

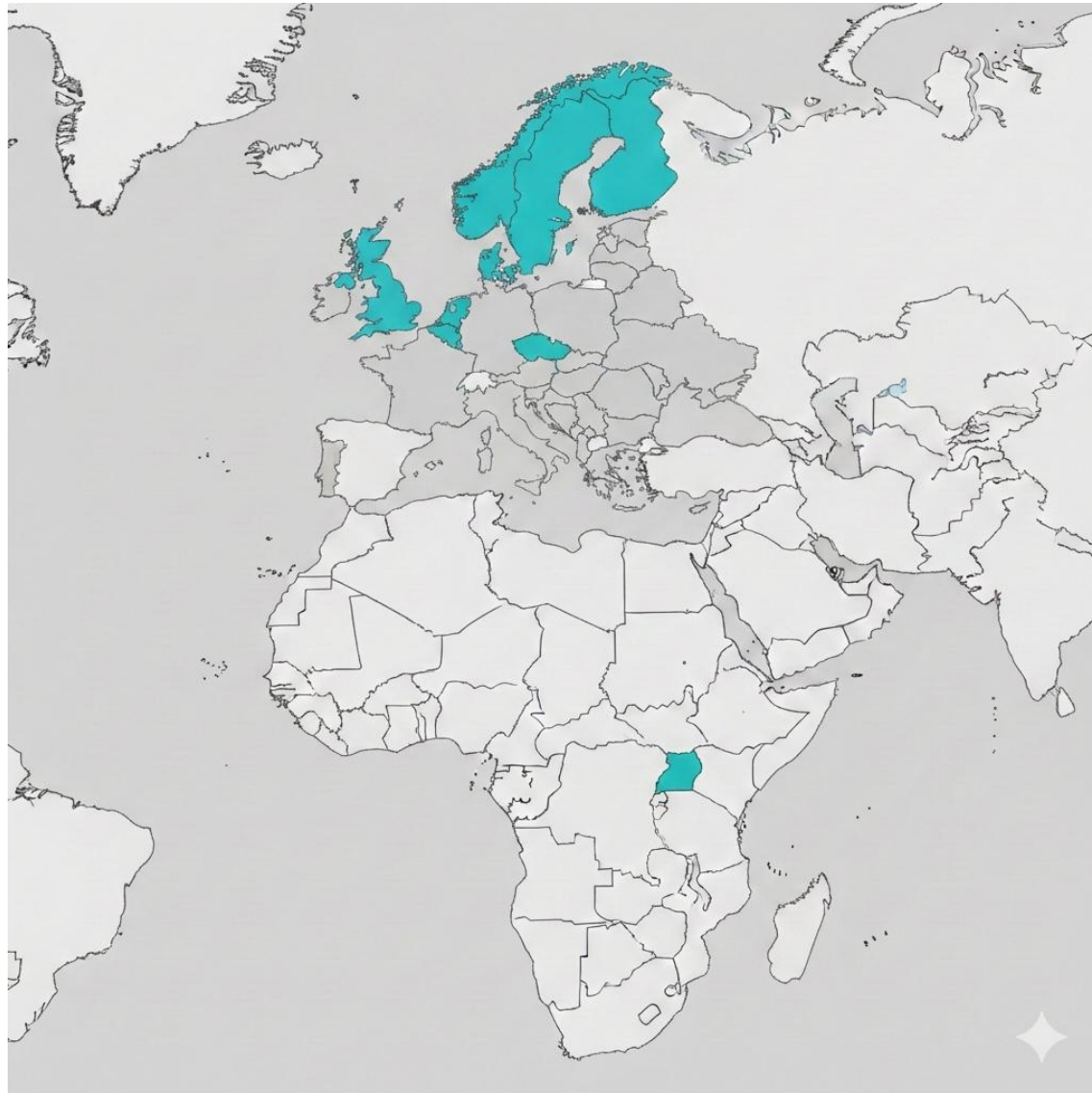
The background image shows a multi-level university building. In the foreground, a student in a blue sweater is seated at a desk, working on a computer. The desk is cluttered with papers, a keyboard, and a mouse. In the background, other students are visible, some sitting at tables with red chairs, and a person in a green shirt is walking on an upper level. The overall atmosphere is one of a busy, modern academic environment.

WORKSHOP CAMPUS NETWORK AS A SERVICE

January 19&20 2026

<https://edu.nl/jhut9>

Today's participants





CNaas SIG

**CAMPUS NETWORK AS A SERVICE
SPECIAL INTEREST GROUP**

Steering Committee of SIG CNaaS

Maurice van den Akker (SURF), chair
Vidar Stokke (SIKT)
Mikael Ottosson (SUNET)
Patience Nagaba (RENU),
Sérgio Leal Fonseca (RNP)
Marcello de Jesus Fernandes (RNP)

Einar Ljønes (SIKT), Coordinator



Goals for this SIG



- 1. To provide a forum** for exchanging ideas, knowledge and experience of developing, deploying, standardizing and testing elements of a Campus of a Network Service (CNaaS) portfolio.
- 2. Cooperate in the development of tools, software and standards** of a CNaaS portfolio by exchanging best practices, business models, service delivery processes and technical solutions.
- 3. Strive as a group to provide collective, coherent policies for CNaaS services** to achieve larger economies of scale and more robust service delivery over time. Develop standardized frameworks and interoperable solutions for CNaaS, and promote the adoption of it. This ensures that services are consistent, reliable, and compatible across different NREN organizations.
- 4. Provide an open collaboration platform, sharing information, standards and tools** in order for other NRENs and organizations to use (and to provide input).

Why this workshop?



Find activities within NREN

to **really collaborate** on

developing and running CNaaS services

from a practical perspective and producing tangible results

**Why not share resources & brain power?
Why not procuring together?
Should we focus on similar service deployment?**

Agenda, day 1

Time	Subject	Who	Why
Monday 13:00	Introduction to SIG CNaaS & workshop	Maurice (chair SIG)	<ul style="list-style-type: none">- Learn about the SIG- Set goals for this workshop for next two days- To agree upon the work methods (local and remote)
13:15 – 14:30	Campus Network Services, what do we mean, what do we want	Maurice (SURF) Vidar (SIKT) Mikael (SUNET) Participants (RENU, Belnet, JISC, CSC, Cesnet)	<ul style="list-style-type: none">- To learn about ‘what CNaaS’ is- To learn about the achievements and challenges- To understand each different NREN situation, in favour for the discussion
14:30 – 15:00	Break		
15:00 – 16:15	Topic 1: Incident management and monitoring	SIKT	<ul style="list-style-type: none">- SIKT is using NAV and ARGUS for monitoring and incident management. How is it being used? Can it be easily be used by other NRENs? Co-development?
16.15 – 16.30	Short break		
16.30 – 17:45	Topic 2: NOC	SIKT/SUNET	<ul style="list-style-type: none">- Discuss the options to implement a NOC for CNaaS services. Is it possible to share best practices?

Workshop dinner tonight at 19.00!



- RESTAURANT LOOF
- Domplein 8, 3512 JC Utrecht
- Direct at the feet of the DOM church
- [HTTPS://RESTAURANTLOOF.NL/](https://restaurantloof.nl/)

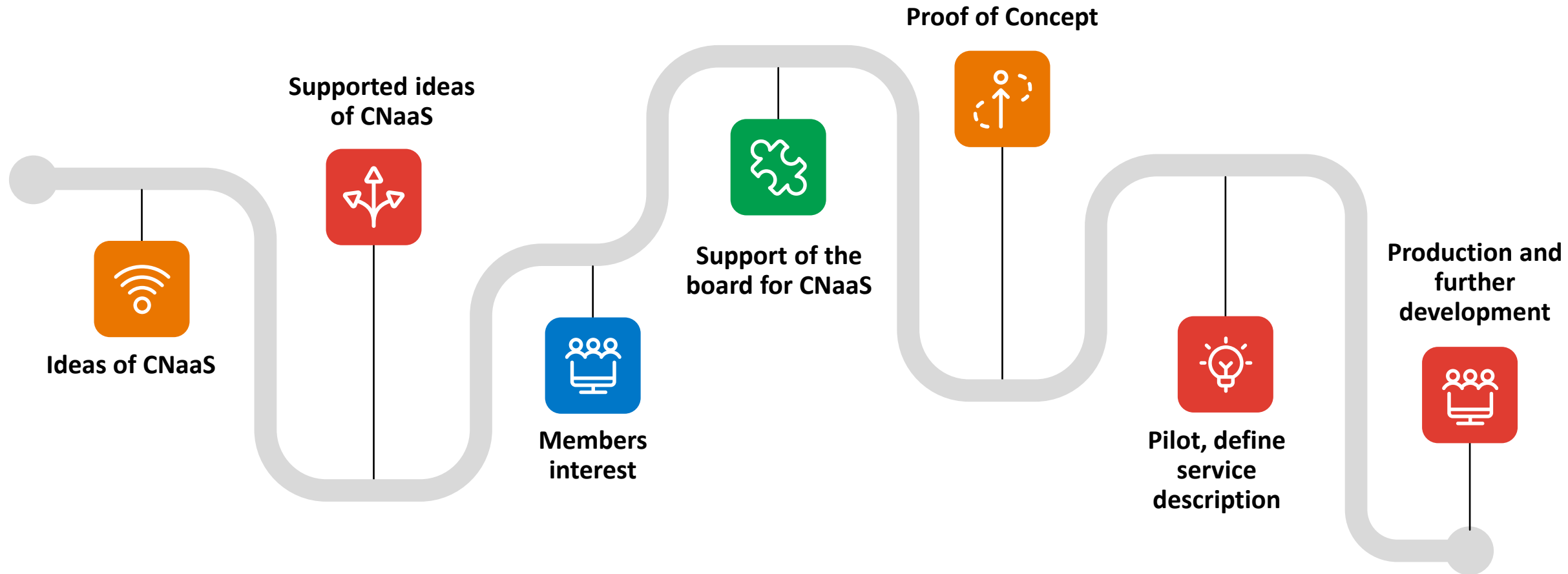


Agenda, day 2

Time	Subject	Who	Why
Tuesday 9:00	Start up and evaluation of yesterday	Maurice	<ul style="list-style-type: none">- Recap from yesterday, provide the opportunity for a change of approach
9:15 – 10:30	Topic 2: Network Access Control (NAC)	SURF / SIKT / SUNET	<ul style="list-style-type: none">- To learn what NAC is and what solutions are being used- What the challenges are NAC within a Campus Network Service Portfolio- Determine a way of collaborating
10:30 – 11:00	Break		
11:00 – 12:15	Topic 3: IoT	SURF	<ul style="list-style-type: none">- To discuss about providing access for IoT systems- To learn from the experiences of SURF providing 'iotroam'- To find ground for collaborating upon iotroam or more
12.15 – 12.30	Wrap up and short evaluation	Maurice	<ul style="list-style-type: none">- To see if we're on the right track and determine how to continue
12.30	Lunch (wraps)		<ul style="list-style-type: none">- Why not

13:15 – 14:30	Campus Network Services, what do we mean, what do we want	Maurice (SURF) Vidar (SIKT) Mikael (SUNET) Participants (RENU, <u>Belnet</u> , JISC, CSC, <u>Cesnet</u>)	<ul style="list-style-type: none">- To learn about 'what CNaaS' is- To learn about the achievements and challenges- To understand each different NREN situation, in favour for the discussion
---------------	-----------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

| Where are you?

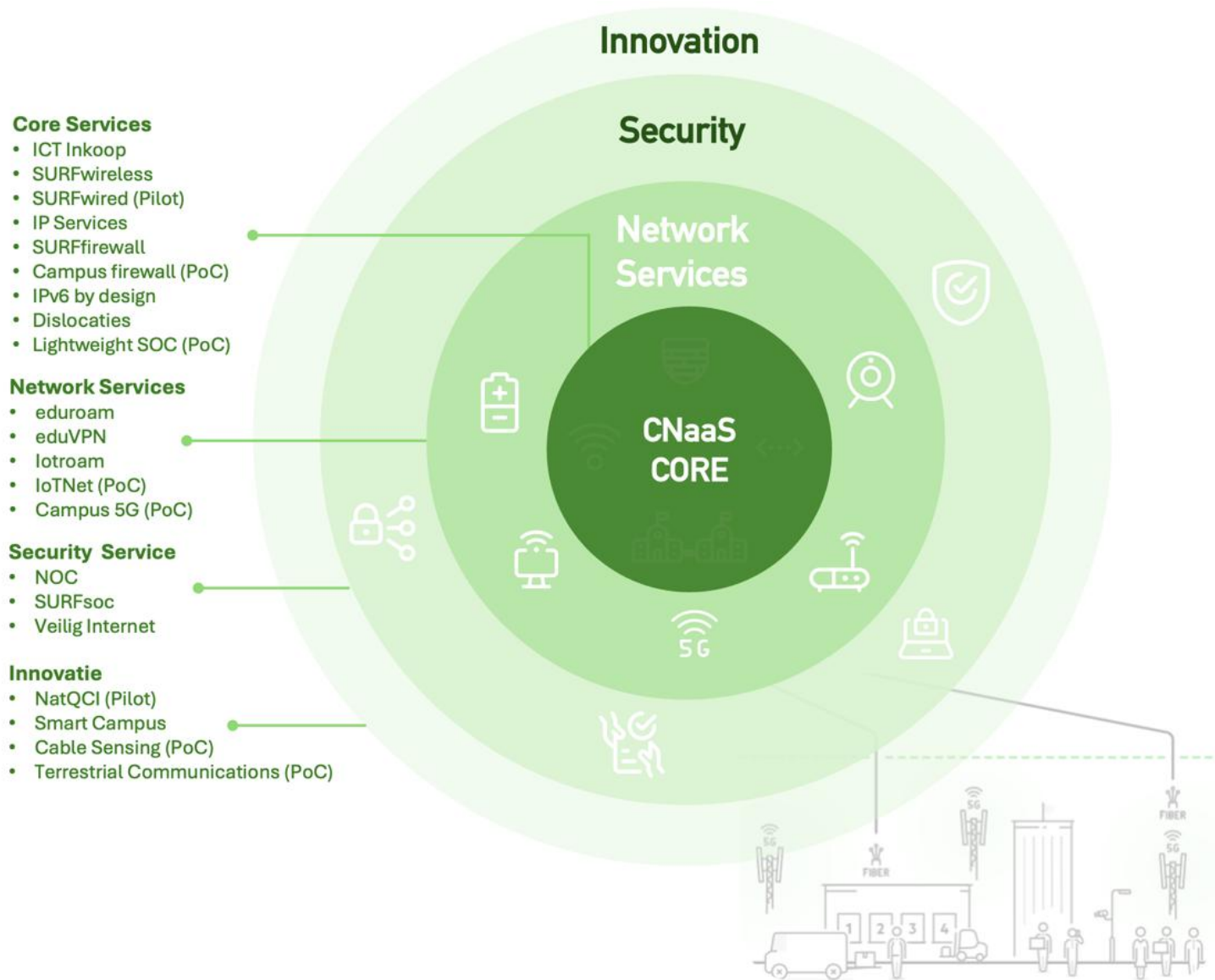




CNaaS @ SURF

Strategy of SURF: Campus Network Service portfolio

- **Offering:** ‘all inclusive’ full campus network service portfolio, where management can be done by SURF or by institute itself
- **All-inclusive or do it yourself:** Procurement, installation, management, support, maintenance. Also privacy, security & sustainability compliancy
- **Green and brownfield:** providing different migration scenarios
- **Sovereign:** Avoid lock-ins or the use of proprietary tools



Campus Network Services' responsibilities

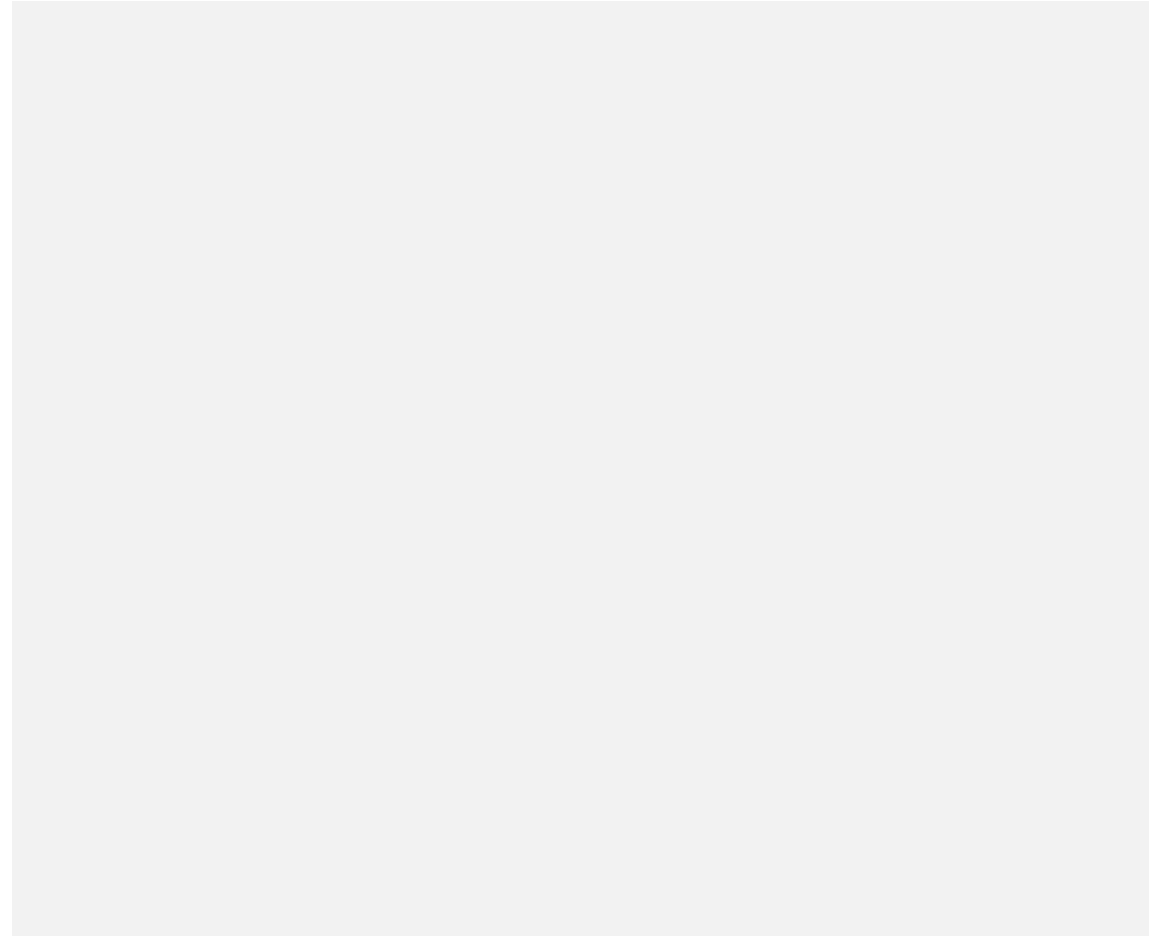
Service	Intake & Consultancy	Monitoring & Maintenance & incident management	3rd line & specials
Wi-Fi as a Service	SURF	3rd Party 'W'	SURF / 3rd party
eduroam	SURF	3rd Party 'P'	SURF/GEANT
lotroam	SURF	3rd Party 'K'	SURF
Firewall perimeter (non managed)	SURF	3rd party 'Q'	SURF/3rd party
eduVPN	SURF	3rd Party "P"	SURF/GEANT
Network/LAN as a Service (pilot)	SURF	3rd Party "Q"	SURF
IoTnet (pilot)	SURF	3rd Party "M"	SURF
Managed Campus Firewall (Proof of concept)	SURF	tbd	tbd
Network Access Control (Proof of concept)	SURF	tbd	Tbd
DHCP / DNS / IPAM (Proof of concept)	SURF	tbd	tbd
Indoor 5G/6G Open RAN (Proof of concept)	SURF	tbd	tbd
CNaaS Network Management System (Building block)	SURF	SURF	GEANT/SURF
Internet / eVPN (no campus)	SURF	3rd party 'Q'	SURF



Current largest challenges for SURF

- Get all service from pilot to operational without frustrating institutes and ourselves
 - Piloting services have huge impact on networks and processes
 - Different situations at each institute. Legacy
 - expectations are high; little room for mistakes
 - everything should be delivered at once.
- Huge costs to develop. Are we as NREN fit to do this?
 - Develop it ourselves or Procure a 'best supplier'?
- Efficiency: restructure the organization, parties, contracts around all individual services
- Work on campus automation more: for management and rollouts

Other NRENs



Questions for topic 1

- What would your top 5 requirements be of an incident and monitoring tool?
- How could NAV and ARGUS be useful for your NREN?
- What is needed for you to deploy NAV and ARGUS at your NREN?
- What would be problems to deploy NAV and ARGUS at your NREN?
- How could your NREN contribute to the development of ARGUS and NAV? (Generic “Glue services”)

Questions for topic 2

- What is the status of your network operation (either for CNaaS or for the national network)? Where are you heading to?
- What are the most important success factors for a well functioning NOC?
- What are the advantages and disadvantages of outsourcing and insourcing a NOC?
- What is your vision of a NOC? Should it be one party running all the campus services or not?