RedIRIS

Strategic Plan 2020

1. MISSION AND VISION

1.1. MISSION AND VISION

The mission and vision of RedIRIS are formulated as follows:

Mission:

> "*To deliver* **excellent connectivity and related ICT services to the Spanish research and educational institutions,** *in close cooperation with those institutions and with regional and international Research and Education Networks, in order to facilitate remote collaboration and access to e-infrastructures at national and international level.*"

Vision:

> "*To be recognized as the* **trusted partner of reference for ICT-related issues** *by the Spanish research and educational institutions, promoting cooperation among these institutions, and providing them with a catalogue of world class connectivity and related ICT services, centrally managed or procured, which will boost e-science and advanced learning.*"

2. CONTEXT ANALYSIS

An analysis has been performed in order to identify main trends and factors that need to be taken into account to determine RedIRIS' strategic direction. The conclusions will serve as basis for defining strategic objectives, strategies and related actions.

2.1. CONTEXT ANALYSIS

Other previous analyses have been taken into account to help define the context in which RedIRIS operates and should be taken into account when carrying out any other evaluation.

Stakeholders' analysis:

One of the goals of the Strategic Plan is to take into account the needs and requirements of the main stakeholders identified, in order to meet their respective expectations:
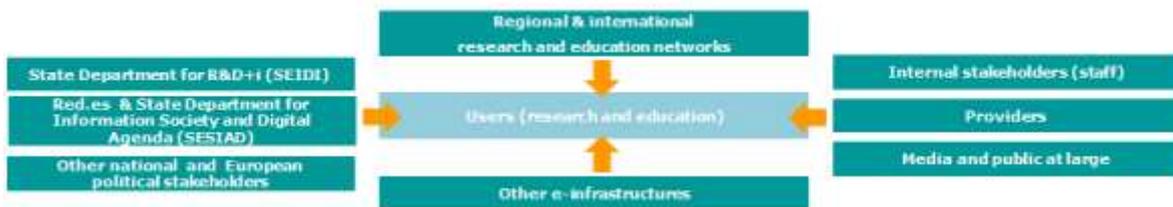

The main stakeholders are the RedIRIS users: research centres (in particular, those involved in e-science); ICTSs; universities (and their association CRUE) and other educational centres; and some relevant Governmental organizations (Parliament, some Ministries, etc.).

Then, there are "**technical stakeholders**" (other research and education networks, and other e-infrastructures), which collaborate with RedIRIS, in an environment of shared users and/or services; "**political stakeholders**": the two State Departments involved (i.e., those of R & D+ i and Digital Agenda), plus other Governmental organizations (in particular, MINHAFP, the Ministry in charge of the administrative network RedSARA and of the Government funding and staff policies); and finally "**other relevant stakeholders**" (staff, providers, public in general).

PEST analysis:

This analysis identifies general environmental factors affecting the infrastructure, structured in four perspectives: Political, Economic, Social and Technological:
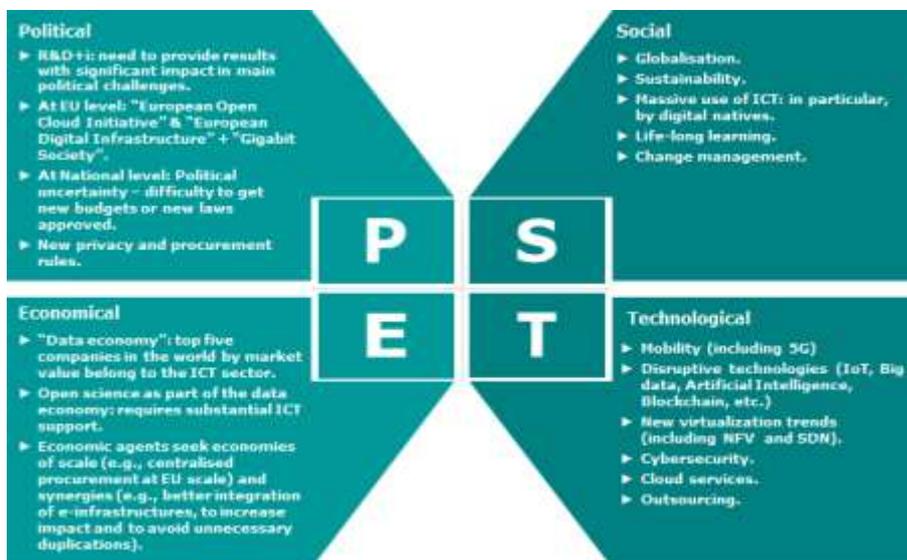
3. OBJECTIVES

3.1. DESCRIPTION OF THE OBJECTIVES

RedIRIS proposes the following **strategic objectives** that will orientate its strategies and actions toward the horizon of 2020-2021:

Objective 1	Progress towards consolidation of the infrastructure
Objective 2	Excellence in the delivery of secure, reliable services which provide significant added value
Objective 3	Embrace a user-centric approach in the management of the services lifecycle, in order to increase service usage and user satisfaction
Objective 4	Actively collaborate in the development of an integrated e-science environment at the European and national level, in which the RedIRIS contribution will be focused in the fields of data transfers, security, trust & identity, collaborative tools and shared cloud services

3.2. STRATEGIES FOR ACHIEVING THE OBJECTIVES

With the purpose of achieving the proposed objectives and aligning the operation of RedIRIS with the long term vision, the following **strategies** have been defined:

Objective	Strategy	Description
O1. Progress towards consolidation of the infrastructure	**S1.1. Replace the network equipment through the RedIRIS-NOVA 100 project**	Two main goals are pursued: to improve network resilience (the old equipment was close to its end of life) and to increase the network capacity (x10 times).
	S1.2. Extend the RedIRIS-NOVA fibre footprint	To bring the full benefits of the RedIRIS model to additional relevant research and education centres, including several ICTSs.
O2. Excellence in the delivery of secure, reliable services which provide significant added value	**S2.1. Reinforce the IT security of RedIRIS and its users**	Deployment of new security equipment and services and implementation of security procedures and standards.
	S2.2. Increase the reliability of the services	Audit of possible points of failure, increased redundancy, strengthened service support.
	S2.3. Ensure the operantional sustainability of RedIRIS	Stable budget; appropriate administrative arrangements; improved knowledge management; staff policy that tackles the current severe shortage and keeps staff motivated and up-to-date.
	S2.4. Constant improvement of the value proposition of RedIRIS services	Implementation of a roadmap of upgrades of the existing services; keeping track of new trends (AI, 5G, big data, IoT, smart campus, Blockchain, etc) through cooperation with relevant stakeholders (research networks, advanced users, providers).
	S2.5. Aggregation of user demand and centralized procurement	Provide added value to the members of RedIRIS by offering them a meeting point which allows them to act together in their relations with the market.

O3. Embrace a user-centric approach in the management of the services lifecycle, in order to increase service usage and user satisfaction	**S3.1. Enhanced collaboration with key stakeholders to improve user outreach**	Collaboration with regional research networks, and other organizations (CRUE-TIC, RES, INCIBE, ICTSs consortiums) that can help RedIRIS to reach its users. This might include development of new tools; joint surveys to improve knowledge about users' needs; and joint dissemination media campaigns and events.
	S3.2. Improvement of RedIRIS business intelligence	Updated information about users' data and views; new internal tools; review of KPIs; RedIRIS and users dashboard; BI reports.
O4. Actively collaborate in the development of an integrated e-science environment at the European and national level, in which the RedIRIS contribution will be focused on the fields of data transfers, security, trust & identity, collaborative tools and shared cloud services	**S4.1. Contribute, together with GÉANT, to the development of EU E-Science policies**	Contribution to EU policies (EOSC, EDI) through GÉANT and the GN4 project, taking into account implications of these policies at a national level.
	S4.2. Network of ICTS on E-Science	Take the necessary steps, together with other Spanish e-infrastructures, to create a new Network of ICTSs related to e-science, which is then able to increase coordination among all the major Spanish stakeholders in this field.
	S4.3. Enhance RedIRIS service portfolio in key areas for e-science	Focus on the services that have been identified, at an EU and national level, as most important for E-Science: data transfers; security; trust & identity; collaborative tools and shared cloud services.

3.3. EXECUTION OF THE STRATEGIES (PLANNED ACTIONS)

Once the objectives and their supporting strategies have been defined, next step is to identify the **specific actions to be carried out** for developing the Strategic Plan.

Action 1	Replace the optical equipment.
Objective	O1. Progress towards consolidation of the infrastructure.
Strategy	S1.1. Replace the network equipment through the RedIRIS-NOVA 100 project.
Description of the action	
Procure the new network optical equipment, through a competitive dialogue with a budget of € 23 million, and replace the previous equipment, ensuring continuity of the service during the migration process.	

Action 2	Replace IP equipment.
Objective	O1. Progress towards consolidation of the infrastructure.
Strategy	S1.1. Replace the network equipment through the RedIRIS-NOVA 100 project.
Description of the action	
Procure new IP equipment (routers and switches) to replace the existing ones, in order to avoid obsolescence and to adapt to a new technical environment with the 100 Gbps wavelenghts provided by the new optical equipment. Subsequently, replace the current IP equipment with the newly procured IP equipment, ensuring continuity of the service during the migration process.	

Action 3	Extend the optic fiber footprint.
Objective	O1. Progress towards consolidation of the infrastructure.
Strategy	S1.2. Extend the RedIRIS-NOVA fiber footprint.
Description of the action	

Procure new optic fiber links to bring the full benefits of the RedIRIS model to additional important research and education centers, including several ICTSs.

Action 4	Upgrade of core security equipment and services.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.1. Reinforce the IT security of RedIRIS and its users
Description of the action	

Upgrade core security equipment (mitigation of DDoS attacks; firewall), and procure the support services needed to reinforce these security services.

Action 5	Deployment of new security equipment and services.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.1. Reinforce the IT security of RedIRIS and its users
Description of the action	

Purchase new security equipment (for web-filtering) and implement new security services (web filtering, detection of vulnerabilities, penetration testing and ethical hacking, security operation center –SOC-, firewall on-demand) to improve the security of RedIRIS and of its members.

Action 6	New security procedures and standards.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.1. Reinforce the IT security of RedIRIS and its users
Description of the action	

Implement procedures and standards from ISO 27001 and ENS ("Esquema Nacional de Seguridad", National Security Framework) that reinforce the security of the RedIRIS services, improve crisis management practices, and ensure full compliance with legal standards for this type of ICT services.

Action 7	Identify possible points of failure and adopt mitigation measures.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.2. Increase the reliability of RedIRIS services
Description of the action	

Carry out an audit of possible points of failure; adopt measures to increase redundancy and strengthen service support.

Action 8	Improve the RedIRIS organisational environment.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.3. Ensure sustainability of the operation of RedIRIS.
Description of the action	

Develop policies on key organisational issues related to RedIRIS (administrative structure, budget, staff) and pass the relevant messages to key stakeholders in this area. Subsequently, implement internal human resources policies within RedIRIS to foster: a) life-long learning (e.g. training in NFV/SDN to upskill to new network technologies); b) effective implementation of best practices in key issues such as crisis management; and c) "professional development" & "change management", as RedIRIS staff need to evolve from being technical experts to being service managers.

Action 9	Upgrade RedIRIS services to increase their added value.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.4. Constant improvement of the value proposition of RedIRIS services.
Description of the action	

Improve IRIS-DNS (DNSSEC, Anycast); management of security incidents (through agreement with INCIBE); new features in SiR2 (and end migration from SIR to SIR2); improved IRIS-SARA service and antispam filtering system; more features in Autolist; new version of FileSender; additional cloud services.

Action 10	Draft a technology report about the possible impact of new ICT trends in the RedIRIS environment.
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.4. Constant improvement of the value proposition of RedIRIS services.
Description of the action	

RedIRIS follows new ICT trends (AI, 5G, big data, IoT, smart campus, Blockchain, etc) through cooperation with relevant stakeholders (research networks, advanced users, providers). RedIRIS will draft a report about the possible impact of these disruptive technologies on its environment, in order to identify new opportunities.

Action 11	Increase the added value provided by RedIRIS through the aggregation of user demand and centralised procurement
Objective	O2. Excellence in the delivery of secure, reliable services which provide significant added value.
Strategy	S2.5. Aggregation of user demand and centralized procurement.
Description of the action	

RedIRIS can aggregate user demand and act as a procurement centre leveraging its position as a neutral expert and user representative. Key users as CRUE-TIC have explicitly asked RedIRIS to perform this role. The RedIRIS contribution in this field could range from mere technical consultancy to managing group negotiations, forming a framework agreement or even undertaking acquisition and supply on a pay-per-use basis.

Action 12	Specific plans for improved user outreach through key stakeholders.
Objective	O3. Embrace a user-centric approach in the management of the services lifecycle, in order to increase service usage and user satisfaction.
Strategy	S3.1. Enhanced collaboration with key stakeholders to improve user outreach.
Description of the action	

Reach specific agreements, with concrete action plans, with key stakeholders such as regional research and education networks (RRENs), CRUE-TIC (ICT Group of Spanish Universities), RES (Spanish Supercomputing Network) and INCIBE (Spanish Cybersecurity Institute), and develop specific action plans for users such as ICTSs.

Action 13	Plan to improve the quality of RedIRIS information about users for enhanced business intelligence.
Objective	O3. Embrace a user-centric approach in the management of the services lifecycle, in order to increase service usage and user satisfaction.
Strategy	S3.2. Improvement of RedIRIS business intelligence.
Description of the action	

Updated information on users and users views; new internal tools to manage user information; review of KPIs; RedIRIS and users dashboard; BI reports.

Action 14	Involvement, together with GÉANT, in EOSC and other major EU programmes.
Objective	O4. Actively collaborate to the development of an integrated e-science environment at European and national level, in which the RedIRIS contribution will be focused in the fields of data transfers, security, trust & identity, collaborative tools and shared cloud services.
Strategy	S4.1. Contribute, together with GÉANT, to the development of EU E-Science policies.
Description of the action	

Contribute, together with GÉANT, to the EOSC policy being developed by the European Commission. Promote implementation of EOSC at the national level. Contribute to other relevant EU policies together with GÉANT (EDI, Gigabit Society). Contribute to the GN4-3 project managed by GÉANT, and follow other projects, related to NRENs service portfolios, in which GÉANT also participates on behalf of its members.

Action 15	Creation of a new Network of ICTSs related to e-Ssience.
Objective	O4. Actively collaborate in the development of an integrated e-science environment at the European and national level, in which the RedIRIS contribution will be focused on the fields of data transfers, security, trust & identity, collaborative tools and shared cloud services.
Strategy	S4.2. Network of ICTS on E-Science.

Description of the action
Formalise the creation of a Network ofe-science ICTSs with RedIRIS and RES (Spanish Supercomputing Network), with possible inclusion of storage facilities. Approval of a Governance model, which will facilitate the participation of other relevant agents, such as users, database managers and curators, application developpers, database managers and curators, etc. Draft a shared document ("White Paper") to help policy-makers to understand the existing challenges and the roles that the various agents can play together to improve e-science in Spain.

Action 16	Specific action plan to improve key RedIRIS services related to e-science.
Objective	O4. Actively collaborate in the development of an integrated e-science environment at the European and national level, in which the RedIRIS contribution will be focused on the fields of data transfers, security, trust & identity, collaborative tools and shared cloud services.
Strategy	S4.3. Enhance RedIRIS service portfolio in key areas for e-science.

Description of the action
Specific focus on the improvement of services identified at the European and national level as main contribution from NRENs to e-science: data transfers; security; trust & identity; collaborative tools and shared cloud services.

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