



RIPE NCC
RIPE NETWORK COORDINATION CENTRE

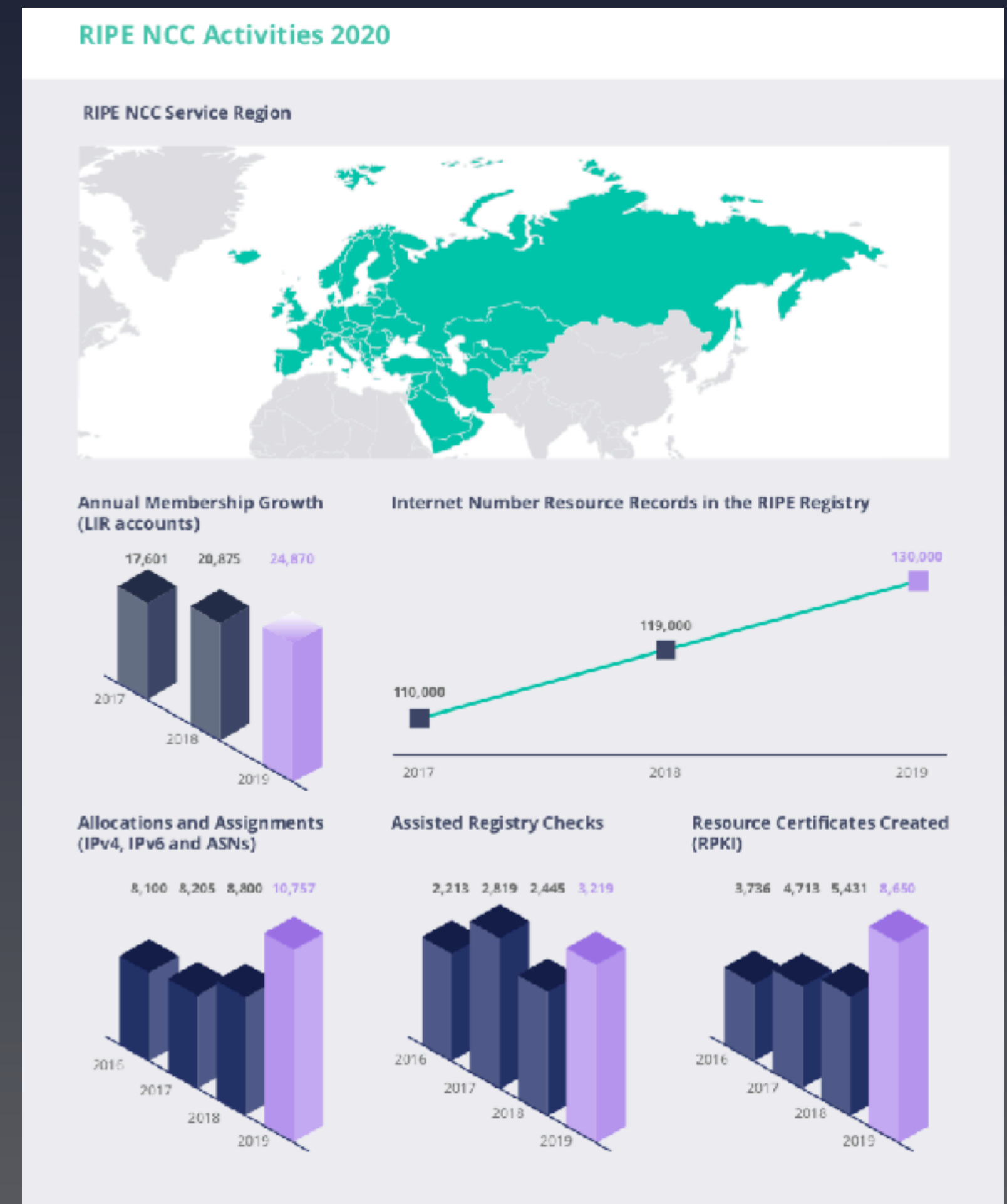
Draft RIPE NCC Activity Plan and Budget 2020

Axel Pawlik
Managing Director
RIPE NCC

Activity Plan and Budget 2020



- Our plans for 2020 documented to ensure a high standard of transparency and accountability
 - Key statistics and vital information for each area of activity
 - Financial figures listed for each area of activity



New in this Activity Plan and Budget

- A more concise overview of our plans
 - Focus on what is changing
 - Removed descriptive content that rarely changed
 - Links included - learn more about activities as needed
- ‘Other Services’ section removed for 2020
 - Activities previously here now in the Registry section
 - More accurately reflects where this work takes place
 - Accounts for much of the 10% increase in the Registry
- New ‘notable investments’ section

1.3 Resource Certification (RPKI)

Status: Expanding **FTEs:** 2.0 **Cost:** 415 **CAPEX:** -

Description
RPKI is a community-driven system that allows networks to receive digital certificates which prove they are the legitimate holder of their IP addresses and AS Numbers. The certificate-holder can use this to make statements about their resources that can be used to secure Internet routing, particularly BGP Origin Validation. RPKI is a valuable step towards full BGP security, including path validation as developed by the IETF's SIDR Working Group.

Activities 2020
We have recently seen significant RPKI uptake, as greater attention is being paid to the security of Internet routing. Our priority over the coming period will be to improve the resiliency and security of the RPKI Trust Anchor and Certificate Authority so that network operators can trust in the system. As part of this, we intend to use an external party to conduct a risk and security analysis of the RPKI infrastructure, which mostly accounts for the budgeted increase for this activity.

Initially, our RPKI validator was the only production-grade tool that allowed network operators to perform origin validation. A positive development recently has been the development of alternative validators by other organisations, which means a greater diversity of tools for network operators to choose from. However, our own validator needs further development if it is to remain a worthwhile option alongside these newer tools. In 2020 we will therefore investigate whether further development of our own RPKI validator is practical and needed.

Finally, results from the RIPE NCC Survey 2019 indicated that around half of our members do not know what RPKI is or how it can be used to support their operations. In 2020 we will work to raise awareness of the RPKI system and its benefits. We will do this through organising RPKI "Deployathons" (RPKI-focused Hackathons), outreach and promotion, and training.

Resource Certificates created:
2017: 4,713
2018: 5,431 (+15%)
2019: 8,650 (+59%) ↗

RIPE NCC-announced IPv4 space covered by ROAs:
2017: 14% prefixes; 28% addresses
2018: 18% prefixes; 30% addresses
2019: 37% prefixes; 48% addresses ↗

More Information
[Resource Public Key Infrastructure](#)

Strategic Focus Points in 2020



- Over the past three years we have followed a fixed strategic focus
- RIPE NCC Survey 2019 carried out as we are reaching the end of this period clearly indicates high level of satisfaction across our membership
- In 2020, we will continue our efforts to:
 - Rethink our service delivery, incorporate professional trust model, ensure accuracy of Registry/RIPE Database
 - Carry out effective outreach to all stakeholders to stay connected and fulfil our goals
 - Strengthen global RIR system, ensure its accountability, transparency and resilience, allow it to adapt to changing environment
 - Understand our members to meet their needs and add value

Clarification on Figures



- FTEs (Full Time Equivalents)
 - Total time staff spends on activity
- OPEX (Operational Expenses in kEUR)
 - Direct expenses and personnel expenses (FTEs) that are allocated to an activity; all activities contain sub-activities
- CAPEX (Capital Expenses in kEUR)
 - Capital expenses are all investments that are taken as an asset



Key Activity Areas in 2020

Expanding Areas of Activity

Top Level Areas of Activity



- Overview of growth in top level areas of activity:
 - REGISTRY +10%
 - SERVICES +12%
 - COORDINATION +4%
 - INTERNAL -3%



RPKI (156%) REGISTRY



- Renewed interest in routing security with emphasis on RPKI
- Priority to ensure RPKI infrastructure remains stable and secure
- Ongoing support for RPKI uptake
- Will investigate whether further development of RPKI validator is practical and needed

FTEs: 2 (+1)

COST: 415 (+253)

CAPEX: -

+SERVICE DELIVERY

+PROVIDING RELIABLE DATA

+ENGAGING WITH MEMBERS



Training (30%) SERVICES



- Ongoing investment in our Certified Professionals programme
 - 2020 focus on introducing certification for our RIPE Database and IPv6 courses
 - Developing a funding model that will accommodate costs for external proctoring service to oversee exams
- Further investment in our online learning resources
 - Developing new online learning content in the areas of IPv6 and BGP

FTEs: 14.9 (+2.0)

COST: 2,926 (+680)

CAPEX: -

+SERVICE DELIVERY

+ENGAGING WITH MEMBERS



RIPEstat (19%) SERVICES



- Investigating cloud support for the RIPEstat Data API as part of move toward cloud solutions for efficiency and agility
- Continue extended collaboration with the other RIRs in 2020
- Development of new visualisations and analytic tools
- Trialling multi-language support: <https://www.ripe.net/s/eEx4>

FTEs: 9.4 (+1)

COST: 1,160 (+184)

CAPEX: 289

+SERVICE DELIVERY

+PROVIDING RELIABLE DATA



Legal Activities (54%) INTERNAL



- Increase in the amount of legal work in response to regulatory developments that affect our operations
- Increase efforts towards ensuring due diligence
- Continuing to follow legislative developments and coordinate externally to support confidence in the self-governance model of the Internet

FTEs: 2.9 (+1)

COST: 455 (+159)

CAPEX: -

+SERVICE DELIVERY

+PROVIDING RELIABLE DATA

+ENGAGING WITH MEMBERS



Other Notable Investments

Notable Investments



- Several programmes or projects will not require notable budget increases for parent activities, but come with associated costs
 - Benefits extend across organisation
 - Not carried out by one particular team
 - Will help us achieve our strategic focus points



Notable Investment

- Active Registry Monitoring
- Certified Professionals/
E-learning content
development
- Cloud Strategy
- Revised organisational
model



Active Registry Monitoring



- A more proactive approach to monitoring the accuracy of registry data
 - Members will be contacted when we find outdated information
 - Less reliance on members to initiate registry updates
- Aim to eventually develop a semi-automated approach that compares registry data against third-party sources



Cloud-First Strategy



- We are investigating the migration of in-house technical infrastructure to a set of cost-effective cloud solutions on a case-by-case basis
- Aim to ensure less reliance on hardware and fewer commitments on connectivity and space, hence greater agility:
 - Existing data back-up system
 - Certain administrative systems
 - Measurement data collected via RIS, RIPE Atlas and the RIPEstat Data API
- No changes to existing setup to be made without input from our members and the community



Revised Organisational Structure



- We are organising ourselves around purpose-driven activities
 - Empowering staff with clear mandates and appropriate resources



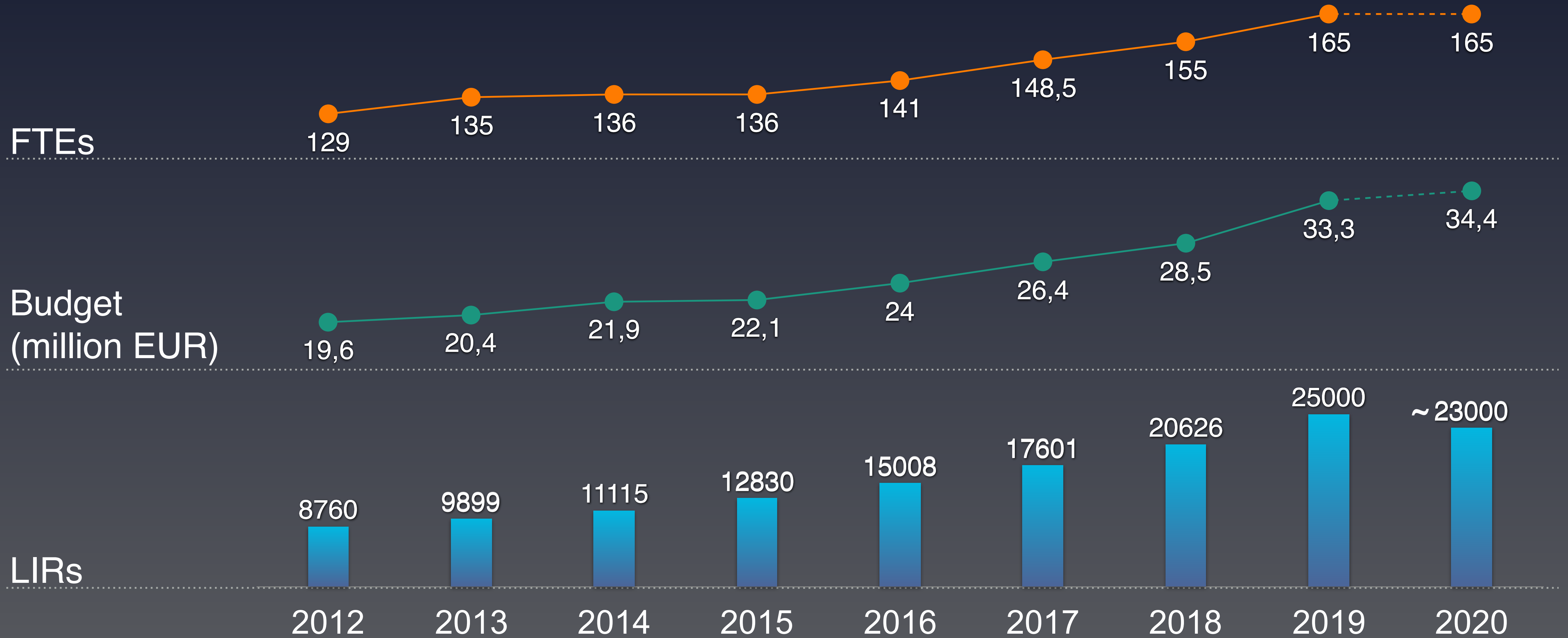
Budget 2020

Summary of Budget



- Budget 2020 focused on consolidation
- Total of 23,000 LIR accounts anticipated by end of 2020
- Forecast income decrease of 12%
- A budget increase of 4%
- No increase to FTE count
- Anticipated surplus of EUR 3.3 million

Budget (cost) vs LIR Growth





Questions



axel@ripe.net