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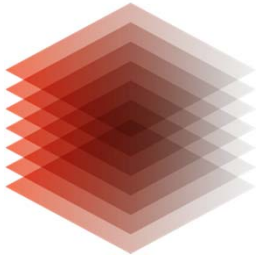
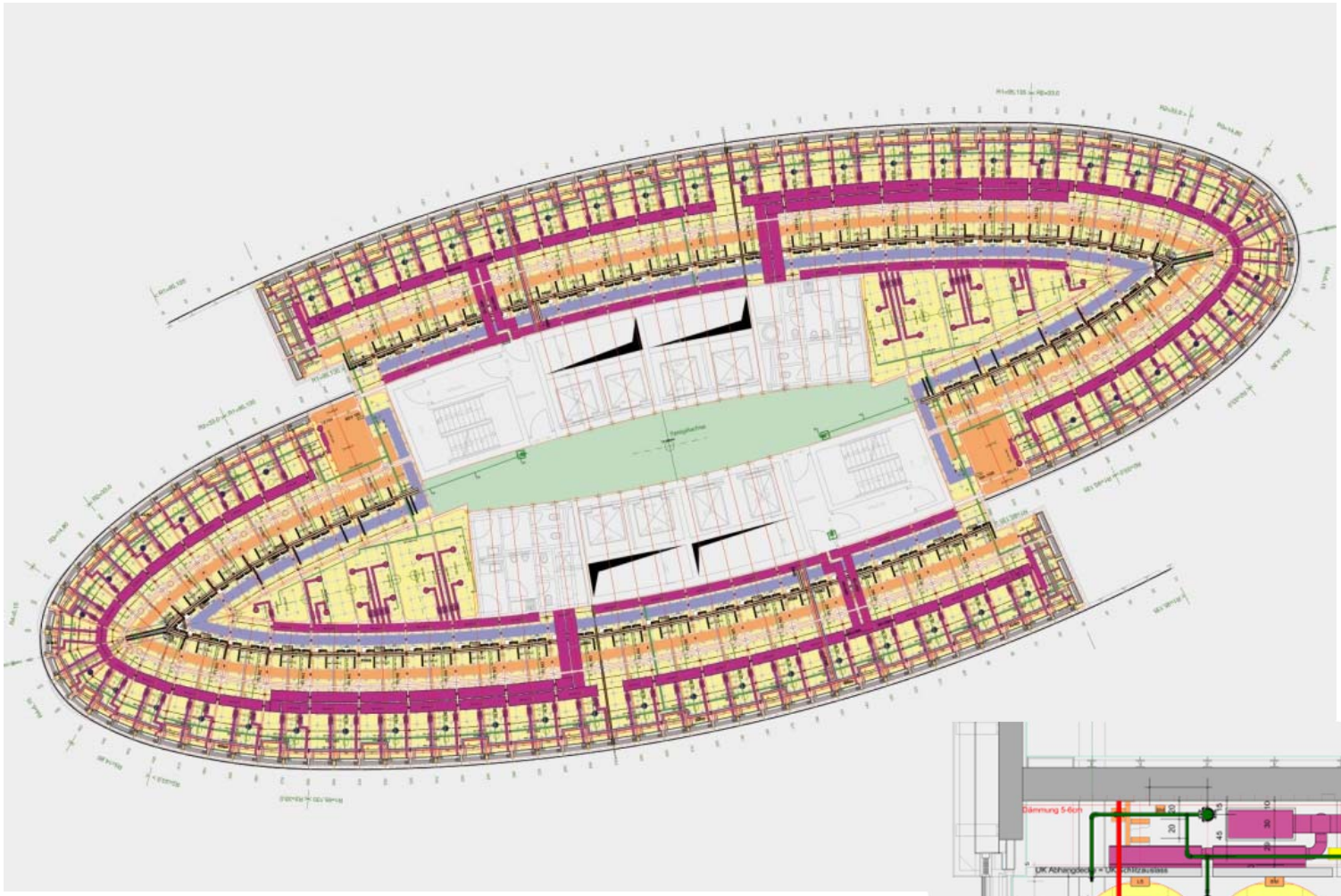


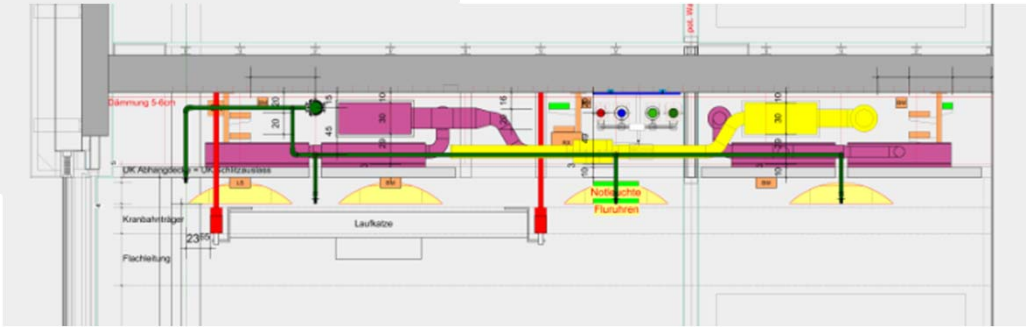
TIB

10 mins on **Blockchain for Architecture**

Ina Blümel
German National Library of Science and Technology (TIB)
& Hannover University of Applied Sciences and Arts
SEED, Davos, February 2019

One architecture, many parties





http://www.digitales-bauen.de/
GAP 15 office building Düsseldorf & Roche
BSN 10 Basel, Bürgerheim Villingen
coordination planning

One architecture, many parties

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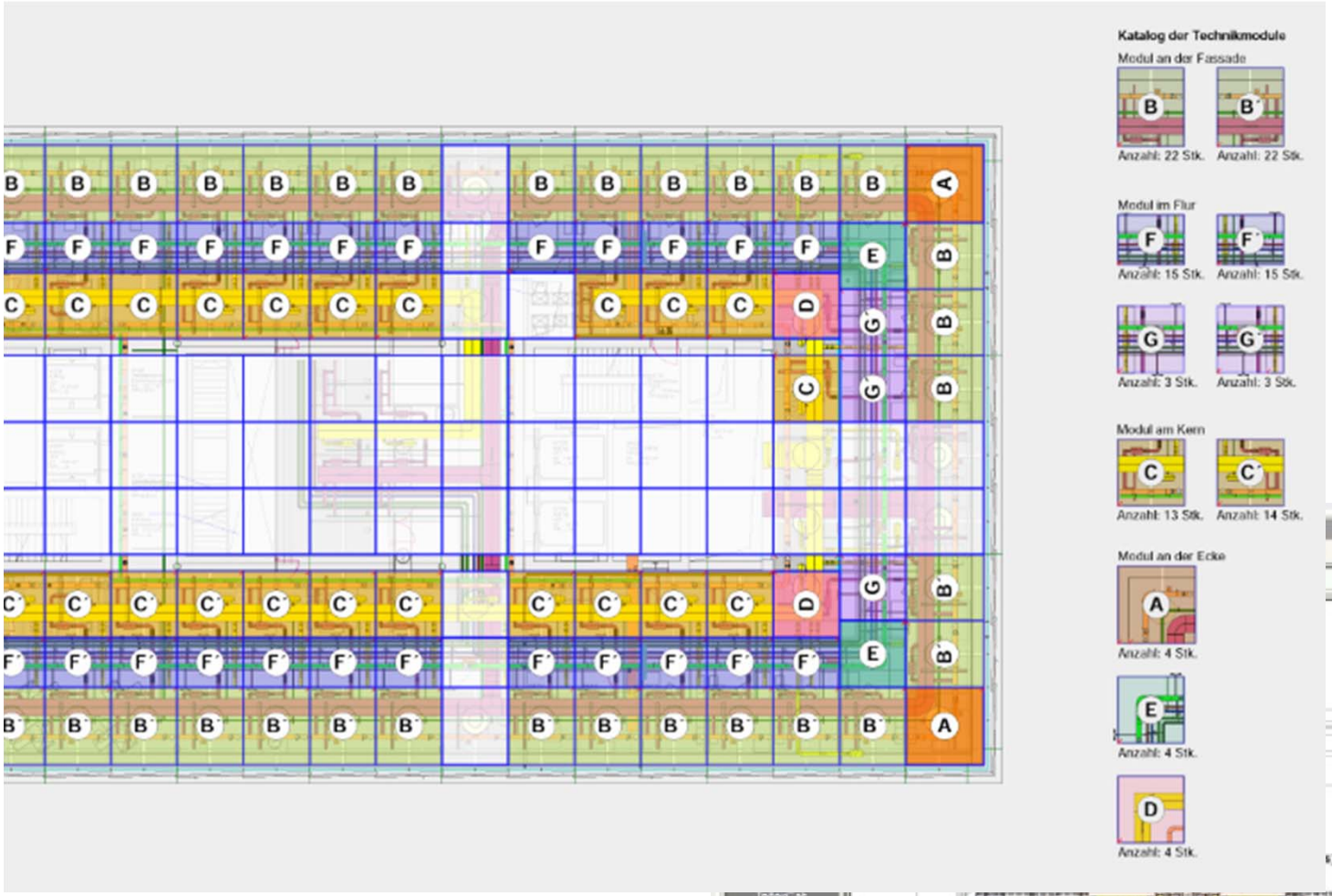

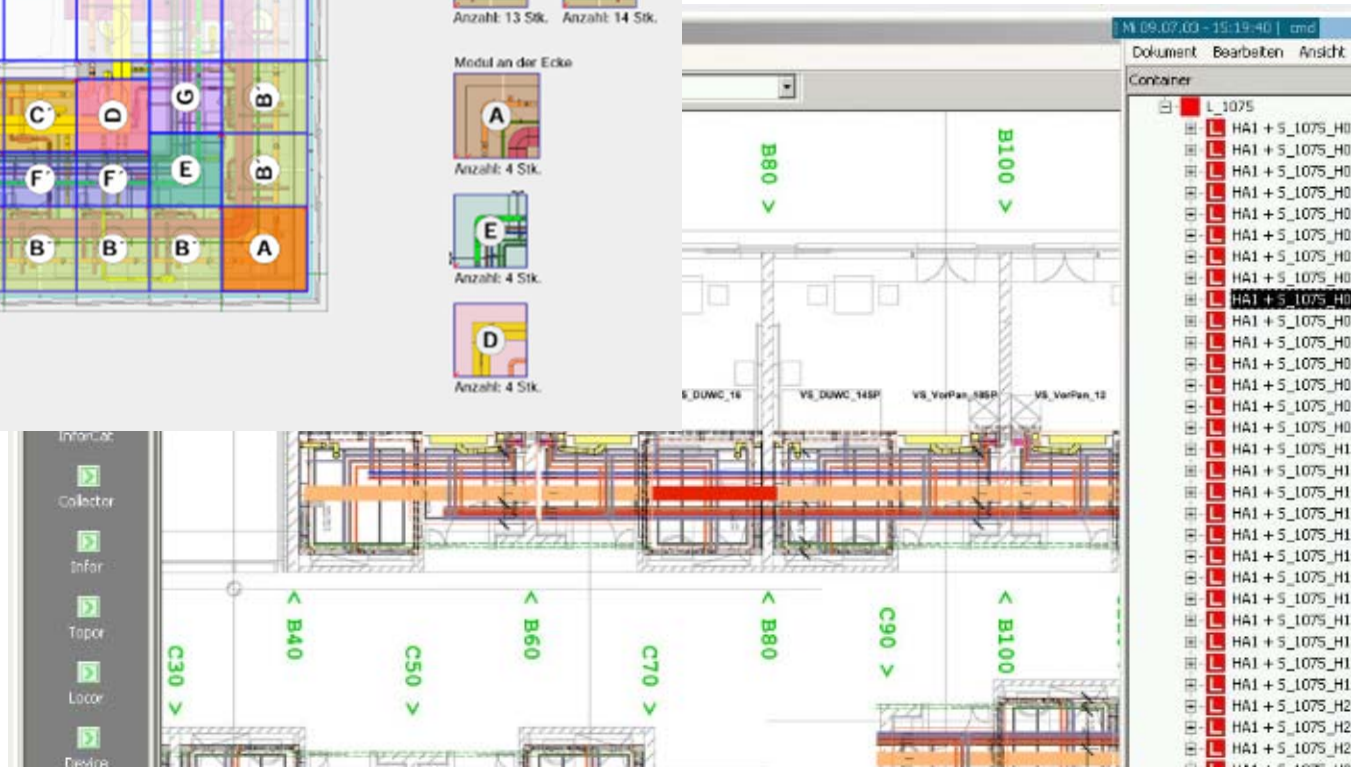

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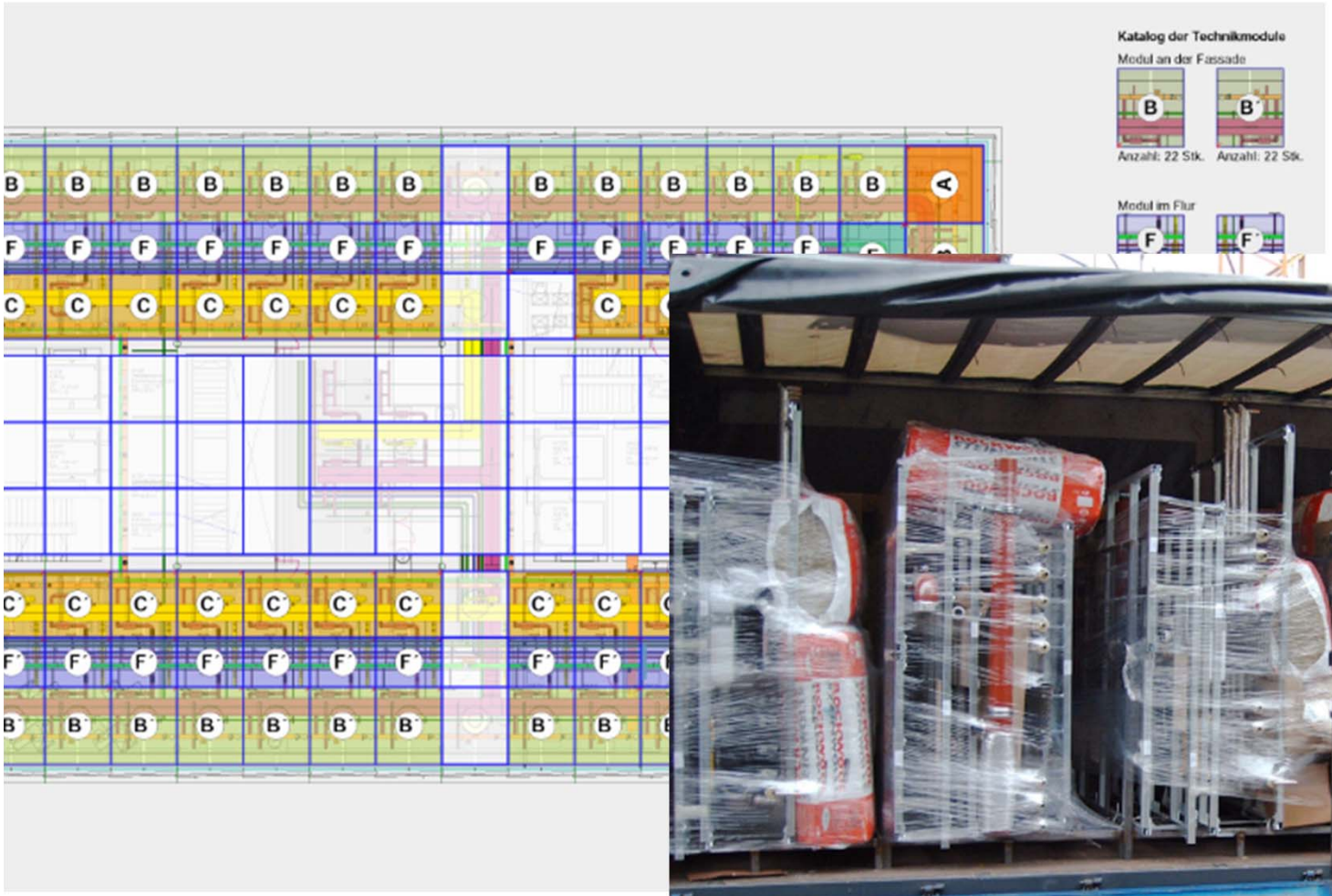

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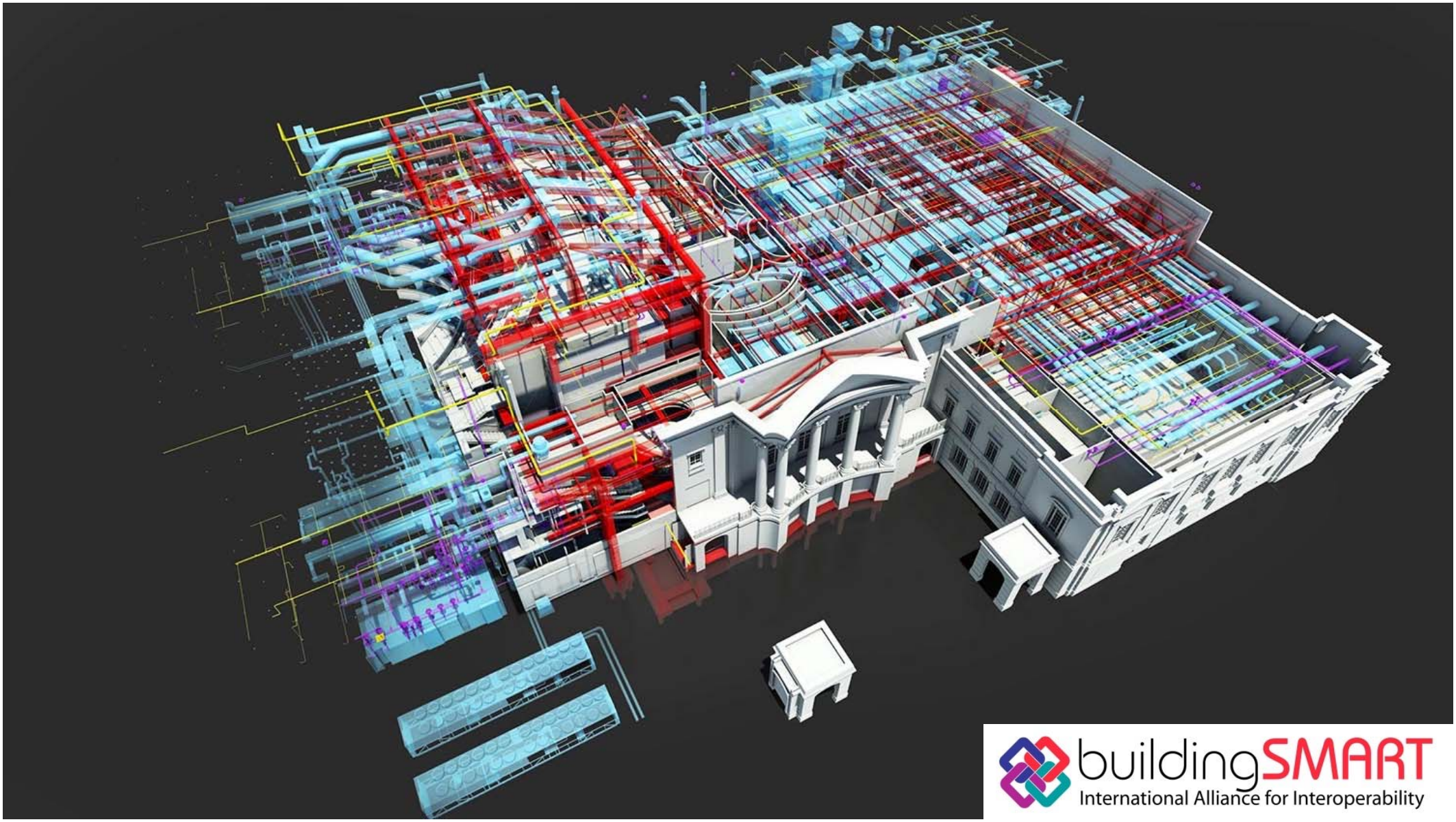
Building Information Modeling (BIM)



buildingSMART
International Alliance for Interoperability

BIM challenges

- Who owns which piece of data when they are all put together?
- Can I trust the information? Can build my information into a specific source?
- Who did what in a model?
- How to ensure proper release of payment when things are done?

Our first blockchain proposal

CitizenBIM

Occupant-centered BIM solution for a low-carbon economy

Proposal full title: *Occupant-centered BIM solution for a low-carbon economy*

Proposal acronym: *CitizenBIM*

Type of funding scheme: Research and Innovation Action (RIA)

Date of preparation: February 22, 2018

Work Programme Strategic Objective: LC-EEB-02-2018 "Building information modelling adapted to efficient renovation"

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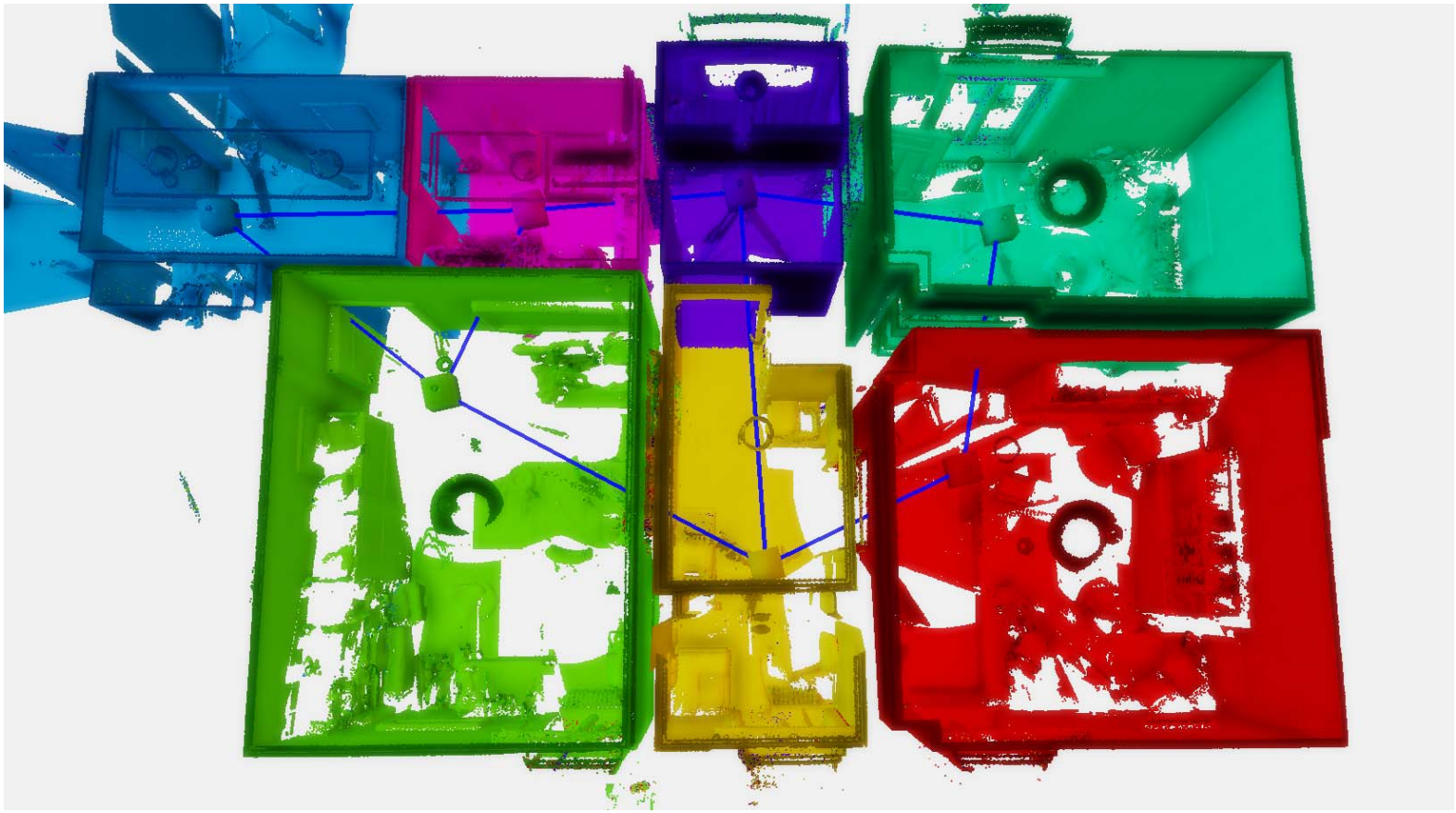
Participant No *	Participant organisation name	Short Name	Country
1 (Coordinator)	Technische Informationsbibliothek	TIB	DE
2	Calculus Energy Limited	CAL	UK
3	CITA	CIT	DK
4	CAD-Q/Symetri	SYM	SE
5	Krydsrum	KRM	DK
6	University of Bonn	UBO	DE
7	KU Leuven	KUL	BE
8	Snapkin	SNA	FR

Our first blockchain proposal



Tamke, Martin and Blümel, Ina and Ochmann, Sebastian and Vock, Richard and Wessel, Raoul. (2014). From Point Clouds to Definitions of Architectural Space - Potentials of Automated Extraction of Semantic Information from Point Clouds for the Building Profession. In *Fusion, Proceedings of the 32nd International Conference on Education and research in Computer Aided Architectural Design in Europe* (pp. 557-566). Northumbria University

Peer reviewer quotes

1)

“…the Blockchain technology is innovative and can be interesting during operations of the building. […] The proposed approach to obtain a BIM model of an existing building using the sensors built into Smartphones or with connected accessory equipment is very disruptive. […] However, even if the occupant accepts to open up his sensors to provide this data, the data might not be reliable enough to use it as relevant input for better renovation of a building.“

Peer reviewer quotes

2)
“Blockchain technology is certainly a good approach for the secure exchange and archiving of data and information. However, this only has a secondary influence on the BIM market. The three real-life cases of Sweden, France and Denmark, are not clearly defined in the proposal. This measure and evaluation are not sufficient to suggest the impact of developed technologies and process.”

3)
“However, CitizenBIM needs to consider the potential risk of citizens’ responsiveness linked with age and their willingness to use a mobile phone.”

https://twitter.com/RubenVerborgh/status/1085894604560498688

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Call for comments, ideas, …

Credits: Many thanks to Lambert Heller, Ingo Keck, and Simon Worthington for support and constant inspiring exchange!!

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