



# **GÉANT and RedCLARA: Celebrating European-Latin American Collaboration**

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[www.geant.org](http://www.geant.org)



**To provide an open, innovative and trusted information infrastructure for the European knowledge economy and to the benefit of society worldwide**



**A membership association for Europe's National Research & Education Networks (NRENs)**  
GÉANT Association



**Coordinates and participates in EC-funded projects**

Under Horizon 2020 the financial instrument for implementing the Innovation Union, a Europe 2020 flagship initiative aimed at securing Europe's global competitiveness



**Operates a pan-European e-infrastructure with connections to all regions of the world**  
GÉANT network



**Manages a portfolio of services for research & education**  
EduX



**Organises and runs community events & working groups**  
TNC, task forces & special interest groups



# Membership Association





# Connecting European-Latin American R&E for the Next 25 Years





## BELLA-S on the EllaLink Submarine Cable System



First-ever direct GÉANT-RedCLARA interconnection



Transatlantic R&E connectivity needs met for next 25 years

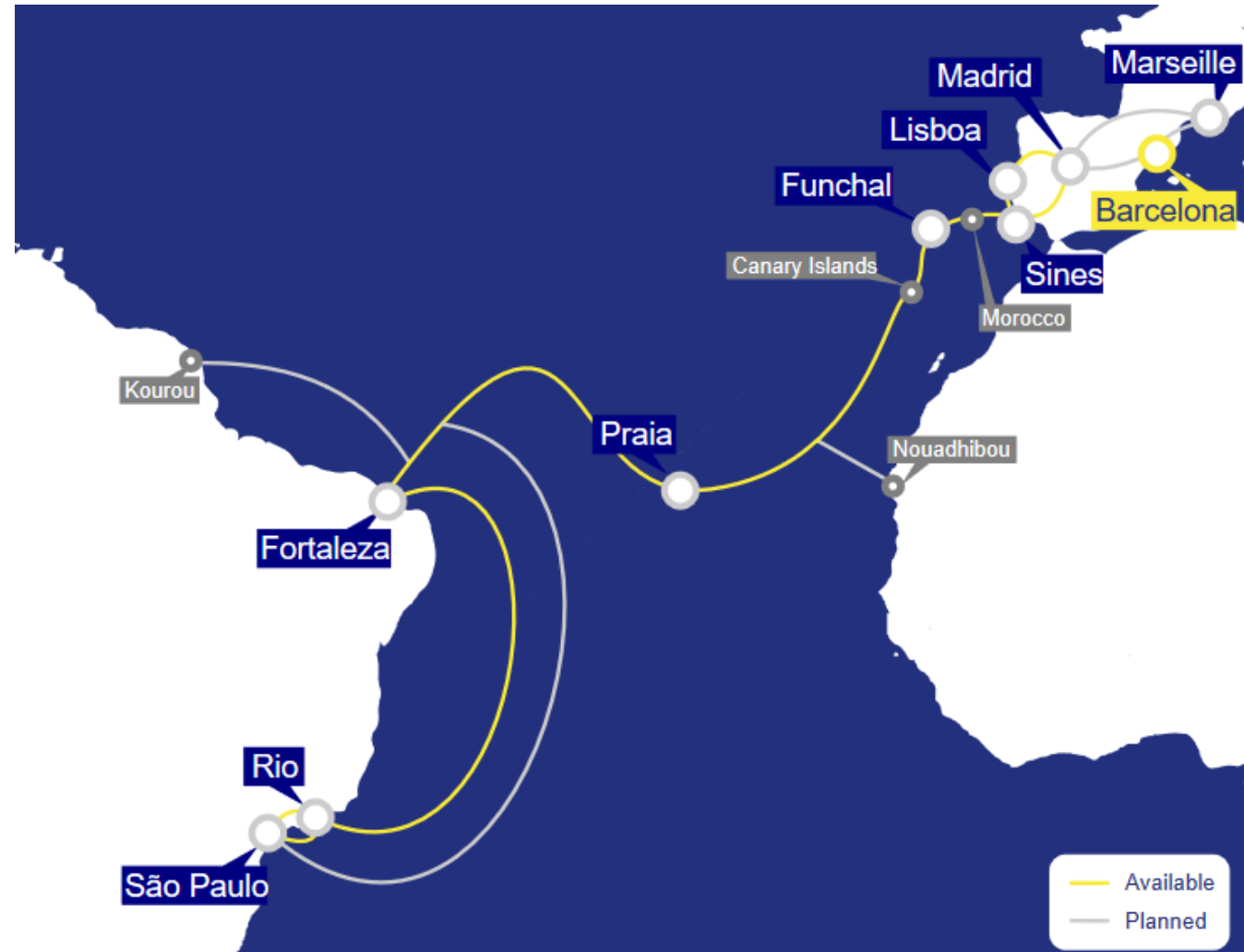


Secure, dedicated capacities available for specific R&E collaborations



Latency between GÉANT and RedCLARA to be reduced by up to 2/3

Ready first half 2021



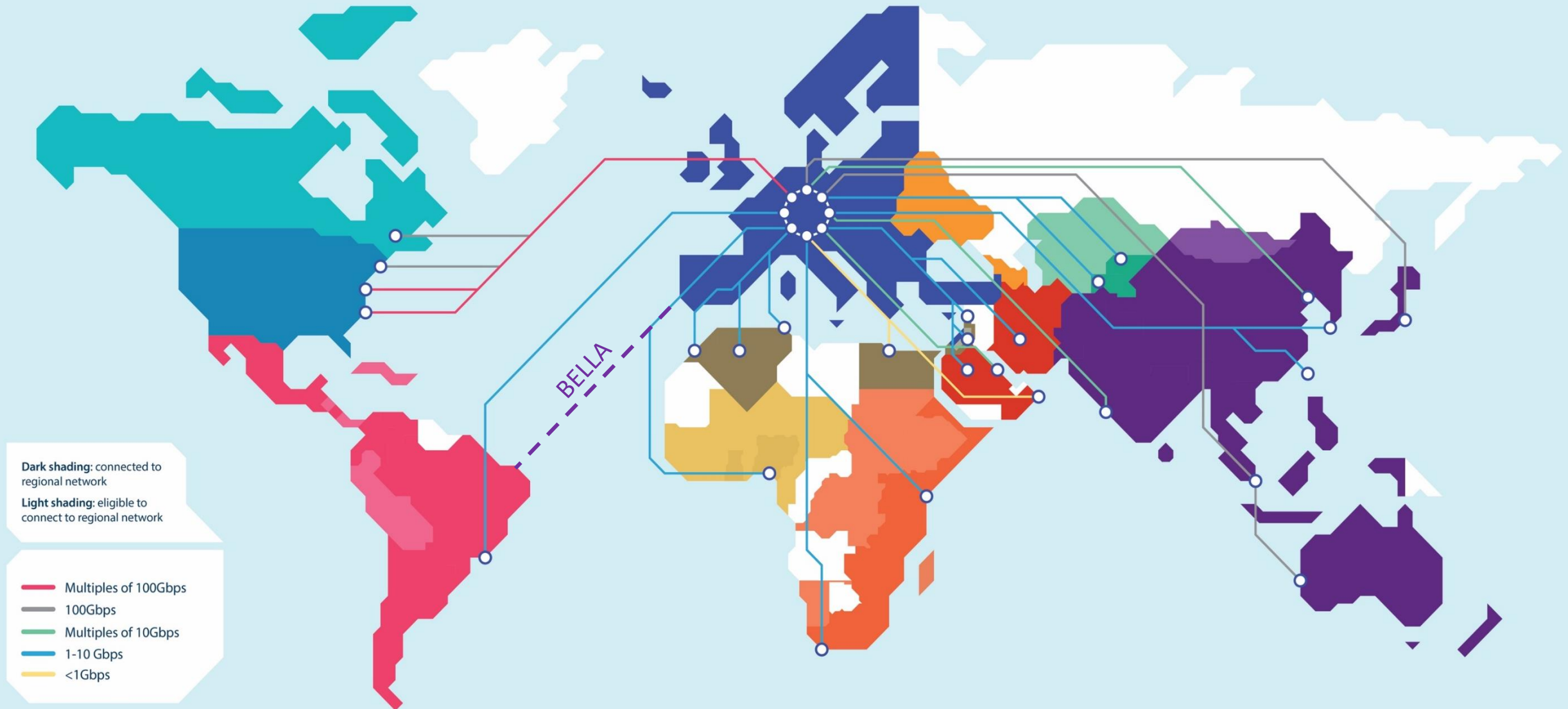




# International Connectivity



This map is produced as part of the GÉANT Specific Grant Agreement GM4-3 (No. 856726), that has received funding from the European Union's 2020 research and innovation programme under the GÉANT2020 Framework Partnership Agreement (No. 653998). The content of this document is the sole responsibility of GÉANT and can under no circumstances be regarded as reflecting the position of the European Union.



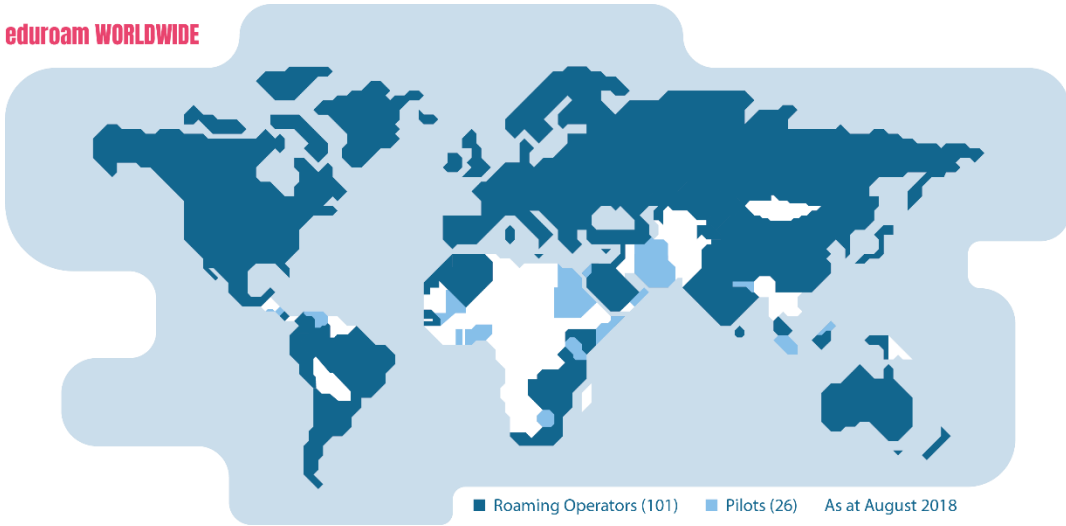
October 2019



# Supporting R&E Beyond Connectivity



## eduroam WORLDWIDE



## eduGAIN WORLDWIDE





# R&E Networks Respond to User Needs in the face of COVID-19



Learning Management Systems | [User Guide]



**LEARNING MANAGEMENT SYSTEM**

Doc Sharing | [User Guide]



**DOC SHARING**

Interactive Data Analysis | [User Guide]



**INTERACTIVE DATA ANALYSIS**

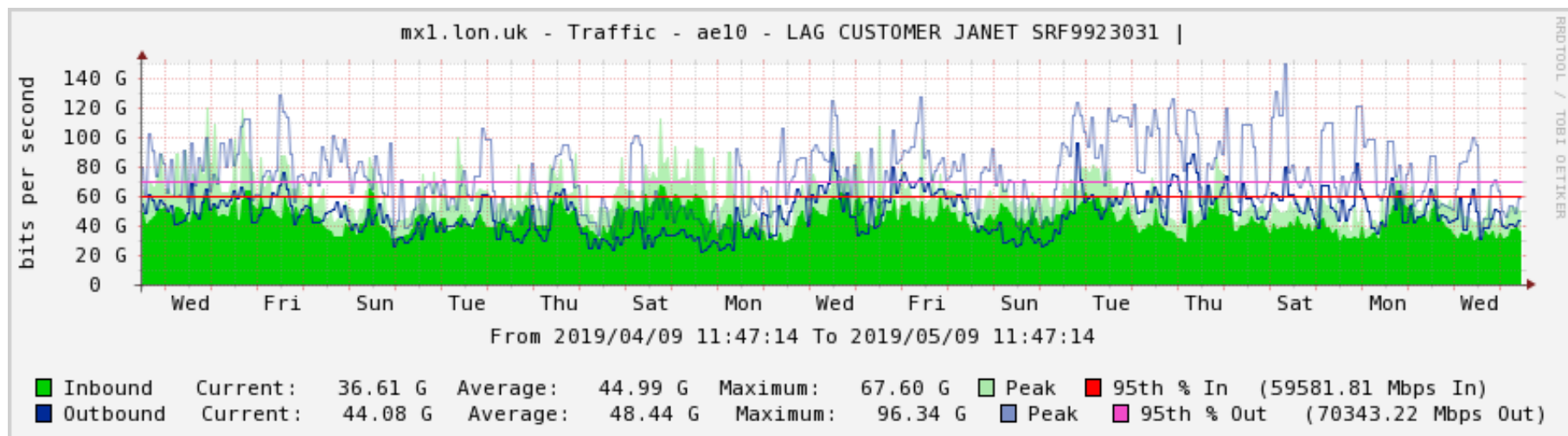
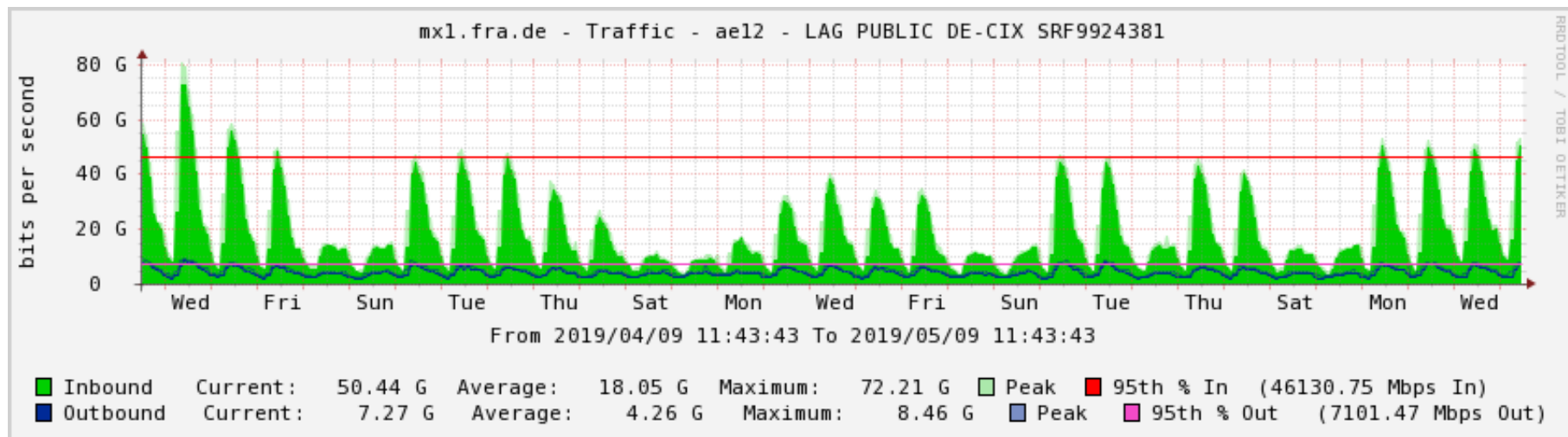
Real-Time Interactions | [User Guide]



**REAL-TIME INTERACTIONS**



# Traffic patterns

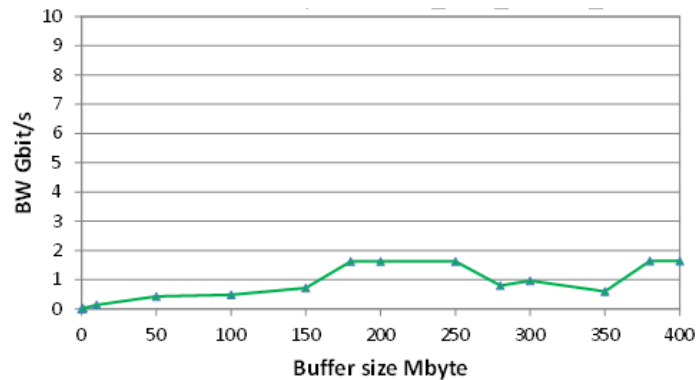




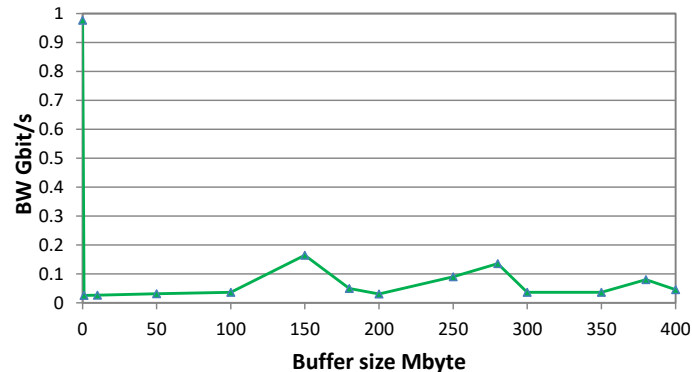
# Optimised for research data transfers (2017)

## Public Internet

### Geneva to Canberra

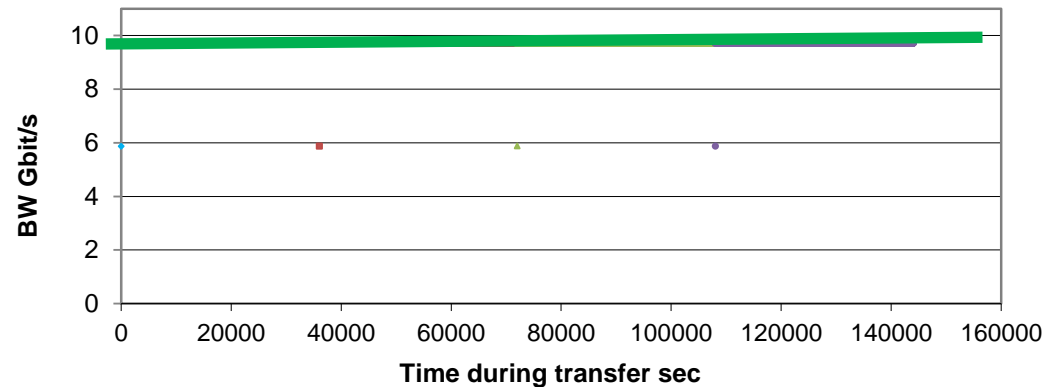


### Geneva to Canberra



## GÉANT and R&E partners

### Geneva to Canberra GÉANT + R&E networks US to Australia



**R&E networks are designed for different goals than the Internet**

Comparative Times for a 100TByte data transfer.

File Size (TB)	Data rate (Gbit/s)	Time taken (Hours)	Time Taken (Days)
NREN 100	9.27	34.0	1.4
ISP A 100	1.72	183.2	7.6
ISP B 100	0.11	2864.3	119.3



# BELLA – Supporting Astronomy Collaboration



ESO Very Large Telescope (VLT). Credit: ESO/B. Tafreshi ([twanight.org](http://twanight.org))



ESO. Credit: ESO/S. Brunier



ALMA. Credit: ESO/C. Malin

Source: <https://sochias.cl/astronomia-en-chile/observatorios-astronomicos/>

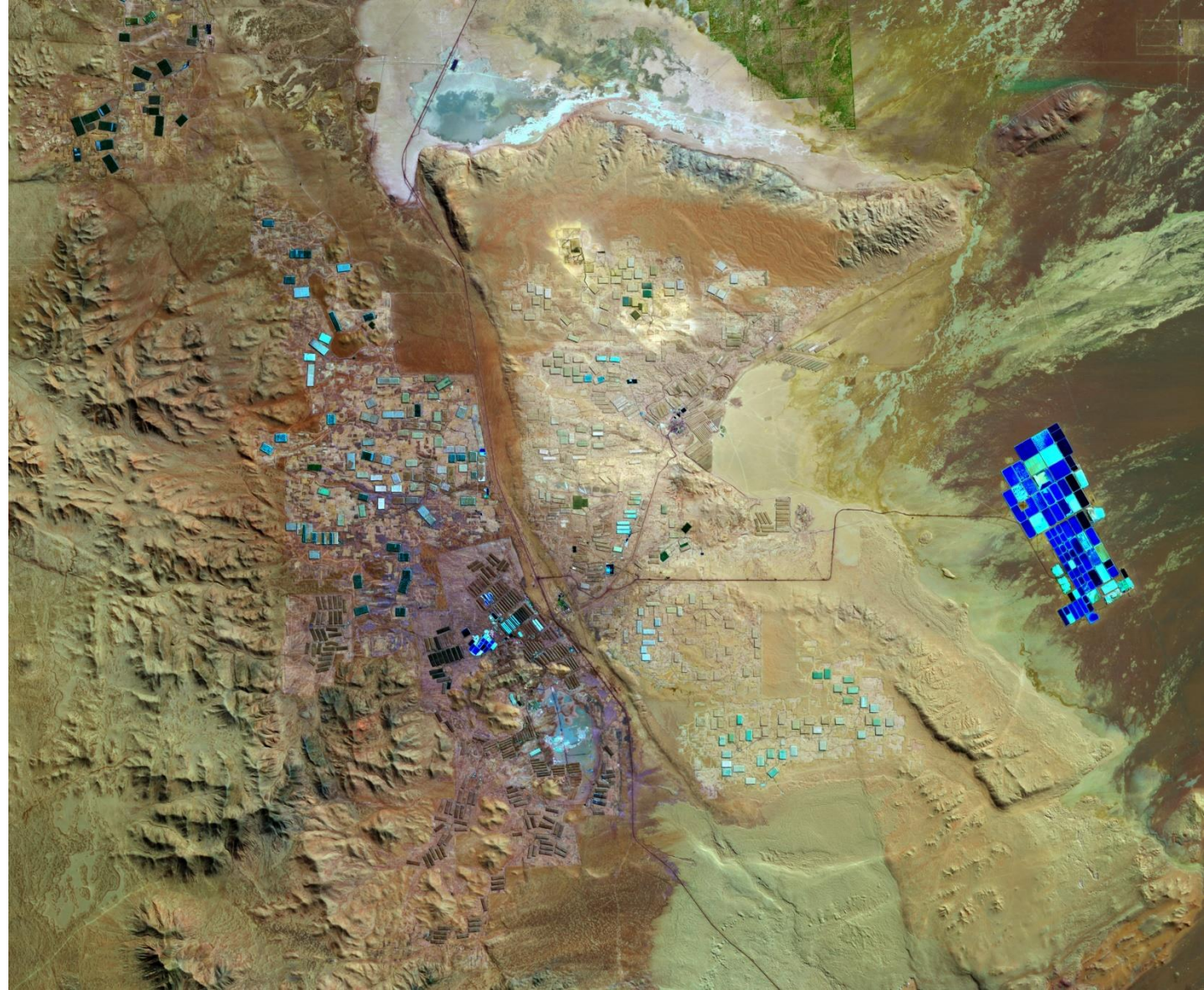


# BELLA – Supporting Copernicus Earth Observation

26 June 2019

Iodine mining in Chile's  
Atacama Desert

Allows governments to see the  
effects of pollution, economic  
development and resource  
production estimation



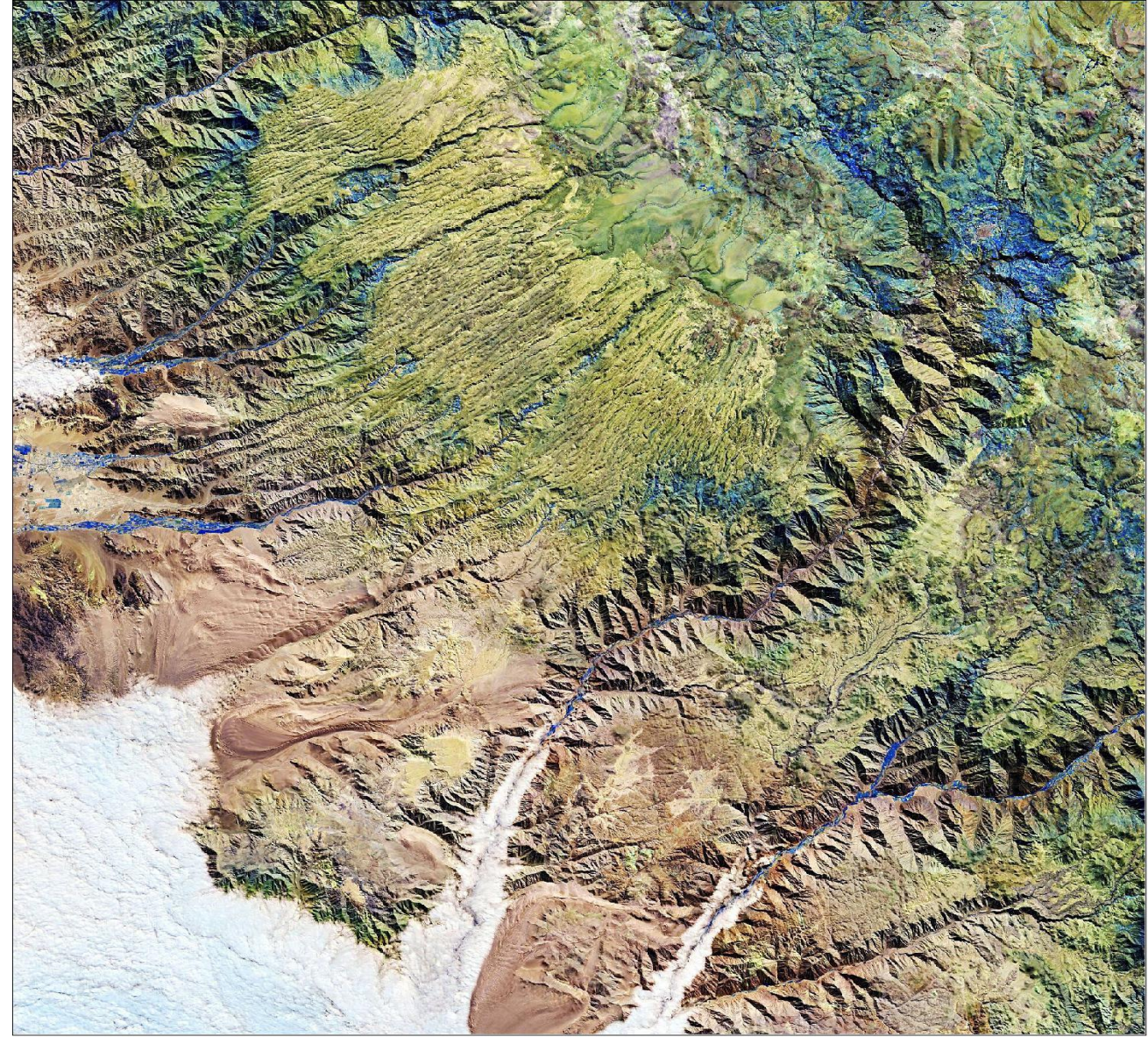


# BELLA – Supporting Copernicus Earth Observation

16 June 2020

shows parts of the Ica, Ayacucho and Arequipa Regions in the Peruvian Andes

Knowing about the flows of water means that fresh water and irrigation can be managed for or by the local government to ensure peoples way of life is not disrupted by climate change



# Thank you

Any questions?

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