EUROPEAN COMMISSION / European Research Area / 7th Framework Programme

HESMOS

ICT Platform for Holistic Energy Efficiency Simulation and Lifecycle Management Of Public Use FacilitieS

Technical University Dresden
Institute of Construction Informatics

Project Coordinator
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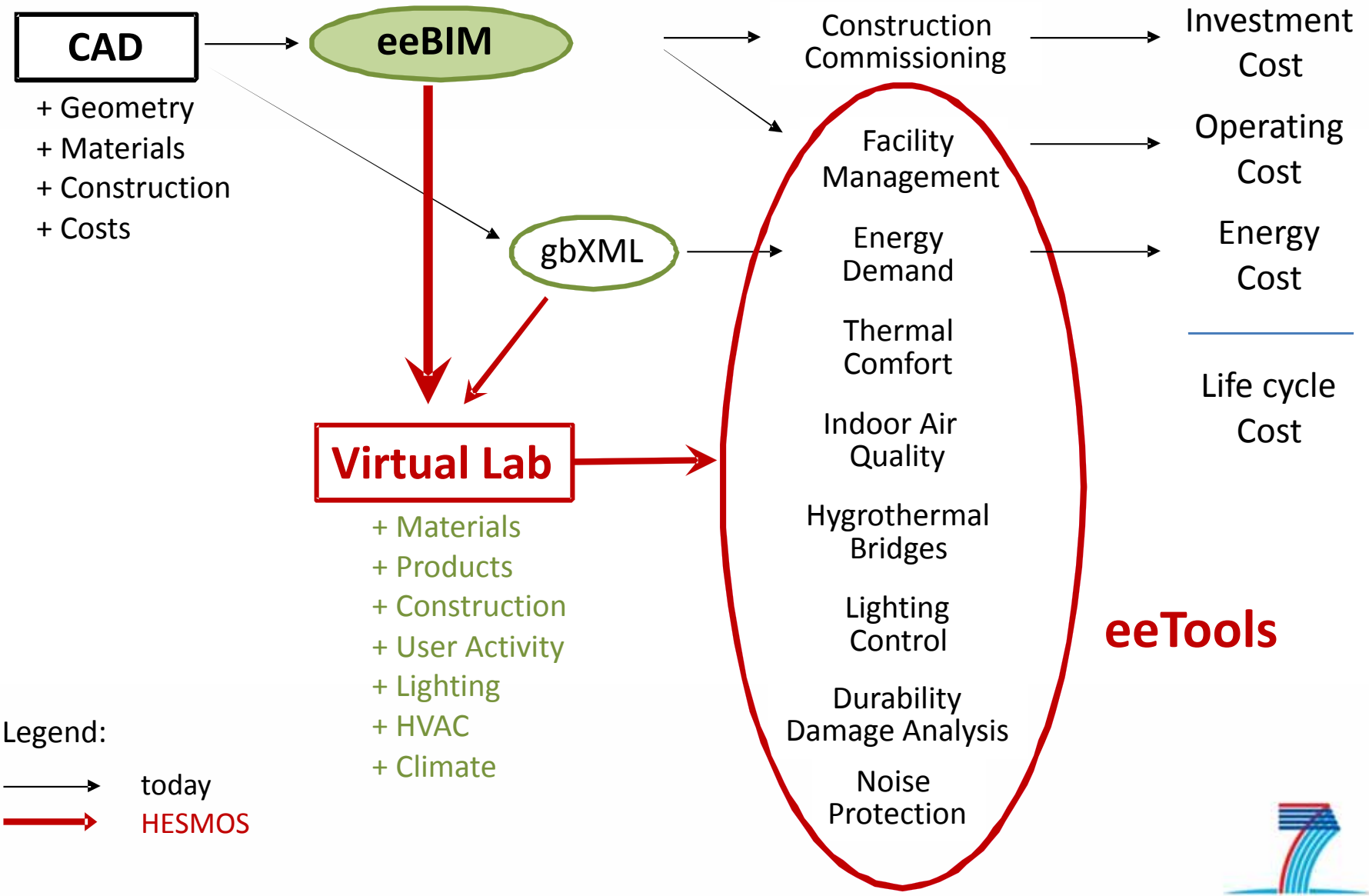
COOPERATION

Objectives

Integrated Virtual Energy Laboratory (IVEL)

- Life-cycle energy simulation and management
- Extension of BIM (ISO 16739) to eeBIM
- BIM / BAS interoperability
- eeBIM-based CAD design
- FM & Energy Simulation Tools Integration
- Engineering Language for information filtering & navigation
- 2 PPP projects for validation

How to integrate a Virtual Lab



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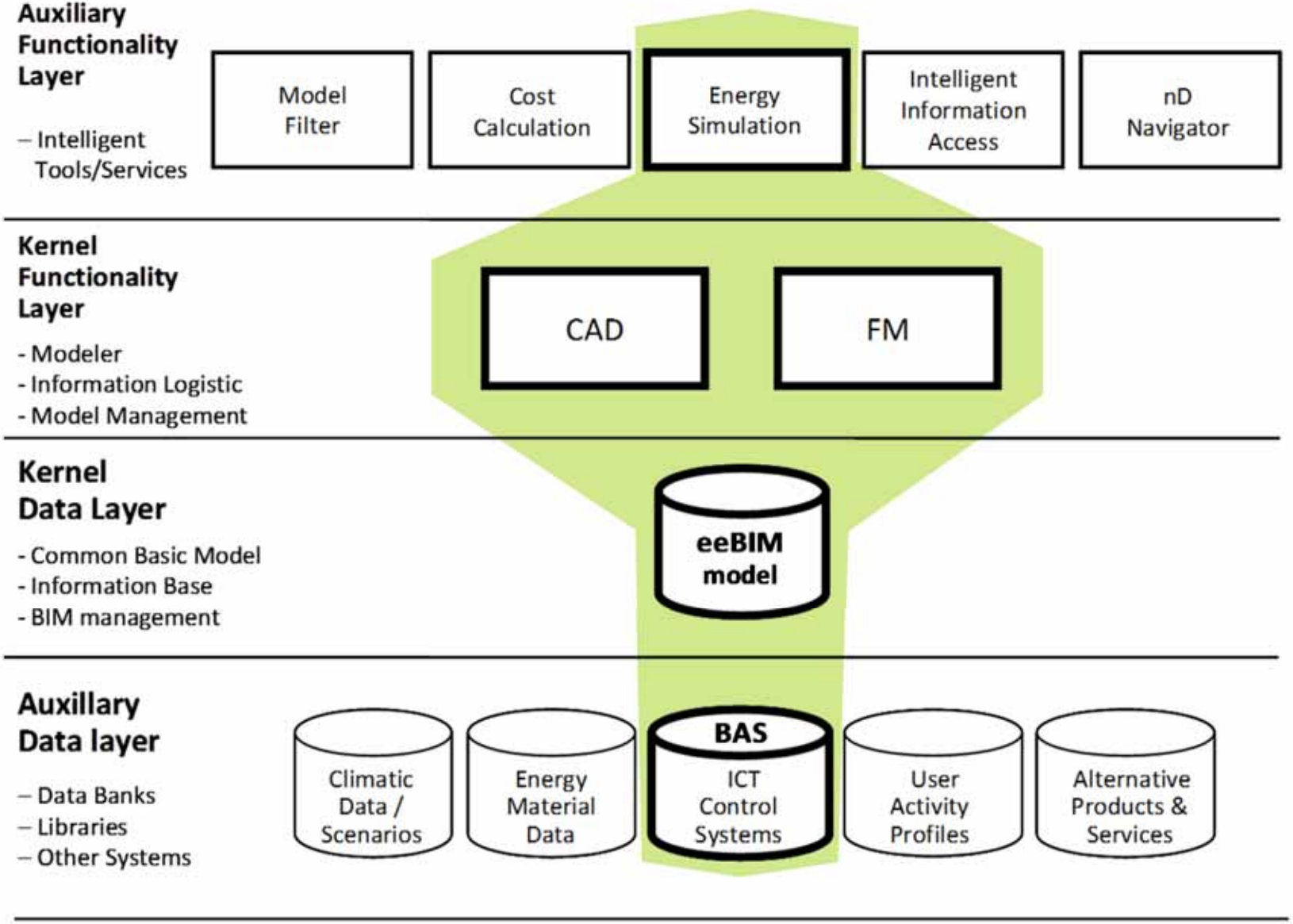
Principal HESMOS Architecture



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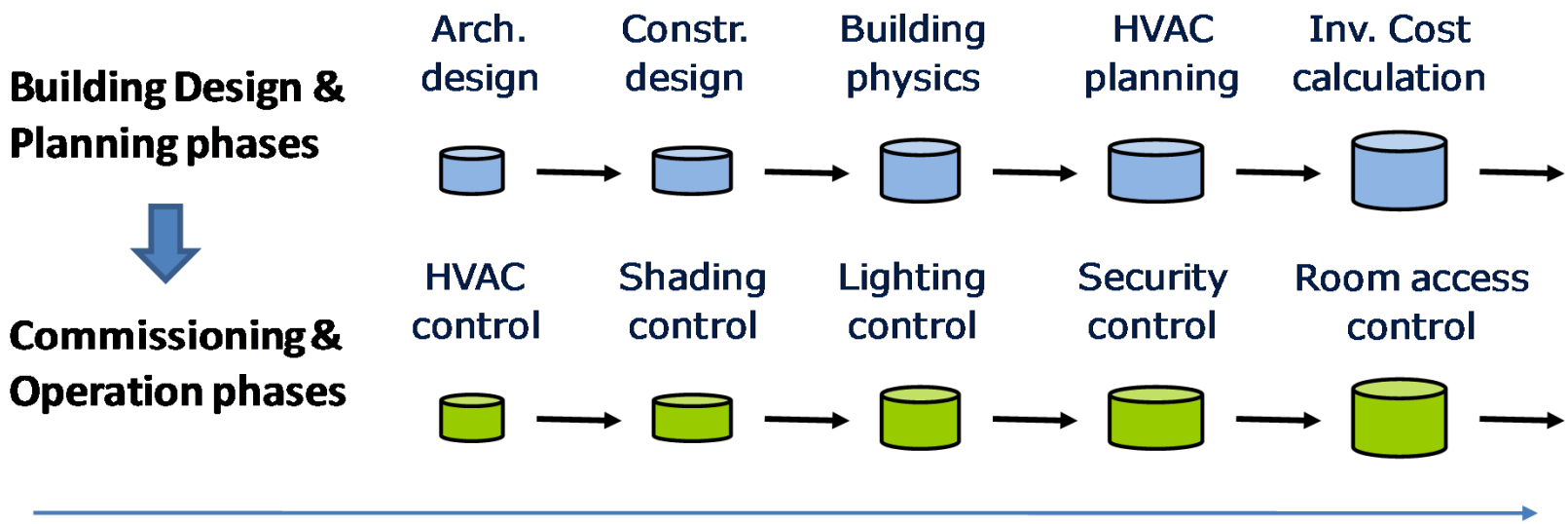
Interoperability in AEC/FM



Building Information Modeling (BIM)

- Interoperability of different tools
- Common open data model
- Growing databases

Greatest energy saving potential at the beginning and end of the value chain

BIM is not enough!

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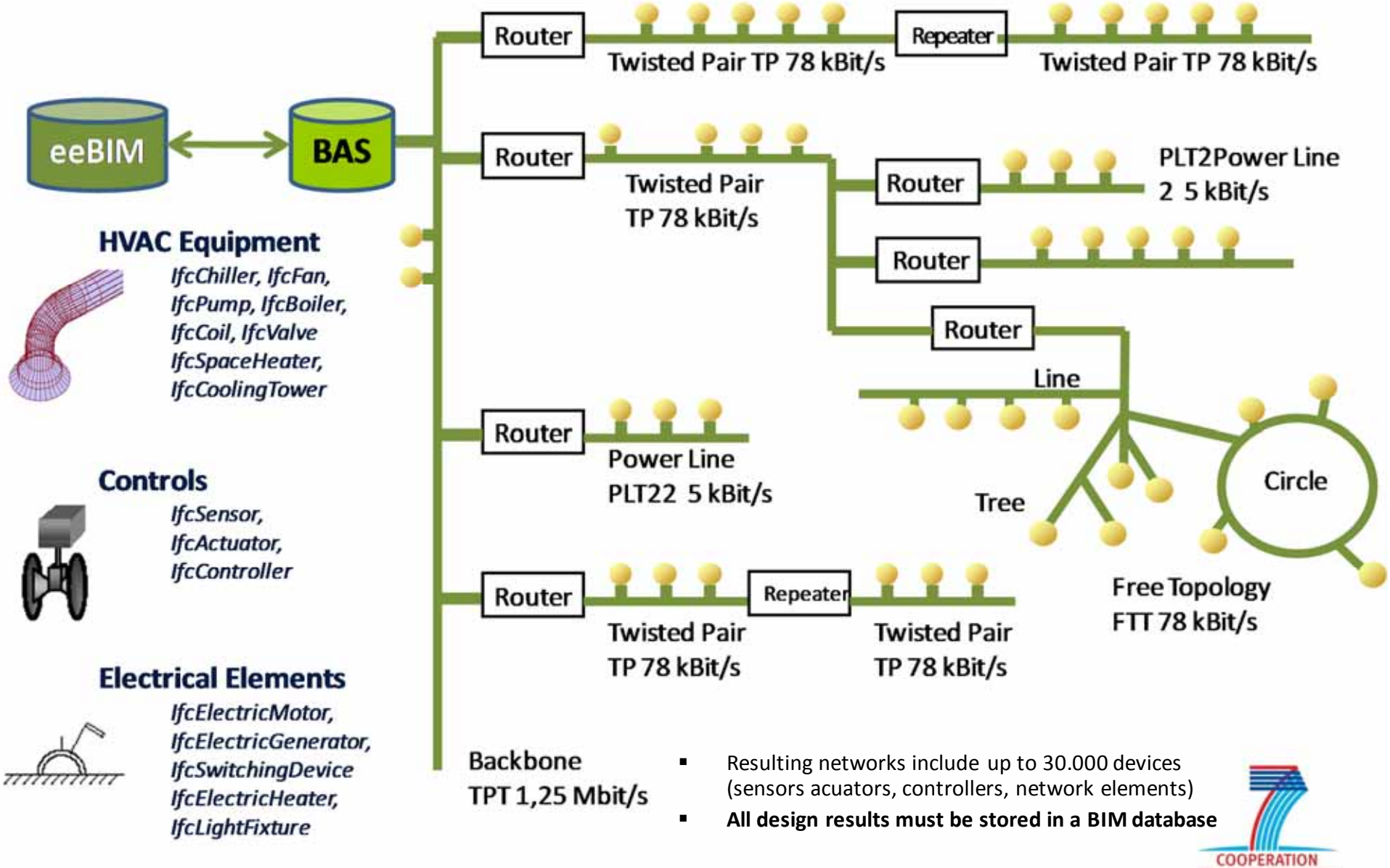
Life cycle eeBIM/BAS Interoperability



- Resulting networks include up to 30.000 devices (sensors acuators, controllers, network elements)
- **All design results must be stored in a BIM database**

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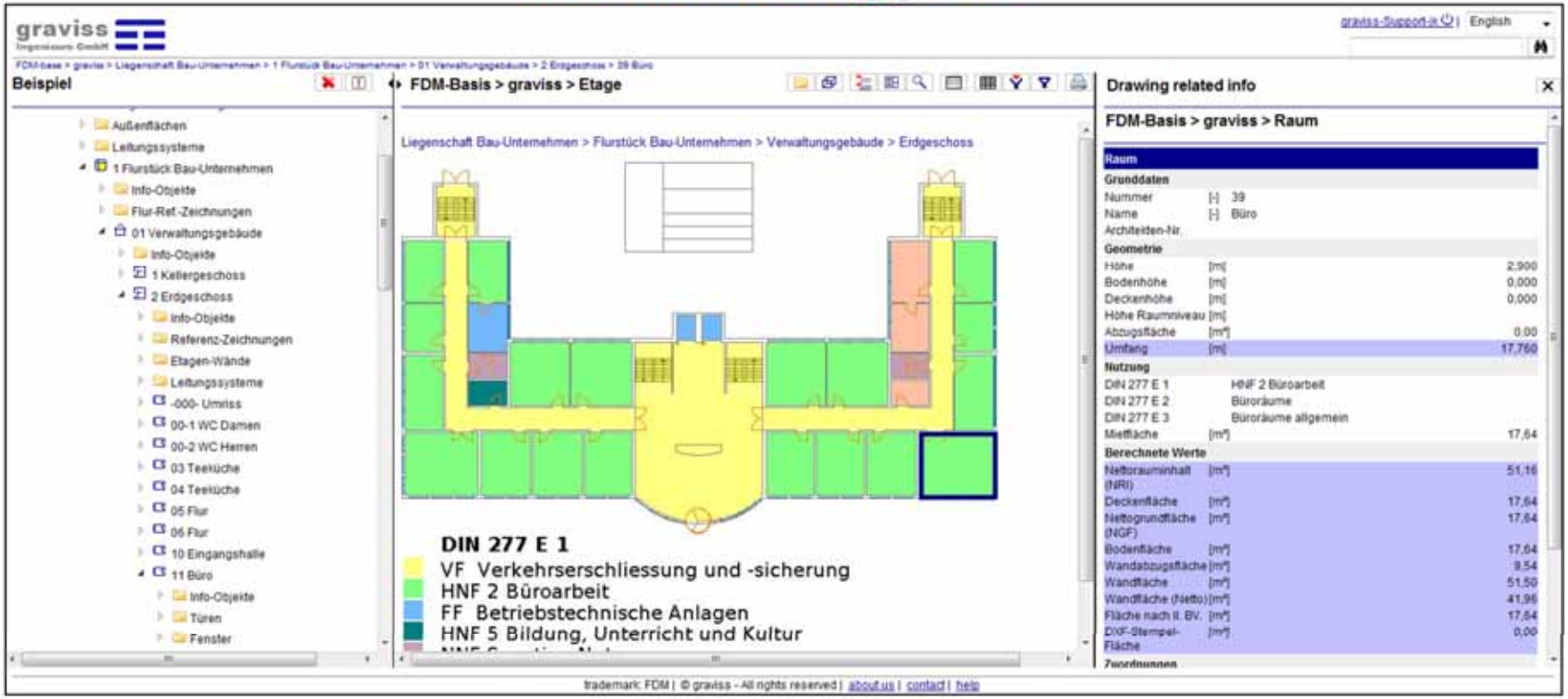
Envisaged Web-based Framework

Virtual Energy Lab



- Integration of facility management tasks
- Performing energy simulations
- Visualization of the results of simulations
- BIM/BAS integration

- Collaboration platform
- Information server functionality
- Customizable front end

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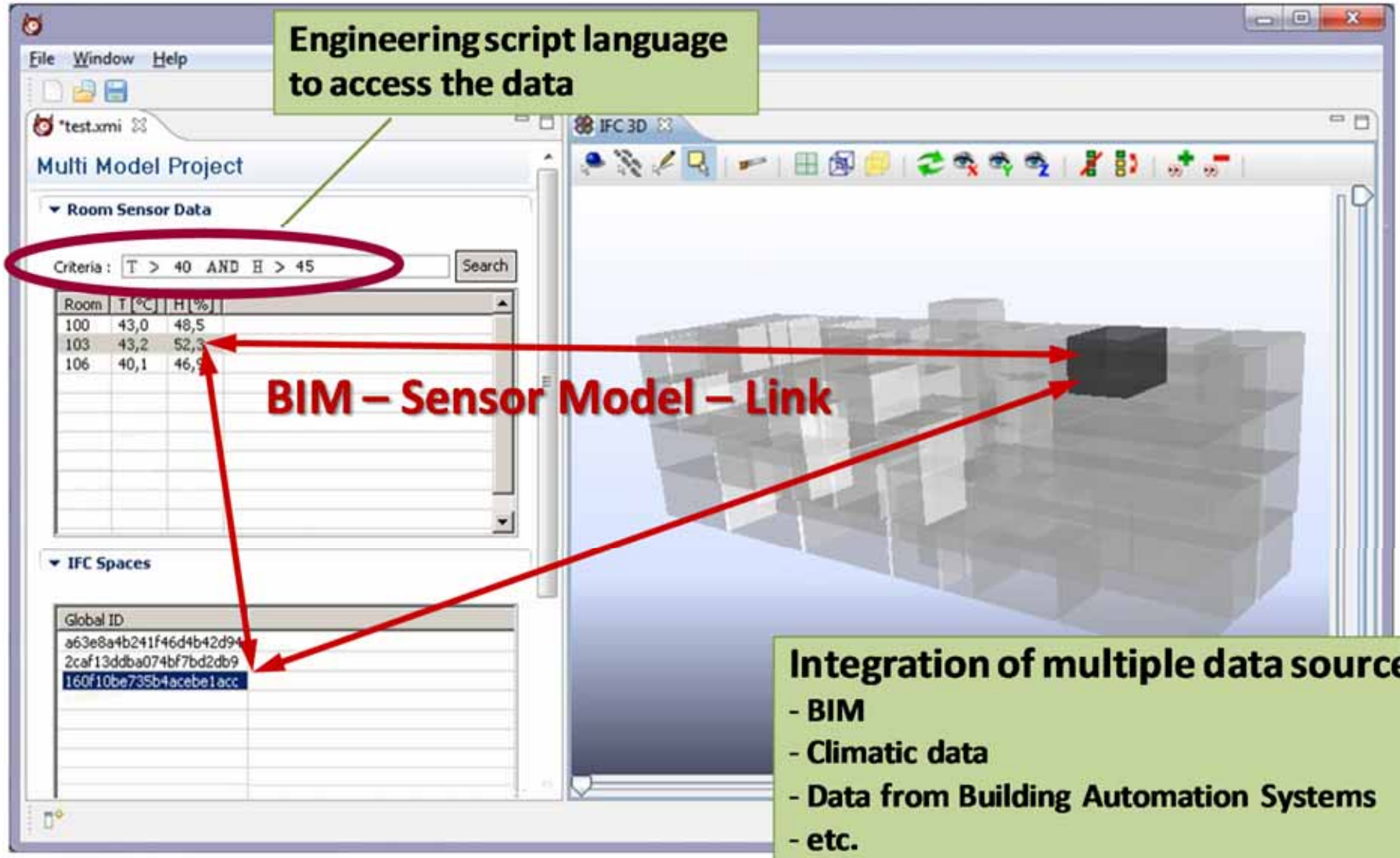
Multi-model filtering & management

Virtual Energy Lab Navigator



Consortium

6 Partners (1 academic, 5 industry)

- TU Dresden (CIB, TIS, IBK), Germany - academic, BIM, BAS, eeB
- Nemetschek, Slovakia - software, CAD
- Olof Granlund, Finland - software + eng., FM
- Royal BAM Group, The Netherlands - construction, PPP
  - BAM Utiliteitsbouw NL
  - BAM Deutschland AG DE
  - BAM Construct UK
- Obermeyer Planen+Beraten, Germany - construction, design
- AEC3 Ltd. - SME consultant, data modelling, BIM

Resources

- 420 PM (~ 12 Persons x 3 years)
- 2,7 Mio. € funding

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Thank You

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