



Parallel Session: Establishing the foundations for a European Construction digitalization

“Big Data and AI-enabled services for the building sector and beyond”

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BEYOND

A reference big data platform implementation and AI analytics toolkit toward innovative data sharing-driven energy service ecosystems for the building sector and beyond





ECTP Conference 2021



A reference **big data platform implementation and AI analytics toolkit** toward innovative **data sharing-driven energy service ecosystems for the building sector** and beyond

Start Date
01/12/2020

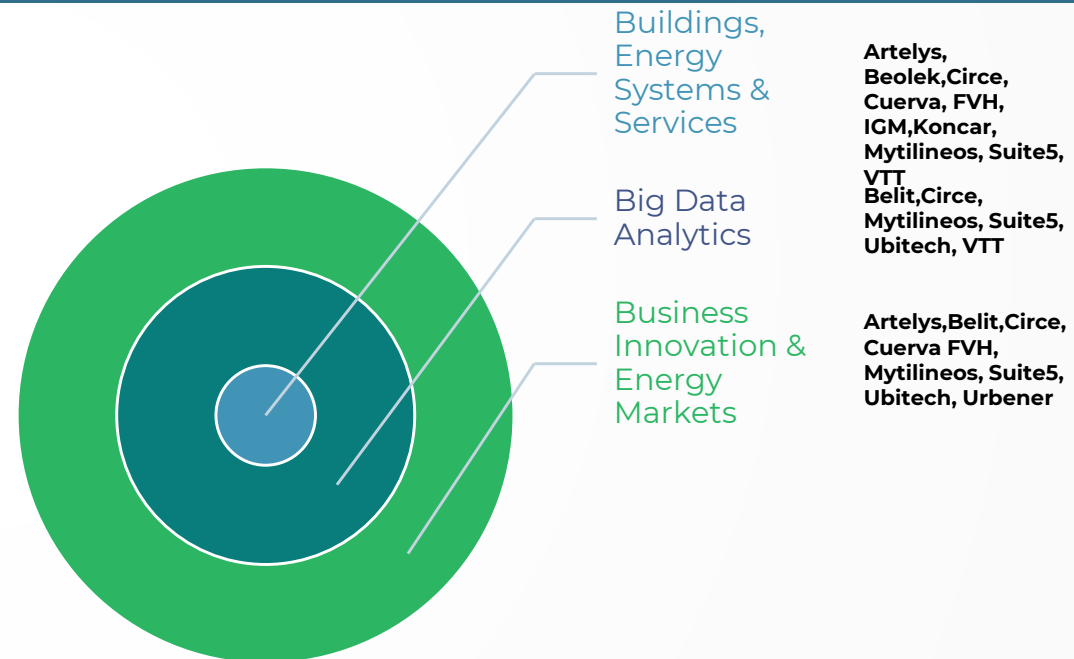
13 Partners

36 Months

8 Countries

Innovation Action

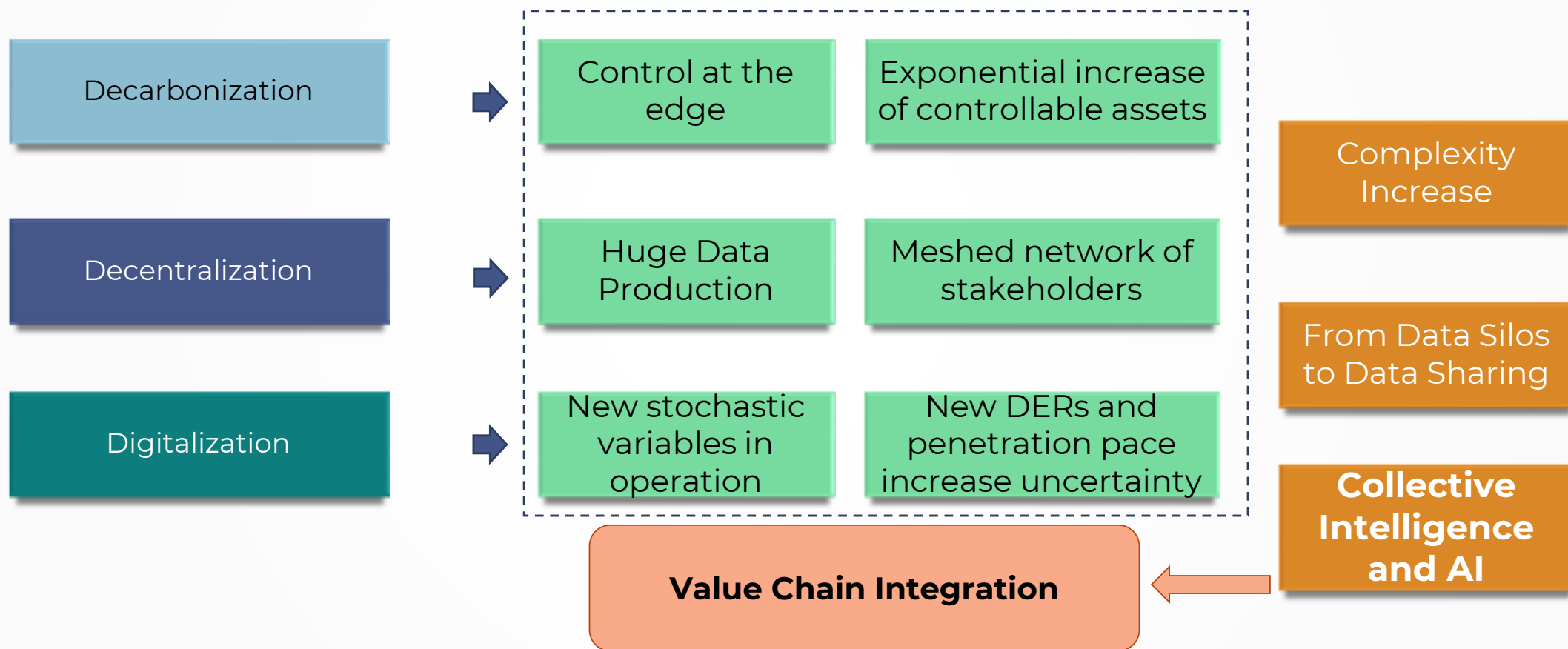
4 Demonstrators



BEYOND has received funding from the European Union's Horizon 2020 Research and Innovation programme under the Grant Agreement No 957020.

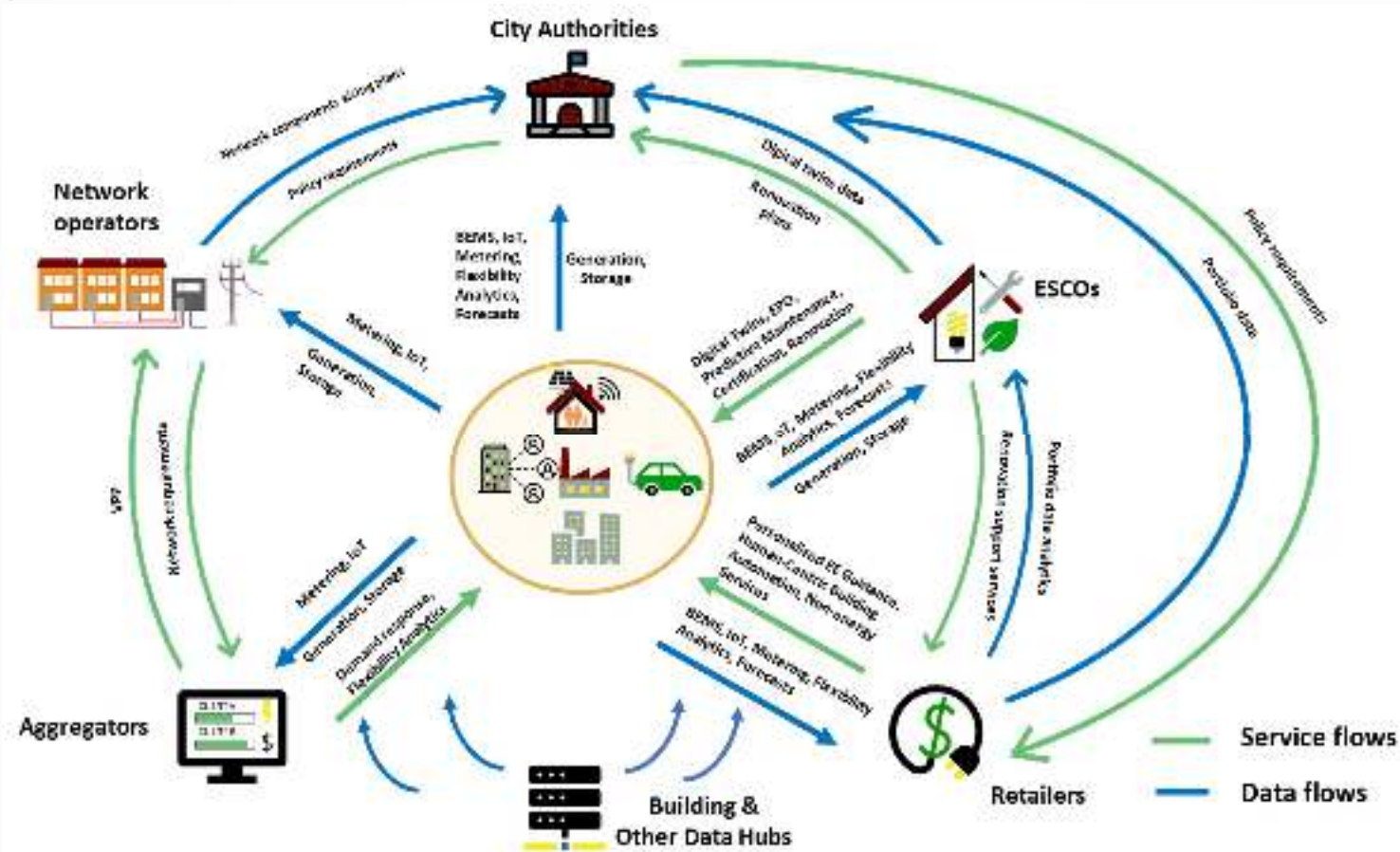


Why (Big Data for) Buildings?



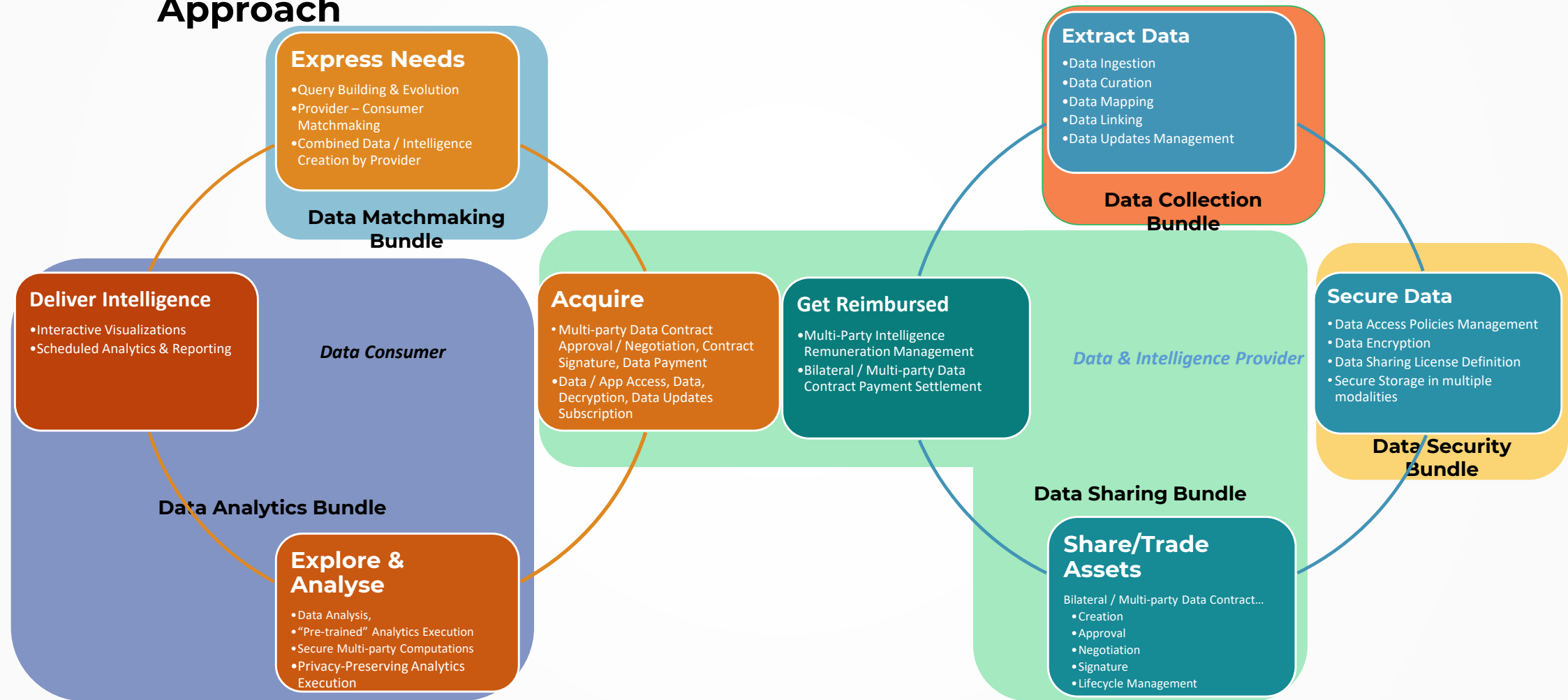


Collective Intelligence through Building-Data Value Chain Integration





Trustfulness and Sovereignty in Data Sharing- The BEYOND Approach



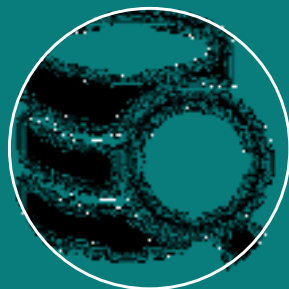


BEYOND in a nutshell – Technical novelties (1/2)



Effortless data management

Easing tasks for the curation, mapping and linking of private data assets with external data based on a Common Information Model



Intuitive data exploration

Support in searching, locating/"matchmaking", understanding, exploring and "preparing" energy-related data for analytics



Analytics as a Service

Enabling novel applications for the whole value chain

- Personal Analytics
- Industrial Analytics
- Edge baseline analytics



By-design Interoperability

Provision of standardized interfaces to collect and export intelligence





BEYOND in a nutshell – Technical novelties (2/2)



End-to-end data security

Encrypt and check-in data through an on-premise environment with multiple modalities



Real data privacy

Data remains private and on -premise while allowing for joint actions with other “trusted” stakeholders



Secure experimentation playground

Designing and executing analytics and “applications” in private sandbox environments, spawn on demand



Trusted data sharing

Creating, signing and validating smart multi-party data contracts in an immutable manner, while remunerating the involved stakeholders



Advanced access control

Regulate access to the private data assets through declarative authorization policies





A bundle of data sharing-driven energy services

- Data-driven Urban Planning → City Authorities
- Evidence-based energy infrastructure planning and sizing → Network Operators (District Heating/ Electricity)
- Advanced renovation support → ESCOs, Construction Companies
- Enhanced Digital Twin for holistic building energy and asset management → ESCOs, Facility Managers
- Bottom-up Portfolio Analytics and Management → Retailers
- Personalized energy analytics and automation → Prosumers
- Building Energy Performance and Smart Readiness Certification → ESCOs
- VPP Configuration and Residential Demand Response → Aggregators





BEYOND Demonstrators

- **Greece:** Mytilineos (Retailer)
- **Spain:** CUERVA (DSO, Retailer) – URBENER (Aggregator)
- **Finland:** FVH (City Agency/ Building Management)
- **Serbia:** BEOELEK (District Heating Network Operator/ Retailer)





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Thank You!



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