



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

Looking to the Future

Hans Petter Holen
Managing Director

Key Takeaways



- Last meeting: we want your input!
- Less income and increased costs
- Income 2023 at 38M; no increase in membership fees
- Budget 2024 at 38M

Content



- Who are we?
- Update
- Looking back: before run-out
- Transition and disruptions
- How do we plan?
- Draft Activity Plan and Budget 2024



Who are we?



- Registration
- Coordination
- Administration
- New Activities

Article 3 – The Association: Objective

The objective of the Association is to perform activities for the benefit of the Members, primarily activities that the Members need to organize as a group. This object can be sub-divided into the following activities:

- Registration Activities related to the role of the Association as Regional Internet Registry;
- Co-ordination Activities, including the support of the stable operation of the Internet;
- Administration Activities, including all regular reports and administrative support as well as all other general administrative tasks which cannot be attributed to a specific activity;
- New Activities, including all activities which are necessary to react to the rapidly changing world of the Internet; and to do all that is connected therewith or may be conducive thereto, all this in the widest sense of the word. Making profit is not an object of the Association.



**Together, let's shape
the future of the
Internet**

RIPE NCC Mission



- As an authority on unique Internet number resources, we enable people to operate and develop the Internet.
- As the Secretariat for the RIPE community, we are a trusted steward of the open, inclusive, collaborative Internet model, engaging and connecting people and communities.
- As a neutral source of information and knowledge, we actively contribute to the stability and evolution of the Internet.

Strategy 2022-2026



1	Support an open, inclusive and engaged RIPE community
2	Operate a trusted, efficient, accurate and resilient Registry
3	Enable our members and community to operate one secure, stable and resilient global Internet
4	Maintain a stable organisation with a robust governance structure
5	Attract engaged, competent and diverse staff



Update

What's happened since RIPE 86?

Changes to the Organisation



- New Chief Registry Officer: James Kennedy
 - Registration Services
 - Member Services
 - Registry Monitoring
- Technology = Software Engineering and IT
- Research has moved under Community & Engagement

Executive Team



Hans Petter Holen
Managing Director &
Chief Executive Officer



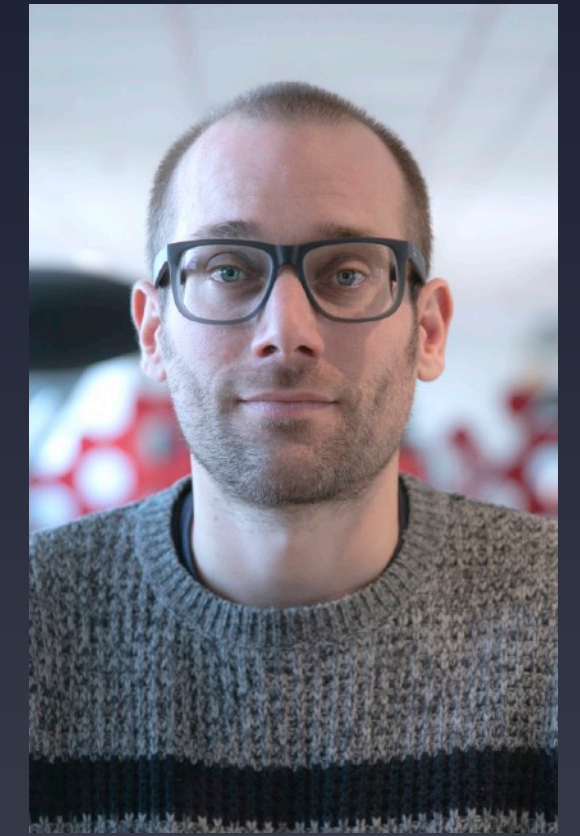
Athina Fragakouli
Chief Legal Officer



Carolien Vos
Chief Human Resources Officer



Eleonora Petridou
Chief Information Security Officer



Simon-Jan Haytink
Chief Financial Officer



Daniella Coutinho
Executive Assistant



Felipe Victolla Silveira
Chief Technology Officer



Hisham Ibrahim
Chief Community Officer



James Kennedy
Chief Registry Officer



Registry

Safeguarding the RIPE Registry
in difficult times

Registry Key Takeaways



- World Class Service Levels: NPS > 80 and CES > 6.5
 - >99% of tickets responded to within one business day
- Accuracy of the Registry increasingly closer to our targets
- Focus on improving operational efficiency and sanctions compliance
- Brokers List and IPv4 Transfer Listing Service being retired
 - Consultation early next year on the RIPE NCC's relation to the transfer market



Technology

Adapting to a new reality

Technology Update



- K-root Server officially launched in Uzbekistan
- SSO modernisation
 - Addresses the issues in our RIPE NCC Access (SSO)
 - Has been deployed in the Kubernetes cluster in AWS (EKS)
 - Fallback infrastructure is in place on-prem

Technology Objectives 2023-2024



- 1 Provide world-class services to our members and users
- 2 Increase employee engagement and engineering culture
- 3 Increase flow, agility and observability
- 4 Ensure security and compliance
- 5 Keep costs within budget



RIPE Atlas storage

Providing historical data in a
cost effective way

Problem Statement



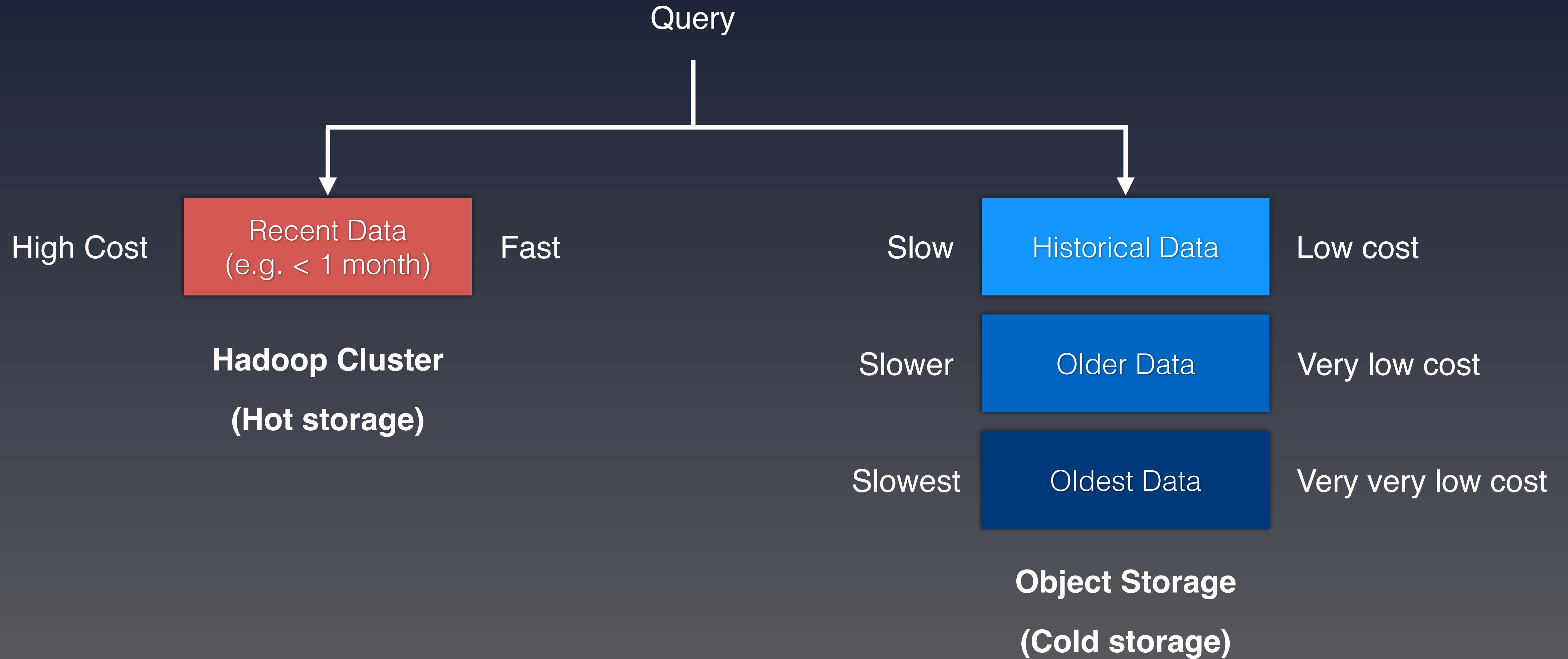
- The existing RIPE Atlas storage is bursting at the seams
 - Very old hardware, failures are routine
 - Insufficient maintenance over the last few years
 - Growing storage needs, current cluster not sustainable
- RIS storage is in a very similar, however less dire, situation
- We need a long term solution for storing large volumes of data from these two services, starting with RIPE Atlas

Proposal (1)



- Our proposal is to have a tiered storage solution depending on how recent the data is
 - Recent data (e.g. less than a month old) would be stored in a newly built Hadoop cluster using rented bare metal.
 - Historical data would be stored in cheap Cloud Object storage such as AWS S3 or similar service
- For renting bare metal servers, we are aiming for a European cloud provider
- The goal is to have a solution where data can be seamlessly accessed regardless of whether it is recent or historical
 - Historical data will be slower to retrieve

Proposal (2)



Principles for Historical Data



- We have started engaging with the community to define the principles for historical data, both for RIS and RIPE Atlas
- Please let us know your feedback
 - Watch the presentation from Robert Kisteleki at the MAT Working Group session
 - Join the discussion on the MAT WG mailing list
- Read the proposal on RIPE Labs:
 - <https://labs.ripe.net/author/kistel/ripe-ncc-measurement-data-retention-principles/>



Providing world class services

Increasing technical capabilities
to provide better services

Improving User Experience



- Our goal is to provide world class services to our members and overall community
- Based on feedback from the RIPE NCC Survey, we have decided to improve the UI and UX of our services
 - We are starting with the RPKI Dashboard
 - Other services in the LIR Portal will follow

Improving Technical Capabilities



- To deliver great services we need world-class engineering capabilities
- This means having the capabilities to deploy software to production at a steady pace with as little disruption as possible
- When disruptions happen (and they will) we need the tools and practices to detect them as soon as possible - ideally before they are noticeable by our members and the community
- Most of these practices, like having automated CI/CD (Continuous Integration / Delivery) pipelines and production telemetry are already in place
 - Our goal here is to align these practices across teams and to bring them all to the same level
- More information in the Information Services RIPE Labs article:
 - https://labs.ripe.net/author/felipe_victolla_silveira/adapting-to-a-new-reality-ripe-ncc-information-services-update-2024/

Security and Compliance



- Providing world-class services isn't enough - we need to protect personal data and security of our systems
- To achieve that, we have many ongoing initiatives being implemented in partnership with our Security and Compliance area:
 - The ISAE 3000 control framework, which focuses primarily on RPKI to ensure the integrity of our RPKI Trust Anchor
 - The ISO 27001 control framework, which ensures the security of our information systems
- We are planning to deliver the first assurance report on ISAE3000 Type I in Q1 2024



External Engagement and Community

Sustaining the Commons

Regional Meetings



CAPIF 2

Tashkent, Uzbekistan
225 attendees
from 19 countries



MENOG 23

Riyadh, Saudi Arabia
212 attendees
from 25 countries

National and Regional Engagements



NCC Days Sophia

121 attendees
from 8 countries



Two Roundtable Meetings

Montenegro and
Dubai



Two Internet Measurement Days

Kyrgyzstan and
Moldova

Together, let's shape the future of the Internet

Learning & Development

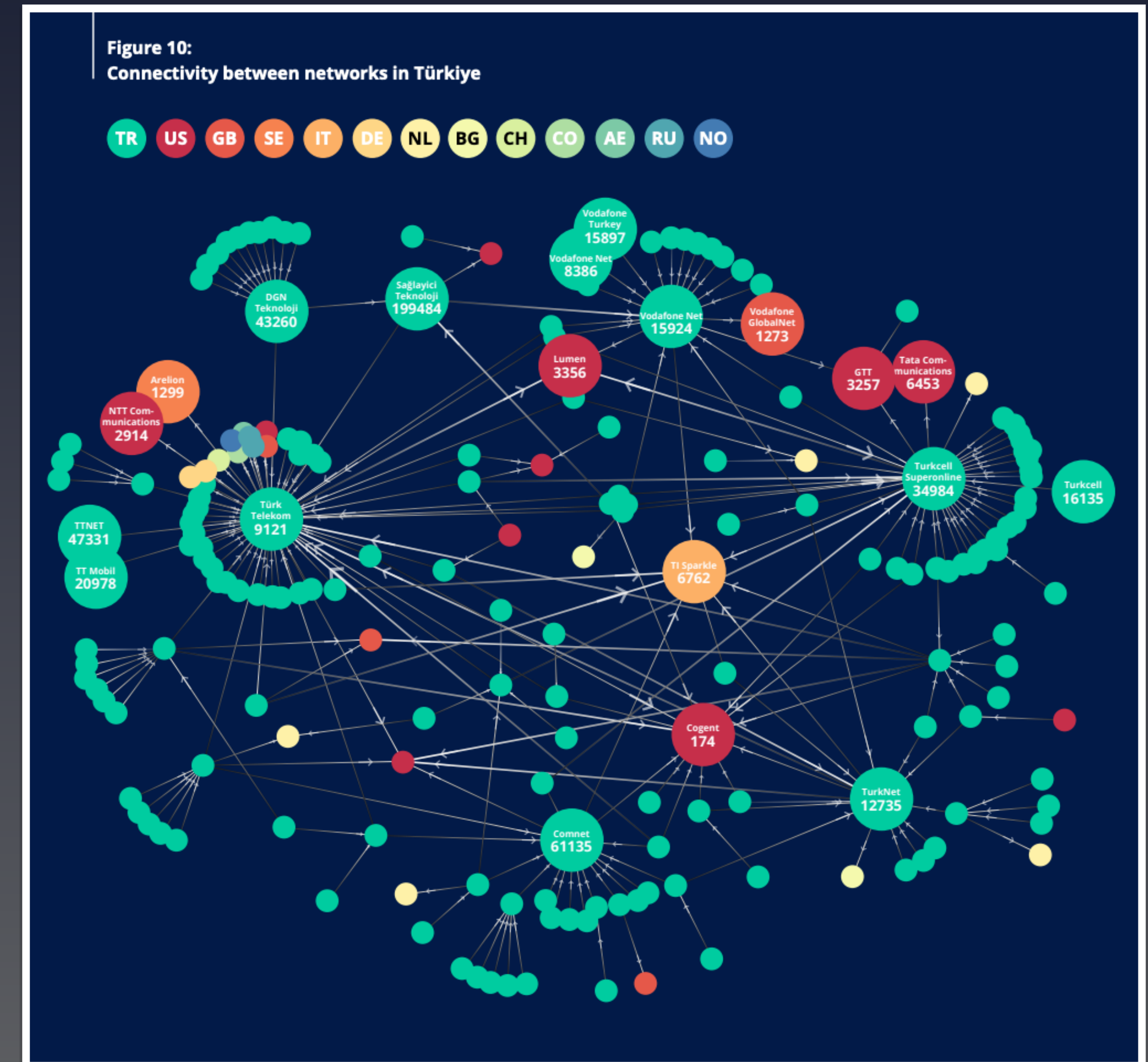


- Changed to a better exam platform
 - On-demand exams
 - More cost efficient
- Launched recertification program
 - RIPE Database certificates are the first to expire
- New WG Chair training launched (five e-learning modules)
- Improvements to Certified Professionals exams for BGP Security and IPv6 Security

Country Reports: Central Europe & Türkiye



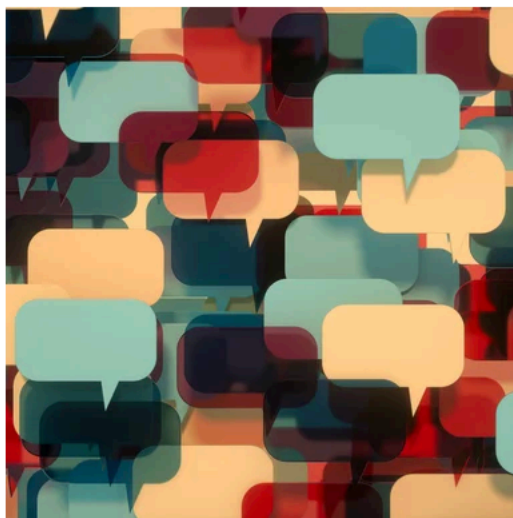
- Two country reports published:
 - <https://labs.ripe.net/author/ripe-labs-editor/country-reports/>
- Country Reports support Internet development by:
 - Making data available for local technical communities and decision makers
 - Providing analysis into the Internet in our service region
 - Informing discussion, providing insight and facilitating the exchange of information and best practices



Collaboration and Cooperation




- Working to defend the global Internet Registry System
- Important activity, according to 49% of the survey respondents
- Cooperation between External Engagement and Community and Legal



Why the Technical Community's Voice Matters
Suzanne Taylor • 4 Oct 2023 • 8 min read
Find out why it's an extremely important time for the technical community to contribute to Internet governance, and how you can make your voice heard.

community governance

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A Note on Our Latest Sanctions Transparency Report
Athina Fragkouli • 14 Aug 2023 • 4 min read
We recently removed sanctions-related restrictions from 49 RIPE NCC members and End Users who can now access our services again. In this article we provide some background information to explain why this is.

legal country governance +1

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Sanctions



- Sanctions compliance remains a significant area of focus
- We removed sanctions-related restrictions from 49 RIPE NCC members and End Users following a new sanctions exemption
 - Continue to seek out a blanket exemption to sanctions so we can provide uninterrupted service to members
- Quarterly Sanctions Transparency Reporting continues:
 - <https://www.ripe.net/publications/docs/ripe-809>

Legal Compliance



- Enhance implementation of part of the e-privacy law
 - “the cookie law”
- Implementation of the Digital Services Act
 - Update to Terms of Services related to submitting content on the website
- Updated the RIPE Database Terms to include the geofeed as a purpose of the RIPE Database

Information Security, Risk and Compliance



- We strive to keep our technology environment secure and our data protected
 - Reduction of vulnerabilities by 50% through policy, process and tooling improvements
 - Bug bounty program transitioning from private to public
 - Standardisation of security operations to respond to potential threats
 - Expansion of security insights in the RIPE NCC cloud environment
- We make it easier for employees to operate in a secure manner
 - Periodical digital security awareness training for each employee
 - Face to face security awareness training for specialised roles, e.g. developers

Information Security, Risk and Compliance



- Advancing our compliance initiatives
 - Introduction of an Information Security Management System according to the ISO 27001 standard. Certification planned for EOY 2024
 - ISAE 3000 control framework for the RPKI service certification design
 - Control implementation ongoing. ISAE 3000 Type I audit execution planned for Q1 / Q2 2024
- Modernising enterprise risk management
 - New risk management framework design (ISO 31000 / COSO)
 - Identification of risk areas to address through an enterprise risk assessment

RIPE NCC's Public Bug Bounty Program



- 2014: Responsible Disclosure
- 2020: By Invitation Bug Bounty
- 2023: Public Bug Bounty

- Ripe Labs:
 - <https://labs.ripe.net/author/emir-cuneyt-akkutlu/announcing-ripe-nccs-public-bug-bounty-program/>



Human Resources

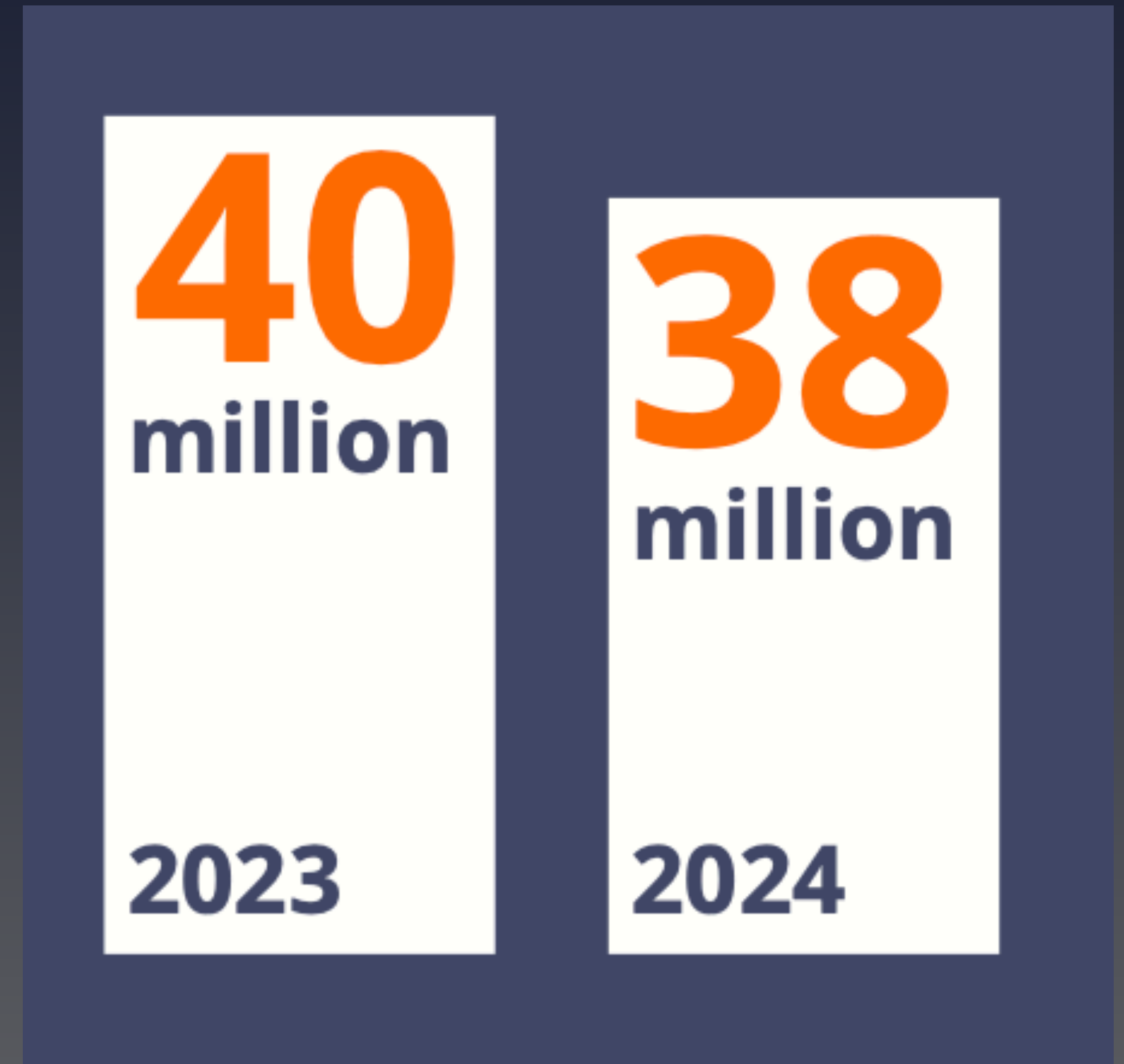


- HR
 - Introduced Employer of Record (EoR) to allow staff to work permanently outside of the Netherlands with a regular employment contract
 - Optimise HR systems and processes to be more effective, eliminating unnecessary administration
 - Staff safety
- Works Council
 - The elected representative board of employees. It has special rights and duties laid down in the Works Councils Act.
 - For instance, it has advisory rights and approval rights depending on the workplace items put forth, in effect making the works council a supervisory board of employees.
 - <https://www.ripe.net/about-us/staff/structure/works-council>

Finance



- Cost Control
- Major work on Budget 2024
- Banking Relations
 - Sanctions/Ultra High-Risk Countries
- On-boarding of external treasury party for our professionally managed investment portfolio
 - <https://www.ripe.net/about-us/legal/corporate-governance/treasury-statute/ripe-ncc-treasury-statute-june-2023>





Before Run-out

Looking back at 2013-2019

Before Run-out



Year	2013	2019	Change
LIRs	9,900	25,100	154%
Total Cost	EUR 19M	EUR 32M	66%
Inflation			10%
Cost/LIR	EUR 1,953	EUR 1,278	-35%



Transition and disruptions

2019-2022

Disruptions and Mitigations



Disruption

- Sanctions
- Regulations, GDPR & NIS, NIS2 and national security regulations
- Banks' increased scrutiny due to anti-money laundering regulations (and sanctions)
- COVID-19
- Wars
- Energy crisis
- Inflation

Mitigation

- Established Security, Risk and Compliance Team led by a CISO
- Increased work for legal team
- Invested in automation of sanctions screening
- Started to implement formal compliance framework for RPKI
- Manual clean up in internal systems
- Reviewed all job descriptions and conducted external benchmarking
- Implemented new financial governance

After Run-out



Year	2019	2022	Change
LIRs	25,100	23,400	-7%
Total Cost	EUR 32M	EUR 35M	9%
Inflation			17%
Cost/LIR	EUR 1,278	EUR 1,480	16%



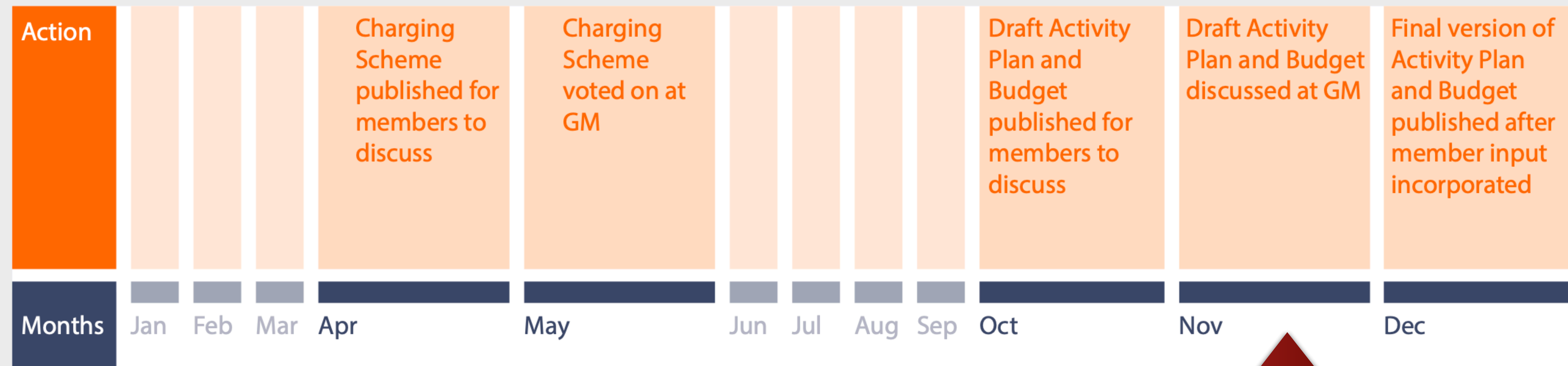
Planning cycle

How do we plan?

Planning Cycle



Shaping the RIPE NCC's Activities and Budget



We are here



Activity Plan and Budget 2024

Draft Activity Plan and Budget 2024



- Published in October
- Presented today at RIPE 87
- To be approved in December 2023 by the Executive Board



RIPE NCC Survey: Key Takeaways —> Actions



Support for our current set of activities	→	We have not cut services or activities
People care about maintaining the stability of the global Internet	→	Outreach in our service region and delivering insights for decision makers
Most common concerns are costs	→	Cut the budget by EUR 2M
Security is a big issue for members	→	We continue to invest in security
Strong requests for training and knowledge-building on security, RPKI and IPv6	→	More training and e-learning courses on security, RPKI and IPv6
Better user interfaces requested for all applications	→	Work will be carried out to improve all application UIs

Executive Board Direction



- Projected income of 38M EUR for 2024
- The Board advised to focus on **cost saving** as much as possible **rather than stopping activities** at this point
- Changes in activities must be discussed with the members in, for instance, Open Houses and at the GM
- The Board suggested aiming for a **break-even budget**, including revenue at risk:
 - <https://www.ripe.net/about-us/executive-board/minutes/2023/minutes-167th-executive-board-meeting>

Focus 2024

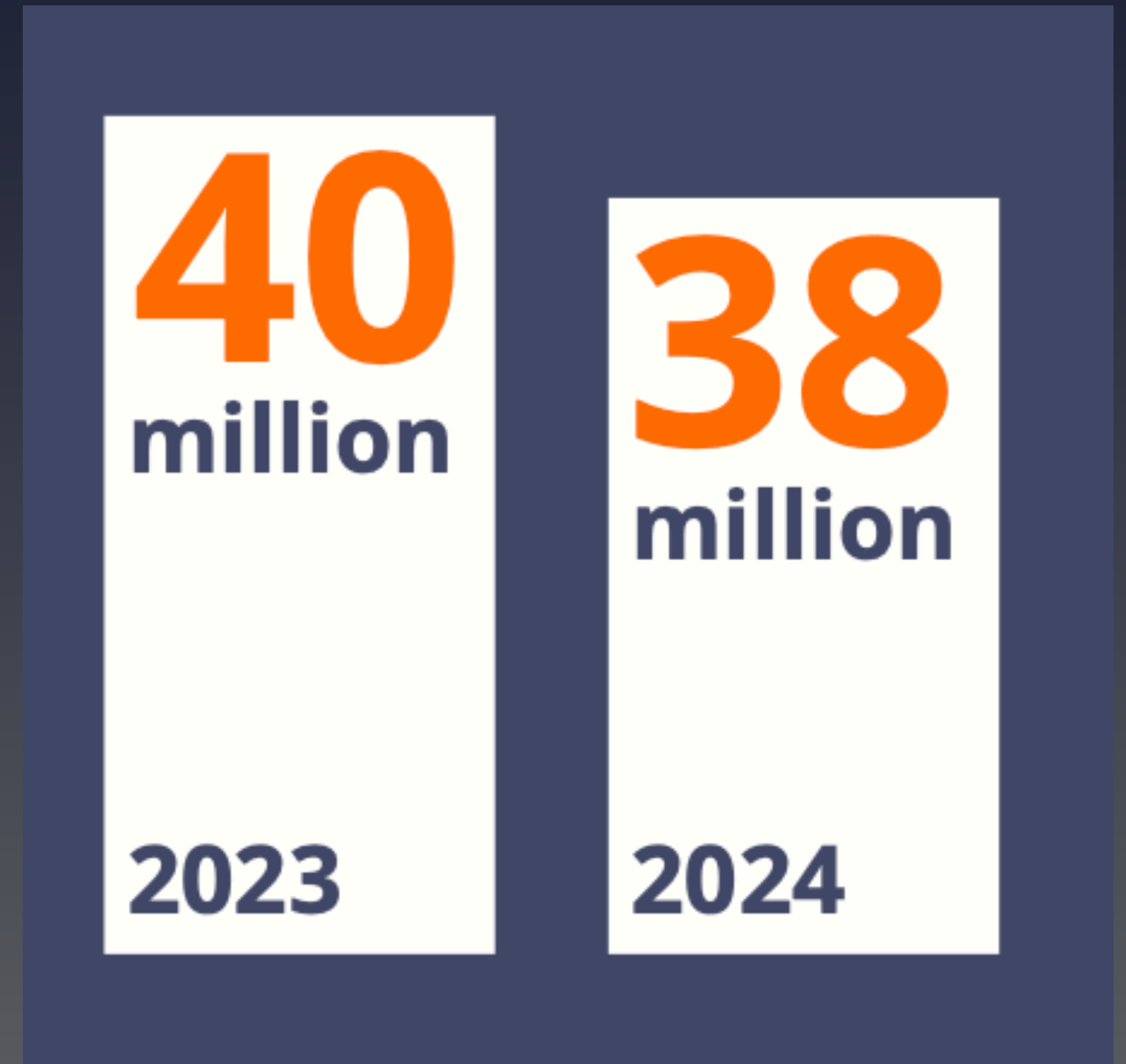


3.4	Be a centre of excellence for data, measurements and tools that provide insight on the Internet and its operations.
4.1	Ensure the organisation's stability and financial strength.
4.2	Be resilient in the face of political, legislative and regulatory changes that have the potential to affect our operations.
4.4	Maintain necessary levels of security and compliance with best practices and applicable regulations.

Cost Cuts 2024



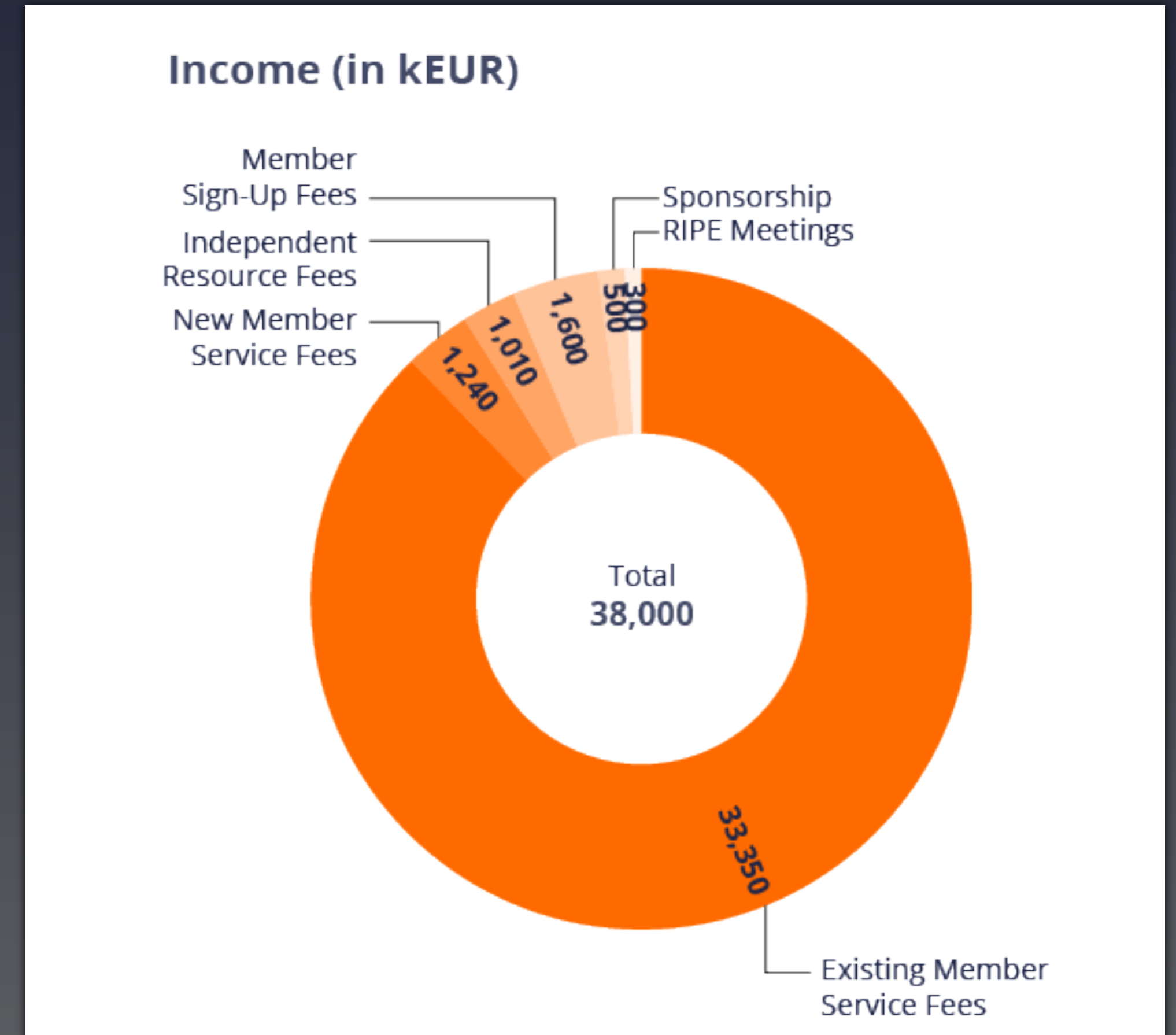
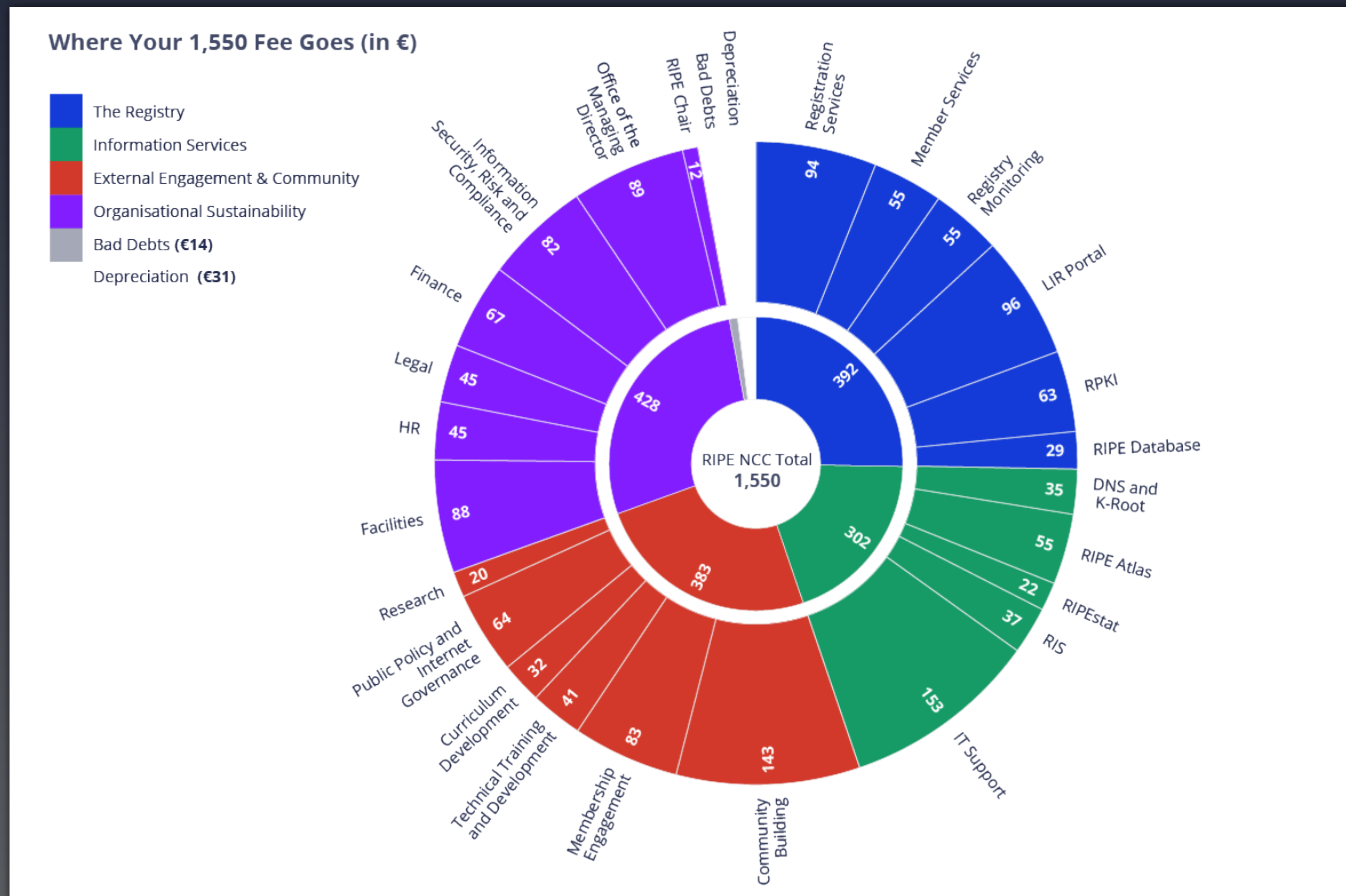
- 1.8M 36% Consultancy
- 0.8M 18% Information Technology
- 0.4M 14% Outreach
- 0.3M 19% Contributions
- 0.2M 20% Travel



Budget Visualisations



- New budget visualisations added to the document



Registry



- Focus on improving operational efficiency and sanctions compliance
- Independent external review of the RIPE Registry
- Significant savings through reductions in our ticketing and sanctions compliance licences
- Plan to continue automating our processes to handle the heavy workload

Information Services



- Developing our tools and data is one of our priorities for the year
- The main change will be an upgrade to our data storage backend, where we will simplify our storage platform to reduce costs while maintaining the quality of our services
- We are also working on containerising several applications for better uptime, resilience and scalability

Community & Engagement (1)



- Sustaining the Internet Commons by continuing to lower barriers to engagement
- Lowering travel barriers and visa restrictions through regional events:
 - Will continue with RIPE meetings and regional meetings (MENOG, SEE, CAPIF)
 - Sacrificed engagements like RIPE NCC Days and hackathons due to budget cuts
- Lowering barriers through online engagement:
 - Local hubs, RIPE NCC Forum, Open Houses and webinars, new website, Labs podcast

Community & Engagement (2)



- Lowering language barriers through translations:
 - Further development of the Translation Wiki and simultaneous translations at regional events
- New e-learning courses
- Research is now in this area, which will enable us to provide more data insights to policymakers, decision-makers and the community.

Organisational Sustainability



- Security and compliance, resilience and risk management are our main goals in this pillar
 - Sanctions keeping our Legal team busy
 - Our Information Security, Risk and Compliance team are working to keep the RIPE NCC resilient to threats through risk management frameworks like the ISO 27000 series
 - We must account for financial challenges (revenue at risk, LIR consolidation, inflation)
- Finally, we are improving our corporate structure to ensure we operate as effectively as possible

References



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 - <https://labs.ripe.net/author/james-kennedy/safeguarding-our-core-function-in-difficult-times-the-ripe-ncc-registry-2024>
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- Strong and Stable in 2024: The RIPE NCC's Draft Activity Plan and Budget
 - https://labs.ripe.net/author/hans_petter_holen/strong-and-stable-in-2024-the-ripe-nccs-draft-activity-plan-and-budget/

Key Takeaways



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- Less income and increased costs
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- Budget 2024 at 38M



Questions



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