BIM conference – EBTG/Statsbygg
Digital twin in Statsbygg

Leiv Engelschion/CIO
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Ok .... 
... so the answer is Digital twin 
... but what was the question?
The question is: why a Digital twin?
Ambitions
The Norwegian construction industry has high ambitions.
20% reduction in facility management and operations cost.
Ambitious goals requires dramatic changes
New ways of collaborating

Digitalisation

Robotisation

Artificial intelligence

Analytics

Digital twin
What is a digital twin?
Statsbyggs’ definition of a Digital Twin

“A digital replica of the building that contains all necessary information or reference to the information covering all needs throughout the lifecycle of the building, made available for the user where, when and in the form the information is needed”
Statsbyggs’ digital twin architecture

Improved, more efficient processes

Digital Twin platform

Asset-database

BAS/BMS
EMS
IoT

BIM
Documentation
Drawings
Other information database

API / application programming

Intelligent building
IOT

HUB
MASTER DATA - KEYS

- **Internal project numbers**
- **Internal property and building numbers**
- **Cadastral coding (land registration)**
- **Matrikkelnummer**
- **Matrikkelens bygningsnummer**
- **Eiendomsnummer**
- **Bygningsnummer**

**System and tag identification**

- **GTIN**
- **TFM System**
- **TFM Type**
- **TFM Komponent**

**Open BIM identifications**

- **IFC Site**
- **IFC Building**
- **IFC Floor**
- **IFC Space**
- **IFC System**
- **IFC Component**

**Global Trade Item number**

**Statsbygg Intern nøkkel**

**Statsbygg standard**

**OpenBIM standard**

**Internasjonal standard**

**Norsk standard**

**Andre nøkler**
What are the potential benefits of a digital twin?
Digital construction site

- Better design quality
- Efficient information flow
- All digital
- More efficient collaboration
- Less construction flaws
- Improved cost control
- Enabling robotisation
- Better logistics
- As-built = as-designed
- Better technology
Self regulating smart buildings

- Automation ready
- Improved working environment
- Save manual operations
- Better performance
- Reduced energy consumption
- Enable customized environments
- Reduced energy cost
Maintenance support

Information at your fingertip

Visual maintenance instructions

Remote maintenance support

Preventive maintenance

Maintenance as-needed
New services

- Usage data
- Energy saving
- Locational services
- Individual customization
- Custom cleaning
- Space optimalisation
- Personalised experience
What are we doing in Statsbyg right now?
Enterprise Architecture approach (Togaf)
Benefit realisation – step by step

Not like this....

1
2
3
4

Like this!

1
2
3
4
5

Henrik Kniberg
Some strategic choices:

«Cloud first»

Office 365 for collaboration

Open API

Azure APIM and security platform
Statsbygg approach to digital twin

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- BIM
- Documentation
- Drawings
- Other information database
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