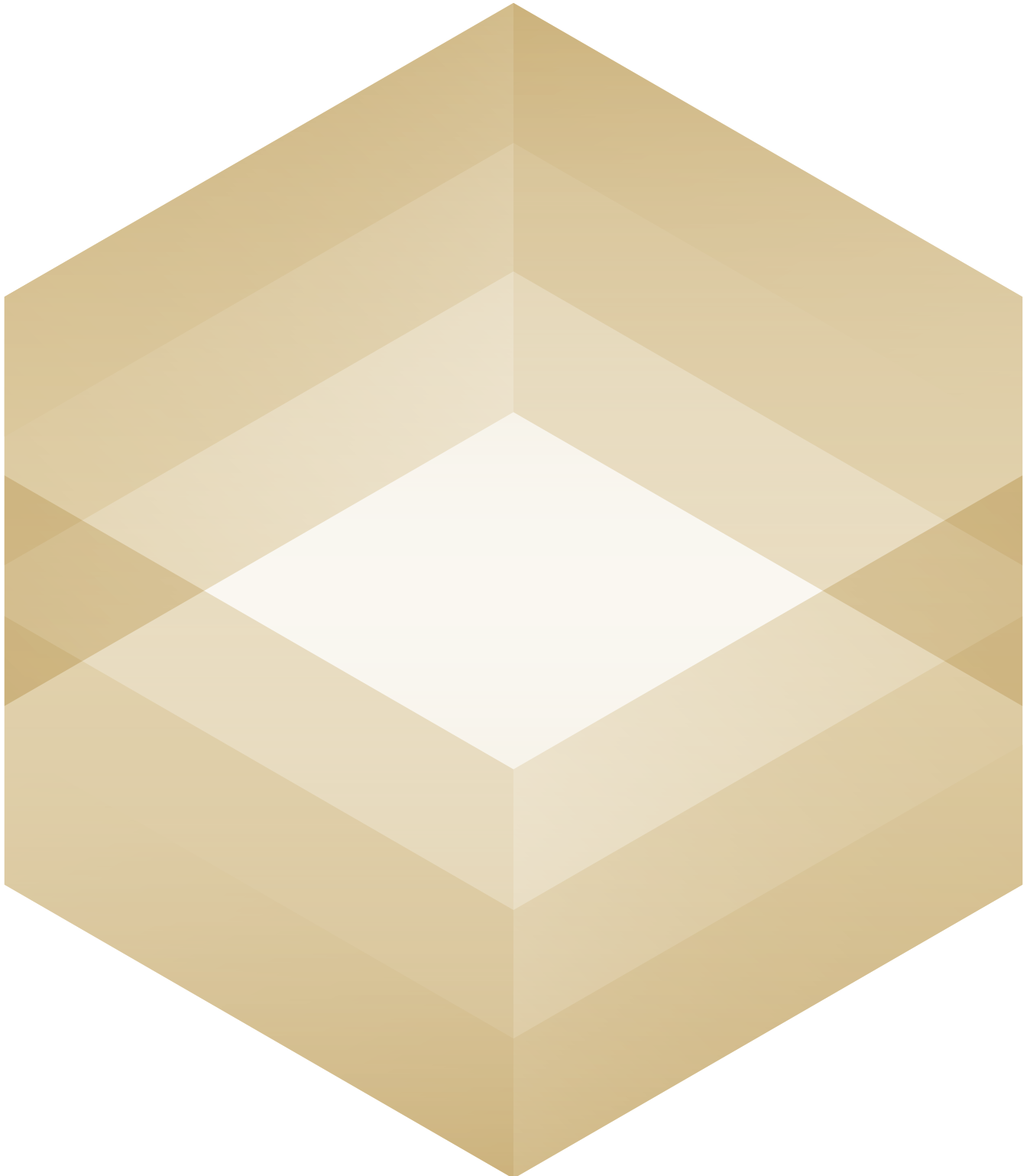


Activity Plan and Budget 2021

Date: September 2020





RIPE NCC Activity Plan and Budget 2021

The RIPE NCC Activity Plan and Budget 2021 documents the activities we plan to undertake in 2021 along with their associated costs. Costs are provided in terms of Full Time Employees (FTEs), Operational Costs (OPEX) and Capital Expenditure (CAPEX). The document also includes a section outlining our strategic focus points.

This document is the clearest way that RIPE NCC members can learn about, comment on and ultimately shape the direction we will take next year. We see this as an integral part of maintaining the trust of our members, by ensuring high standards of transparency and accountability.

It is important that members are aware of how to provide feedback on the Activity Plan and Budget. We publish a draft version of the document before discussions take place in the RIPE NCC Services Working Group and the RIPE NCC General Meeting (GM) in October. Members are also encouraged to ask questions and discuss the document on the RIPE NCC Membership Discussion mailing list (members-discuss@ripe.net).

The feedback received over this period is then incorporated into a final Activity Plan and Budget that is approved by the RIPE NCC Executive Board and published in December.

Shaping the RIPE NCC's Activities and Budget



Changes to this Activity Plan

As we prepare to embark on a new five-year strategy cycle, we have taken this opportunity to better align our internal budget allocation processes with our organisational structure. In doing so, we have identified four main areas of activity that serve as the pillars on which we have developed our strategy - Registry, Information Services, Community and Engagement, and Organisational Sustainability.

Our Activity Plan and Budget for 2021 has been prepared with this new structure in mind. This has allowed us to better reflect how we carry out our work as an organisation and to show how that work supports our mission. It will also enable us to achieve greater transparency, as well as greater accountability, as we state our goals for the year ahead. Note that, with the new structure in place, one-for-one financial comparison of activities from last year is not possible in this Activity Plan, but this will be possible going forward.



Executive Summary

Next year we will focus on strengthening our organisation from a security and compliance framework point of view.

In line with a strong emphasis on improving efficiency and cost control in recent years, and in light of an expected reduction in membership growth, we are planning a 3% decrease in expenses compared to our 2020 budget. We plan to grow our FTE count from 165 to 170 (3%), which is the first increase since our 2018 budget. A lower average salary cost makes this possible alongside an overall reduction in expenses.

While we have seen an increase in members consolidating their LIR accounts as anticipated, this has been offset by a higher than expected number of new members joining the RIPE NCC following IPv4 run-out. As a consequence, we expect to end 2021 with 25,000 members (LIR accounts) – which is around the same as now. This will result in a 3% growth in our income due to the sign-up fees paid by these new members.

While we anticipate that globally there will be economic downturn resulting from the COVID-19 crisis, we have seen that the Internet industry plays a key role in keeping people connected in difficult times and we believe it should be somewhat insulated from major impacts. However, this is an important consideration for us all and has informed our thinking in producing a relatively flat budget overall for next year.

The membership fee will remain at EUR 1,400 per LIR account, which will result in an anticipated surplus of 5,259 kEUR. The cost per LIR is expected to be EUR 1,338 – down from EUR 1,498 in the 2020 budget (though up from EUR 1,113 in the 2020 latest estimate, which is lower due to the impacts of COVID-19).

It is worth noting that due to the restructuring of activities in this year's document, it is not possible to specify activities that are increasing or decreasing. Key projects for 2021 include the development of our Certified Professionals programme and our E-learning content, expansion of our AuthDNS service, ISO27001 certification, moving elements of our technical infrastructure to cloud solutions, a more proactive approach to registry monitoring, RPKI resiliency improvements, and work on ensuring full compliance with sanctions.



Overview of 2021 Strategic Focus Points

2021 will mark the beginning of a new five-year strategy cycle built on the following four pillars:

- › Registry
- › Information Services
- › Community and Engagement
- › Organisational Sustainability

In the year ahead, a major strategic aim will be to reinforce our security and compliance framework so as to ensure the accuracy and integrity of the Registry. As well as enabling us to continue providing world class services to our members and the wider community, establishing such a framework helps provide clarity concerning the boundaries of our mandate and is an essential part of our ability to demonstrate to external parties that we are equipped to carry out our function as an RIR.

Although many of the elements required for this are already in place, we see the need for further investment in the development of a robust system of compliance that will continue to keep the registry and the resources of our members secure. This will involve making sure our information security practices cover all our business and technical processes by bringing Information Security and Compliance together under our existing Integrated Risk Management (IRM) framework. It will also involve devoting more resources to the improvement of registry accuracy through active registry maintenance. In our ongoing work on due diligence, there will be clear focus on service quality and the improvement of those processes by which we enable members to maintain accurate data. We will also increase our efforts toward ensuring the resiliency of our mission-critical services, such as RPKI, and as part of our cloud-first strategy, we will take the next steps in moving the RIPE Database to the cloud with internal back-up.

With our information services, we will build on our capacity to serve as a neutral source of information. To achieve this, we aim to further expand the infrastructure we have in place for data provisioning and collection. As well as pursuing initiatives aimed at enhancing the efficiency and reach of the relevant services, we will be carrying out work to improve the various channels by which different stakeholders get access to the data we provide. This will include making our application interfaces more consistent and easier to use, but also producing a greater number of analyses and reports that help make the relevant information accessible to a wider audience. Our DNS services will also undergo expansion, the aim being to improve availability and access times by having distributed servers closer to end users across our service region and the rest of the world.

Our efforts in terms of engagement have evolved considerably over the past year as a result of the COVID-19 situation. Many of those events and initiatives by which we seek to achieve greater outreach and engagement with the wider Internet community have undergone the necessary move from physical to virtual, calling on us to introduce novel ways of working towards our goals in this area. Much of what we have learnt here will be retained as we gradually return to more physical engagements.

As we look ahead to the coming year, we will be investing additional external expertise to further develop our awareness of regulatory developments and our ability to engage relevant public authorities, particularly where the work or rulings of such authorities may affect our ability to effectively serve all of our members. We will also be increasing our efforts to collaborate with other RIRs as part of our ongoing contribution to a global RIR system that is accountable, transparent and sufficiently resilient to adapt to the changing environment. We will also be taking on the position of NRO chair in 2021 as we continue supporting joint activities of the RIRs.



Our Certified Professionals programme, which launched in 2020, will continue to provide valid, verified and relevant certifications that enable those who take our tests to prove their knowledge and skills on RIPE NCC-related content. The focus in the coming year will be to roll-out additional exams covering a range of further training content including IPv6, Measurements and Tools, and BGP training content.

Finally, turning to organisational development, having moved to a self-managed structure, we will continue to investigate how to accommodate all the changes noted and to effectively deliver on the five-year strategy.



Overview of RIPE NCC Costs per Activity 2021

On the following page is an overview of the Full-Time Equivalents (FTEs), Operational Expenses (OPEX) and Capital Expenses (CAPEX) per activity. All amounts are in kEUR. The overview is presented on two levels. It is possible to click on any Level 1 or Level 2 activity for more detailed information.

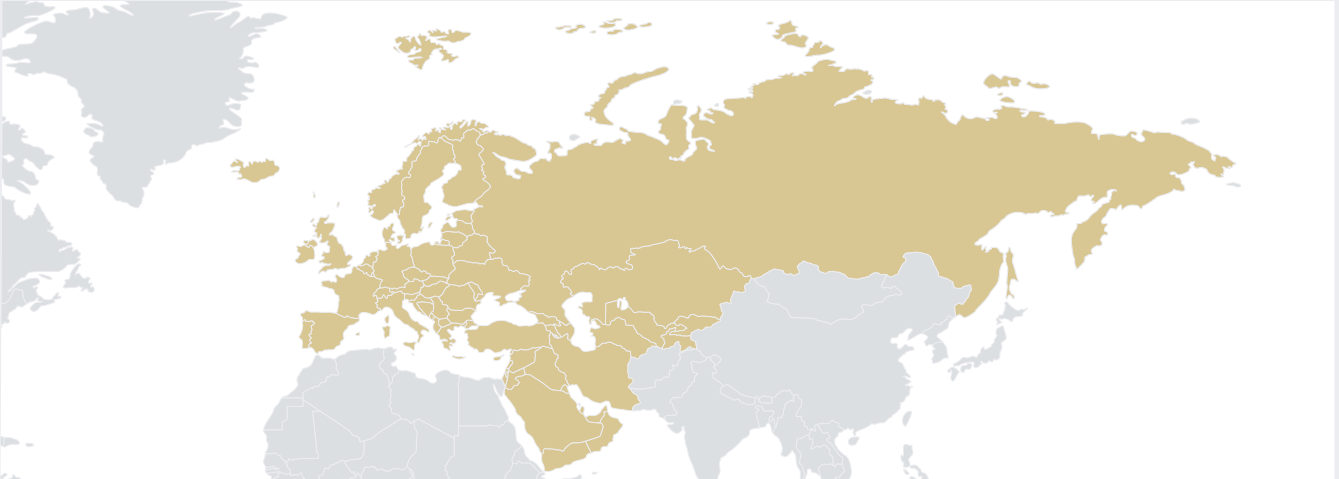
Overview of Costs Per Activity 2021

	FTEs	OPEX kEUR	CAPEX kEUR
1 The Registry	60.0	8,452	-
1.1 Registration of IP Addresses and ASNs	3.0	522	
1.2 Processing Registry Updates	16.0	1,885	
1.3 Membership Administration	8.0	925	
1.4 Registry Accuracy and Investigations	12.0	1,661	
1.5 LIR Portal	11.0	1,838	
1.6 RPKI	6.0	963	
1.7 RIPE Database	4.0	658	
2 Information Services	43.0	8,000	929
2.1 DNS and K-Root	6.3	869	150
2.2 RIPE Atlas	6.3	834	130
2.3 RIPEStat	4.8	735	170
2.4 RIS	5.7	807	129
2.5 IT Security	3.0	987	75
2.6 Research	4.0	868	-
2.7 IT Support	12.9	2,900	275
3 Community and Engagement	40.0	8,500	-
3.1 Membership Engagement	7.9	1,607	
3.2 Community Development	9.8	2,684	
3.3 Public Authority Engagement	2.9	622	
3.4 Internet Governance	3.9	838	
3.5 Training and E-learning Services	12.0	1,626	
3.6 Certified Professionals	3.0	803	
3.7 Good of the Internet	0.5	320	
4 Organisational Sustainability	27.0	7,028	143
4.1 Facilities	6.0	2,401	143
4.2 HR	3.5	693	
4.3 Legal	5.0	767	
4.4 Finance	7.0	1,466	
4.5 Information Security and Compliance	2.0	204	
4.6 Organisational Sustainability	3.5	1,497	
RIPE NCC	170.0	31,980	1,072
Bad Debts		350	
Depreciation		1,227	
RIPE NCC Total	170.0	33,557	1,072

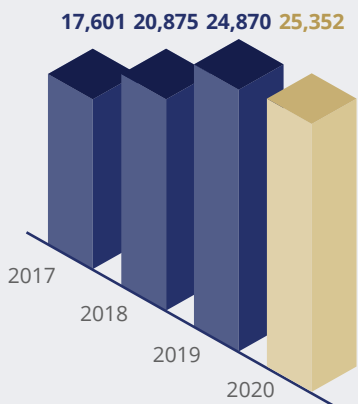


RIPE NCC Activities 2021

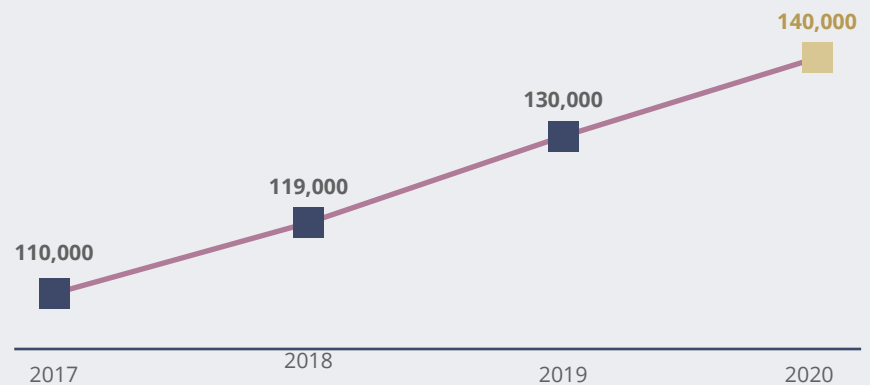
RIPE NCC Service Region



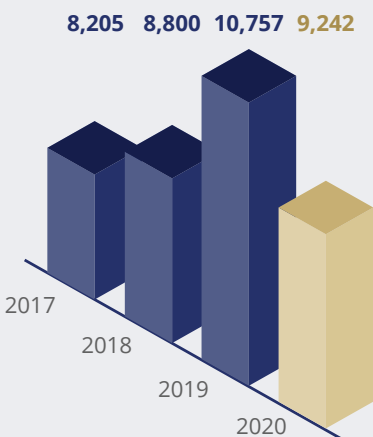
Annual Membership Growth



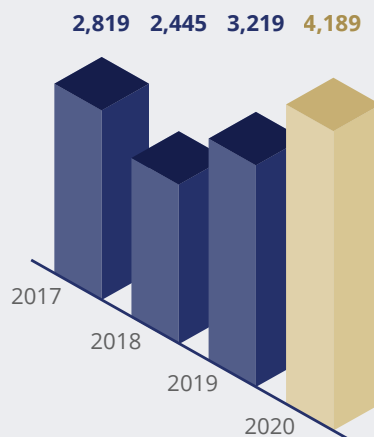
Internet Number Resource Records in the RIPE Registry



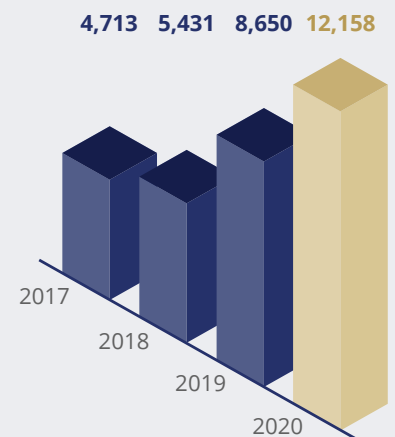
Allocations and Assignments (IPv4, IPv6 and ASNs)



Assisted Registry Checks



Resource Certificates Created (RPKI)





Activity Overviews

For each of the main areas of activity in the following report, we've provided an activity overview that gives anyone reading this document a summary of what to expect in that area in 2021.

1 FTE - Full-time equivalents indicates the average amount of personnel assigned to each activity as well as supporting staff over the course of the full year.

2 OPEX - Operational expenses are all direct costs that relate to the activity or project, and a portion of overhead that is related to absence (vacation, illness, education) that has been allocated to the project. The overhead allocation is calculated by dividing the percentage of FTEs involved in the activity by the overall number of FTEs. Operational expenses exclude depreciation and bad debt expenses. Sponsorship is reported as Income in the Budget and it offsets the costs of RIPE Meetings, Regional Meetings and RIPE Atlas probes.

3 CAPEX - Capital Expenses are all items that are taken as an asset. These items include hardware and software, infrastructure, and office furniture.

4 Description - provides a high-level description of the area of activity.

5 Activities in 2021 - Describes key activities and projects planned to take place in 2021.

6 Measurable usage - provides statistics (measured at 30 June 2020 where possible) indicating important trends in this area of activity.

7 More Information - A set of links to pages on our website where you can find more information about activities mentioned in each section.

10
RIPE NCC Activity Plan and Budget | 2021

1.2 Processing Registry Updates

1
2
3

FTEs: 16.0 Cost: 1,885 CAPEX: -

4 Description

The RIPE Registry contains public and non-public information about the holders of IP resources. Public registry data is managed by the resource holders themselves in the RIPE Database. In cases where resources are being transferred to another network or a member changes their company structure or legal name, we review and process the associated updates to their registry information, which often require supporting documentation.

5 Activities in 2021

We will continue to ensure that the RIPE Registry can accurately deal with IPv4 transfers and potential conflicts over address space. This is growing more important as IPv4 scarcity puts greater pressure on networks.

6 Resources Transferred

2017: 3,356
 2018: 3,445 (+46%)
 2019: 4,744 (+38%)
 2020: **4,254** (-10%) ↘

LIR Mergers

2017: 246
 2018: 206 (-16%)
 2019: 327 (+59%)
 2020: **438** (+34%) ↗

7 More Information

- > [Resource Transfers](#)
- > [Inter-RIPE Transfers](#)
- > [Mergers and Acquisitions](#)



1 The Registry

1.1 Registration of IP Addresses and ASNs

FTEs: 3.0

Cost: 522

CAPEX: -

Description

We are responsible for allocating and assigning IP addresses and AS Numbers within our service region, according to policies that have been set by the RIPE community.

Activities in 2021

In November 2019, we reached the end of our remaining IPv4 pool and began making /24 allocations from recovered ranges that had previously been used on the Internet. In 2021, we will take additional steps to improve the usability of these ranges before we allocate them, for example by reducing the risk that they are still blacklisted due to the activities of their previous holders.

Number of Resource Records the RIPE NCC is Responsible for

2017: 110,000

2018: 119,00 (+8%)

2019: 130,000 (+9%)

2020: 140,000 (+8%) 

More Information

- > [Request IPv6](#)
- > [Request an AS Number](#)
- > [What is IPv4 Run-out?](#)
- > [How the IPv4 Waiting List Works](#)
- > [IPv4 Waiting List](#)



1.2 Processing Registry Updates

FTEs: 16.0

Cost: 1,885

CAPEX: -

Description

The RIPE Registry contains public and non-public information about the holders of IP resources. Public registry data is managed by the resource holders themselves in the RIPE Database. In cases where resources are being transferred to another network or a member changes their company structure or legal name, we review and process the associated updates to their registry information, which often require supporting documentation.

Activities in 2021

We will continue to ensure that the RIPE Registry can accurately deal with IPv4 transfers and potential conflicts over address space. This is growing more important as IPv4 scarcity puts greater pressure on networks.

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2018: 3,445 (+46%)

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LIR Mergers

2017: 246

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2020: **438** (+34%) 

More Information

- > [Resource Transfers](#)
- > [Inter-RIR Transfers](#)
- > [Mergers and Acquisitions](#)



1.3 Membership Administration

FTEs: 8.0

Cost: 925

CAPEX: -

Description

A customer services function provides support to RIPE NCC members and others who use our services, such as legacy resource holders. This includes responding to queries and processing membership applications, administrative and contractual changes, billing enquiries and account closures.

Activities in 2021

In recent years there has been a surge in new members and additional LIR accounts being opened. This was primarily driven by the need of networks to secure additional IPv4 space (as each LIR could receive one /22 allocation). A holding period instituted by a RIPE policy change means that new LIRs cannot transfer IPv4 addresses or consolidate multiple LIR accounts for 24-months. This period has now expired for many LIRs, and in 2020 we saw an increase in LIR account closures as we expected (771 from Jan-Sept 2020). This trend will probably continue in 2021, which will create a high number of registry update requests as members get their administration in order. So far, the closure of existing LIRs has largely been offset by the creation of new ones (853 from Jan-Sept 2020). This means that the number of LIRs continues to increase slightly, though this is nothing compared to the growth seen in recent years.

LIR Accounts

2016: 15,008

2017: 17,601 (+17%)

2018: 20,875 (+19%)

2019: 24,870 (+19%)

2020: **25,352** (+2%) 

More Information

- › [New Membership Applications](#)
- › [Due Diligence Information](#)
- › [Billing Information](#)
- › [Closure of Members](#)



1.4 Registry Accuracy and Investigations

FTEs: 12.0

Cost: 1,661

CAPEX: -

Description

An important part of our work to maintain an accurate registry is to verify the information and supporting documents we receive and to proactively check the accuracy of registry data. This is primarily done through our Assisted Registry Check (ARC) activity.

Activities in 2021

We will continue to focus on our processes that protect resource holders from attempts to steal their resources. We will also ensure that sponsoring LIRs carry out their due diligence obligations regarding End User resources. We will continue our work with the other RIRs to improve registry data quality and make this readily available to the Internet community. We will continue to develop a more proactive approach to monitoring the accuracy of registry data and contacting members when we find outdated information.


We are also continuing to improve our due diligence processes. The first phase of the new approach we have been working on was implemented in 2020. This has already made our workflow much faster and more straightforward for registry updates that are defined as "low-risk" according to a set of objective criteria. In 2021, we will apply this approach to more processes, which should significantly reduce the procedural burden for our members and will make us more consistent in terms of the documentation we ask for. Alongside this, we are working on an updated process that will allow us to closely monitor membership information against the EU sanctions list.

Investigations Completed

2017: 70

2018: 194 (+177%)

2019: 181 (-7%)

2020: 251 (+39%) 

ARC Reviews Completed

2017: 2,617

2018: 2,310 (-12%)

2019: 3,051 (+32%)

2020: 4,202 (+38%) 

More Information

- > [Abuse-c Information](#)
- > [Assisted Registry Check \(ARC\)](#)
- > [Address Hijacking](#)



1.5 LIR Portal

FTEs: 11.0

Cost: 1,838

CAPEX: -

Description

As the main interface for our core services, the LIR Portal allows members to securely manage their Internet number resources and related registration information. Members can use it to update their contact, billing and resource information, make resource requests, check the status of open tickets, and register for RIPE NCC General Meetings – without having to go through our staff. The LIR Portal provides a clean user interface with easy-to-use wizards and is closely integrated with the RIPE Database, Registry software, our ticketing system, and our internal CRM. We are constantly working to streamline and automate our procedures, improve the user interface and maintain healthy back office systems used by our staff.

Activities in 2021

Next year we will work on developing internal software to support active monitoring of registry accuracy. Following security audits from external parties, we will follow up to implement their recommendations. We will work on greater automation of GDPR-related requests and improved validation of ID documents. We also plan to improve the visibility of user tickets and uploaded documents.

Page Views Per Month (Logged In)

2017: ~108,000

2018: ~88,000 (-19%)

2019: ~90,000 (+2%)

2020: ~99,000 (+10%) 

More Information

- > [LIR Portal](#)
- > [Requesting Resources Through the LIR Portal](#)



1.6 RPKI

FTEs: 6.0

Cost: 963

CAPEX: -

Description

RPKI is a community-driven system that allows networks to receive digital certificates which prove that they are the legitimate holder of their IP resources. These certificates are useful for securing Internet routing, notably through BGP Origin Validation. RPKI is a valuable step towards full BGP security, including path validation as developed by the IETF's Secure Inter-Domain Routing Operations (sidrops) Working Group.

Activities in 2021

Our priority over the coming period will be ensuring a stable and resilient RPKI Trust Anchor and Certificate Authority. In 2020, we carried out a third-party security and risk assessment of our RPKI platform. We are now working to define a complete audit framework for RPKI, with the aim of having the audit performed early next year by a third party. Next year we will implement changes to our internal processes and documented procedures on the basis of this audit, as well as things like more granular monitoring and small technical changes that ensure compliance with the relevant RFCs. Aside from that, we are planning significant improvements in our infrastructure to allow high availability and resiliency for the RPKI repositories.

In last year's Activity Plan, we said we would consider whether we should continue to support our RPKI Validator, as it needed further development to match the quality of alternative tools that were now available. Because our RPKI Validator remains the second most widely used tool (with 32% "market share"), we decided that we will continue to support it in 2021 and we aim to make a longer-term decision soon.

Finally, we will continue to build awareness of RPKI through training, outreach and promotion efforts.

Resource Certification Created

2017: 4,713

2018: 5,431 (+15%)

2019: 8,650 (+59%)

2020: **12,158** (+40%) 

RIPE NCC-announced IPv4 Space Covered by ROAs

2017: 14% prefixes; 28% addresses

2018: 18% prefixes; 30% addresses

2019: 37% prefixes; 48% addresses

2020: **46%** prefixes; 

55% addresses 

More Information

- › [Resource Public Key Infrastructure](#)
- › [RPKI: Past, Present and Future \(RIPE Labs\)](#)
- › [Lessons Learned on improving RPKI \(RIPE Labs\)](#)
- › [RIPE 79 Presentation on RPKI Validator Development](#)



1.7 RIPE Database

FTEs: 4.0

Cost: 658

CAPEX: -

Description

The RIPE Database contains information about the IP addresses and AS Numbers used by networks in our service region. For these resources, the database contains information about their current holders along with contact details and related attributes. This information is vital for the stability of Internet routing and allows users to find information for network troubleshooting and coordination. Resource holders are responsible for maintaining their information in the database, while we perform the role of data controller. Our work in this area supports greater integration with the LIR Portal, and also includes related services such as the RIPE Database Proxy Service and the Near Real Time Mirroring (NRTM) service.

Activities in 2021

This year we have been assessing the suitability of moving the RIPE Database to a third-party cloud infrastructure. As part of this, we have moved our Release Candidate environment to the cloud as a preliminary pilot project/proof of concept. We will share the results of this work with the community ahead of RIPE 81. Our priority for 2021 will then be to complete a full cloud migration of the RIPE Database to production. It is important to note that we will maintain an in-house failback environment in parallel to mitigate the risk of vendor lock-in or outages.

We will also continue to make usability improvements to the RIPE Database (including the web search feature in 2021). We will also implement new features as requested by the RIPE Database or via RIPE policy changes. Finally, we expect that some changes may arise from the work of the RIPE Database Requirements Task Force, which aims to publish its recommendations ahead of RIPE 82.

RIPE Database Queries Per Minute

2017: 22,000

2018: 27,000 (+23%)

2019: 42,000 (+56%)

2020: **60,000** (+42%) 

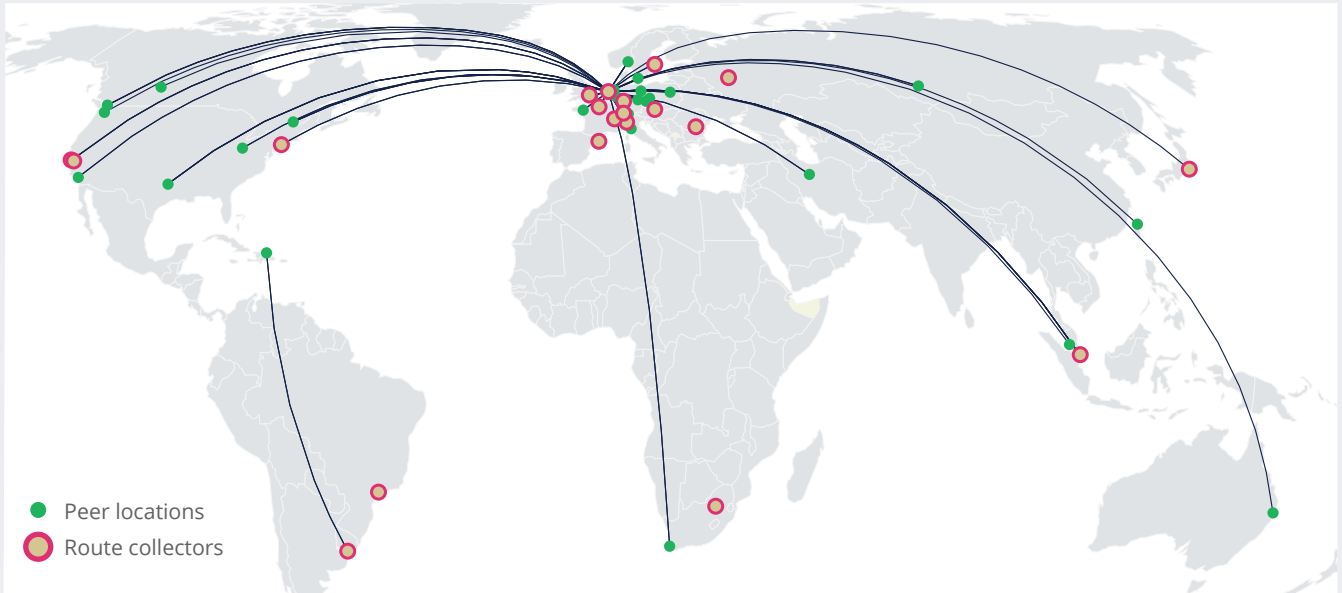
More Information

- › [RIPE Database](#)
- › [Numbered Work Items](#)
- › [Near Real Time Mirroring \(NRTM\)](#)
- › [RIPE Database Requirements Task Force](#)

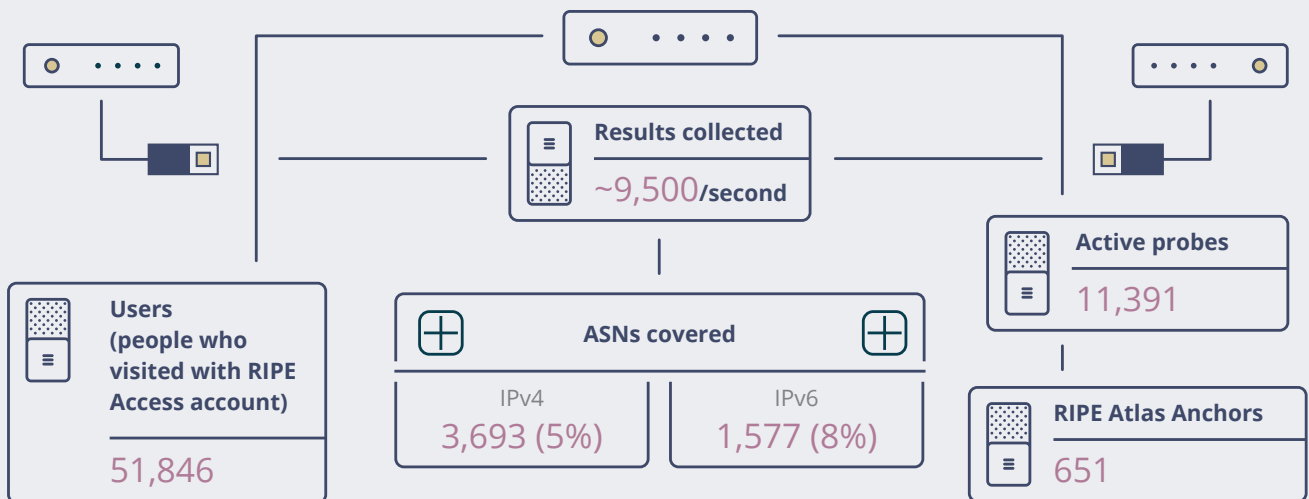


2. Information Services

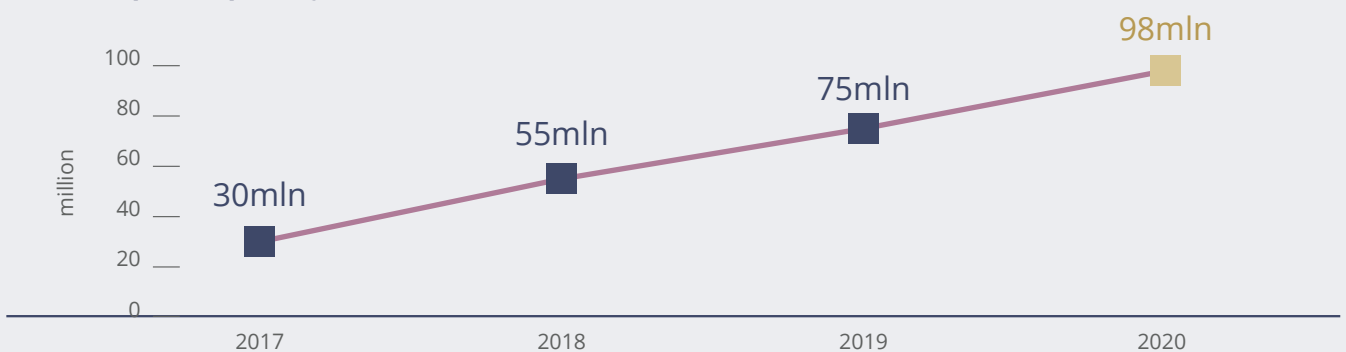
RIS Connections



RIPE Atlas at a glance



RIPEstat queries per day





2.1 DNS and K-root

FTEs: 6.3

Cost: 869

CAPEX: 150

Description

We provide DNS coordination and support activities as well as reverse DNS services for the IPv4 and IPv6 address space that we manage. We operate, as a public service, one of the 13 root name servers of the DNS (K-root). For reverse DNS (rDNS) associated with the address space managed by other RIRs, we provide secondary DNS services to support the reliability of reverse lookups. We also provide a secondary service for ccTLD operators.

We provide reverse DNS services for RIPE NCC members with registered IP addresses. Our work in this area makes a significant contribution to the stability and diversity of the DNS root name server system and guarantees the neutral and professional delivery of key high-level DNS services.

Activities in 2021


We will continue to improve the resilience, capacity and global distribution of our authoritative DNS services platform, which supports reverse DNS operations as well as ripe.net and ccTLD services. We will further increase the resiliency of our DNS infrastructure to mitigate the impact of rising attacks on the DNS. Having finished the initial phase of this work, which focused on increasing the capacity of the current sites, our focus in the year ahead will shift to introducing new hosted sites for our reverse DNS infrastructure. Finally, we will look at upgrading to better algorithms for DNSSEC-signing all the zones we maintain.

K-root Instances

2017: 53

2018: 61 (+15%)

2019: 68 (+11%)

2020: **78** (+14%) 

More Information

> [DNS](#)

> [K-root](#)



2.2 RIPE Atlas

FTEs: 6.3

Cost: 834

CAPEX: 130

Description

RIPE Atlas is a leading Internet active measurement network that collects unique data, providing both live and historical information about the reliability, reachability and connectivity of networks. We run this globally-distributed measurement network for the purpose of collecting data on Internet infrastructure, usage and development. The measurement data that RIPE Atlas provides can be used to analyse the operation and growth of the Internet.

Activities in 2021

We will further improve the systems that manage the data collected by RIPE Atlas. Having investigated cloud storage solutions in 2020, we will make these more accessible to our users, giving them better tools to analyse the collected results. We will investigate updated RIPE Atlas probes and continue to expand on the software probe concept we introduced in 2020. We will also work on more user-friendly dashboards and APIs that make RIPE Atlas more intuitive to use. We also plan to explore new partnerships that can allow us to expand RIPE Atlas over the long-term.

Connected RIPE Atlas Probes

2017: 9,860

2018: 10,370 (+5%)

2019: 10,315 (-5%)

2020: **11,000** (+7%) 

Measurement Results per Day

2017: ~420 million

2018: ~490 million (+17%)

2019: ~600 million (+22%)


2020: **~900 million** (+50%) 

RIPE Atlas Anchors

2017: 250

2018: 322 (+29%)

2019: 479 (+49%)

2020: **650** (+36%) 

More Information

- › [RIPE Atlas](#)
- › [RIPE Atlas Network Coverage](#)
- › [RIPE Atlas Use Cases](#)



2.3 RIPEstat

FTEs: 4.8

Cost: 735

CAPEX: 170

Description

RIPEstat is a web-based interface with current and historical information about IP addresses and AS Numbers and related information for hostnames and countries. It presents registration, routing and DNS data, geographical information, abuse contacts and more. RIPEstat draws from both internal RIPE NCC datasets as well as external sources.

Activities in 2021

Next year we plan to move parts of RIPEstat to the cloud. This will allow us to provide a more efficient service and reduce latency, both for users in our region and the other RIRs we are collaborating with. We also plan to establish more automatic service monitoring. BGPlay is a very popular RIPEstat widget that allows users to visualise BGP routing data. We will update this with new features and performance improvements. The RIPEstat Data API will also be improved with new documentation and a more consolidated API schema.

Ongoing work includes providing more data sets, additional routing information sources (which will complement RIS), human-readable AS names, and the launch of a redesigned user interface.

Queries Per Day

2016: 30 million

2017: 55 million (+83%)

2018: 75 million (+35%)

2020: **98 million** (+30%) 

More Information

- > [RIPEstat](#)
- > [RIPEstat Data API](#)
- > [RIPEstat User Statistics](#)
- > [NetOX \(collaboration with APNIC\)](#)
- > [Inforedes \(collaboration with LACNIC\)](#)
- > [AIRRS \(collaboration with AFRINIC\)](#)



2.4 RIS

FTEs: 5.7

Cost: 807

CAPEX: 129

Description

We operate the Routing Information Service (RIS), which employs a globally distributed set of Remote Route Collectors (RRCs), typically located at Internet Exchange Points, to collect and store Internet routing data. Volunteers peer with the RRCs using the BGP protocol and RIS stores the update and withdraw messages. RIS data is used in both RIPEstat and RIPE Atlas and can interface with other network monitoring tools.

Activities in 2021

We will further improve the systems that manage the data collected by RIS. We will also investigate how RIS can be made more useful for local communities like Network Operator Groups (NOGs).

Route Collectors

2017: 18

2018: 20 (+10%)

2019: 21 (+5%)

2020: 21 (0%) 

Peers

2017: 732

2018: 792 (+8%)

2019: 1,003 (+27%)

2020: 1,261 (+26%) 

More Information

› [Routing Information Service \(RIS\)](#)



2.5 IT Security

FTEs: 3.0

Cost: 987

CAPEX: 75

Description

Operating a secure IT infrastructure and maintaining the integrity of our registry and membership data is of the highest importance to our operations. We also provide a range of globally accessible services from different locations. These services not only have to be secured against intrusion, but we also need to make sure our infrastructure is not used to attack others. Considering the services we run, including RIPE Atlas with its 10,000+ probes or our globally-distributed K-Root nodes, there is a lot at stake. We also need to provide a secure computing platform for our staff which allows them to perform their duties from the office or remotely. We aim to protect our members, staff, information and infrastructure to the greatest possible extent.

Activities in 2021

We will continue implementing and measuring our Information Security Management practices, as well as Critical Security Controls (CSC-20) which is a comprehensive information security measurement framework. This implementation is linked to our Internal Risk Management system. As a next step, will expand our current set of controls to include all of our operational technical and business processes. Our plan for the next year is to start defining our operations within the ISO/IEC 27000 framework and ensure that our practices put us at the level of ISO 27001 certification, with the Plan/Do/Check/Act cycle fully in place by the end of the year. We will continue our outreach efforts with the security community, such as TF-CSIRT (which the RIPE NCC is a member of).

More Information

- › [Responsible Disclosure Policy](#)
- › [Service Announcements](#)



2.6 Research

FTEs: 4.0

Cost: 868

CAPEX: -

Description

We have a long tradition of providing the operator community with data analysis on the state of the Internet and developing innovative tools to help the community understand various aspects of routing, DNS, reachability and other topics. We also collaborate with members of the research community. Regular reporting and analysis of RIPE NCC-related statistics and accurate methodological analyses of Internet events provides valuable information that can act as an early warning for the operator community.

Activities in 2021

We will maintain our work on scientific publications and analyses. We will provide country or region-focused reports, an activity we began in 2019. We will continue to develop prototypes that can become future RIPE NCC services if they show enough operational value. We will also review our information-gathering mechanisms to see if they can be improved. We will make our data easier to analyse using cloud-based big data processing platforms. We will continue to evaluate how our Internet measurements platforms can more value to our community.

We will continue to collaborate with industry partners, like-minded operators and research institutions to provide a better understanding of Internet behavior and events. This activity includes direct partnerships with individuals or teams that are also interested in Internet measurement.

More Information

- › [RIPE NCC Country Report: Saudi Arabia](#)
- › [RIPE NCC Country Report: Russia](#)
- › [RIPE NCC Country Report: Germany](#)
- › [RIPE NCC Prototype Tools and Visualisations](#)



2.7 IT Support

FTEs: 12.9

Cost: 2,900

CAPEX: 275

Description

Our IT activity provides the back end, infrastructure and network support for all of the internal and external services we provide. Activities in this area allow us to run a state-of-the-art, secure and redundant IT platform with 24/7 support for our services as well as efficient internal support for staff. Members can flag technical emergencies outside of regular office hours so they can be addressed directly.

Activities in 2021

We will give special attention to decreasing the technical debt in our IT operations. For data that is not business-critical, we aim to migrate to higher-level service outsourcing/cloud solutions, allowing our team to focus on subjects closer to our core business. We will continue to migrate our automation system to Salt, which increases our efficiency in a number of ways, by allowing easier knowledge transfer, better change management, and improved collaboration. We also plan to work on our email infrastructure, with a focus on authentication, mailing list administration and mail flow, and so on. We expect higher demand in terms of supporting the remote work of our staff as well as online meetings and events. We will continue to review our internal policies and procedures to ensure we are able to accommodate this.

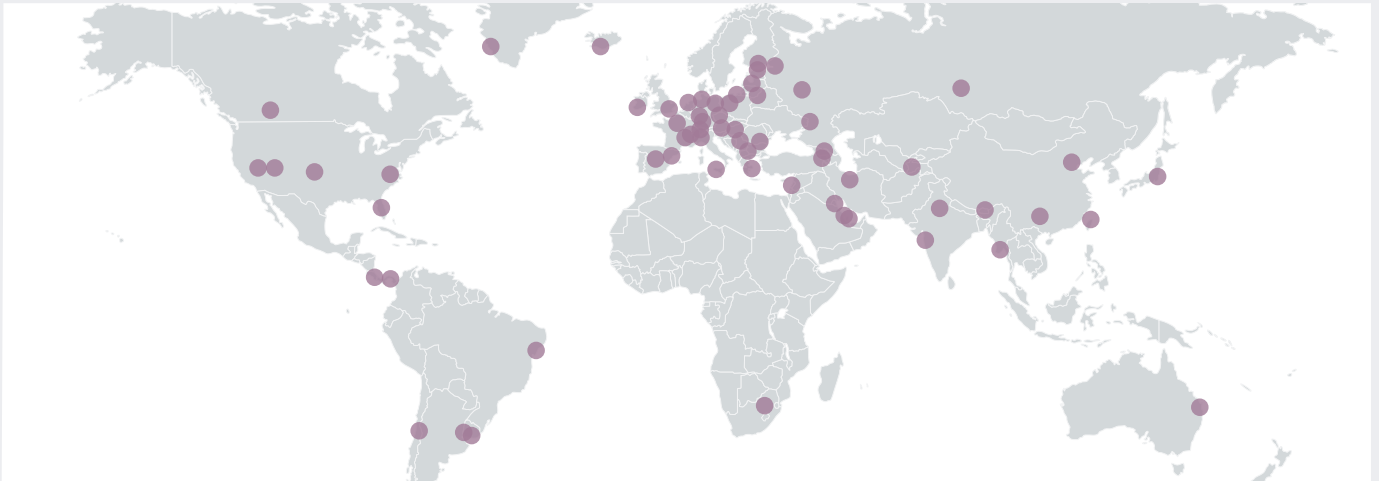
More Information

- › [Service and Security Announcements](#)
- › [Report Technical Emergency](#)



3. Community and Engagement

K-root Locations



RIPE Labs Statistics



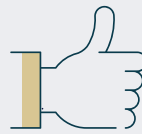
108 articles published



255,539 unique page views



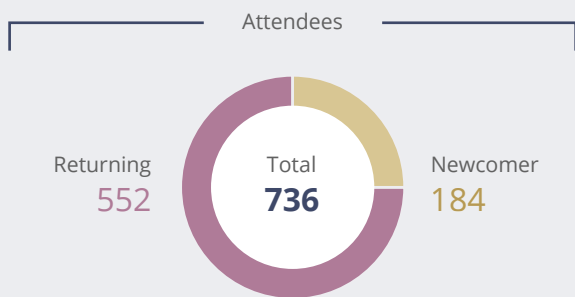
201,569 unique visitors



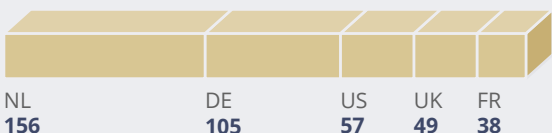
Popular content
Security, COVID-19, Measurements, Routing



RIPE 79 Rotterdam

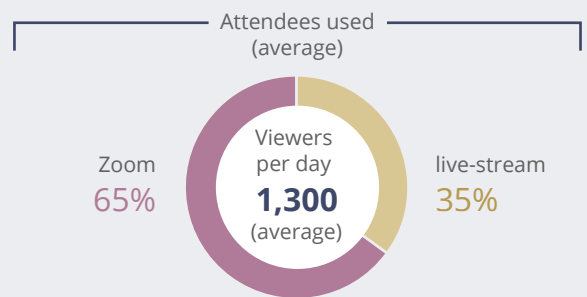


59 countries present at the meeting 110 Sponsors

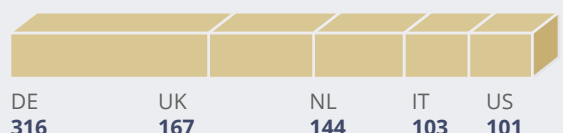


Top 5 Countries

RIPE 80 Virtual Conference



115 countries present at the meeting 2,002 registered 4 Sponsors



Top 5 Countries



3.1 Membership Engagement

FTEs: 7.9

Cost: 1,607

CAPEX: -

Description

Engaging with our membership has always been a core part of the RIPE NCC's strategy. The feedback and input we gain from these interactions helps us to understand the concerns of our members and allows us to develop services and activities that support their operations.

Activities in 2021

The COVID-19 pandemic has had far-reaching effects on our engagement strategy. While we hope that physical events can resume in 2021, the need for effective outreach through this pandemic period has put greater urgency on existing efforts to improve our remote engagement.

In 2021, we will work on activities that support better engagement – whether broad or highly targeted. We will further develop the RIPE NCC Open House model, which we launched in 2020 to coordinate many of our remote events. We also plan to hold larger physical events, including RIPE NCC Regional Meetings, RIPE NCC Days and Member Lunches, though obviously this will need to fit within any relevant travel or event restrictions. As we expect next year to be a somewhat fluid and uncertain period, we will take care to properly communicate our plans as they evolve.

More Information

- › [RIPE NCC Open House](#)
- › [RIPE NCC Member Lunches](#)
- › [Meetings and Events](#)



3.2 Community Development

FTEs: 8.8

Cost: 2,684

CAPEX: -

Description

A strong and engaged RIPE community supports the open, bottom-up, industry self-regulatory structure and is the driving force behind much of what we do as an organisation. We provide administrative, logistical and technical support as the RIPE community's secretariat and we also work to further develop and connect the technical community within our service region.

These efforts encompass a range of different activities. We support the RIPE Policy Development Process (PDP), providing assistance to RIPE working groups and their chairs, analysing the impact of specific proposals, and encouraging participation from a wider range of stakeholders. We support the MENOG, ENOG and SEE communities and facilitate their meetings. We support Network Operator Groups (NOGs) more broadly within our service region with funding, logistical support and attendance. We run hackathons and maintain RIPE Labs as a platform for the community to share research and ideas. We run the RIPE Academic Cooperation Initiative (RACI), which develops links between RIPE and the Academic Community. Finally, the two five-day RIPE Meetings that we organise each year provide a core focal point around which much of the community's activities are orientated.

Activities in 2021

The COVID-19 pandemic and related travel restrictions created a lot of challenges for RIPE Meetings this year, with both RIPE Meetings planned for 2020 changed to an online format. For 2021, we are currently planning for two physical meetings: in Berlin, 17-21 May (RIPE 82) and in Milan, 22-26 November (RIPE 83). This year we improved our remote experience and we intend to maintain this level of quality when we return to physical meetings. For this reason, in 2021 we will hire an external supplier for webcasting. As usual, the costs of RIPE Meetings are partially offset by sponsorship from third parties.

In 2021 we will work with the relevant stakeholders to ensure that regional events of value to the ENOG, MENOG and SEE communities can take place, respecting whatever travel or event restrictions may apply.

More Information

- › [Participate in the RIPE Community](#)
- › [RIPE Meetings](#)
- › [RACI](#)
- › [RIPE NCC Hackathons](#)
- › [RIPE Policy Development](#)
- › [Current Policy Proposals](#)



3.2.1 RIPE Chair Team Support

Description

The RIPE Chair is responsible for ensuring that the RIPE community functions well and as such plays an important role in the development of the community.

In 2019, the process of selecting the RIPE Chair and a Vice Chair was started by the community. The processes used by the community to make its selections are outlined in the RIPE Documents ripe-727 and ripe-728. This was the first time that the RIPE Chair was selected by the community through a consensus-based process. In April 2020, Hans Petter Holen stepped down as RIPE Chair, and in July 2020 Mirjam Kühne was selected as the new RIPE Chair and Niall O'Reilly was selected as the RIPE Vice Chair. Mirjam and Niall assumed their roles in September 2020.

Activities in 2021

As secretariat for the RIPE community, the RIPE NCC funds the work of the RIPE Chair. In 2020, the RIPE NCC Executive Board agreed to remunerate this role in a five-year contract that stipulates the independence of the chair from the RIPE NCC. The RIPE NCC also funds the travel and expenses incurred by RIPE Chair Team in carrying out their duties. The total financial commitment for this activity is budgeted at 205 kEur for 2021.

More Information

- › [The RIPE Chair \(ripe-714\)](#)
- › [The RIPE Chair Selection Process \(ripe-727\)](#)
- › [The RIPE Nominating Committee \(ripe-728\)](#)
- › [RIPE Chair Commitments](#)



3.3 Public Authority Engagement

FTEs: 2.9

Cost: 622

CAPEX: -

Description

At a time of increased government focus on digital issues, it is vital that the RIPE NCC continues to engage directly with governments, regulators and law enforcement agencies in our service region. Through targeted events, publications and outreach, we provide public policy makers and agencies with informed perspective on issues relevant to the RIPE NCC, our membership and community. At the same time, our engagement with public authorities ensures that the RIPE NCC, our Executive Board and membership have insight and understanding of regulatory developments that may affect our operations and our ability to carry out our remit as Regional Internet Registry.

Activities in 2021

While the opportunities for physical engagement activities in 2021 remain unclear, the RIPE NCC will continue to deliver targeted engagement events, including Roundtable Meetings for Governments and Regulators, via appropriate channels. We will continue efforts to formalise our relationships with key public sector agencies, in the interests of transparency and stability. We will also invest in additional external expertise to further develop our awareness of regulatory developments and our ability to engage relevant public authorities, particularly where the work or rulings of such authorities may affect the RIPE NCC's ability to effectively serve all of our members.

More Information

- › [RIPE NCC Roundtable Meetings for Governments and Regulators](#)



3.4 Internet Governance

FTEs: 3.9

Cost: 838

CAPEX: -

Description

The RIPE NCC operates as part of a global system of Internet governance. As such, we work with partners in the global registry system and the wider Internet governance space to support the community-driven, multistakeholder approach to Internet governance, of which the RIPE community is a key example.

We are strongly committed to maintaining close relationships with our industry partners, working with our sister Regional Internet Registries (RIRs) under the umbrella of the Number Resource Organization (NRO), as well as with ICANN, the Internet Engineering Task Force (IETF) and the Internet Society (ISOC). Effective coordination between these Internet technical coordination bodies is vital to ensure the stable operation and governance of the Internet.

We support and participate in community-driven Internet governance events, including the global Internet Governance Forum (IGF) where we participate both as the RIPE NCC and as part of the NRO. There is also a wide range of region-specific Internet governance events that have emerged, including EuroDIG, the Central Asian IGF, SEEDIG along with many different national events. In addition to supporting these events financially, we also contribute technical background and analysis to inform these multistakeholder discussions and ensure that the concerns of the RIPE community are properly understood and considered.

Activities in 2021

In 2021, the RIPE NCC will assume the Chair of the Number Resource Organization (NRO), which rotates annually between the five RIRs. This will entail some additional focus, as RIPE NCC staff will chair the various NRO Coordination Groups, which facilitate coordination between RIR staff on specific areas of common interest.

More Information

- › [Internet Technical Community Coordination](#)
- › [Number Resource Organization \(NRO\)](#)



3.5 Training and E-Learning Services

FTEs: 12.0

Cost: 1,626

CAPEX: -

Description

We provide both face-to-face and online training in daily operations and specialised areas like IPv6 and routing security. We also provide e-learning options through the RIPE NCC Academy that allow people to study at their own pace.

Activities in 2021

We will develop new e-learning content that will be available in the RIPE NCC Academy. This new content will focus on IPv6, Measurements and Tools, and BGP, and will be aligned with the Certified Professionals programme. The modular approach we will use for this allows members to learn at their own pace and supports “micro-learning”. We will also rewrite some of our face-to-face training courses to ensure the same alignment.

While we have budgeted for a full year of face-to-face training courses in 2021, due to the potential for extended COVID-19 travel restrictions, we also plan to deliver more online sessions and remote learning events. These events allow our members to join live training courses where they can interact with our staff directly to ask questions and give feedback on our services and tools.

Webinars

2017: 55

2018: 33 (-40%)

2019: 34 (+3%)

2020: **53** (+56%) 

Training Courses and Workshops

2017: 96

2018: 97 (+1%)

2019: 108 (+11%)

2020: **64** (-41%) 

More Information

- > [Training courses](#)
- > [Webinars](#)
- > [RIPE NCC Academy](#)



3.6 Certified Professionals

FTEs: 3.0

Cost: 803

CAPEX: -

Description

In feedback from surveys and training courses, members have consistently asked for certification to be incorporated into our training services. In 2020, we launched our new RIPE NCC Certified Professionals programme, which uses an online exam proctoring service to issue verified certificates that have real value for people.

Activities in 2021

With the certification framework in place and two exams now available (RIPE Database and IPv6 Fundamentals), our focus in 2021 will be to roll out additional exams to cover our remaining IPv6, Measurements and Tools, and BGP training content.

More Information

- › [RIPE NCC Certified Professionals](#)



3.7 Good of the Internet

FTEs: 0.5

Cost: 320

CAPEX: -

Description

Since 2016, the RIPE NCC Executive Board has approved an annual budget item for activities that contribute to the Good of the Internet. Included in this activity is the RIPE NCC Community Projects Fund.

Activities in 2021

Since 2017, the RIPE NCC Community Projects Fund has provided up to EUR 250,000 annually to projects of value to the operation and resilience of the Internet, with a focus on tools and services benefitting the technical community in our service region. In 2021, the RIPE NCC will launch a fifth round of funding, while engaging with past funding recipients to enhance the benefits of their work to the wider RIPE community.

The RIPE NCC will also make a contribution of EUR 100,000 to the sustainability of the Internet Engineering Task Force (IETF), in line with the annual contribution plan that was endorsed by the RIPE NCC membership in 2016.

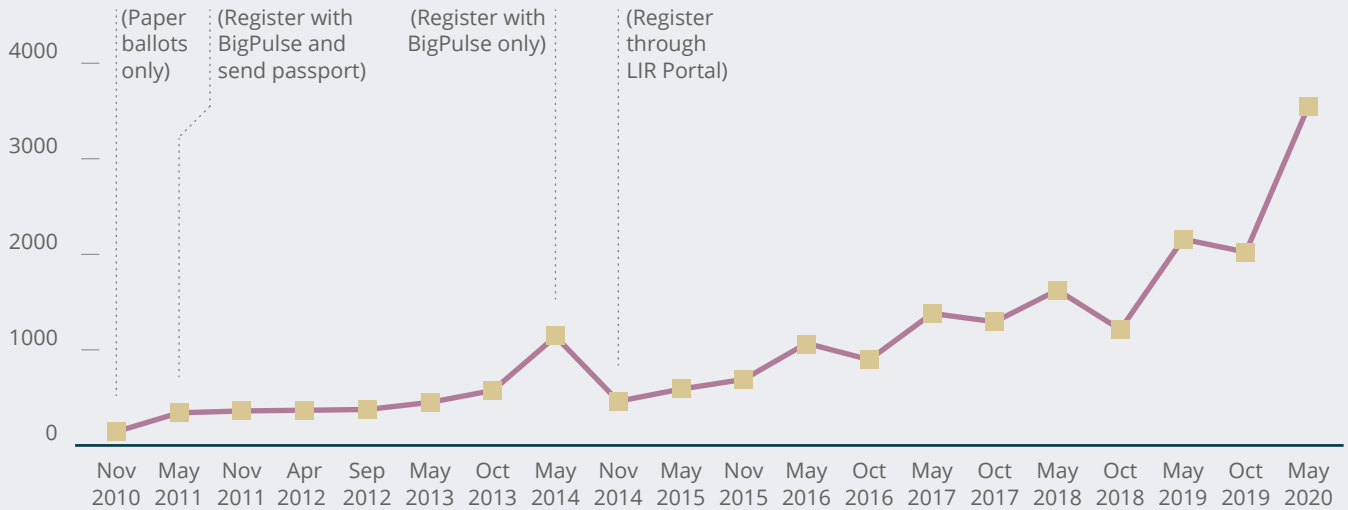
More Information

- › [RIPE NCC Community Projects Fund](#)
- › [Rob Blokzijl Foundation](#)
- › [RIPE NCC Supports Sustainability of the IETF](#)

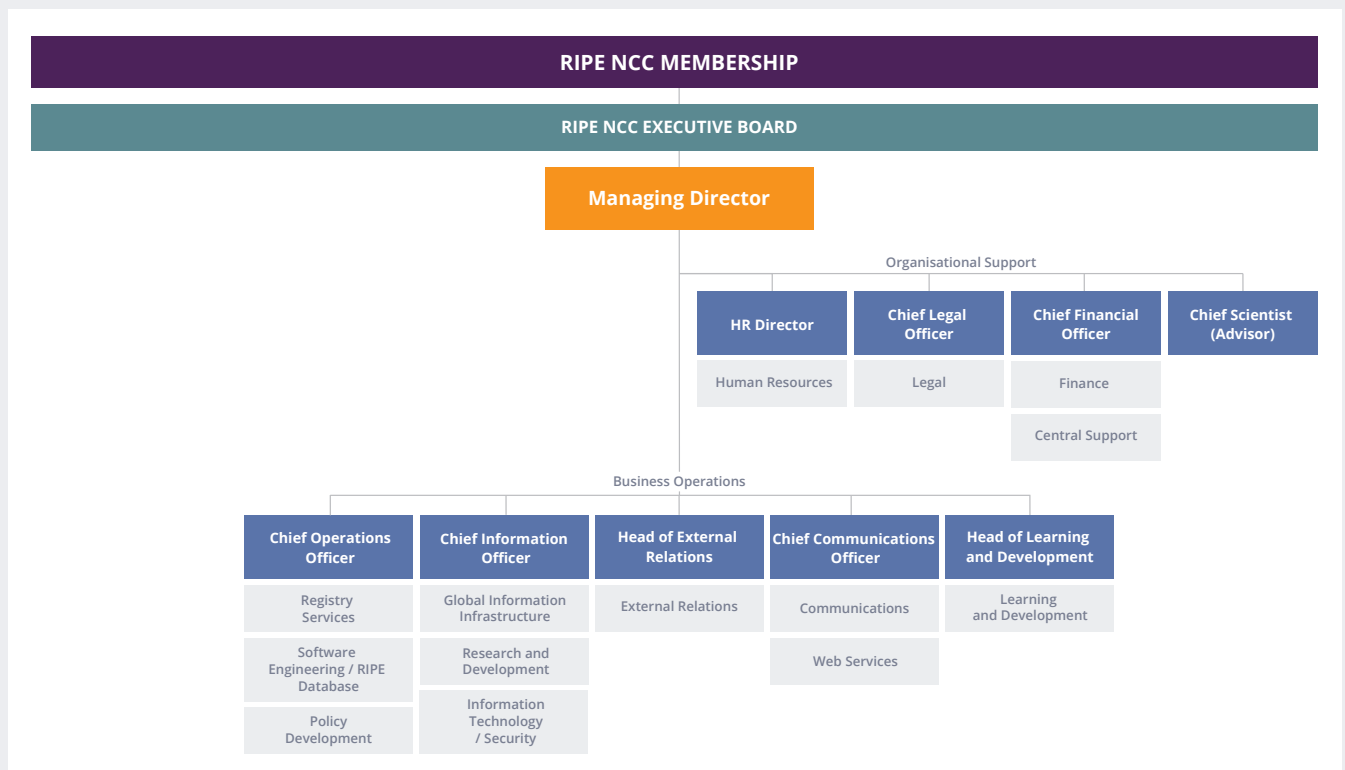


4. Organisational Sustainability

GM Votes



RIPE NCC Organisation Structure





4.1 Facilities

FTEs: 6.0

Cost: 2,401

CAPEX: 143

Description

This activity covers the RIPE NCC's internal administrative function along with the rent and maintenance for all RIPE NCC facilities and equipment. The RIPE NCC has a head office (and external storage) in Amsterdam, a subsidiary office in Dubai, and a small office space in Moscow. Our activities in this area support efficient and centralised administrative services and ensures a secure, healthy and productive environment for RIPE NCC staff.

Activities in 2021

We expect that some changes to our office facilities will be required due to social-distancing requirements in light of COVID-19. As we are currently unable to return our entire staff to the office safely, we expect that in 2021 this will primarily be used as a meeting/collaboration hub, rather than the space in which the bulk of our activities take place. Utility costs will also slightly increase in 2021.

More Information

› [Office Information](#)



4.2 HR

FTEs: 3.5

Cost: 693

CAPEX: -

Description

HR is responsible for recruiting qualified people from across our service region and ensuring they are properly integrated as employees. This activity area supports an efficient internal structure and a well-trained and engaged workforce.

Activities in 2021

We recently transitioned to a self-managed internal structure. As part of this, the priority until now has been to update our job profiles, rewarding and performance management to ensure alignment with the new structure. These changes will be implemented by the start of 2021, though further on-the-job training will be required. As a natural follow up, in 2021 we will focus on employee and leadership development and staff engagement.

COVID-19 introduced a number of additional challenges in terms of maintaining staff engagement and a healthy work-life balance, though our staff adapted very well. We nevertheless expect this will require special attention over the coming year. Finally, we plan to continue work to anticipate regulatory changes that have the potential to affect the RIPE NCC's operations.

More Information

- › [Staff](#)
- › [Careers at the RIPE NCC](#)



4.3 Legal

FTEs: 5.0

Cost: 767

CAPEX: -

Description

Our legal team maintains a comprehensive legal framework that sets out the standards and procedures for our internal and external operations. This framework is essential to ensure that we remain accountable for all our activities, that our exposure to liability is limited and that we remain able to support the RIPE community. A key aim is to make sure that our members have confidence in the self-regulatory system under which we operate and in existing Internet governance structures more generally. We also work to ensure that our legal framework and our procedures are in line with any applicable national and international legislation.

Activities in 2021

We will continue to follow legislative developments and coordinate externally to support the self-governance model of the Internet. We will monitor legislation that could impact our operations and ensure we remain compliant. We will continue to review our existing governance model and procedures. The scarcity of IPv4 addresses has greatly increased the complexity of the legal requests we receive, due to the increase in mergers and transfers and a growing number of disputes and abuse complaints that arise from this. We will also ensure compliance with EU sanctions regulations, while seeking to minimise any impacts on the global Internet or the RIR system.

More Information

> [Legal Information](#)



4.3.1 Sanctions

Description

As a membership organisation that is legally based in the Netherlands, the RIPE NCC must comply with all applicable sanctions under Dutch law.

Activities in 2021

In light of sanctions-related developments in 2020, we need to ensure the RIPE NCC is able to demonstrate full compliance with all applicable EU sanctions. This will require improved and more regular monitoring of the membership information in our registry. Given the number of records and the frequency of updates to this information, much of this will have to be automated. At the same time, we are committed to pursuing all legal means to ensure we can provide uninterrupted services to all of our members.

We also need to ensure that developments in this area do not weaken the global Internet or RIR system. As part of this, we will continue to work with the Dutch authorities and any other relevant parties to seek a permanent solution that minimises the potential impact on our members. The bulk of this activity will take place under our Registry Accuracy and Investigations and Legal activities and is budgeted accordingly.

More Information

- › [Sanctions and the RIPE NCC: Current Status and Executive Board Position \(April 2020\)](#)
- › [Sanctions and the RIPE NCC: Status Update \(June 2020\)](#)



4.4 Finance

FTEs: 7.0

Cost: 1,466

CAPEX: -

Description

We maintain high-quality administrative processes and constantly look for ways to improve efficiency. Our accounting, administration and reporting adheres to the General Dutch Accounting Standards and aims to provide a true and fair view of our financial situation, beyond what is required by law. We also want to investigate how we can enhance our member administration set up and related fee structure. Lastly, we will maintain processes that ensure effective cost control and provide useful management information.

Activities in 2021

Over 2020 we have worked to improve our enterprise resource planning (ERP) system, AFAS Online. This work will mostly be finished in 2021, and we will be able to use this to make our process more efficient and improve our financial reporting. We are also working towards “paperless payroll” and aim to have this completed next year.

More Information

› [Billing, Payment and Fees](#)



4.5 Information Security and Compliance

FTEs: 2.0

Cost: 204

CAPEX: -

Description

We need to ensure we have effective risk management planning and a solid “Plan/Do/Check/Act” cycle covering our operations. Such a view extends beyond IT security, as we need to secure our key business processes against a range of attacks, many of which are non-technical or unrelated to IT infrastructure. Understanding that we can never achieve 100% security, our aim is to have the proper cycle in place so we can remain ahead of the curve. We are currently in the process of integrating these kinds of processes within our registry operations and membership interactions.

We also need to make sure we remain on top of compliance. With 76 countries in our service region and a growing trend of local, regional and global regulation targeted at Internet-related services, or otherwise with the potential to affect our mission, we have to make sure we identify relevant laws or regulations early, so we can develop a position on compliance that can be executed when needed.

Our aim is to bring Information Security and Compliance together under our existing Integrated Risk Management (IRM) framework, which will make complex dependencies between our operations, security and compliance visible to our management and Executive Board.

Activities in 2021

Although most of these components already exist within the organisation, they are at different levels of maturity and need to be linked together. We plan to start including registry processes, along with other core activities, in the ISO/IEC 27000 framework we are introducing for IT Security in 2021 and to integrate our compliance processes with our IRM system.



4.6 Organisational Sustainability

FTEs: 3.5

Cost: 1,497

CAPEX: -

Description

This area of activity encompasses the RIPE NCC's senior leadership functions, including the Managing Director and the Chief Scientist. Our Senior Leadership Team and Executive Board develop the strategy and vision of the organisation.

As the environment we operate in becomes increasingly unstable, uncertain, and affected by political developments, we work to adapt and respond to changes, and have been updating our internal structure to remain geared towards high performance and quality service delivery. An important part of this is having a clear vision and mission and a five-year strategic plan that provides an objective direction which serves as a reference for all of our activities.

Activities in 2021

We will continue to ensure that our organisational structure is fully in line with, and fully supports, our mission. An important part of this will be to improve the alignment of all our activities and projects to enable more effective collaboration across the organisation and achieve greater agility in the way we work together.

A chief goal in taking steps toward a more flexible, collaborative working environment is to ensure better value for members. We want to enable our staff to do the work that needs to be done in order to make the very best of all the services we have to offer. We also want to reduce response times and decrease the number of steps members have to go through in order to interact with us. We strongly believe that the best way to achieve all of this is to ensure that staff members are accountable and empowered to fulfil their roles.



Budget Figures 2021

RIPE NCC Budgeted Statement of Income and Expenditure 2021 (in kEUR)

Income	B2021	B2020	Budget 2021 vs Budget 2020		LE2020
Service Fees Existing Members	33,320	34,300	(980)	-3%	35,130
Independent Resource Fees	1,056	1,086	(30)	-3%	1,059
Service Fees New Members	1,050	350	700	200%	949
Re-opening Fees	200	200	-	0%	160
Member Fees	35,626	35,936	(310)	-1%	37,298
Member Sign Up Fees	2,400	1,000	1,400	140%	2,493
RIPE Meeting	235	235	-	0%	4
Sponsorship	255	255	-	0%	108
Other Income	50	50	-	0%	50
Total income	38,566	37,476	1,090	3%	39,953
Expenditures					
Wages and Salaries	13,152	14,319	(1,167)	-8%	12,701
Social Security Charges	1,645	1,750	(105)	-6%	1,784
Pension Contributions	1,595	1,687	(92)	-5%	1,280
Miscellaneous Employee Expenditures	926	932	(6)	-1%	785
Subtotal Personnel	17,318	18,688	(1,370)	-7%	16,550
Housing & Insurances	1,104	1,147	(43)	-4%	1,013
Office Expenses	871	759	112	15%	430
Contributions	876	846	30	4%	875
Information Technology	2,687	2,820	(133)	-5%	2,653
Travel	823	1,134	(311)	-27%	300
Consultancy	4,057	3,211	846	26%	2,750
Outreach & PR	3,910	3,942	(32)	-1%	1,442
Bank Charges	334	347	(13)	-4%	334
Depreciation	1,227	1,300	(73)	-6%	1,242
Bad Debt & Unforeseen	350	250	100	40%	250
Total expenses	33,557	34,444	(887)	-3%	27,839
Surplus Before Financial Result	5,009	3,032	1,977	65%	12,114
Result on Interest Income	150	300	(150)	-50%	80
Result on Exchange Differences	-	-	-		15
Result Revaluation Financial Fixed Assets	100	-	100		350
Financial Result	250	300	(50)	-17%	445
Surplus/Deficit	5,259	3,332	1,927	58%	12,559
FTEs	170	165	5	3%	161
Capital Expenditure (CAPEX)	1,072	2,115	(1,043)	-49%	608
Number of LIRs	25,000	23,000	2,000	9%	25,016
Expense per Member	1,338	1,498	(160)	-11%	1,113
Average Salary (Component) per Employee	77	87	(9)	-11%	79
Average Personnel Costs per Employee	102	113	(11)	-10%	103



Development of the RIPE NCC Reserves

The Table below shows the RIPE NCC's capital development. The RIPE NCC Capital consists of the Clearing House and any addition to the Clearing House, either from capital gains or from an accumulation of the surplus.

Development of the RIPE NCC Reserves With a Redistribution in 2021 (in kEUR)

Year	Surplus	Addition to the Capital	Capital at 31 December	Expenses Per Year	% of Expenses
2014	3,414	-	25,326	21,224	119%
2015	(262)	-	25,064	21,978	114%
2016	325	-	25,389	23,528	108%
2017	(173)	-	25,216	25,848	98%
2018	245	-	25,461	28,089	91%
2019	6,774	6,774	32,235	32,118	100%
2020 LE	-	-	32,235	27,839	116%
2021 Budget	-	-	32,235	33,557	96%

Development of the RIPE NCC Reserves Without a Redistribution in 2021 (in kEUR)

Year	Surplus	Addition to the Capital	Capital at 31 December	Expenses Per Year	% of Expenses
2014	3,414	-	25,326	21,224	119%
2015	(262)	-	25,064	21,978	114%
2016	325	-	25,389	23,528	108%
2017	(173)	-	25,216	25,848	98%
2018	245	-	25,461	28,089	91%
2019	6,774	6,774	32,235	32,118	100%
2020 LE	9,436	9,436	41,671	27,839	150%
2021 Budget	4,131	4,131	45,802	33,557	136%