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TIMEPAC 



MODERATE

Marketable Open Data Solution for Optimized Building-related Energy Services

The open platform of the MODERATE project to enhance building processes



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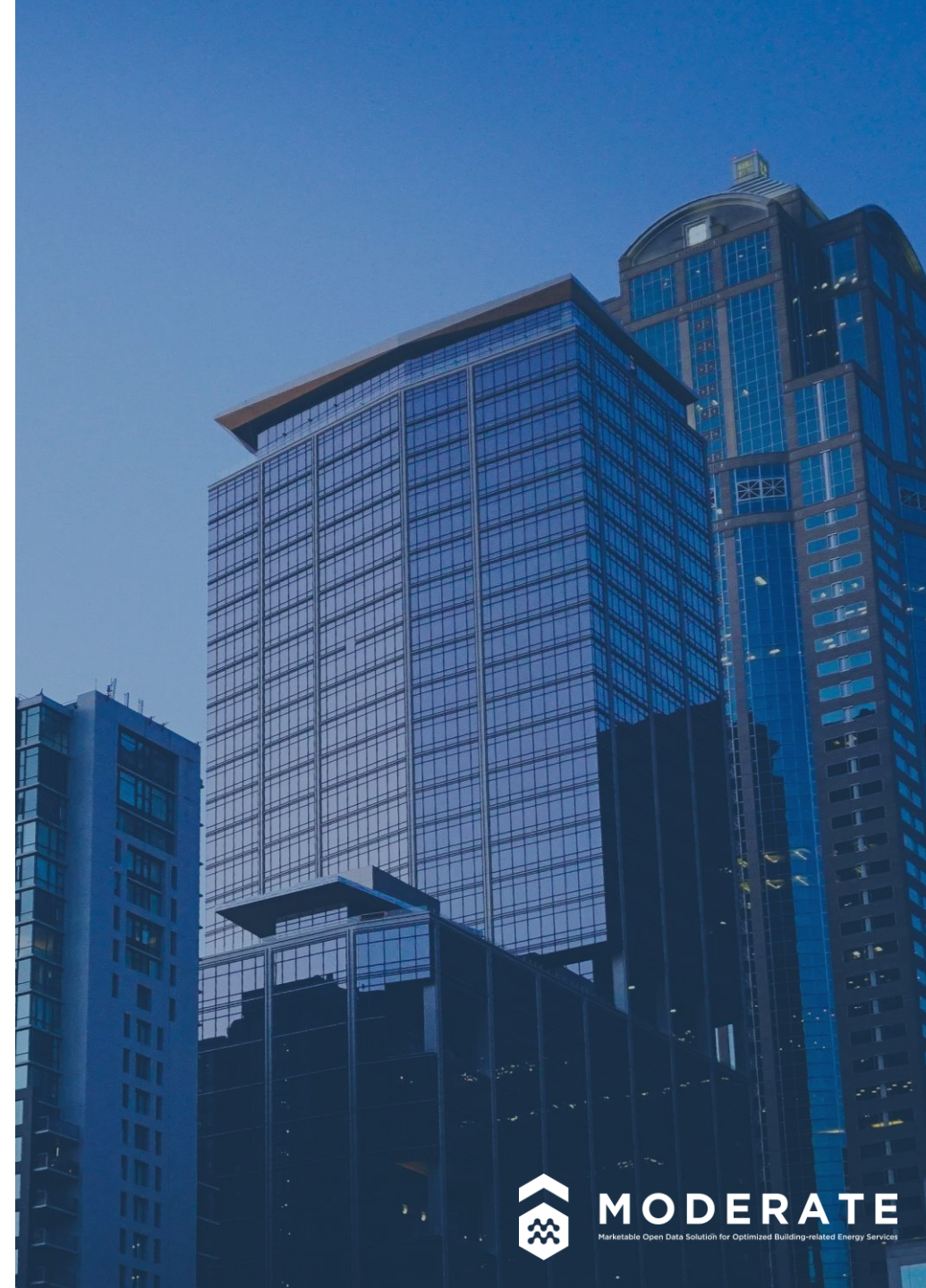
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Agenda

- MODERATE Project
 - overview
 - Filling the GAPS
 - Goals
 - Innovations
 - Outcomes
 - Platform architecture
- Synthetic datasets:
 - Data
 - Synthetic data
 - Synthetic EPCs
- Data Driven Services
 - Marketplace Consultancy
 - EPC harmonization



MODERATE project: overview

- Funded by Europe Horizon 5.5 mln €
- Start 6/2022 – End 5/2026
- 17 partners from industry, consulting and research
- **Marketable Open Data Solutions for Optimized Building- Related Energy Services**

[DOI 10.3030/101069834](https://doi.org/10.3030/101069834)



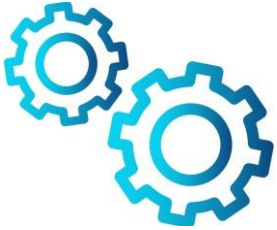
MODERATE
Marketable Open Data Solution for Optimized Building-related Energy Services

MODERATE project: Filling the GAPS

- Proper infrastructure to share data
-> need for suitable **methods** and infrastructure
- Service reliability
- **Trusted high quality** datasets



MODERATE project: Goals



To develop functionalities and services that can transform collected data into **knowledge and wisdom** for users



To **match data providers with consumers** focusing on the knowledge to be exchanged



To **share** high quality datasets and services openly and in compliance with ethical and law constraints



MODERATE project: Innovations

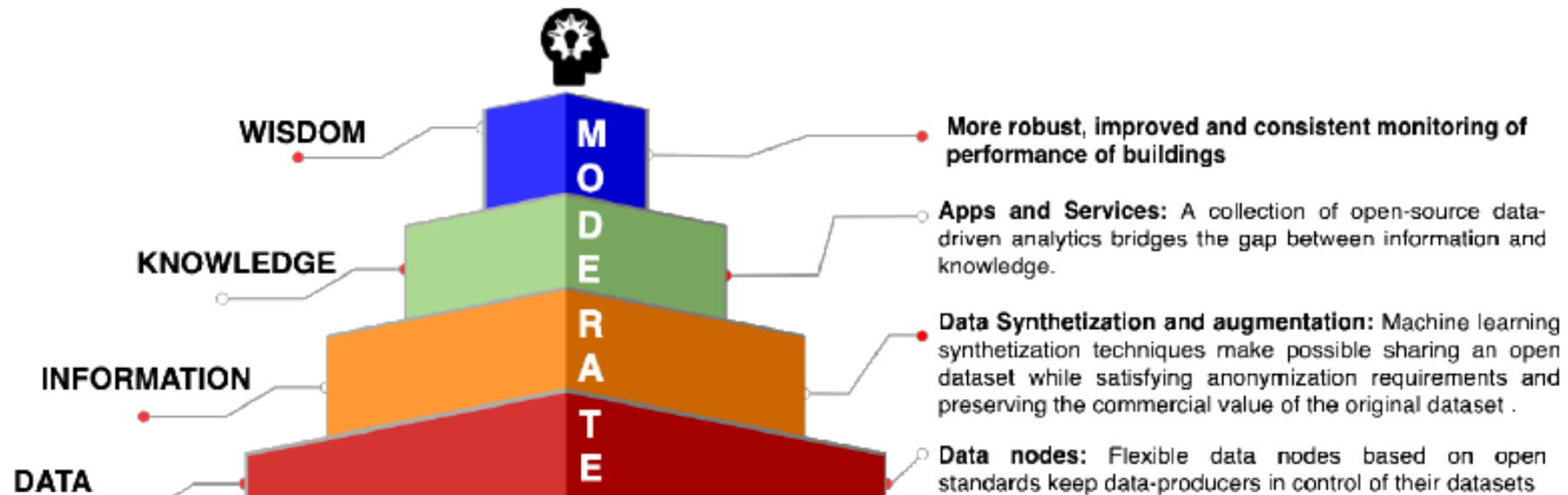
- Improved data collection
- Increased trust through data synthetization
- Harmonization & standardization of data
- Analytics & marketplace



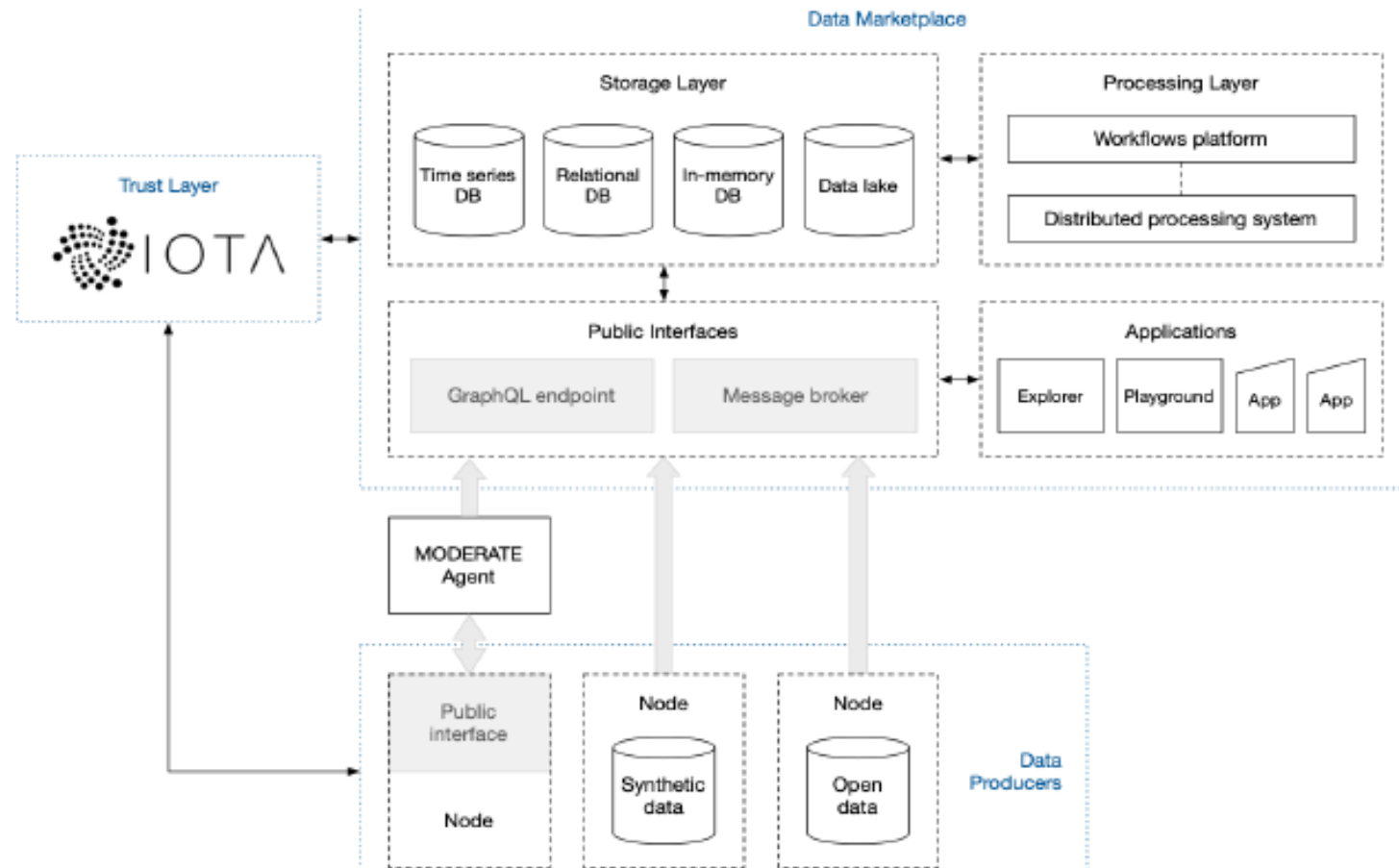
MODERATE project: Outcomes

- Open building platform
 - Open synthetic datasets
 - Data-driven analytics tools to insight building performance:
 - system management
 - Building optimization and assessment
 - decision making
- Protocol for secure connection and data sharing





The MODERATE project: Platform architecture



Synthetic datasets: data

- Static data: EPC data, installed systems and appliances, satellite data
- Dynamic data from monitoring and operation: energy consumption, load profiles

Data at different scale

- Building scale
- District scale
- City
- Regional and national



Synthetic datasets: GDPR

➤ What is GDPR?

The General Data Protection Regulation (GDPR) is a European Union regulation that was adopted in 2018. It sets out rules on how **personal** data can be collected, used, stored, and shared.

➤ When is data GDPR compliant?

If no **personal** information can be inferred from the data

Anonymized data is **not** automatically GDPR compliant



Synthetic datasets: data synthetization

WHAT IS SYNTHETIC DATA?

- Artificially generated data
- Mimics real data
- Masking sensitive information



Pros

- Privacy and confidentiality
- Real data can be rare
- Synthetic data is perfectly annotated
- High data quality
- Scalability

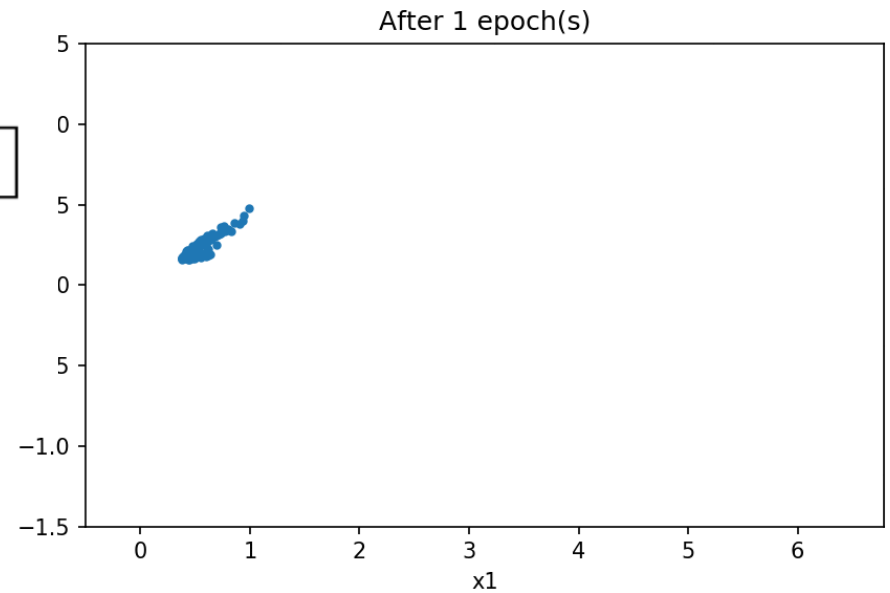
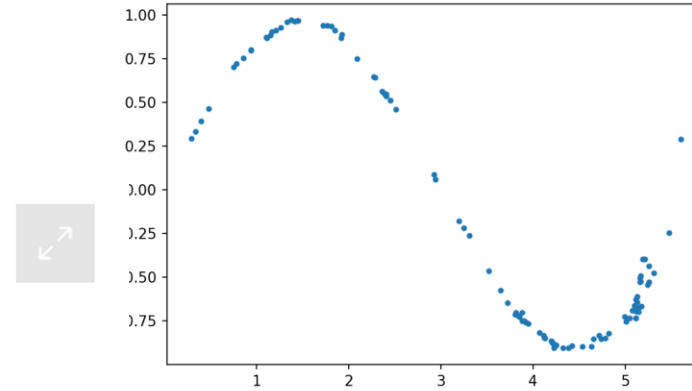
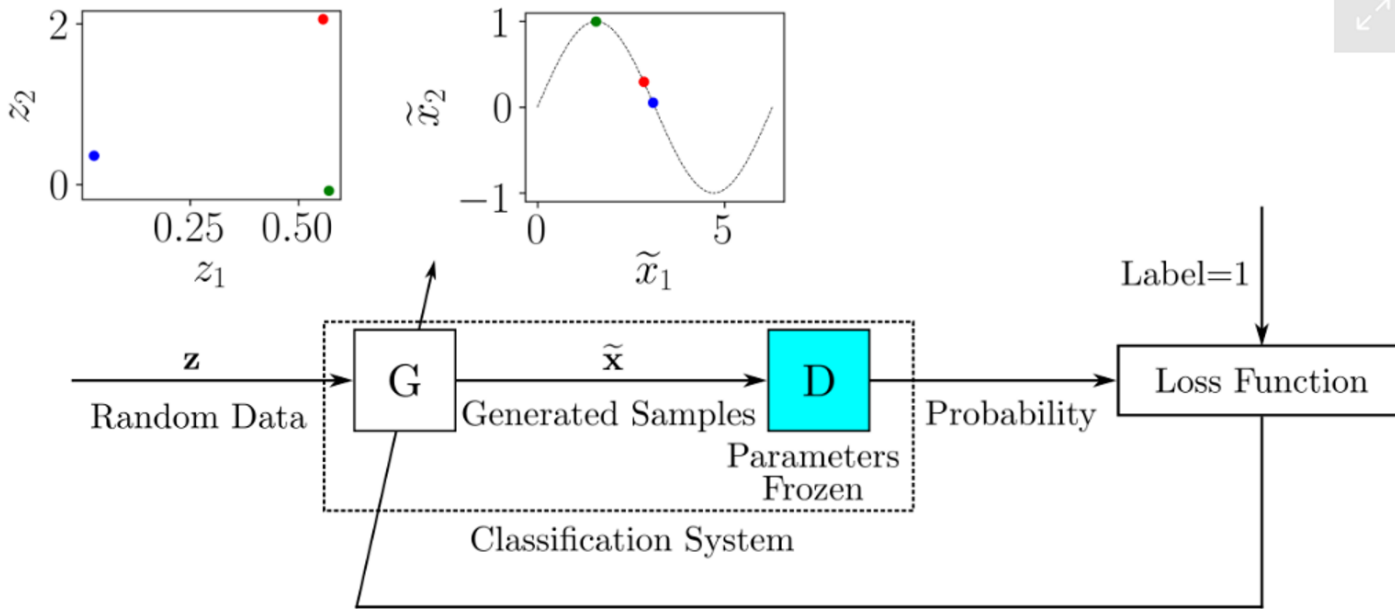
Cons

- Quality of synthetic data depends on data source and model
- Computer resources
- precise control over the algorithm's behavior can be challenging

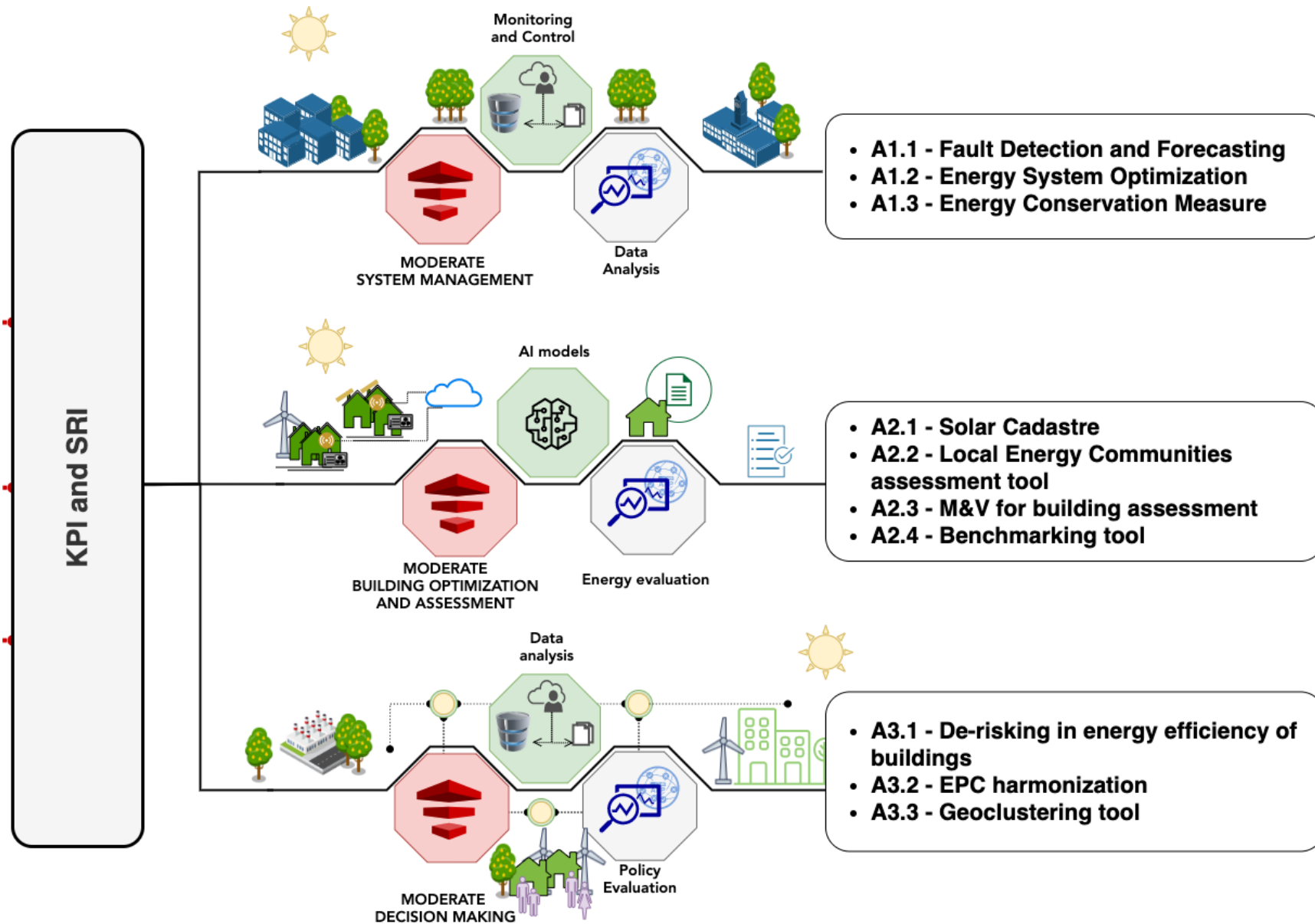


Synthetic datasets: synthetic EPCs

GAN... Generative Adversarial Network



Data-Driven Services



To wrap up

- Open data platform
- Open datasets
- Standardized data models
- Open-source, efficient analytics



Thank you!



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Horizon-funded crossCert project

This project is conducted by the Meta Group and investigates the design of next-generation EPCs across Europe. The questionnaire is about the experiences with EPCs and thoughts about where these might go in the future



EPC HARMONIZATION

