



SPREP

Secretariat of the Pacific Regional
Environment Programme

Information and Communications Technology (ICT) Strategy

2023–2028

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Secretariat of the Pacific Regional Environment Programme (SPREP)

PO Box 240, Apia, Samoa, sprep@sprep.org, www.sprep.org

SPREP's vision: *The Pacific environment, sustaining our livelihoods and natural heritage in harmony with our cultures.*



Information and Communications Technology (ICT) Strategy 2023–2028



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ACRONYMS

ICT	Information and Communications Technology
IS	Information Services (Information Technology and Knowledge Management Departments)
IT	Information Technology
IKM	Information and Knowledge Management
SPREP	Secretariat of the Pacific Regional Environment Programme
Unified Communications	Platform providing voice, video and data capabilities



1 Background and Context

The SPREP Information and Communications Technology (ICT) Strategy is a living document aimed to facilitate the implementation of the SPREP Strategic Plan 2017 – 2026. It is forward looking with a strong emphasis on the strengthening of the Secretariat as a resilient digital organisation. SPREP has 26 member countries: 21 Pacific island countries and territories and five metropolitan countries with direct interests in the region.



FIGURE 1 Pacific Island Member Countries and Territories

SPREP is based in Vailima, Samoa with over 130 staff and a projected growth of 50 additional staff by the end of 2028. SPREP has a sub-regional office in the Republic of the Marshall Islands, an office in Fiji, and project offices in Solomon Islands and Vanuatu. Due to the scope of the work and geographical distribution of its members, SPREP has an extremely mobile workforce delivering technical assistance and expert services throughout the Pacific islands region.

1.1 Purpose

The SPREP ICT Strategy:

- sets out the strategic direction for SPREP ICT services for 2023 to 2028. It outlines five key strategic priority areas of focus, the approaches that will be taken, expected strategic outcomes to achieve and ways to monitor and measure success.
- provides an overarching strategic framework for organisation-wide planning, investments, development, and management of ICT within SPREP.
- recognises the importance of information as an asset and brings together the foundational enablers of information, data, technology, people, and security contributing to SPREP’s Vision of “A resilient Pacific environment sustaining our livelihoods and natural heritage in harmony with our cultures”. This will be achieved through Organisational Goal 1 and cross-cutting regional goals and objectives.

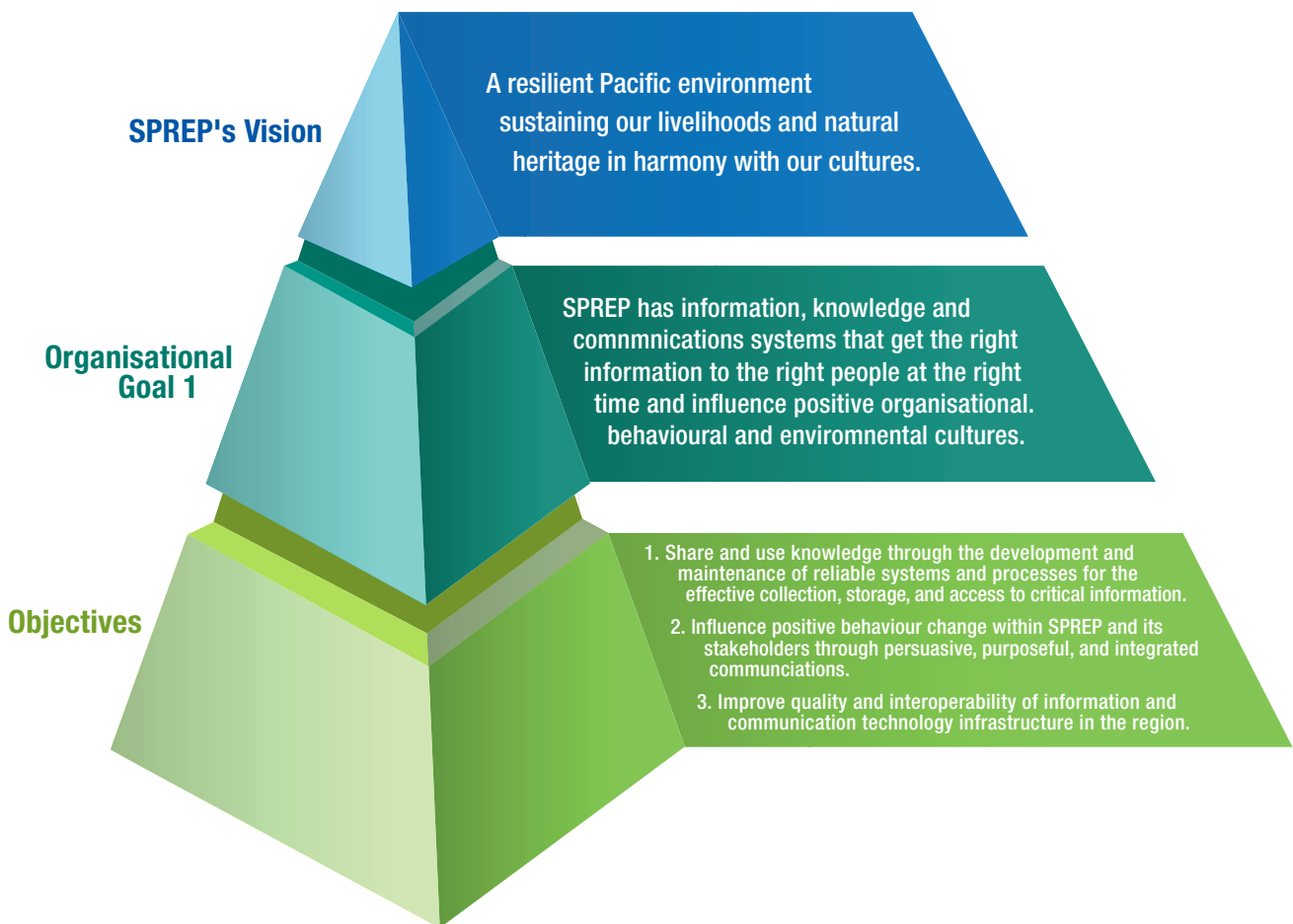


FIGURE 2 SPREP Vision, Organisational Goal 1 and Objectives

1.2 Strategic Context

Information and Communications Technology is a core support function within the Secretariat required by technical programmes, support departments and organisations hosted within the campus.

The SPREP Data Centres and cloud services managed by SPREP IT hosts Corporate Information Systems and some of our members' data and applications.

Progress has been made in integrating disparate systems with 40 per cent of systems in the ICT ecosystem to be upgraded to improve accessibility, interoperability and flexibility.

Apart from internal ICT core services, SPREP IT delivers technical support and advice to Pacific island countries while helping to keep them abreast of ICT developments in the Pacific region.

SPREP IT plays an important role in providing sound strategic advice to the Secretariat and partners on ICT developments, tackling ICT related issues, new initiatives, and priorities. Our core purpose is to provide modern ICT technology and services to the Secretariat to enable it to achieve its strategic priorities and assist Members to achieve their national priorities. Supporting the different stakeholders and diverse functions means our ICT landscape and services are broad and complex. SPREP needs an ICT environment with appropriate services and tools that are responsive, promote collaboration, enable effective knowledge and information sharing, and support decision making.

ICT Landscape in the Pacific region

Most of the Pacific island countries will be connected to submarine cables or the new O3B satellite services by the end of 2023. Telecommunication sector reforms in many of these countries have paved the way for reduced and affordable internet and mobile costs with a dramatic increase in speed and capacity. Mobile phone infrastructure in the region has matured with good coverage locally within SPREP Member states, both urban and rural areas.

Some progress has been made towards getting countries to store their data assets in electronic form and share them. Although "open data" culture is gaining momentum in the world, there needs to be a balance between openness and the requirements for information and data privacy, and data security, expected by Members and stakeholders. In anticipation of increasing European Union (EU) funded projects in the region, SPREP needs to meet the General Data Protection Regulation (GDPR) and any future regulations or standards for data privacy and protection.

Cyber security is an area that is growing in awareness in the Pacific but still short of comprehensive cyber security solutions. Some member countries, such as Fiji, are more advanced in this area.

Greening ICT is widely discussed in Pacific ICT forums but lacks implementation and momentum in the region. Advances in technology and science, such as cloud-based services, e-waste recycling, and renewable energy, are feasible solutions for the Pacific.

ICT training provided by SPREP IT for participants from Pacific National Meteorological Services





One of the contributing factors in the slow uptake and sustainability of these technologies in the Pacific is the lack of technical capacity and skills. SPREP IT recognises this limitation and has provided ICT support for government ministries and other stakeholders to maintain ICT systems and tools. Training and capacity building is a major focus and needs to be a funded activity in every project.

1.3 Strategic Importance

As we operate in an increasingly digitised world with rapid changes in technology, this strategy is centred on ICT-business alignment and a balanced approach to sustaining systems fit-for-purpose, whilst strengthening digital resilience through transformation and technological innovations.

Management and governance

The management and governance of the growing ICT environment, and increasing de-centralisation of ICT initiatives within the organisation, is critical to ensure technology and processes transcend organisational barriers. A coordinated and standardised approach in ICT developments and activities, will maintain security and maximise interoperability. SPREP IT adopts a risk management approach in its ICT investments and initiatives which encompass people, processes, and systems. Sustainability and disposal must be emphasised in the design and planning phases of any ICT investment and projects.

Security

Security is one of the main priorities for Information Technology and needs to be strengthened to ensure donors and stakeholders are confident in SPREP ICT systems. Cybercrime is a growing threat and SPREP remains vigilant and resilient to such exploitation. A key focus is building security awareness within the organisation, together with technological interventions, to ensure a secure and safe workplace. Educating the workforce about cyber security, using next-generation solutions, will help to reduce risks.

Data

Technology and processes to effectively manage, share and analyse data are critical assets to the organisation for informed decision making. New areas of focus are Artificial Intelligence, and skills in data science and business intelligence for automated analysis and data-driven insights. New architecture and strategies on data management will help SPREP to adapt to changes in the work environment.

Technology workforce

SPREP needs a workforce able to operate in a digital world as it is dispersed in remote offices, and must be resilient through unexpected events, such as COVID-19. SPREP IT needs to strengthen the delivery of capacity building for staff and member countries through an e-learning platform with certified ICT courses. The e-learning will also provide an added benefit to SPREP with the induction of new staff.

Professional development for the IT team will ensure SPREP keeps up with advances in technology.



Services and Processes

Digital transformation and a digital approach undertaken by SPREP is a critical opportunity to review and improve services to SPREP Members. Digitising the core services is essential, and some of these services will be redeveloped as cloud-based services or cloud software. SPREP needs to explore and apply new capabilities such as cloud migration, artificial intelligence, automation, and integrated data repositories, to improve service delivery.

Communication

SPREP recognises the need to effectively communicate its story to better inform Pacific people and stakeholders. Digital communications have been a gamechanger in the Pacific. The influence of social media has grown significantly in the past five years and SPREP has also harnessed social media platforms to strengthen its online presence in addition to using mainstream media outlets. This ICT strategy will support the communications and knowledge management strategies in enhancing SPREP's outreach and promote positive change.

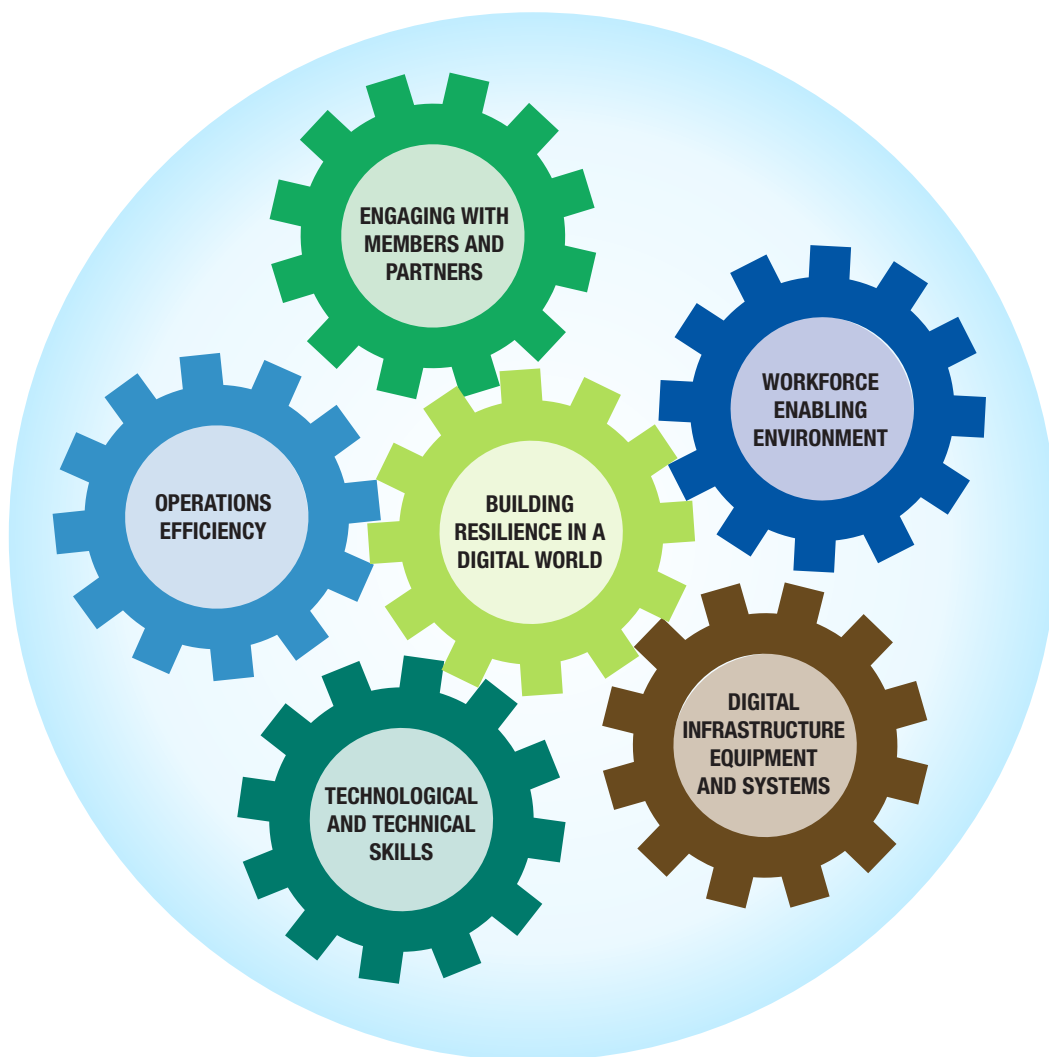


FIGURE 3 SPREP, a resilient digital organisation in a rapid changing world.



1.4 SWOT Analysis

In developing the SPREP ICT Strategy, a SWOT analysis was conducted by the SPREP IT team including input from key SPREP staff. The outcome of the SWOT analysis (Annex 1) informed the core elements of the ICT Strategy, and is summarised below.

Summary

A contributing factor to the strength of SPREP is the ability to keep abreast of trends and emerging issues in ICT. SPREP started its digitalisation journey prior to the COVID-19 pandemic. The data centre was transformed into a virtual environment with improved servers and more resources. Cloud-based services were adopted for deployments, cybersecurity and recoverability of systems and applications. Web-based applications and remote network access supported remote working. Strong relations with service providers reaped great benefits with cost savings on high-speed internet connections, and capacity doubling annually.

SPREP recognises weaknesses in its operations with inefficiencies in processes, and proliferation of information applications with minimal integration and interoperability. This hinders data sharing and discoverability as well as lead to the duplication of data across systems. Operating in the digital world comes with new risks such as cyberthreats, network intrusions, personal identity theft and data breaches.

Whilst SPREP is in the early stages of digital transformation, it is an opportune time for SPREP to evaluate and build its governance processes and frameworks. This will ensure appropriate strategies, policies and guidelines exist to manage the adoption of new technologies, design guidelines for integration, security, cost of ownership and sustainability. This transformation involves data, technology, and people. A digitally capable workforce is a priority and capacity building needs to be incorporated into every ICT project and the organisation's learning and development initiatives.

Looking forward, a new ICT operational structure and funding model could be explored to improve resourcing for new ICT developments and infrastructure. One such model is for two streams of ICT concentration and funding: Core ICT and ICT for Development. Core ICT will have an internal focus to plan, design, develop, implement and review internal systems and processes, whereas ICT for Development will focus on research and digital products and solutions for Pacific people, and to support ICT development in the region. Opportunities exist for resourcing some of these ICT developments through project funding.

2 ICT Strategy

2.1 Vision

A resilient, agile, and secure SPREP ICT that provides an enabling environment for innovation, digital transformation, and delivery of high quality services.

The vision reflects core tenets of the Secretariat’s long term agenda, focusing on driving enterprise-wide transformation, particularly in relation to creating a more data-driven and digitally resilient organisation and enabling environment for better service delivery outcomes.

2.2 Mission

To use state-of-the-art technologies and innovative solutions to build a digitally resilient organisation to support the achievement of SPREP’s Strategic Plan priorities.

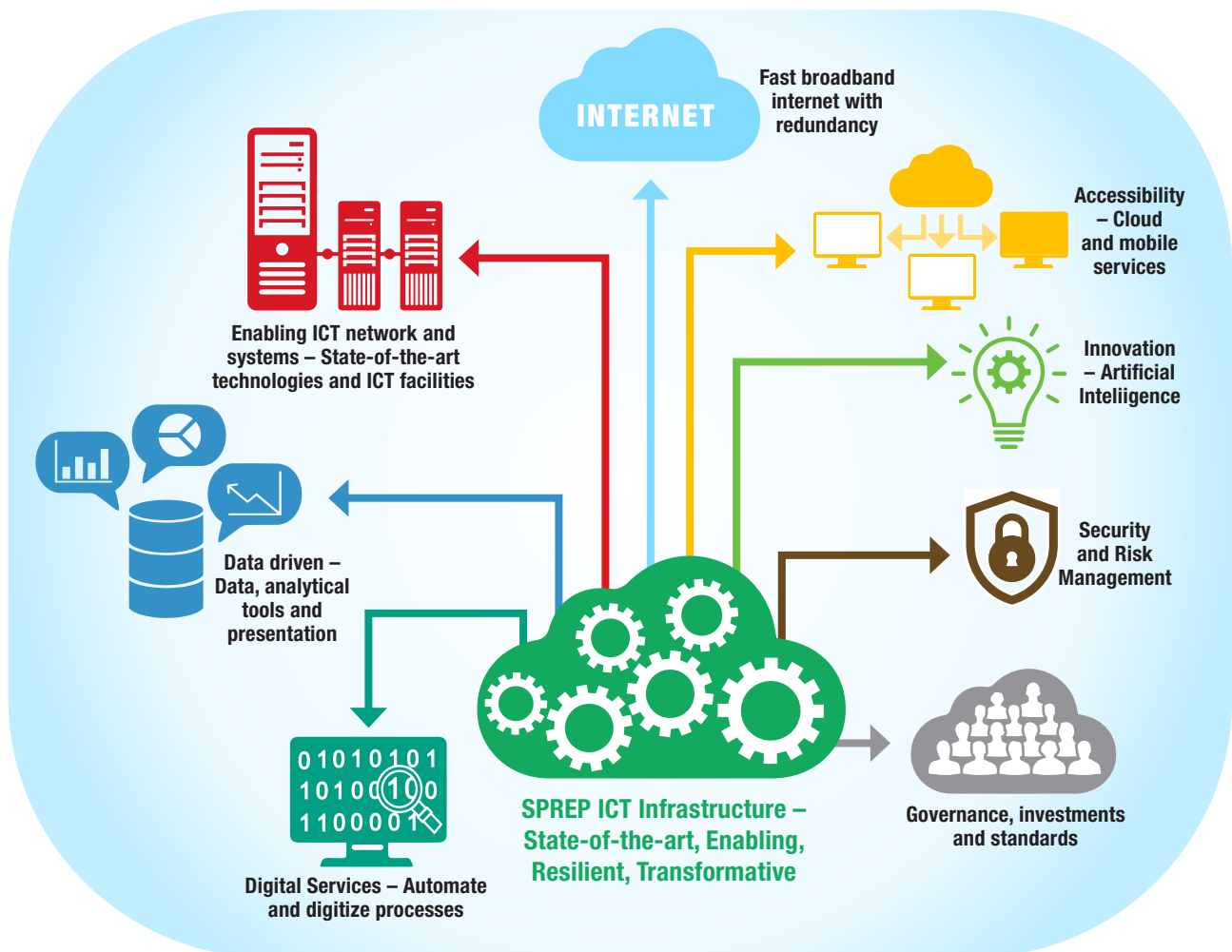


FIGURE 3 SPREP Information and Communications Technology Vision and Strategies

3 Guiding Principles and Values

3.1 Guiding Principles

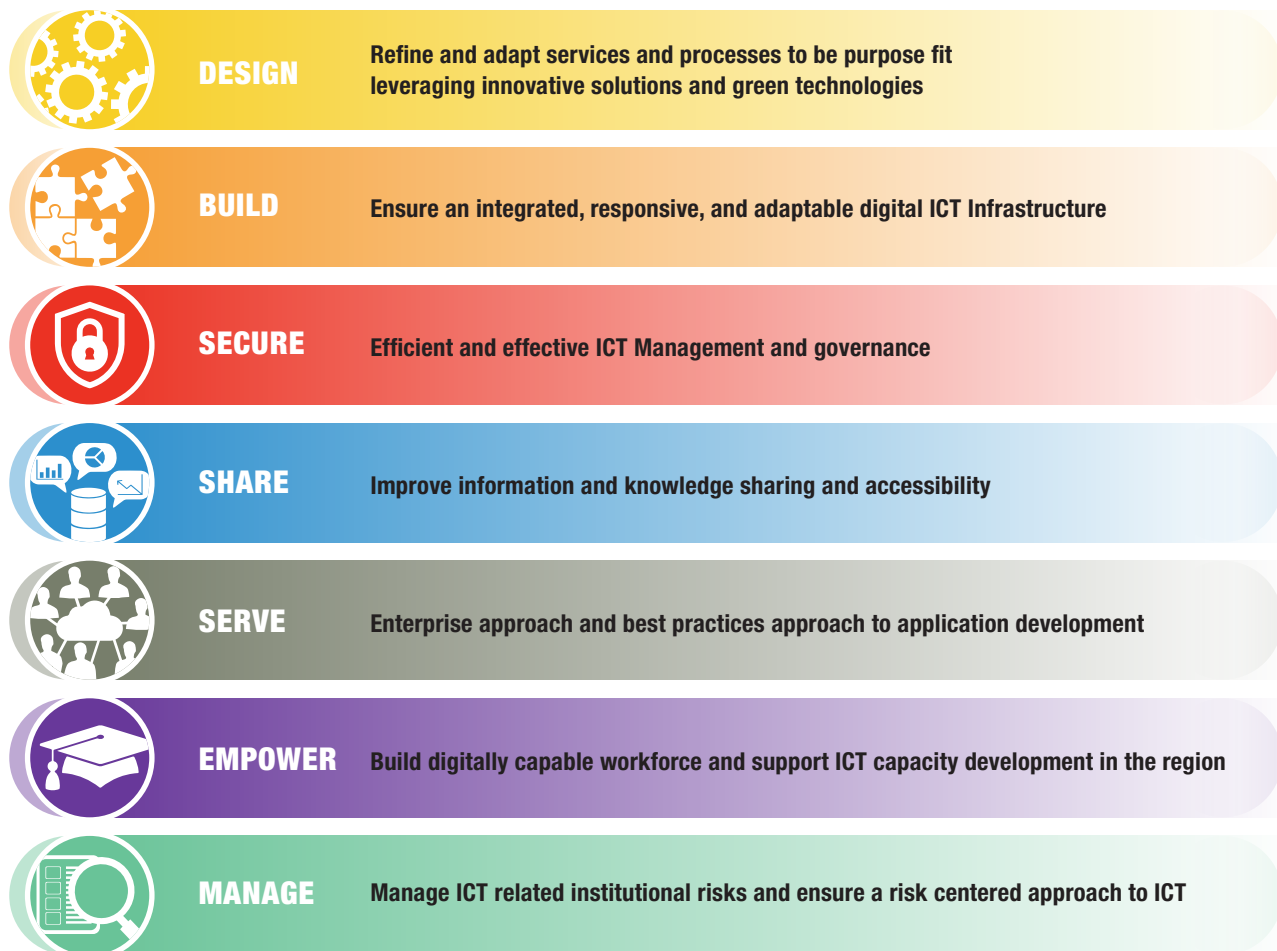


FIGURE 4 Guiding principles of the ICT Strategy

3.2 Our values

- **Continuous Improvement** – strive for effective and efficient operations/service delivery through on-going development of ICT infrastructure and staff.
- **Professionalism and Integrity** – maintain transparency and accountability in our work and interactions.
- **Innovation and Digital Transformation** – prioritise adoption of Green technologies and solutions, encourage innovative hubs for creativity and critical thinking in the development of technology services and solutions.
- **Collaboration and Teamwork** – gather varied perspectives, sharing knowledge and building effective partnerships with stakeholders and delivery partners.
- **People and Service** – continually upskilling staff to provide excellent services that are user centric, effective, agile, and accessible to all, and promote gender equality and social inclusion in all aspects of our work.

4 Goals and Objectives

The vision and mission are supported by five broad goals each with its own set of objectives and strategic actions to be implemented within the five years of the Strategy. These will assist in delivering SPREP's strategic priorities and the achievement of impacts and key outcomes. Figure 5 illustrates how the Vision and Mission are supported by the ICT Strategy.

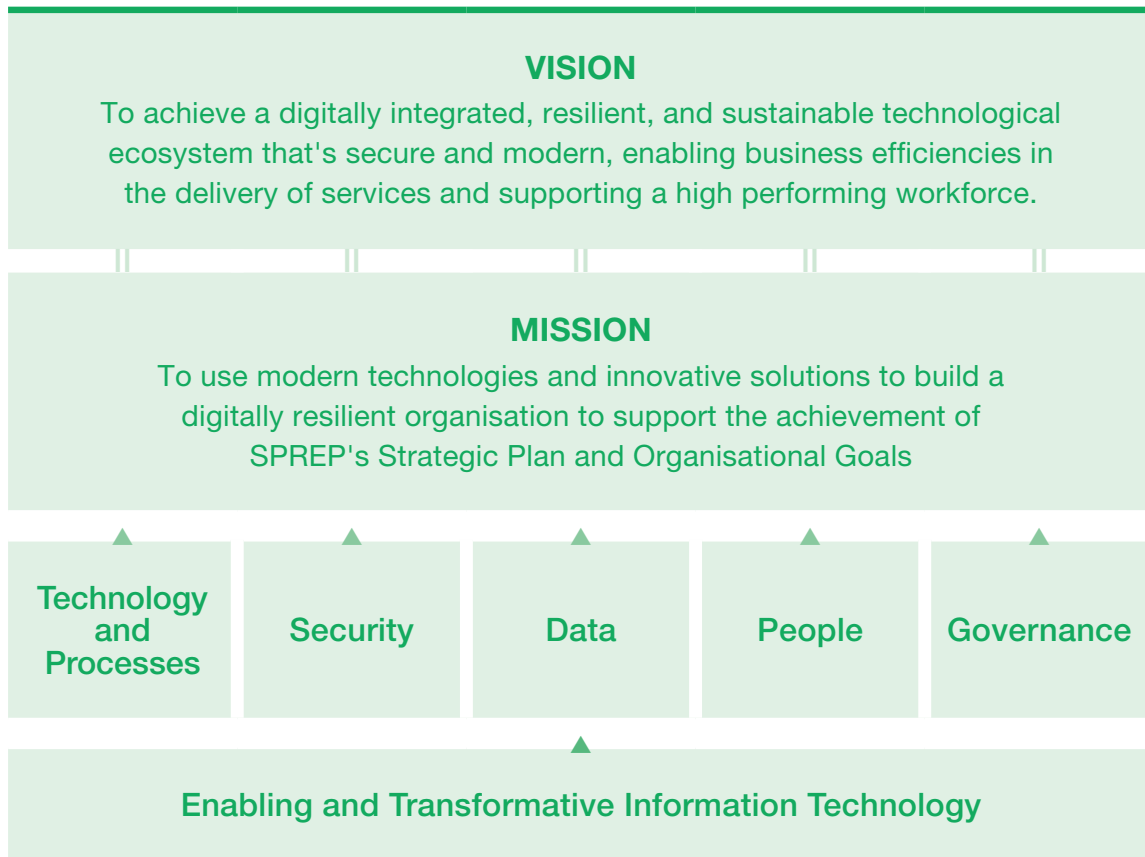


FIGURE 5 Key strategic elements of the ICT Strategy



GOAL 1

TECHNOLOGY AND PROCESSES

State-of-the-art ICT, Resilient and Future ready

Maintain a state-of-the-art, secure, accessible, and resilient digital ICT infrastructure that effectively aids SPREP business processes and delivery of services.

OBJECTIVE	STRATEGIC ACTION
1.1	Transition to cloud-based business solutions whenever a secure and cost-effective option exists to replace legacy systems and applications, to realise access from anywhere and at any time, creating a highly connected and efficient work environment.
1.2	Promote and implement web-based and mobile solutions as the primary mode of transforming routine administrative business and as an impetus to re-engineer processes and activities.
1.3	Create a seamless user experience across systems and application platforms through application interfaces, single sign on and other intuitive user interfaces.
1.4	Enhance the network to support remotely controlled and managed video conferencing facilities and a recording studio.
1.5	Increase broadband capacity to SPREP to meet demand and implement high speed connections between SPREP and subregional offices.
1.6	Improve integration of related ICT services, data, video, and voice using Unified Communications.
1.7	Provide expanded storage economically through the use of both on-premises Storage Area Networks and Cloud Storage Services.
1.8	Review and implement web and cloud-based technologies such as social media and interactive e-documents in close collaboration with Communications team to increase SPREP's visibility and online presence.
1.9	Review and implement cloud-based Knowledge and Information Management platforms in collaboration with Knowledge Management Team to improve accessibility, dissemination and visibility of knowledge and information products such as online newsletters.
1.10	Leverage new innovative solutions and advanced technological developments such as Internet of things and Artificial Intelligence to improve delivery of services and automation of processes where possible.
1.11	Ensure a proper and effective ICT risk management and Incident management process is in place.
1.12	Standardise technologies and user productivity tools to allow interoperability.
1.13	Implement and adopt Green technologies and solutions where feasible.
1.14	Implement complete and integrated state-of-the-art enterprise resources and planning e-solutions, for managing people, financials, projects, etc.
1.15	Implement appropriate measures to ensure effective and efficient recovery of systems and data.

INDICATORS

- State-of-the-art technology is implemented.
- Effective disaster recovery measures in place.
- Maintain 95% uptime.
- High systems usage and staff satisfaction.
- Green technologies and environmentally friendly practices adopted.
- Effective service level agreements and incident management.
- Number of service requests resolved.
- Number of new technologies adopted.



GOAL 2

SECURITY

Privacy, Sharing and Collaboration

Maintain secure, reliable and resilient digital platforms and environment for the effective generation, storage, and management of digital assets that add value and are trusted.

OBJECTIVE	STRATEGIC ACTION
2.1	Adopt a security framework and architecture for implementing appropriate next-generation security technologies and methodologies.
2.2	Implement enterprise level device management and monitoring solutions.
2.3	Review and maintain a high security IT environment with advanced security visibility of the IT landscape.
2.4	Implement and maintain a multi-layered approach on security.
2.5	Automate continuous monitoring and threat detection.
2.6	Implement multi-factor user authentication and encryption methods to achieve security across the enterprise and business communications.
2.7	Implement enterprise level antivirus and threat prevention solutions, incorporating latest technological advances and methods.
2.8	Continue to embed security, resilience and privacy requirements and ethical considerations through policies and controls.
2.9	Promote security conscious behaviour in building a security culture within the organisation.
2.10	Ensure security audits are conducted regularly.
2.11	Ensure audit trails and change logs for data changes are implemented in solutions.
2.12	Ensure penetration testing and vulnerability scans are conducted regularly.
2.13	Strengthen identity and access management.

INDICATORS

- High Compliance percentage.
- Benchmark against peers.
- Minimal disruptions from security incidents.
- Minimal data loss.
- Successful security audits.
- Vulnerabilities addressed and minimised.



GOAL 3 **DATA**
Data driven

Strengthen SPREP’s data platforms, services, and management practices to produce, store, analyse and serve data and information products securely.

OBJECTIVE	STRATEGIC ACTION
3.1	Effective management of data through technology and policies to avoid unnecessary duplication and validate authenticity – have a single source of truth (SSOT) approach.
3.2	Build an integrated mesh of distributed data sources with powerful data mining, interrogation, analysis and reporting facilities.
3.3	Build our data science capabilities to interrogate data and trends and produce useful products for community and sector specific consumption.
3.4	Support open data initiatives while ensuring compliance with international regulations on the management and sharing of data, data protection and privacy.
3.5	Build flexible data structures and standards to support reuse, integration and interoperability between systems and discoverability of information.
3.6	Ensure appropriate data storage and disposal policies are in place and enforced through automation where possible.
3.7	Implement a secure and sustainable online registration and payment facility to support regional and online events and e-commerce initiatives.
3.8	Provide hosting, backup, and remote technical support services to SPREP projects, regional offices and partners.
3.9	Continuously explore and support the creation of new innovative solutions for data, information, and knowledge use cases.
3.10	Improved analytics and business intelligence capabilities.
3.11	Ensure digital forms of data, information and knowledge are effectively stored in repositories that are economical, scalable, accessible and discoverable.
3.12	Develop and make accessible a repository of data products.
3.13	Adopt new cloud-based monitoring and reporting technologies in collaboration with Communications and Knowledge Management teams to measure performance of campaigns and promotions, and provide statistics.

INDICATORS

- Compliance percentage.
- Benchmark against peers.
- Uptime percentage.
- High staff satisfaction.
- Effective incident management .
- Effective service level agreements.
- Increased number and usage of digital services.
- Business intelligence and reporting dashboards in place.
- Number of resolved service requests.



GOAL 4

PEOPLE

Resourcing and Mobilisation

Build and maintain a highly skilled ICT workforce to provide a technologically enabling environment, respond to emerging ICT issues and contribute to building a digitally capable workforce within SPREP and the Pacific region.

OBJECTIVE	STRATEGIC ACTION
4.1	Provide collaboration and consulting to staff and SPREP Members to use technology for economic and digital development.
4.2	Strengthen collaboration with national and regional ICT working groups to help progress ICT priorities for Pacific island countries and the region.
4.3	Encourage IT participation in advisory and governing groups related to digital and economic development.
4.4	Alignment of strategic career development paths of IT staff with SPREP strategic goals and technology trends.
4.5	Attract and maintain IT talent with learning and development opportunities to upskill and maintain relevant qualifications.
4.6	Time and resources provided for research and learning.
4.7	Seek skills development and knowledge transfer opportunities through project partners and reputable IT service providers.
4.8	Ensure technology and IT solutions are user centric, providing an enabling IT environment for the Secretariat.
4.9	Develop and implement e-learning platform to deliver online IT courses for staff and Pacific island countries.
4.10	Mobilise IT staff through project activities and other funded mechanisms to assist Pacific island countries achieve national priorities.

INDICATORS

- Automate as much as possible the recruitment and mobilisation of staff and experts.
- Participation in working groups and strategic committees for internal and regional ICT development.
- Digitally capable workforce.
- IT staff knowledgeable on emerging technologies.
- Data science developer skills available in-house
- User experience design skills available in-house.
- IT training delivered for Pacific island country participants.



GOAL 5

GOVERNANCE
Equity and Partnerships

Provide an enabling environment that adopts an inclusive, holistic and integrated approach in the planning and adoption of ICT infrastructure and systems within SPREP.

OBJECTIVE	STRATEGIC ACTION
5.1	Provide strategic direction, governance, and smart investments on all ICT activities for SPREP.
5.2	Build and maintain genuine vendor relationships and strategic partnerships, and use as sources of information on directions within the IT industry and technological developments.
5.3	Provide central IT coordination and technical advisory role to Project IT staff, and ensure adherence to IT policies and standards for IT solutions and services.
5.4	Increase spending for IT both in total amounts and as a percentage of overall spending.
5.5	Seek external funding for high-performance computing to strengthen GIS, climate modelling and data analysis, and to support priorities.
5.6	Drive investment by strategic priorities, not by precedent or familiarity with a particular technology.
5.7	Promote and ensure cost recovery is incorporated into project activities.
5.8	Explore other funding modalities to fund IT positions.
5.9	Leverage skills and efficiencies provided by reputable IT service providers through outsourcing.
5.10	Create or participate in formal collaborative committees to address IT issues.
5.11	In collaboration with stakeholders, partners, and experts in the industry, create uniform, organisation-wide standards, policies, and methods of operation for all data, voice, and video networks to create an integrated organisation.
5.12	Ensure gender equality and social inclusion are promoted and integrated in IT activities including procurement and recruitment.

INDICATORS

- Effective and efficient process of identifying, reporting, and managing risks.
- Increase spending on IT as a percentage of total expense and funding for IT initiatives.
- Use of existing modalities such as working groups to discuss management and governance issues.
- Develop governing processes to manage increasing shift to digitisation and sharing of data and information.
- Ensure regulatory compliance of data storage, curation and sharing with privacy regulations, including the European Union’s General Data Protection Regulation.
- Successful IT audits completed.
- Quantity of IT investments and their impact.
- Cost savings and efficiencies.
- Reduction in e-waste.



5 Implementation and Monitoring

The implementation of the ICT Strategy will be led by SPREP IT in close collaboration with the Technical Programmes, Governance and Operations. It will be incorporated into the SPREP Biennial Work Programme and Budget under Organisation Goal 1 and the biennial Performance Implementation Plan (PIP). It will also be incorporated into each SPREP IT team's annual work plan and PDP targets. The strategy will be monitored on an annual basis and reported through the PIP process.

6 Resourcing

The ICT Strategy needs adequate funding. The resources required include systems and tools, and workforce support. Whilst some are funded through the SPREP IT operational budget and cost recovery, additional funding and technical resources are essential to continually upgrade the ICT infrastructure, systems and tools in support of SPREP's digital transformation.

SPREP will need the skillsets and competency, continuous training and enabling environment necessary to adopt new processes and practices to support a state-of-the-art ICT.

7 Review

This ICT Strategy will be reviewed annually and modified to reflect progress in implementation, including changes to SPREP's operating environment and priorities, to ensure it remains relevant and effective. The review will be conducted in consultation with Monitoring and Evaluation staff, IKM, Communications teams and other relevant staff.

ANNEX 1 SWOT Analysis

S STRENGTH



- Modern Virtual Data Centre
- IT Team Skills and capacity
- Increased IT profile and support to the region
- Knowledgeable and committed staff to systems success
- Confidence of donors and stakeholders in systems and capabilities
- Starter pack approach to quick deployment of web applications
- Adoption of Provisioning tools for quick deployment of web applications
- Strong relationships with IT service providers

W WEAKNESS



- Inefficiencies in information sharing and discoverability
- Duplication of data and information
- No strategy and policy on use of Cloud services
- Budget constraints hinder the-acquisition of enterprise-level IT products and services
- Limited computing resources to service meeting facilities
- No plan for managing e-waste
- No off-site location as a secondary disaster recovery site
- Inefficiencies in business processes
- Device management
- Regular IT audits
- ICT and electrical outlets not upgraded and maintained in buildings
- Gender equality in trainings

O OPPORTUNITIES



- Integration of disparate systems
- Advances in web technologies to improve accessibility
- Improve governance processes, organisation wide data management and technology strategies and policies
- Administration of BYOD on network
- Sustainable funding sources to maintain existing and transitioned applications
- Strengthening EDRMS expansion and uptake
- Strengthen Team skills and support capabilities across products and applications
- Improve resiliency and efficiency of business operations and processes through digital transformation
- Deliver certified IT courses to members through the establishment of an IT Academy or e-learning platform under the PCCC
- Implement an appropriate Security framework to manage new ICT initiatives, security threats, data protection and data loss prevention
- Promote gender equality

T THREATS



- Inefficiencies in information sharing and discoverability
- Duplication of data and information
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