

# INTEGRATED SMART GRID CROSS-FUNCTIONAL SOLUTIONS FOR OPTIMIZED SYNERGETIC ENERGY DISTRIBUTION, UTILIZATION STORAGE TECHNOLOGIES

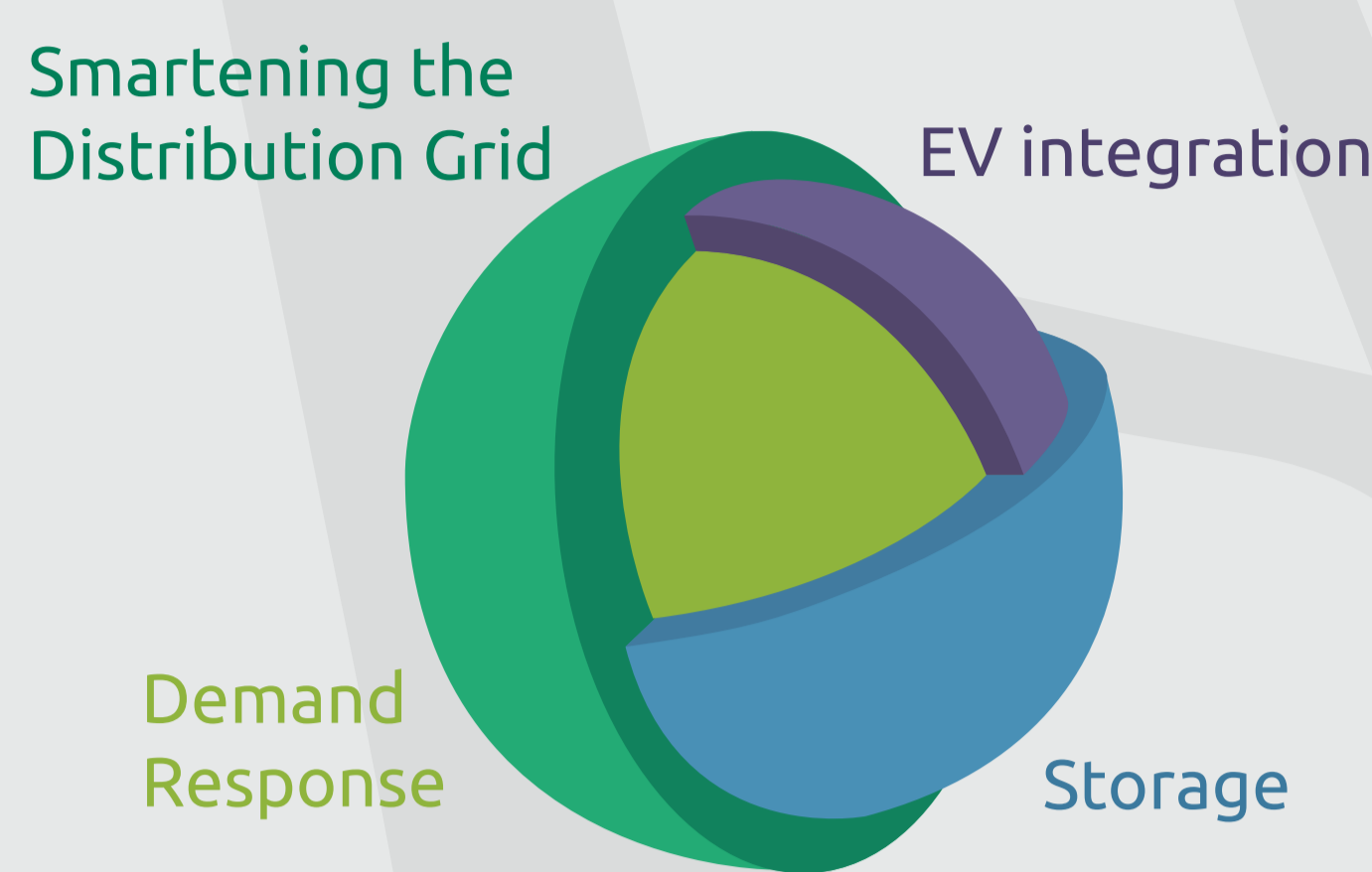
## INTEGRIDY OBJECTIVES

inteGRIDy aims to:

- integrate cutting-edge technologies, solutions and mechanisms in a scalable Cross-Functional Platform (framework of tools) of replicable solutions,
- connect existing energy networks with diverse stakeholders with enhanced observability of both generation and consumption profiles.

which will facilitate:

- the optimal and dynamic operation of the Distribution Grid (DG),
- fostering grid stability and coordinating Distributed Energy Resources (DERs), Virtual Power Plants (VPPs) and collaborative Storage schemes,
- within a continuously increased share of RES.



## INTEGRIDY PILOTS

### Isle of Wight, UK

Transforming buildings from standard to smart



- DR
- SG
- ES
- EV

### Nicosia, CY

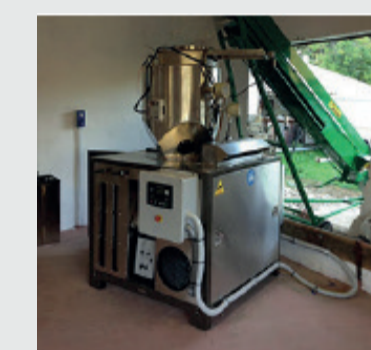
Becoming energy self-sufficient using sustainable energy sources



- DR
- SG
- ES

### Terni, IT

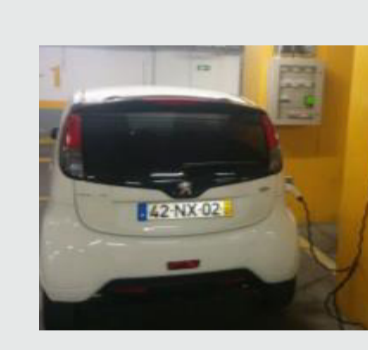
Increasing efficiency and sustainability from an environmental point of view



- DR
- SG
- ES
- EV

### Lisboa, PT

Integrating a building energy management system with solar PV production, electric vehicles and energy storage



- DR
- ES
- EV

### San Severino Marche, IT

Network reconfiguration and energy storage systems real-time dispatching for a more sustainable power system operations



- DR
- SG
- ES

### Xanthi, GR

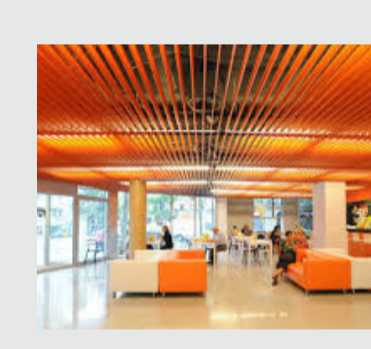
Managing energy in islanded multi-node microgrids involving hybrid storage technologies



- DR
- SG
- ES
- EV

### Barcelona, ES

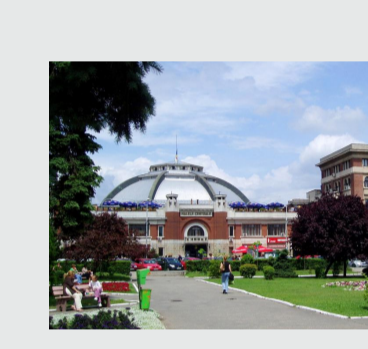
DR optimization and storage solutions to boost the grid penetration of RES



- DR
- SG
- ES

### Ploiesti, RO

Enhancement of the smart grid infrastructure in Romania by implementing the innovative solution EIS



- DR

### Saint-Jean de Maurienne, FR

Implementing Demand-Response campaigns based on the consumer's comfort and flexibility potential



- DR
- SG
- ES

### Thessaloniki, GR

Demonstrating a Demand-Side Management implementation in Greece, involving Battery Energy Storage and Demand Response schemes in both Residential and Commercial buildings



- DR
- ES

Pilot: Large Scale Pilots

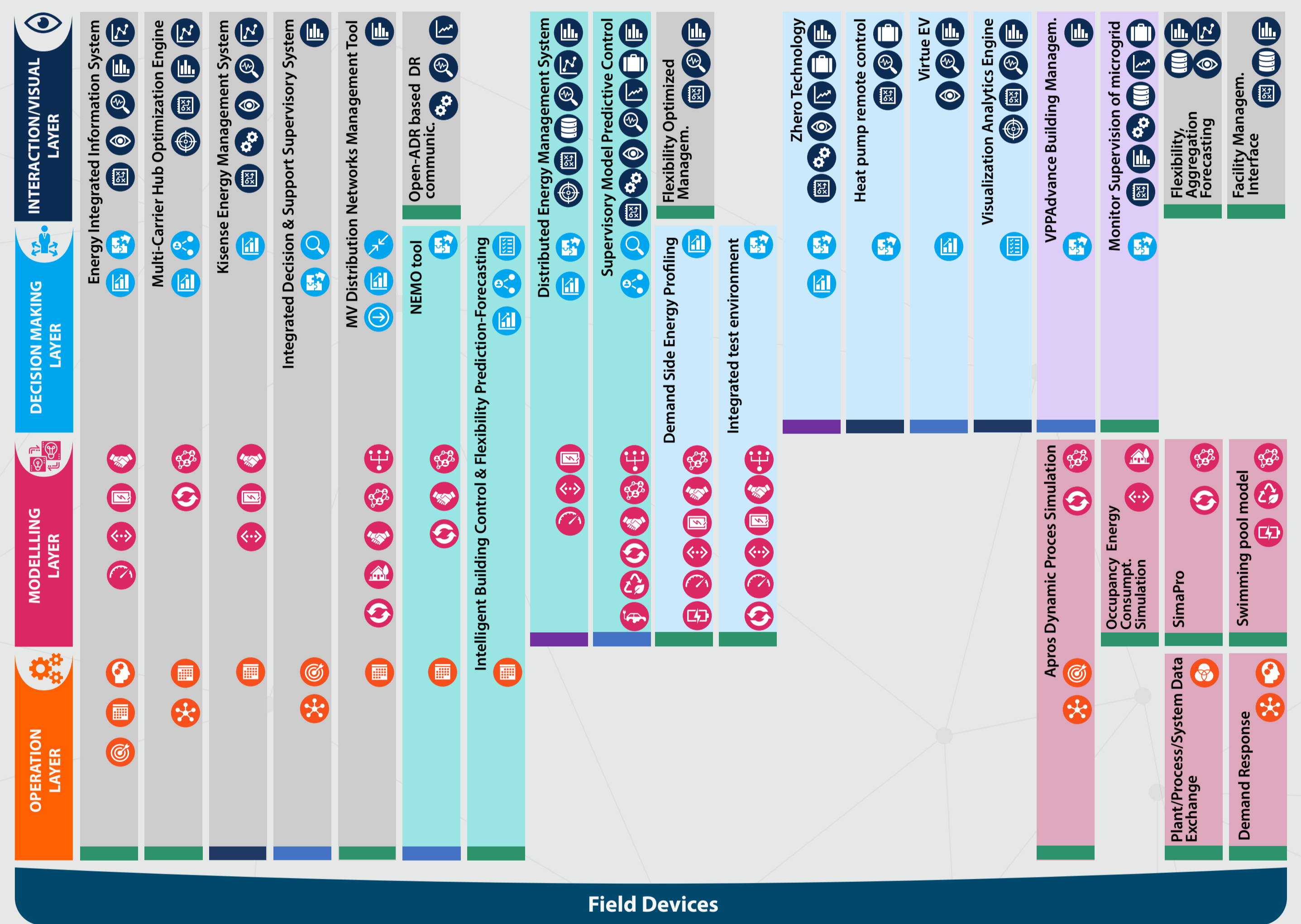
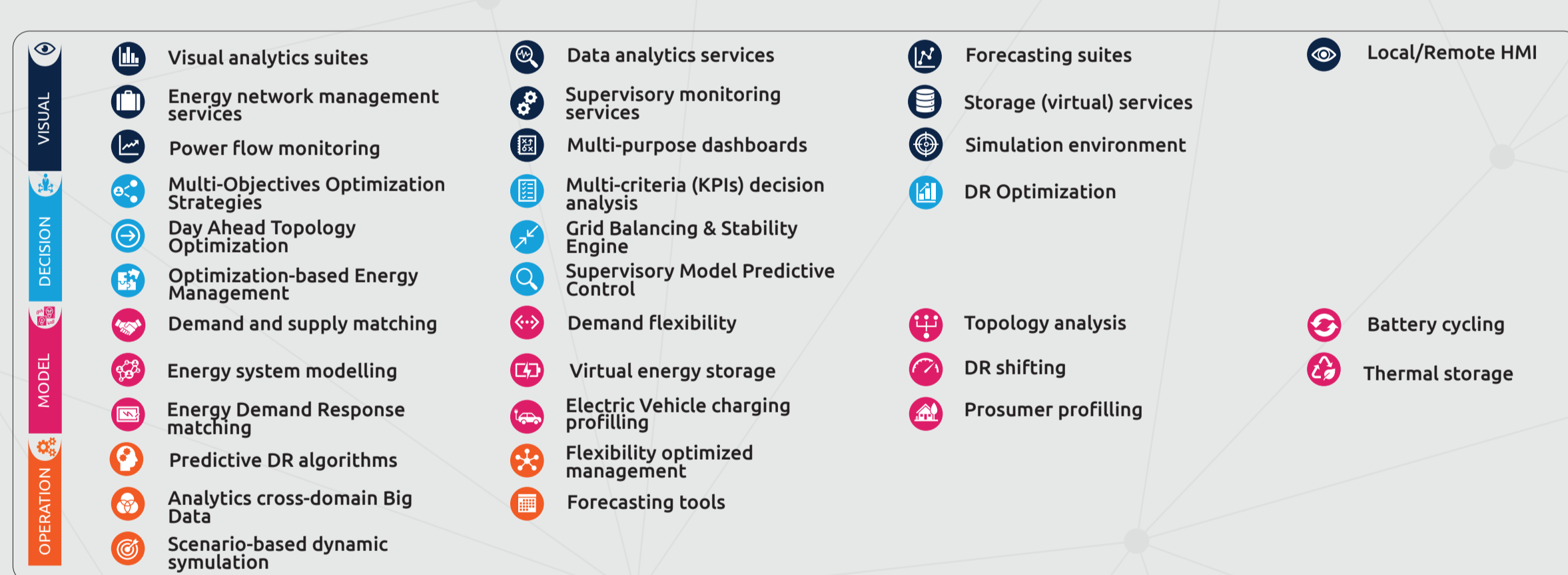
Pilot: Small Scale Pilots

## INTEGRIDY FRAMEWORK PHASES

### Development phase:

#### Framework of replicable tools

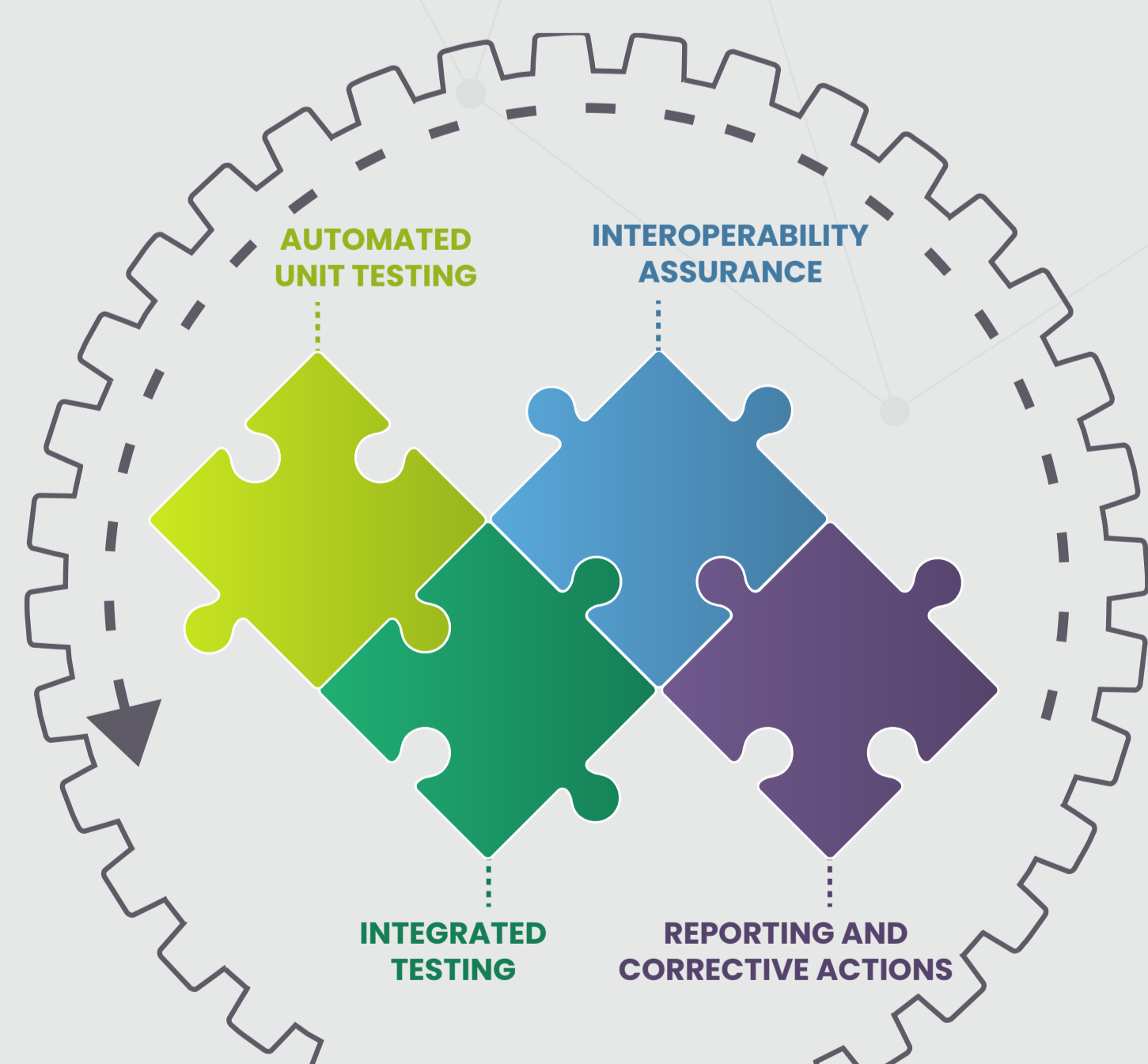
inteGRIDy framework offers twenty-seven interoperable tools working at different layers (field, model, operation, decision and visualization) and addressing a specific subset of macro-functionalities per layer in at least one of the ten project demo sites.



### Validation phase:

#### Interoperability is paramount to inteGRIDy

Testing mechanisms ensure the seamless alignment of the tools with the inteGRIDy framework and the proper deployment in the pilots.



### Replication phase:

#### Replicability at the core of inteGRIDy

The inteGRIDy business model & replicability tool analyses the tool/idea context and provides assessment for potential replication in different markets/countries.

