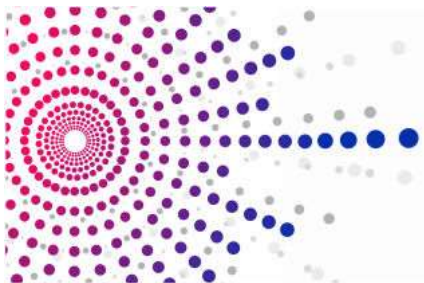


**BD<sup>4</sup>  
NRG**  
Big Data for Next  
Generation Energy

# BD4NRG Project Presentation

Nikos Dimitropoulos  
National Technical University of Athens

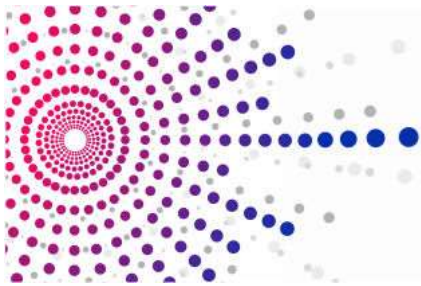




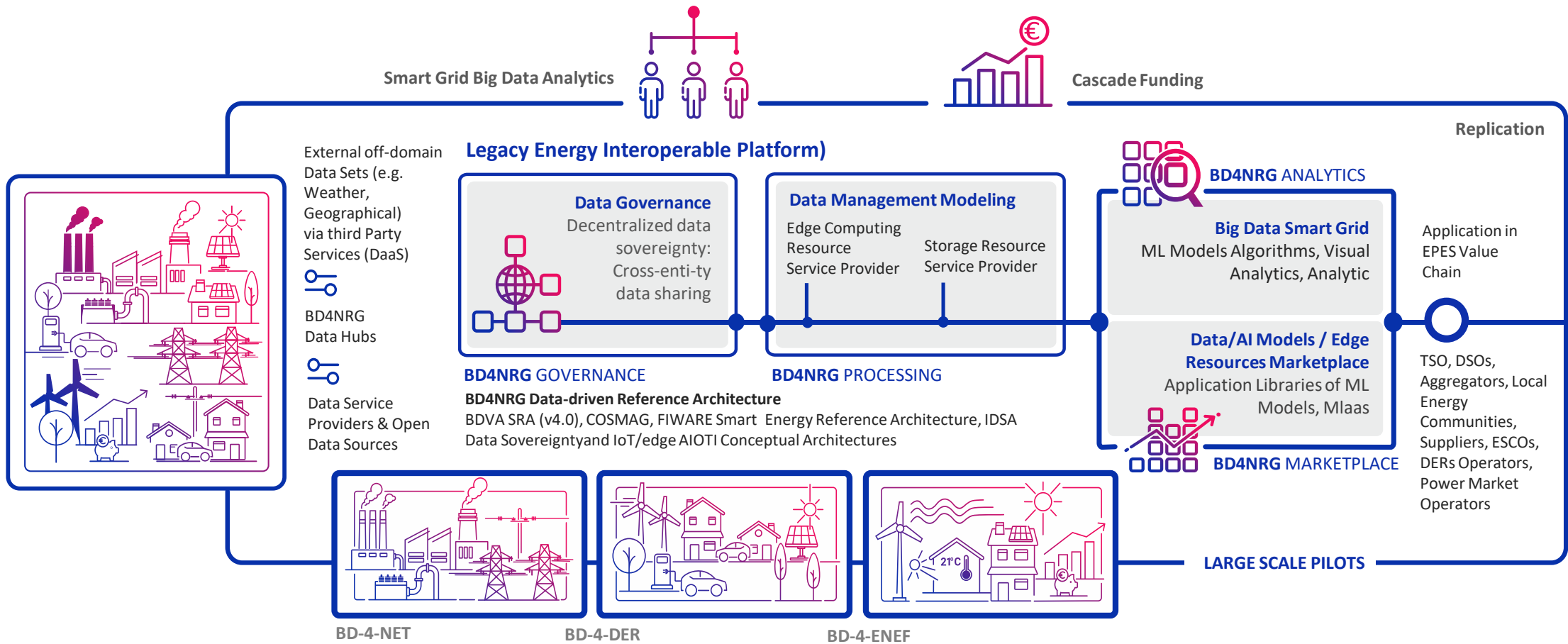
## BD4NRG Vision (1/2)

- Delivering an innovative energy-specific open analytics modular framework
- Enabling and realising an incremental decentralized energy data-driven ecosystem
- Integrating State-of-The-art technological advancements to operate the data-driven ecosystem
- Unlock and exploit the economic potential of big data in the energy sector
- Enabling AI-based cross-sector analytics for optimised smart energy grid management

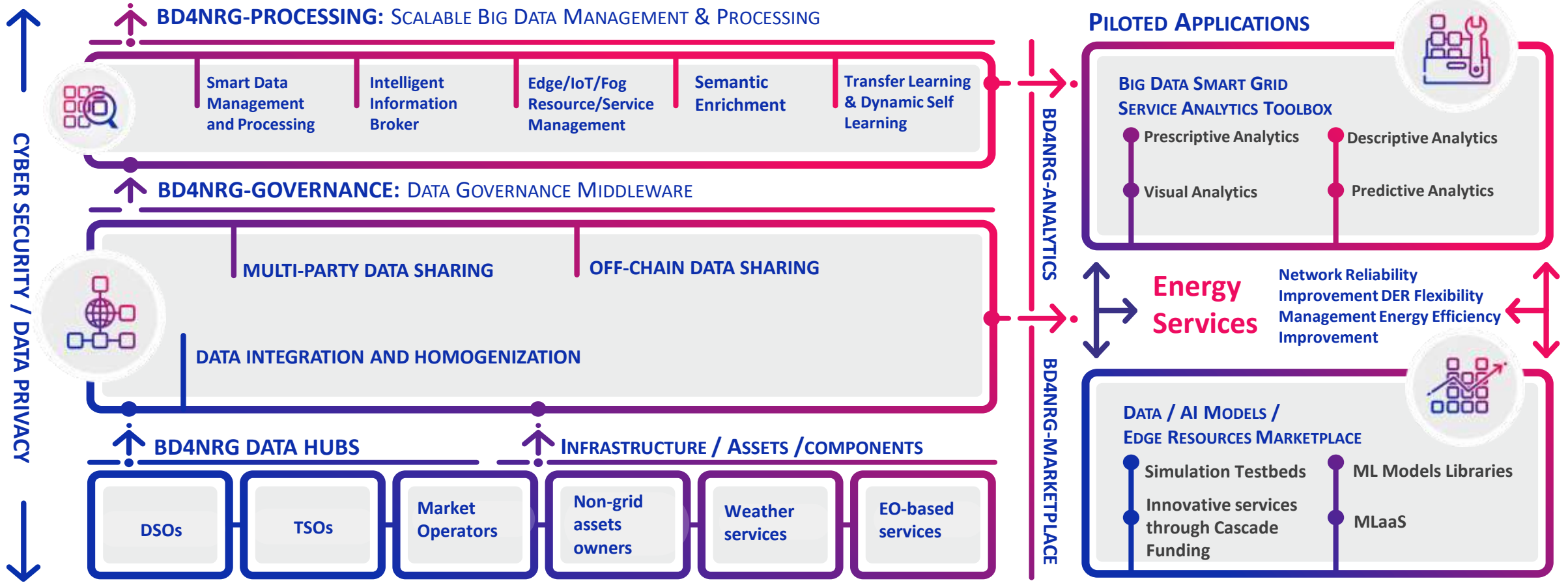


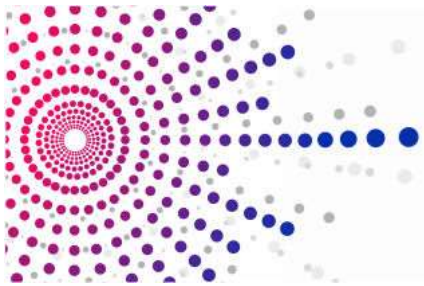


# BD4NRG Vision (2/2)

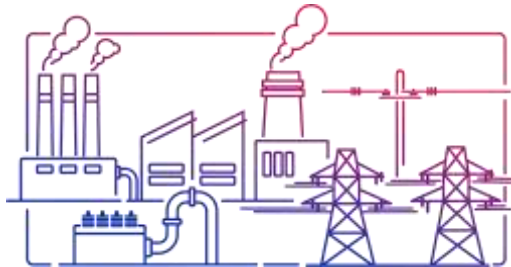


# BD4NRG Proposed Solution





## Large Scale Pilots (1/3)



### **BD-4-NET**

Predictive Analytics that can forecast and increasing the efficiency and reliability of the electricity network



### **BD-4-DER**

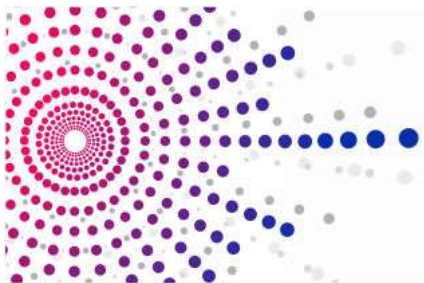
Optimizing the management of assets (Distributed Energy Resources – DER) connected to the grid



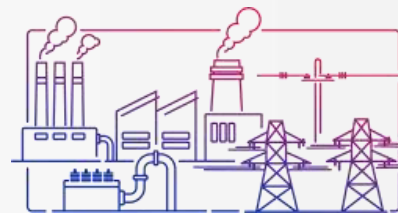
### **BD-4- ENEF**

Increasing the efficiency and comfort of buildings, and de-risking investments in energy efficiency, as both are interlinked





## BD-4-NET Large Scale Pilots



**BD<sup>4</sup>  
NRG**  
Big Data for Next  
Generation Energy

### BD-4-NET

**LSP 1:** Integrating off-grid data with Condition based Monitoring for Enhanced Predictive Asset Maintenance

**Partners Involved:** REN & RDN



**LSP 2:** Cross-functional Integration of Grid Operation with Predictive Asset Management

**Partners Involved:** ELES



**LSP 3:** Cross-Domain functional Integration of Predictive Asset Management and Grid Operation while coordinating with EVs smart charging

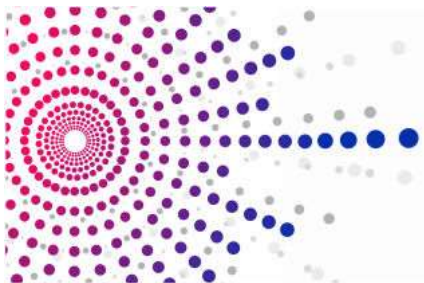
**Partners involved:** ASM



**LSP 4:** Cross-functional Predictive Asset Management for MV Grid Planning

**Partners Involved:** OEDAS





# BD-4-DER Large Scale Pilots



## BD-4-DER

**LSP 5:** Cross-stakeholder Transfer Learning for Flexibility Assets Forecasting

**Partners Involved:** CENTRICA



**LSP 6:** Coordinating grid-owned and behind-the-meter assets management prediction for improved grid operation and near real time power market operation settlement

**Partners Involved:** EKL, BORZEN, CS



**LSP 7:** Predictive Analytics Forecasting of storage optimized operation for improved market reserve participation

**Partners involved:** ENELX



**LSP 8:** Predictive Demand and Generation Forecasting for Optimized Local Energy Community Management

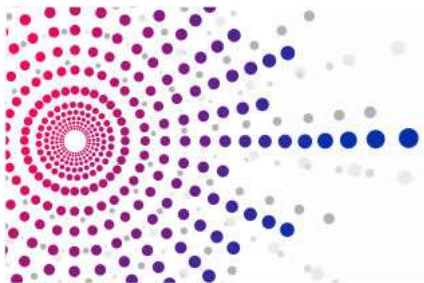
**Partners Involved:** UNIWA



**LSP 9:** Predictive Demand and Generation Forecasting for Optimized Local Energy Community Management

**Partners Involved:** UNIWA





## BD-4-ENEF Large Scale Pilots



**BD4  
NRG**  
Big Data for Next  
Generation Energy

### BD-4-ENEF

**LSP 10:** Predictive and Prescriptive Analytics for improved Energy Performance Certificates Reliability

**Partners Involved:** CARTIF & VEOLIA



CARTIF



**LSP11:** Weather-enhanced building thermal comfort prediction to enable energy efficiency reliable forecasting

**Partners Involved:** AJSCV & VEOLIA



AJUNTAMENT DE  
SantCugat

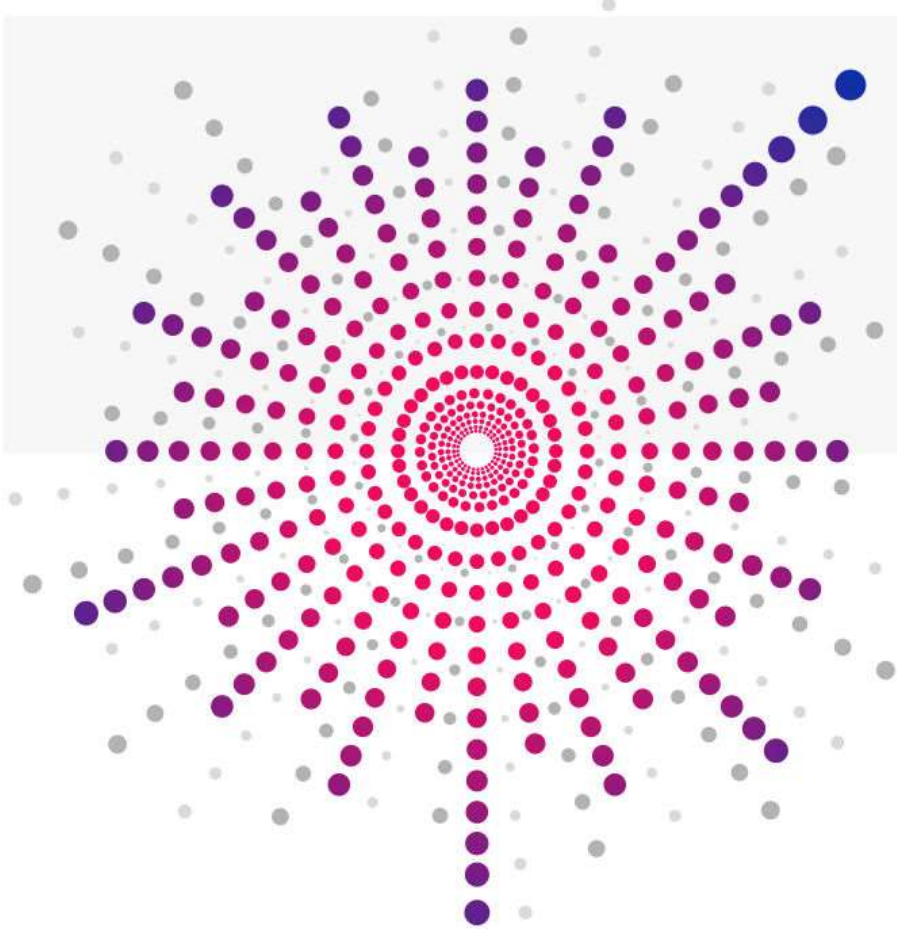


**LSP12:** Predictive Analytics for Energy Efficiency Investments de-risking

**Partners involved:** LEIF










**Thank you!**

**Nikos Dimitropoulos**

**National Technical University of Athens**

-  [bd4nrg](#)
-  [@Bd4Nrg](#)
-  [info@bd4nrg.eu](mailto:info@bd4nrg.eu)
- [www.bd4nrg.eu](http://www.bd4nrg.eu)



BD4NRG project has received funding from the European Union's Horizon 2020 Research and Innovation programme under grant agreement No 872613

