



# **RIPE NCC Update**

Axel Pawlik Managing Director RIPE NCC

RIPE 79 | Rotterdam | 16 October 2019



# Our Vision and Mission

- Together, let's shape the future of the Internet
- As an authority on unique Internet number resources, we enable our members to operate and develop the Internet
- As a neutral source of information and knowledge, we actively contribute to a stable and innovative Internet
- We are a trusted steward of the open, inclusive, collaborative Internet model, connecting people, communities and stakeholders







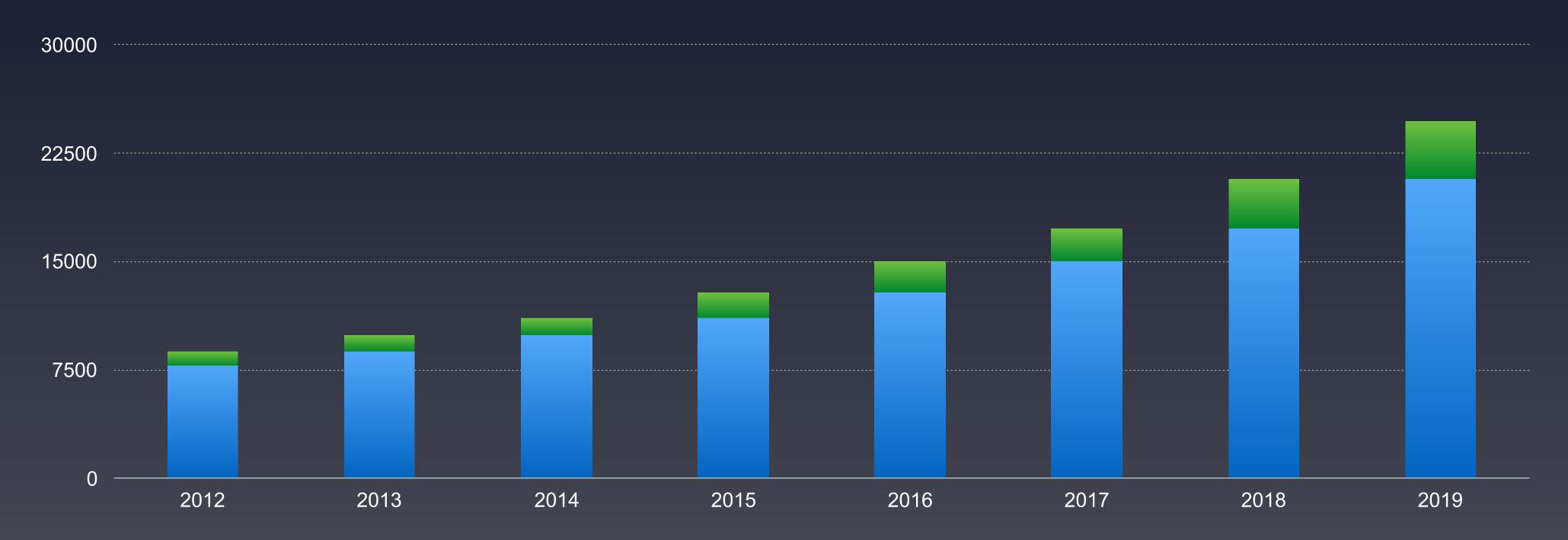
## This Year

- 4,110 additional member accounts
- 5,150 /22 IPv4 allocations and 2,116 IPv6 allocations
- Approximately 2,000 attendees at RIPE NCC-organised events
- 84 training courses for 1,715 participants in 39 locations
- 2,276 ARCs completed
- 10,100+ active RIPE Atlas probes
- 500+ RIPE Atlas anchors





# Membership Growth



16,900+ LIR accounts activated since last /8 reached in 2012

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# 19% growth so far in 2019; approximately 4,000 new LIR accounts



# Where We Are Right Now

- Continuing to deal with heavy workload as membership growth continues
- stability
- Registry remains vital
- to handle upcoming challenges
- Actively seeking new opportunities to introduce efficiencies and innovate our existing services

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• We are well prepared for IPv4 runout - not a threat to our long-term

• Transfer market is as active as ever - maintaining an accurate RIPE

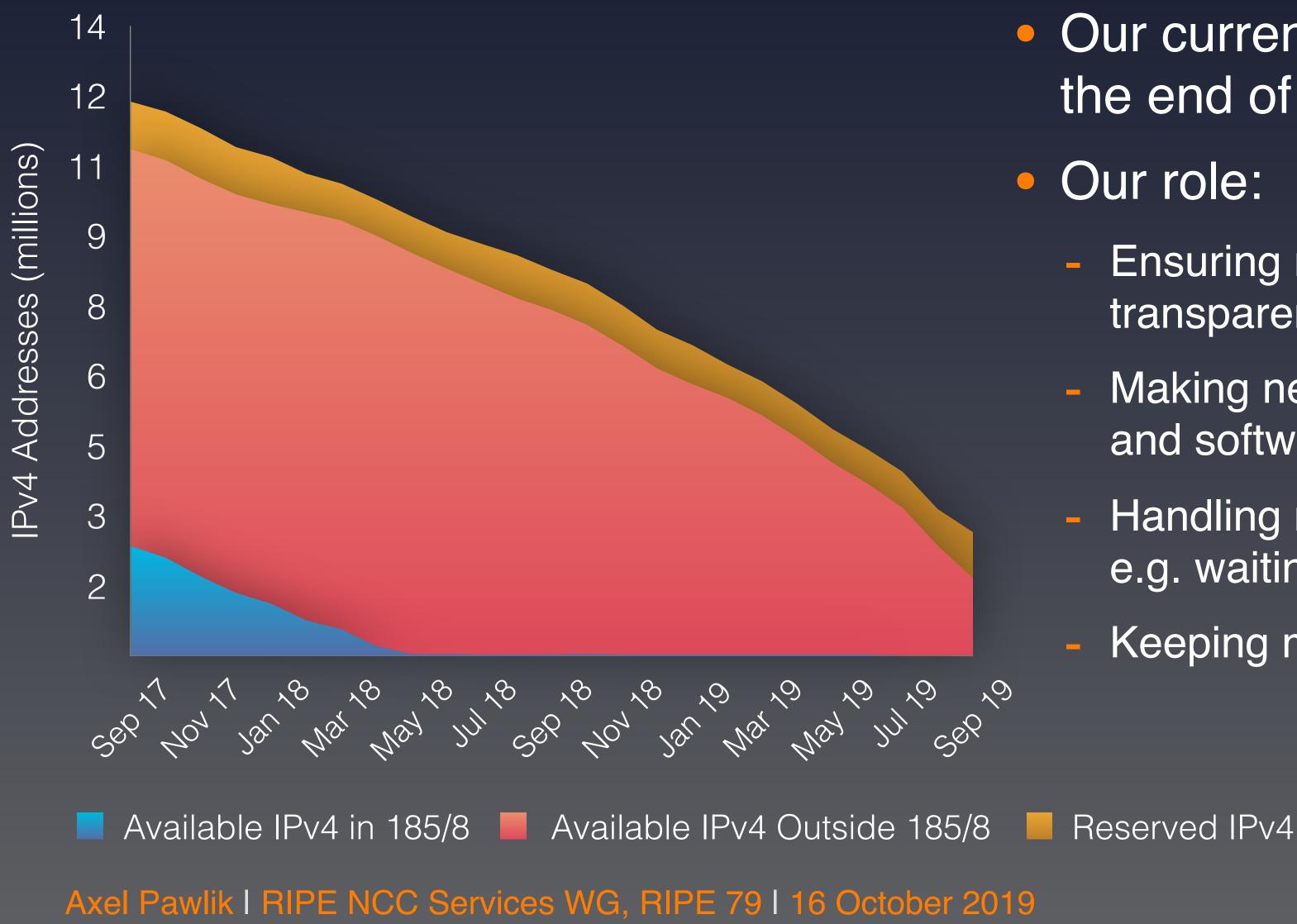
Ensuring existing infrastructure and processes remains robust enough



# IPv4 Run-out



# **RIPE NCC's IPv4 Pool Exhaustion**





- Our current IPv4 pool will run out before the end of 2019
- - Ensuring run-out is handled fairly, efficiently, transparently
  - Making necessary changes to our processes and software
  - Handling new challenges for our members e.g. waiting lists
  - Keeping members informed about run-out











# Our Strategic Focus in 2020

- Strategic focus on delivering world-class services while engaging to connect people to maintain the resiliency and stability of the Internet
  - Maintaining and further improving registry
  - Improving service delivery and better understanding the needs of our members
  - Maintaining effective member outreach and external engagement
  - Modernising our technical infrastructure
  - Increasing efficiency and agility to handle emerging challenges
  - Increasing accountability and due diligence







# **Activity Plan and Budget 2020**

- Planned budget increase of 4% in 2020
- No increase in FTE count
- Increased investment in:
  - Training
  - **RIPEstat**
  - RPKI
  - Legal
- Focus on efficiencies and further innovation of our existing services after IPv4 runout
- Available online: https://www.ripe.net/gm/oct-2019/supporting-documents









# RIPE NCC General Meeting October 2019

- Today RIPE NCC members will meet to discuss:
  - Draft RIPE NCC Activity Plan and Budget 2020
  - Reports from the RIPE NCC Executive Board and RIPE NCC Management
- To vote on:
  - Redistribution of the RIPE NCC surplus to the membership
  - Amendments to the Articles of Association

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# Our Services

# **RIPE Atlas**

- Developing non-hardware solutions
  - RIPE Atlas VM anchors now available
  - RIPE Atlas software probes available for limited testing soon (more in MAT WG)
- RIPE Atlas tools and data
  - Supporting new tools and visualisations for network operators
- Get involved
  - We aim to cover as many ASNs as possible!

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We are looking for sponsors for RIPE Atlas! atlas.ripe.net/get-involved/become-a-sponsor/



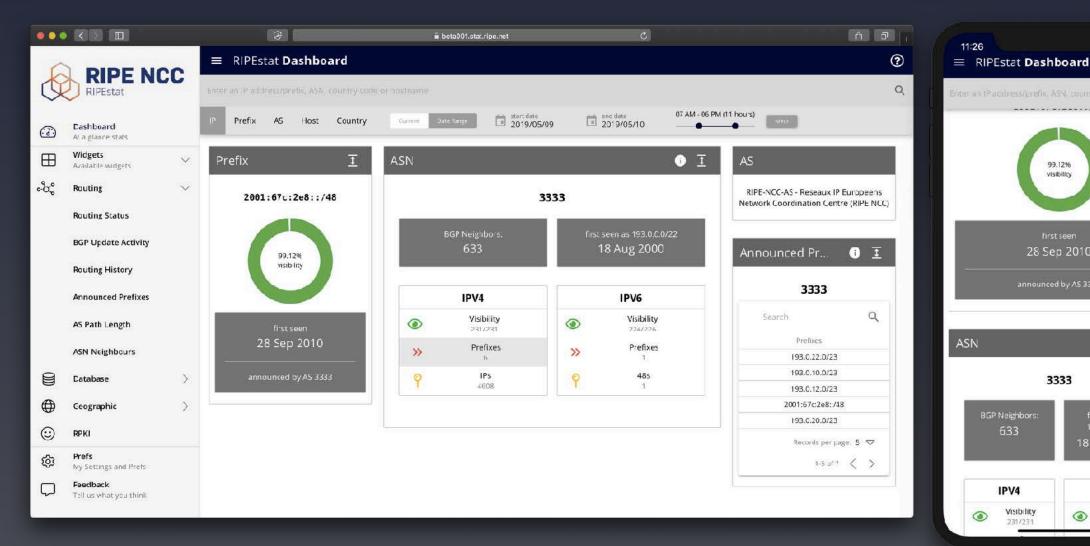


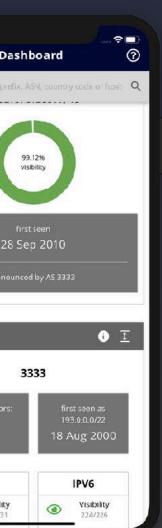
## **RIPEstat**

- RIPEstat usage still growing fast
  - 75 million requests per day average for 2019
- Extended collaboration with other RIRs to develop new visualisations and analytic tools
  - https://netox.apnic.net/
  - https://inforedes.labs.lacnic.net/
- New RIPEstat UI prototype
  - https://beta-ui.stat.ripe.net

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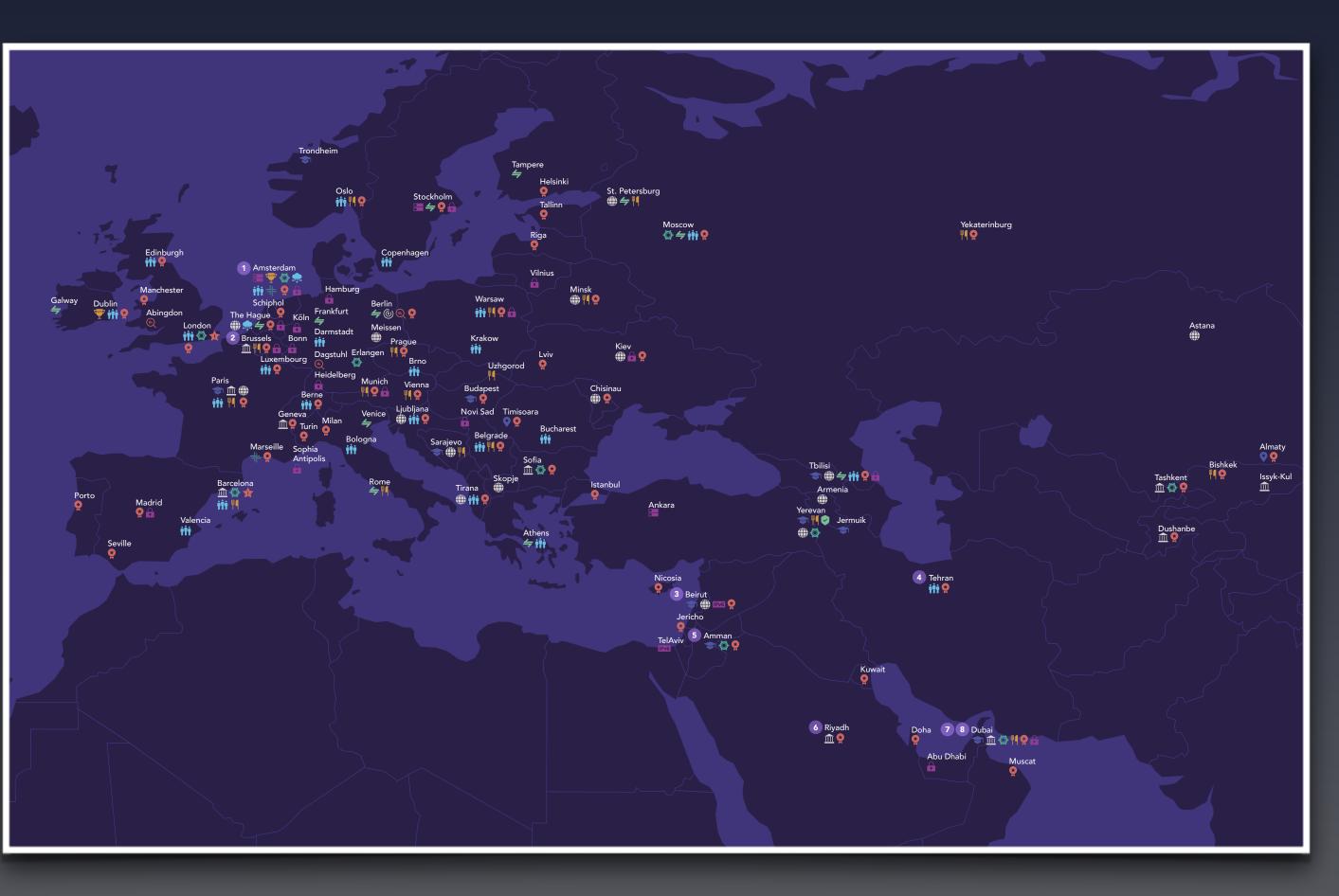
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# Engagement and Outreach

- RIPE Meetings and Regional Meetings
- Member Lunches
- Support for NOGs, national IGFs, technical community events
- Face-to-face training courses
- Webinars and remote courses
- Community building on RIPE Labs
- Academic cooperation
- Hackathons
- Government roundtable meetings







# **RIPE Labs**

- Join us in celebrating 10 Years of RIPE Labs
- 11,050 articles since 2009
- Time for a revamp!
  - We're considering new design, content, features and functions
  - Take part in reimagining RIPE Labs and share your ideas with us
    - @RIPELabs
    - labs@ripe.net

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# **RIPE Labs Tools**

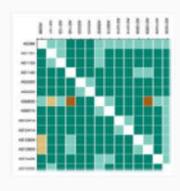
- A growing list of our prototype tools and visualisations all in one place
- labs.ripe.net/tools
  - IXP Country Jedi
  - RIPE IPmap
  - User to User Connections
  - **RIS** Live
  - **RPKI** Webcast
  - **RIPE** Atlas Population Coverage
  - **IPv6** Ripeness
  - IPv6 Enabled ASNs

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## **Tools**

## - History

A list of prototype tools and visualisations we are currently working on. Play with them, see what they can do, and please leave your feedback on how you'd like to see them developed in the future.



## **IXP Country Jedi**

PROTOTYPE

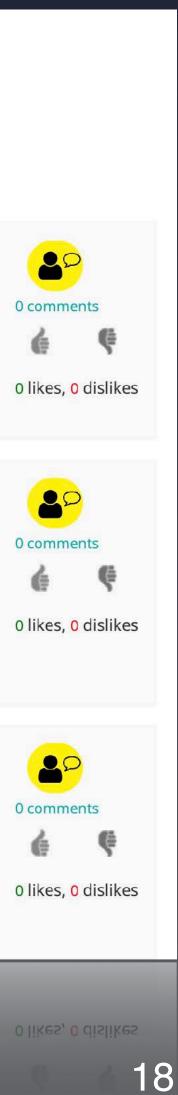
IXP Country Jedi provides visualisations of Internet traffic paths (traceroutes) between RIPE Atlas probes located in the same country to show whether those paths take out of country detours, and what IXPs they pass through.

| 12,110      | 1000       |        |    |  |
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## **RIPE IPmap**

PRODUCTION

RIPE IPmap is the RIPE NCC's tool for mapping core Internet infrastructure. Through collaboration with various researchers, RIPE IPmap integrates several ground breaking methods for geolocation whilst also using crowd-sourced data to modify and correct its results.





## User to User Connections

## PROTOTYPE

These visualisations sketch out the different ways in which end-users are interconnected within the same country. Each sketch represents a snapshot of user to user connections at a single given point in time to provide insight into how networks interconnect their users.



networks interconnect their users.



user to user connections at a single given point in time to provide insight into how



# **RIPE NCC Hackathons**

- Our last hackathon on IoT took place here in Rotterdam last weekend
  - 10th RIPE NCC Hackathon to date!
  - 35 participants developed new IoT technologies for the community
- Find out more and get involved in our hackathons:
  - labs.ripe.net/hackathons

Join us on 5-6 November Quantum Internet Hackathon happening at six nodes across Europe













# 20 Years On

- Today happens to be my 20 year anniversary as Managing Director of the RIPE NCC
  - It's a personal milestone
  - ... and cause for reflection
- So many changes in the World, within the RIPE Community, and within the RIPE NCC

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# The World

- Let's not talk about geopolitics and climate change
  - To avoid depression and despair
- The Internet has become pretty commonplace and indispensable
- Resulting in increased attention and scrutiny of our work from the wider world







# **Community Challenges**

- Threat of community fracture
  - Discussions online and in person have become much harder
  - One common goal 20 years ago
  - Very different motivations today
  - Goodwill vs exploitation
- Openness and inclusivity under debate
  - Who are "we"?
  - **Operators of Internet infrastructure?**
  - Or "anybody with in interest in the Internet"?

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# Community Challenges

- We are awake to these developments
  - Need to tackle challenges straight on...
  - ...or risk endangering our relevance
- This community has responded to so many threats and challenges over the last 30 years
- I have no doubt that we can do it if we want to!

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# Changes to the RIPE NCC: Activities

- First: thank you all for your support over the years!
  - Growth from "cookie and coffee facilitator"
  - To substantial "authority" on number resources
  - Delivering services to benefit our members' businesses
  - Increasing training portfolio (and new channels)
- Still "bringing people together"

- ... in many events and diverse formats







# Changes to the RIPE NCC: Membership and Financial

- - Budget just under 4 million in 1999, to 34 million in 2020
  - 1,696 members in 1999; 25,000+ in 2019
  - Cost per member from 2,354 to 1,367

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## We have grown from 3 people (60 when I arrived) to about 160





# Changes to the RIPE NCC: Organisational

- To increase agility and responsiveness to your needs
  - Over the course of 2019 we introduced a system of self-management/selforganisation
  - Based on the organisation's purpose, cascading through departments and into individual roles
- It is beginning to be effective, yet needs to take roots properly
- It will secure effectiveness, and also efficiency

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# Looking Ahead

• With your support - the support of our members and the wider community - RIPE and the RIPE NCC are well positioned to take on and resolve any challenges coming our way

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# Questions ?

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