

# Technical Advisory Council (TAC) Meeting

2 September 2025



# Meeting information

- Meeting to begin at 5:00 pm Central European Time
- Join the meeting at the link in your calendar in [LFX Individual Dashboard](#)
- Any problems with connectivity, you can contact John Mertic from the Linux Foundation at +1 234-738-4571
- Previous TAC Meeting notes, deck, and recording, at  
<https://wiki.lfenergy.org/display/HOME/Technical+Advisory+Council#TechnicalAdvisoryCouncil-MeetingMinutes>



# Antitrust Policy Notice

Linux Foundation meetings involve participation by industry competitors, and it is the intention of the Linux Foundation to conduct all of its activities in accordance with applicable antitrust and competition laws. It is therefore extremely important that attendees adhere to meeting agendas, and be aware of, and not participate in, any activities that are prohibited under applicable US state, federal or foreign antitrust and competition laws.

Examples of types of actions that are prohibited at Linux Foundation meetings and in connection with Linux Foundation activities are described in the Linux Foundation Antitrust Policy available at [linuxfoundation.org/antitrust-policy](https://linuxfoundation.org/antitrust-policy). If you have questions about these matters, please contact your company counsel, or if you are a member of the Linux Foundation, feel free to contact Andrew Updegrove of the firm of Gesmer Updegrove LLP, which provides legal counsel to the Linux Foundation.



# Agenda

All Times in Central European Time Zone

- 5:00 pm - 5:10 pm - Opening and General Updates
  - TAC member updates and annual review date reminders
  - SIG updates and meeting schedule
  - Project Pipeline
  - TAC Priorities 2025 [#436](#)
  - Project Services Funding [#613](#)
  - Project website policy [#582](#)
  - PowSyBL Security audit complete! [#594](#)
- 5:10 pm - 5:30 pm - New Project/Working Group Proposal: RTC-Tools [#344](#)
- 5:30 pm - 5:50 pm - New Project/Working Group Proposal: Power Stability Wide Area Monitoring Protection (p-SWAMP) [#585](#)
- 5:50 pm - 6:10 pm - Annual Review: Battery Data Alliance [#57](#)
- 6:10 pm - 6:30 pm - Annual Review: OperatorFabric [#71](#)
- 6:30 pm - 6:30 pm - Closing and Next Meeting

Marketing/PR/Events updates in APPENDIX

# Opening and General Updates

5:00 pm - 5:10 pm



# Technical Advisory Council (TAC) voting representatives



**Antonello Monti**

Chair  
Professor  
RWTH Aachen  
University



**Art Pope**

Member of  
Technical Staff  
Google LLC



**Boris DOLLEY**

Director of OSPO  
and Sustainable IT  
Strategy  
RTE (Reseau de  
Transport  
dElectricite)



**Bryce Bartmann**

Chief Digital  
Technology Advisor  
Shell International  
Exploration &  
Production, Inc.



**Clément Bouvier**  
Software engineer

RTE (Reseau de  
Transport  
dElectricite)



**Jonas van den  
Bogaard**  
Vice Chair

Open Source Office  
Lead  
Alliander



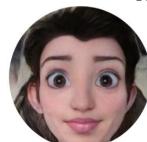
**Maarten Mulder**  
PO IoT Field Device  
Platforms

Alliander



**Moise Kameni**  
Entreprise Architect  
and Head of Open  
Source Program  
Office

Hydro-Québec



**Sophie Frasneda**  
Software developer

RTE (Reseau de  
Transport  
dElectricite)



**Travis Sikes**  
Data Science  
Manager

Recurve



**Yixing Xu**  
Senior Program  
Manager, Energy  
Strategy  
Microsoft  
Corporation



# Projects



# TAC Meeting Schedule 2025

The TAC meetings are monthly, on the second Tuesday of the month at 8:00am US Pacific Time/11:00am US Eastern Time unless otherwise noted.

~~February 11~~  
~~March 11~~  
~~April 8~~  
~~May 13~~  
~~June 10~~  
~~July 8~~

- **September 2** (*one week earlier*)
- *September 9 (joint meeting with GB - 4:00pm CET at LF Energy Summit)*
- October 14
- November 11
- December 9

# Project and Working Group Leads

| Name  | Chair                       |
|---|-----------------------------|
| Arras   | David Chassin               |
| Battery Data Alliance   | Gabe Hege                   |
| CitrineOS   | Thana Paris                 |
| CoMPAS  | Sander Jansen               |
| Connected Data Specification - Customer Data Working Group (CDS WG3)      | Daniel Roesler              |
| Connected Data Specification - Power Systems Data Working Group (CDS WG2) | Stephen Suffian             |
| Connected Data Specification - Registration Working Group (CDS WG1)       | Daniel Roesler              |
| covXtreme   | Sachin Bhakar               |
| CUPID (Controllable Unit Protocol Interface for DER)                      |                             |
| Dynawo  | Marco Chiaramello           |
| EVerest   | Marco Möller                |
| FIDOPower   | David Chassin               |
| FledgePower   | Romain Lebrun Thauront      |
| FlexMeasures  | Nicolas Höning              |
| Grid Edge Interoperability & Security Alliance (GEISA)                    | Michael Stuber, Richard Lam |
| Grid eXchange Fabric (GXF)  | Maarten Mulder              |

|   |   |
|---|---|
| Grid Vantage                                  | Alyona Teyber                               |
| Grid2Op                                       | Benjamin Donnot                             |
| GridFM  | François Mirallès                           |
| Hyphae  | Arila Barnes                                |
| LF Energy Semantic Energy Framework (LFE-SEF) |   |
| NODE Collective                               | Deandrea Salvador                           |
| OpenDSM                                       | Travis Sikes                                |
| OpenLEADR                                     | Arila Barnes, Stan Janssen, Hugo Van De Pol |
| OpenSTEF                                      | Daan Van Es                                 |
| OpenSynth                                     | Gus Chadney                                 |
| OperatorFabric                                | Frédéric Didier                             |
| ORES (Open Renewal Energy Systems)            | Chris Xie                                   |
| Power Grid Model                              | Peter Salemink                              |
| PowSyBL                                       | Sophie Frasnedo                             |
| Real Time Data Ingestion Platform (RTDIP)     | Bryce Bartmann                              |
| SC Decarbonisation Hub                        | Sachin Bhakar                               |
| SEAPATH                                       | Eloi Bail                                   |
| Shapeshifter                                  | Robben Riksen                               |
| SOGNO   | Antonello Monti                             |
| TROLIE  | Christopher Atkins                          |

# SIGs and SIG Leaders

| Name                             | Chair                        |
|----------------------------------|------------------------------|
| AI SIG                           | Alexandre Parisot            |
| Digital Substations SIG          | Jos Zenner, Maxime Pelletier |
| EV Charging SIG                  | Robert De Leeuw, Thana Paris |
| Grid Simulation and Modeling SIG | Thomas Van Dijk              |

# TAC Resources

- TAC Website -  
<https://tac.lfenergy.org>
  - Contains all the TAC policies and meeting materials, as well as guides to using the various LF Energy tools
- TAC Overview -  
[https://github.com/lf-energy/foundation/blob/main/overview\\_deck/LF%20Energy%20TAC%20Overview.pdf](https://github.com/lf-energy/foundation/blob/main/overview_deck/LF%20Energy%20TAC%20Overview.pdf)
  - Guide for TAC members on their role and how to navigate LF Energy

Questions/feedback - let us know!



The image shows a screenshot of the LF Energy Foundation TAC website and its corresponding overview document.

**Website Header:** The header includes the LF ENERGY logo, a search bar with the placeholder "Search LF Energy Foundation TAC", and a link "Need help or have a question? Contact us here".

**Website Navigation:** A sidebar menu with the following items: Home, Getting Involved, Processes, Meetings, Programs, Tools, Resources, and Code of Conduct. The "Processes" item has a dropdown arrow indicating it has sub-items.

**Section Title:** "LF Energy Foundation TAC"

**Description:** Per the [Directed Fund Charter](#), the role of the Technical Advisory Committee (TAC) is to facilitate communication and collaboration among the Technical Projects. The TAC will be responsible for:

- Coordinating collaboration among Technical Projects, including development of an overall technical vision for the community;
- Making recommendations to the Budget Committee of resource priorities for Technical Projects;
- Electing annually a chairperson to preside over meetings, set the agenda for meetings, ensure meeting minutes are taken and who will also serve on the Governing Board as the TAC's representative (the "TAC Representative");
- Creating, maintaining and amending project lifecycle procedures and processes, subject to the

**Document Preview:** The preview shows the title "Technical Advisory Council (TAC) Overview" and the date "December 2024". The document content is partially visible, mentioning "communicated to the TAC", "participate in TAC", "project inclusion or", and "technical steering".

# Annual Review Schedule - TAC

Source:

[https://tac.lfenergy.org/processes/review\\_cycle.html](https://tac.lfenergy.org/processes/review_cycle.html)

| Name  | Last Review Date | Next Review Date |
|---|------------------|------------------|
| Battery Data Alliance   | 8/27/2024        | 9/2/2025         |
| OperatorFabric  | 7/16/2024        | 9/2/2025         |
| Grid Edge Interoperability & Security Alliance (GEISA)                    |                  | 10/14/2025       |
| GridFM  | 10/29/2024       | 10/14/2025       |
| NODE Collective   | 4/2/2024         | 10/14/2025       |
| AI SIG  | 10/29/2024       | 11/11/2025       |
| FlexMeasures  | 11/20/2024       | 11/11/2025       |
| SC Decarbonisation Hub  |                  | 11/11/2025       |
| Connected Data Specification - Customer Data Working Group (CDS WG3)      |                  | 12/9/2025        |
| Connected Data Specification - Power Systems Data Working Group (CDS WG2) |                  | 12/9/2025        |
| Connected Data Specification - Registration Working Group (CDS WG1)       |                  | 12/9/2025        |
| Digital Substations SIG   |                  | 12/9/2025        |
| TROLIE  | 9/6/2023         | 12/9/2025        |
| EV Charging SIG   |                  | 1/13/2026        |
| Grid Simulation and Modeling SIG  |                  | 1/13/2026        |
| Grid2Op   | 2/11/2025        | 2/10/2026        |
| Hyphae  | 2/11/2025        | 2/10/2026        |
| LF Energy Semantic Energy Framework (LFE-SEF)                             | 4/23/2024        | 3/10/2026        |
| OpenSynth   | 3/11/2025        | 3/10/2026        |
| ORES (Open Renewal Energy Systems)  | 4/8/2025         | 4/14/2026        |
| Shapeshifter  | 4/8/2025         | 4/14/2026        |
| OpenDSM   | 5/13/2025        | 5/12/2026        |
| SOGNO   | 5/13/2025        | 5/12/2026        |
| Grid eXchange Fabric (GXF)  | 7/8/2025         | 7/14/2026        |

# Annual Review Schedule - SIG

SIG Leaders - please share how recent reviews have went, and let us know if the schedule/alignment is still correct - contact email

[support@lfenergy.org](mailto:support@lfenergy.org)

Source:

[https://tac.lfenergy.org/process/review\\_cycle.html](https://tac.lfenergy.org/process/review_cycle.html)

| Name             | Last Review Date | Next Review Date | SIG                          |
|------------------|------------------|------------------|------------------------------|
| FledgePower      | 6/4/2024         | 5/13/2025        | Digital Substations          |
| Grid Vantage     | 9/26/2023        | 6/4/2025         | Grid Simulation and Modeling |
| CoMPAS           | 6/25/2024        | 6/10/2025        | Digital Substations          |
| Arras            | 7/16/2024        | 10/1/2025        | Grid Simulation and Modeling |
| Dynawo           | 1/30/2024        | 10/1/2025        | Grid Simulation and Modeling |
| CitrineOS        | 11/27/2024       | 11/26/2025       | EV Charging                  |
| SEAPATH          | 1/14/2025        | 1/13/2026        | Digital Substations          |
| EVerest          | 1/22/2025        | 1/28/2026        | EV Charging                  |
| OpenSTEF         | 2/5/2025         | 2/4/2026         | Grid Simulation and Modeling |
| Power Grid Model | 2/5/2025         | 2/4/2026         | Grid Simulation and Modeling |
| covXtreme        | 4/2/2025         | 4/1/2026         | Grid Simulation and Modeling |
| FIDOPower        | 6/4/2025         | 6/3/2026         | Grid Simulation and Modeling |

# SIG Meeting Schedule for September

All SIG meetings can be found on the LF Energy calendar ([calendar.lfenergy.org](https://calendar.lfenergy.org)) as well as the SIG Calendar ([sigcalendar.lfenergy.org](https://sigcalendar.lfenergy.org))

Days/times listed are US Eastern Time

The screenshot shows a digital calendar interface for September 2025. At the top, there are buttons for 'iCal' and 'Today', and navigation arrows for 'September 2025'. Below these are buttons for 'Day', '4 Days', 'Week', 'Month', and 'List', with 'List' being the active view. The date 'Wednesday 24' is highlighted in a large box. Underneath, the time '9:00am - 10:00am' is listed next to a blue circular icon, followed by the meeting title 'EV Charging SIG Monthly Meeting'.

→ **SIG Leaders - share any updates for your SIGs**

# Project Pipeline

<https://github.com/orgs/lf-energy/projects/2/views/5>

- [RTC-Tools](#) is a mature, leading open-source solution for the operational optimization of water and energy systems. Contributed by Deltares and Shell. LF Onboarding completed and presenting in today's TAC meeting.
- [CityLearn](#) is an open source Farama Foundation Gymnasium environment for the implementation of advanced controllers for demand side building energy coordination and demand response in cities. It's focus is on residential buildings with the goal to shape the aggregated load profile using local and coordinated DERs. Submitted April 23, 2025; currently in LF Onboarding
- [Global Granular Certificate Registry](#) is a vendor-neutral, open-source, cloud-native ledger that issues, tracks, and retires Granular Certificates (GCs). Submitted June 11, 2025; currently in LF Onboarding.
- [Project-Origin](#) is an open-source initiative to create a federated, decentralized infrastructure for issuing, transferring, and verifying granular, time-based energy certificates. Submitted July 8, 2025; currently in LF Onboarding.
- [e-SWAMP](#) is a microservices based project focused on work within Wide Area Monitoring, Protection and Control (WAMPACS). Submitted July 25, 2025; currently in LF Onboarding.
- [PowerCore](#) will provide a vendor-agnostic, hardware-generic industrial informatics API for power-electronics systems, enabling portable, maintainable control firmware across diverse microcontroller SoCs. Submitted July 28, 2025; currently in LF Onboarding.
- [Utility Rate Plan Exchange \(URPX\)](#) aims to develop a comprehensive, standardized method for representing and exchanging utility rate plan data in machine-accessible format. Submitted August 3, 2025; currently in LF Onboarding.

Older projects in LF Onboarding

- [OneNet Framework](#) - awaiting approval of governance documents
- [pyELQ: python Emission Localization and Quantification](#) - working on name rights issues

# TAC Priorities as aligned to with TAC

## DONE

- ✓ Move to monthly TAC meetings instead of every 3 weeks
- ✓ Start office hours for SIG leaders to share best practices ( working on date/time reschedule )
- ✓ Spin down Data Standards and Tooling and Grid Operations SIGs
- ✓ Move affected project annual reviews to the TAC
- ✓ Security Audits - TAC align on two projects to prioritize ( EVerest, PowSyBL )
- ✓ Project workshops with LF Energy Summit (tentatively Sep 10-11 in Aachen, Germany)
- ✓ Revisit TAC Leadership structure
- ✓ Project landscape <https://landscape.lfenergy.org/> - Update this to reflect the latest projects and how we want to message the ecosystem
- ✓ Include LFESS Working Groups in TAC annual review process.
- ✓ Process for projects to request resources/funding for cloud infrastructure ( <https://github.com/lf-energy/tac/issues/477> )
- ✓ Improve SIG support and interface to the TAC ( <https://github.com/lf-energy/tac/issues/544> )

## CURRENT FOCUSES

- Documentation audit/support ( <https://github.com/lf-energy/tac/issues/546> )

## NEXT FOCUSES

- Security Audits - TAC to prioritize next project(s) to focus on ( [Determine prioritization for Security Audits #408](#) )
  - Considering lighter weight “security threat model analysis” for Incubation level projects
- Project Lifecycle - Review and make adjustments to align with current project needs ( last changes made in 2021 )
  - Perhaps should we start with a project questionnaire?
- Assemble and execute on a plan to inject fresh energy and increase engagement with the TAC

# Project Services Funding #613

The LF Energy Governing Board has approved an initial fund of \$50,000 to go towards specific project infrastructure or services needs. These services could include marketing websites, documentation support, sandbox demo infrastructure, and release engineering.

- The Project Resource Request process has been updated to include this ( see [https://tac.lfenergy.org/tools/resource\\_request.html](https://tac.lfenergy.org/tools/resource_request.html) ).
- Project board to track requests at <https://github.com/orgs/lf-energy/projects/2/views/6>
- We've also had one application already ( see [#596](#) ).

## TAC Actions:

1. Align on the focus for funding to be Early Adoption stage projects; Incubation and Sandbox projects may be considered after Early Adoption project requests are fulfilled.
2. Discuss and get alignment on the operational plan:
  - LF Staff review for applicability and budget space.
  - LF Staff sends to the TAC for initial review within three business days of the submission.
  - TAC has seven business days for feedback/questions.
  - If nothing, do an LFX Vote to approve. If there are questions, resolve and then do an LFX vote, then if the TAC chooses to move forward
  - LF Staff to follow up with the project on the resource request and engage any other teams to fulfill the request.

# Project website policy [#582](#)

We've formalized the policies around project websites, specifically:

- The website MUST have the 'Linux Foundation Projects' header, cookie consent integration, and legal footer. Contact LF Staff if you need the code/language to include.
- The website MUST NOT collect any personally identifiable information (PII) unless it goes through an approved LF data collection system. This means that the project can't set up a separate Google Form for collecting PII, or have PII collected go to a system owned by a separate entity.
- The website MUST provide admin access to the LF. This includes any code repository used to build the site, access to a hosting provider that hosts the site, and the ability to manage the site's content. The LF will ensure these credentials are only used for exceptional circumstances.
- The website MUST NOT enable any third-party functionality or integrations, particularly those that collect and/or share any user-submitted data without LF approval.
- The domain name and DNS for the website MUST be owned by the LF and managed in LFX PCC. LF IT and PMO can easily make any adjustments on behalf of the project.
- Ensure that the website does not bias any particular company (e.g., no links to a vendor's products from the website, no promotions or offers).
- Any use of LF marks must comply with the [LF Trademark Policy](#) and [LF Projects Trademark Policy](#).

We can help any projects needing assistance here, and we will be also proactively auditing projects.

# PowSyBL Security audit complete! [#594](#)

More details at

<https://lfenergy.org/audit-of-lf-energy-powsybl-ensures-security-of-power-sy>

2025-07-30T14:00:00Z

Jul 30, 2025

ADA LOGICS

## PowSyBL Security Audit

In collaboration with LF Energy, OSTIF and the PowSyBL maintainers

Arthur Chen, Adam Korczynski, David Korczynski, Ada Logics

1st July 2025

## Audit of LF Energy PowSyBL Ensures Security of Power Systems Tool

LF Energy is pleased to announce the publication of a comprehensive security audit of the PowSyBL project, conducted by Ada Logics and coordinated by the Open Source Technology Improvement Fund (OSTIF). This audit was funded by LF Energy as part of our ongoing commitment to improving the security and resilience... [Read More](#).



# New Project/Working Group Proposal: RTC-Tools [#344](#)

5:10 pm - 5:30 pm



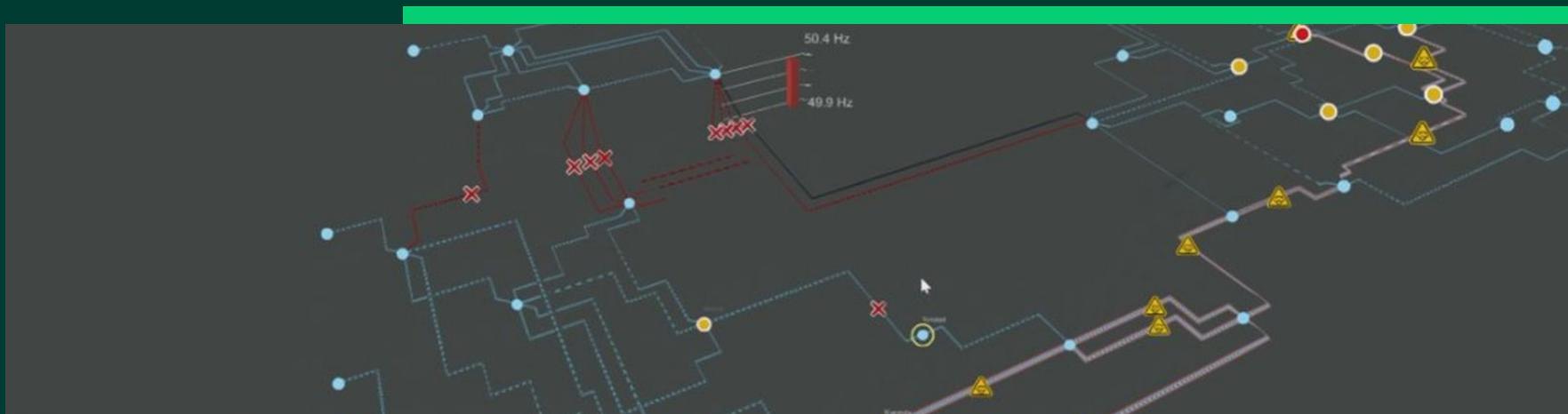
# New Project/Working Group Proposal: Power Stability Wide Area Monitoring Protection (p-SWAMP) [#585](#)

5:30 pm - 5:50 pm



Statnett

# – Statnett R&D WAMPAC power- Stability Wide Area Monitoring Protection (p-SWAMP)

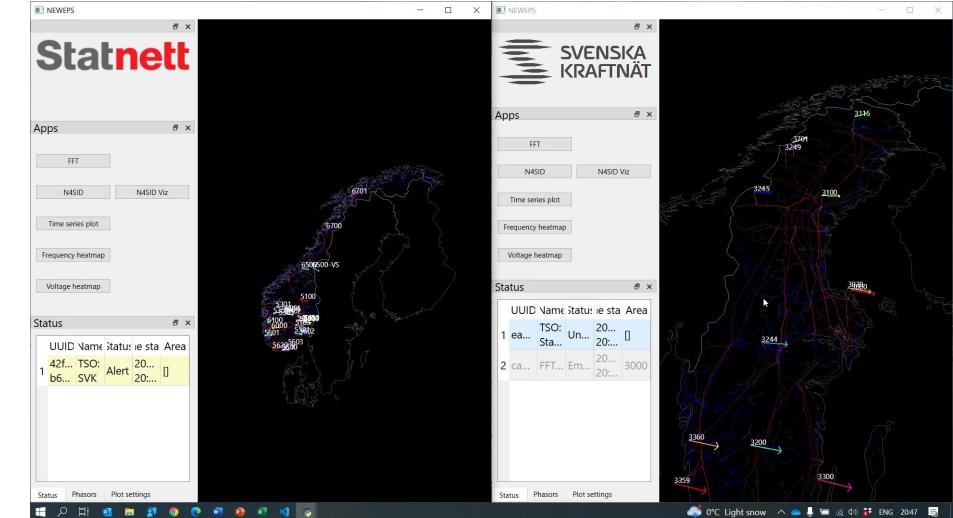


# Motivation



[What's Happening in Spain? The 2025 Blackout and the Global Threat Ahead!](#)

[28 April Blackout](#)



[NEWEPS - Nordic Early Warning Early Prevention system](#)

[NEWEPS Demo C - Part 2, Voltage Stability Monitoring on Vimeo](#)

# The Norwegian Transmision System Operator (TSO)

Owned by the Norwegian State through the Ministry of Energy

Owns and operates the national high voltage transmission grid in Norway, i.e. the electricity highways.

Operation of the Nordic power grid is a collaboration between Statnett in Norway , Svenska kraftnät in Sweden, Fingrid in Finland and Energinet in Denmark.

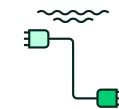
[Grid Map downloads](#)



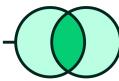
# Statnett SF



11 500 km high voltage lines



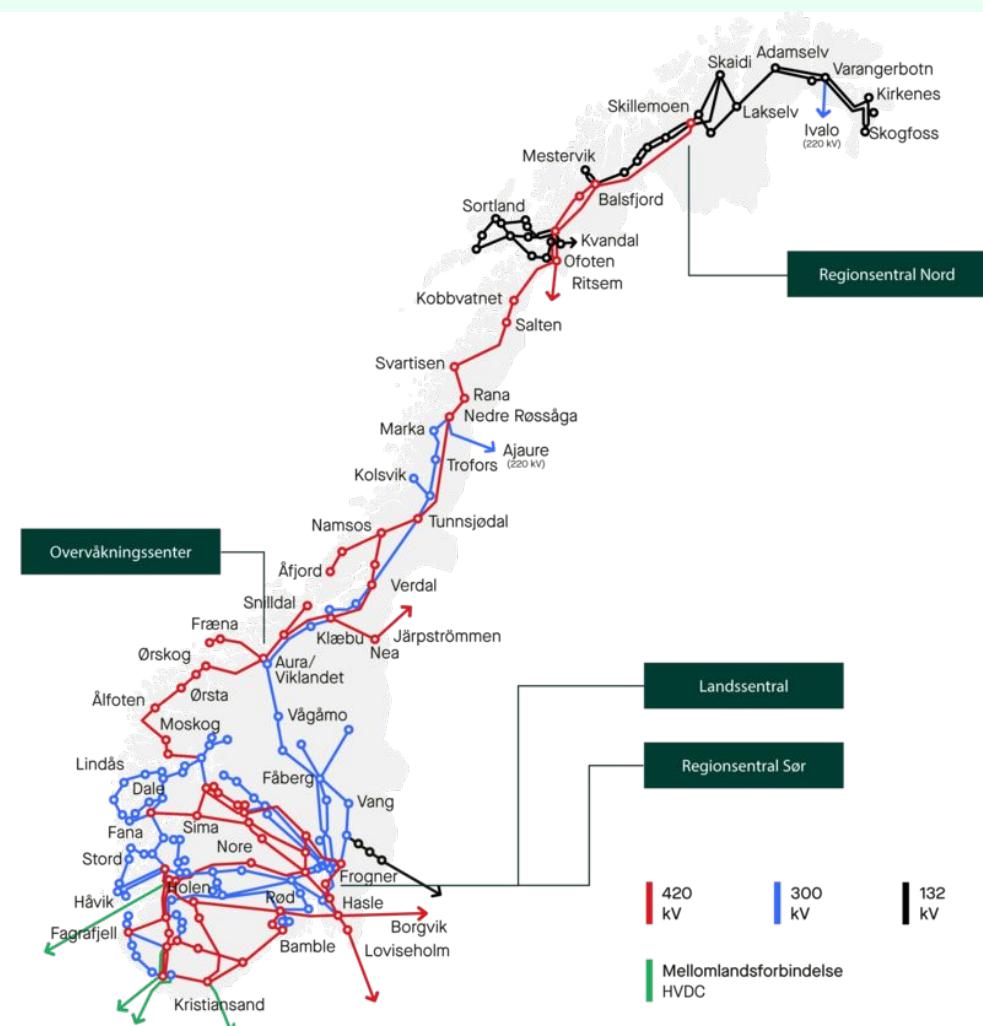
2 550 km subsea and underground cables



190 substations



1 600 employees, 5 office locations (Oslo, Alta, Trondheim, Sunndalsøra and Sandnes)



# The Norwegian power system



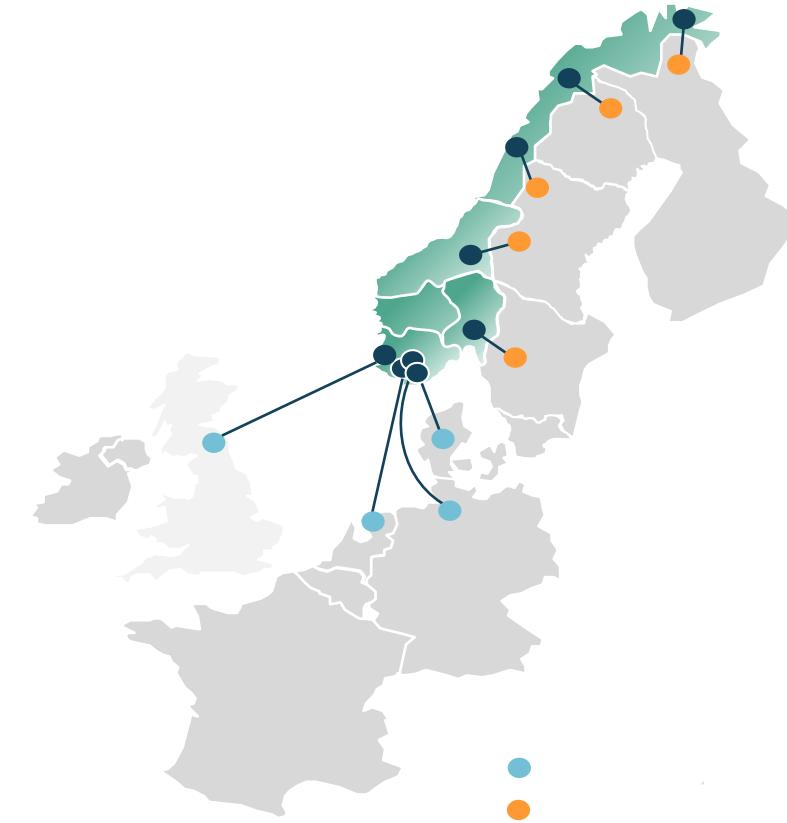
**Consumption**  
134 TWh



**Production**  
146 TWh



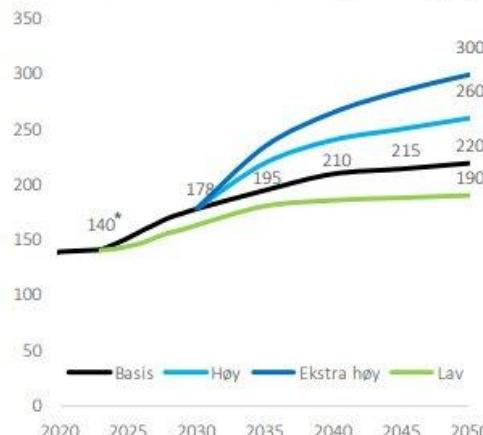
**Net exchange**  
12.5 TWh to:  
Sweden, Finland, Denmark, UK, Germany  
and Netherlands



# Statnett – Challenges

Prognoses indicate higher consumption in Norway, connection of new larger consumers and more renewable production units (off-shore wind, on-shore wind and photovoltaic).

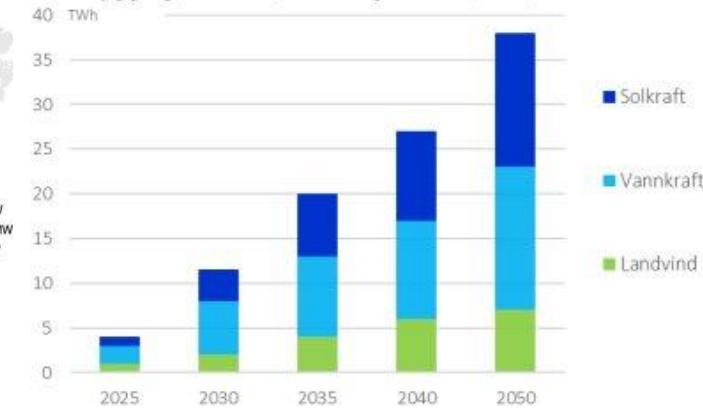
Ulike scenario for forbruksutviklingen i Norge (TWh)



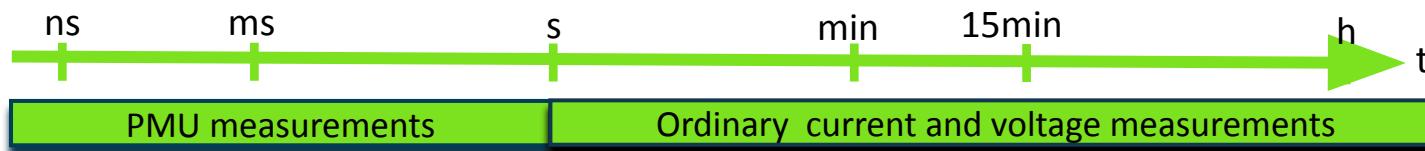
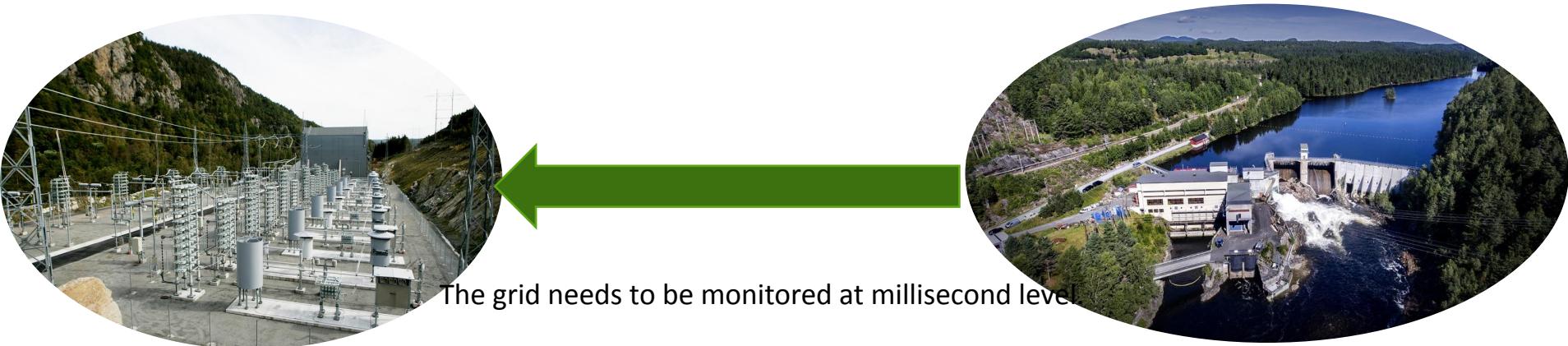
Oversikt over lokalisering og volum på tilknytningssaker



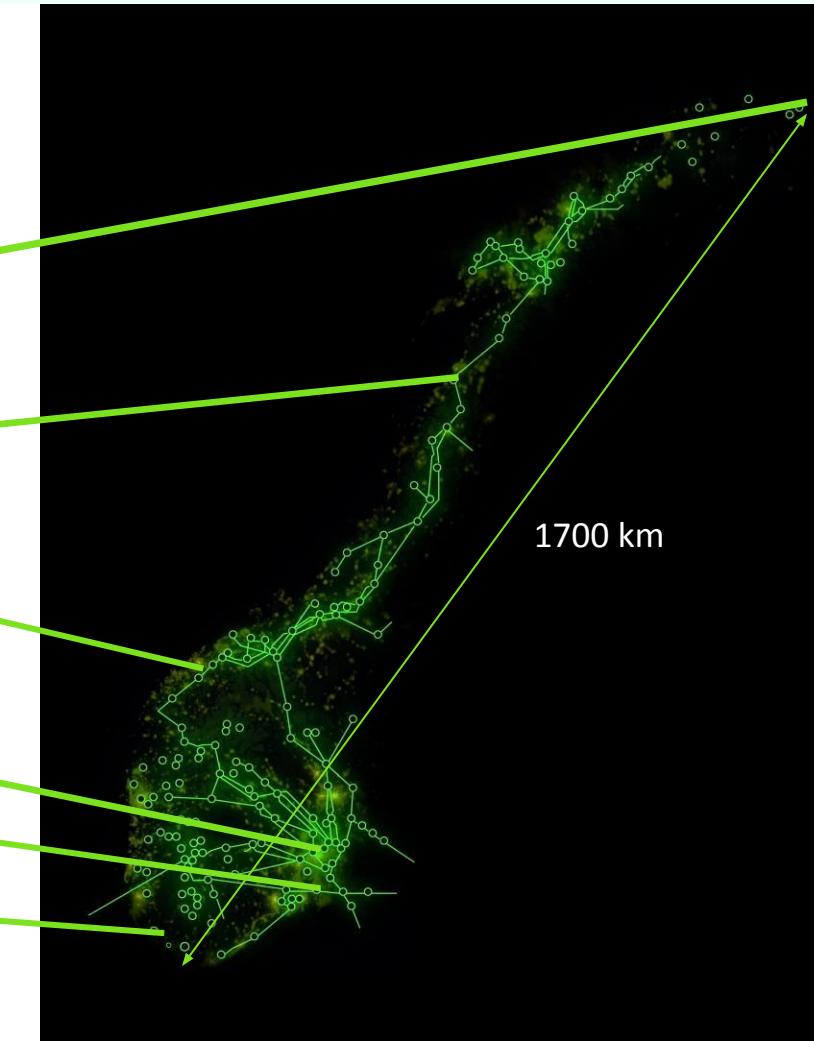
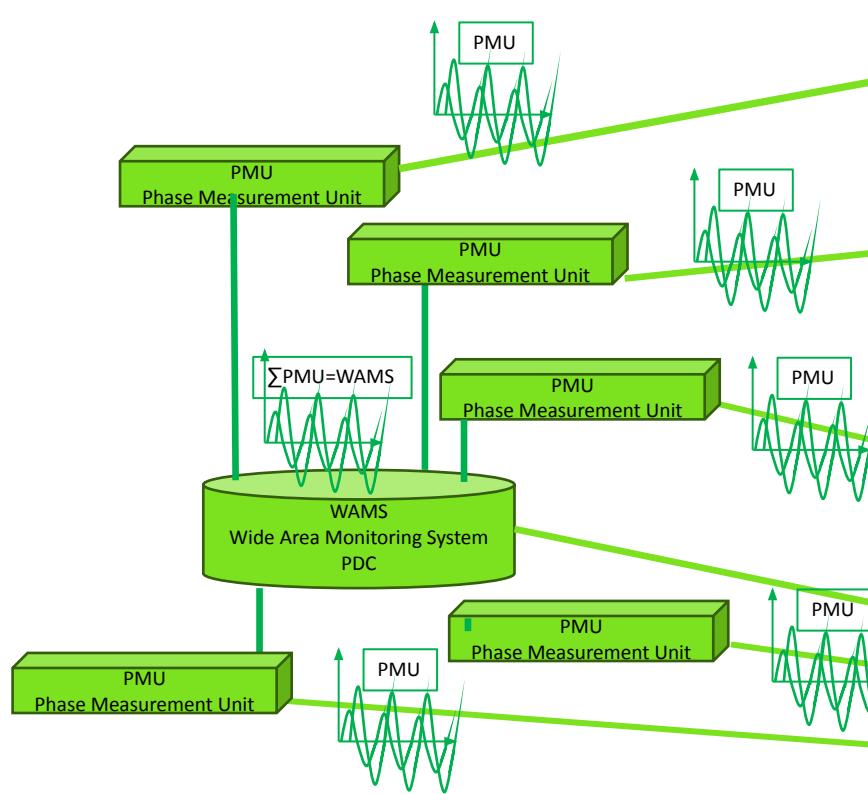
Utbygging landvind, vann- og solkraft (TWh) i Basis\*\*



Power production change from hydro, to mix of sun and wind, connected to the grid via power electronics, gives the grid new characteristic, and needs to be monitored in a new way.



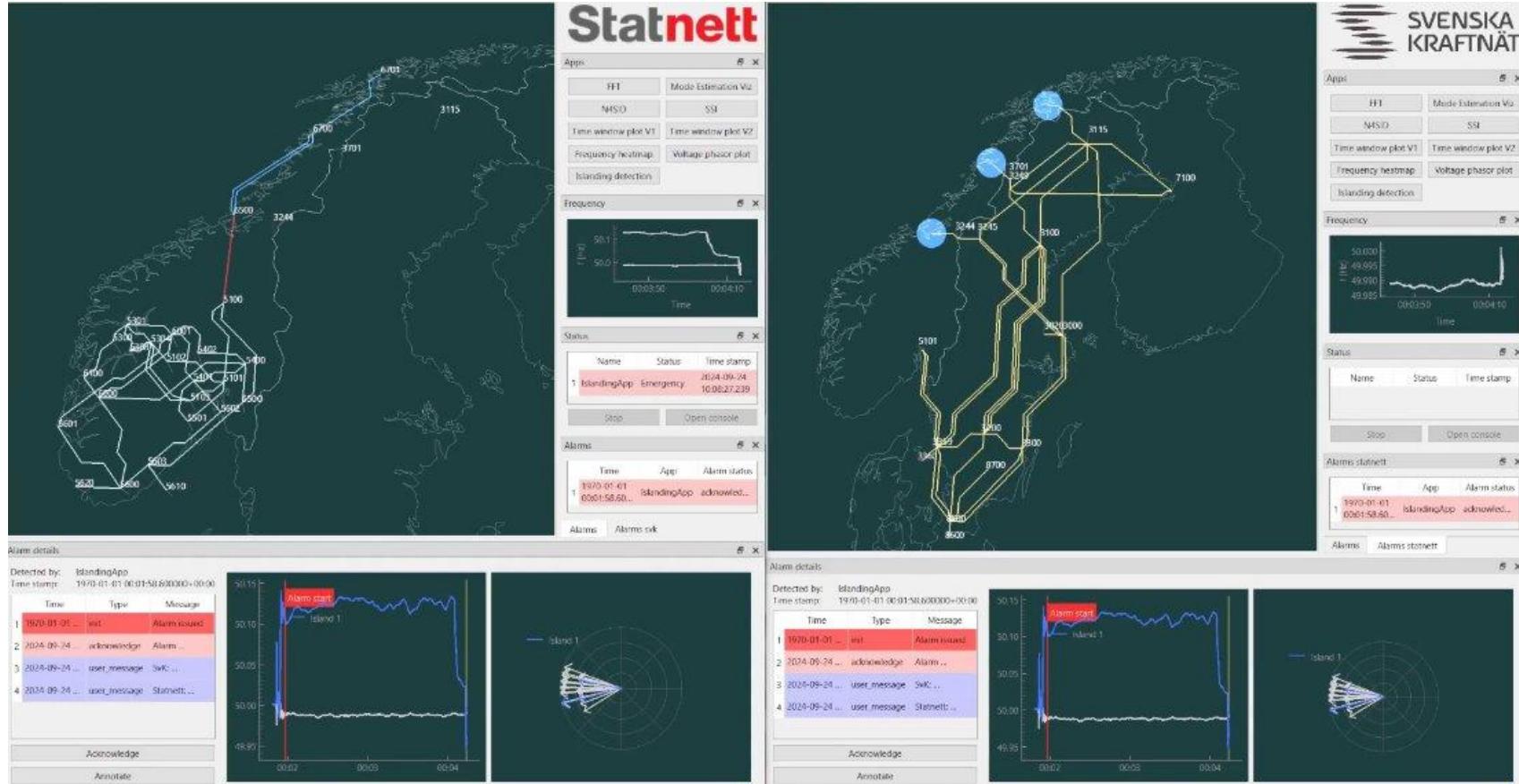
## Coordinated time-synchronization across Norway and Europe



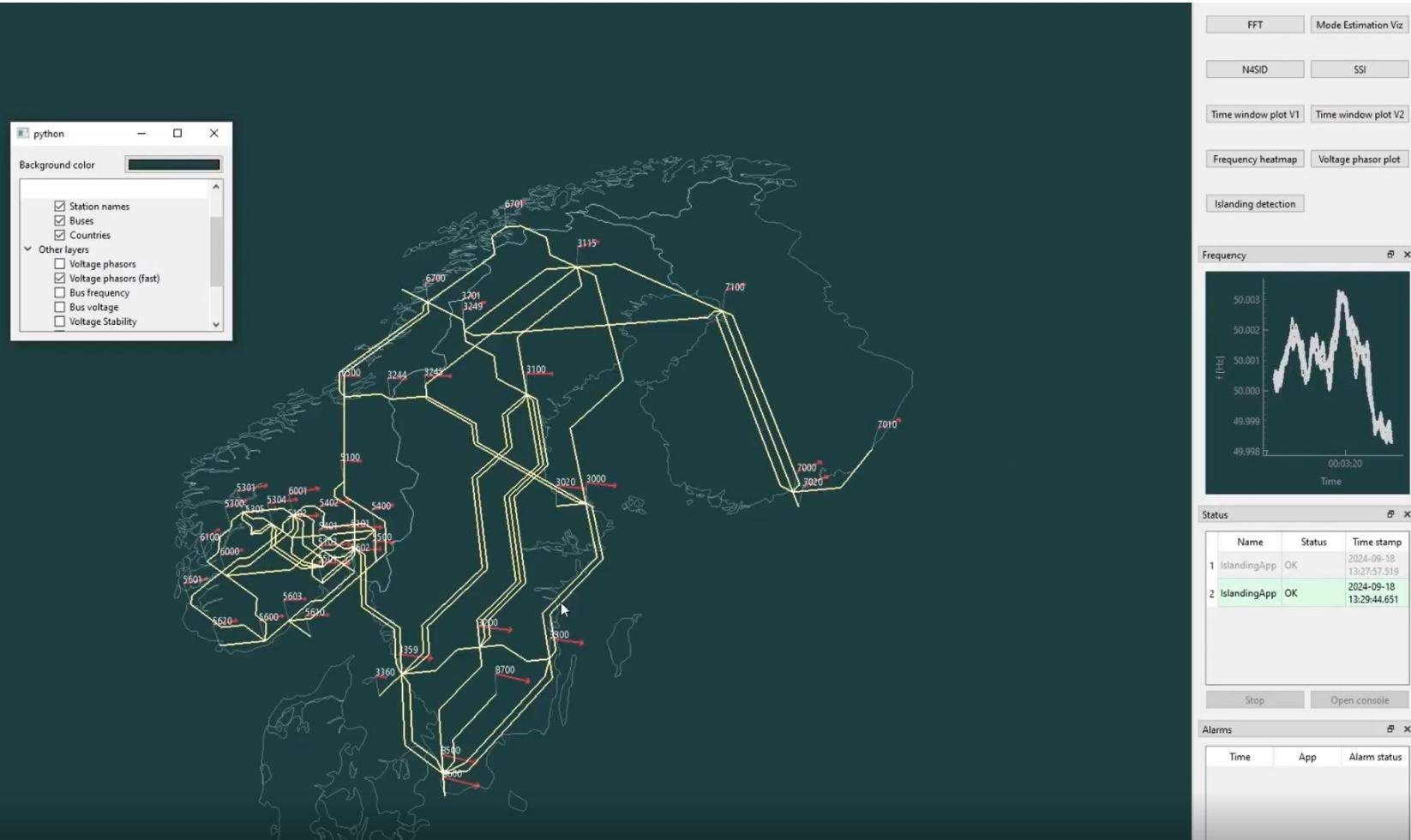
# information

# Alarm coordination between TSOs

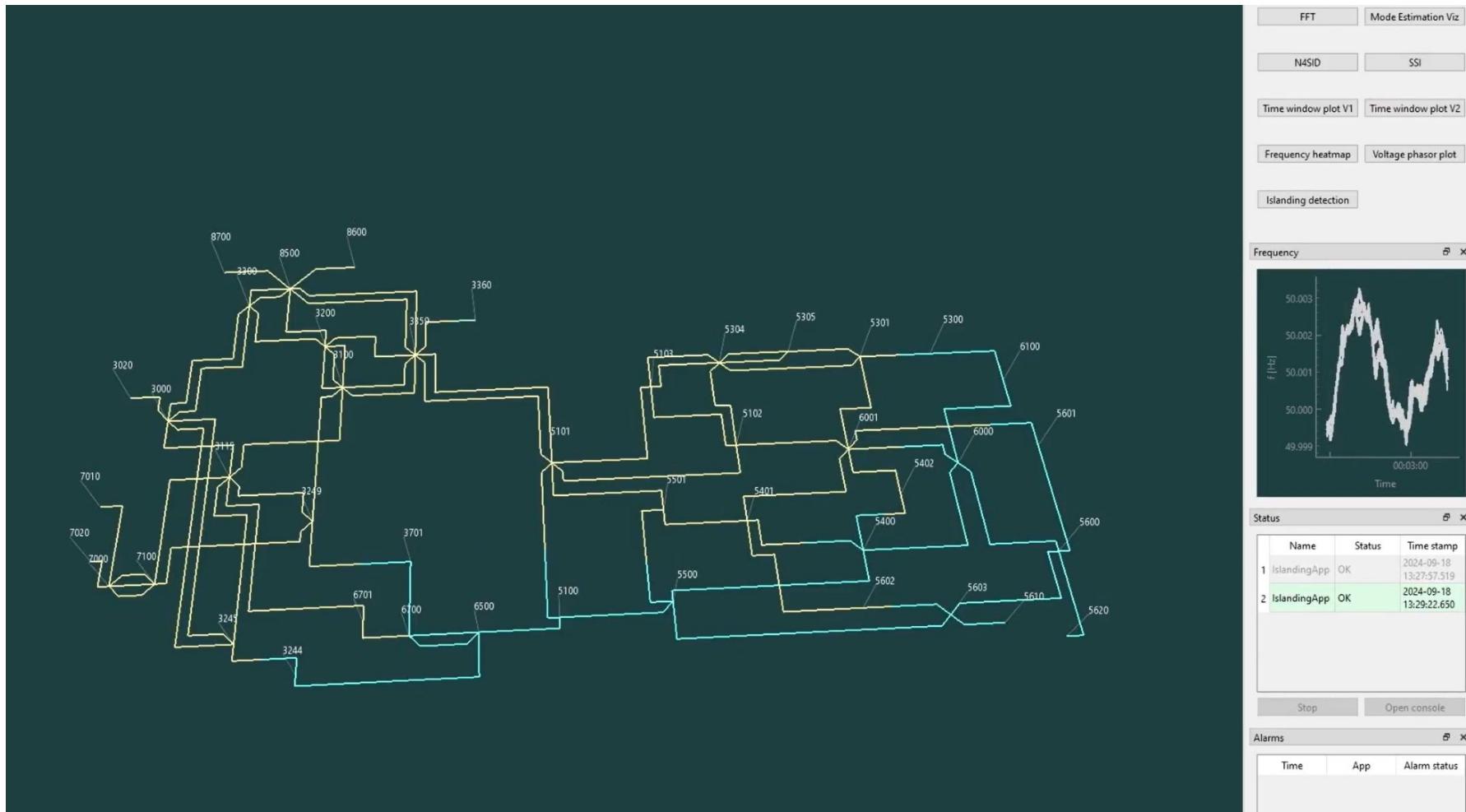
# Alarm coordination between TSOs for Island detection



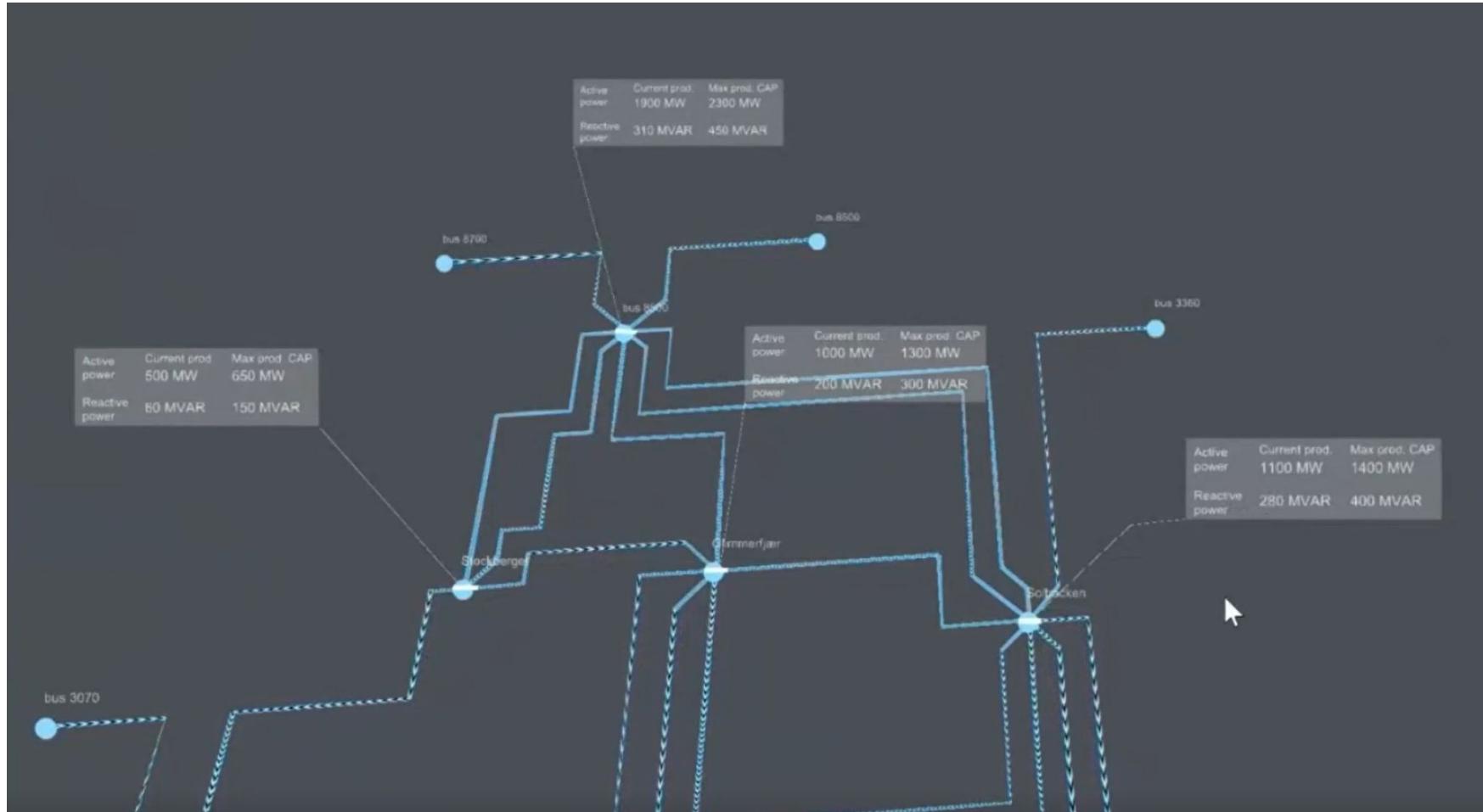
All simulations based on CIM -models



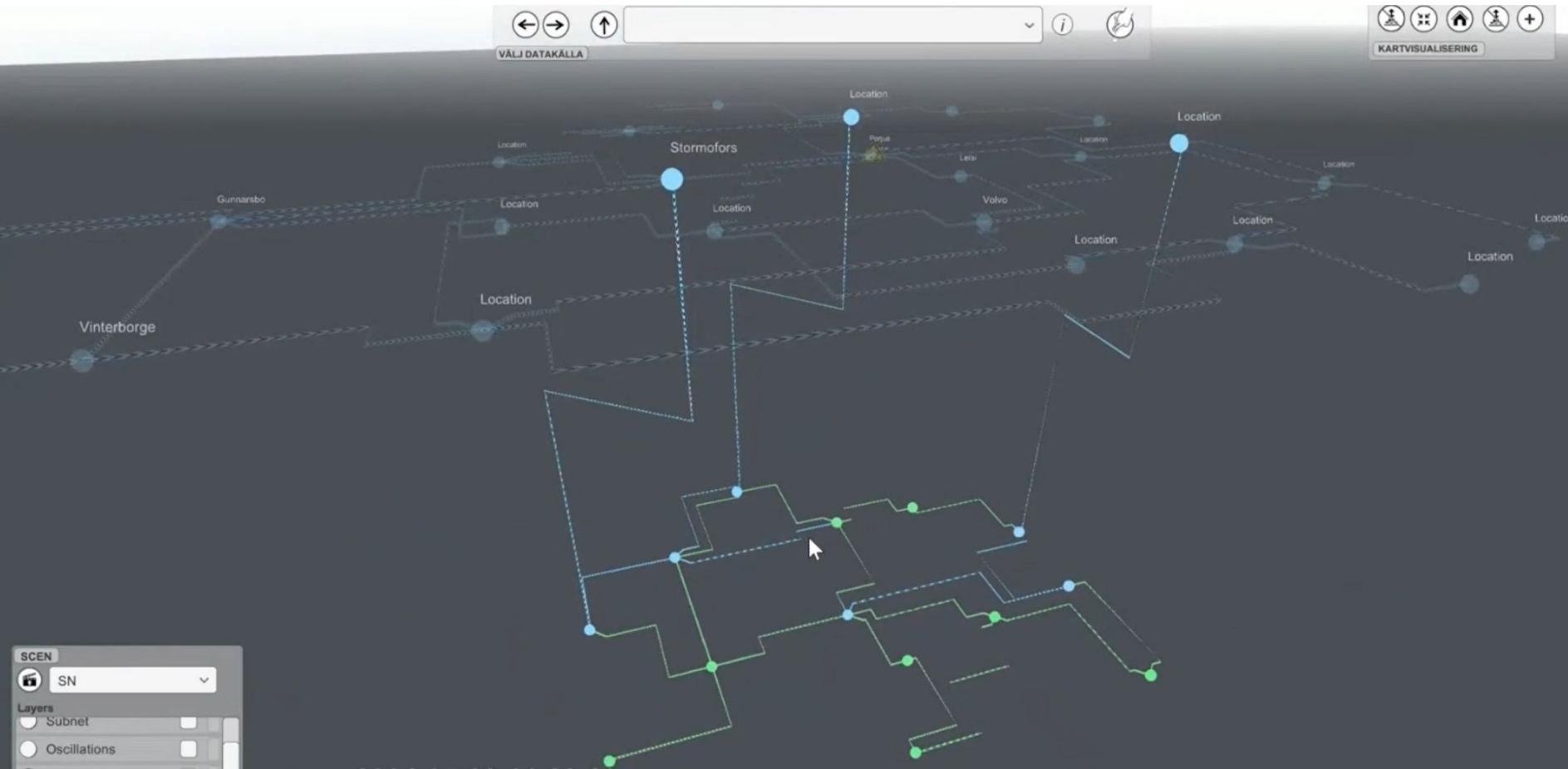
# All simulations based on CIM -models



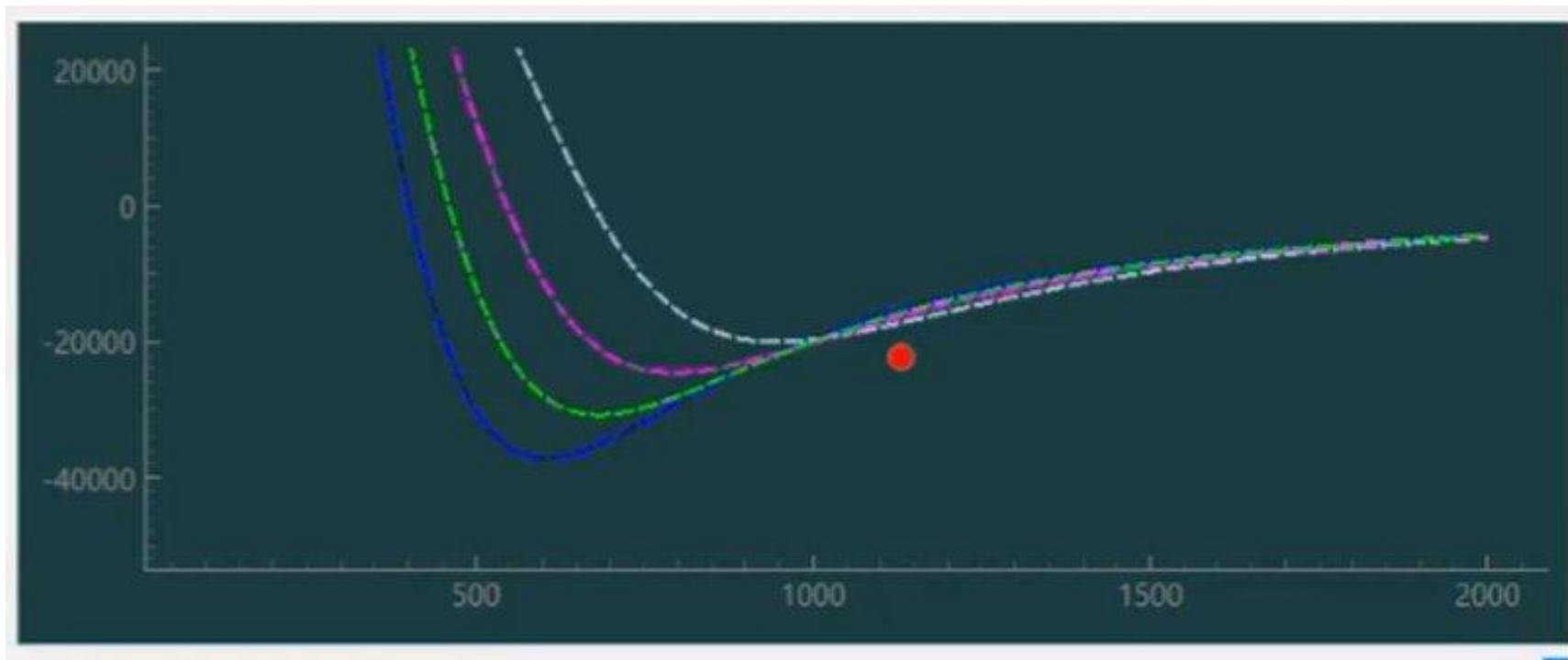
# Drill down functionality for alarm handling in sub grid by use of 3D



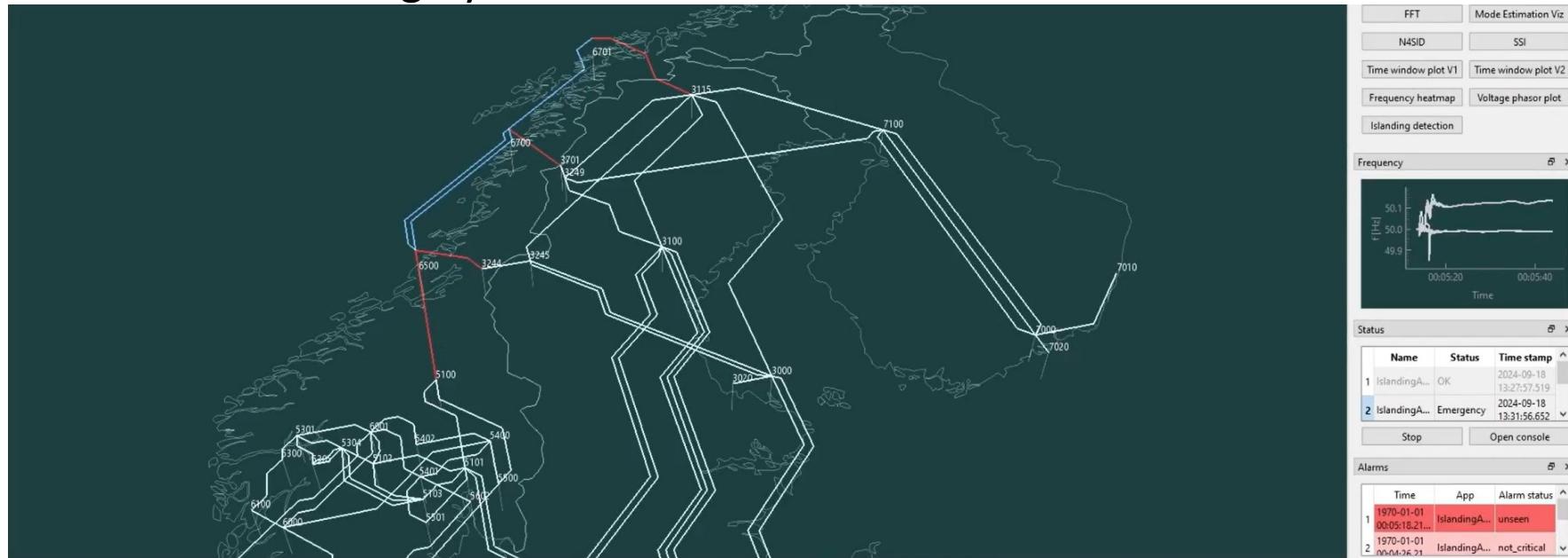
# Drill down functionality for alarm handling in sub grid by use of 3D



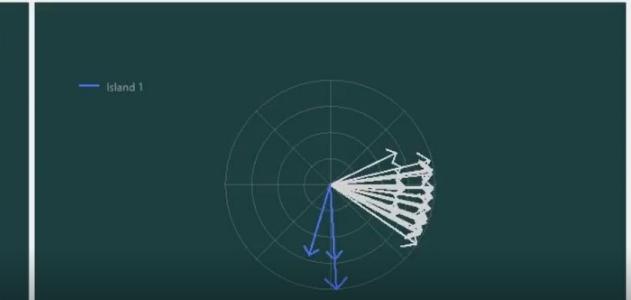
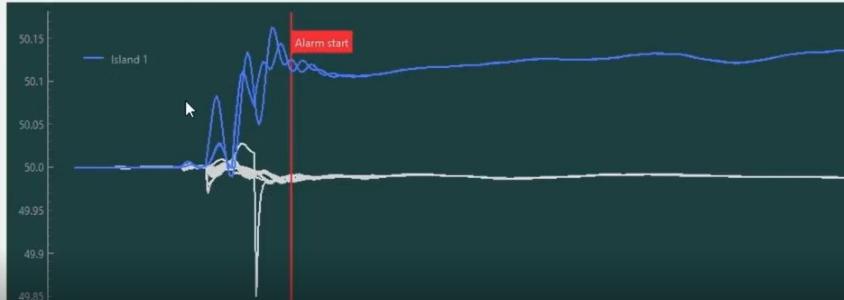
# Detection voltage stability



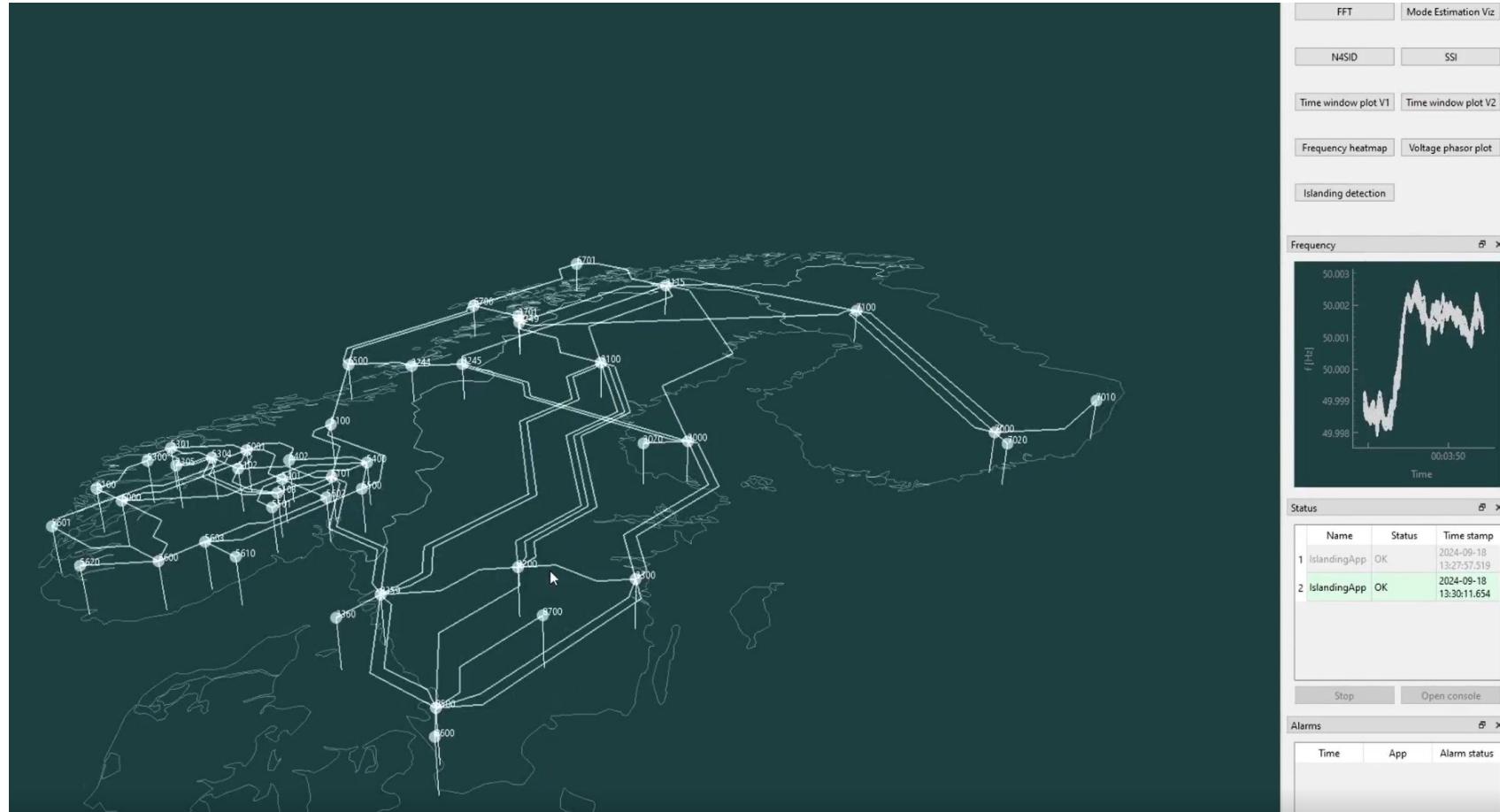
# Detection of Islanding by use of 3D



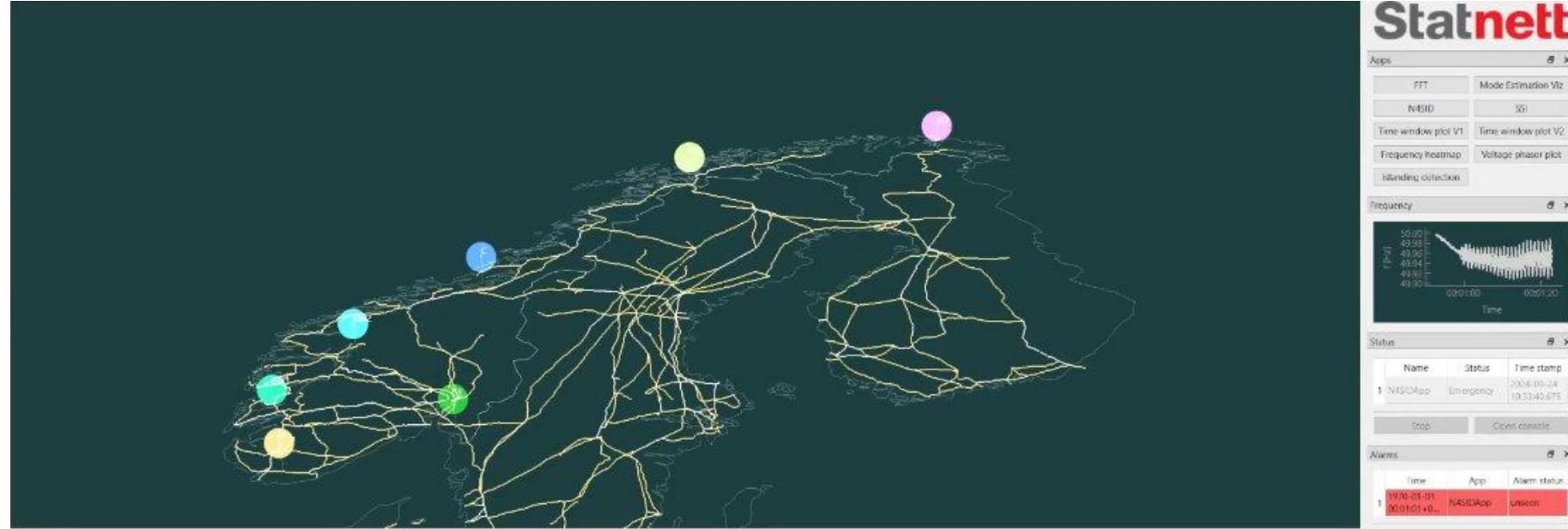
### Alarm details



# Oscillation detection by use of advanced UI to show how nodes interacts

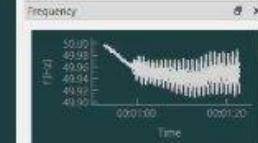


# Visualization of Oscillation by use of 3D



Statnett

| Apps                |                     |
|---------------------|---------------------|
| FFT                 | Mode Estimation V2  |
| N4SID               | SGI                 |
| Time window plot V1 | Time window plot V2 |
| Frequency heatmap   | Voltage phasor plot |
| Islanding detection |                     |



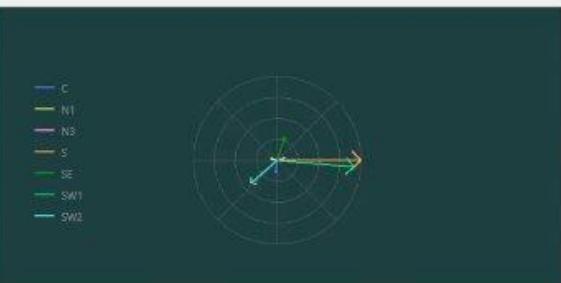
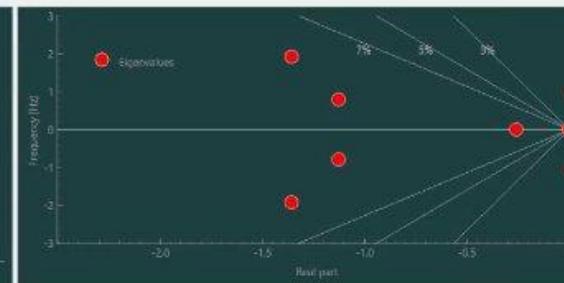
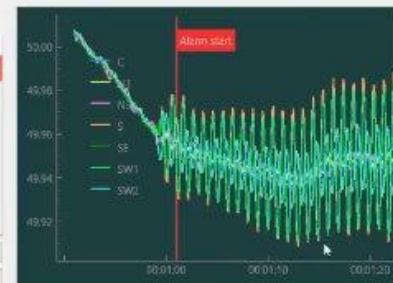
| Status | Name     | Status    | Time stamp              |
|--------|----------|-----------|-------------------------|
| Normal | N4SIDApp | Emergency | 2004-05-14 10:33:40.675 |

| Alarms | Time                      | App      | Alarm status |
|--------|---------------------------|----------|--------------|
| 1      | 1970-01-01 00:01:01 +0000 | N4SIDApp | Unseen       |

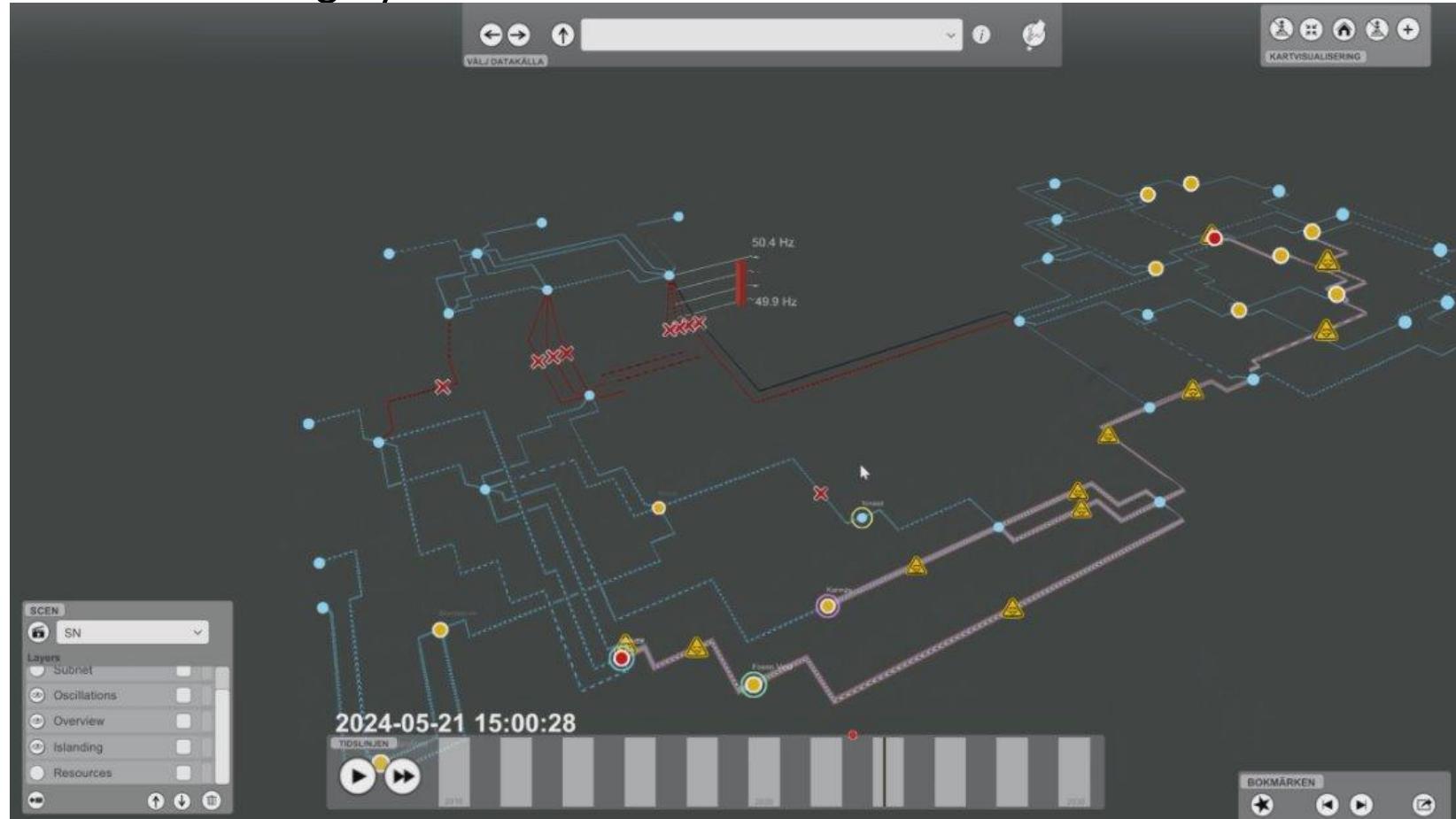
## Alarm details

Detected by: N4SIDApp  
Time stamp: 1970-01-01 00:01:01+0000

| Time            | Type | Message      |
|-----------------|------|--------------|
| 1 1970-01-01... | par  | Alarm issued |



# Oscillation detection by use of advanced UI to show how nodes interacts Detection of Islanding by use of 3D



# Operation awareness on contingency analyze and Corrective actions

ASAP Panel - Example

The screenshot shows a power system map with various busbars labeled with IDs such as 6701, 3115, 7100, 7010, 3000, 3200, 3244, 3245, 3100, 3020, 7000, 7020, 5100, 6001, 5402, 5400, 5304, 5305, 5102, 5101, and 5100. A red line highlights a specific line outage between bus 3115 and 3249. A green arrow points to a node with the text "1 3249: P=0.0 Thermal overload". Another green arrow points to a node with the text "3000: V = 0.96". A third green arrow points to a node with the text "7000: V=1.05". A fourth green arrow points to a node with the text "7000: ΔP = +369.47 MW".

Frequency

A line graph titled "Frequency" showing power system frequency over time. The y-axis ranges from 49.97 to 50.02 Hz. The x-axis shows time from 00:05:00 to 00:05:20. A sharp dip occurs at approximately 00:05:15, where the frequency drops from about 50.01 Hz to 49.99 Hz.

Status

| Name             | Status    | Time stamp              |
|------------------|-----------|-------------------------|
| 1 Contingency... | Undefined | 2024-09-10 14:05:44.374 |

Stop Open console

ASAP Panel

Alarm details

Contingency Analysis

ASAP

- C4: L3000-3245-2, line\_outage
- C5: L3000-3300-1, line\_outage
- C6: L3000-3300-2, line\_outage
- C7: L3100-3115, line\_outage
- C8: L3100-3200-1, line\_outage
- C9: L3100-3200-2, line\_outage
- C10: L3100-3200-3, line\_outage
- C11: L3100-3249, line\_outage
- C12: L3100-3359-1, line\_outage
- C13: L3100-3359-2, line\_outage
- C14: L3115-3245, line\_outage
- C15: L3115-3249, line\_outage
- C16: L3115-6701, line\_outage

L3249-7100: Thermal RATE1  
3360: Voltage Stability Index

Apply corrective actions

Contingency happens (line falls out)

A line graph showing power generation over time. The y-axis ranges from 2500 to 4000 MW. The x-axis shows time from 00:04:50 to 00:05:20. A sharp vertical rise in power generation occurs at approximately 00:05:15, starting from about 2500 MW and reaching nearly 4000 MW.

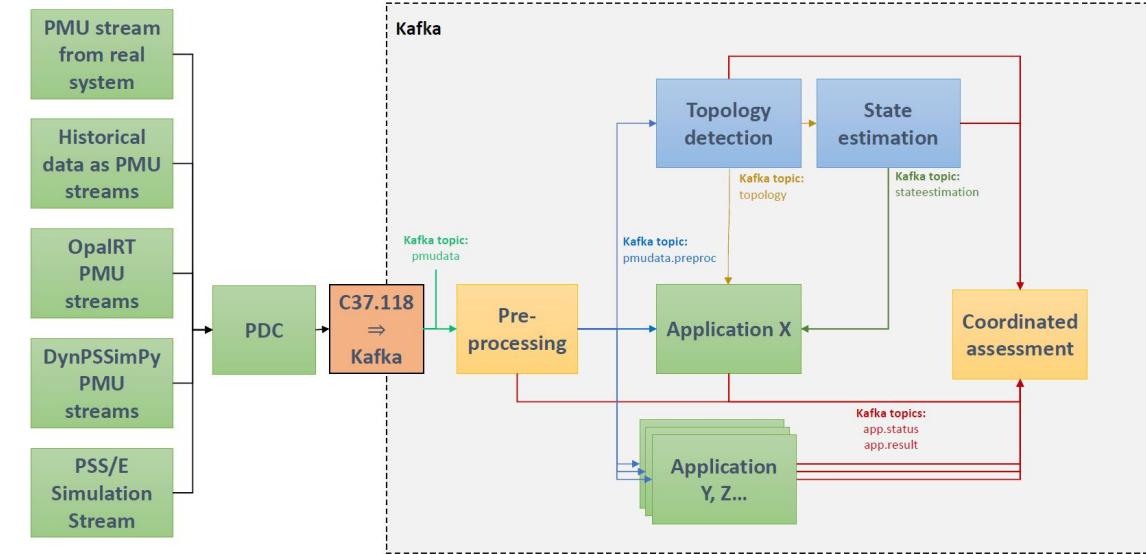
# Architecture of the implemented platform

Development of a software platform to validate the detection and visualization methods

Core programming in Python

Modular structure with several independent applications

Communication between applications with a Kafka stream



## Voltage Stability

<https://youtu.be/B2XXrjwevcs>

## Oscillations

<https://youtu.be/lB7JYJ0BG9U>

## TSO Coordination

<https://youtu.be/PCm2WNXBtj0>

## SCOPF (ASAP-NEWEPS)

<https://youtu.be/wAdYy3pgG5A>



# RNDP Platfor m



Kubernetes hosted on Azure



Notebook interface  
(Jupyter)

Robust ecosystem for data science  
Rich visualizations  
Supports Python (mamba), R, Julia, and more



Shared POSIX filesystem (Ceph)



Kubernetes namespace  
isolation

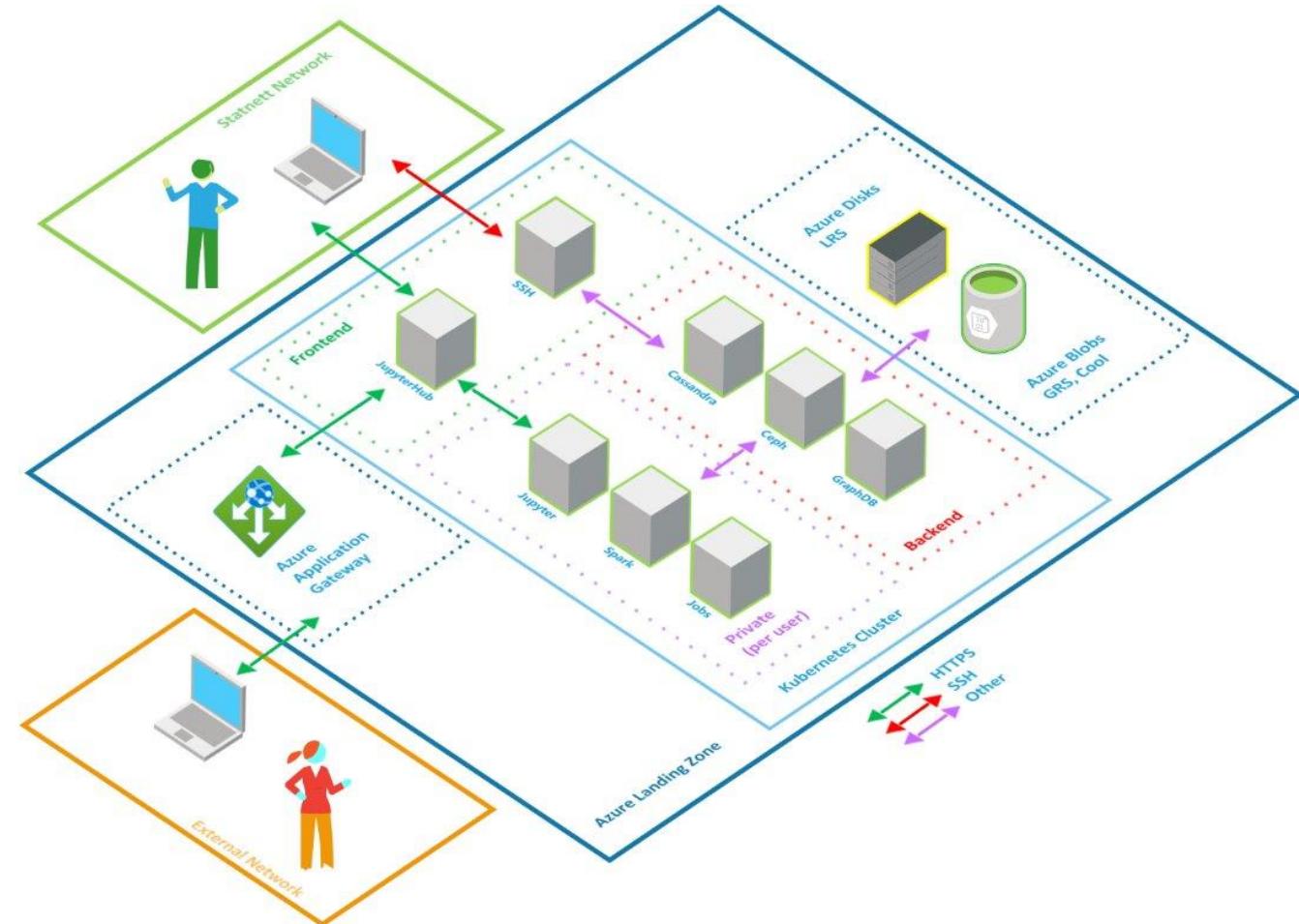
Spark clusters for big-data workloads  
Kubernetes jobs for long-running  
workloads

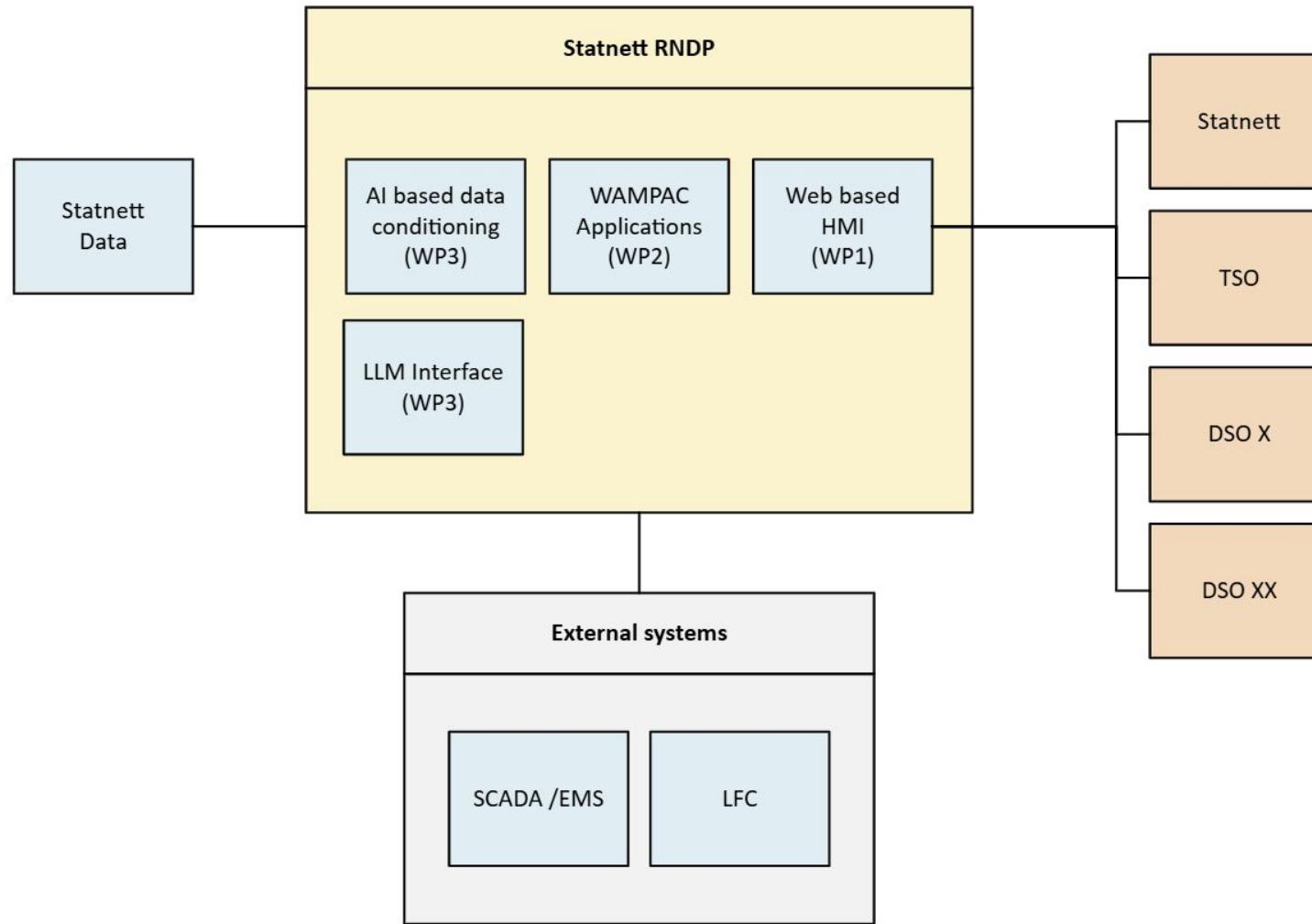


Statnett integrated

Entra  
GitLab  
Artifactory

- **Backend**
  - Ceph
  - Cassandra
  - Hosted (GraphDB)
- **Frontend**
  - JupyterHub
    - Services
  - SSH
  - Hosted
- **Private**
  - Jupyter
  - Spark
  - Kubernetes (Jobs)





# Project p-SWAMP Tasks and work packets

- WP0 Management, communication, dissemination
- WP1 Advanced Web based HMI
- WP2 WAMPAC applications for operation support
- WP3 Data conditioning and linear state estimation
- WP4 Modules integration and deployment
- WP5 Module validations and pilot demonstration

# Project p-SWAMP timeline

# Annual Review: Battery Data Alliance #57

5:50 pm - 6:10 pm



# Annual Review: OperatorFabric #71

6:10 pm - 6:30 pm



# Closing and Next Meeting

6:30 pm - 6:30 pm



# Next TAC Meeting

The next meeting of the LF Energy TAC is scheduled for September 9, 2025 at 4:00 pm Central European Time as a joint meeting with the LF Energy Governing Board in person at LF Energy Summit. Meeting is for TAC representative ONLY.

The following meeting of the LF Energy TAC is scheduled for October 14, 2025 at 4:00 pm Central European Time  
Agenda tentatively to include:

- General Updates
- Annual Review: GridFM [#260](#)
- Annual Review: Archimate SIG [#93](#)
- Annual Review: NODE Collective [#108](#)
- Annual Review: Grid Edge Interoperability & Security Alliance (GEISA) [#230](#)
- Marketing/PR/Events update

To add agenda items, go to <https://github.com/lf-energy/tac/issues/new/choose>.

You can review the TAC Agenda at <https://github.com/orgs/lf-energy/projects/2/views/1>

# ELF ENERGY



# APPENDIX

Marketing/PR/Events Updates



# Marketing and PR Updates

- Webinars
  - [OpenDSM webinar](#) scheduled for 24 September
- Project News
  - [OpenSynth: beyond demand data](#)
  - [LF Energy Power Grid Model v1.12.0 Released: Enhanced State Estimation and Improved Observability](#)
  - [LF Energy OpenDSM Completes Development of New Hourly Model](#)
- Content
  - [PowSyBl security audit](#) was published on July 30
- Use this [form](#) to submit any comms/marketing support requests
- See [media coverage spreadsheet](#) or [website](#) for recent articles

# Upcoming Events

- LF Energy Summit Europe
  - Sept 10-11 – Aachen, Germany
  - Confirmed to be the biggest LFE Summit yet!
  - <https://events.linuxfoundation.org/lfenergysummit/>
- LF Energy Summit North America
  - Oct 3, 2025 – Montréal, Québec
  - <https://events.linuxfoundation.org/lfenergysummit-north-america/>
- OSPOlogy Live France
  - Nov 5-6 (tentative) - Lyon, France
  - Hosted by RTE
  - This is actually organized by the TODO Group in partnership with LF Energy.
  - Goal: educate utilities and other energy stakeholders on open source best practices
  - Looking for a few more speakers for these sessions:
    - Cross-Border Collaboration in Energy Innovation. What's Next
    - Open Source Management Tooling to advance digitalization of the energy industry
  - <https://community.linuxfoundation.org/events/details/lfhq-ospology-european-chapter-presents-ospologylive-lyon/>



# Upcoming Event CFPs

## Europe

- Energy Tech Summit - April 15-16 - Bilbao - Speaking submissions due September 29
- CIRED - June 9-10 - Brussels - Speaking submissions open on 10 September; close 1 December

