



Digital Public Infrastructure -
for the World

Thanks



Kurt Garloff

CEO S7n Cloud Services

SCS PB, OIF BoD

s7n@garloff.de



Karsten Samaschke

CEO VanillaCore

Assembly Lead GovStack

karsten@vanillacore.net



Supported by:



on the basis of a decision
by the German Bundestag



The world we live in ...

"A world of imperial ambitions
and imperial wars.
A world in which dependencies
are ruthlessly weaponised."

— Ursula von der Leyen, State of the
European Union, September 2025

SocialMedia RareEarths
AI Cloud
Energy Communication
SupplyChains
Navigation Military



OSPOs for Good 2024 (NYC)

“Openness, of course, but there is democratization, the future of democracy. It is human centric digital development. It is values about trust and co-creation, reducing the barriers between governments and citizens. Those values are as important as the aspect of creation and innovation.”

Amandeep Singh Gill

UN Secretary-General's Envoy on Technology



About GovStack

Adaptive Shared Citizen-centric e-Government Services



Mediation Middleware

Open API gateway, secure
data exchange



Common Applications Blocks

e-Learning, e-Marketplace
business intelligence/analytics,
workflow, etc.



Foundational Blocks*

Identity/authentication, security,
consent, payment, registration,
messaging, etc.



Hosting

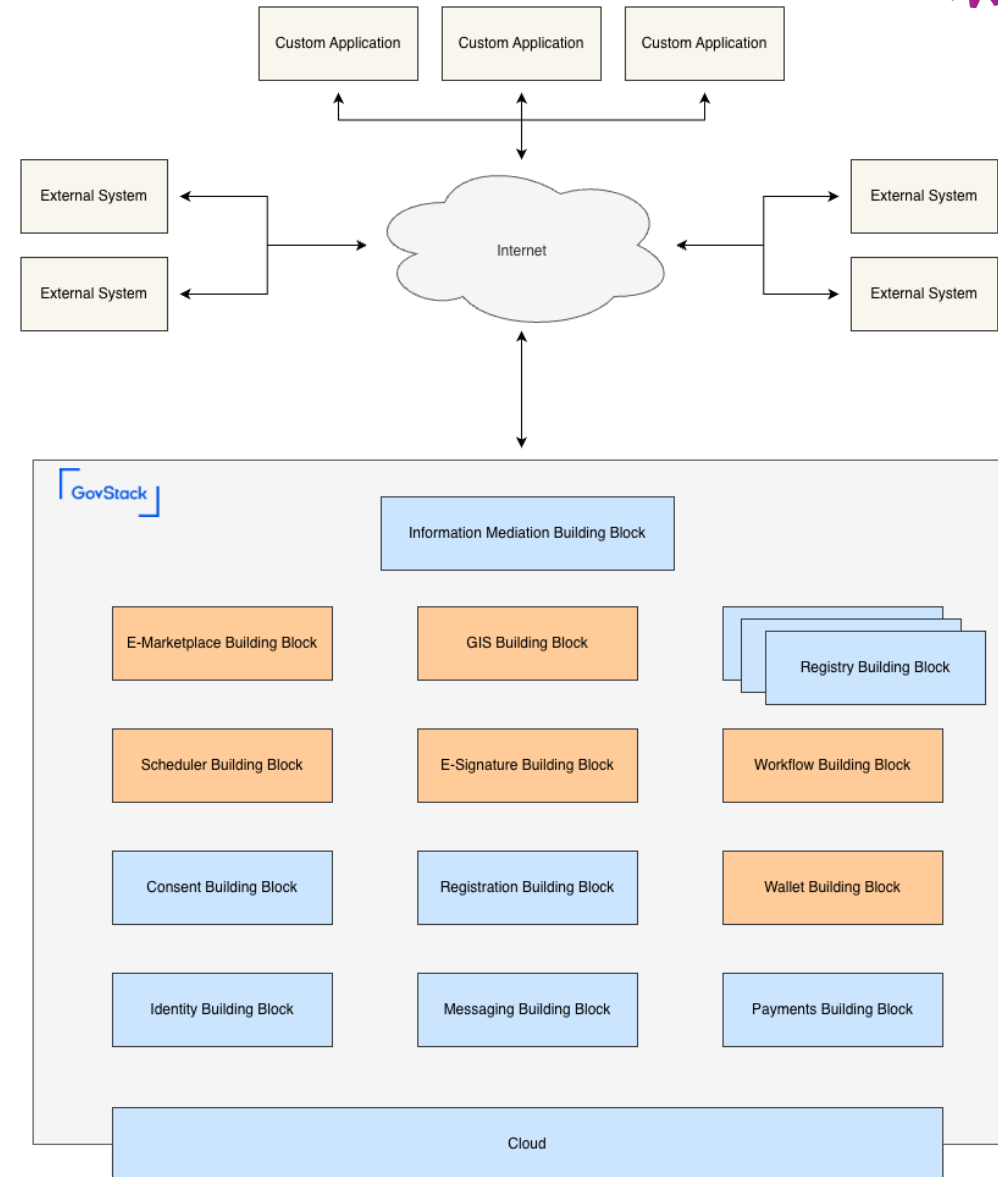


compare



GovStack Building Blocks

- Specifications to be implemented
- Independent Components - Chosen individually per Country
- Vendor Neutrality: Implemented using OSS and Commercial Software as per Country's decision
- Assembled and Operated within the Country or in United Nations Data-Centres, or any feasible Public- or Private Cloud Environment, including Hyperscalers
- Sovereign Cloud Stack (SCS) is the Reference Cloud Implementation for GovStack



Openly-developed OSS on all Levels



GovStack

- Specifications developed in Public
- Assembly developed in Public
- Documentation is Public
- Source-Code is Public
- Automation is Public



Sovereign Cloud Stack

- Specifications developed in Public
- Software developed in Public
- Documentation is Public
- Source-Code is Public
- Automation is Public

Digital Sovereignty a.k.a. Resilience

cloud
ahead



0 True cloud

→ API – driven, scalable virt/container infra

1

Data Sovereignty

Control over data, data sharing and data security. Your data stays where you decide it should stay.

→ Security by design: Virtualization, Encryption, Daily updates (possible), Automated pentesting (GAIA-X labels, ENISA, BSI)

2

Provider Switching Capability

Strong standards ensure changing providers does not have high technical burdens. Makes federation possible.

→ Strong technical standards ensure technically easy switch (or federation): **SCS-compatible**

3

Technological Sovereignty

The ability to shape technology, to innovate and create value. Broadly possible only with openly developed open source.

→ Openly developed Open Source code (production quality ref. implementation available): **SCS-open**

4

Operational Skills

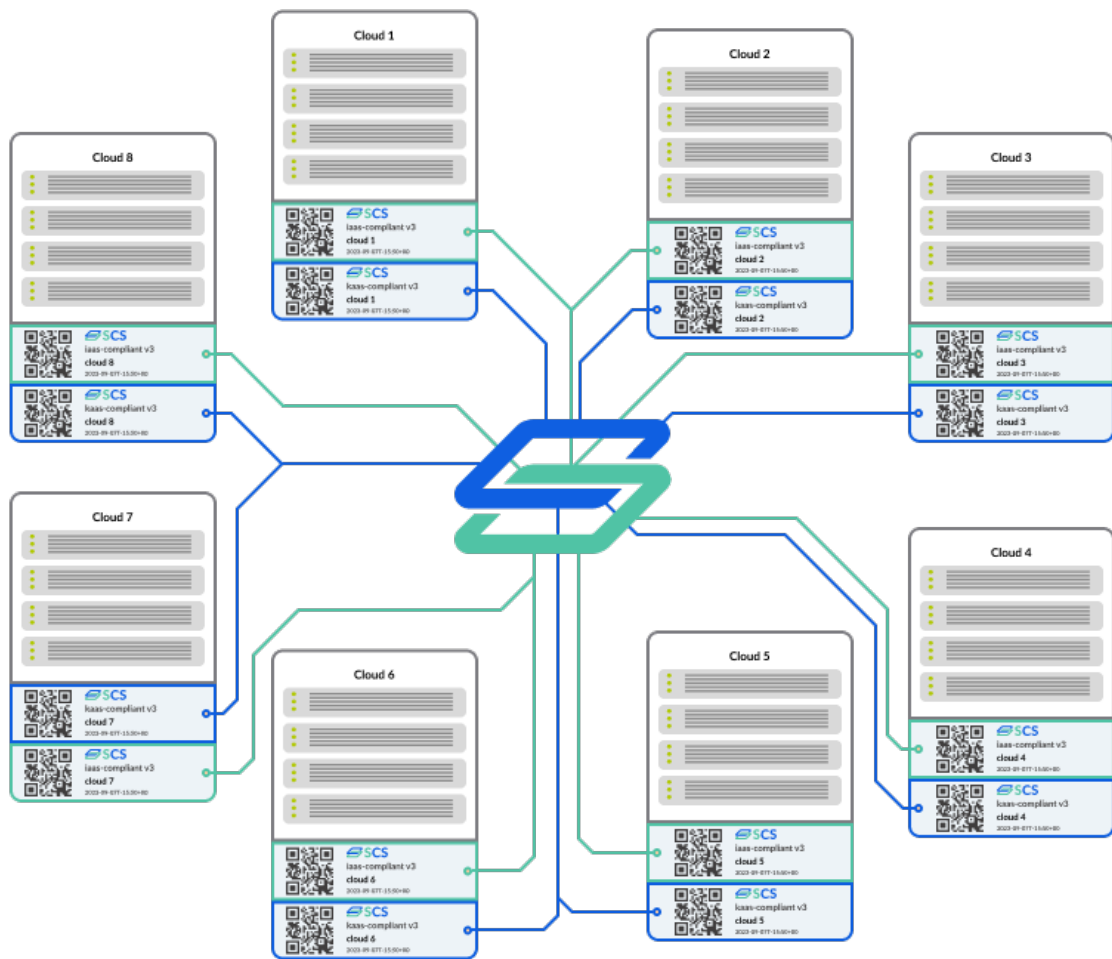
Availability and transparency of operational tools and best practices make operation possible for SMEs.

→ Open Operations: Transparency on Ops tools & processes, knowledge sharing: **SCS-sovereign**

Sovereign Cloud Stack – Deliverables

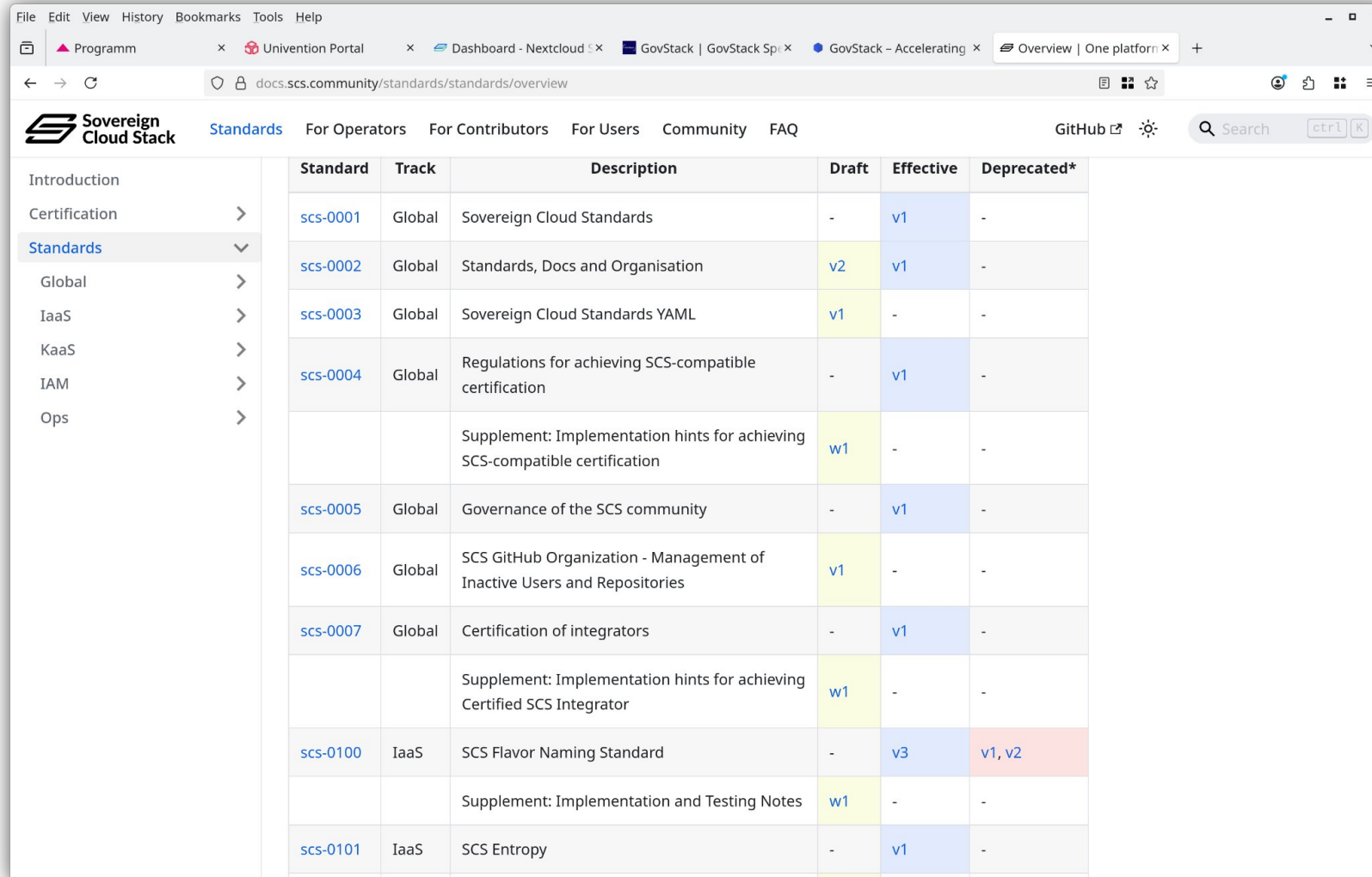


SCS = an open federated Hyperscaler



Held
together
by common
standards

SCS Standards



The screenshot shows the 'Standards Overview' page of the Sovereign Cloud Stack. The page features a sidebar with navigation links: Introduction, Certification, Standards (selected), Global, IaaS, KaaS, IAM, and Ops. The main content area displays a table of standards with columns for Standard ID, Track, Description, Draft status, Effective version, and Deprecation status. The table lists 11 standards, including global standards for SCS, SCS Docs and Organisation, SCS YAML, SCS-compatible certification, SCS community governance, SCS GitHub Organization management, SCS integrators certification, SCS Certified SCS Integrator hints, SCS Flavor Naming Standard, SCS Implementation and Testing Notes, and SCS Entropy.

Standard	Track	Description	Draft	Effective	Deprecated*
scs-0001	Global	Sovereign Cloud Standards	-	v1	-
scs-0002	Global	Standards, Docs and Organisation	v2	v1	-
scs-0003	Global	Sovereign Cloud Standards YAML	v1	-	-
scs-0004	Global	Regulations for achieving SCS-compatible certification	-	v1	-
		Supplement: Implementation hints for achieving SCS-compatible certification	w1	-	-
scs-0005	Global	Governance of the SCS community	-	v1	-
scs-0006	Global	SCS GitHub Organization - Management of Inactive Users and Repositories	v1	-	-
scs-0007	Global	Certification of integrators	-	v1	-
		Supplement: Implementation hints for achieving Certified SCS Integrator	w1	-	-
scs-0100	IaaS	SCS Flavor Naming Standard	-	v3	v1, v2
		Supplement: Implementation and Testing Notes	w1	-	-
scs-0101	IaaS	SCS Entropy	-	v1	-

- RFC community process
- Drafts, reviews, stabilization (github)
- Mandatory and recommended
- Optional implementation hints
- Sorted into tracks
- Test case collection and test suite
- Scopes = Set of mandatory standards

Compliance monitor

Current (daily)
state of
standards
conformance
(here:
IaaS SCS-
compatible)

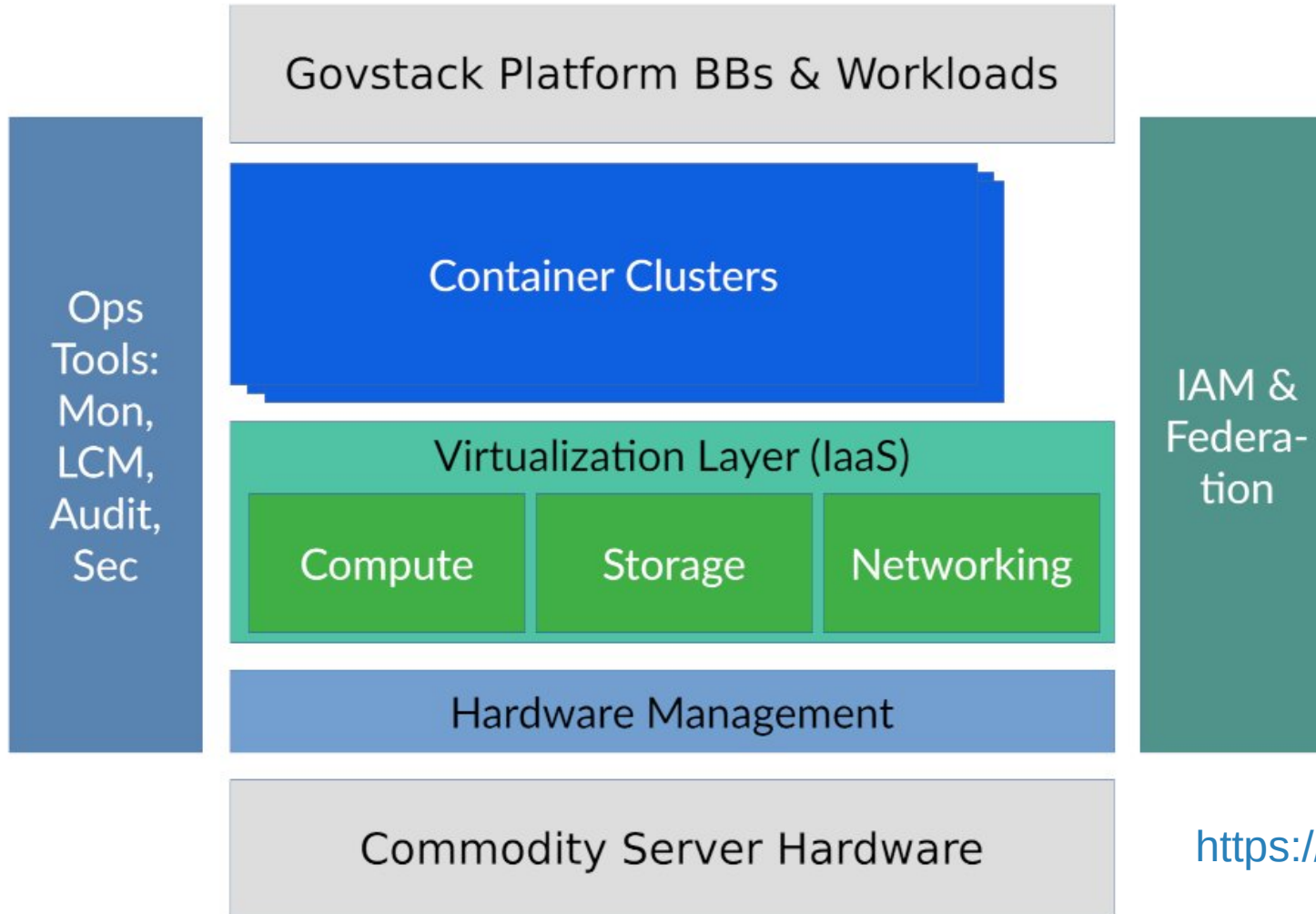
SCS compliance overview (incl. unverified results) — Mozilla Firefox

compliance.sovereignit.cloud/page/table_full

Name	Description	Operator	SCS-compatible IaaS	HealthMon
scs2	Dev/Test/Demo environment (2nd gen) provided for SCS & GAIA-X context	plusserver GmbH	✓ v5.1, next*	HM
aov.cloud	Community cloud for customers	aov IT.Services GmbH	✓ v5.1, next*	HM
CC@RRZE	Private Compute Cloud (CC) for FAU	Regionales Rechenzentrum Erlangen	✓ v5.1, next*	(soon)
CNDS	Public cloud for customers (2 regions)	artcodix GmbH	● -	HM
FOCIS	ALASCA community environment	Cloud&Heat Technologies GmbH	✓ v5.1, next*	n/a
pluscloud open	Public cloud for customers (4 regions)	plusserver GmbH	● -	HM1 HM2 HM3 HM4
REGIO.cloud	Public cloud for customers	OSISM GmbH	✓ v5.1, next*	HM
ScaleUp Open Cloud	Public cloud for customers	ScaleUp Technologies GmbH & Co. KG	✓ v5.1, next*	HM
syseleven	Public OpenStack Cloud (2 SCS regions)	SysEleven GmbH	● -	(soon)
Wavestack	Public cloud for customers	noris network AG/Wavecon GmbH	✓ v5.1, next*	HM
PoC WG-Cloud OSBA	Cloud PoC for FITKO	Cloud&Heat Technologies GmbH	■ v4††, v3††	HM

OpenStack
Health
Monitor
Dashboard:
Public realtime
monitoring of
performance and
error rates
(Recommended)

Cloud Building Block - SCS as Foundation for GovStack



Rolling out Sovereign Cloud Stack

- Used by Governments and Private Companies in Europe
- African, Asian and American Countries are currently preparing for Sovereign Cloud Stack Rollouts
- Main Arguments: Digital Sovereignty, Open-Source, and Knowledge / Skills Building within the respective Countries
- Avoidance of Vendor Locks
- Avoidance of new Colonial Schemes
- Complemented by United Nation's Offerings



Skills / Capacity building

- Digital Sovereignty and Open-Source need to be learned
- Humans need to be skilled and enabled
- Capacities in Data-Centres and on-premises need to be defined and planned for



Open Knowledge: Docs & Training material



Welcome to the SCS Documentation

Find user guides, code samples, deployment examples, reference, community pages and more.

Introduction to SCS

Get to know SCS better and learn about the background.

[Get Started](#)

Releases

The latest release of the SCS reference implementation is R8. Check out the Release Notes.

[Learn More](#)

Frequently Asked Questions

You are curious what SCS is all about, what it can do and what it can't?

[Get Answers](#)

Existing Public Clouds

There are SCS compliant public clouds in production.

[Test Them](#)

Architectural Layers

Ops Layer

Tooling and infrastructure design for easy, efficient and transparent ways to operate an SCS Cloud.

[Learn More](#)

Container Layer

SCS offers a robust solution for managing container workloads on a Kubernetes infrastructure.

[Learn More](#)

IaaS Layer

SCS offers OpenStack infrastructure solutions based on KVM virtualization to deploy VM workloads and enabling the container layer optionally.

[Learn More](#)

IAM Layer

Working on Keycloak federated identity provider within our Team IAM.

[Learn More](#)

Additional Resources

Get in touch

Come into our Matrix Chat in the SCS | Tech Room.

[Join Now](#)

Come to our Meet-Ups

Our working groups and special interest groups meet weekly or biweekly. When? Find out within our public community calendar.

[Learn More](#)

Standardization in progress

Get to know our current Decision Records and Standards.

[Start Now](#)

Deployment Examples

Get to know different ways to deploy SCS with cloud resources or on bare metal.

[Explore Cases](#)


Application Examples

Discover best practices to make the most of your cloud, from introductions to specific

Sovereign Cloud Stack Training Course¹

International Telecommunication Unit (ITU)
Place des Nations
1211 Geneva 20 Switzerland

v1.2.3
2025-08-31



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Thanks to ITU, GIZ,
VanillaCore, dNation, OSISM!

Digital Sovereignty is more than Open-Source

Control
(data)



Choice
(switching)



Shape
(innovate)



Understand
(operate)



Enabling Countries for Digital Sovereignty



Kazakhstan: Digital Sovereignty using Open-Source

President Kassym-Jomart Tokayev of the Republic of Kazakhstan



Kazakhstan wants to become a “fully digital nation within three years.”

“Today, over 92% of government services are available online.

Last year, the share of cashless payments in the country exceeded 85%.

In the first six months of this year alone, 26 million digital services were provided to Kazakhstani citizens, half of which were provided via smartphones.”

Kazakhstan uses OpenStack within its national data center infrastructure, including for several government platforms managed by National Information Technologies JSC.

Open-source technologies form an important part of our approach to building resilient and sovereign digital ecosystems.

Download Slides



<https://scs.sovereignit.de/nextcloud/s/4tnmPkxB6SgKoCs>