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Scenario-5: Flexibility resources to provide flexibility services to the Northern Demonstrator
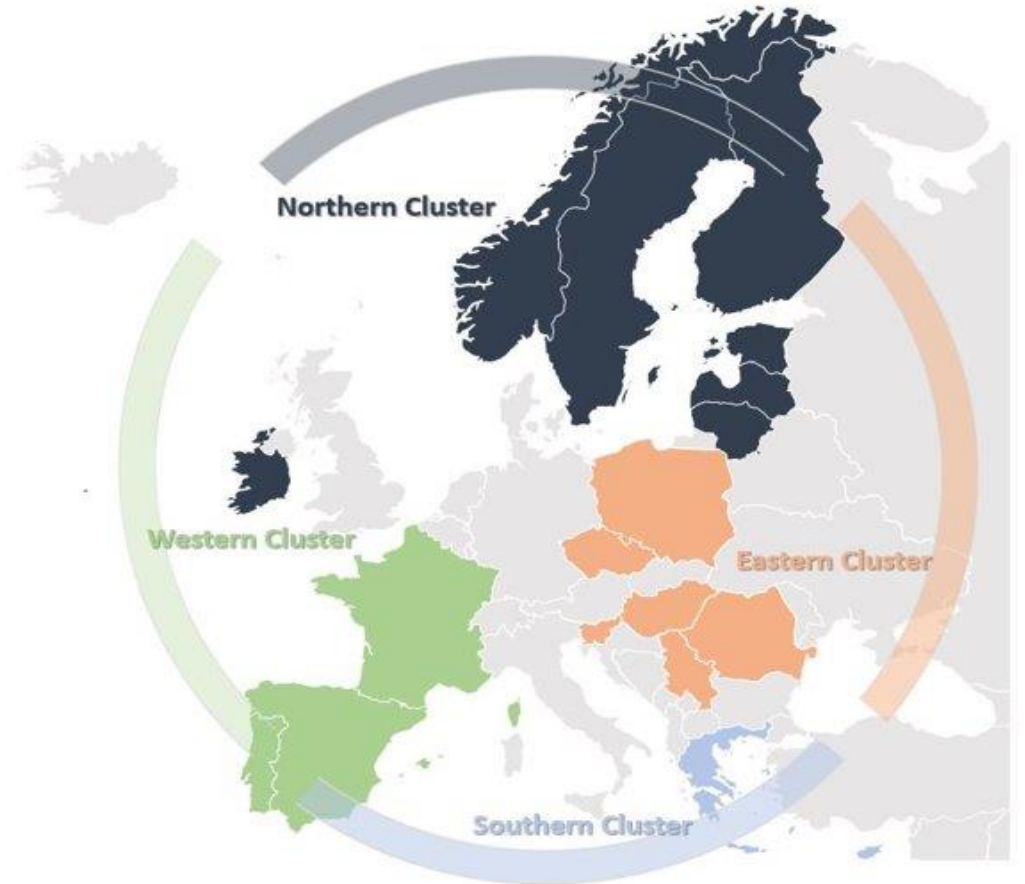
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Agenda

- Type of service and demo area

- Flexibility Products in the Northern Cluster

- Business Use Case

- Workflow in the Northern flexibility market

- Technical details

- Q&A

Type of Service and Demo Area

- **Type of Service**: The applicant should
  - Develop steerability of distributed electric resources (loads/generation/storage) and
  - Integration of the steerability to the OneNet market framework.

- **Demo area and different positions**: if the applicant will aim
  - **Finnish market:** OneNet consortium has a flexibility service operator that it's possible to collaborate with to access the markets.
  - @ **Estonia, Lithuania, and Latvia:** OneNet consortium does not include a flexibility service operator. The applicant will have to cover also the flexibility service provider's market operation role.

- **The demonstrated flexibility products** range from <u>long-term flexibility products (months to years ahead) to near-real-time flexibility products (15 minutes), including active and reactive power.</u>
  - Products are described in <u>OneNet deliverable D2.2</u> chapter 6.1.
  - <u>The applicant should describe in the application which flexibility product the applicant is capable and interested to provide.</u>

- The applicant will be part of the Northern Cluster Business Use Case described preliminary in <u>OneNet deliverable D2.3</u> . Business Use Cases for the OneNet, in chapter 9.2.1 in the role of FSP.

Flexibility Products in the Northern Cluster

Products proposed by Northern Cluster	Description	Harmonised Products
NRT- -P-E (Near Real Time Active Energy)	Energy product used by SOs responsible for frequency and congestion management. Single product for frequency restoration and congestion management. Procured in near-real-time (15min). Activated manually	Corrective local active[11]
ST-P-E (Short Term Active Energy)	Procured day to a month ahead. Active power energy product. Used by SOs for congestion management.	Predictive short term local active
LT-P-C/E (Long Term Active Capacity/Energy)	Procured months to years ahead. Active power capacity product. Used by SOs for congestion management, frequency and adequacy.	Predictive long-term local active
ST-P-C (Short Term Active Capacity)	Procured day to a month ahead. Active power capacity product. Used by SOs for congestion management and frequency.	Predictive short term local active
LT-Q-C (Long Term Reactive Capacity)	Reactive power capacity product. Used by SOs for voltage control on HV, MV and LV levels. Long term procurement.	Predictive long-term local reactive
NRT-Q-E (Near Real Time Reactive Energy)	Reactive power energy product. Used by SOs for voltage control on HV, MV and LV levels. Procured from intra-day to near-real-time (15min)	Corrective local reactive, Predictive short term local reactive

Ref: OneNet deliverable D2.2 chapter 6.1.

Business Use Case: Northern flexibility market

- The applicant will be part of the Northern Cluster Business Use Case described preliminary in [OneNet deliverable D2.3](#) .
  Business Use Cases for the OneNet, in chapter 9.2.1 in the role of FSP.

- Objectives:
  - Develop seamless end-to-end process for market-based flexibility utilization for grid services;
  - Lower the entry barrier for flexibility by simplifying the process for flexibility service providers;
  - Ensure availability of short-term flexibility from multiple sources.

- Scenarios:
  - Customer onboarding
  - Prequalification of flexibility service providers, resources and network needs
  - Flexibility (capacity and energy) procurement
  - Secondary Trading
  - Activation
  - Delivery and monitoring
  - Verification and settlement

- The OneNet platform in the Northern Demonstrator has two new players:

  - Flexibility register (FR)

  - TSO & DSO coordination platform (T&D CP)

Workflow in the Northern flexibility market

- Flexibility Service provider (FSP), who has a contract with the end-customer about flexibility service provision, registers the flexibility resources in the flexibility register (FR), this includes also <u>location of the individual resource</u> (metering point identification).

- OneNet systems will perform pre-qualification (resource and grid).

- After pre-qualification FSP offers the flexibility product to the relevant market.

- If the flexibility is called-off on the market, a steering signal regarding the activation is entered into flexibility provider's aggregation / steering platform.

- The Flexibility Provider (desired Party) will then, upon the given signal, steer the right resources accordingly.

- The activation/steering needs to be metered and validated. Metering data will be delivered to flexibility register.

Technical details

- Flexibility provider, either in a role of FSP or co-operating with FSP.

- The Flexibility Provider can provide their own aggregation platform.

- The Flexibility Provider should provide a technical solution for steering of electrical equipment and appliances from distributed resources and have the possibility to steer the electrical load of their end-customer resources.

- Depending on the Flexibility Provider capabilities some requirements for reporting back to the FSP.

- The Flexibility Provider should specify the type and volume of resources available for flexibility.

- Preferred minimum bid size of the flexibility resource in total is 100 kW but the applicant can justify also other sizes if the resources seem relevant for the future flexibility service provision.

- The Flexibility Provider should provide an incentive to end-consumers for participation on the flexibility markets.

- Connections between the applicant and Northern Cluster OneNet system will be handled via REST API.

Thank You

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