



**SWITCH**

POWERED BY *e-on*



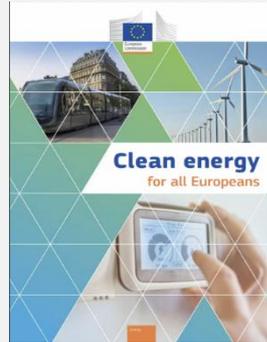
# Why flexibility?

## Growth



Flexibility is an enabler for a successful and rapid electrification

## Clean Energy Package



EU regulation is pushing demand for flexibility to be part of the DSO toolbox

## Sustainability



“At E.ON, we manage the largest energy grid in Europe and act on behalf of about 51 million customers. This places us in a position of responsibility and provides us with the power to enable real improvements. Firstly, in the face of climate change, we have a responsibility to clearly prioritise sustainable solutions and increase their availability.” - **E.ON Sustainability report 2022**



E.ONs main sustainability impact is from grid construction, and flexibility enables optimal usage of existing infrastructure

# Business values created by flexibility

## Financial Objectives



Postpone reinvestments



Avoid or decrease need for investments



Incentive for efficient use of network



Incentive for delivery quality



Platform License revenues



Additional incentives for flexibility services in regulation

## Non - Financial Objectives



Faster connections of customers



Compliance



Sustainability



Goodwill and PR

# The market platform SWITCH

## - Developed within the CoordiNet project



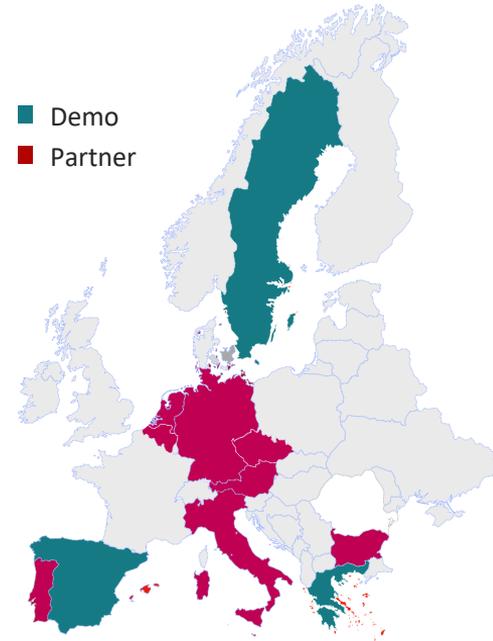
**Time frame:** 1st of Jan 2019 – 30th of June 2022

**No. of partners:** 23 + 10+ third parties

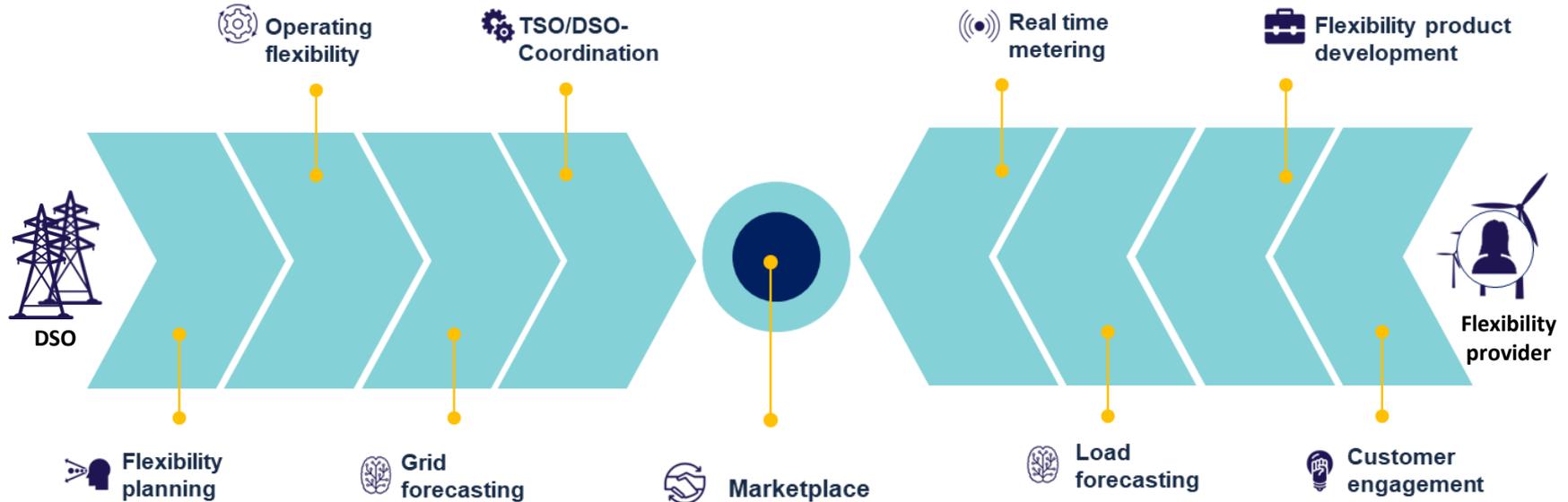
### Goals:

- Demonstrate activation and provision of grid services through DSO and TSO coordination
- Define and test standard products for the market
- Developing a platform for the market and DSO/TSO coordination

The **three large-scale demonstrators** comprise of ten demonstration sites and are implemented by both **the DSO and TSO** for the networks covered within the respective demonstration areas



# Flexibility – More than a marketplace



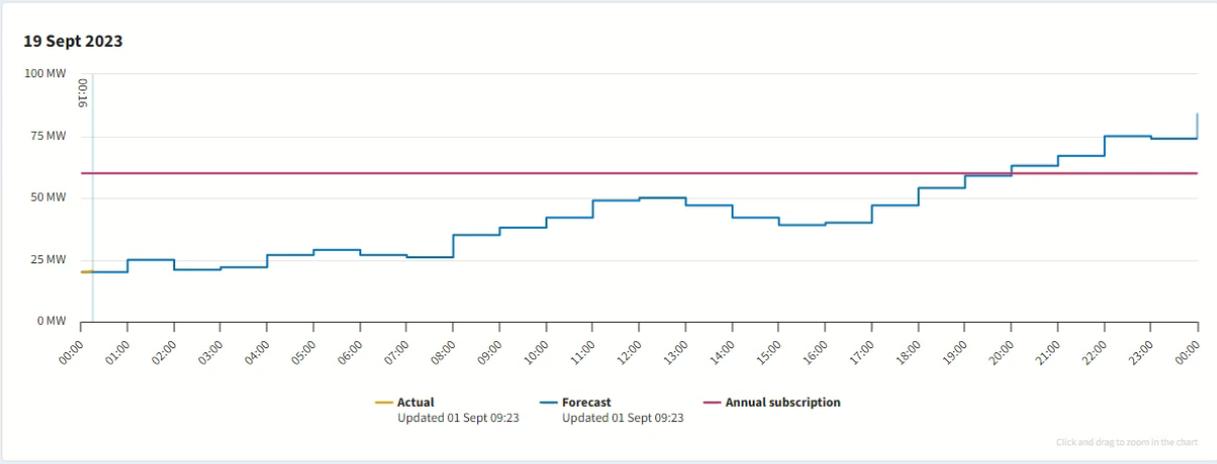
# SWITCH Demo – DSO buys flexibility

Demo market 1 (regional) Demo market 2 (local)

Suspend automated purchasing Request orders

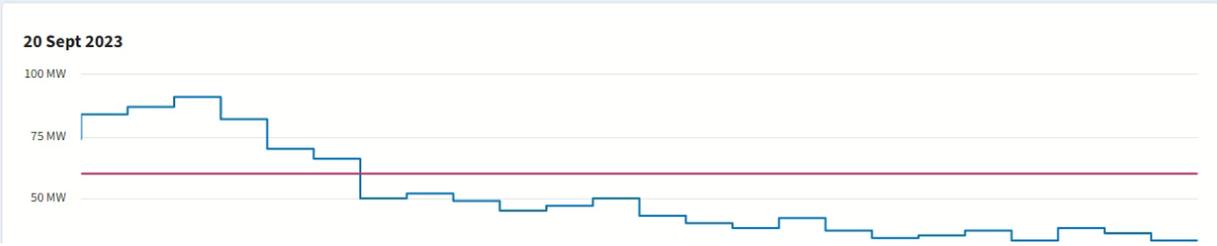
Local substation <sup>10</sup>

< 19 Sept >

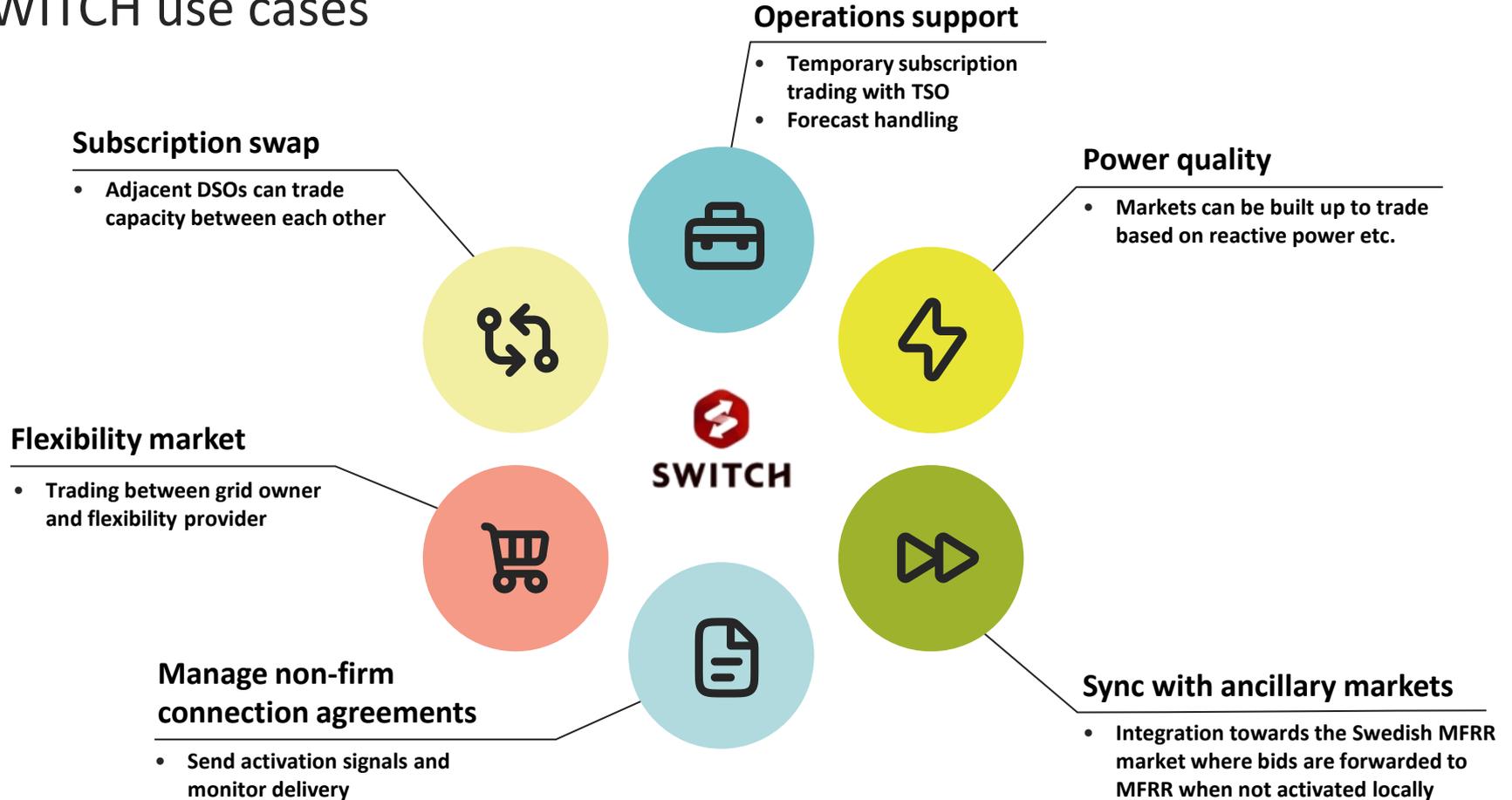


Orders for 19 Sept 2023 Orders for 20 Sept 2023

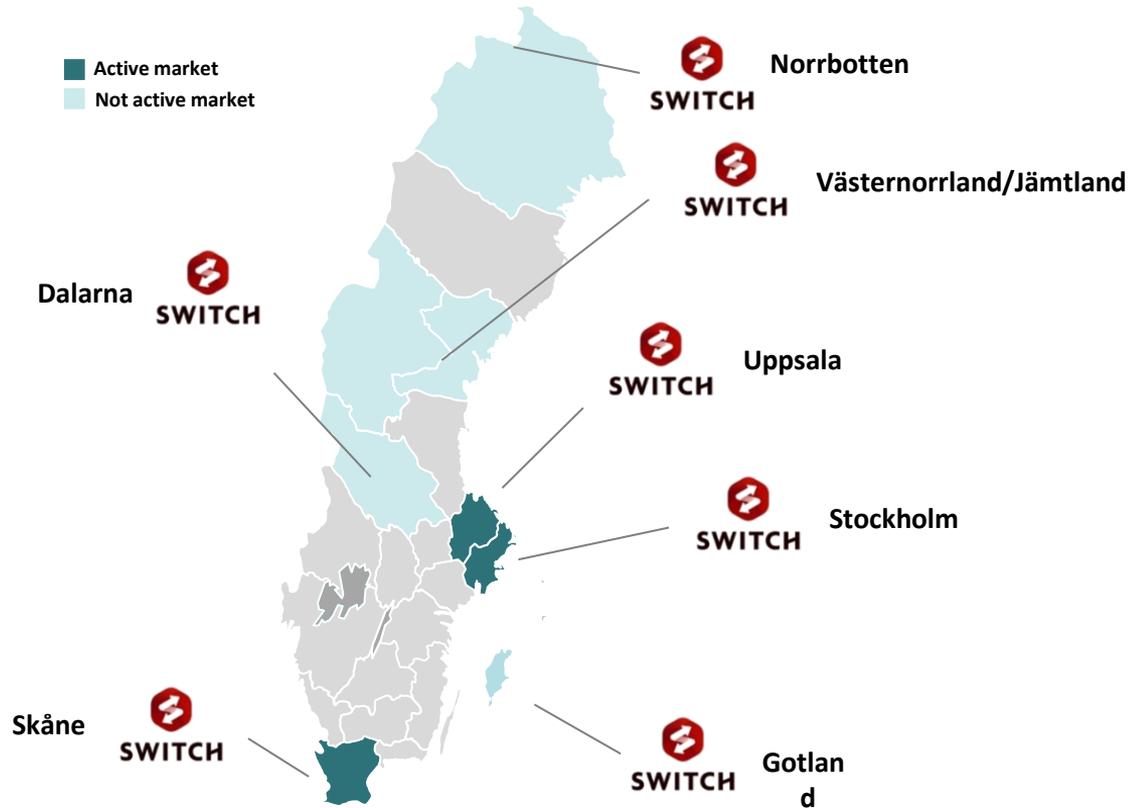
No orders have been bought



# SWITCH use cases



# SWITCH – Flexibility is being used all over Sweden



# BeFlexible – Boosting engagement to increase Flexibility

**Financing Program:** Horizon Europe

**Total Budget:** 10,5M€

**Partnership:** 24 partners (6 DSO's, 1 TSO) from 7 countries

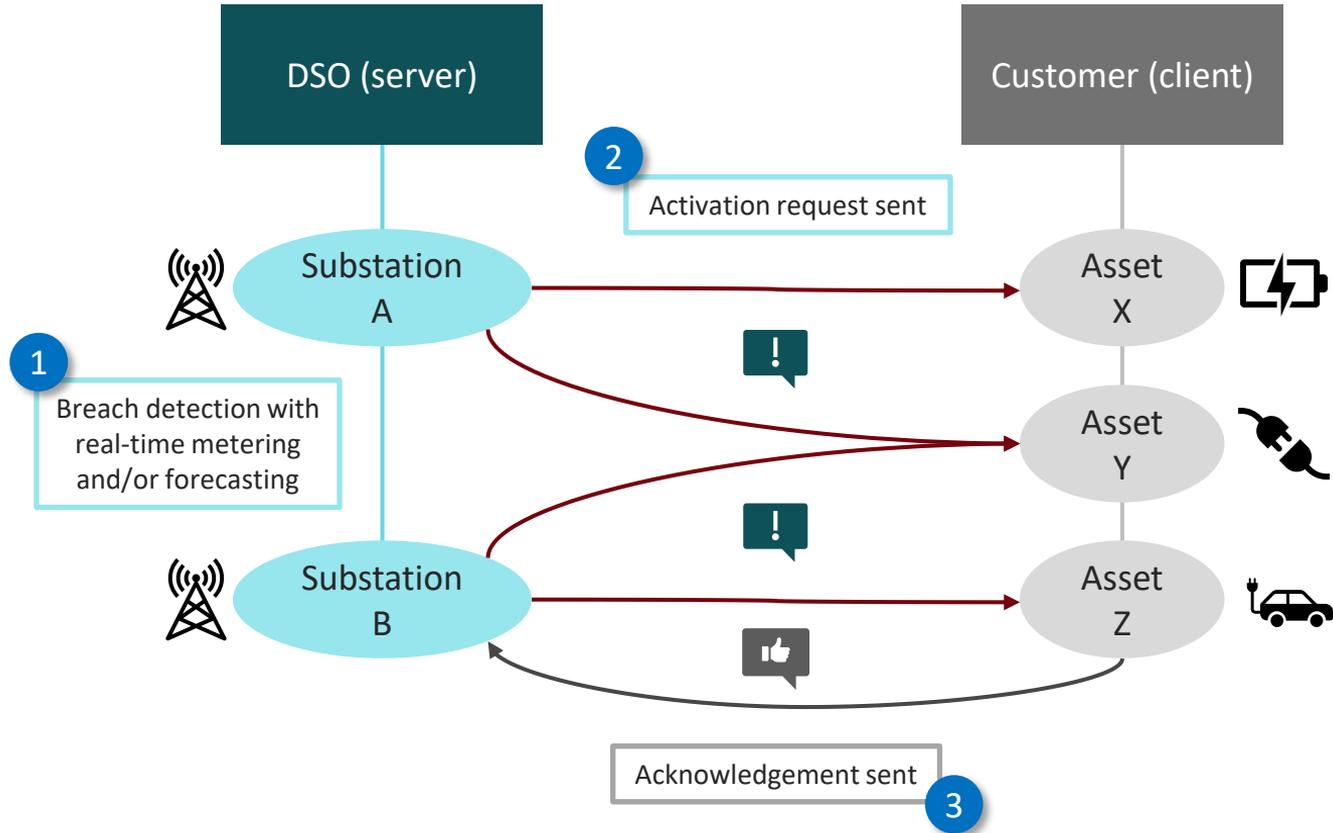
**Project Duration:** Q3 2022-Q2 2026

## Goals:

- Demonstrate and implement DSO capabilities for flexibility, based on SWITCH
- Develop and implement local balancing capabilities in built environment
- Demonstrate and implement aggregated services on SWITCH



# Information exchange for conditional connections communication



- Data flow in SWITCH:
- (1) Breach detected
  - (2) Request is created
  - (3) Acknowledgement is registered
  - (4) Validation is

Real-time metering of assets to monitor and validate delivery

# OpenADR integration

- Customers can connect to a VTN (server) hosted by SWITCH by running their own VEN (client)
- Optional but recommended due to ongoing standardization efforts in Sweden for the server-to-client communication of conditional flexibility
- Can be employed on its own or combined with OpenAPI client usage
- Some limitations apply for 2.0b, such as only simpleHTTP PULL being supported (VENs must poll for new events)
- OpenLEADR is useful both as a starting point and for implementing complete solutions
- Newest version (OpenADR 3.0) will be supported

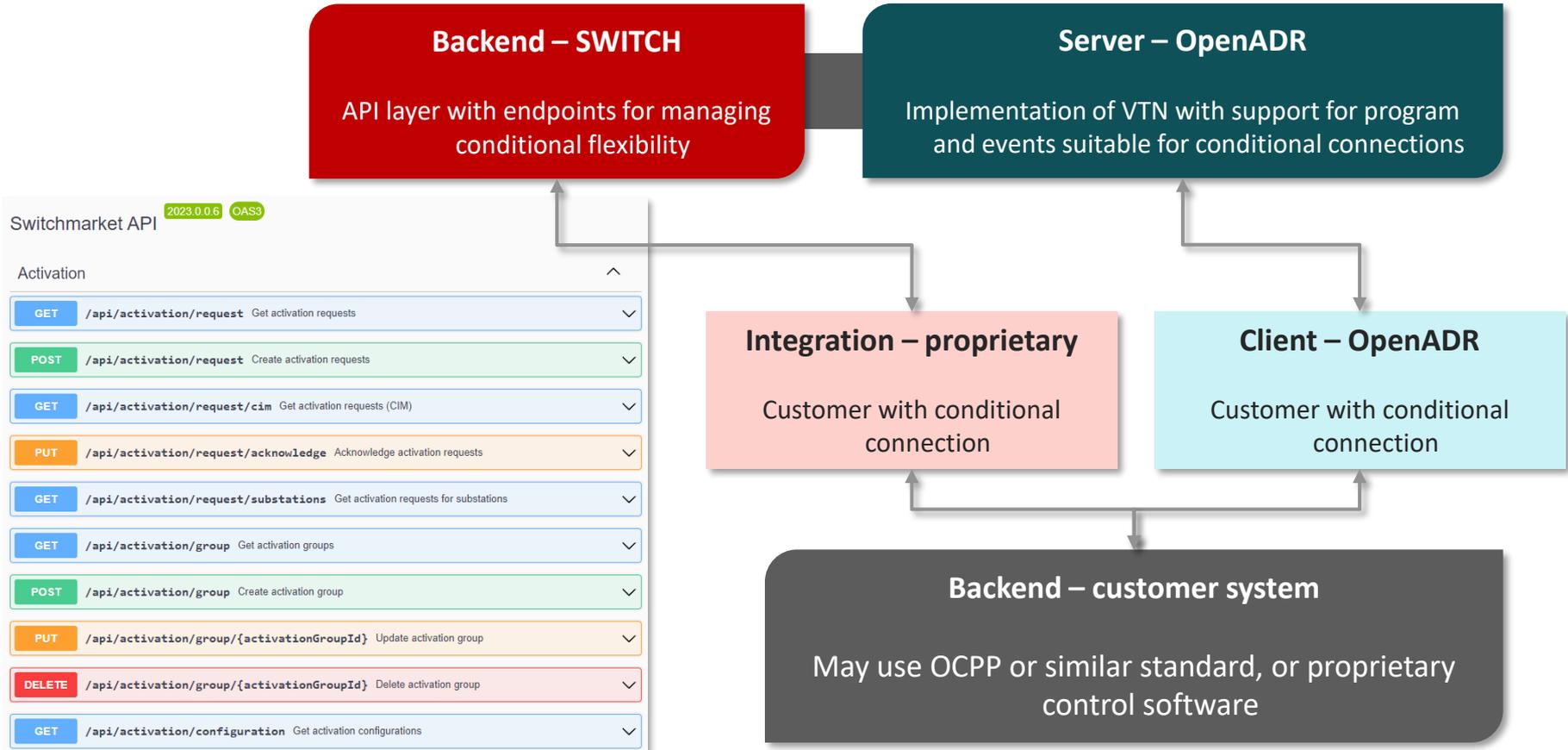


<https://www.openadr.org/specification-download>



<https://openleadr.org/docs/>

# Proprietary endpoints + standardization



Thank you for  
your attention!

David Bjarup  
david.bjarup@eon.se

