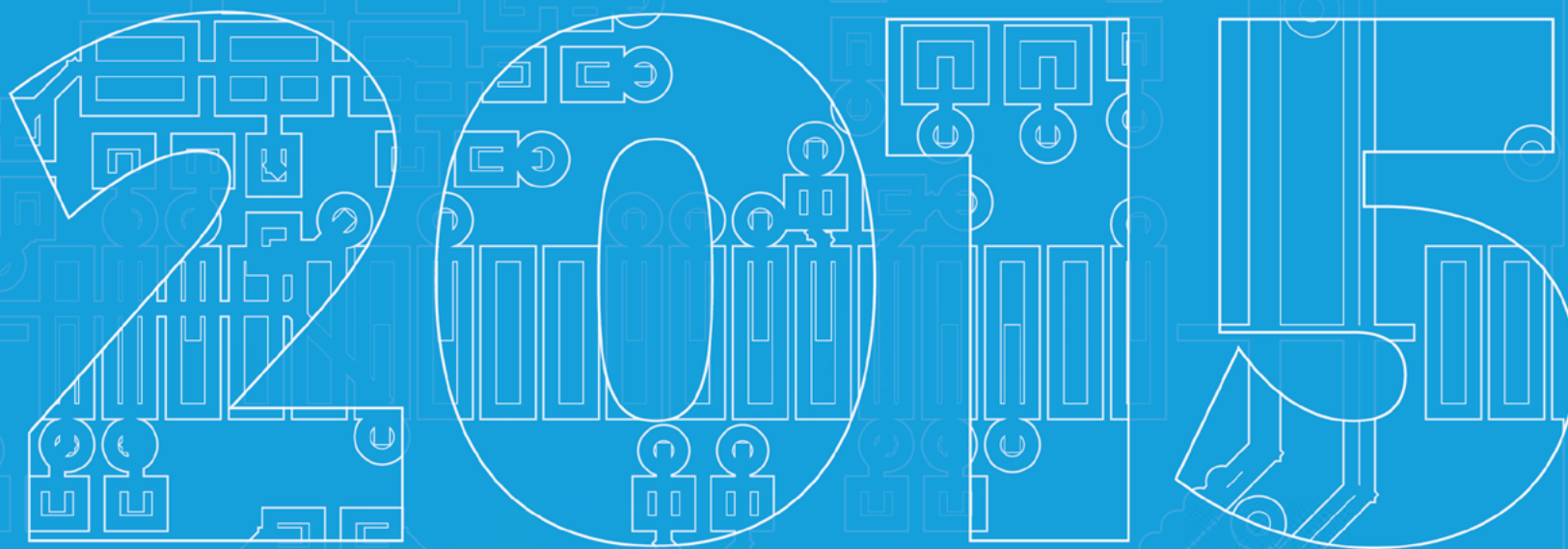


ANNUAL REPORT



Contents

1 Association profile	3	7.3 External validation points	30	13 Selected financial indicators	67
2 Opening Statement of the Chairman of the Board of Directors	4	7.4 MojelD users	31	14 Balance sheet	68
3 Opening Statement of the Chief Executive Officer	4	7.5 MojelD as a tool of cross-border authentication in Europe	31	15 Profit and loss account	70
4 The .CZ domain	5	8 CZ.NIC Labs	33	16 Revenue development	72
4.1 Registration status and trends	7	8.1 Summary of 2015 activities	33	17 Data on facts between the Date of Final Accounts and General Assembly	73
4.2 Registrars	10	8.2 Projects and activities	33	18 Auditor's report	74
4.3 Register data improvement	13	9 Education and awareness	38	19 Registered place of business and contact information	75
4.4 Handling disputes for .cz domain names	13	9.1 Communication with the public	38		
4.5 Customer support	14	9.2 Popularisation TV series	39		
5 Infrastructure	17	9.3 CZ.NIC Academy education centre	40		
5.1 Technical aspects of domain administration	17	9.4 Conferences	44		
5.2 Internet infrastructure support	19	9.5 Editions of CZ.NIC books	44		
5.3 Involvement in the FENIX security project	21	10 Cooperation and partnership	46		
6 CSIRT security team	23	10.1 Czech Republic	46		
6.1 CSIRT.CZ – national CSIRT of the Czech Republic	23	10.2 Cooperation and partnership abroad	48		
6.2 Web Scanner	26	11 Association's organizational structure	54		
6.3 CZ.NIC – CSIRT	27	11.1 Membership base	54		
7 MojelD	29	11.2 Association's organizational bodies	58		
7.1 When we say mojelD...	29	12 Human resources	62		
7.2 MojelD support	29	12.1 Number of employees	62		
		12.2 Employee structure	64		

1 Association profile

CZ.NIC is a common-interest association, an open and independent organization, whose long-term goal is to foster the development of the internet community in the Czech Republic and abroad.

The main activity of the Association is the administration and management of the registry of the national top-level domain .CZ. The Association's activities in the security field are also very important, not only through the work of the National Security Team SCIRT.CZ, which has been legally confirmed by the Cyber Security Act law no. 181/2014, but also through security projects, namely the TURRIS domestic router ecosystem.

Aside from the aforementioned activities, the association conducts research and development of the Internet, internet protocols and network traffic. Furthermore, the association educates the public about the Internet and new technologies.

The CZ.NIC Association was established in May 1998 in response to the rising importance of the Internet network, the increasing number of its users and applicants for the registration of domain names under the .CZ country-code top level domain (ccTLD). By the end of year 2015 the Association had 115 members, mainly ICT companies (both national companies and international companies with operations in the Czech Republic).

Today, the CZ.NIC Association is a stable and trustworthy organization that can ensure the reliable operations of the national domain .CZ. Since

2013 the CZ.NIC Association has held ISO 27001 certification guaranteeing information security, including the appropriate regulations and methodology.

For domain holders, registrars, as well as other entities using the Internet for work or leisure, the association is a reliable partner that not only administers domain names but also ensures the security of the Internet and conducts socially beneficial activities such as laboratory projects and education work.



2 Opening Statement of the Chairman of the Board of Directors

Ladies and gentlemen, As we have done successfully in the past, we continue today with the flawless administration of the national .cz domain, which is our main activity. The four-year strategy adopted last year includes, among other things, a vision of managing and developing a reliable, safe and stable infrastructure and innovative internet services. Researching and developing new technologies is surely the right decision, because the domain market is becoming saturated and it is therefore expected that the number of domains will not rise too greatly. This trend can be observed in all developed countries, including the Czech Republic that ranks second in number of national domains to GDP.

Our technology projects are based on the concept of “open source”. In other words, we count on team innovation where the source code is accessible to others to correct errors and improve it. The other approach, through patents, is currently somewhat difficult, particularly due to the complicated nature of modern devices and the number of patents that are associated with these (in the case of mobile phones, a device may have up to several hundred thousand patents). This is the reason why some major technology companies are spending more resources on patent lawsuits than on research and development.

Our projects include the MojelD (easy and safe authentication of Internet users, used by more than half a million users), Bird (a software rectification daemon for Unix systems), KnotDNS (a powerful, purely authoritative DNS server) and Jak na Internet (a successful educational TV series broadcast in prime time on the Czech Television channel). The current biggest project in terms of the funds invested is Turris, a project that focuses on protection of end users by routers developed by our association and their central management that will enable flexibly reacting to immediate threats. The success of this project has led us to develop a commercial version called Turris

Omnia. In a crowdsourcing campaign we collected more than 1.1 million USD (especially from users in the Czech Republic, but also from potential customers from USA, Germany and Switzerland) and confirmed that there is demand for the Omnia router. Thanks to user interest that has exceeded our expectations, we have managed to finance the specification of the router, test prototypes and start the manufacturing process in the Czech Republic.

I would like to mention that our association has won the competitive tender organized by the National Security Agency for the administration of the National Computer Emergency Response Team (CERT) according to the Cyber Security Act. Our CSIRT.CY team continues to watch over Czech cyberspace, which is no trivial task. In the year 2015 alone this team has dealt with almost 5000 security issues. The administration of National CERT is a non-profit activity and we offer this service for free. However, we are proud that we can contribute with our knowledge and experience to secure Czech internet networks.

Last year’s turnover has exceeded 200 million CZK and earnings before interest and taxes (EBIT) have exceeded 15 million CZK which means that we have achieved our plan. Net income will be used to fund other activities of the Association.

I would like to thank the management of the Association and its one hundred employees for all their hard work. We have managed to create an extraordinary organization that reliably serves the Czech internet community, introduces new technological possibilities and has a well-deserved excellent reputation.

You will find all important information about the association in this annual report. I believe that we will earn your approval in years to come.

Karel Taft
Chairman of the Board of Directors



3 Opening Statement of the Chief Executive Officer

Ladies and gentlemen, It is my great pleasure to announce that the year 2015 has been highly successful for both the Czech national domain as well as its administrator, the CZ.NIC Association. We have managed to exceed the remarkable number of 1.2 million registered domain names. This brings the .cz domain closer to the size of domains of Western countries with a comparable population, such as Austria and Sweden. In the domain registration process, we have made one fundamental change where a new alternative system for resolving disputes has been introduced. The former arbitration process was replaced by a mechanism similar to UDRP which is used for generic TLD .eu domains and groups of large national domains. Naturally, time will tell if this new system catches on.

The Association has continued its efforts to formalize its relationship with the state and has reached an agreement with another state authority, the Czech Telecommunication Office. This agreement sets out mutual cooperation in the area of Internet administration, domain-name issues, security and development of electronic communication networks. We also cooperate very closely with the National Security Authority. The Association has successfully competed in the public tender for the administration of the CSIRT.CZ national security team based on the new Cyber Security Act. Consequently, a public service contract was signed between the Association and the National Security Authority. This contract regulates the administration of the CSIRT.CZ national security team from an operational standpoint.

I am also delighted with the successful progress of the research and development projects that are not directly related to the domain administration. For example, a testing version of the Knot Resolver recursive DNS server has been introduced. This gives the association a complete set of software for the whole DNS ecosystem. The quality of the BIRD routing daemon has been confirmed by the Euro-IX organization, which released a statement that BIRD is used in more than two thirds of all connection nodes of its members; this means in effect that BIRD is used in all of the world's important connection nodes.

The Turris project has probably witnessed the most dramatic development. The Association has developed a new version of this domestic router named Turris Omnia. Unlike the two previous versions, this new version is designated to be sold in the general consumer market. To probe the demand for the router, we decided to partly fund its development using the crowdfunding platform IndieGoGo. The very conservative goal of raising 100,000 USD was exceeded in just 21 hours, and over the next two months more than 850,000 USD had been raised. The fundraising campaign continued after this through the so-called InDemand process. Needless to say, we were surprised by such strong demand from potential buyers and it exceeded our most optimistic expectations. We feel a great responsibility to them in the year 2016 when it will be necessary to manufacture and distribute the routers.

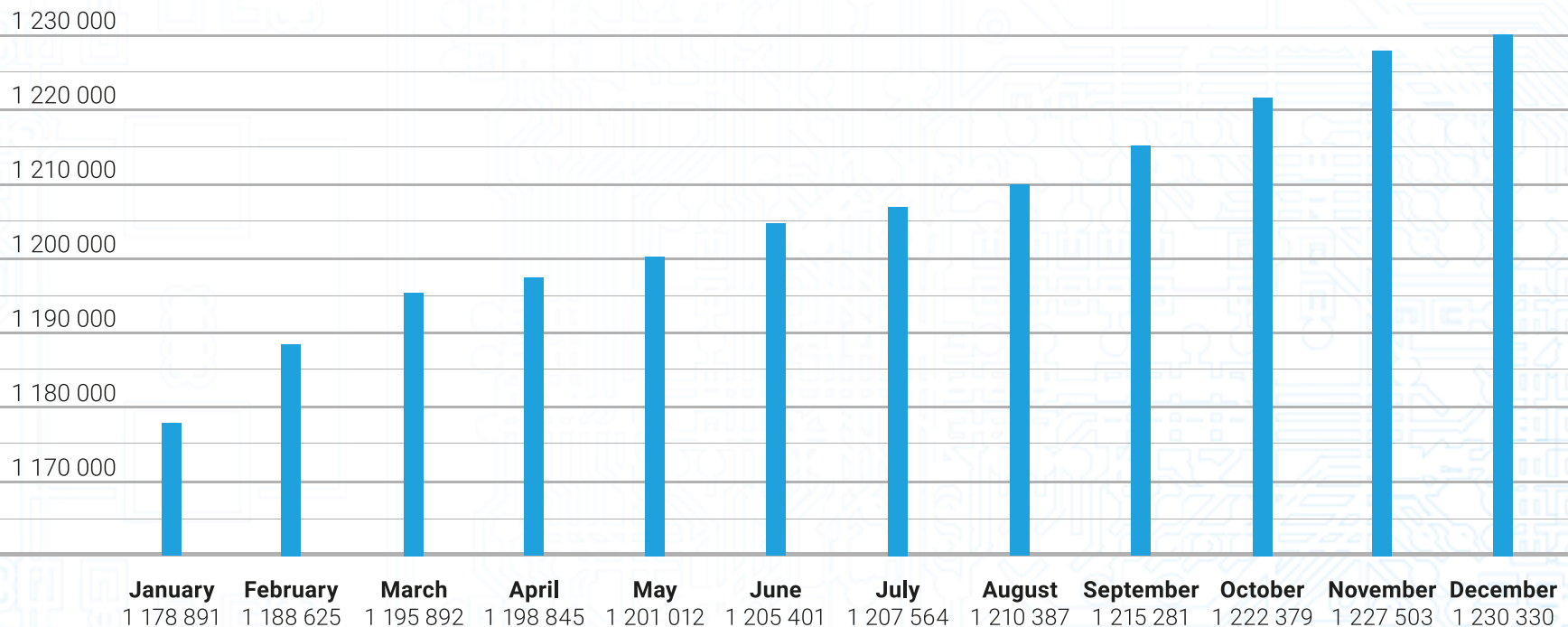
Ondřej Filip
Chief Executive Officer

4 The .CZ domain

4.1 Registration status and trends

During 2015 the total number of domains in the .CZ zone rose by 57 318, which constitutes an almost 5 % growth. The Czech national domain .cz therefore reflects a trend that is being experienced by almost all national

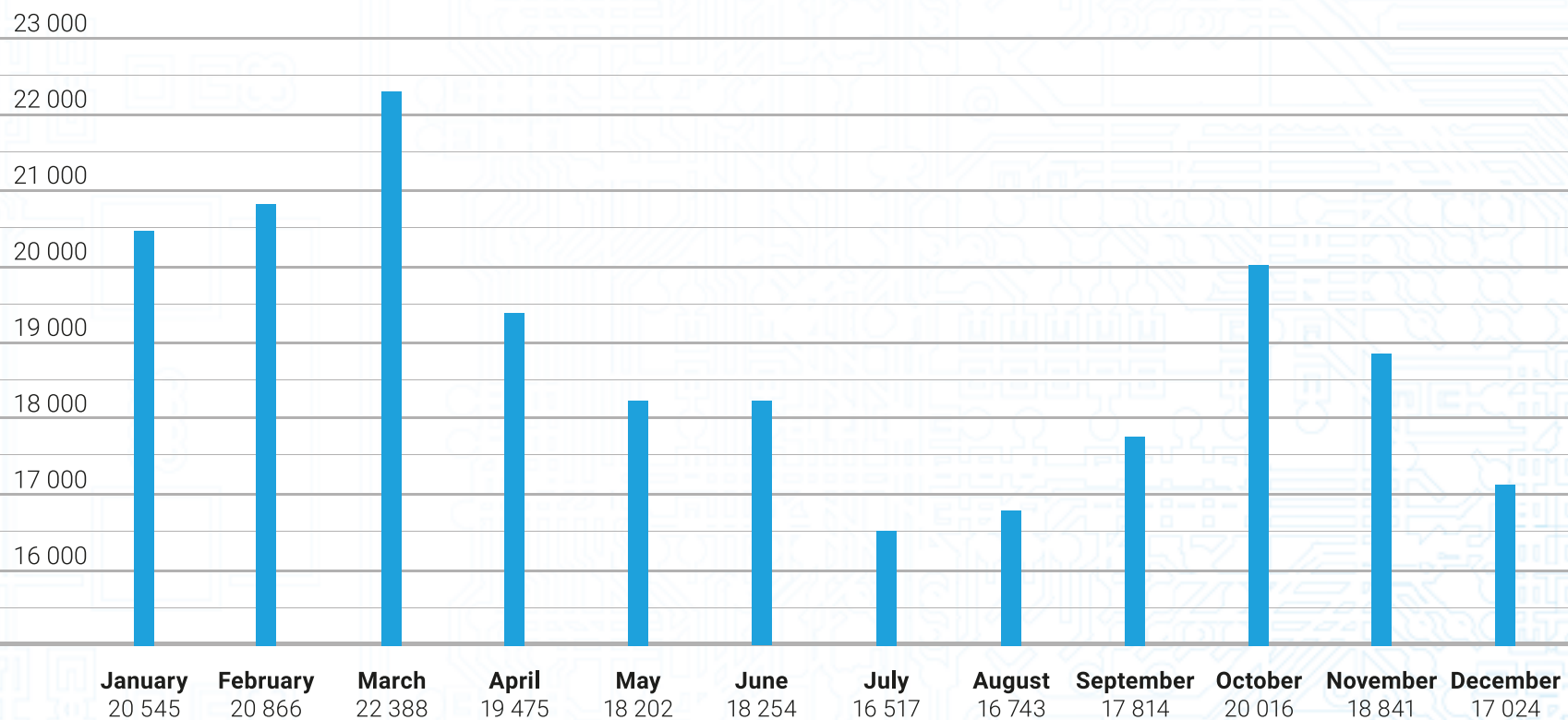
registers: a falling tendency of national domain registrations (ccTLD), caused mostly by market saturation and partly also by new alternatives for domain name registration through so-called new generic domains (new gTLD).



Total number of registered .CZ domain names in 2015

In 2015 an average of 18 890 new domain names were registered every month. Like in the past period, this slight drop in the average number of registrations reflected the trend of global growth in new domains.

The following charts show the number of new registrations on a month-to-month basis in 2015 and the trend of the average number of new registrations since 2008.



New registered .CZ domain names in 2015

20 000
19 000
18 000
17 000
16 000
15 000
14 000
13 000

2008	2009	2010	2011	2012	2013	2014	2015
13 866	15 890	17 490	19 490	20 982	20 369	19 842	18 890

New registrations 2008–2015 (monthly average)

4.2 Registrars

The administration system of .CZ domain names is based on the so-called distributed principle where contracting partners of CZ.NIC – registrars perform the domain name registration. CZ.NIC acts similarly as a wholesale partner towards them but provides the technical aspects and functionality

of the .CZ domain of the highest level. The number of registrars remained the same in 2015 with a total of 45 companies, of which 29 were domestic and 16 foreign. This gives the end customer a wide range of options to choose from but also ensures sufficient economic competition.

4.2.1 List of .CZ domain name registrars

List of all certified registrars as of 31 Dec 2015

1API GmbH
1X s. r. o.
Above.com Pty. Ltd
ACTIVE 24, s. r. o.
AERO Trip PRO s. r. o.
Ascio Technologies inc.
ASPone, s. r. o.
AXFONE s. r. o.
CORE ASSOCIATION
Dial Telecom, a. s.
e-BAAN Net s. r. o.
Economia, a. s.
Gandi SAS
GENERAL REGISTRY, s. r. o.

Gransy s. r. o.
IGNUM, s. r. o.
Instra Corporation Pty Ltd
INTERNET CZ, a. s.
InterNetX GmbH
IP Mirror Pte Ltd
Key-Systems GmbH
KRAXNET s. r. o.
MarkMonitor Inc.
Media4Web s. r. o.
MIRAMO spol. s r. o.
NEW MEDIA GROUP s. r. o.
nexum Trilog a. s.
O2 Czech Republic a. s.

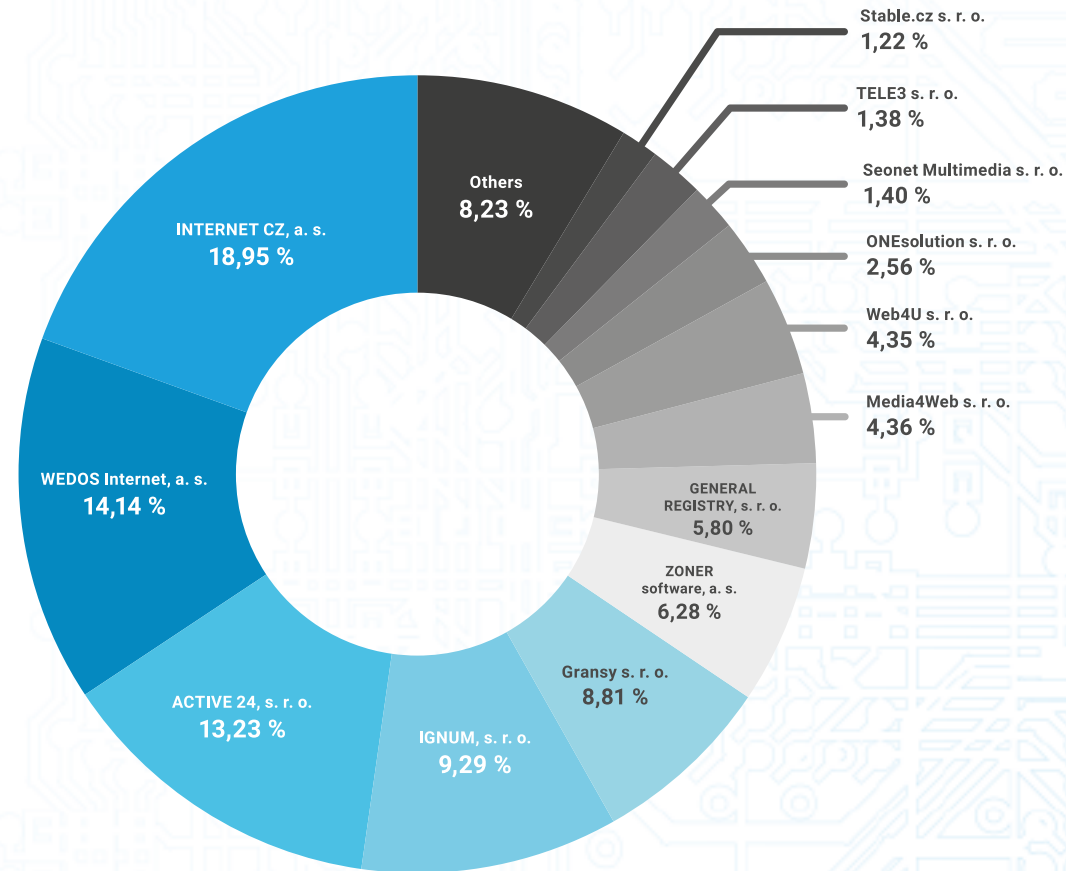
ONE.CZ s. r. o.
ONEsolution s. r. o.
OVH, Sas
PIPNI s. r. o.
ProfiHOSTING s. r. o.
Safenames Ltd.
Seonet Multimedia s. r. o.
Sonexo B.V.
Stable.cz s. r. o.
TELE3 s. r. o.
TERMS a. s.
united-domains AG
Variomedia AG
Web4U s. r. o.

Websupport, s. r. o.
WEDOS Internet, a. s.
ZONER software, a. s.

4.2.2 Major domain name registrars

Like in 2014, INTERNET.CZ, a.s., followed by WEDOS Internet, a.s., ACTIVE 24, s.r.o., IGNUM, s.r.o. a Gransy s.r.o. were the biggest registrars based

on the number of administered domains in 2015. The following chart shows the number of registrars with a market share over 1 %.



4.2.3 Registrar certification

Launched in the middle of 2011, the certification project shall make it easier for end users (i.e. parties interested in a new registration as well as existing domain name holders) to find their way through among the high number of registrars, particularly regarding the portfolio and service quality. The certification method was prepared in collaboration with APEK (Association for Electronic Commerce) registrars and organizations.

Registrars who participate in the programme can always get the "Certified Registrar" logo for one year. From initially nine registrations performed under voluntary certification in 2011, the number rose to twelve. The end customer can hence enjoy constant service quality improvements.

At the end of 2015 ten registrars were complying with the most stringent criteria for holding five stars, i.e. one more registrar year-on-year. There is also no registrar with only three stars any longer. Growing service quality of registrars, reflected by the number of stars, is shown in the next chart.

	2011	2012	2013	2014	2015
*****	3	6	8	9	10
****	3	5	4	3	2
***	2	1			
**	1				

4.2.4 Cooperation with registrars – co-marketing scheme

The CZ.NIC Association seeks to support registrations of .CZ domains of the highest level in the long term which complies with its industry practices. Given the distributed administration method of the national domain, the CZ.NIC Association has limited options how to address potential domain name holders through direct marketing.

This fact gave birth to the co-called co-marketing scheme, within which CZ.NIC contributes to registrars (provided they have fulfilled applicable requirements) to their communication campaigns, promoting domain name registrations in ccTLD .CZ. The amount of this contribution from CZ.NIC depends on the registrar size, campaign volume and compliance with other factors such as the use of mojID or domain security through DNSSEC, all of which shall motivate the registrars to extend these technologies.

The use of the co-marketing scheme, thanks to which the .cz domain has become more and more visible for example on outdoor advertisement surfaces, has been growing in terms of the registrars involved and the volume of funding. In 2015 it was already 14 registrars (i.e. one more than in 2014) to who the CZ.NIC Association paid a record amount of CZK 12,905,725, i.e. a 51.6 % growth on the last period.

4.3 Register data improvement

Quality improvements of data maintained in the domain name register continued also in 2015 when, like in 2014, the aim was to merge multiple duplicate contacts which have been accumulating in the database over the years. Also, user data were verified to improve security and make it easier for CZ.NIC to contact the holder for example when there was a risk that the domain would be cancelled due to an outstanding payment of the registration fee. Domain name holders were motivated to update and verify their data – a small reward (promotional item of CZ.NIC) was offered to them.

In 2015 a total of 14,131 contacts could be verified on the postal address level, which constitutes a small increase over the last year.

4.4 Handling disputes for .cz domain names

As the average duration of a legal dispute with a general court is about three years, which is too long for the dynamic internet environment, it was necessary to find an alternative solution for disputes regarding domain names that would be fast, stable and transparent. Therefore, the so-called Alternative Dispute Regulation (ADR) system has been in use since the summer of 2014. The system worked as the so-called arbitrator of public offer and disputes related to domain names, aimed against its owner, could be held with the Court of Arbitration attached to the Czech Chamber of Commerce and Agrarian Chamber of the Czech Republic. During the ten years of existence of this alternative dispute solving method, the Arbitration Court discussed over one hundred disputes.

Based on the judgement of the Supreme Court, which questioned this arbitration agreement method, and following numerous independent legal analyses, consultations and seminars, a new ADR was introduced on 1 March 2015. The basic dispute solving principles are similar with those that have been successfully used in UDRP and ADR .eu. This and the fact that the platform where the disputes handled is administered by the Arbitration Court, as decided in the memorandum made with CZ.NIC, allows the users to utilize the knowledge and experience of arbitrators (now "experts") obtained in disputes for domain names already registered under a different TLD. The new ADR system is not an arbitration process complying with the arbitration law and this is also reflected in the terminology used. The system is based on contractual negotiations and only a domain name transfer or cancelling (no other claims such as damage compensation) can be claimed. The decision is not an execution title for the judgement and a dispute pending according to ADR rules, effective since 1 March 2015, does not obstruct litispence (i.e. proceedings pending in the same matter) and an ended dispute does not obstruct decided matters. The same claims can be therefore forwarded to a general court during the proceedings or afterwards.

The new ADR method is binding for those domain name holders who registered their domain either after the effect date of the new Registration Rules or extended after this date the validity of their existing domain they had registered before. This is obviously one of the reasons why only a few disputes were handled this way in 2015.

4.5 Customer support

24/7 customer support is an integral part of the secured operation of the .CZ domain. The customer support shall first of all ensure the best possible care of domain holders, particularly in scenarios where the domain might be cancelled, contact details change or the domain is transferred. Assistance to mojID service users and their validation is also an integral part of customer support.

In the relationship with domain holders, customer support is based on a pro-active approach, the aim of which is to prevent domain unregistration or expiry due to obsolete contact details or forgotten payment. Given the distributed .CZ domain administration system, customer support is the only case where the CZ.NIC Association is in direct touch with domain name owners.

Customer support started offering help also through its chat since April 2015. Offering instant help with opening user's issue, this communication channel was positively received among users and during 2015 almost 1500 issues were resolved in chat.

A total of 20,612 e-mails were sent to holders of domains facing unregistration and 80,400 holders were called. The customer support staff also answered another 15,147 phone 36,180 e-mail queries. The following chart shows the trend converted into the monthly average.

Thanks to the growing number of holders who shifted their contact details in the register under mojID and started using the Domain Browser,

the number of requests for blocking (which the users can now perform themselves) dropped from 699 to 407 year-on-year.

	2010	2011	2012	2013	2014	2015
Manual check of domains facing unregistration	-	8 916	15 176	18 586	21 598	20 512
Manual check of domains facing cancellation	-	4 314	11 061	14 378	16 666	16 041
Phone calls made to customer whose domain was facing cancellation	4 263	4 314	4 767	6 690	7 808	7 367
E-mails sent to customers whose domain was facing unregistration	1 201	1 429	1 708	1 716	1 915	1 718
Responses to e-mail queries	828	1 240	1 746	1 945	2 782	3 015
Responses to phone queries	561	1 063	1 120	1 242	1 416	1 262
Requests (validation, blocking, etc.)	145	180	248	315	455	405

The data constitute the average number of tasks per month

5 Infrastructure

5.1 Technical aspects of domain administration

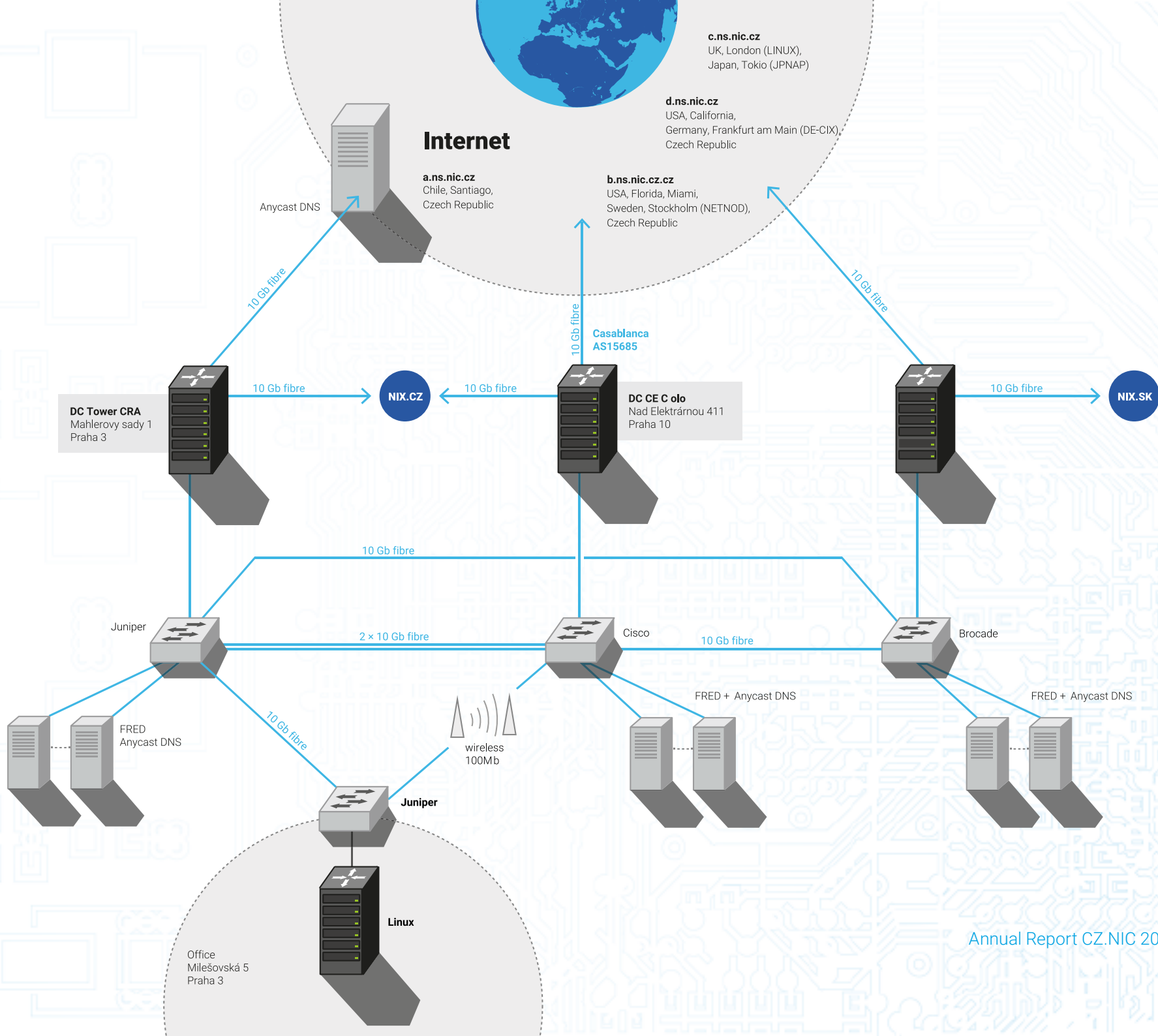
The DSDng register central system was designed as a fully redundant system. All hardware and software is concentrated in three independent locations (the TOWER data centre of České Radiokomunikace in Prague 3, Telehouse CE Colo in Prague 10 and a non-public location outside of Prague) both regarding the internet connection and the power grid. All locations are connected to the power grid from two independent switching stations. Backed-up UPS power supply and bridging of prolonged blackouts thanks to the use of diesel power generators is a matter of fact.

The system is built as a fully heterogeneous system – any defect of any hardware manufacturer must not bring down the central register. Therefore, systems from different suppliers are installed in every location. The same approach applies to authoritative DNS servers, operated even on three different systems (KNOT, Bind and NSD).

The actual software of the central register is designed in a way ensuring that any component of the architecture can be replaced by any copy running on the server in the second location. The PostgreSQL database is the critical component and in routine operation it is replicated into the second location. Therefore, if the primary location fails, operation can be moved to the replicated database without any restrictions and impacts on functionality. Back-up systems are constantly functional and their design makes it possible to take over any components

within a short period of time and ensure their operation in the registry.

In 2015 backbone route redundancy was increased thanks to connection to the NIX.SK peering node and better diversity after introducing OpenBSD on some DNS servers. To improve security, the digital signature algorithm (algorithm DS) was migrated from SHA1 to SHA 256. DNS infrastructure performance measurements were performed and decisions on further hardware upgrades taken based on the results.



FRED (Free Registry for ENUM and Domains)

The software, developed for the central registry and operated by CZ.NIC, was made available as open and free software as part of our support of smaller registries. This way, smaller and starting registries can operate their domains on the system, designed for the Czech domain environment and prepared (thanks to its parameters and capacity) for a much higher number of domain names than currently registered in ccTLD .CZ.

Besides the Czech Republic, this system was controlling domain administration also in another seven countries – it was used for domain administration of Costa Rica (.cr), the Faroe Islands (.fo), Estonia (.ee), Tanzania (.tz) and Angola (.ao), Albania (.al) and Macedonia (.mk) in 2015.

Servers administering .CZ domain records are operated by the CZ.NIC Association in several locations worldwide including Sweden (Stockholm), Austria (Vienna), Great Britain (London), Germany (Frankfurt), Chile (Santiago de Chile), United States (Redwood City and Culpeper), Japan (Tokio) and, of course, the Czech Republic (Prague).

The central registry system is prepared for operation on IPv4 and IPv6 and its current implementation for the .CZ domain (as well as all DNS servers) is operated on these both protocols.

5.2 Internet infrastructure support

5.2.1 IPv6 support

IP addresses are the basic building element of the internet. It is not possible to connect to the worldwide network without IP addresses, i.e. mutual recognition and hence connection between PCs (and/or other devices) within the global network is not possible. The current space of IP addresses of the version 4 (IPv4) internet protocol has been almost exhausted. The new internet protocol of version IPv6 is the response to the lack of IPv4 addresses, as it offers a much bigger bank of addresses and also new options.

Support of the introduction of this new technology on all levels (i.e. content, networks and end devices) is among the long-term objectives of CZ.NIC. CZ.NIC also cooperates with registrars who often provide webhosting, so it can seek support for IPv6 on the side of web, e-mail and DNS servers.

The association was also promoting the use of IPv6 in state administration within the European project GEN6 and in close cooperation with the Ministry of Industry and Trade. A government decision made by the end of 2013 also contributes to accelerated introduction of IPv6 in state administration.

Thanks to these activities, IPv6 has been enjoying growing support in the Czech Republic and according to independent surveys our country belongs to the world powers in IPv6 introduction.

	Web servers	DNS servers	Mail servers
2010	5,19 %	20,31 %	8,61 %
2011	9,48 %	45,90 %	8,70 %
2012	15,06 %	51,27 %	13,15 %
2013	19,46 %	55,11 %	15,22 %
2014	23,33 %	60,71 %	16,08 %
2015	25,95 %	59,16 %	16,15 %

Support of IPv6 within the Czech national domain

5.2.2 DNSSEC support

DNSSEC extends the domain name system (DNS) and improves its security. The DNSSEC technology gives the users the certainty that the information they obtained from DNS was provided from a correct source, it is complete and its integrity was not compromised during the transfer.

The DNSSEC technology can be used within the Czech national domain .CZ since 2008 and the number of domains secured this way has been growing, also thanks to collaboration with registrars. The Czech Republic is among the world leaders in the number of signed domains.

At the end of 2013 the Czech government ruled that all state administration bodies would be obliged to have the domain names they hold

secured through the DNSSEC technology until 30 June 2015. With only exception, all ministries and central state administration bodies had their domains secured with DNSSEC by the end of 2015. The number secured domains held by cities and municipalities rose and so did the evaluation criterion in the Golden Coat of Arms competition. Thanks to these measures and other steps, the growth of secured domains continued and the highest absolute and relative share of DNSSEC domains in the Czech domain history was recorded by the end of 2015.

Besides the support from registrars, DNSSEC has been gradually introduced among main internet connectivity providers in the Czech Republic, which has made this system fully functional for the majority of internet users.

2008	0,01 %
2009	0,23 %
2010	14,74 %
2011	34,07 %
2012	37,70 %
2013	37,12 %
2014	38,57 %
2015	38,77 %

Number of domains secured through DNSSEC

5.2.3 Support of basic internet infrastructure

The CZ.NIC Association continued with operating root servers F and L and even opened a mirror for the K root server during 2015. The L root server was upgraded and better diversified, as KnotDNS was introduced on half of the servers.

CZ.NIC therefore operated mirrors for three out of 13 root name servers that are the base of the domain name internet system (DNS). They increase security and stability of root servers on the global scale and make them available in the European region.

Besides these root servers, CZ.NIC uses its infrastructure to support growing registries through secondary name servers for their ccTLD. Angola, Tansania and Macedonia are using this option for the administration of their national domains.

Hosting the websites of some NGOs (e.g. the popular Ubuntu linux distribution) is another form of support of the local internet community.

5.3 Involvement in the FENIX security project

CZ.NIC helped establish the FENIX node on the platform of the biggest Czech peering node NIX.CZ in 2013. Its aim is to provide availability of internet services between entities involved in this activity in case of massive DDoS/DoS attacks. The FENIX project is intended for businesses providing connectivity for major services that need to secure their operation also in the most critical situations.

Any entity that meets the entry requirements can join the FENIX project. These terms go hand in hand with the values of CZ.NIC and its mission, i.e. development of a transparent, secure and stable internet infrastructure and services of general interest. To join the FENIX project, it is necessary to support IPv6 and DNSSEC or run the company's own CERT/CSIRT team. It was the establishment of these teams for the different connectivity providers (ISP) through the National Security Team CSIRT.CZ that CZ.NIC has been helping with.

6 CSIRT security team

The growing importance of the internet and the rising number of its users is connected with an increasing number of security incidents (misuse of PC, a network element or network for an illegal purpose, e.g. spam, copyright breach, phishing, tapping of confidential data) and the gravity has been growing as well. This creates an acute need for creating efficient protection against these attacks and giving it a formal shape. So-called CSIRTs (Computer Security Incident Response Teams) are created for this purpose.

CZ.NIC, an entity with long experience with internet infrastructure projects, engages security teams on the national and academic levels. CZ.NIC has its own CZ.NIC-CSIRT team, responsible for dealing with incidents within AS25192 as well as incidents affecting name servers for the .CZ domain and 0.2.4.e164.arpa.

6.1 CSIRT.CZ – national CSIRT of the Czech Republic

The CSIRT.CZ security team is the official security team of the Czech Republic and is operated in accordance with act No. 181/2014 coll. on cybersecurity and the public contract made on December 18, 2015 with the National Security Authority.

The legal governance of the CSIRT.CZ national security team is the achievement of a long process. CZ.NIC has operated this team since January 1, 2011 – based on an agreement and memorandum

with the Ministry of the Interior that was later replaced by a similar paper signed by the National Security Authority.

The mission of the CSIRT.CZ team is to deal with incidents connected with cybersecurity in networks operated in the Czech Republic. The team collects and evaluates information on reported incidents and forwards such reported incidents to persons responsible for the network or services being the source of the incident and/or it provides help with coordination.

The team cooperates with entities on the national level (National Security Office, the government CERT, academic CSIRT, ISP, banks, etc.) and international level (national CSIRT of other countries, ENISA, FBI and other) and exchanges information on incidents and the way they were resolved with these entities based on a relationship of mutual trust.

6.1.1 Activities of national CSIRT.CZ in 2015

The effect of act No. 181/2014 coll. on cybersecurity was a major milestone for the work of the CSIRT.CZ National security team. This act imposed new duties on CSIRT.CZ and the CZ.NIC Association and made them amend certain processes and systems.

6.1.1.1. CSIRT.CZ as a part of the security team community and partner for state administration

In 2015 the CSIRT.CZ National security team was the first CSIRT team in the Czech Republic that became member in the FIRST organisation of international CSIRT teams. This membership brings many benefits such as better information exchange, extended access to the worldwide CSIRT team database or priority notifications about serious vulnerability. CSIRT.CZ is also classified as "accredited" within Trusted Introducer (TF-CSIRT) and actively helps other security teams with obtaining membership. In 2015 the "listed" status was awarded to six security teams from the Czech Republic. With 22 accredited teams, the Czech Republic is now, after Germany, the second most developed country.

The CSIRT.CZ team was also actively engaged in several cybertrainings. On the national level this was the EDA strategic training organised by the National Security Office. It also attended the Cyber Czech event in the role of an observer. On the international level the team was engaged in NATO Cyber Coalition 2015 and the CECSP (Central European Cyber Security Platform).

Our team was also heading the "Cyber Security in the Danube Region" project (CS Danube), co-funded by the European Commission within the START programme. The aim of this project is to improve cooperation, trust and capacity of CSIRT teams within the Danube region – of security teams and organizations from the Czech Republic, Croatia, Austria, Slovakia, Serbia and Moldova.

Further education, awareness and international cooperation are an essential component of the work of the National security team. The CSIRT.CZ representatives actively performed at industry conferences both at home (e.g. IDET, Stech, Communication Wednesday) and abroad (e.g. FIRST, TF-CSIRT).

Cooperation continued with the CSIRT.CZ work group, in work groups of the ENISA organization (work group of national and government CSIRT) and TERENA, with the Czech Banking Association, NCBI, local security teams acting in the networks of significant ISP, registrars, banks, security authorities and the academic sphere in 2015. CSIRT.CZ was also actively working on the joint open-source project of European security teams IntelMQ and became one of the most important contributors.

The CSIRT.CZ team was also sending remarks to policy documents such as the National cybersecurity policy or National cybersecurity education policy. In this respect, the team's remarks on incident classification can be highlighted: the classification shall be part of uniform incident classification across the European Union and used, among other things, by the police.

6.1.1.2 Development of technical and operating capacities

The PROKI project (Cyberincident prediction and protection) started in September 2015 and was supported from the Security research scheme of the Czech Republic for 2015–2020. The project also provided funding for the majority of tasks of the CSIRT.CZ National security team for the next five years and its aim is to build an efficient system for the detection, identification and prediction of cyberthreats and for safe evaluation of cyberincidents (so-called Cyber Threat Intelligence). This system will analyse the data and information on PC network operations from numerous sources and set up methods and practises for evaluating the vulnerability of critical IT infrastructure. It will correlate these data and so obtain a deep insight into the relations between incidents and their origin.

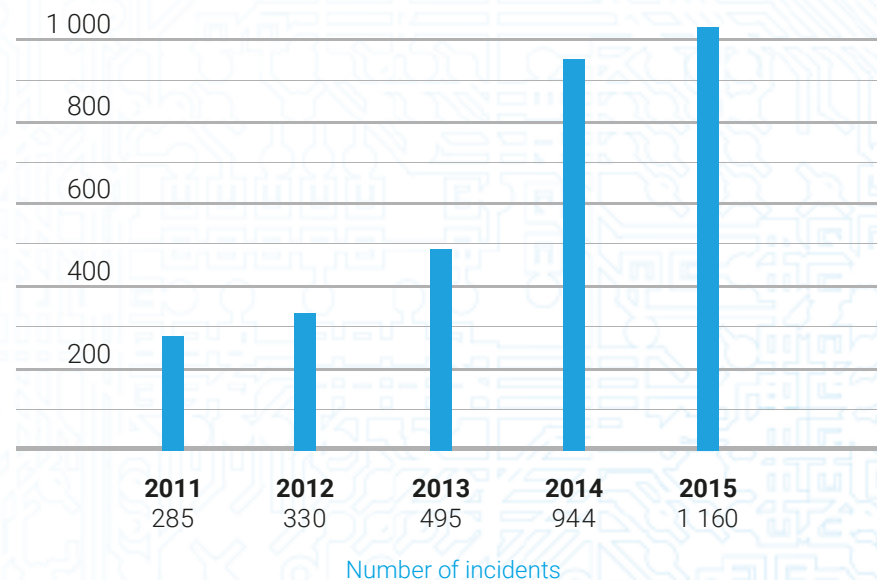
As act No. 181/2014 coll. on cybersecurity became effective, the OTRS system, used for incident handling, also saw certain amendments to ensure legal compliance. Services and systems were further integrated, so that the CSIRT.CZ team could use the data from the different system providers for incident handling as well as in other projects with an analytical focus. CSIRT.CZ has for example started notifying foreign and domestic partners about problematic IP addresses, identified within the honeypots operated by CZ.NIC, as part of its incident handling.

CSIRT.CZ established cooperation with anti-virus companies in connection with the honeypots and provides malware samples, obtained from attackers within the honeypots, to them.

Last but not least, CZ.NIC and the CSIRT.CZ security teams provided a proposal of the "Honeypot as a Services (HaaS) project, evaluated by the Technology Agency of the Czech Republic as the best project in the call, in cooperation with the Taiwan-based Institute for Information Industry (III). Project implementation will start on June 1, 2016.

6.1.2 Operating statistics

The total number of security incidents reached 1160, which is a 23% growth year-on-year.



Closed – solved	286
Closed – we are informed	214
Closed – positive change	612
Closed – unsolved	48

Security incidents

Botnet	2
DOS	37
Malware	242
Pharming	3
Phishing	367
Probe	42
Port scan	5
SPAM	108
Trojan	90
Other	264

Type-based incident statistics

6.2 Web Scanner

Launched in 2013, the Web Scanner service belongs to other security prevention projects. It is intended for website providers and administrators and free-of-charge help to them with revealing potential vulnerability of their internet presentation. The service is primarily intended for NGOs, the public administration and SMEs that cannot afford such investments in a commercial solution, but are aware of the fact that vulnerability of their websites can easily become a problem for other internet users.

Vulnerability analysis is performed in two phases. First with the use of automatic tools and then in a manual website test by a senior tester who evaluates, among other things, the vulnerabilities he/she found in the entire website and offers corresponding solutions. Finally the party that ordered the test is sent a report containing detected vulnerabilities, their classification based on the gravity level and also proposals of possible ways how the vulnerability can be handled. The service is based on its own measurements and experience of the security team and on a list of general top ten most serious security risks according to Open Web Application Security (OWASP).

In 2015 CZ.NIC tested 135 web presentations under this project. Most orders involved the testing of 29 websites of the Ministry of the Environment and associated organizations, and testing of finalists of the School Web competition. 972 recommendations were published based on the testing results, providing information about detected vulnerabilities and possibilities how to improve security and set web servers.

Trends showing how the Web Scanner service has been used

2013	72
2014	99
2015	135

Development of service Web Scanner

6.3 CZ.NIC – CSIRT

The CZ.NIC-CSIRT team is responsible for handling incidents affecting name servers for the .CZ domains and 0.2.4.e164.arpa. As provided in the registration terms, the CZ.NIC association can cancel the domain name delegation if it is used in such a way that it compromises national or international computer security, mostly through distributing malicious content (particularly viruses and malware) through the domain name or service, or pretending the content of another service (particularly phishing).

The CZ.NIC-CSIRT team can cancel the domain name also in case the server, available through the domain name, is the control centre of networked hardware which distributes the malicious content (mostly botnet).

6.3.1 Activities of CZ.NIC-CSIRT in 2015

CZ.NIC-CSIRT operates its own system used for searching websites with .CZ (MDM) domains that have been attacked. During 2015 the system was further automated and new analytical components

were added, allowing automatic detection of the primary source of attack and transferring information on this source into the Turris project.

In 2015 CZ.NIC-CSIRT continued with collaboration on the Turris project and supplied data on dangerous IP addresses and provided practical experience with data use and evaluation on these unique routers.

To improve the physical security of the CZ.NIC-CSIRT head office, the team created a new application to report entries to the main building thanks to connection to an electronic security system. Besides this, the CZ.NIC-CSIRT team did some repairs of the mojID implementation which showed XSS vulnerabilities and performed penetration testing of websites in nic.cz and turris.cz domains.

In the CZ.NIC Association the CZ.NIC-CSIRT team implements internationally accepted information security management systems (ISMS) in compliance with the ISO 27001 standard. In connection with the moving by the beginning of 2015, the CZ.NIC Association successfully completed one special supervised physical security audit within ISMS. In the regular supervised audit the auditor checked compliance with the new release of standard ISO 27001:2014 to which we were gradually amending ISMS during 2015. Also this second audit confirmed functionality of the information security management system.

7 MojID

Internet without password and registrations

7.1 When we say mojID...

Launched five years ago, MojID is a unique service giving the internet users in the Czech Republic the possibility of logging to different web-sites and electronic services using uniform identification data.

Internet users who use mojID do not have to set a new account and go through the registration process over and over again. Besides higher user convenience, the service providers obtain verified information for their users about their visits and offer the users more benefits.

The mojID service is based on the OpenID standard extended with unique features which other OpenID services do not have – e.g. user identity data transfer with every user login and user validation on multiple levels in different ways. When this service was being developed, emphasis was placed on security, personal data protection and trustworthiness of the whole system. The user data registry is protected on the same, high level as the .CZ domain registry and the user can define with every login which data he/she gives from his/her profile to the provider to which he/she wants to log in using the mojID service. This gives the user full control over his/her data. The user also knows what data he/she provided to what entity.

The service has been subject to constant development and responds to current needs of its users. In the past years, it introduced for example the Public Profile, thanks to which mojID can serve as the real internet-based business card, or the possibility of setting up a mojID account and having data pre-entered directly from social networks such as Facebook and LinkedIn.

The start of cooperation with GTS ALIVE, the official publisher of international student identification cards, was a true innovation in 2015. By adding the ISIC card number to the mojID profile, the user can verify the "Student" title validity and use discounts in partner e-shops and portals. Other innovations for end users include the possibility of repeated sending of PIN3 and accessibility solutions for mojID for the disabled (mostly sight impaired).

From the perspective of service providers using mojID, the OpenID Connect protocol extensions, SAML implementation extension and off-line data transfer were among the biggest innovations. HTML documentation was introduced for mojID implementors.

7.2 MojID support

Service providers are the key factor in further service expansion. The growing number of servers using mojID affect the number of new users for who it is important to be able to use a single login and password

to access as many services as possible, no matter if those used on the daily basis or those (e.g. on-line shops) they visited for the first time. MojelD saves their time with registration and gives them control over the data they provide.

In relation with the providers, the primary focus of mojelD is to penetrate new market segments and reinforce its standing in existing segments such as on-line shops, community servers or web presentations of cities and municipalities. Thanks to long-term cooperation with the Galileo Corporation and start of cooperation in 2015 with Datron and Vera, businesses that develop e.g. the so-called Citizen's Portals, the mojelD service was implemented into the digital services of self-administration. Over 145 websites of cities, municipalities and now also regions were supporting the service in 2015. MojelD is now used for example in Domažlice, Zbiroh and the Vysočina and Zlín regions.

In on-line shopping, login with mojelD user name and password is now possible in one of the biggest Czech electronic goods on-line stores Alza.cz and also on the Avizo.cz advertisement server, at iDNES.cz and Deník.cz.

Other steps to address new user groups and extend the number of servers on which login will be possible with mojelD include the development of a login module for the widest source of e-learning: the Moodle platform.

The mojelD support tools in 2015 included a motivation scheme, giving users a financial reward for new users they bring subject to the validation level these users have achieved. A total of 45 providers joined the motivation scheme and brought over 45,000 new users. Almost half of them

was verified on the second validation level (validation of correspondence address with PIN3 code).

A marketing campaign, targeting mojelD service users with the lowest validation level, was launched by the end of 2015 and led to full identification. Over 7500 users joined the campaign.

7.3 External validation points

To simplify the validation option for end users, i.e. the highest level of mojelD account validation, CZ.NIC focused on the extension of the external validation point network in 2015. The network has been further built mostly in libraries – e.g. in České Budějovice, Ústí nad Labem and Olomouc and in municipal departments e.g. in Domažlice. Another innovation is the validation point in the Prague real estate agency bezrealitky.cz, in the contact centre of the Vysočina region and in the Jihlava hospital and/or the Pedagogical Faculty of the University of Hradec Králové. Ten new points, where the mojelD account can be validated free of charge, were added in 2015. The list of all external validation points is now available through an interactive map.

Also the participants of major industry conferences E-Business Forum 2015 (EBF 2015), Czech Internet Forum 2015 (CIF 2015), Internet and Technologie 15 (IT15) and LinuxDays 2015 could validate their mojelD. It is now possible to see a mobile validation point at events outside Prague, e.g. at the Internet in State Administration and Self-Administration conference (ISSS 2015) or ShopExpo 2015.

7.4 MojelD users

The users are the most precious part of mojelD. It would be difficult to win new and so reputable service providers and raise the service awareness among the broad public without a growing user base. CZ.NIC continued to provide care of its users but also raised the share of so-called identified accounts in 2015 (i.e. validated through correspondence address). The mojelD service won 74,628 new users in 2015. The mojelD user base in 2015 was growing at a lower pace than in 2014, but the share of validated accounts in accounts rose by almost 11 % for accounts validated on the correspondence address level and by almost 1.4 % for validated accounts. By the end of 2015 the mojelD service had almost 500,000 users.

7.5 MojelD as a tool of cross-border authentication in Europe

MojelD was chosen as the national elite in the large pilot project STORK 2.0 (Secure idenTity acrOss boRders linKed 2.0), supported by the European Commission, as a service developed in accordance with European legislation in the area of electronic identification, so-called eIDAS (European Parliament and Council regulation No. 910/2014 on electronic identification and trust services for electronic transactions in the internal market.

In the STORK 2.0 project mojelD was qualified in the same way as e.g. the Swiss electronic ID cards on the QAA3 level (Quality Authentication

Assurance) which constitutes a high trust level according to the eIDAS regulation.

Thanks to participation in STORK 2.0, which ended in September 2015, validated mojelD users could also log to selected services of the European Commission within European Commission Authentication Service (ECAS).

Year	Validated contact	Identified contact	Partly identified contact	Users total
2010	163	2 168	1 324	3 655
2011	680	17 218	24 369	42 267
2012	1 760	75 513	86 218	163 491
2013	3 324	143 364	144 376	291 064
2014	5 920	207 242	211 409	424 571
2015	8 280	249 649	241 270	499 199

mojelD account security level

8 CZ.NIC Labs

CZ.NIC Labs are a research and development workplace with independent organisation where innovative projects from the domains of networks, network security and internet standards are investigated. Many projects also overlap to other domains such as open data, eGovernment, support of disadvantages users and open source support.

8.1 Summary of 2015 activities

New staff were hired for all Labs in Prague, Brno, Pilsen and České Budějovice and the head of labs was also replaced. Aimed at larger projects and their development, the consolidation process continued in the workplace structure. These larger projects mostly involved the Turris project, focused on end network security, the authoritative DNS server Knot DNS, the BIRD routing demon and the Tablexia teaching app for children with dyslexia. The Knot Resolver project, a high-performance recursive DNS resolver, as also added.

8.2 Projects and activities

BIRD

BIRD is specific software designated for peering centres (IXP) and dynamic routing of large data volumes. The project was set up at the Faculty

of Mathematics and Physics of Charles University in Prague and the CZ.NIC labs have been participating in its further development.

According to the survey of EURO-IX, associating the biggest exchange points (IXP), the share of BIRD has been growing and in 2015 it was used by two thirds of all exchange points. The Czech software is therefore the most popular and unrivalled software for route servers all over the world, far ahead of Quagga and CISCO. The peering centres using BIRD include the biggest: the Frankfurt DE-CIX, London LINX and Amsterdam AMS-IX. Outside the old continent, it is for example the South-African NAP Africa, Point of Nigeria and the Japanese JPNAP. BIRD is also used in Netflix and its Open Connect Appliances.

Router catalogue

This catalogue offers independent tests of routers intended for use in households and small businesses (so-called SOHO). The primary objective of the catalogue is to investigate the real parameters of the device, but also test the support of new technologies (IPv6, DNSSEC) and offer objective information to users. e.g. for making purchase decisions. Two test rounds were performed in 2015, extended by Wi-Fi performance measurements with the support of the latest 802.11ac technology. The total number of tested devices rose to 60, i.e. by 22 % year-on-year.

Knot DNS

This is an authoritative DNS server (under development) that shall bring high performance as the first thing. Among available open source solutions (BIND, NSD), Knot DNS has the highest performance (qps) without compromised functionality and support of the standard. In 2015 several new releases were published in the branch with long-term support (LTS, version 1.6.x) as well as in the main development branch (2.x). Version 2.1, with a major increase in performance and improved DNSSEC support, was the latest release.

Knot Resolver

The development version of the Knot Resolver DNS server was introduced in 2015. This is the extension of the open high-performance Knot DNS server in the area of recursive resolvers. The Knot Resolver is the flexible platform for building recursive DNS services thanks to a high degree of modularity and programmable configuration in the Lua language. At the end of 2015 the beta version of this program was available. It is currently used in several installations within CZ.NIC and has been offered to Turrís router users.

Multi-platform interface for data box access

As part of our support of the internet infrastructure and free and open software, the CZ.NIC Labs developed an interface for access to the data box information system (ISDS) in 2010. The Datovka software is now

available for PC users with operating systems Linux, Windows and OS X. An app for mobile devices such as tablets and smartphones is available also for Android and iOS (iPad, iPhone).

The Datovka app was further refined in 2015, reflecting user needs. Support for dividing the message database into annual units, which accelerated the application for users with a high number of messages, was added for example. Also, support was added for the command line interface, allowing automation of operations involving stored messages and databases. By the end of 2015 it was already over 30,000 users – particularly SMEs, freelancers and natural persons – who were using all applications.

Netmetr

As part of our collaboration with the Czech Telecommunication Office (ČTÚ), applications and servers of the Austrian RTR regulator were adopted for the Czech environment. The primary objective of the mobile app is to offer users the possibility of verifying their internet connection quality (both mobile and Wi-Fi) and compliance with network neutrality terms. The Netmetr app can be downloaded free of charge from the Google Play market (for the Android platform). The publicly accessible part, published at www.netmetr.cz, allows anonymous display of measurements, contains an easy-to-read map of achieved speeds and outputs can be downloaded as open data.

Tablexia

Tablexia is an education app for tablets, designated for the support of cognitive abilities among children with dyslexia and grade 2 of primary schools. The CZ.NIC Labs collaborate with top Czech experts in education of children with dyslexia in the development of this app. The Tablexia app was developed as open software and is available free of charge.

It contains six separate games taking place in the unifying environment of a detective story. The app was overhauled in 2015 with the use of the libGDX multi-platform library. Now, apps can be offered not only for Android, but also iOS and desktops.

Testing was done on about 200 children from cooperating schools in 2015 under the supervision of the Tablexia team. These partner schools include e.g. the private primary school Integrál for pupils with specific learning disorders, primary schools Táborská, Dolní Břežany, U Boroviček, Děčín IV., the primary school of professor Zdeněk Matějčík in Most, the Sázavská general secondary school, the primary logopedic church school Don Bosco and primary school Vojnovičova in Ústí nad Labem. Besides these schools, Tablexia is also used for work with children in the DYS-centre Prague and many pedagogical and psychological counselling centres. By the end of 2015 Tablexia was used by more than 7000 teachers from the Czech Republic and Slovakia. Fully adopted to the specifics of the German language and manifestations of dyslexia in this language environment, the German version of this app is currently being tested.

Turris

The aim of the Turris project is to analyse security situations in end user networks and research protection against cyberattacks. Distribution of the second version of the Turris (1.1) router, now with support for USB 3.0, wireless modems, etc., to volunteers from the public ended in 2015. The routers were rented for a symbolic price of CZK 1 with the commitment of providing security data during three years.

Focused on household automation, the "Turris Gadgets" event was organised for Turris users in 2015 in cooperation with the Jablotron company. If interested, users could contribute to the design of their own household automation connected with the Turris router.

The Turris project followed the success of its hardware and software in the Czech Republic and abroad and the new router Turris Omnia was introduced in 2015. Like the previous router, this router uses open hardware and the same operating system Turris OS as its previous version. Like the first Turris router, also the Turris Omnia router offers high performance, security and extendability. It is however not designed only for security research, but also for commercial distribution on the market. To verify project viability, a crowd-funding campaign was chosen on the Indiegogo portal. On the very first day, the target of USD 100,000 was already exceeded and USD 450,000 were collected in total until the end of the year. In 2015 the TURRIS project also won the international award European Cyber Security and Privacy Innovation Awards (iPACSO) in category Innovative Cyber Security or Privacy Research.

Development of internet standards and international cooperation

The staff of CZ.NIC Labs are actively working in the IETF work group (Internet Engineering Task Force) which deals, among other things, with the development of internet standards (so-called RFC – Request for Comments). The CZ.NIC staff were active mostly in work groups dealing with standards connected with DNSSEC, DANE and the NETCONF protocol.

Education in the CZ.NIC Academy

The CZ.NIC Labs staff significantly contributed to education in the CZ.NIC Academy where they head courses focused on DNS and DNSSEC, the IPv6 protocol, the BGP routing protocol and the GIT versioning system. They also give lectures at Czech universities and conferences in the Czech Republic and abroad.

9 Education and awareness

The main activities of CZ.NIC include education and awareness, the aim of which is to improve the quality and quantity of internet use, no matter if used as a working tool or for private purposes. The educational and awareness activities targeted the broad as well as professional public in 2015.

9.1 Communication with the public

CZ.NIC communicates with the public through several communication channels.

They include press releases and messages for professional journalists but also journalists from media covering the broad public or specific recipients only. CZ.NIC publishes these releases in section News at www.nic.cz. The News section also belongs to information website of the CZ.NIC Academy, the association's education centre.

Other communications channels include accounts on social networks Facebook, Twitter and Google+. Information was intensively published on these accounts in 2015. The news were supported – in some cases by numerous – images, photos and graphics on a daily basis. This is also one of the reasons why CZ.NIC had over 1800 fans at the end of 2015, which is about one fifth more than in 2014. Also the fan base on Twitter grew year-on-year from about 1750 to about 2370. CZ.NIC was also communicating through Google+, even though not to

such a high degree as with Facebook and Twitter. The NIC-NEWS was another communication instrument and was distributed to the subscribers to this e-mail conference almost every two weeks. The CZ.NIC employees were notified about current activities through the IN newsletter with the same periodicity.

An on-line blog of CZ.NIC staff is also an essential communication element. 82 contributions were published in 2015 thanks to activities of the association employees. The CZ.NIC blog has been a semi-official communication channel for a long time already (unlike accounts on social networks). It is no exception that journalists with different focus use this information for their needs.

The topics communicated in 2015 were connected with the association itself, with its designers and activities, but also with topics that more or less affect CZ.NIC and its activities. Like in 2014, the portion of media with technical and non-technical orientation was more balanced. From the technically oriented media the most frequent were Root.cz, Lupa.cz, Linux EXPRES and printed magazines Security World and IT Systems. CZ.NIC communicated with the general public mostly through Novinky.cz. Topics connected with internet security were enjoying great popularity also in 2015.

The CZ.NIC staff published 57 papers in 2015 (i.e. 19 more than in 2014) not only on the above mentioned internet portals and in the magazines,

but also in such media as Data Security Management, Moderní Obec and Obec a Finance. Ondřej Filip, the CZ.NIC CEO, and other employees (mostly from security teams) were hosts in TV shows and broadcast programmes.

	Outputs in media		Social networks (fans)	
	Papers	Blog	Facebook	Twitter
2012	21	97	900	630
2013	29	95	1 100	1 000
2014	38	84	1 500	1 750
2015	57	82	1 800	2 370

9.2 Popularisation TV series

9.2.1. Jak na Internet

The "Jak na Internet" series is the most visible educational activity of the Association. The series was first shown in the autumn of 2012 in Czech TV programmes.

Ten new episodes were made in 2015 and shown, illustrating how successful the first one hundred episodes were. Besides new production,

episodes from past seasons were also repeated on CT1 channels, which significantly raised the watching rankings. The series was viewed by more than 160 million viewers, of which about 56 million was in 2015.

The on-line design of the series also saw some changes. Search can now be done at www.jaknainternet.cz based on topic categories and also through a search engine. On the subpages of the episodes there are links for fast download of videos and work sheets prepared in collaboration with the CZ.NIC Academy for pedagogical staff and others who are interested. Thanks to cooperation with the Jobs.cz server, the "Jak na internet" series and videolearning are available also on the Seduo.cz platform. Activities connected with the "Jak na Internet" series included a unique comics issued in the CZ.NIC Edition in 2015.

9.2.2. Lovci záhad

Besides the highly popular "Jak na Internet" series, CZ.NIC became the coproducer of three episodes of the "Lovci záhad" (Mystery Hunters) series for children and the youth.

The "Jak propojit svět" (How To Connect the Worlds) episode is about the emergence and functioning of the internet. The second episode "Velká parta z netu" (Big Gang from the Net) informs about social networks and possible risks connected with their use. The last episode made under the coproduction is called "Tečka cézet" (Dot CZ) and covers the domain name environment.

9.3 CZ.NIC Academy education centre

At the beginning of 2015 the CZ.NIC Academy got a gift: new teaching room in the CZ.NIC head office, equipped not only with new presentation systems, but also with more powerful PCs. Participants can now use modern systems and a comfortable teaching room in Milešovská, with corresponding backrooms, and take courses with mostly technical focus.

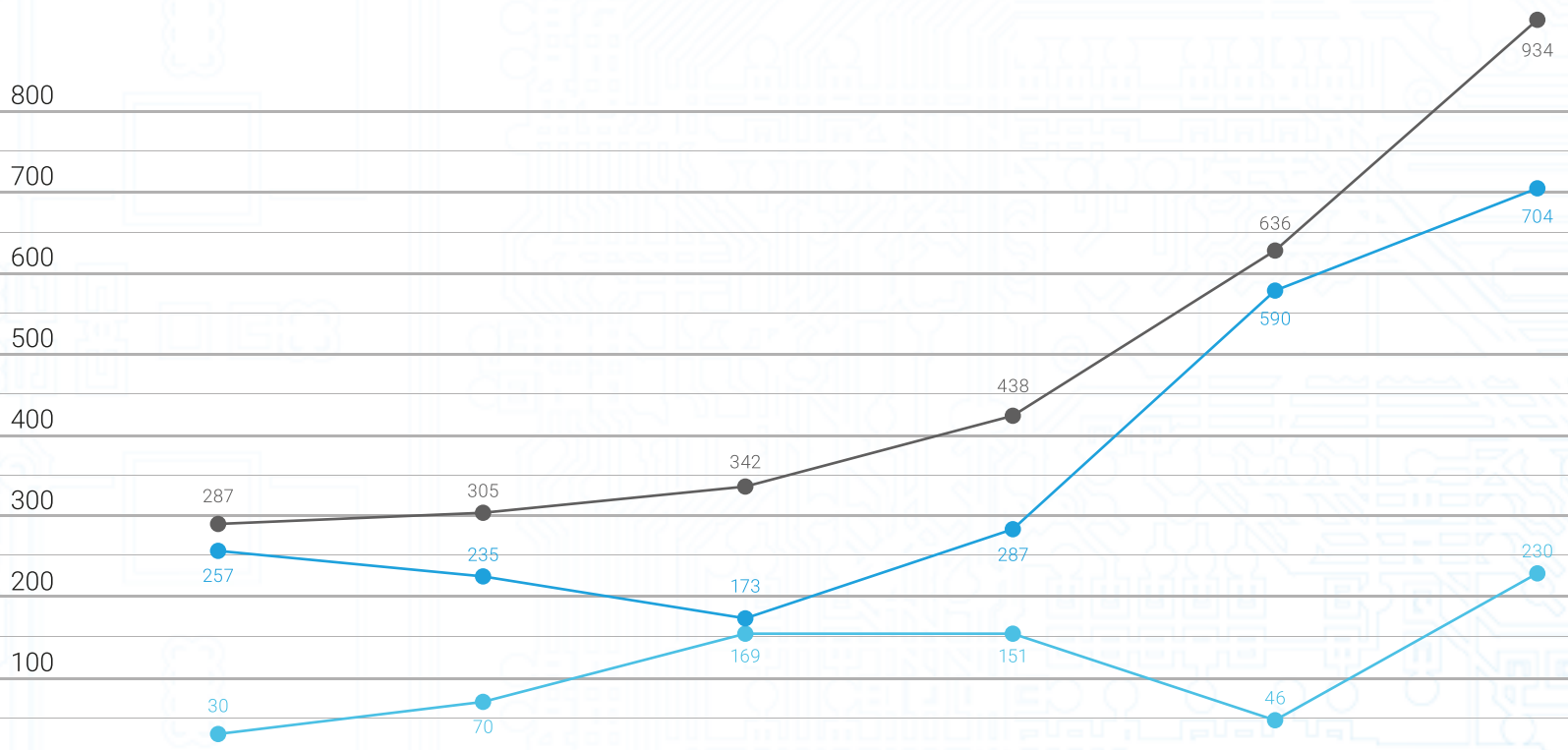
Four new courses were added to the offer in 2015: Git – universal versioning course, Advanced networking in Linux, Internet of things and Vim. The first course mentioned above immediately became the most visited one. Besides regular courses for the public, the Academy also organised courses, the topics of which were customised to the needs of clients from the public as well as private sectors.

For a long time, the CZ.NIC Academy has been hosting events for Czech and foreign organizations spreading IT knowledge and developing internet infrastructure. From the foreign organizations we can mention meetings of the EuroISPA work group, the IPv6 Hackers Meeting or RIPE NCC courses. From the Czech organizations CZ.NIC hosted a programming course of Czechitas, an organization for higher involvement of women in IT.

The Academy organized regular events for primary and secondary school pupils and university students across the Czech Republic. Presentations about domains, internet technologies and safe behaviour on the internet were most popular. Also Jiří Průša, coordinator of European projects, and Pavel Bašta from the CSIRT.CZ National security team

attended the presentations. A total of 900 students in 13 schools attended the presentations.

Since 2015 the CZ.NIC Academy has been publishing a Newsletter where students, teachers, IT experts, HR staff and other company representatives can learn about upcoming workshops, dates of upcoming courses and special events in the area of internet technologies.



Number of rounds
2010
 22

2011
 31

2012
 27

2013
 39

2014
 65

2015
 72

■ Professional courses
 ■ Customised courses
 ■ Total

Name of course	Number of rounds	Number of students
3D printing	4	40
Web application security	4	65
DNSSEC – DNS security	3	25
E-signature and public keys infrastructure	4	34
IPv6 implementation	5	49
IP telephony – SIP protocol	3	27
IPv6 and DNSSEC in the public sector and public procurement	1	3
How to implement mojED	1	4
Practical aspects of computer security	8	143
Practical lessons with tables (for primary and secondary school teachers)	2	16
DNS principles and administration	3	24
BGP routing protocol	4	37
Git – universal versioning system	7	104
Advanced networking in Linux	2	36
Seminar for CSIRT teams	2	42
Vim	2	9
Internet of things	2	15
Arduino workshop 101 for adults	1	20
Practical aspects of computer security for school system administrators	1	11

List of professional courses organised by the CZ.NIC Academy in 2015

Name of course	Number of rounds	Number of students
Cyberact – decree	7	108
Practical lessons with tables (for primary and secondary school teachers)	1	22
IPv6 implementation	1	25
Practical aspects of computer security	2	40
IP telephony – SIP protocol	1	5
Git – universal versioning system	1	30

List of customised courses organised by the CZ.NIC Academy in 2015

Type of course	Total number of rounds	Total number of students
Professional courses	59	704
Customised courses	13	230
Total	72	934

Total number of courses organised by the CZ.NIC Academy in 2015

9.4 Conferences

In 2015 CZ.NIC organised two conferences, the focus of which was the internet and IT, in the Czech Republic in cooperation with its partners. The one-day conference "Internet and Technologies" (15) took place on May 28, 2015, in the National Technical Library in Prague and introduced topics connected with domains and security. Registrars and the NIX.CZ Association, the event partner, also introduced their latest innovations. Among other things, the participants obtained up-to-date information about the Turris project and mojID. The conference was attended by 150 persons and 876 viewers were watching the lectures on-line.

The two-day follow-up of the "Internet and Technologies" (15.2) conference took place on November 13 and 14, 2015 on the premises of the Faculty of Mathematics and Physics of Charles University in Prague. Presentations, innovations and interesting information from the research and development department of CZ.NIC Labs were the main focus. Lectures devoted to Knot DNS, Tablexia and mojID were on the agenda. The next part of the Turris project, the crowd-funding campaign for the support of the Turris Omnia router, was also officially introduced at the conference. A large part of the second conference day was devoted to the Turris project. Those interested in this advanced text editor could also attend a workshop with the same name. The conference was attended by 147 visitors and 2324 viewers were following on-line.

The CZ.NIC Association was presenting itself in 2015 at many professional conferences in the Czech Republic and abroad. From the domestic events this was for example the Czech Internet Forum, Křišťálová Lupa, InstallFest, CEE Peering Day, SUT SH, Junior Internet, ISSS, ICT Day, Linux Days, Parádní web, lawfit, ČAEK 2015, Cyber security, Kryptofest and other.

As laid down in the development policy (and together with Brocade), CZ.NIC hosted a international meeting of internet experts, scientists and engineers: the IETF93. A total of 1384 participants came to attend this meeting in Prague between July 19 and 24, 2015.

9.5 Editions of CZ.NIC books

Publishing industry and popularisation books with topics connected with the internet and its technologies is one of the educational and awareness-raising activities of CZ.NIC. Books are printed and published in the digital format in the CZ.NIC Edition and can be downloaded free of charge at knihy.nic.cz.

In 2015 the CZ.NIC Edition published two books and its first comics. During the first six months of 2015 CZ.NIC published the book "**Dive Into HTML 5**" of Mark Pilgrim, whose publication "Dive into Python" was published by CZ.NIC already in 2011. In the second half of 2015 the book "**Be modern with Moodle**" from Václav Maněna et al. was published. This book is devoted to the Moodle platform, the most popular e-learning platform. Given the popularity of the "**Jak na Internet**" series, a comics was published bearing the same name. The author is Jiří Vaněk et al. and graphic design was done by Aneta Biskupová from the CZ.NIC Association.

By the end of 2015 the CZ.NIC Edition counted already 12 titles from domestic and foreign authors. Gradual transition from old publications to formats suitable for electronic readers (MOBI and EPUB) was among the 205 innovations.

10 Cooperation and partnership

Without exaggeration, the Internet is the most important communication tool. It connects millions of users on all continents, including Antarctica. We are often told that the Internet does not know any borders and that it does not fall under the authority of any country. This does not mean, however, that the Internet is not managed and does not have any rules. But unlike many other industries, these rules are created by the Internet community, representing a large group of sympathizers and supporters of this global network. In order to utilize the efforts of all members of the organization, it is necessary to foster mutual cooperation, both on the national as well as the international level.

Cooperation with domestic partners assists in creating the most suitable system for administering the national domain for Czech internet users and, mostly through the projects in our laboratories, helps to introduce new technologies and develop an information-based society.

International cooperation helps us to observe global trends, but thanks to the active involvement of the association's employees, it also helps us to participate in shaping and creating future technology that influences our daily lives.

Our association's representatives, both regular employees and members of management, are welcome guests at national and international professional conferences due to their high level of expertise.

10.1 Czech Republic

Due to the importance of the activities carried out, CZ.NIC is a natural partner for both the civil service and common-interest associations involved in the internet field.

10.1.1 Cooperation with civil service

The importance of domain name administration and the related Internet infrastructure is comparable to the importance of other critical infrastructure, such as energy and transport. As an administrator of the national domain, CZ.NIC considers the protection of this infrastructure as its duty and moral obligation to the Czech Republic. Furthermore, CZ.NIC is a proud partner of many state agencies. The association cooperates with them to further develop Internet infrastructure.

In 2015 the operations of the National Security Team SCIRT.CZ were legally confirmed by the Cyber Security Act law no. 181/2014 Coll. (which also legally confirms the operations of the National Computer Emergency Team) and regulated by the public service contract that was signed on December 18, 2015 between the National Security Authority and the CZ.NIC Association as the operator of the CSIRT.CZ National security team.

In addition, the CZ.NIC Association has reached an agreement with the Czech Telecommunication Office that sets out mutual cooperation between both parties. The main focus of the cooperation is on Internet security, development of electronic communication networks and Internet administration, including the issue of domain names. One concrete result of this cooperation is the implementation of the NetMetr project which focuses on measuring the quality of mobile high-speed Internet (broadband) service.

In compliance with the cooperation agreement signed in 2012 with the Ministry of Industry and Trade, the employees of the CZ.NIC Association have provided regular consulting services about issues related to Internet administration, IPv6 and DNSSEC technology during the implementation of the national strategy for electronic communication

Digital Czech Republic 2.0 (*Digitální Česko 2.0*). The Ministry of Industry and Trade also publishes on its website information about the state of implementation of IPv6 in the civil service.

In cooperation with local governments, CZ.NIC has supported the *Golden Crest of Arms (Zlatý erb)* competition for the best city or village website. As a technical partner of the competition the CZ.NIC association evaluates the competitors in the “IPv6 and DNSSEC support” category and also provides input in evaluating other criteria. In addition, the association has continued its cooperation on a similarly focused competition called *Great Website (Parádní web)* which is organized by the Interior Ministry and Civil Service magazine. Another important activity aimed at the local governments was the expansion of *myID (mojeID)* service in electronic services offered by municipalities and regions, for example in the Vysočina region and Zlín region.

10.1.2 Cooperation with non-profit sector and social accountability

Safe Internet.cz (Bezpečný Internet.cz)

The CZ.NIC Association works closely with the National Center for Safer Internet (*Národní centrum bezpečnějšího internetu* – abbreviated as NCBI) that implements a long term project called Safe Internet.cz. The goal of this project is to draw attention to the risks associated with using the Internet and provide information about effective methods for preventing these risks. In 2015, CZ.NIC association signed a contract with NCBI to operate an internet hotline for reporting illegal or undesirable online content.

People in Need (Člověk v tísni)

Supporting the People in Need organization is one of the socially-beneficial activities conducted by the CZ.NIC Association. Particularly, the CZ.NIC Association supports the People in Need educational project called One World in Schools (*Jeden svět na školách*) which provides schools with documentary films and accompanying tools to educate pupils about modern history and current issues in the world.

Open Data Forum (Fórum pro otevřená data)

The CZ.NIC Association continued the partnership with the Open Data Forum project, which was created through the initiative of the Otakar Motejl Fund and with support from the Faculty of Information and Statistics of University of Economics and the Faculty of Mathematics and Physics of the Charles University in Prague. The main aim of this partnership is to provide information about the possibilities of using open data in practice and offer the civil service and the public methodological and consultation support.

Animal aid

The CZ.NIC Association regularly contributes financially to Prague and Zlín zoos to support the breeding of the Southern cassowary, a species originally from New Guinea and Australia. The Domain cassowary, a still relatively unstudied relative of the Southern cassowary, can be sporadically found in the Czech Republic. To learn more about this type of cassowary visit www.kasuar.cz.

Heart on Sleeve Foundation (*Nadační fond Srdce na dlani*)

To support children in orphanages, the CZ.NIC Association has become a partner of the 11th annual beneficial concert of the Heart on Sleeve Foundation that took place in the National House of Vinohrady on 25 November 2015. All the proceeds of the beneficial concert were used to fund activities for children in orphanages.

10.1.3 Membership in professional and common-interest associations

NIX.CZ

The NIX.CZ Association is the largest Internet Exchange Point (IPX) in the Czech Republic and one of the most important in the world. This largest Czech IPX is an umbrella organization with the purpose of interconnecting the networks of national and international Internet service providers. The CZ.NIC Association is a member of NIX.CZ and actively contributes to its operations, particularly through the FENIX project. The utilization of CZ.NIC association's laboratories by NIX.CZ, especially the use of BIRD, is also significant.

Tuesday Business Network

Tuesday Business Network is an independent association of which CZ.NIC is a member. It provides platforms for regular meetings and gatherings of technology entrepreneurs, investors and IT professionals.

10.2 Cooperation and partnership abroad

Thanks to the activities of the CZ.NIC Association on the international Internet stage, foreign organizations involved in the internet field are increasingly choosing CZ.NIC as their cooperation partner and the Czech Republic is more frequently chosen as a place for their meetings. The CZ.NIC Association welcomes this development because the local Internet community will have easier access to interesting topics and to leading international Internet experts.

10.2.1 Cooperation with foreign registries

Administrators of national registries of domain names are logical foreign partners of CZ.NIC organization. Traditionally, cooperation has included the use of the Czech open-source registration system FRED, which was launched in 2015 in 8 countries on 3 continents: Albania (.al), Angola (.co.ao and it.ao), Estonia (.ee), Faroe Islands (.fo), Guatemala (.gt), Costa Rica (.cr), Macedonia (.mk) and Tanzania (.tz).



Map of the World with countries using FRED.
In 2015 Estonia switched from using FRED to its own registration system.

10.2.2 Involvement in European Cooperation projects

In compliance with the long-term goal of developing internet technology and information-based society, the association was involved in the following projects supported by the European Commission in 2015:

CS Danube (Cyber Security in Danube Region)

In 2015, CZ.NIC started implementing a new CS Danube project as a lead partner of an international consortium. The aim of this project is to strengthen the trust and cooperation between CERT and CSIRT security teams and to share their know-how and tools. Educational lectures about website security, which will strengthen the capability of both teams, are an integral part of this project. Foreign partners from Austria, Slovenia, Croatia, Serbia and Moldova are participating in the implementation of this project which is supported by the START program of EU Strategy for the Danube Region.

e-SENS (Electronic Simple European Networked Services)

Implementation of this project which focuses on the support of electronic services and tools, such as electronic identification or electronic document delivery, started in 2013. The aim of this project is to support further development of the Digital Single Market and public and private sectors' electronic services.

GEN6 (Governments ENabled with IPv6)

The aim of this project, which started in January 2012 and ended in 2015, was to support the transition of civil service agencies to a new version of the IPv6 protocol. The CZ.NIC Association contributed to the project by conducting civil service benchmarking tasks and providing public education. At the end of the project, the CZ.NIC

Association has implemented and expanded an online web tool at the address www.982.cz which enables all agencies and institutions in the Czech Republic to check their web presence's support for IPv6 and DNSSEC.

STORK 2.0 (Secure idenTity acrOss boRders linKed 2.0)

This project started in April 2012 focuses on issues of cross-border recognition of electronic identification tools in Europe. The national identity service *mojeID* was selected as a representative for the Czech Republic. *MojeID* service has reached the QAA (Quality Authentication Assurance) level 3, which is comparable to, for example, Swiss electronic identification cards. According to the eIDAS decree, this level is considered to be "highly trustworthy". As a part of this project, CZ.NIC association has also put the national PEPS (Pan-European Proxy Service) gateway into operation. This gateway connects the Czech Republic to other similar gateways elsewhere in the European Union. Thanks to this gateway, users of *mojeID* are also able to log on to selected services of the European Commission.

Aside from the above-mentioned projects, the CZ.NIC Association has also proposed a project entitled **CZ.PEPS** (Czech Pan-European Proxy Service) that will follow up on the STORK 2.0 project. In accordance with the eIDAS decree, the **CZ.PEPS** project will prepare the Czech national infrastructure for cross-border recognition of electronic identification tools.

In cooperation with the Institute for the Information Industry of the Republic of China (Taiwan), the CZ.NIC Association has submitted a project entitled "**Honeypot as a Service**" (HaaS) to a competition organized by the Technology Agency of the Czech Republic. This project was chosen as the best in the aforementioned competition. Realization of this project is scheduled to start on 1 June 2016.

10.2.3 Membership in professional and common-interest organizations

APWG (Anti-Phishing Working Group)

APWG is a global coalition of private associations and state and law enforcement agencies that focuses on global prevention of cybercrime, primarily spam.

CENTR (Council of European National Top Level Domain Registries)

CENTR is a non-profit organization that joins together national domain administrators as well as the administrators of the highest-degree generic domains. The organization focuses mainly on European registries, but representatives of other geographical regions such as Canada and Japan are also members. Representatives of the CZ.NIC Association – a member of CENTR since 2001 – regularly attend meetings of the Admin group (dealing with administrative issues and technical procedures of registries), the Legal & Regulatory group (dealing with issues of finding alternative solutions to disputes, personal data protection and other topics), the Marketing group and technical workshops (Research & Development).

CECSP (Central European Cyber Security Platform)

CECSP is a joint initiative of the Czech Republic, Slovakia, Poland, Hungary and Austria for the purpose of sharing information, best practices and know-how on cybernetic threats and potential attacks. This shared platform helps with coordination of work teams, collective education and exercises. This platform should also serve as a place where the above-mentioned states find common ground and answers to international questions. Regular meetings of CECSP help build trust among working teams and share information.

DNSSEC Industry Coalition

This organization promotes the use of DNSSEC security technology on an international level. The aim of this organization is to enforce a common procedure for promoting and implementing DNSSEC to all potential users, including domain registries of national and generic top-level domains.

DNS-OARC (The Domain Name System Operations, Analysis and Research Center)

DNS-OARC is a trustworthy platform where key subjects from the industry meet to share their experience with DNS operations, analysis and research in order to coordinate their activities most effectively, especially in the security field. Since 2010, Ondřej Filip, the CEO of the CZ.NIC Association, is also a chairman of the board of DNS-OARC. He is currently serving his third term in this capacity.

EURid (The European Registry of Internet Domain Names)

EURid association has been authorized to administer the .eu top-level domain by the European Commission. CZ.NIC is a member of this association and has a representative in the board of directors.

EuroISPA (European Internet Services Providers Associations)

EuroISPA is a pan-European association of European Internet Services Providers Associations (ISPAs). It is the world's largest association of Internet Services Providers (ISPs), representing over 2300 ISPs.

The CZ.NIC Association has been a member of EuroISPA since 2008. The main aim of EuroISPA is to represent ISPs in the European Union's legislative processes and to facilitate information sharing among individual internet service providers. In spring 2015, the CZ.NIC association hosted one of the meetings of EuroISPA.

ICANN (Internet Corporation for Assigned Names and Numbers)

ICANN is an international non-profit organization founded in 1998 whose main aim is to administer and assign generic top-level domain names (gTLD), national top-level domain names (ccTLD) and IP addresses. As an administrator of the national domain, the CZ.NIC Association sends its representatives to regular ICANN meetings and participates in activities of ICANN work groups. In 2015, Ondřej Surý became a member of the RSSAC (Root Server System Advisory Committee). Ondřej Filip, the CEO of CZ.NIC association, is also a member of ICANN's prestigious Security & Stability Advisory Committee (SSAC).

IETF (Internet Engineering Task Force)

This organization, which was founded in 1986, is closely linked with the birth of the Internet. IETF is a community of leading international professionals, network architects and representatives of the private sector. IETF approves and promotes Internet standards (so-called RFC documents) that guide most of the internet's traffic. In 2015, Prague city in collaboration with the CZ.NIC Association hosted the 93rd IETF meeting that was attended by 1394 visitors from 64 countries.

RIPE NCC (Réseaux IP Européens Network Coordination Centre)

RIPE NCC is an independent non-profit organization that supports the operations of Internet infrastructure. The administration of Regional Internet Registry (RIR) that allocates Internet resources and related services (e.g. IP addresses) to its members is one of the key activities of RIPE NCC. As a member of RIPE NCC, the CZ.NIC Association takes part in regular meetings and proceedings of the organization and participates in education seminars. Ondřej Filip, the CEO of the CZ.NIC Association, is also a co-chair of Open Source Working Group.

Trusted Introducer

Trusted Introducer is organized by the TERENA Association and unites CSIRT teams across Europe. Trusted Introducer is a reliable center for sharing sensitive information and know-how of individual CSIRT teams. CZ.NIC is a member of Trusted Introducer and is listed among the accredited CSIRT teams.

11 Association's organizational structure

11.1 Membership base

The membership base of the Association consists of many actors that significantly influence Internet operations in the Czech Republic. Members of the Association include Internet and communication service providers, domain name registrars, Internet and print media publishers, technology entrepreneurs, and also subjects that use domain names as an important communication tool.

Therefore, the CZ.NIC Association is a place where all the important actors on the Czech Internet scene can meet and influence the future direction of the internet in the Czech Republic. The large spectrum of business activities of the association's members and their involvement in the activities of the association, whether at General Assembly, in work groups, at seminars, through e-mail conferences, or directly in the association's working departments, increases and deepens the association's knowledge, continuously improves its operations and enables it to react to the constant development that is so typical for the Internet.

11.1.1 Membership requirements

Any corporate body that fulfils the general membership requirements is eligible for membership of the CZ.NIC Association. The general membership requirements include: a registered place of business or subsidiary in the Czech Republic or in any member state of the EU, ownership or possession of at least one .CZ country code top-level domain (ccTLD) and the payment of membership fee.

Members of the Association are assigned to three divisions (Chambers), namely the Chamber of Domain Name Holders, ISP Chamber, or Chamber of Registrars. Special conditions for membership in the individual Chambers are listed in the Association's regulations. The aforementioned organizational division is beneficial to the members because they are grouped together with similarly oriented subjects. This makes it easier for the members to formulate and defend their opinions and interests. Such organizational division also streamlines the association's meetings and proceedings, particularly the Collegium meetings and General Assembly.

On the 31 December 2015, the CZ.NIC Association had 115 members, i.e. two more than the previous year. The Chamber of Domain Name Holders has accepted three new members, while the ISP Chamber has lost one member due to the merger between GTS Czech Ltd. and T-Mobile Czech Republic plc.

11.1.2 Number of members by chamber

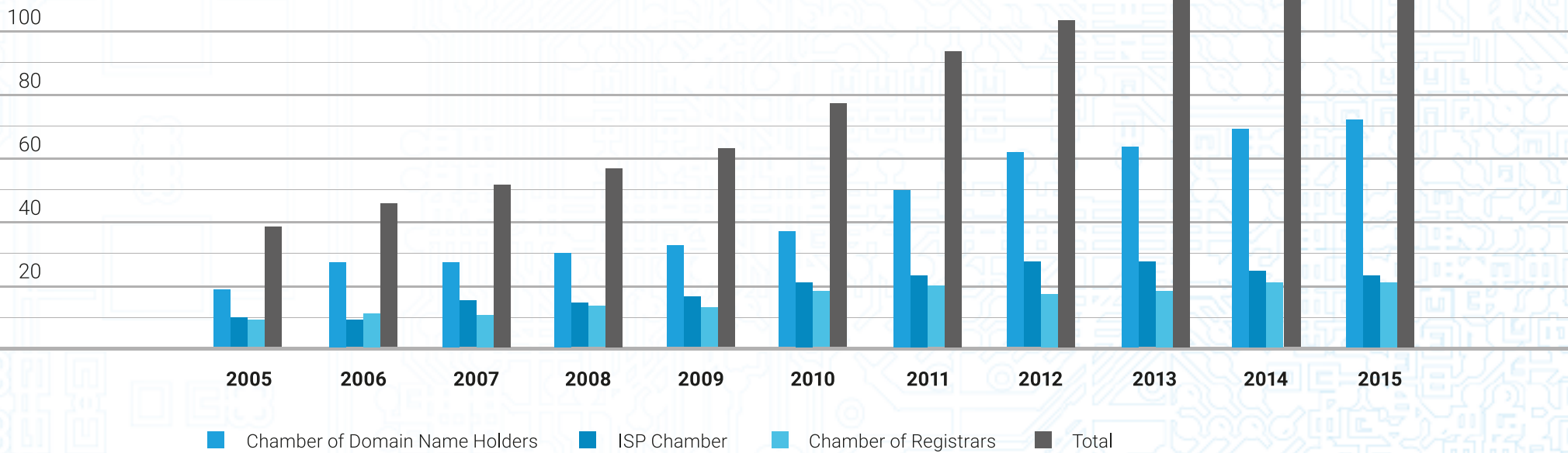
Regarding the member counts in the different chambers, the expansion of domain name holders continued and now already 62.9 % of members are united in the chamber.

Chamber of Domain Name Holders	62,6 %
ISP Chamber	20,0 %
Chamber of Registrars	17,4 %

Number of members by chamber

11.1.3 Membership count by chamber

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Chamber of Domain Name Holders	19	27	27	30	32	37	50	61	65	69	72
ISP Chamber	10	8	14	15	17	21	24	27	27	24	23
Chamber of Registrars	9	11	11	12	14	19	20	18	19	20	20
Total	38	46	52	57	63	77	94	106	111	113	115



11.1.4 Member list by chamber

Chamber of Domain Name Holders

Corporation

<u>Corporation</u>	<u>Business Identification Number</u>		
ABRATICA s. r. o.	26108534	Google Czech Republic, s. r. o.	27604977
ACOMWARE s. r. o.	25047965	Greenlux s. r. o.	28608747
ADAPTIVITY s. r. o.	24156027	Holubová advokáti s. r. o.	24686727
Advio Network, s. r. o.	28565673	IBM Česká republika, spol. s r. o.	14890992
AKREDIT, spol. s r. o.	25797387	ICZ a. s.	25145444
ALENSA, s. r. o.	27179681	igloonet, s. r. o.	27713482
AliaWeb, spol. s r. o.	26117363	I. H. P. společnost s ručením omezeným	48117846
Asociace pro elektronickou komerci (APEK)	68684797	INBES, spol. s r. o.	14502593
AUDITEL, s. r. o.	26775034	Intell. Net s. r. o.	27971546
BT Limited, organizační složka	70802025	Internet Info, s. r. o.	25648071
CD PROFESIONAL security agency, s. r. o.	25712713	Internet Mall, a. s.	26204967
CISCO SYSTEMS (Czech Republic) s. r. o.	63979462	i-registry s. r. o.	28451082
ComSource s. r. o.	29059291	Kanlux s. r. o.	27804861
Com-Sys TRADE spol. s r. o.	16188781	Klíč, spol. s r. o.	28129377
CQK HOLDING a. s.	28405579	Laurián s. r. o.	29018919
CYBERSALES a. s.	26199653	MAFRA, a. s.	45313351
Datahost s. r. o.	26390973	MARIAS s. r. o.	26136139
DELL Computer, spol. s r. o.	45272808	MASANTA.COM s. r. o.	25730533
Dimension Data Communications Czech s. r. o.	26175738	MEDIA FACTORY Czech Republic a. s.	26288311
ekolo.cz s. r. o.	27141659	Michal Krsek & partneři s. r. o.	27418570
EXPLORER a. s.	26726653	MITE Infonet s. r. o.	25660292

Moonlake Web Services, s. r. o.	29249911	ISP Chamber	
Neutral czFree eXchange, z. s. p. o.	75093201	<u>Corporation</u>	<u>Business Identification Number</u>
Nux s. r. o.	27234631	ABAK, spol. s r. o. čes. ABAK, GmbH něm. ABAK, Co.Ltd. angl.	40763153
Občanské sdružení Ubuntu pro Českou republiku	22674608	CASABLANCA INT s. r. o.	25079832
Orange Business Czech Republic s. r. o.	49620037	CentroNet, a. s.	26165473
Orego finance s. r. o.	24718955	CESNET, z. s. p. o.	63839172
PharoCom s. r. o.	25172131	COOLHOUSING s. r. o.	14893983
PP Partners Prague, a. s.	28204671	ČD – Telematika a. s.	61459445
Pražský Účetní Servis s. r. o.	26740575	České Radiokomunikace a. s.	24738875
Q3, s. r. o.	26226073	Dragon Internet a. s.	27237800
Seznam.cz, a. s.	26168685	Družstvo EUROSIGNAL	26461129
Skymia s. r. o.	28238613	Faster CZ spol. s r. o.	60722266
Software602 a. s.	63078236	FreeTel, s. r. o.	24737887
Socha, spol. s r. o.	48291153	INTERNEXT 2000, s. r. o.	25352288
SuperNetwork s. r. o.	25492063	IPEX a. s.	45021295
SVBsoft, s. r. o.	28523644	JHComp s. r. o.	26051362
Tech Ware spol. s r. o.	14891107	LAM plus s. r. o.	25129619
TIKWI s. r. o.	28917651	NetArt Group s. r. o.	27612694
Trustica s. r. o.	26514362	PODA a. s.	25816179
Unie vydavatelů, o. s. (Czech Publishers Association)	15887081	Qnet CZ s. r. o.	25518097
Unisys s. r. o.	48109291	STARNET, s. r. o.	26041561
ÚVT, s. r. o.	25701118	T-Mobile Czech Republic a. s.	64949681
VIZUS.CZ s. r. o.	27155315	Trestel CZ, a. s.	26177129
VOLNÝ, a. s.	63080150	VSHosting s. r. o.	61505455
Vymáhání a odkup pohledávek s. r. o.	27566510	2 connect a. s.	29007542
Webarium, s. r. o.	26089602		
Webnames s. r. o.	44848692		

Chamber of Registrars

Corporation

ACTIVE 24, s. r. o.
Dial Telecom, a. s.
e-BAAN Net s. r. o.
GENERAL REGISTRY, s. r. o.
Gransy s. r. o.
IGNUM, s. r. o.
INTERNET CZ, a. s.
KRAXNET s. r. o.
Media4web, s. r. o.
NEW MEDIA GROUP s. r. o.
ONE.CZ s. r. o.
ONEsolution s. r. o.
O2 Czech Republic a. s.
Seonet Multimedia s. r. o.
Stable.cz s. r. o.
TELE3 s. r. o.
TERMS a. s.
Web4U s. r. o.
ZONER software, a. s.
1X s. r. o.

Business Identification Number

25115804
28175492
26867257
26027267
28087755
26159708
26043319
26460335
26735903
26124611
25503651
27710335
60193336
27522041
28741048
26096960
14499037
26058774
49437381
44632142

11.2 Association's organizational bodies

11.2.1 General Assembly

The General Assembly is the supreme organizational body of the Association. It includes all members of the Association, divided into three chambers: the Chamber of Domain Name Holders, ISP Chamber and Chamber of Registrars. Every member of the association has the right to attend the General Assembly, propose ideas, voice opinions and make comments.

11.2.2 Collegium

The Collegium is one of the Association's organizational bodies. Members of the Collegium are elected by individual chambers at the General Assembly or by other persons. The authority of the Collegium includes approving strategic plans and budgets, and electing or dismissing members of the board of directors and the Supervisory Board. The Collegium has 21 members; 18 members are elected by the Association's individual chambers at the General Assembly, the remaining three members are nominated by public authorities. The term of office for every member of the Collegium is three years.

Members of the Collegium elected at General Assembly

Members of the Collegium elected by the Chamber of Domain Name Holders from 1 January to 20 December 2015:

Marek Antoš	Štěpán Holub
Michal Pajr	Jiří Peterka
Jan Redl	David Vorlíček

At the General Assembly on 8 December 2015 Jan Šváb was elected as a member of the Controlling Board for the Chamber of Domain Name Holders and replaced Štěpán Holub. Furthermore, Michal Pajr was again elected for the next term.

Members of the Collegium elected by the Chamber of Domain Name Holders from 21 December to 31 December 2015:

Marek Antoš	Michal Pajr
Jiří Peterka	Jan Redl
Jan Šváb	David Vorlíček

Members of the Collegium elected by the ISP Chamber from 1 January to 31 December 2015:

Ondřej Filip	Tomáš Košnar
Petr Kuneš	Jiří Kysela
Zbyněk Pospíchal	Karel Taft

At the General Assembly on 8 December 2015 Jiří Kysela and Karel Taft were again elected to repeat their term.

Members of the Collegium elected by the Chamber of Registrars from 1 January to 8 December 2015:

Zdeněk Brůna	Tomáš Fiala
Martin Kukačka	Stanislav Kysela
Erich Syrovátka	Jaroslav Štětina

On 8 December 2015 Zdeněk Brůna resigned from his position on the Collegium and was replaced by Petr Šmíd, who was elected to serve for two years at the General Assembly. Furthermore, the members of association again elected Martin Kukačka and Erich Syrovátka to repeat their term on the Collegium.

Members of the Collegium elected by the Chamber of Registrars from 9 December to 31 December 2015:

Tomáš Fiala	Martin Kukačka
Stanislav Kysela	Erich Syrovátka
Petr Šmída	Jaroslav Štětina

Members of the Collegium nominated by public authorities:

Marek Ebert (The Czech Telecommunication Office)
Marie Moravcová (The Czech Chamber of Commerce)
Markéta Petruňová (née Nováková) (The Ministry of Industry and Trade of the Czech Republic)

11.2.3 Board of Directors

The Board of Directors is a statutory body of the Association. It governs the activities of the association and acts in its name. The authority of the Board of Directors includes approving the regulations for domain name registration and offered services. The Board of Directors consists of five members who each serve a three-year term. The appointment and dismissal of the members of the Board of Directors is the sole responsibility of the Collegium.

Members of the Board of Directors from 1 January to 31 December 2015:

Karel Taft (*1971), Chairman of the Board of Directors
Marek Antoš (*1979), Vice-Chairman of the Board of Directors
Tomáš Košnar (*1965), member
Martin Kukačka (*1980), member
Jiří Kysela (*1955), member

11.2.4 Supervisory Board

The Supervisory Board is the supervisory body of the association; it oversees the operations of the Board of Directors and the activities of the Association. The Supervisory Board has three members who each serve three-year terms. The composition of the Supervisory Board was affected by the resignation of the long-serving member Jiří Peterka.

Members of the Supervisory board from 1 January to 9 August 2015:

Jan Redl, chairman of the Supervisory Board
Ilona Filípková, member
Jiří Peterka, member

Members of the Supervisory Board from 9 August to 17 December 2015:

Jan Redl, chairman of the Supervisory Board
Ilona Filípková, member

Members of the Supervisory board from 17 December to 31 December 2015:

Jan Redl, chairman of the Supervisory Board
Ilona Filípková, member
Vlastimil Pečínka, member

12 Human resources

The strength of the Association depends on professionally skilled and qualified employees that are essential for achieving the Association's goals and ensuring future development. It is no exaggeration that many employees of the CZ.NIC Association are both nationally and internationally renowned. All employees continually educate themselves to increase their individual skills in foreign languages, soft skills or professional fields, in order to achieve maximal professional and personal quality and contribute to the future development of the Internet in the Czech Republic. For its employees, the CZ.NIC Association has created a non-smoking work environment which has a positive impact on their health.

12.1 Number of employees

The number of employees of the Association has increased in 2015 due to the increased pressure on human resources caused by the newly undertaken activities of the organization. The CSIRT.CZ security team has seen the biggest increase in the number of employees because of its obligations stemming from the Cyber Security Act and the implementation of the PROKI project under the Security Research Program of Czech Republic. The laboratories of the CZ.NIC association also required expansion of human resources for the TURREIS project. In 2015, a system of so-called "Fellows" was established, which led to a permanent increase

in the number of management members. In total, the number of employees increased by 12 last year, which coincides with the number of new permanent job positions.

Department	Number of employees 1 January 2015	Number of job positions 1 January 2015	Number of employees 31 December 2015	Number of job positions 31 December 2015	Change in employee count	Change in job position count
Lead workers	6	6	7	7	+ 17 %	+ 17 %
CZ.NIC Academy	1	1	2	2	+ 100 %	+ 100 %
CSIRT Security Team	5	3,7	8	6,2	+ 60 %	+ 68 %
Development projects	1	1	1	1	0 %	0 %
CZ.NIC Laboratories	34	29	37	31,55	+ 9 %	+ 9 %
Marketing/PR	5	5	6	6	+ 20 %	+ 20 %
Legal department/ Administrative workers	2	2	2	1,5	0 %	- 25 %
Network administration	5	5	6	6	+ 20 %	+ 20 %
Development	15	12,65	16	14,7	+ 7 %	+ 16 %
Customer support	10	10	11	11	+ 10 %	+10 %
Total	84	75,35	96	86,95	+ 14 %	+ 15 %

12.2 Employee structure

12.2.1 Employee structure by education

Most employees of the Association have higher education. CZ.NIC also gives recent graduates the opportunity to gain professional experience. To achieve this purpose, the Association strives to create suitable conditions by establishing subsidiaries in Brno, České Budějovice and Plzeň. The aforementioned focus on recent graduates has helped the association expand the number of university-educated employees in 2015, although the increase was not so significant as in 2014.

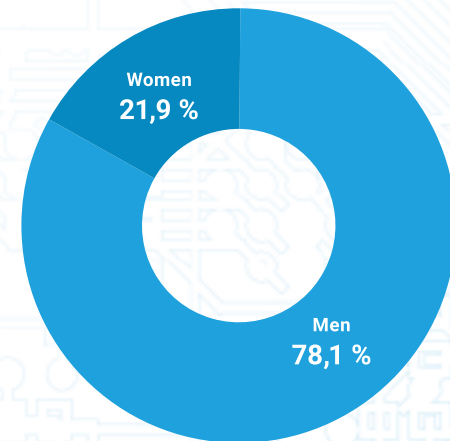
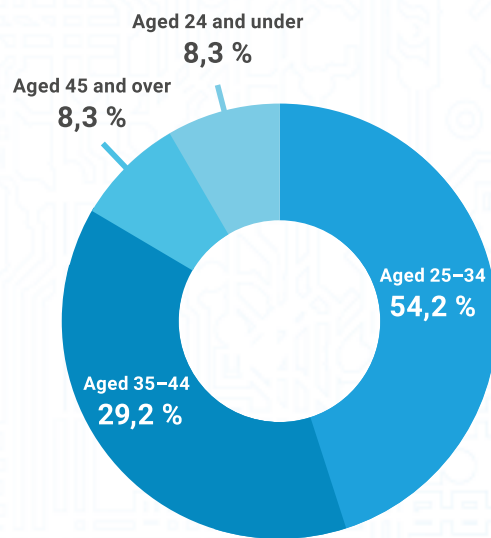
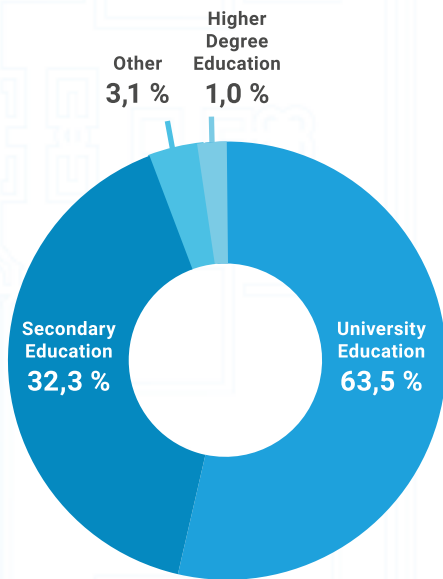
12.2.2 Employee structure by age

The average age of employees is 33.4 years. Because of the newly hired employees the average age in 2015 has increased by only 7.2 months. Employees aged 25 to 34 are still prevalent in the Association because of the high number of university educated employees and the support for recent graduates.

12.2.3 Employee structure by gender

CZ.NIC supports gender equality and equal opportunity in its employee hiring process. Thanks to a very generous work-life balance policy, the CZ.NIC Association has been able to increase the number of employed women. However, because the technical study fields at universities are

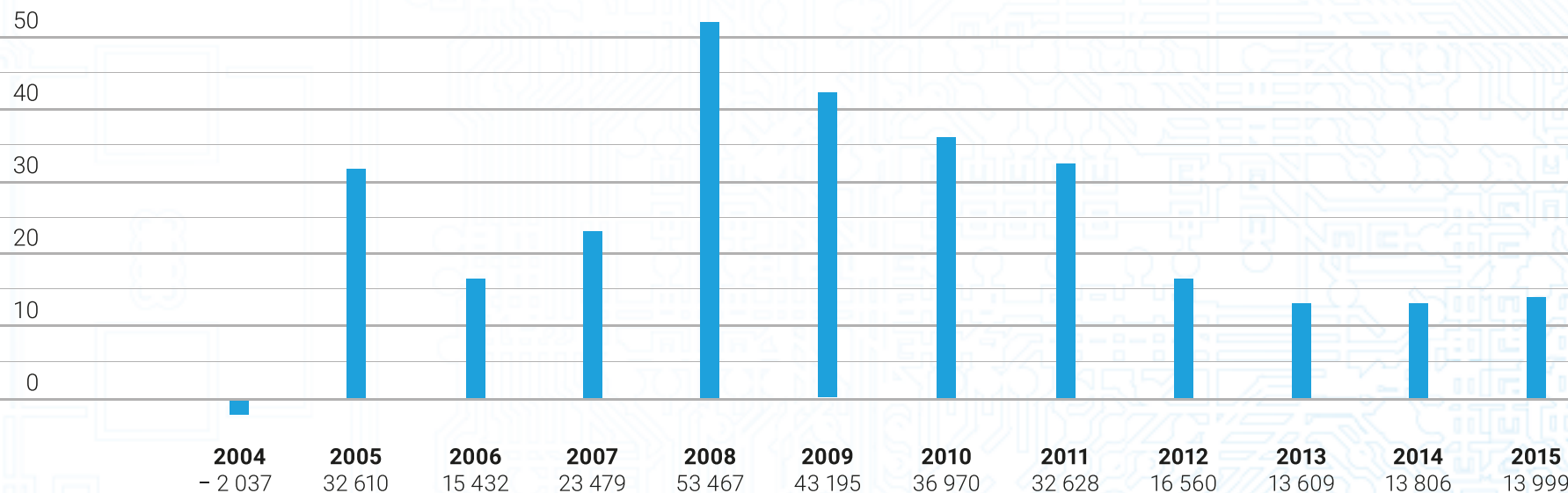
still dominated by male students, the number of employed women is still correspondingly low, just like in other technology oriented companies.



Employee structure

13 Selected financial indicators

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Revenue	137 632	139 167	133 050	155 848	119 376	140 994	137 751	136 998	141 912	222 736	199 898	211 703
Expenses	139 669	106 557	117 618	132 369	65 909	97 799	100 781	104 370	125 352	209 127	186 092	197 704
Income after tax	-2 037	32 610	15 432	23 479	53 467	43 195	36 970	32 628	16 560	13 609	13 806	13 999



Profit after tax (in thousands of CZK)

14 Balance sheet

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total Assets	100 982	147 926	168 026	171 222	221 778	275 087	312 202	361 566	387 674	405 154	431 392	449 278
Fixed assets	6 347	3 044	10 156	8 381	8 135	8 268	12 258	8 781	63 840	77 095	101 406	89 398
Intangible assets	1 841	1 179	3 210	3 806	1 522	0	0	0	300	249	331	281
Tangible assets	4 506	1 865	6 946	4 575	6 613	8 268	12 258	8 781	63 540	76 846	101 075	89 117
Financial Investments												
Securities												
Current assets	94 251	144 882	156 678	161 456	212 200	265 160	292 563	351 125	322 087	326 095	327 745	358 842
Inventory				55	211	48	184	278	189	277	453	798
Long-term receivables			106		715	1 196	1 351	1 379	1 335	59	59	58
Short-term receivables	880	852	2 872	1 018	1 051	1 851	4 338	12 180	10 676	18 540	22 100	4 948
Financial assets	93 371	144 030	153 680	160 383	210 223	262 065	286 690	337 288	309 887	307 219	305 133	353 038
Other assets	384	0	1 192	1 385	1 443	1 659	7 381	1 660	1 747	1 964	2 241	1 038

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Total liabilities	100 982	147 926	168 026	171 222	221 778	275 087	312 202	352 036	387 674	405 154	431 392	449 278
Own equity	6 014	38 624	54 056	77 535	131 181	174 197	211 167	243 795	261 094	274 591	288 397	302 395
Capital stock												
Capital funds												
Funds from profit	7 627	7 627	7 627	7 627	7 627	7 627	7 627	44 597	44 597	93 784	107 393	121 198
Profit or loss from previous years	424	-1 613	30 997	46 429	69 908	123 375	166 570	166 570	199 937	167 198	167 198	167 198
Profit or loss from accounting period	-2 037	32 610	15 432	23 479	53 646	43 195	36 970	32 628	16 560	13 609	13 806	13 999
External sources	16 786	26 831	18 753	13 706	16 764	13 851	14 877	15 988	17 684	27 479	22 497	32 140
Reserves								9 530	884	1 832	1 662	2 662
Long-term liabilities					193				241	304	235	1 344
Short-term liabilities	16 786	26 831	18 753	13 706	16 571	13 851	14 877	15 988	16 559	25 343	20 600	28 134
Bank loans												
Other liabilities	78 182	82 471	95 217	79 981	73 833	87 039	86 158	92 253	108 896	103 084	120 498	114 743

Balance sheet (in thousands of CZK)

15 Profit and loss account

	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Output and sales	136 250	139 020	131 864	147 564	108 671	109 764	120 980	127 135	134 030	142 295	155 134	167 480
Of which revenue and sales	136 250	139 020	128 952	144 740	108 671	109 764	120 980	127 133	134 144	138 755	150 880	166 318
Own work capitalized			2 912	2 824	0	0	0	0	0	3 379	4 044	797
Production consumption and costs	124 497	82 074	94 067	88 668	19 509	27 572	37 451	44 440	70 414	67 042	66 335	64 701
Added value	11 753	56 946	37 797	58 896	89 162	82 192	83 529	82 693	63 616	75 253	88 799	102 779
Staff costs	5 923	6 053	11 930	20 193	20 567	27 113	31 520	39 227	43 328	57 245	66 541	72 930
Depreciation of assets	4 294	4 944	4 900	6 042	5 851	5 069	6 980	6 145	4 183	4 922	13 296	15 552
Clearance of reserves								533	313	1 020	-137	1 020
Other operating income	421	-475	244	246	574	1 156	1 496	1 208	1 082	2 290	2 029	1 800
Other operating costs	598	321	516	435	393	433	3 034	351	626	916	1 432	994
Operating profit or loss	1 359	45 135	20 695	32 448	63 033	50 566	43 491	37 795	16 245	13 442	9 664	14 259

Other financial income	961	622	942	7 885	10 054	30 041	15 075	8 435	6 724	78 118	42 736	40 943
Other financial costs	2 719	115	81	7 077	4 129	25 342	11 208	4 623	685	74 915	38 254	39 428
Profit or loss from financial operations	-1 758	507	861	808	5 925	4 699	3 867	3 812	6 039	3 203	4 482	1 515
Profit or loss from ordinary activity	-399	45 642	21 556	33 256	68 958	55 265	47 358	41 607	22 284	16 645	14 146	15 774
Extraordinary income												
Extraordinary expenses	1 638		6 124	9 777	15 312	12 070	10 388					
Extraordinary profit or loss	-1 638		-6 124	-9 777	-15 312	-12 070	-10 388					
Profit or loss after tax	-2 037	32 610	15 432	23 479	53 646	43 195	36 970	32 628	16 560	13 609	13 806	13 999

Profit and loss account (in thousands of CZK)

16 Revenue development

170 000
160 000
150 000
140 000
130 000
120 000
110 000
100 000

2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
136 250	139 020	128 952	144 741	108 523	109 576	120 701	127 133	134 144	138 755	150 880	166 318

Revenue development (in thousands of CZK)

17 Data on facts between the Date of Final Accounts and General Assembly

No events occurred in the given time which would have had an impact on the data presented in the financial statements for 2015.

Zpráva nezávislého auditora pro členy zájmového sdružení právníků CZ.NIC

Ověřili jsme příloženou účetní závěrku sdružení CZ.NIC, zájmového sdružení právníků osob, tj. rozvahy ke dni 31.12.2015, výkaz zisku a ztráty za období od 1.1.2015 do 31.12.2015 a přílohu této účetní závěrky, včetně popisu použitých významných účetních metod.

Odpovědnost statutárního orgánu účetní jednotky za účetní závěrku

Za sestavení a věrné zobrazení účetní závěrky v souladu s českými účetními předpisy odpovídá statutární orgán sdružení. Součástí této odpovědnosti je navrhnout, zavést a zajistit vnitřní kontroly nad sestavováním a věrným zobrazením účetní závěrky tak, aby neobsahovala významné nesprávnosti způsobené podvodem nebo chybou, zvolit a uplatňovat vhodné účetní metody a provádět dané situaci přiměřené účetní odhady.

Odpovědnost auditora

Naší úlohou je vydat na základě provedeného auditu výrok k této účetní závěrce. Audit jsme provedli v souladu se Zákonem o auditorech a Mezinárodními auditorskými standardy a souvisejícími aplikačními doložkami Komory auditorů České republiky. V souladu s těmito předpisy jsme povinni dodržovat etické normy a naplánovat a provést audit tak, abychom získali přiměřenou jistotu, že účetní závěrka neobsahuje významné nesprávnosti.

Audit zahrnuje provedení auditorských postupů, jejichž cílem je získat důkazní informace o částkách a skutečnostech uvedených v účetní závěrce. Výběr auditorských postupů závisí na úsudku auditora, včetně posouzení rizik, že účetní závěrka obsahuje významné nesprávnosti způsobené podvodem nebo chybou. Při posuzování těchto rizik auditor přihlídně k vnitřním kontrolám, které jsou relevantní pro sestavení pro sestavení a věrné zobrazení účetní závěrky. Cílem posouzení vnitřních kontrol je navrhnout vhodné auditorské postupy, nikoli vyjádřit se k účinnosti vnitřních kontrol. Audit též zahrnuje posouzení vhodnosti použitých účetních metod, přiměřenosti účetních odhadů provedených vedením i posouzení celkové prezentace účetní závěrky.

Domníváme se, že získané důkazní informace tvoří dostatečný a vhodný základ pro vyjádření našeho výroku.

Výrok auditora

Podle našeho názoru účetní závěrka podává věrný a poctivý obraz aktiv, pasív, a finanční situace CZ.NIC, zájmového sdružení právníků osob k 31.12.2015 a nákladů, výnosů a výsledku jejího hospodaření za rok 2015 v souladu s českými účetními předpisy.

V Malenicích, dne 23. května 2016

ADU.CZ s. r. o

Záměstí 68, 387 06 Malenice
oprávnění KA ČR č. 368
jménem společnosti ADU.CZ s.r.o. vypracovala zprávu Ing. Simona Pacáková, auditor,
oprávnění KA ČR č. 1825



Ing. SIMONA
PACÁKOVÁ
2016.05.23
23:24:54 +02'00'

1 ADU.CZ s.r.o. - společnost zapsána v seznamu auditorských společností
v Komofe auditorů České republiky, číslo osvědčení 368
Záměstí 68, 387 06 Malenice, IČO: 62522078, DIČ: CZ62522078



2 ADU.CZ s.r.o. - společnost zapsána v seznamu auditorských společností
v Komofe auditorů České republiky, číslo osvědčení 368
Záměstí 68, 387 06 Malenice, IČO: 62522078, DIČ: CZ62522078



19 Registered place of business and contact information

CZ.NIC, z. s. p. o.

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130 00 Praha 3

ID No.: 67985726
VAT No.: CZ67985726
Phone: +420 222 745 111
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Data Box ID: h4axdn8

The Association is listed in the registry of special interest associations of corporate bodies at the Prague Municipal Authority, record number 58624.

CZ.NIC – 24 hour customer support
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Tel.: +420 731 657 660
e-mail: podpora@nic.cz