

RNP: 30 Years of Advanced Networks in Brazil

To mark the 30th anniversary of Brazilian NREN, Rede Nacional de Ensino e Pesquisa, Nelson Simões, RNP CEO, illustrates and evaluates the manifold achievements of R&E networks in Brazil.





Networks are the best architects of a contemporary society's creation and evolution. They enable data streams, interconnections, progress and knowledge development. Research is the networks' prime mover and the most remarkable application. The Brazilian network's adventure started 30 years ago when the academic community joined forces with the government to build RNP.

Brazil is the fifth largest nation in the globe by territory; it comprises the world's largest rainforest, which expands through to our neighboring countries in South America. We are developing, in quite a complex scenario, connectivity solutions to meet our customers' needs in a fairer and more sustainable manner. In the last few years, our job has become increasingly demanding, due to the faster pace – often quite vertiginous – of technological and social change, and our main challenge is to continue creating value for our community.

In 2019, the year when the internet celebrates its 50th anniversary, RNP is present throughout the Brazilian national territory and connects 1,174 university campuses, 800 organisations and more than 4 million users. Students, teachers and researchers benefit from an advanced network infrastructure for communication, computing and research, which contributes to the development of quality educational, scientific and technological output. In addition, thanks to its economies

of scale, RNP enables a six-fold cost reduction of the Brazilian academic network.

Three major elements boosted RNP's operations in recent years. The first is innovation: learning by experimenting with new business and technology models. Since unique or optimal solutions do not exist, being open to innovation improves our services to the community and increases our productivity. In the last 17 years, RNP research, development and innovation programmes delivered 94 applications and services prototypes, 58 pilots and 12 spin-offs, in areas such as identity management, video collaboration and cyber security.

The second element is the community, where trust, our social capital, takes shape. Each joint successful initiative increases our maturity and serves as a model for the viability of new shared projects. In Brazil, we are particularly active in areas such as biodiversity, health and climate, just to name a few. For instance, collaborative networks were specifically created for digital health, such as the Telemedicine University Network (RUTE), and after 12 years, it now counts 136 units in teaching hospitals and research centres.

Together with the international community, collaboration with the American and European networks creates solutions for global integration. One of the best examples is the BELLA project, which is building the first direct



Picture
Left: Nelson Simões, RNP CEO

Above: Courtesy of RNP

connection between Europe and South America, another example is the collaboration in the astronomy field, with the interconnectivity of the Large Synoptic Survey Telescope (LSST) between Chile and North America.

Finally, what I believe to be the most important element of all: people. People are instruments of change, which at times can be laborious, uncertain and questionable. Our strategies to develop people and bring talents together create opportunities and alternatives for change. The deployment of sub-fluvial optic fibres in the Amazon rivers or the addition of academic cloud demands to the marketplace are clear examples of the discovery of new models aimed at increasing wealth, whilst enabling progress with social and environmental responsibility. There is an incredible interest in sharing successful experiences, supporting and promoting the development of people who can change reality, especially in collaborations within Latin America and with Africa.

RNP aims to be the best digital platform for education, research and innovation in Brazil. We are a community that, by integrating its talents and resources globally, delivers enormous value for society. We were able to progress also thanks to the valuable contribution of those who preceded us, and despite different stages of maturity, we work to share knowledge for a better world for all.