Webinar is starting shortly

Take a seat, have a coffee and wait for us!

Smart5Grid

Demonstration of **5G** solutions for
SMART energy **GRID**s of the future

5G PPP
The 5G Infrastructure Public Private Partnership

This project has received funding from
the European Union's *Horizon 2020*
research and innovation programme
under grant agreement n° 101016912

5G Use Cases for the Energy Vertical

Webinar

Agenda

Introduction: - Energy vertical vision - Telco vision	Daniele Porcu	enel
Session 1: Automatic power distribution grid fault detection	Fabrizio Battista	gridspertise
Session 2: Remote inspection of automatically delimited working areas at distribution level	Inmaculada Prieto	e-distribución
Session 3: Millisecond level precise distributed generation monitoring	Athanasios Bachoumis	UBITECH
Session 4: Real-time wide area monitoring of power exchanges	Dimitrios Brodimas	ipto

Daniele Porcu

Project Coordinator

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Smart5Grid

Demonstration of **5G** solutions for **SMART** energy **GRID**s of the future

GENERAL INFORMATION

THE CONSORTIUM

24 EUROPEAN PARTNERS COVERING 7 EU STATES

DURATION

3 YEARS

TOTAL BUDGET

8M€

Consortium Composition

24 partners, 4 Linked Third-parties, 13 SMEs

Smart5Grid

Coordinator

enel

TELCOs

WINDTRE

OTE GROUP OF COMPANIES

VIVACOM

Tech Companies

ENGINEERING

Atos

gridspertise
accelerating your electric future

Universities/Research institutions

i2cat

HELLENIC REPUBLIC
National and Kapodistrian University of Athens
EST. 1837

University of Cyprus
ΚΟΙΟΣ

DSOs

e-distribuzione
e-distribución

TSOs

ECO ЕАД

ադμηε

SMEs

EIGHTBELLS
Independent Research & Consultancy

INFOLYSIS

SC

NBYCOMP
NearbyComputing

axon logic

ubiwhere
SUITING THE FUTURE

ATHONET

SETECHCO

SIDROCO

ENTRA ENERGY

UBITECH
digitizing energy

nosia
- SEÑALIZACIÓN INDUSTRIAL
- EQUIPAMIENTO PARA LA INDUSTRIA

STAM
MASTERING EXCELLENCE

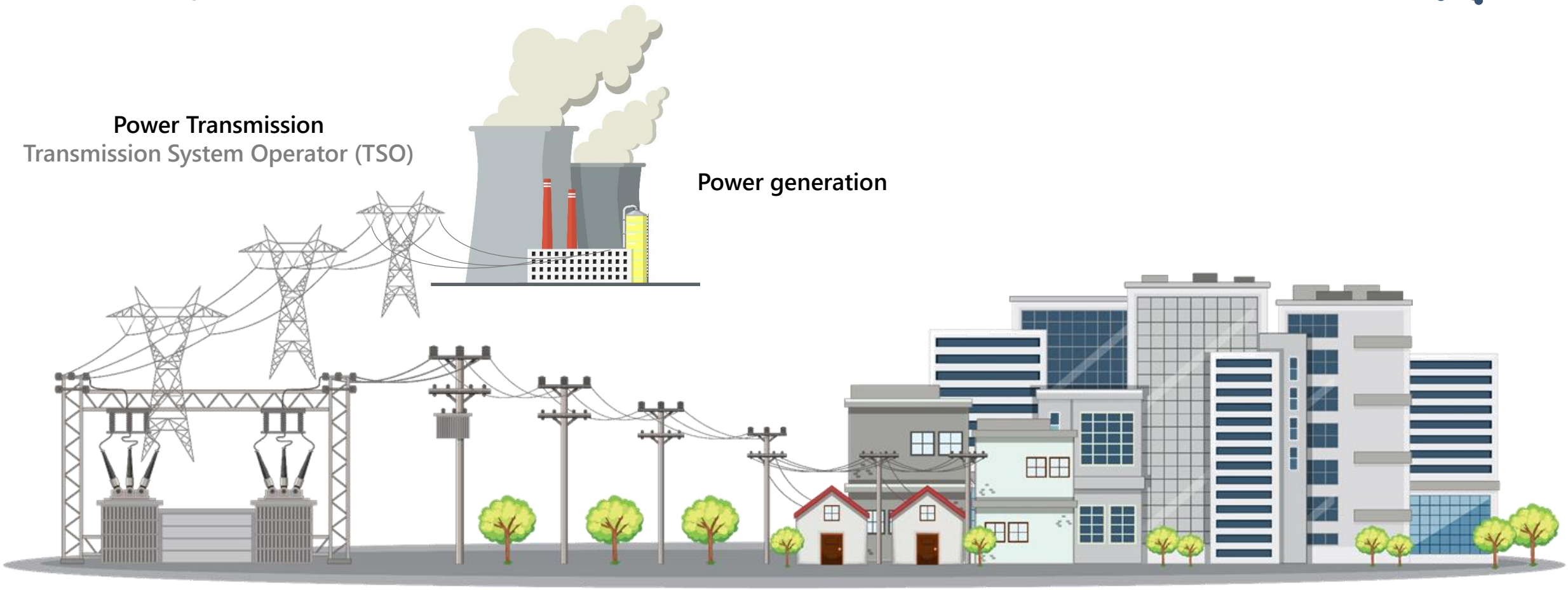
(Linked third-parties of Enel GI&N)

Energy Vertical

Traditional grid

Power Transmission
Transmission System Operator (TSO)

Power generation



Power Distribution
Distribution System Operator (DSO)

Customers
Market Operators

Scenario

Energy industry and need for more fast and reliable communications

High penetration of
Distributed Generation

New actors in the Energy Market

New generation of Smart Grids solutions

Stability issues

Safety for field operators

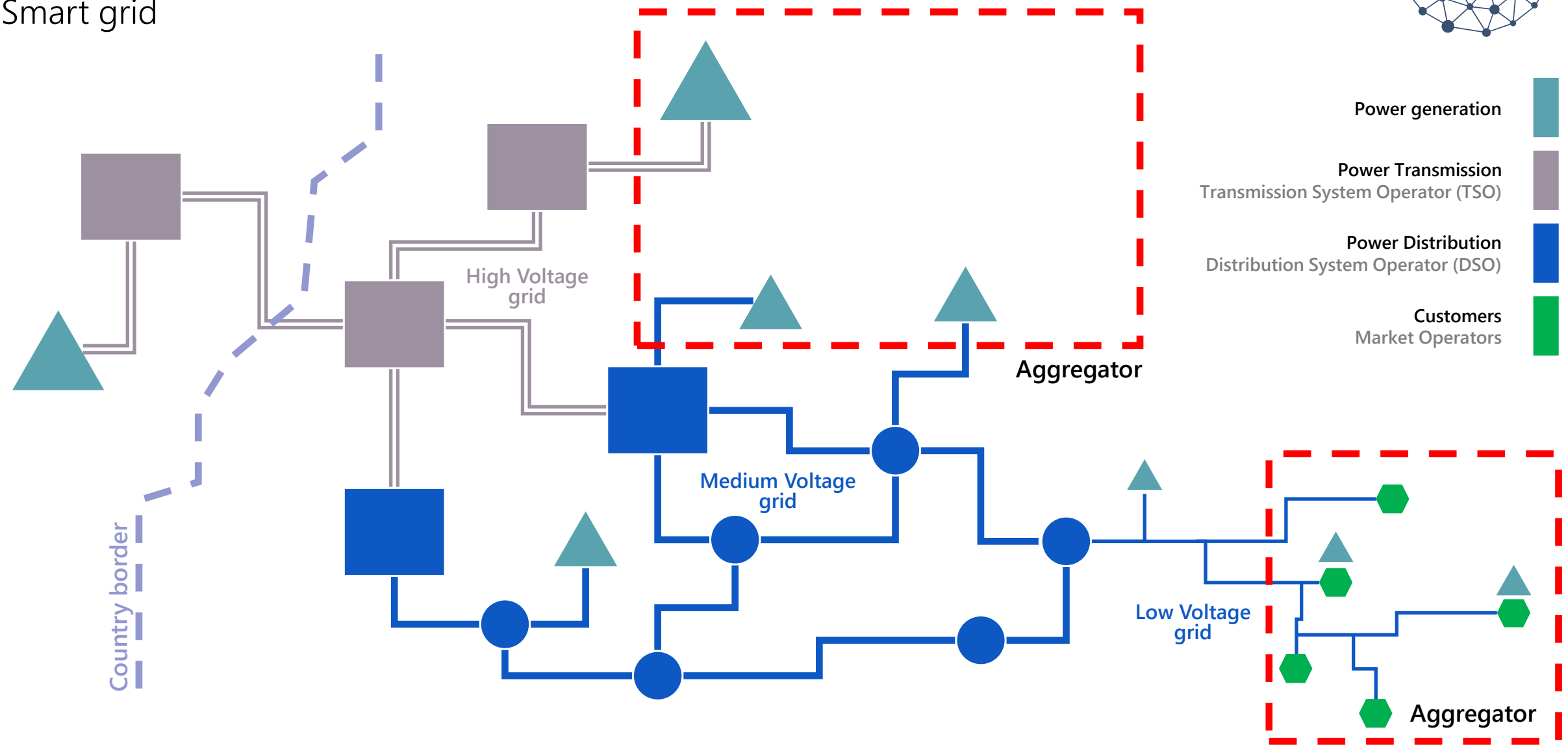
New solutions from 3rd parties

Need for digitalization

Security and reliability

Energy Vertical

Smart grid



Why 5G?

Advantages and opportunities

If compared to Optical Fiber

- Lower implementation costs
- Faster implementation
- Higher flexibility

If compared to 4G/LTE

- Lower latency (similar to Optical Fiber)
- Highest stability
- Virtually dedicated bandwidth (Slicing)

Major peculiarities

- Virtual Edge computing, strengthening the system resiliency

What we test in the project

- **NetApp**: an extension of the Network Virtualization Functionality that provides an **abstraction of the 5G complexity** to allow the development of data-network functionalities to a broader group of people. EC aims to create a market segment for NetApps, to support the penetration of 5G technology and foster the digitalization

How we arrived here today?

H2020 ICT-41-2020 Call for proposal: challenges, scope and impact

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Specific vertical sector

Open Source repository

NetApps

50% of SMEs

Third party markets

Project roadmap

General overview

Italian Demo | Olbia

Automatic Power Distribution Grid Fault Detection

Spanish Demo | Barcelona

Remote Inspection of Automatically Delimited Working Areas at Distribution Level

Bulgarian Demo | (Southern region)

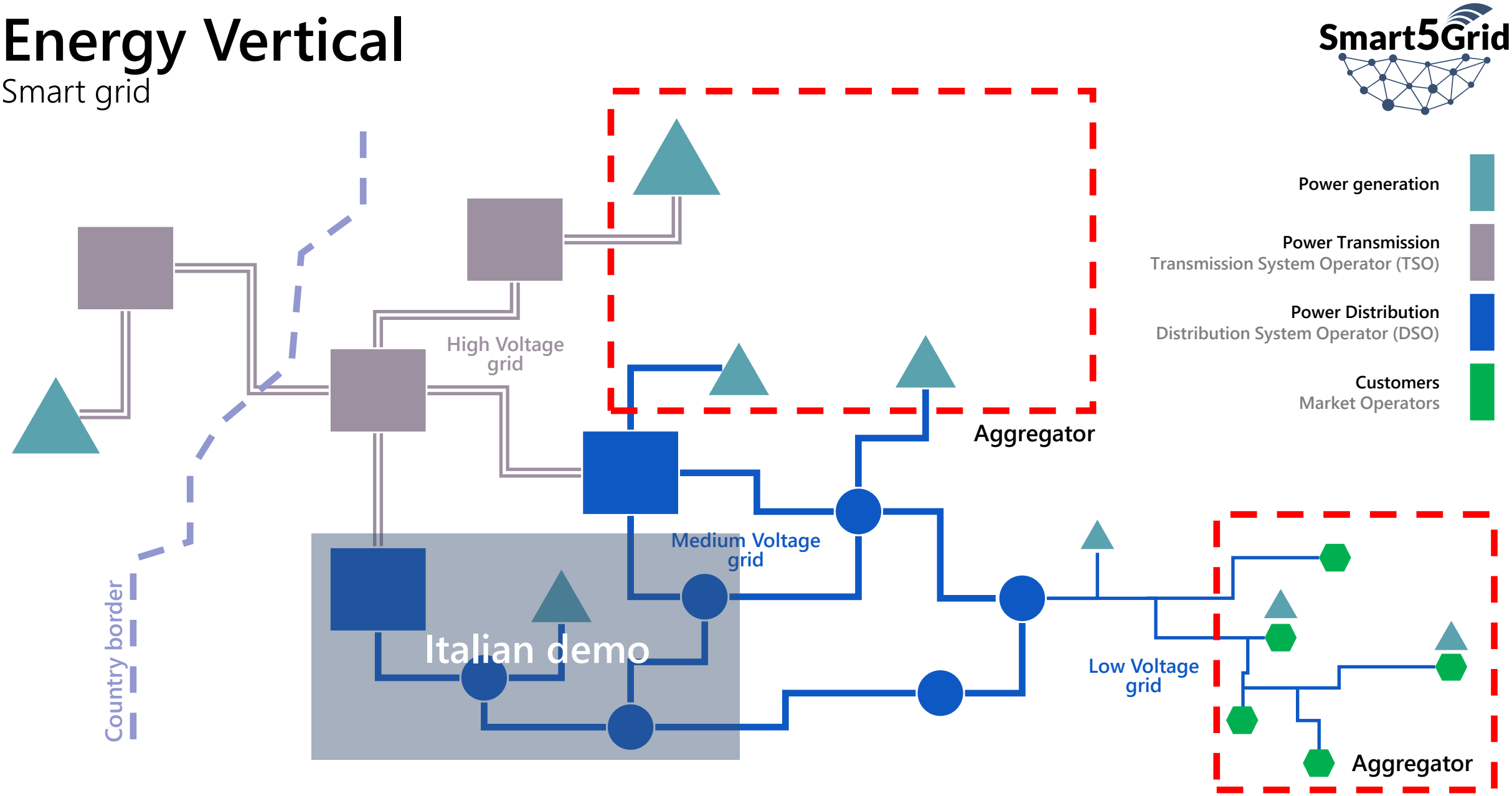
Millisecond Level Precise Distribution Generation Control

Bulgarian-Greek Demo | (Cross-border)

Real-time Wide Area Monitoring

Energy Vertical

Smart grid



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gridspertise
accelerating your electric future

Fabrizio Battista

TLC for field applications and Cyber Security
WP5 Leader

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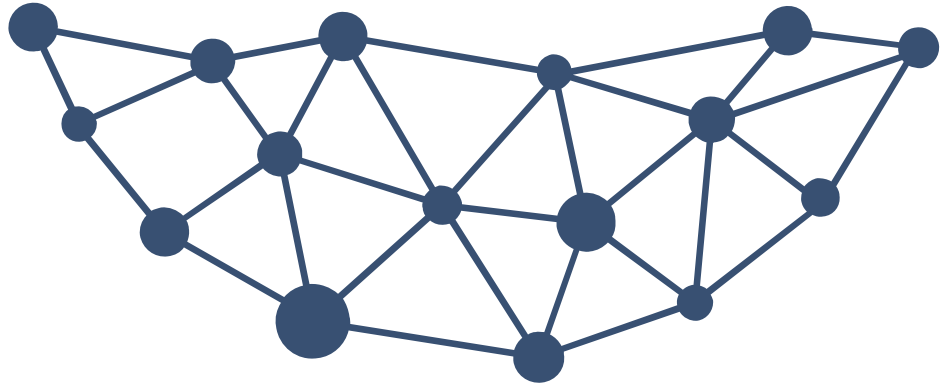

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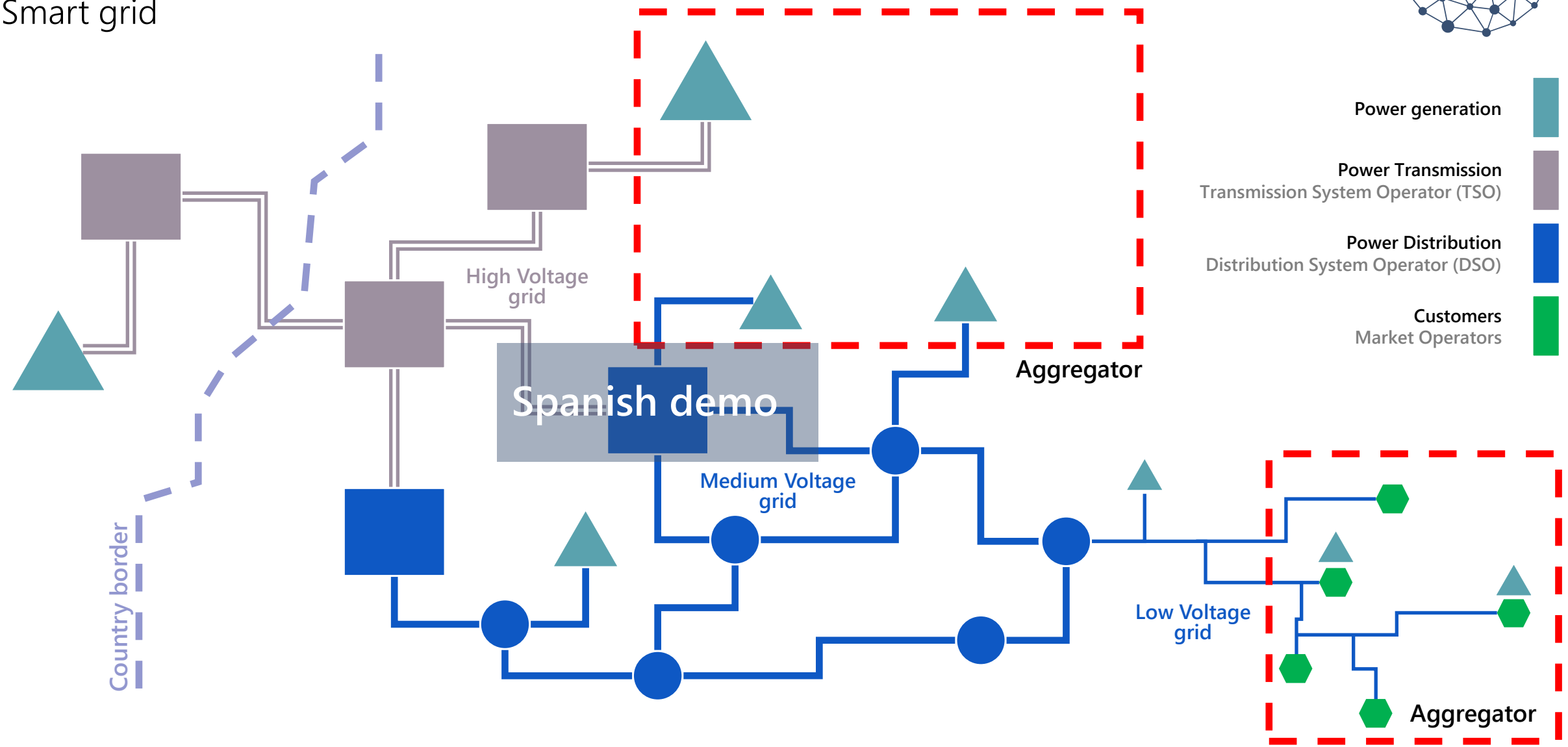
SMART energy **GRID**s of the future

Energy Vertical

Smart grid



e-distribución

Inmaculada Prieto Borrero

Spanish Demo leader

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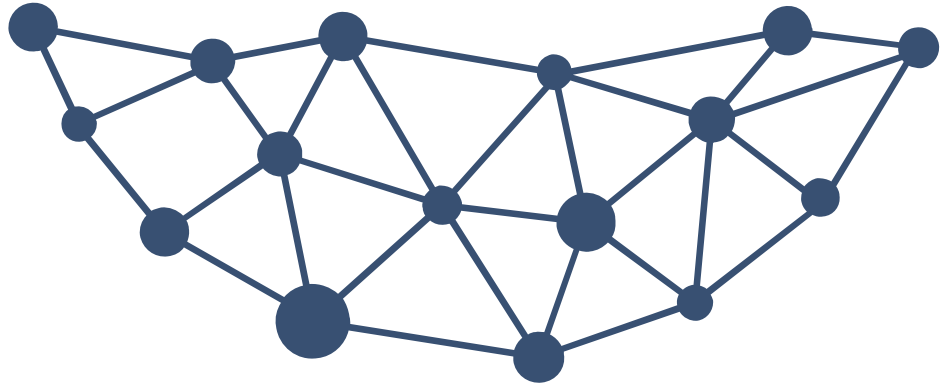

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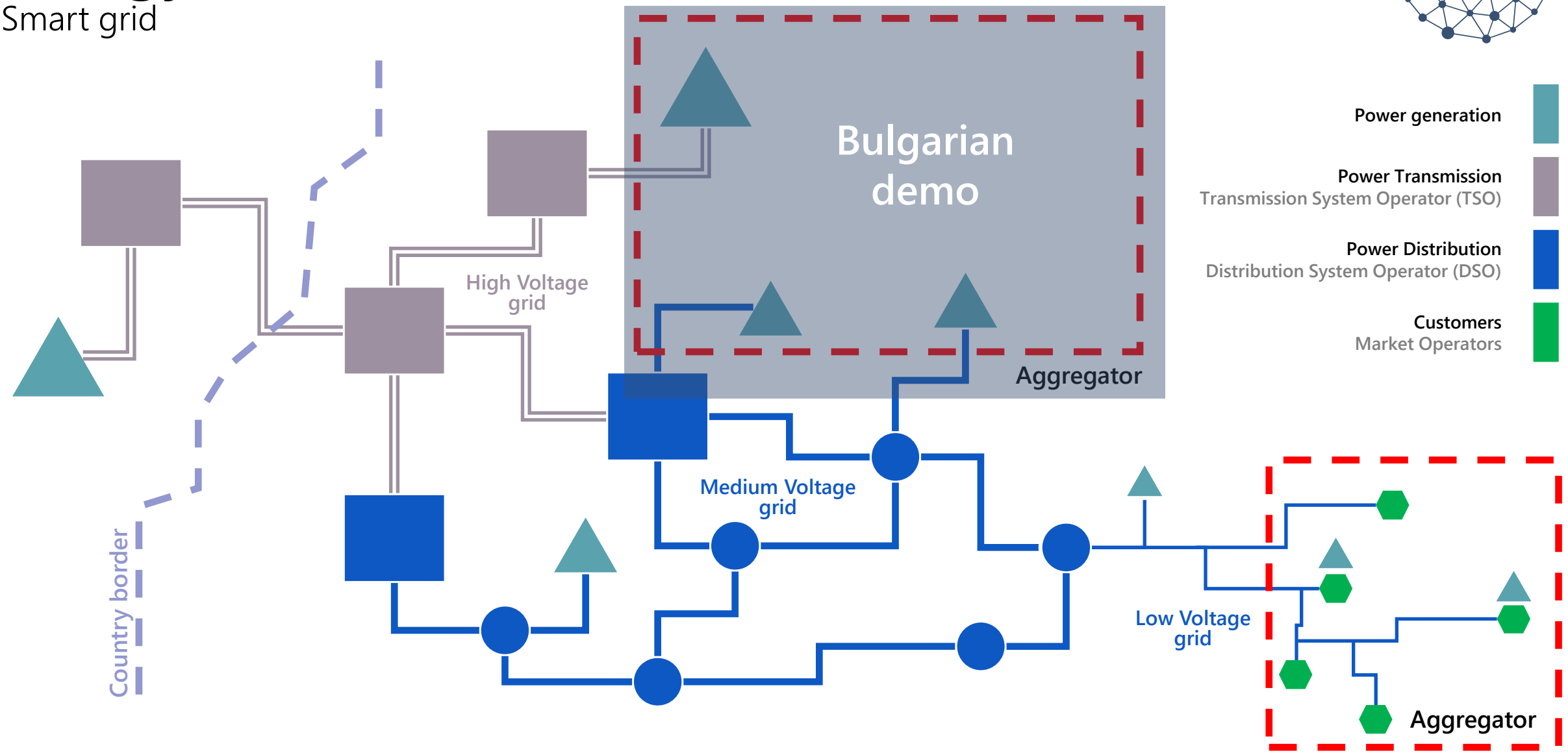
Energy Vertical

Smart grid

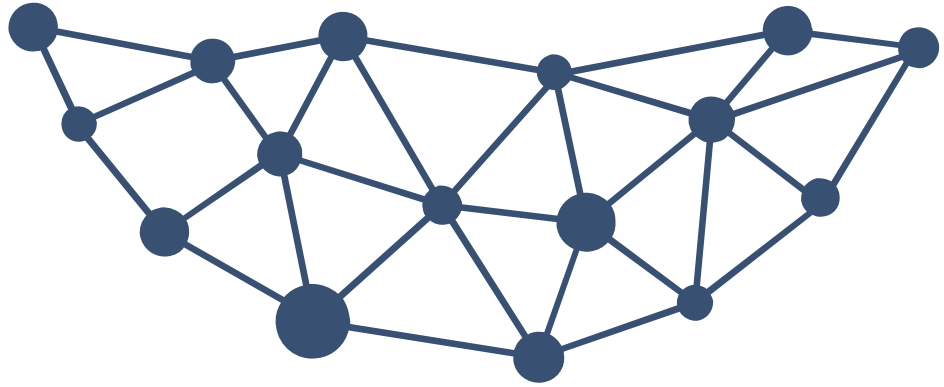


UBITECH
digitizing energy

Athanasios Bachoumis

Energy Research Associate

Smart5Grid



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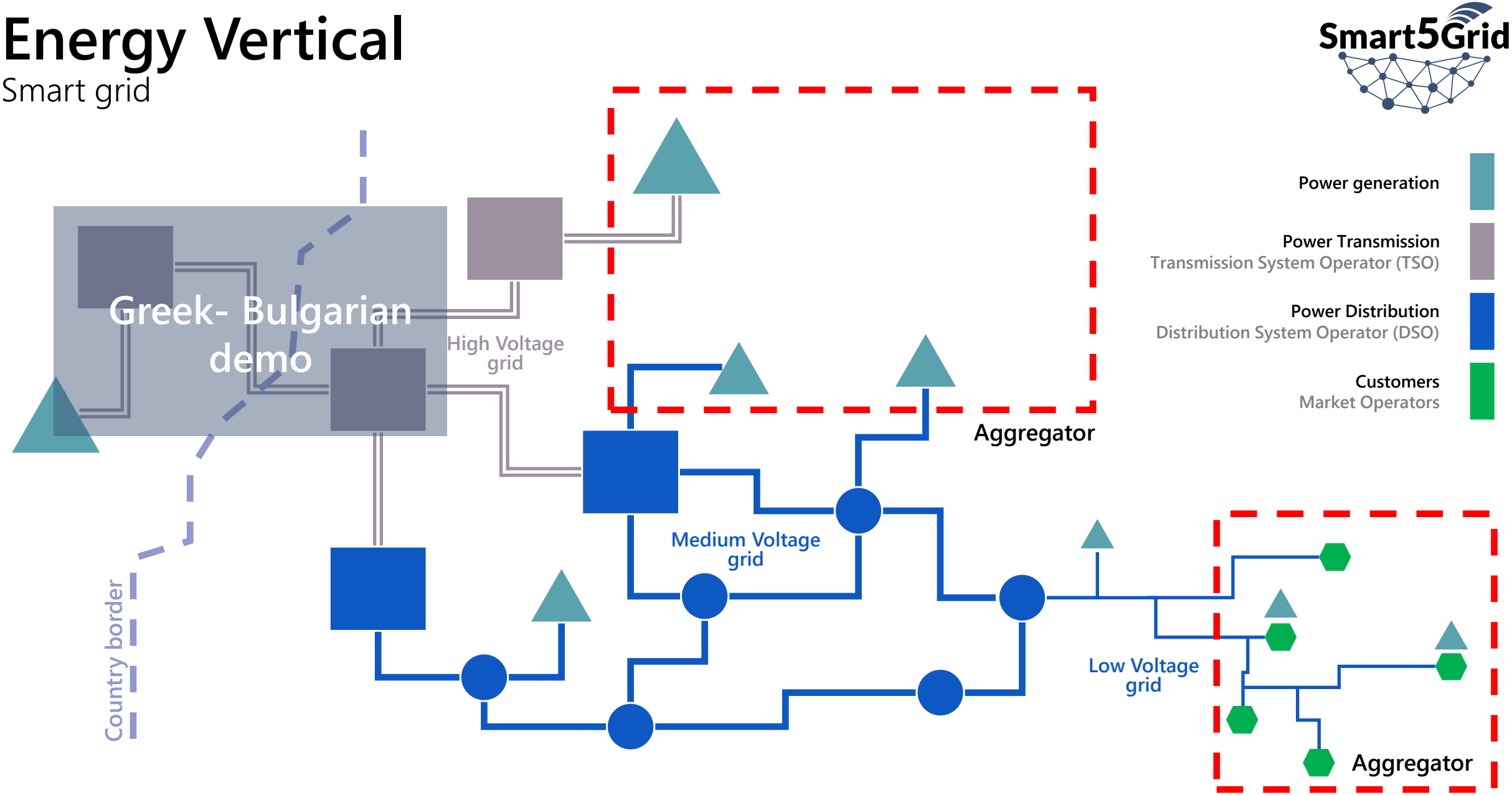
Energy Vertical

Smart grid



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ipto
INDEPENDENT POWER
TRANSMISSION
OPERATOR

Dimitrios Brodimas

Greek demo leader

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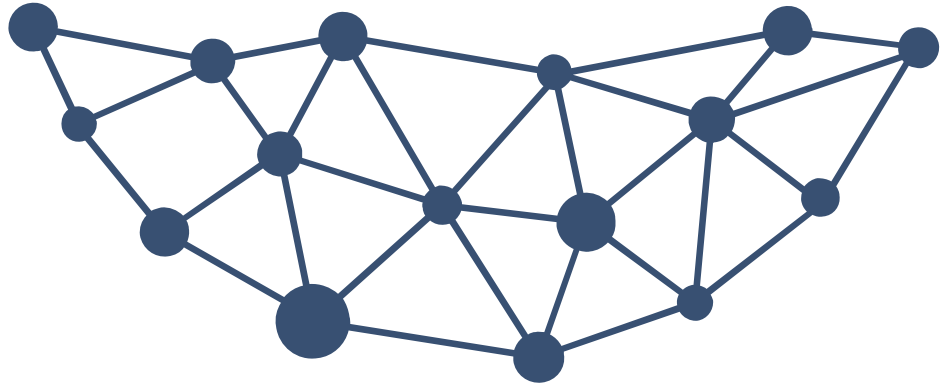

Demonstration of **5G** solutions for
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Q&A session

And final wrap up

Conclusions

Main project elements and expected results

Open NetApp repository

Automatic Validation and Verification framework

Four advanced 5G real-life demonstrators

Roadmap for third party experimentation

Liaison and Interaction with 5G-PPP Program

Impact creation and exploitation

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- Participation and use of the NetApp Experimentation Facility

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Thank you!

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