Amazon for the Construction Industry is coming

- Digital Supply Chains

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CEO
Cobuilder

bSTR event - Istanbul, 5th of November 2019

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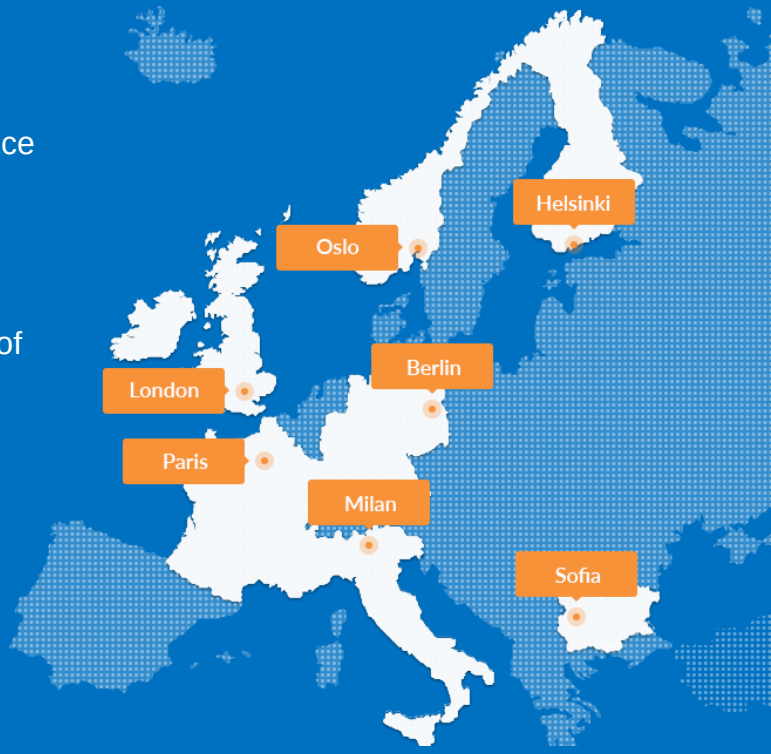
About Cobuilder

- Cobuilder is a Norwegian technology company with a European presence operating at the forefront of digitalizing the Construction Industry.
- The company is a privately owned medium-sized company based in Oslo, Norway. Operating in the market since 1997, Cobuilder has positioned itself as a company having vast product data/information expertise within the AECO industry. The group companies have a total of 135 employees (Q1/19), 20 people on full time in Norway.
- Sales offices in the UK & France and exclusive distributors in Italy, Austria, Germany & Finland.
- Member of BuildingSMART International
- Winner of multiple innovation awards in the UK
- Contributor to major international standardisation bodies such as ISO, buildingSMART, CEN and CENELEC.
- Are leading the global work in CEN&ISO on standardisation of Data Templates



WHY ?

GS1 IBM cobuilder buildingSMART International home of openBIM

Level of Digitisation…

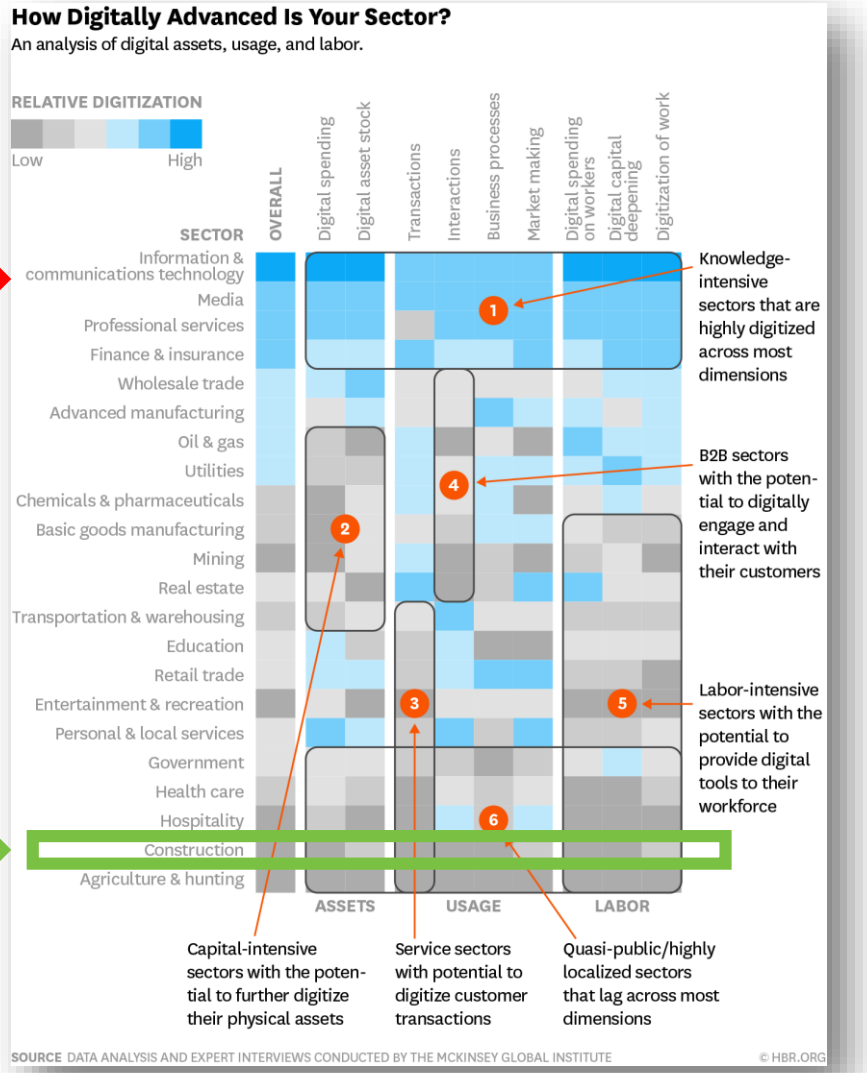
Target status

BIM Regulation

The digital Gap that needs bridging

Actual status

Construction



cobuilder

HOW ?

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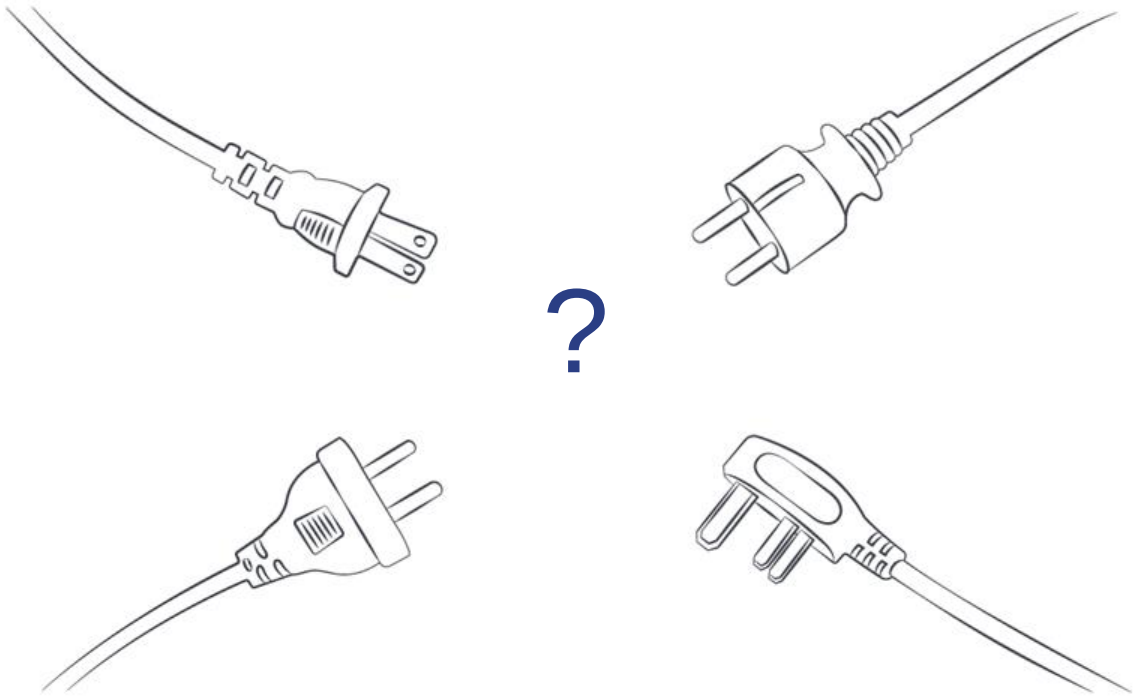
Without standards ?



Where everyone creates information locally !

NBS → Thermal Transmittance

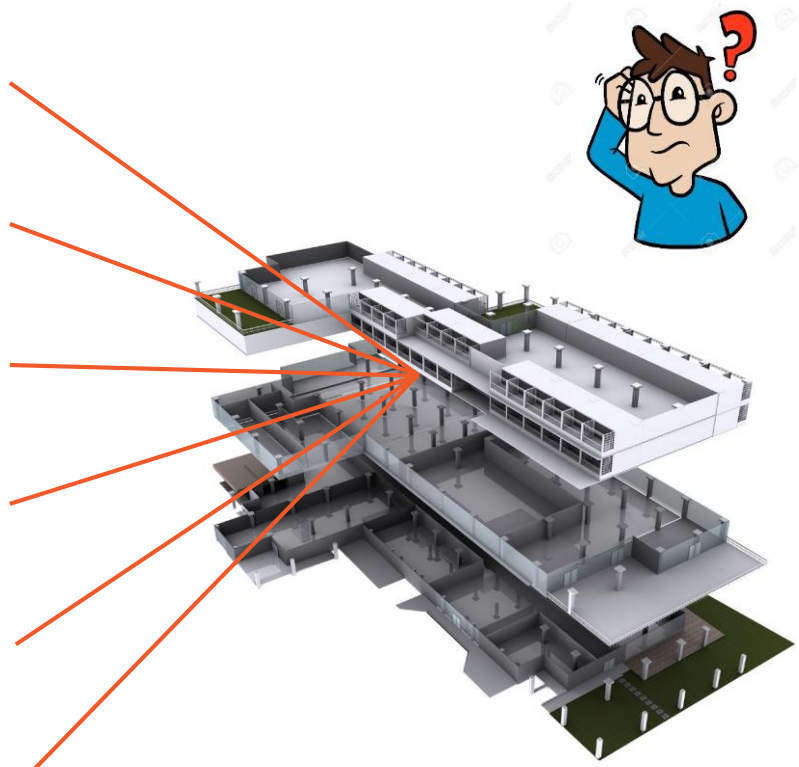
eCl@ss (CLASSIFICATION AND PRODUCT DESCRIPTION) → Heat transfer

IFC → Thermal Transmittance

AUTODESK REVIT → Thermal conductivity

ETIM International → U-value

OMNICLASS (A Strategy for Classifying the Built Environment) → Thermal resistance



Trust in reliable information

BRITISH STANDARD

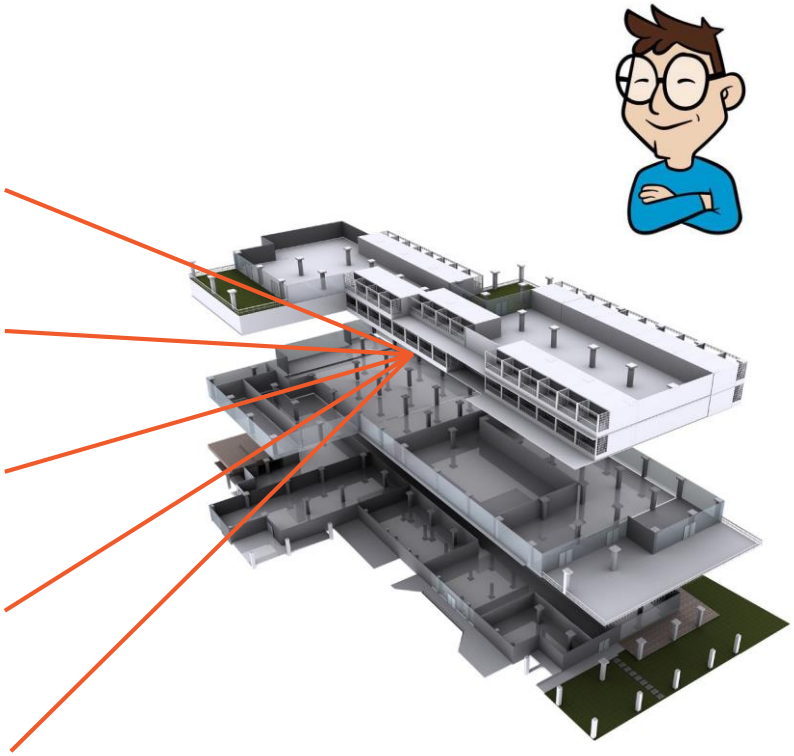
BS EN 14351-1:2006 +A2:2016

Windows and doors — Product standard, performance characteristics —

Part 1: Windows and external pedestrian doorsets

BSI British Standards

- Thermal Transmittance acc. to EN ISO 10077-1
- Thermal Transmittance acc. to EN 14351-1
- Thermal Transmittance acc. to EN ISO 10077-2
- Thermal Transmittance acc. to EN ISO 12567-1
- Thermal Transmittance acc. to EN ISO 12567-2



Contractual agreement

Thermal Transmittance acc. to EN ISO 10077-1

Thermal Transmittance acc. to EN 14351-1

Thermal Transmittance acc. to EN ISO 10077-2

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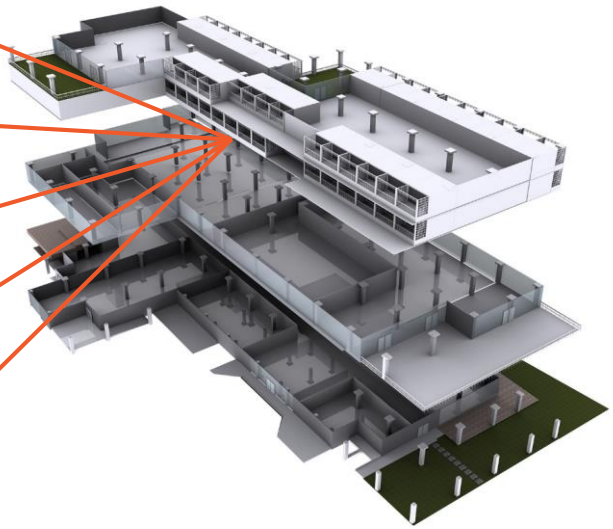
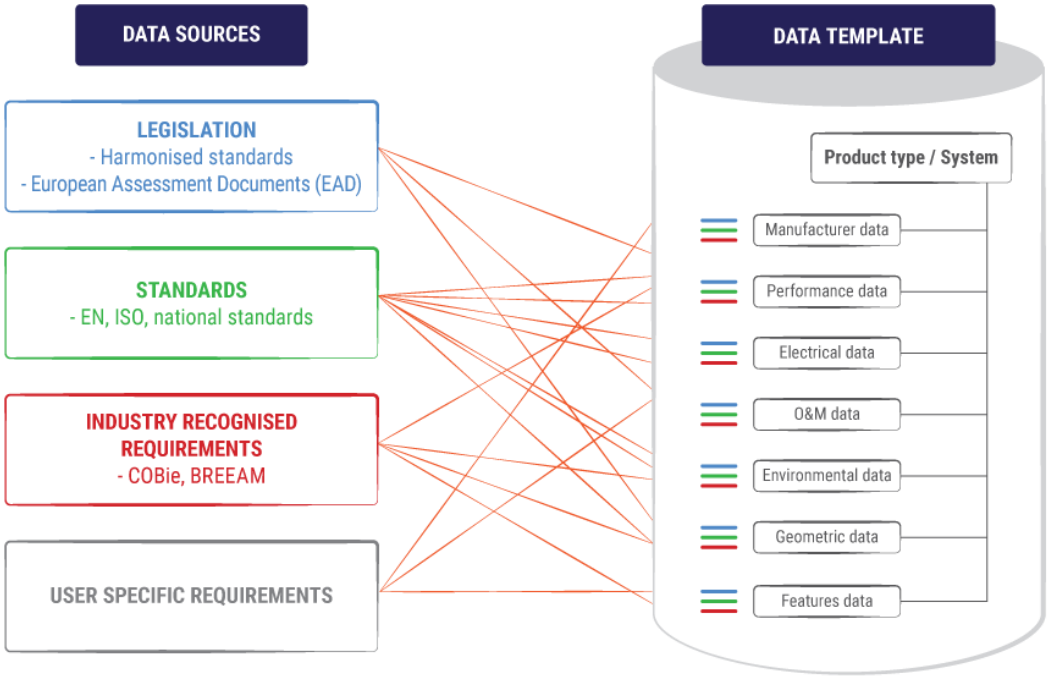


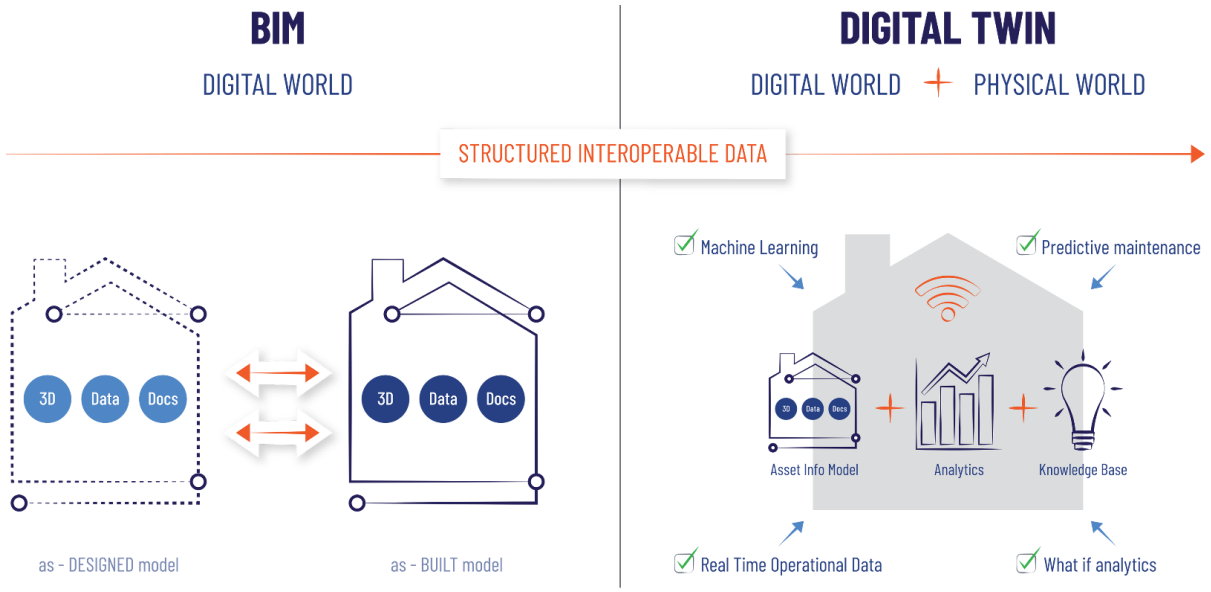
The solution – European Standards Data Templates !

Standardised properties & Data Templates



The golden thread – structured Data Templates

Digital twin - this new digital market is becoming a priority for market actors

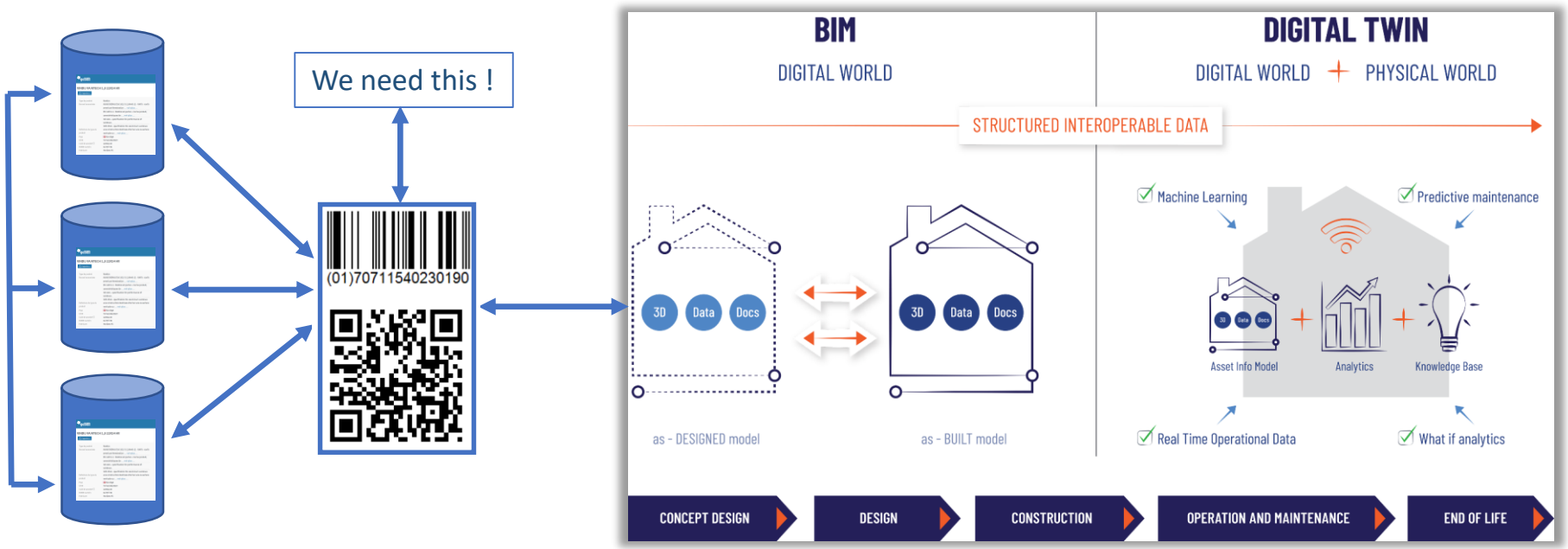


CONCEPT DESIGN → DESIGN → CONSTRUCTION → OPERATION AND MAINTENANCE → END OF LIFE

The as-designed model is based on input from the design teams which ultimately forms the basis for the as-built model that contains all the characteristics of a building. #CEN #ISO #ASTM etc. standards opens a closed market

BIM enables Cobuilder to provide data to create Digital Twins which is a virtual representation of physical as-built asset by linking standardized data to 3D. This opens a new digital market on planned development, where assets are sold

We also need GS1 standards, common identifiers



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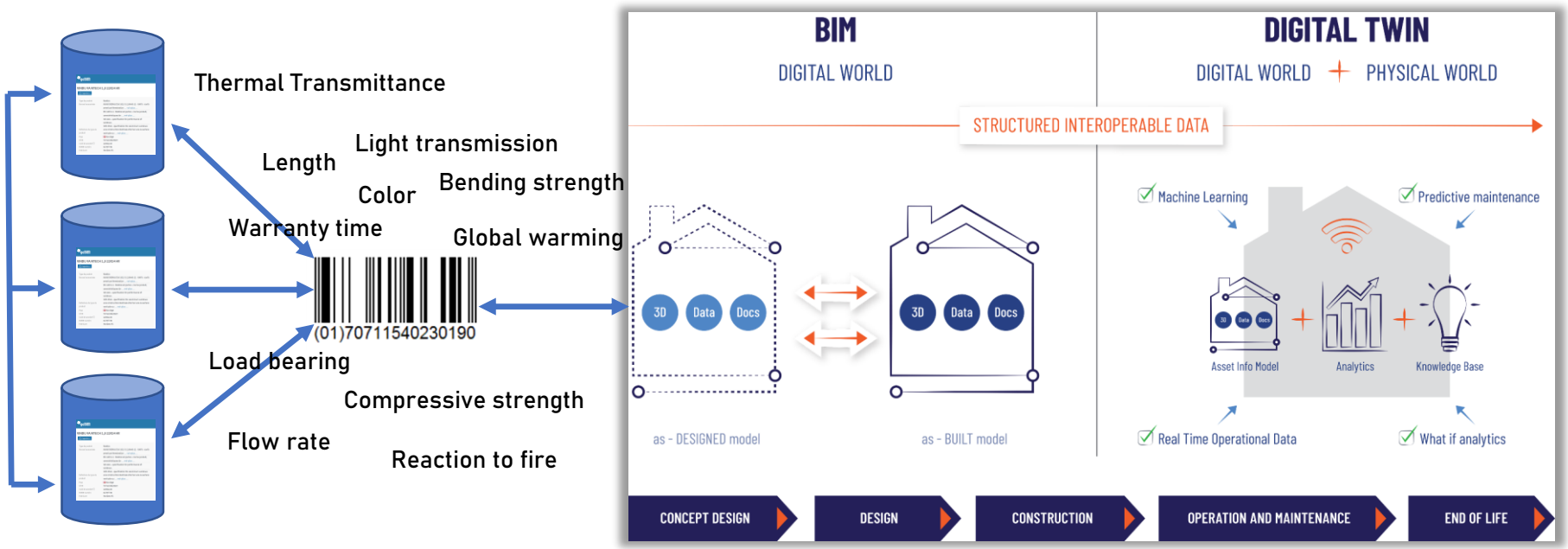
GS1 standards & structured Data Templates



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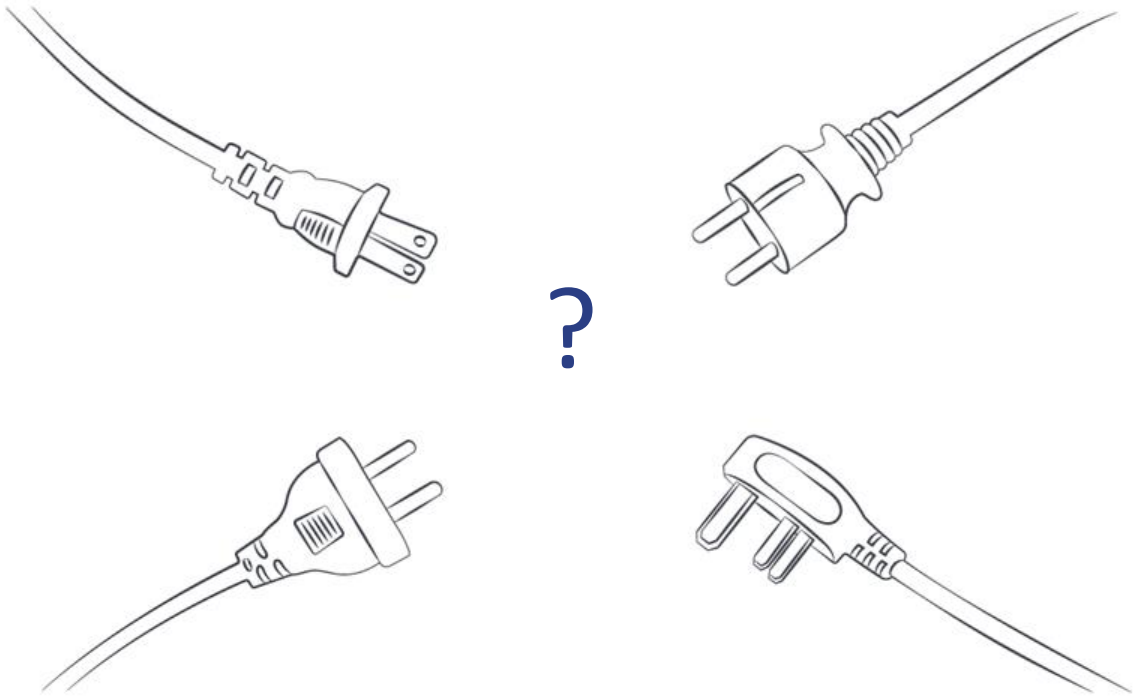
Without standards?



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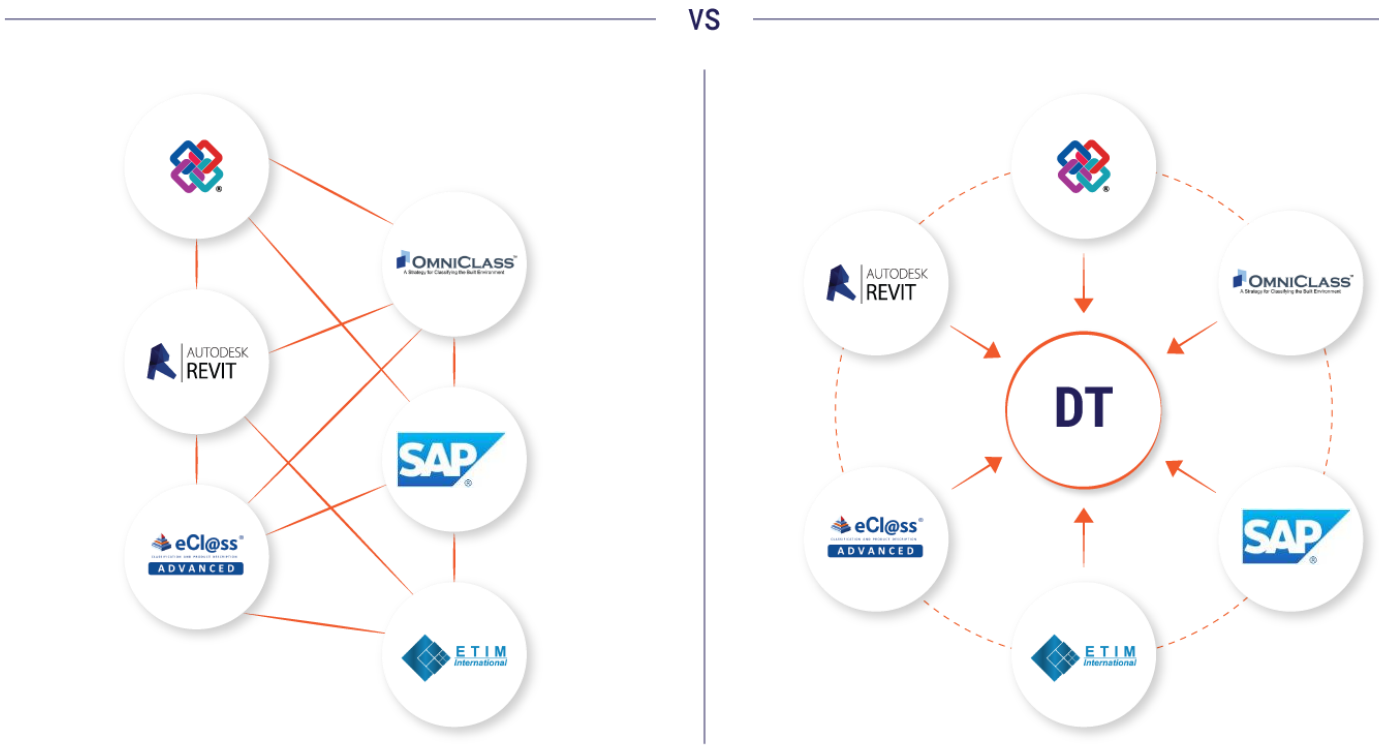
We have siloed data structures – we need Data Templates



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WHAT ?

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MoU GS1 and BuildingSMART

The Memorandum of Understanding with bSI was signed in October 2018. Key points

1. Work together to jointly develop a **common initiative** in respect of the buildingSMART Data Dictionary (bSDD) and the use of GS1 standards, in particular for product instance (serialised) identification
    - Launch of **Digital Supply Chains in Built Environment (DSCiBE)** WG (March 2019)
2. Identify a prioritised set of additional cooperative activities based on the use cases
3. Jointly investigate potential areas of collaboration for standards development
4. Joint outreach and education.

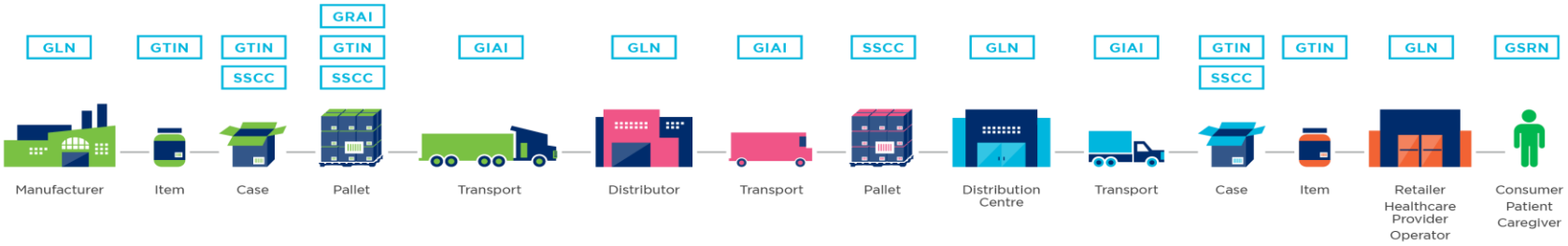
GS….what ?

- **International**, **not-for-profit** and **neutral** organisation
- developing and maintaining **global standards**
- enabling all industry stakeholders to **identify**, **capture** and **share** information smoothly
- focussing on increased **efficiency**, **productivity** and **safety** through traceability and visibility in:
  - **Supply Chain**
  - **Full Product Lifecycle**

Identify—Capture—Share

Identify: GS1 Standards for Identification

GLN Global Location Number **GTIN** Global Trade Item Number **SSCC** Serial Shipping Container Code **GRAI** Global Returnable Asset Identifier **GIAI** Global Individual Asset Identifier **GSRN** Global Service Relation Number



Capture: GS1 Standards for Barcodes & EPC/RFID

GS1 Barcodes **GS1 EPC/RFID**

Share: GS1 Standards for Data Exchange

Master Data Global Data Synchronisation Network (GDSN) **Transactional Data** eCom (EDI) **Event Data** EPC Information Services (EPCIS)

Identification > Digitalisation

GTIN

Global Trade Item Number
(EAN/UPC)

- ❑ **Globally Unique**
- ❑ Key used worldwide to **identify**, **capture** and **share** different types of information
  - ➢ **Master Data**
  - ➢ **Transactional Data**
  - ➢ **Event-based Data**

prEN ISO 23386

prEN ISO 23387

4 070071 967072

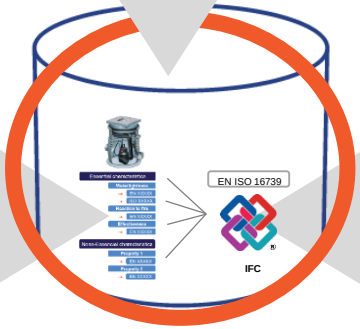
GS1

Essential characteristics

- **Watertightness**
  - EN XXXXX
  - ISO XXXXX
- **Reaction to fire**
  - EN XXXXX
- **Effectiveness**
  - EN XXXXX

None-Essencial characteristics

- **Property 1**
  - EN XXXXX
- **Property 2**
  - EN XXXXX



EN ISO 16739

IFC™

Common technical language in a data dictionary based on EN ISO 12006-3

WHO ?

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Team members of the DSCiBE are from…

- buildingSMART International
- Cobuilder
- EDIN Europe (Pan-European networkers in construction materials & DIY)
- IBM
- CPE (Construction Products Europe)
- and many other industry stakeholders

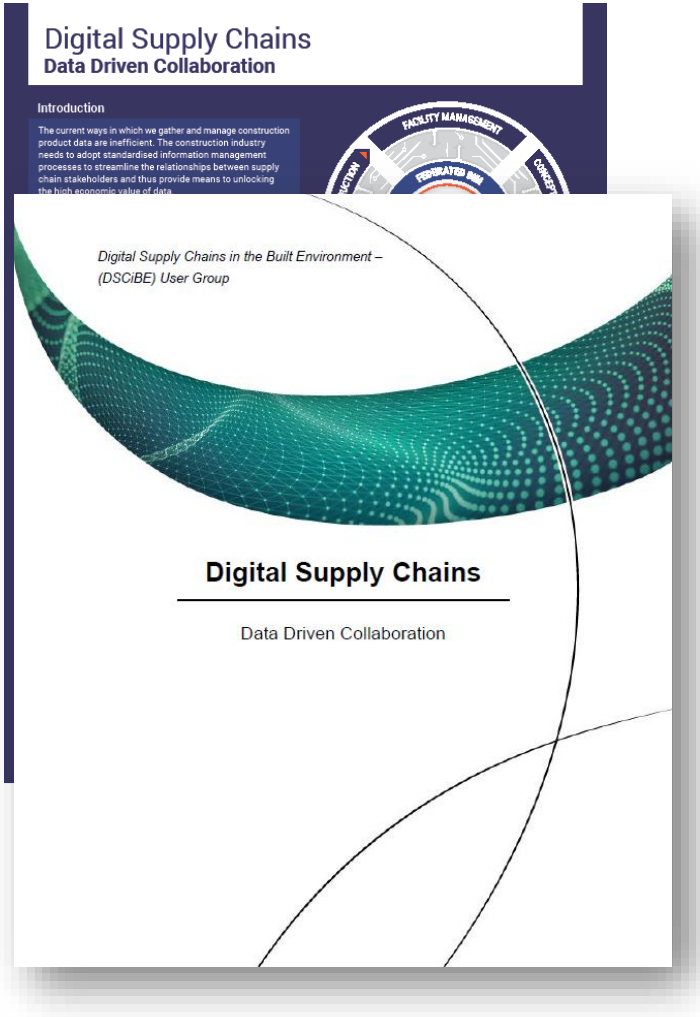
Digital Supply Chains in Built Environment

Workshops (face-to-face)

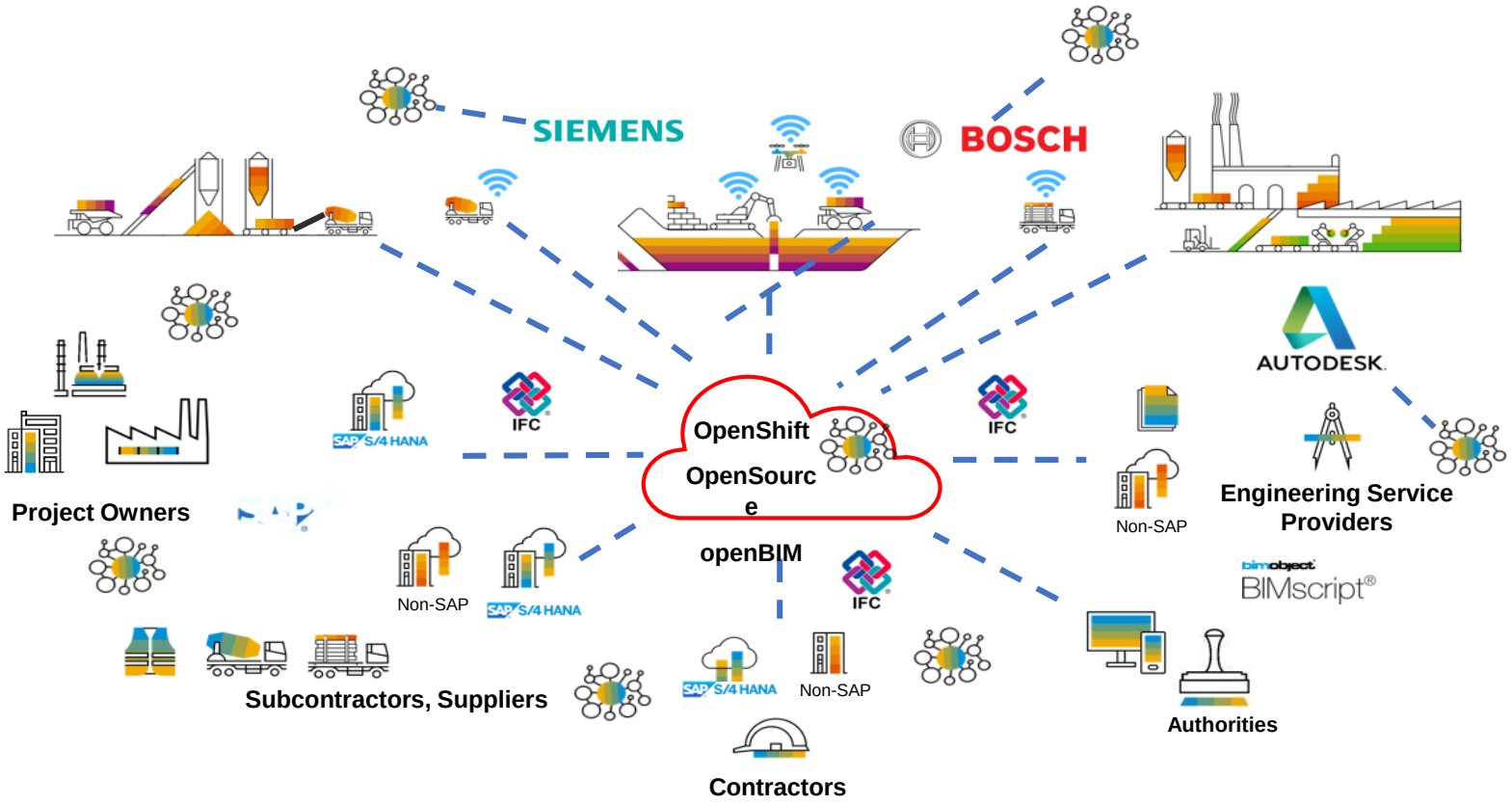
- 1st : Mar. 26th 2019 Düsseldorf
- 2nd : May 8th 2019 GS1 GO Brussels
- 3rd : Jun. 12th 2019 GS1 Norway Oslo
- 4th : Sept. 11th 2019 Lisbon (GS1 I&S)
- 5th : Nov. 25th 2019 IBM IoT Centre Munich
- 6th : Jan. 30th 2020 GS1 France (Paris)
- 7th : Mar. 27th 2020 Oslo (bSI Summit

Deliverables

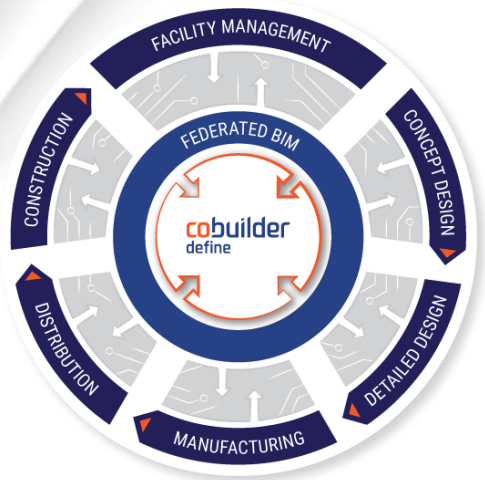
1. Develop a **Value Proposition** for the Industry - in progress
2. Develop a **1-pager** on linking the dots IFC-bSDD-PDT-GS1
3. Focus on developing more and more **use cases** where (GS1) standards are being used → 6 use cases currently in development
4. Develop a **White Paper on Data-Driven Collaboration**



Enabling Digital Built Environment



Please, contact us for further questions on **Data Templates** !



Thank you!

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