SUSTAINABLE PLACES 2023

EPC RECAST

ENERGY PERFORMANCE CERTIFICATE RECAST

Digital toolbox enhancing the performance assessment and certification process for building retrofits

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We are a leading research and technological centre in Europe.

Our mission:
Transform technological research into prosperity.

Our vision:
To be agents of transformation of companies and society to adapt to the challenges of a future in continuous evolution.
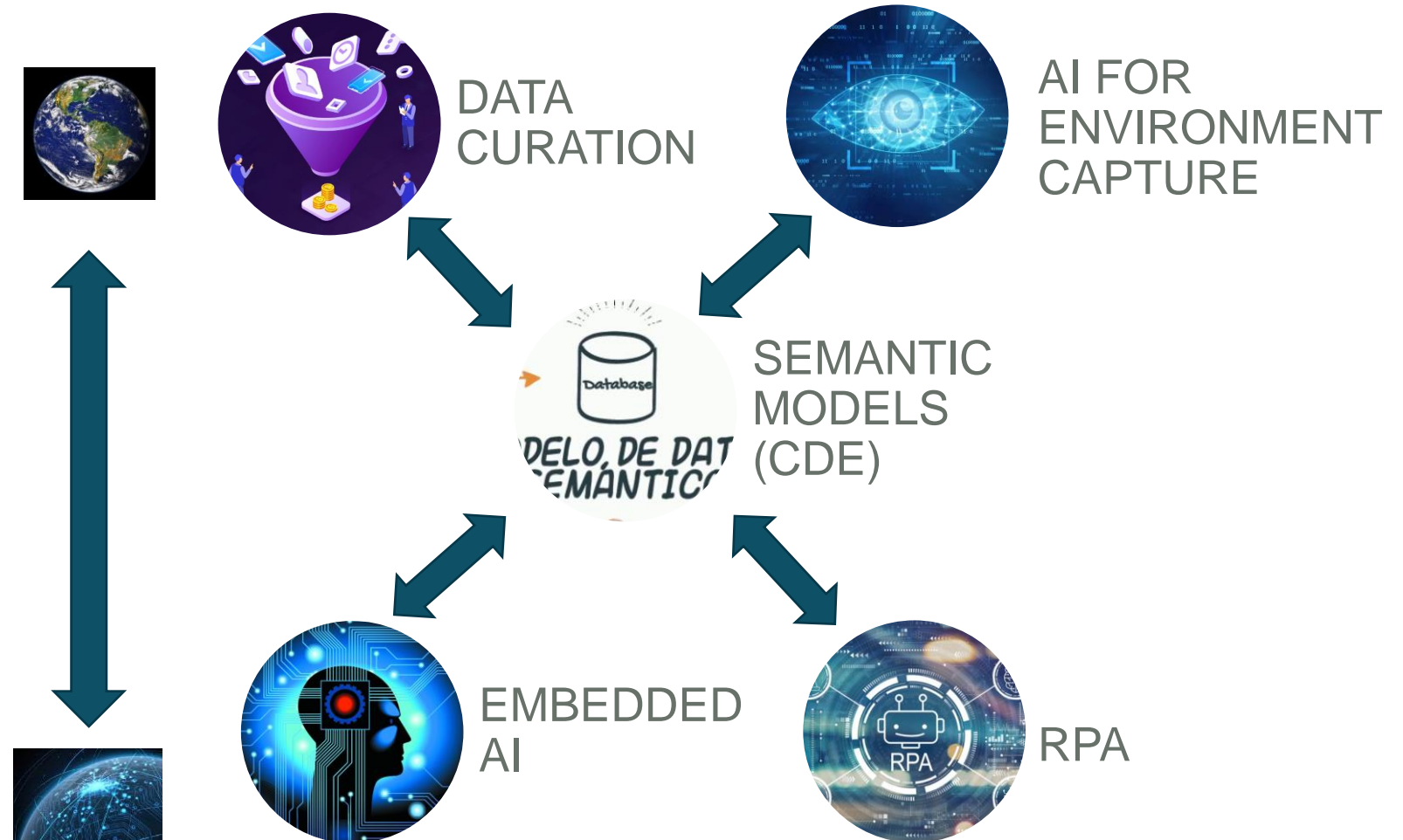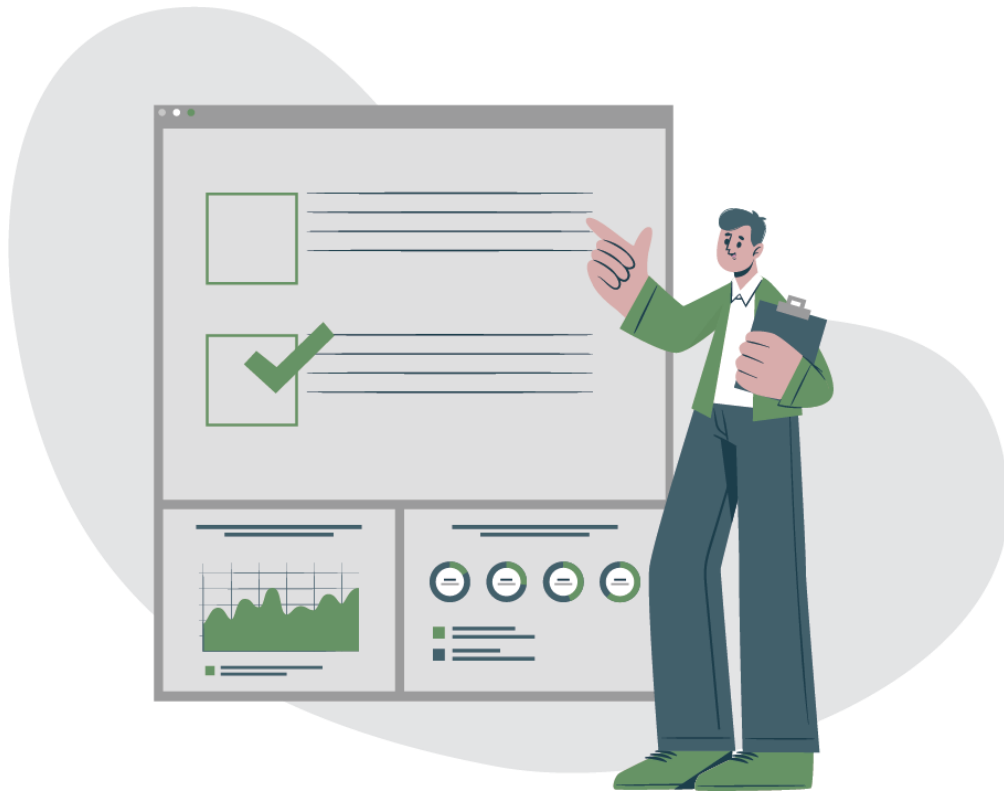
1.501 staff members

306 PhDs

Foundation TECNALIA Research & Innovation:
Digitalisation and automation of construction

DATA CURATION

AI FOR ENVIRONMENT CAPTURE

SEMANTIC MODELS (CDE)

EMBEDDED AI

RPA

Challenges of EPC for renovation

- EPC RECAST will support the emergence of the next generation of regulatory Energy Performance Certificate (EPC).

- Our goal is to better and further support the assessors' work in order to achieve improved EPC reliability, comparability in between building assets, user-friendliness and to ultimately generate an impact for owners and occupants to engage them on a tangible pathway to efficient energy retrofit.

- Deliberate focus on residential buildings (existing ones).

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The EPC RECAST process

STEP 1 - DATA COLLECTION AND INSPECTION PROCESS

STEP 3 - EPC RECAST CERTIFICATION & RENOVATION ROADMAP

Input layer:

- Automated **data collection and enrichment** for EP assessment: on-site scans / public database
- **Quality procedures** & **consistency checks** linked with ISO/CEN standards (M/480 mandate) : self-checking of input data using expert rules, expert values / data consistency using data crossing tests

Energy performance evaluation layer:

- Use of **measured energy consumption** and deployment **of smart meters** : model calibration, verification / operational rating indicators

STEP 2 - ENERGY PERFORMANCE ASSESSMENT
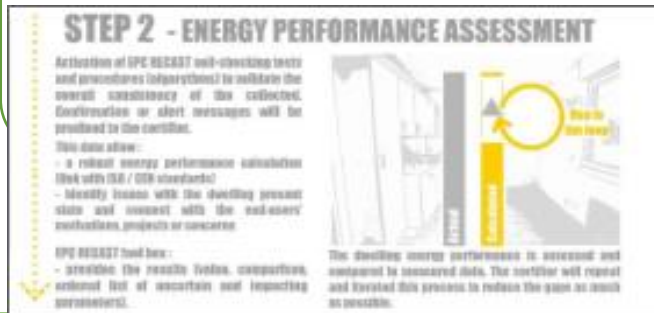
Output and recommendation layer:

- **Co-design** of the **certificate** with owners and assessors: indicators, non-energy benefits, renovation roadmap

Information sharing, **common language** and **data interoperability**

The EPC RECAST digital toolbox: core process
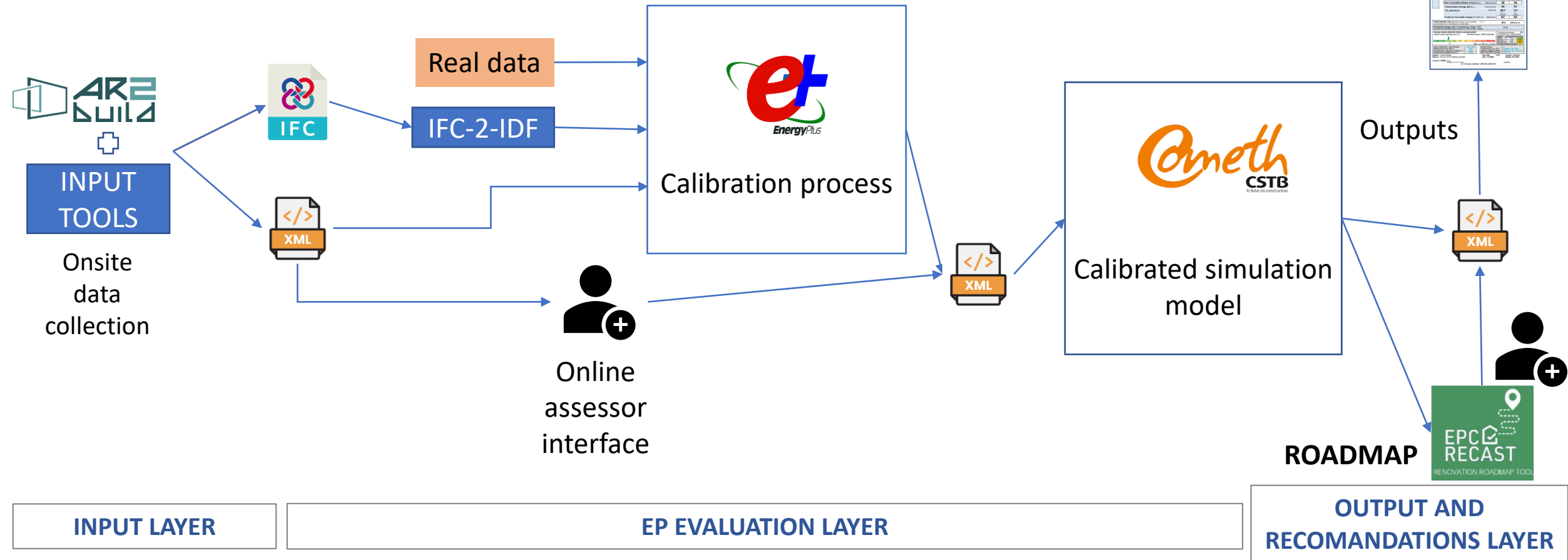
INPUT LAYER

EP EVALUATION LAYER

OUTPUT AND RECOMANDATIONS LAYER

The EPC RECAST digital toolbox: add-ons
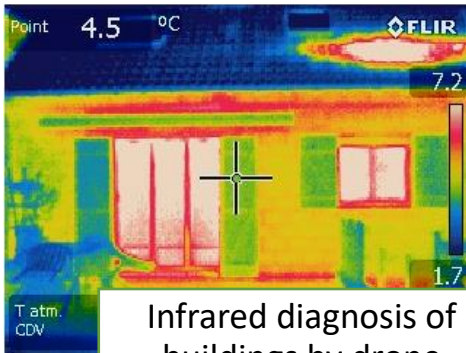
Infrared diagnosis of buildings by drone
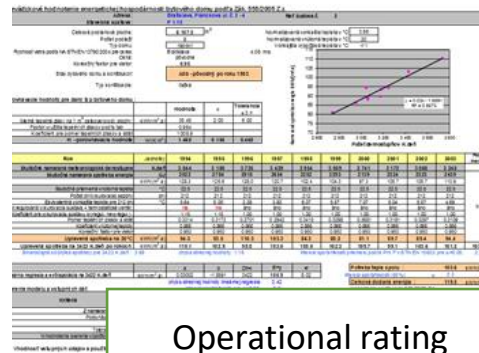
Operational rating

Digital logbook for dwelling

Self-diagnosis

CORE OF THE SRI METHODOLOGY - REQUIRED

3 key functionalities
7 impact criteria
9 technical domains
7 SRI classes

SRI

Printing App for quality checks

INPUT LAYER

EP EVALUATION LAYER

OUTPUT AND RECOMANDATIONS LAYER

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A common data environment for building energy digital tools
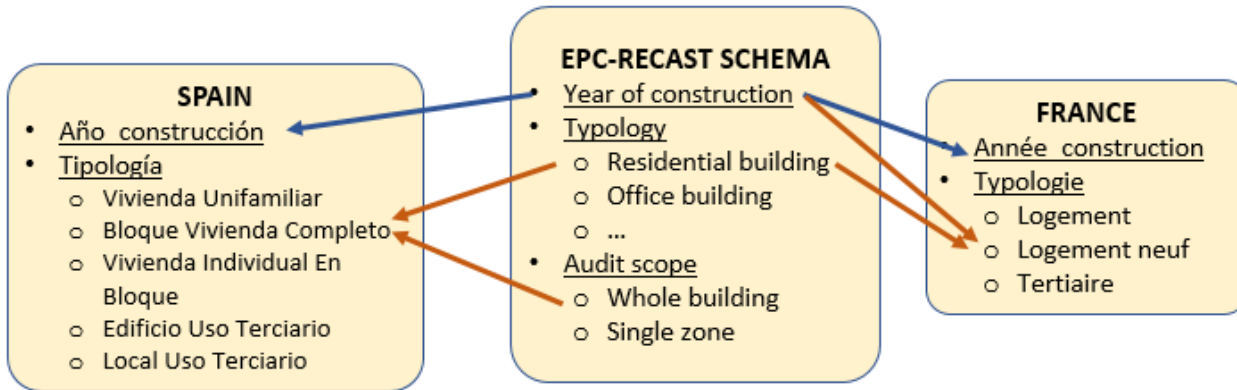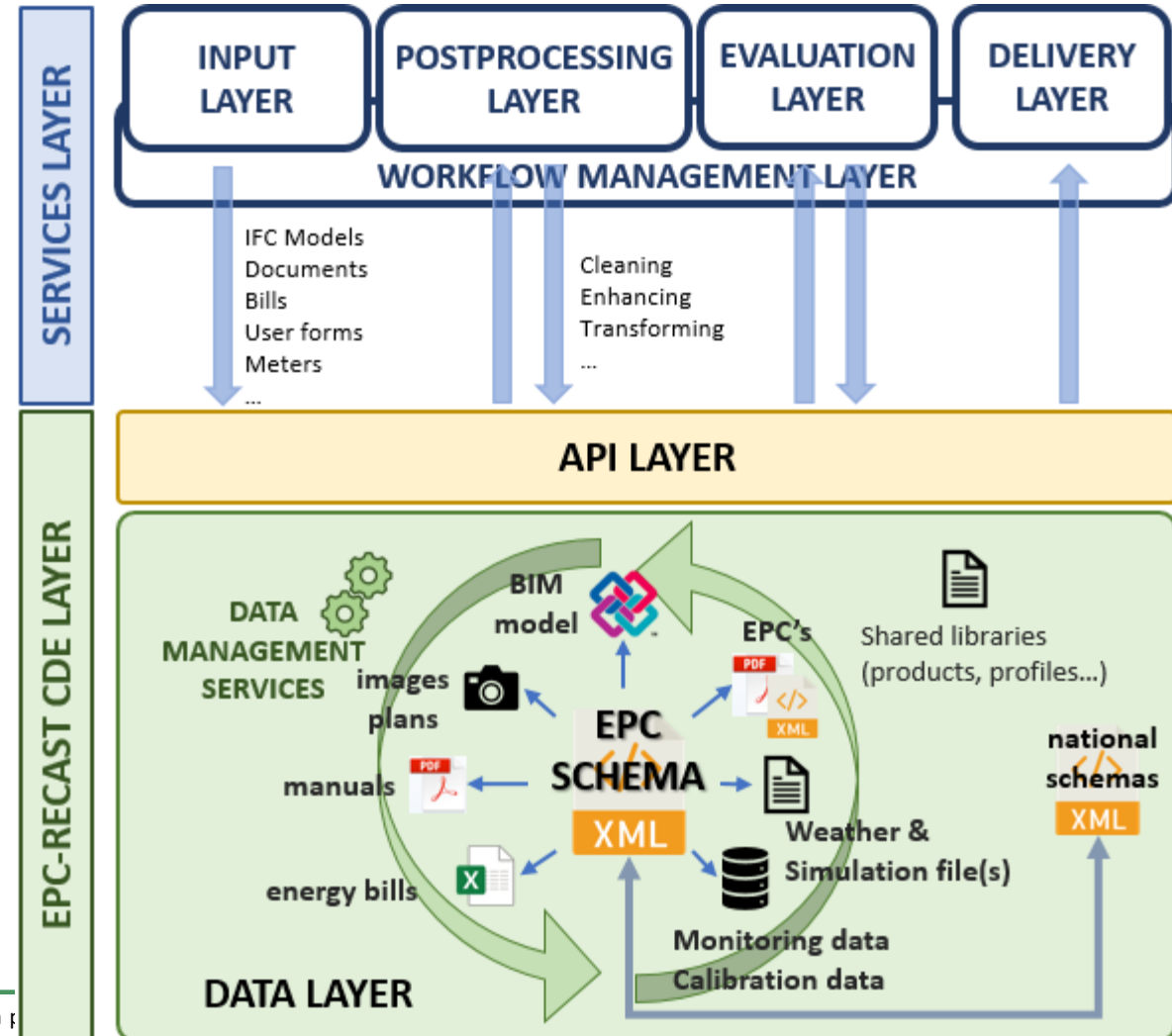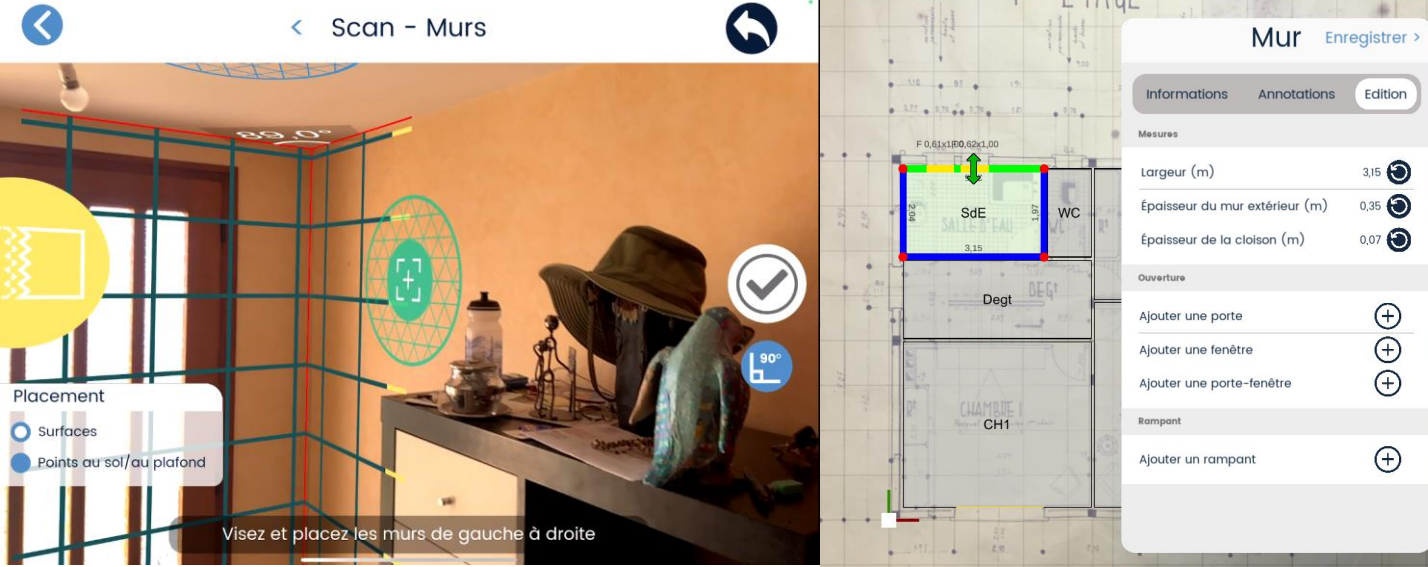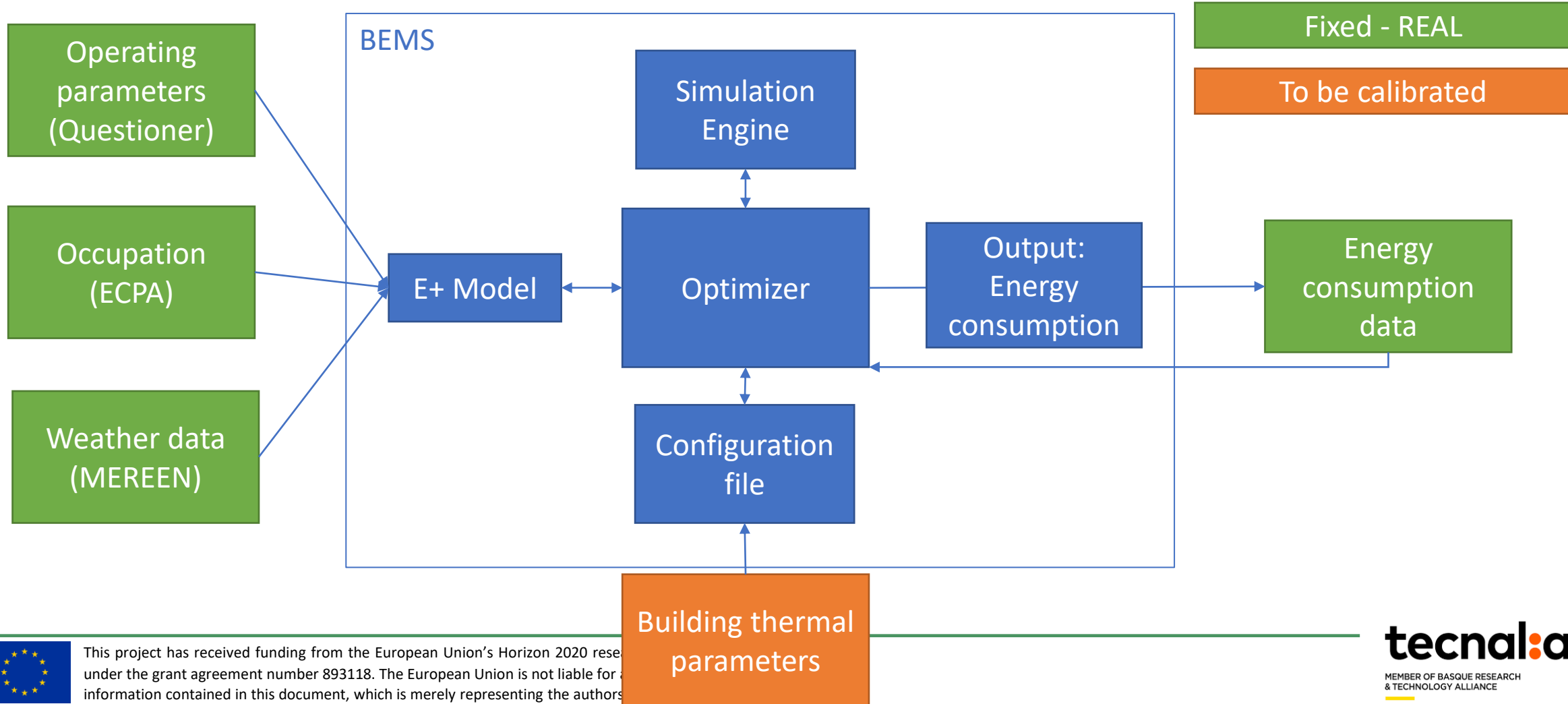
Input layer: BIM scan + questionnaires
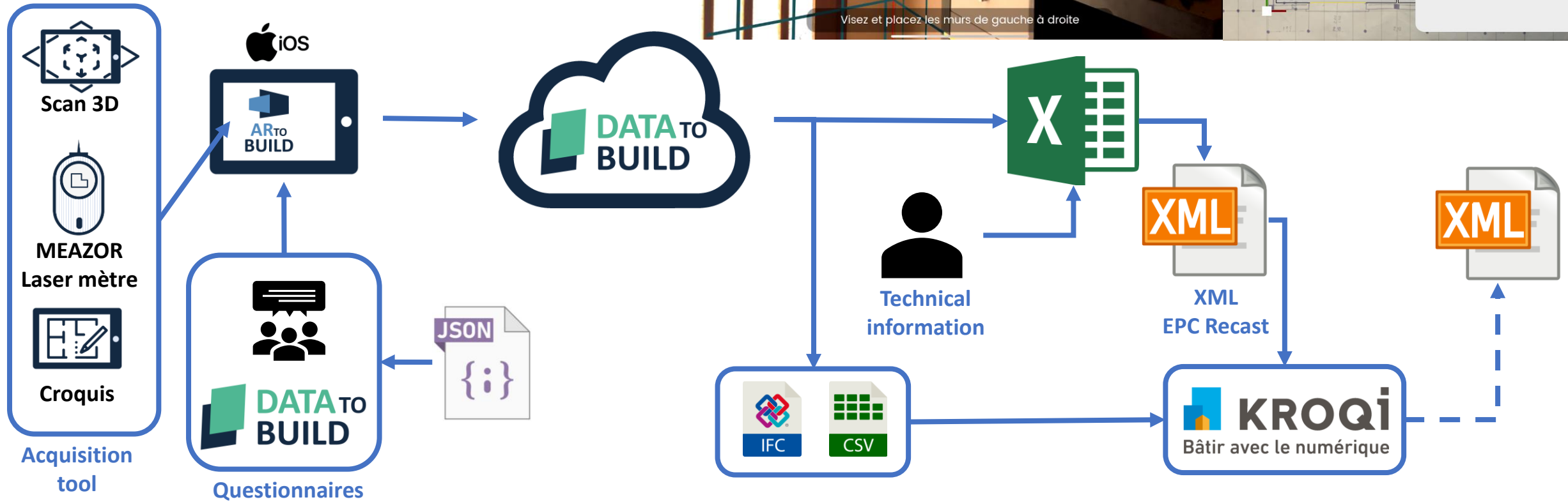
EP layer: model calibration with real data

Output layer: Ad-hoc renovation roadmap

Aim

- Develop a tool to support **building owners in defining renovation works**

Process

- Define the renovation plan by selecting planned renovation actions
- Schedule planned renovation actions over time
- Assess the renovation plan (calculate KPIs such as energy class, carbon emission, cost, comfort)
- Report (KPIs overview)

OUR TEAM

THANK YOU FOR YOUR ATTENTION!

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R	RELIABILITY
E	ENERGY AND BEYOND
C	COMPARABILITY
A	AWARENESS, ACCEPTANCE & USER-FRIENDLINESS
S	STANDARDS & SMART-READINESS
T	TRANSPARENCY

EPC RECAST

ENERGY PERFORMANCE
CERTIFICATE RECAST