 of 5)
123	14 December 2018	In person (5 of 5)

Number of General Meeting	Date	In person/ Remote
49	30 May 2018	In person, at MORE-IP
50	14 December 2018	Remote

Attendance

All Board members attended almost every Board meeting in 2018 (with only one Board member missing two meetings). All Board members made sufficient time available for AMS-IX-related matters.

Remuneration

Participation on the Board is voluntary. There is no remuneration or compensation for this service. Only travel and hotel expenses are covered by the Company.

Conclusion

The Board would like to thank the Management Team and employees for their contributions in 2018.

Amsterdam, May 16th, 2019

- Bart van der Sloot  
Chair Supervisory Board



# On a quest for a diversified product



**HENK STEENMAN**  
CTO

 The major highlight for 2018 was the onboarding of a new CEO, who brought in new ideas along with the energy to move forward. Apart from that, it was business as usual. Most of the technical subjects we dealt with were a continuation from previous years. Towards the end of the year, a number of projects were initiated that will continue in 2019.

For instance, we began focusing on fixing several internal processes, and we are planning a major reiteration of our provisioning software. All business logic will be taken out and moved to an off-the-shelf application, from which it will interact with a provisioning API. That's where we will see most of the changes happening. We also launched EasyAccess.

Technically not that different from what we normally do - but organizationally, this was a complete reversal: instead of bringing customers in through a third party, we are now the 'one stop shop' for customers wherever they are, and we organize the required third-party transport.

## Looking ahead to 2019

In 2019 we will see a major restructuring of our organization's processes and the tools used in the company. We will be launching IX-as-a-Service. We began developing this at the end of 2018, but it will be implemented in 2019. An extremely interesting service that represents the way we are moving to the rest of the world.

In the second half of the year, we will be introducing a number of new products. The main focus is on how to bring growth back to AMS-IX in Amsterdam and tackle external changes in a more structured way than we have done previously.

## Innovation

We do not necessarily have an interest in innovation for the sake of innovation. Instead, we need to innovate in order to improve the performance of the business or provide new services to our customers.

Over the past 18 years, most innovation at AMS-IX was focused on keeping up with growth and traffic volumes. At present, this is less of a necessity because growth has stabilised. What we can do now, is innovate at service level and try to achieve more-with relatively less people-which will allow us to improve our price performance to existing and future customers. Diversify our product and remain an efficient organisation; this is very important to us.



# Optimized implementations and migrations



**TIM VRIEND**  
TEAM LEAD ENGINEERING

 We did not experience all that many changes within the Engineering team during 2018. However, we did complete, and start, several really nice projects that are worth mentioning. First of all, we finalized the Data Center Interconnect (DCI) Implementations, after 22 months of hard work - 14 months faster than planned.

Another project we worked on during 2018 – which we will continue to work on during 2019 - was the SLX Migrations. These caused us a few headaches. But on the bright side, with every project we completed, we gained insight into how to run the next migration more smoothly. At present, we can carry out these implementations in less than half the time we needed to complete the first migration.

Why did we decide to implement the SLX and DCI Equipment? Before the SLX came along, we were running on the Brocade MLX platform. However, due to port limitations, we had to move to higher scale equipment.

The SLX, scheduled for release around that time, can carry four times as many ports in half the space, and require far less power, so the choice to migrate was obvious. For a long time, all of the backbones between our PoP locations and the cores were connected using dedicated dark fibre, using one fibre pair for each 100G link. With the latest DCI equipment price decrease, it became more beneficial for AMS-IX to use this equipment instead of dedicated dark fibre. Other advantages of the DCI became clear as we began upgrading certain locations with extra backbone capacity - the time required for the upgrade dropped from several weeks to a single day.

## Looking ahead to 2019

Throughout 2019, we are planning to finish eight more SLX migrations, which were postponed the year before. One of these is the interconnect between Interxion Science park and Schiphol. We are also expanding to a new PoP in Curaçao, the Blue Nap Data Centre, which is expected to go live in Q1 2019. Of course, we will continue to look for ways of making our network more efficient than it already is.

**“Of course, we will continue to look for ways of making our network more efficient than it already is.”**

# Structural changes, elaborate planning and efficient execution



KONSTANTINOS PRANTZIOS  
NOC MANAGER

2018 consisted of a few structural changes for the NOC team. I was appointed NOC Manager in September 2018 and my first challenge was to tackle various operational issues and a number of maintenance activities, as well as to deal with some time-sensitive projects that needed efficient planning in order to meet the respective, tight deadlines.

To be more specific, we started the year by trying to stabilize the rollout of various SLX migrations that were planned already in 2017, together with other projects and necessary maintenance tasks (such as firewall migrations, system migrations and implementation of a management network). In a way, although we started the year on the wrong foot, dealing with issues from the year before, we managed to pick up the pace and complete a lot of projects, e.g. in Q4 we managed to complete 3 projects, within slightly more than a month's time!

5.85  
Tbps peak traffic

14/12/2018

## Looking ahead to 2019

Our plan for 2019 is to complete four more SLX migrations (EQX AM1, EQX AM3, IX9, NIKHEF) by mid-Q2, on top of the one (EQX AM7) that is planned for Q1. We are also working with our vendor in San Francisco on a software CAT, based on the results of which, we will continue with our planning and the execution of installing the tested version on the existing SLX-enabled sites and proceed with a few SLX migrations for two additional sites (Iron Mountain and EQX AM5) by the end of the year. The plan is to have one side of all the full-SLX sites running on the new version. This action will enable us to support our reseller program on SLX switches thus simplify the specific implementation by migrating the reseller connections to the SLX switches and remove the temporary MLXe-8s.

In addition, we will be busy dealing with the new PoP in Curaçao (we are working towards getting it ready to go live by the end of Q1) and “refreshing” the existing ECP site.

This includes replacing line-cards (to facilitate customer growth), upgrading the existing version of our management and production switches, as well as of our AS28017/wan router to the newest available versions, and replacing our redundant servers with new hardware.

Last but not least, we will also be working on various optimizations related to internal projects and looking into how we can continue offering the best quality service possible.

“Our plan for 2019 is to complete four more SLX migrations (EQX AM1, EQX AM3, IX9, NIKHEF) by mid-Q2, on top of the one (EQX AM7) that is planned for Q1.”

# Further consolidation and exploring new avenues



**STEVEN BAKKER**  
PLATFORM & SOLUTIONS ARCHITECT

One of the key topics for 2018 was improving the automation of service provisioning, making it easier for clients to order and use any combination of our services. We also focused on legacy software, especially cleaning up and solving technical debt. As part of the optimization of our internal processes, a project that started in 2018, we started working on integration with our planned ERP and business support tools, which is currently ongoing. A large part of the business logic integrated into the provisioning system will be migrated to the BSS side.

A number of incremental improvements were also realized last year, and we've been modernizing and streamlining internal software development, testing and integration.

Our cooperation with PacketFabric in the USA has been making gradual progress and provided a solid foundation for developing our EasyAccess service. This bundles Ethernet access, transport, and the AMS-IX LAN services into a single, cost-efficient and robust package.

Working with data centre interconnectivity experts DCSpine, we launched the first EasyAccess implementation in April, extending our reach in the Netherlands with an additional 18+ data centres.

With EasyAccess, a customer in a remote (EasyAccess-enabled) data centre has a one-stop solution for connecting to AMS-IX.

The circuit ordering and subsequent provisioning are all taken care of transparently by AMS-IX. This has allowed us to significantly increase our footprint in the Netherlands. After the initial launch, we examined where we could do something similar with other parties and in Q4 we expanded EasyAccess with additional partnerships to cover several hundred more locations throughout Western Europe.

Activities in India with our partner Sify started slowly but picked up significantly half way through the year when we entered the GPX data centre in Mumbai. This housed a large number of potential clients that signed up in rapid succession. I'm happy to report that growth was excellent and is continuing.

## Looking ahead to 2019

We are actively promoting our Closed User Group (CUG) service, offering tailor-made connectivity services for non-traditional, B2B and government users. We've also released our turnkey IX as a Service (IXaaS) product, which we started to work on in 2018: a fully managed, white-labelled internet exchange service.

We provide hardware and installation instructions and, after installation in the client's data centre, take care of service provisioning and management. If required, we can also help out with promotional and sales activities. From the moment we conceived this, we received a lot of interest.

The traditional IXP business (i.e. public peering) has stabilized and we have clear ideas about where we'd like to go next. Redesigning our service model by decoupling the physical ports from the services on top allows us to leverage our platform to provide innovative, more flexible, services. Besides the aforementioned closed user groups, this includes quick point-to-point (private interconnect) provisioning, for example, or a service hub where AMS-IX clients and partners can offer and order each other's services. This service hub concept means that we act as a facilitator, which in my mind has always been the core mission of AMS-IX. In a way, we are 'merely' shifting our focus from our traditional role of facilitating public IP peering to facilitating any type of network interconnection (and staying out of the way as much as possible). I believe this is a natural evolution which helps AMS-IX to stay relevant in an ever-changing internetworking market which, now more than ever, also includes enterprise customers.



# Introduction of new processes and upgrade of existing ones



ARIS LAMBRIANIDIS  
INFORMATION SECURITY MANAGER

🔒 For our department, 2018 was a hectic year. We received ISO 27001 certification in March - a project we had been working on diligently for two and a half years. Attaining such certification means new processes had to be introduced to the organisation, and from that point onwards we have to follow up, review and maintain them. This will be an ongoing project for us.

Implementing ISO was quite different to any other typical information security project. Up to that point, we were dealing with projects that focused on the technical side of things, whereas ISO focuses on people and processes.

That meant our team had to be more extroverted and liaise with other departments. In some cases, that was challenging. Nevertheless, we managed, and from now on we need to make sure we keep increasing our people's awareness.

## Looking ahead to 2019

Although we have certain tasks to take care of, priorities may shift at any given moment. The main idea is to continue working on all items that were put on hold last year due to ISO certification. Creating a centralized console that offers us all sorts of information on the infrastructure, for example. Overall, our attention is required on three fronts. We will be focusing on: a) maintaining existing processes b) dealing with operational issues and c) taking care of our own projects.


To be more specific, we plan to help out all other departments integrate security considerations into their own projects, improve the company's 'incident response' capabilities to become more effective, introduce Single Sign-On for our services and customers where possible, upgrade our practices and protocols to current security-centric approaches (i.e implement DNSSEC) and look into more security-focused features in public services such as the route servers (i.e DCB route servers).

**“Implementing ISO was quite different to any other typical information security project.”**

# A big bang release and the launch of a new service model



MARTIN LYDEN  
SOFTWARE DEVELOPMENT MANAGER

 The most notable project we dealt with in 2018 was moving from our XML database to our provisioning database and building out the API to support provisioning. We were able to launch this huge project, which had been a long time in the making, in July 2018. We had to model data from the XML source to move in the data, and build the API so that it could be accessed and changed.

We also needed to modify all provisioning scripts that use this data. The resulting ‘central source of truth’ is the underlying database of my.ams-ix.

This was a ‘big bang release’ as many changes were introduced at the same time. A significant amount of post-launch after-care was required to make sure things continued to work. Furthermore, brand new tooling was put in place for the NOC team, and adapting to a new way of thinking for engineers and developers took some time.

For the tail end of 2018, we focused on optimizing various internal processes, by moving our contractual information from one source to Salesforce. This required a great deal of work.

Basically, we had to duplicate my.ams-ix and transform it into an API, aiming to optimize its functionality. To achieve that, all the underlying function in the my.ams-ix User Interface (UI) had to change, so we can have other applications in place such as Salesforce, or the new UI. The launch is planned for 2019.

Overall, the direction we are moving in is wholesale changes to our software architecture. This allows us to support our new services and take a more modular approach. As a result, we can be more flexible and utilize all the benefits of our Business Applications that have more of a single focus.

## Looking ahead to 2019

The work we carried out at the end of 2018 provided us with the foundation for the work we are doing now: building the architecture that allows us to further decouple elements of our architecture. Our priority is to launch the new service model, which provides us with a much cleaner way of provisioning and offers the customer more options with regard to managing their connections. Also, it is essential that our testing environment advances further, so we can carry out more automated testing and regression testing. In future versions of that architecture, we will also have an environment that we can deploy easily, and multiple locations. This makes it far easier to maintain and launch new IX’s, either as IX-as-a-Service, remote exchanges or supported exchanges run by other partners.

**“Overall, the direction we are moving in is wholesale changes to our software architecture.”**

# Financial Statements



SASKIA POELMAN  
CFO

Gross revenue increased by EUR 0.2 million (+1.3%) to approximately EUR 21.5 million (2017: EUR 21.3 million). External operating cost have further decreased with EUR 0.4 million to EUR 3.5 million (2017: EUR 3.9 million) including costs derived from provisioning for liquidation of USA activities. This was mainly caused by cost savings for colocations and infrastructure and lower sales-related costs, such as discounts. AMS-IX's number of employees (heads) at the end of 2018 grew to 57, full time equivalent staff

increased from 51.4 in 2017 to 53.1 FTE in 2018. Personnel cost increased by 3.8% to EUR 6.2 million. Increase is mainly due to compensation of cost-of-living-adjustment and reimbursement of additional working hours for staff, but recruiting qualified staff continues to be challenging in the competitive market and is therefore more expensive due to challenging labour market circumstance.

Total investment in 2018 of EUR 0.5 million is significantly lower than in 2017 (2017: EUR 6.5 million), due to sufficient availability of equipment to support growth, but also because decommissioned equipment from New York was redeployed. The depreciation cost decreases to a total of approximately EUR 6.7 million, a decrease of EUR 0.4 million compared to EUR 7.1 million in 2017. Decrease is driven by fully depreciated equipment from 2013, which was depreciated in 5 years. Investments in 2013 were exceptionally higher than in last 4 years.

Other operational costs increased from EUR 2.6 million in 2017 to EUR 3.5 million in 2018, mainly due to planned costs related to support projects replacing software and marketing & travel costs. Also, EUR 180,000 estimated legal costs in relation to divestment and liquidation of USA activities is included, which was not budgeted.

CONSOLIDATED BALANCE SHEET As at 31 December (x euro, after result appropriation)

Assets	2018	2017
<b>Property, plant and equipment</b>		
Equipment	11.760.810	18.088.320
Other assets	507.736	553.043
<b>Financial Fixed Assets</b>		
Deferred tax	0	0
<b>Fixed Assets</b>	<b>12.268.546</b>	<b>18.641.363</b>
<b>Current Assets</b>		
Accounts receivable	763.451	267.530
Taxes receivable	0	222.325
Other receivables and prepaid expenses	213.399	598.032
Cash and cash equivalents	5.134.982	2.275.443
<b>Current Assets</b>	<b>6.111.832</b>	<b>3.363.330</b>
<b>Total Assets</b>	<b>18.380.378</b>	<b>22.004.693</b>





An unplanned waiver of financial lease agreements resulted in a positive effect of EUR 864,000 in Financial results, leading to a total of EUR 618,000 positive result (2017: EUR 525,000 negative).

Like in 2017, losses in USA are not compensated with positive results in the Netherlands, the principle of prudence is applied until we are able to ensure compensation of losses is likely.

EQUITY AND LIABILITIES As at 31 December (x euro, after result appropriation)

	2018	2017
Shareholder's equity	8.907.390	8.082.024
Provisions		
Deferred tax liabilities	0	0
Other provisions	117.225	111.975
Long-term liabilities		
Finance lease liabilities	952.393	5.818.208
Non-current liabilities	1.069.618	5.930.183
Current liabilities		
Accounts payable	1.529.055	899.296
Group companies	-	-
Taxes and social security premiums	771.102	1.049.276
Other payables	6.103.213	6.043.914
Current liabilities	8.403.370	7.992.486
Total liabilities	18.380.378	22.004.693

CONSOLIDATED INCOME STATEMENT

	2018	2017
Revenues	21.522.693	21.250.898
External operating costs	3.544.141	3.923.332
Net revenues	17.978.552	17.327.566
Other operating costs		
Personnel costs	6.250.339	6.017.432
Depreciation property, plant and equipment	6.735.319	7.136.939
Other operational costs	3.465.076	2.557.230
Total other operating costs	16.450.734	15.711.601
Net operating income	1.527.818	1.615.965
Financial results	618.318	-525.222
Result before taxes	2.146.136	1.090.743
Taxes	-1.322.961	-2.556.194
Net result	823.175	-1.465.451

# Auditor's Report on the Summary of Accounts

The accompanying Summary of Accounts (Financial developments 2018, Consolidated Balance Sheet, Consolidated Income Statement), as presented on page 54 to page 57 of this report is taken from the financial statements for the year ending December 31st, 2018 of Amsterdam Internet Exchange B.V. in Amsterdam in accordance with Part 9 of Book 2 of the Dutch Civil Code. We have issued an unqualified independent auditor's report dated May 16, 2019 on these financial statements.

The Summary of Accounts does not contain all the disclosures required for full annual accounts according to Part 9 of Book 2 of the Dutch Civil Code. Therefore, reading the Summary of Accounts is not a substitute for reading the audited financial statements.

## Management's Responsibility

Management is responsible for the preparation and fair presentation of the Summary of Accounts in accordance with the applied criteria.

## Auditor's Responsibility

Our responsibility is to express an opinion on the Summary of Accounts based on our audit. We conducted our audit in accordance with applicable law, including the Standard 810 on 'Engagements to report on summary financial information'.

## Opinion with Respect to the Summary of Accounts

In our opinion, the Summary of Accounts in all material aspects is consistent with the financial statements for the year ending December 31st, 2018 of Amsterdam Internet Exchange B.V. in Amsterdam, on which we have issued an unqualified independent auditor's report dated May 16, 2019.

Zaandam, May 16, 2019  
CPAccountants B.V.

- Cees van Prooijen RA





amsterdam internet exchange

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ams-ix



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# annual report

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