SCION FOR THE UTILITY SECTOR
The Secure Swiss Utility Network

SCION Day 2026 BENELUX | Amsterdam

Markus Riner
Head of Digitalization and IT

SSUN
SECURE SWISS UTILITY NETWORK

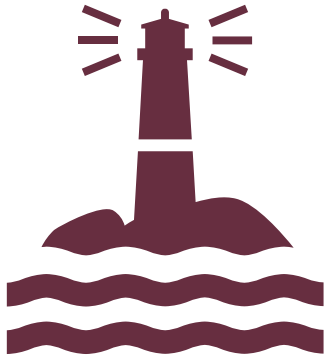
Content

- Association of Swiss Electricity Companies - Purpose & Vision
- Why a Secure Swiss Utility Network and what it is
- How it‘s built and who is running it
- Some priority use cases for SSUN
- Critical Platform Protection and ensuring availability

Association of Swiss Electricity Companies (VSE AES)

Purpose & Vision

VSE Purpose & Vision



VSE is the recognized umbrella organization of the Swiss electricity industry.

VSE bundles the common interests and expertise of its members and asserts its positions in politics, business and society.

It is committed to security of supply, climate neutrality and energy efficiency in Switzerland.


Why SSUN and what is it?
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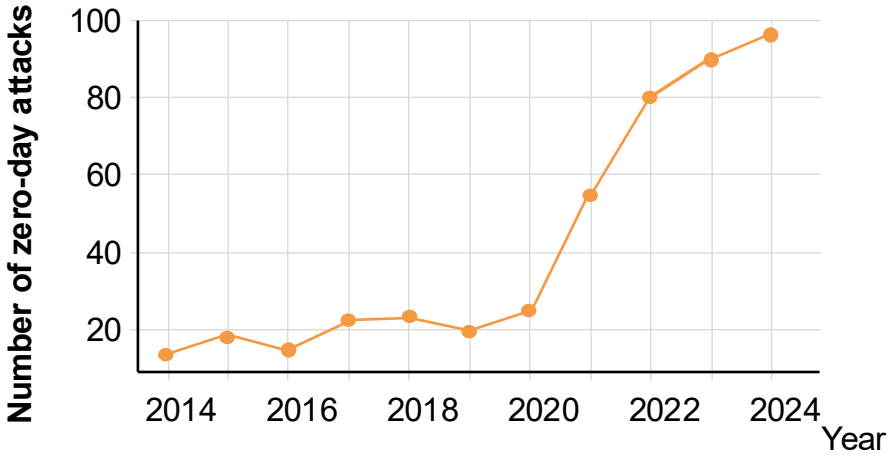
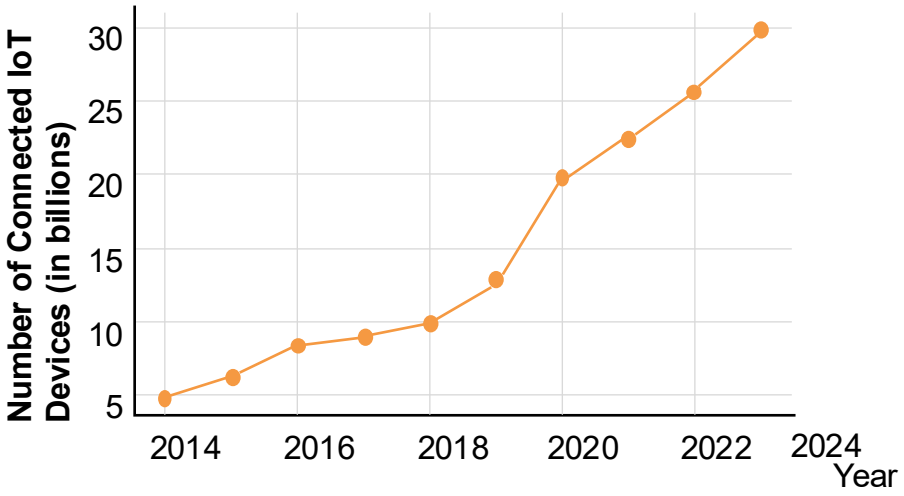
VSE AES

SSUN is an answer to a worsening threat landscape

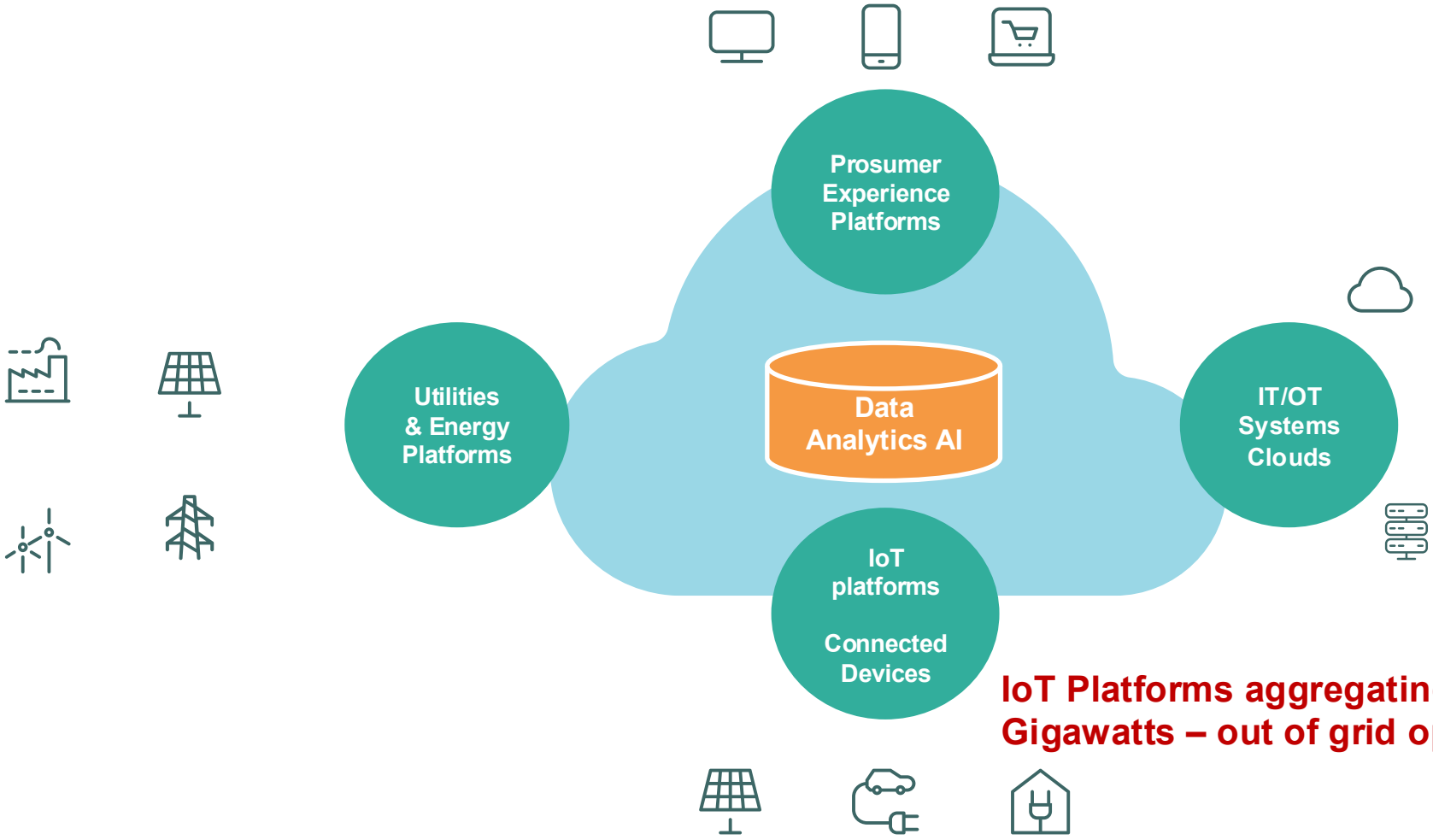
- Security of supply and grid stability are top priorities
- Cybercrime and cyberwar is a rapidly growing risk
- Systemically important infrastructures are too visible and vulnerable on the internet
- Resilience and data sovereignty are insufficient, partly due to the worsening threat situation
- Continuous improvement of ICT resilience is necessary





Complex digital critical infrastructure

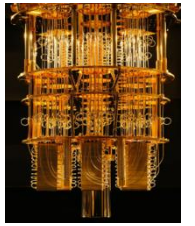
Visible and vulnerable to increasingly powerful leveraged attacks



Leveraged Cyber Attacks

Robots

Agentic AI

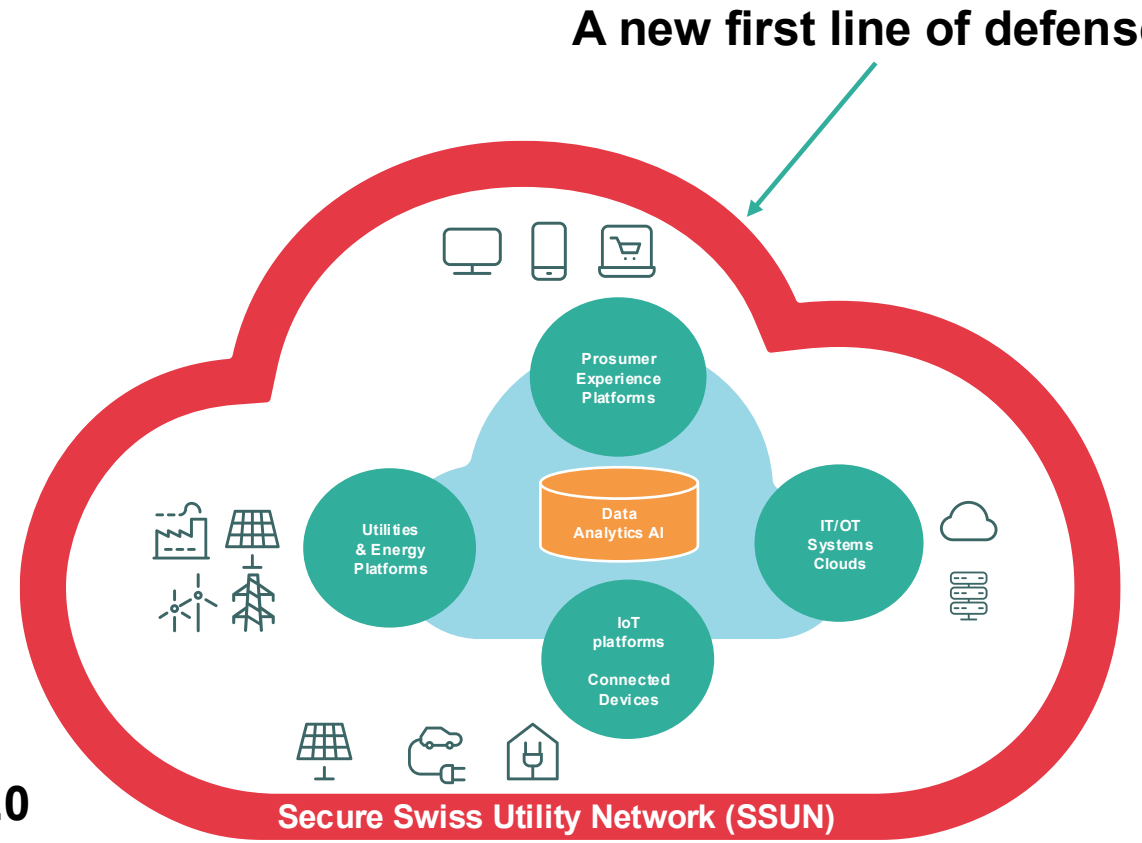


Quantum Computing

IoT Platforms aggregating Gigawatts – out of grid operator's control

What is SSUN?

- Community-based **SCION** isolation domain
- Semi-private, highly secure communication network – **hiding** our critical infrastructures
- Central trust framework based on industry PKI
- Governance by the industry for the industry
- **A protective shield for systemically important supply areas**
- **Scalability Control and Isolation: Internet 2.0**
- **A new First Line of Defense for Critical Infrastructures**



What are the objectives and benefits of SSUN?

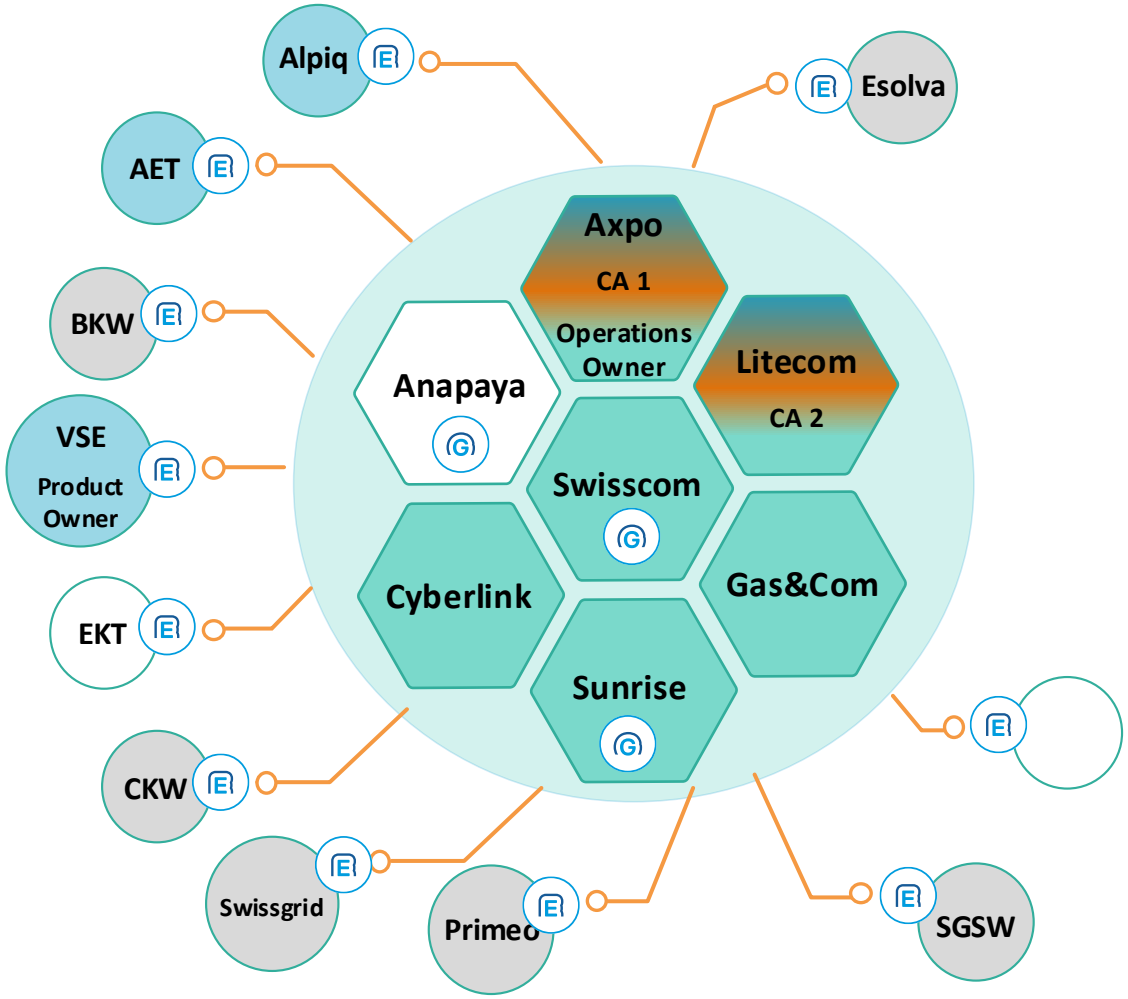
- Increasing ICT resilience and thus security of supply in the context of escalating cyber threats
- Resilient infrastructure because **systems and** communications in the supply ecosystem (electricity, gas, water, waste disposal, etc.) **are invisible from the outside**
- Trusted space for the supply ecosystem
- Digital sovereignty (kind of)
- Scalability and future-proofing
- Regulatory compliance (SSUN contributes to meeting the Swiss minimum ICT security standard, NIS2, etc.)

What you can't see, you can't attack.

99.9% reduction in the attack surface against DDoS, intrusion, and other attacks.

How it‘s built and who is running it

How the SSUN is built and managed – governance & roles



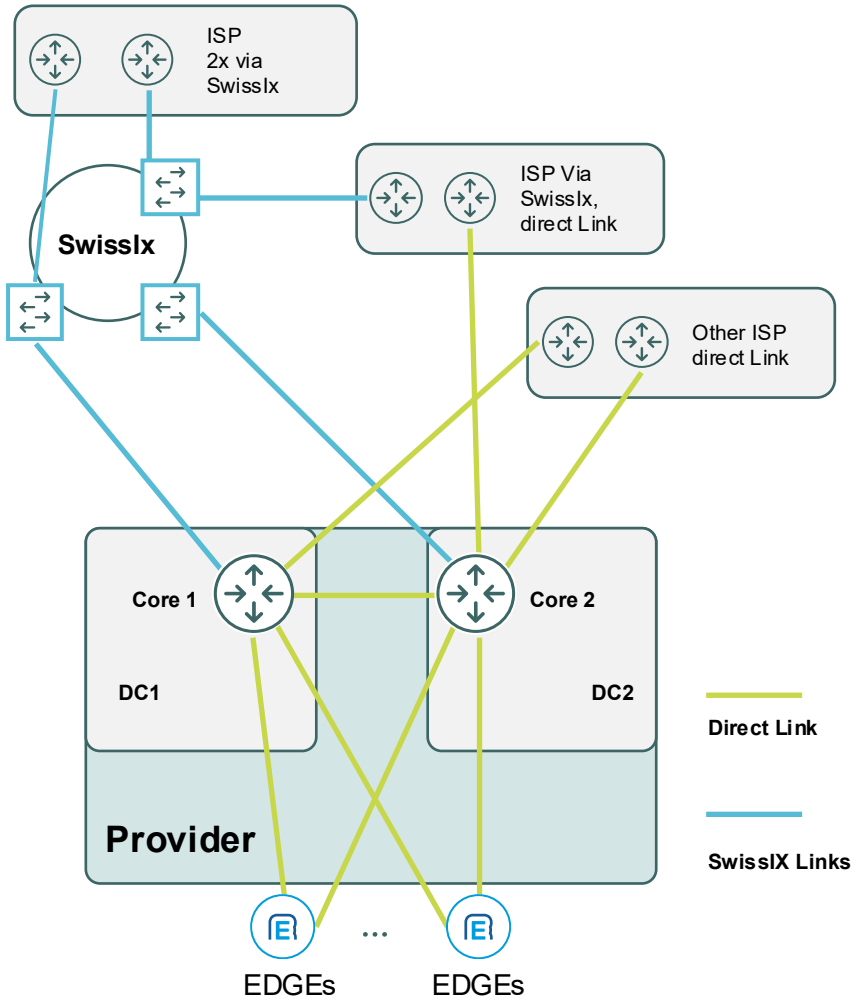
Roles

- Contributing Sponsor/Prospect
- Any regular Member
- Voting member SSUN Governing Body
- Issuer of the SSUN certificate
- Main ISP (SCION Cores)
- Anapaya SCION EDGE Router
- EDGE access
- Anapaya SCION GATE

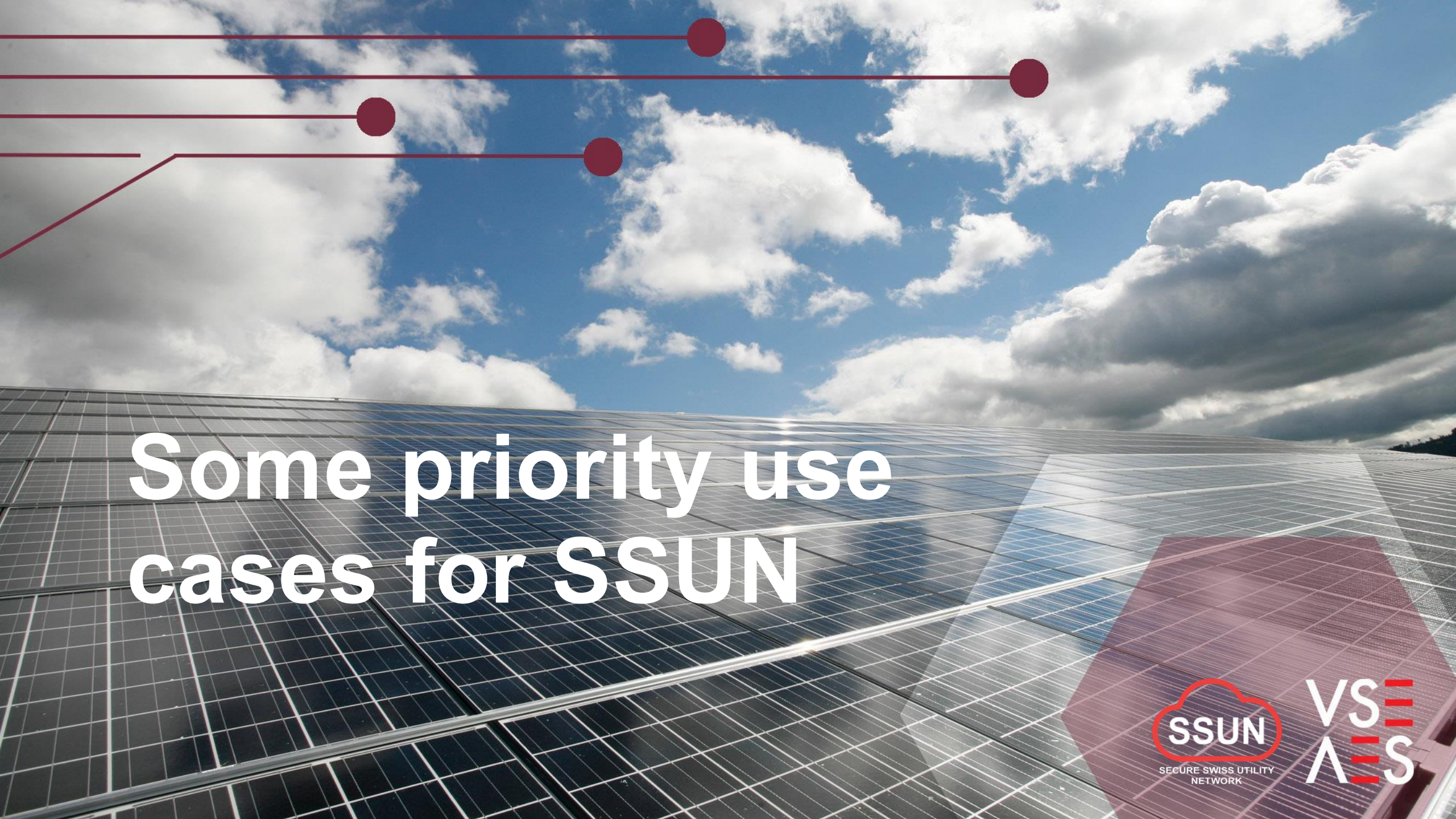
CA: Certificate Authority (certificate issuing authority)

ISP: Internet Service Provider (Swisscom, Sunrise, Litecom, Cyberlink, Gas&Com)

SSUN cores and peerings for ensuring high availability



- Between core ASes there must be at least **2 geographically redundant connections** that span multiple data centers.
- The data centers have to follow at least **tier 3 data center** standards. While the certification is not mandatory, the standard has to be followed.
- SCION/SSUN core inter AS connectivity (core to core) and other devices/services offered for SCION are adequately physically protected with **>=72h power autonomy**.
- The network services have to have **high availability** (e.g. Gate).
- Minimum bandwidth for peerings: **10 Gbit/s**


Some priority use cases for SSUN
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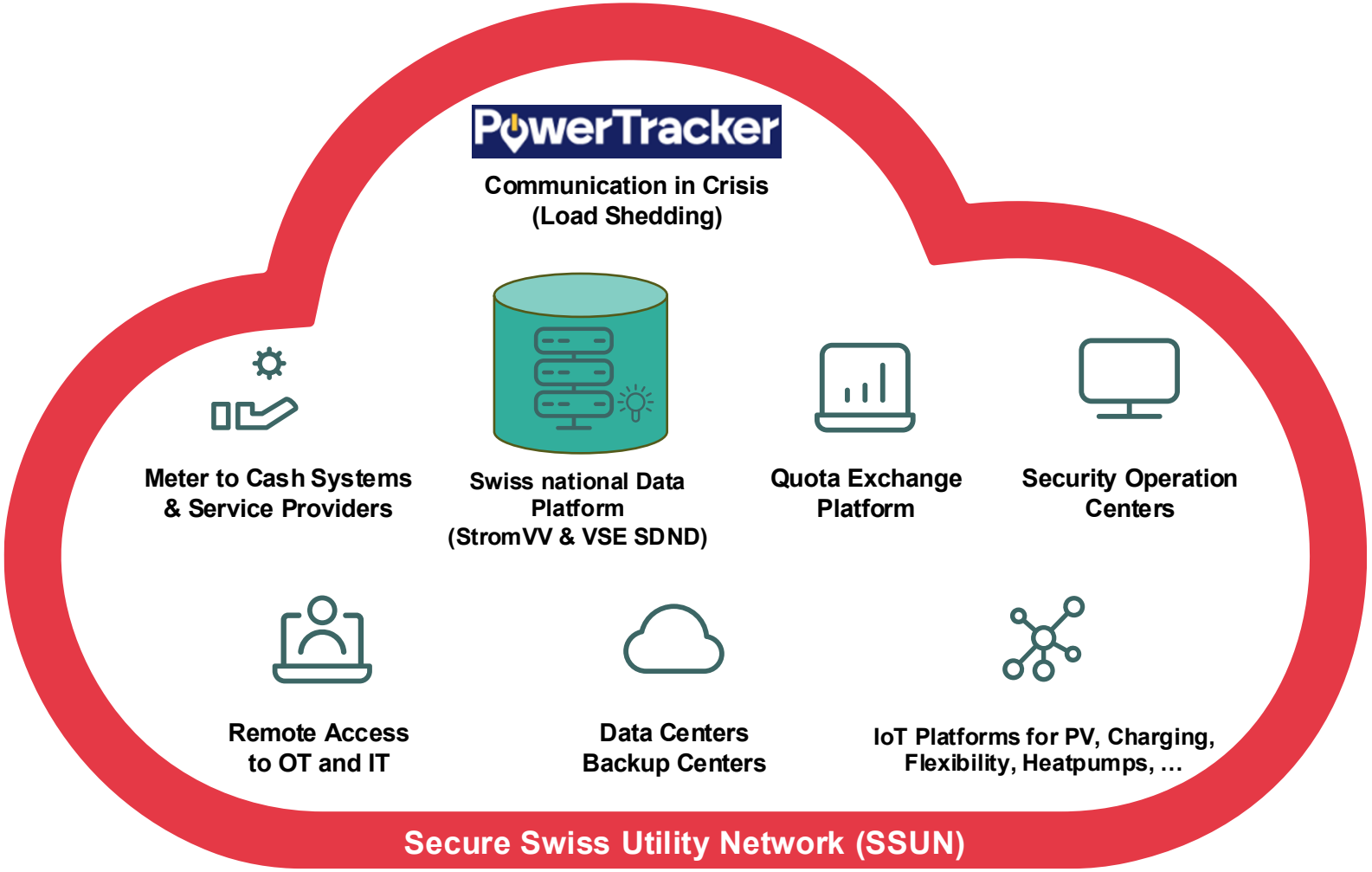
Some priority use cases for SSUN



What you can't see you can't attack.


Critical Platform Protection
and ensuring availability
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PowerTracker offers views for 3 stakeholder groups: Crisis planners, the general public, and distribution system operators

Information and data view

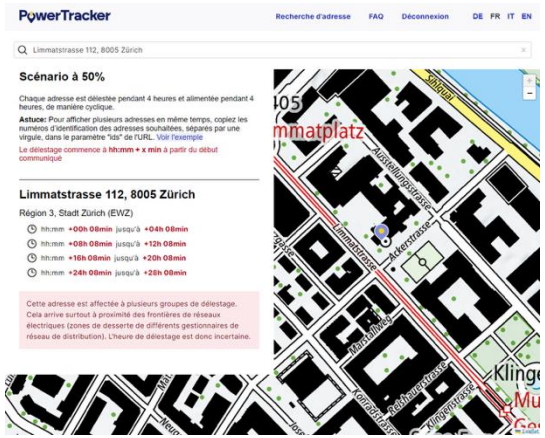
PowerTracker

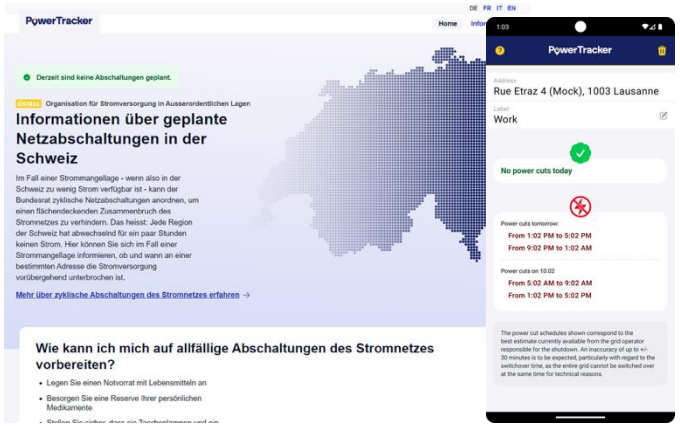
Web application for crisis planners

Cantonal management teams and other crisis planners can prepare themselves. **Data** is made available **in advance**. (**Confidential** access)

Website & App for the public

Citizens can find out where and when there will be no electricity and receive useful behavioral advice. Building-specific data is **only** published **in an emergency**.

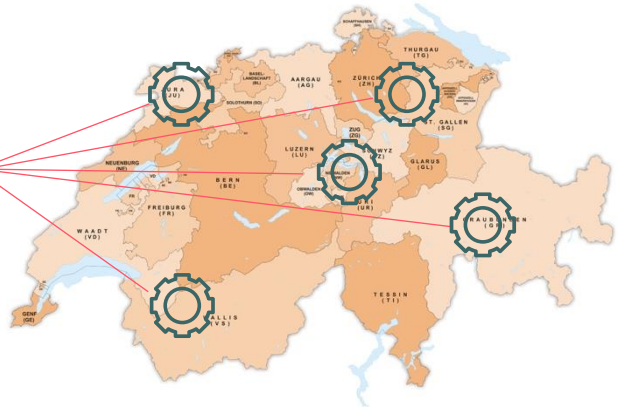




Data upload (shutdown plans)

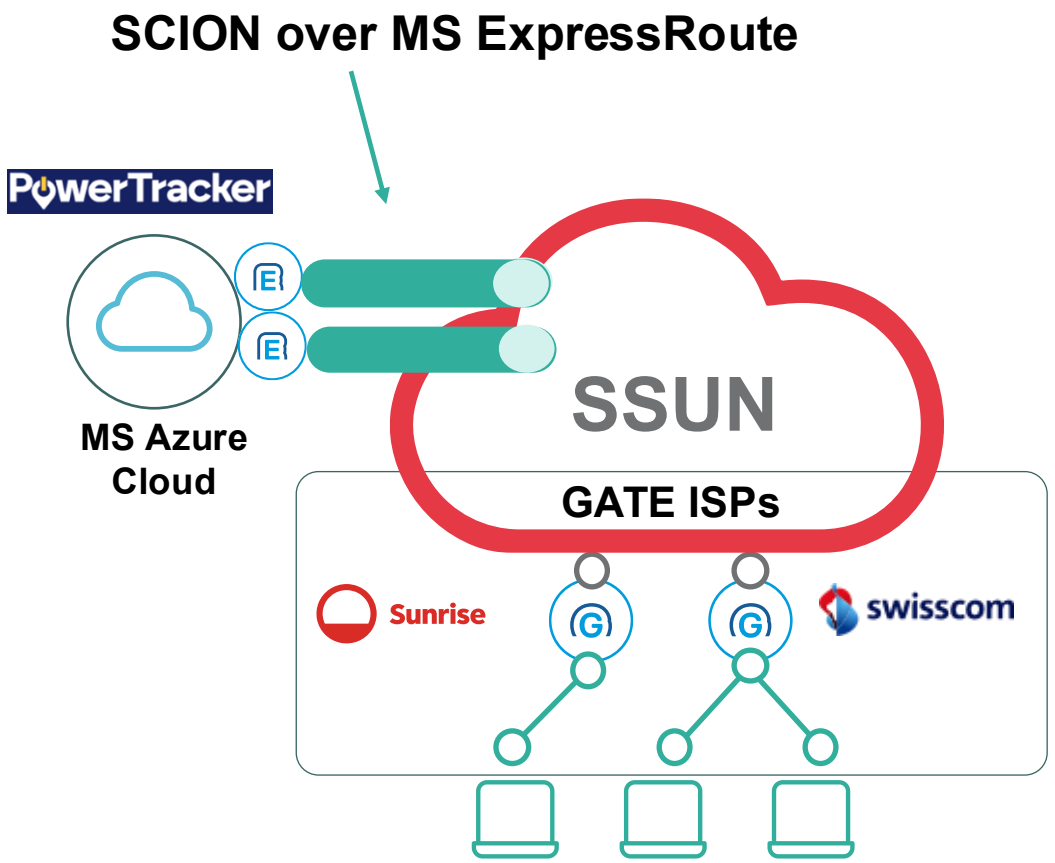
Web application for distribution system operators (DSO)

This is where the DSOs upload their shutdown plans, which form the basis for the other views.



PowerTracker technical setup in SSUN

- Public app for several million participants
- Normally in hot standby mode
- Critical in the event of power shortages during load shedding (grid shutdowns)
- Peaks of up to 700 queries per second expected
- PoC in Swiss Public Isolation Domain in spring 2025
- Now moving Prod to SSUN Isolation Domain



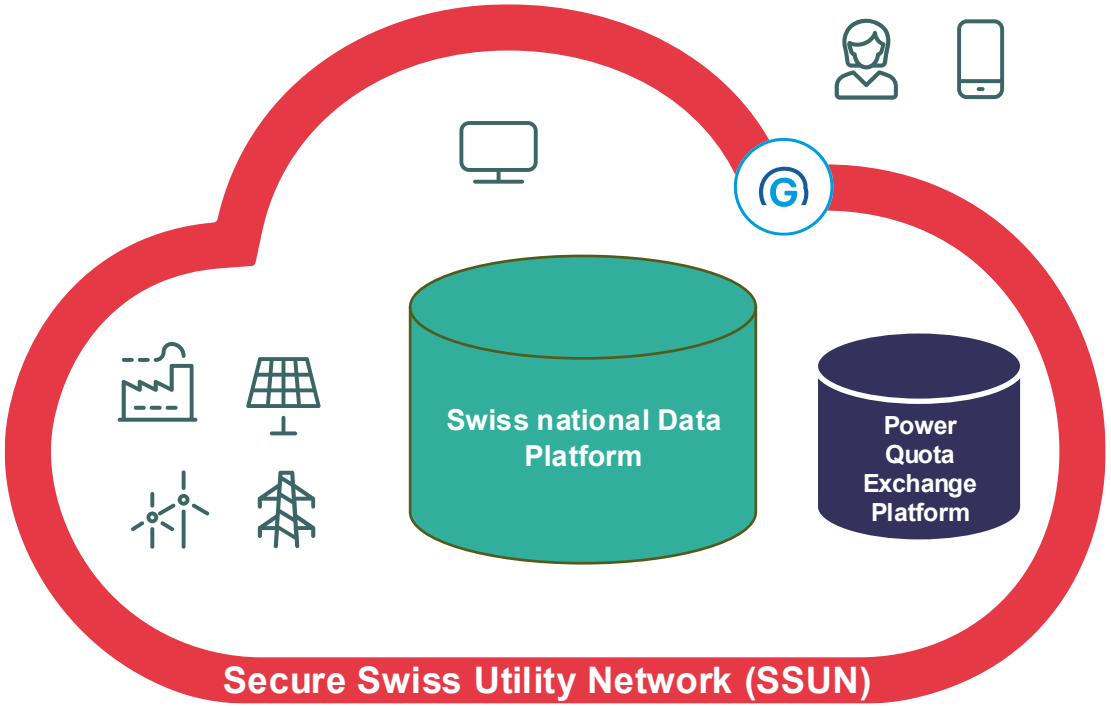
What does the future hold for SSUN? A look ahead

Roadmap

- **2030**: Data traffic with the national data platform **completely** within **SSUN** in accordance with **VSE SDND and SDAT guidelines**

Recommendations

- Cybersecurity requires new paradigms
- Protect your systems and platforms by using SCION
- Prepare for a secured data exchange with any platform and partner in the supply ecosystem
- Use public isolation domains as a fast track as soon as possible



The Secure Swiss Utility Network (SSUN) is an exclusive, controlled communications network for the energy and utilities industry – developed by the industry, for the industry, based on SCION.

Isolate your infratructures by using SCION!

Your SCION & SSUN information access

www.strom.ch/ssun
ssun@strom.ch

www.anapaya.net
info@anapaya.net

www.scion.org
info@scion.org