# MEASUREMENT, VISUALISATION AND PROCESSING IN BIM FOR DESIGN AND CONSTRUCTION MANAGEMENT 2019

Josef Žák 9/2019

## **Digital transformation**

#### **Transportation**



#### Media





## Hospitality



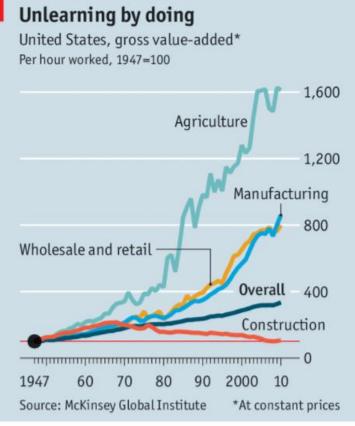






# Who is next?

#### Challenges and opportunities



Construction works prices +3,3% annually – ČSÚ Construction costs 3,7% annually – ČSÚ Increased nominal wages +8,4% annually – ČSÚ Request for information of documentations +12% annually - Skanska Global BIM Knowledge Expert Group GDP +3% annually – World Bank ICT (Information and Communication Technologies) solutions +70% annually - EU commission PC performance 100x in last decade - CTT

Internet connection speed +26% annually - Reddit

Economist.com

Challenges and opportunities

Digitalization

Automatization

Manual labor cost decrease

Construction works systematization

Increased efficiency, quality and safety







#### **BIM in Czech - Timeline**

• Separated industry activities



- Plan for Expanding the Use of Digital Methods and Building Information Modeling (BIM) for Transport Infrastructure
- Framework for BIM integration in CZ
- Established national body for BIM standardization
- Methodologies releases
- National pilot projects
  - Civil SFTI
  - Building CAS

(SFTI, May 2017)

(MIT, September 2017)

(CAS, January 2018)

(CAS and SFTI, 2019)

(2019-2022)

#### Methodologies





#### Czech industry standard



#### Employer's information requirements (EIR)

- Based on use cases
- Reflects complexity of projects
- Reflects client's maturity
- Developed in cooperation with key market players



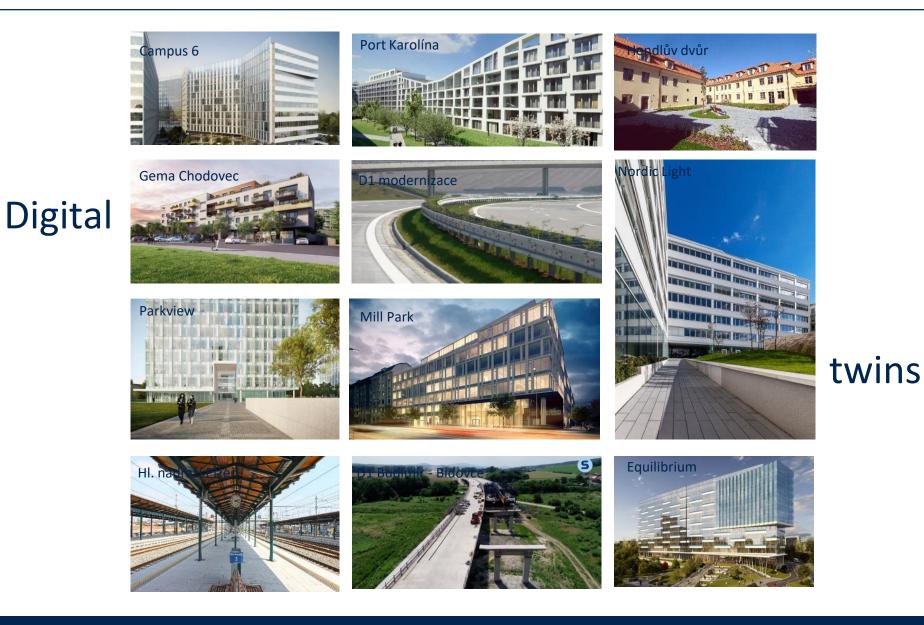
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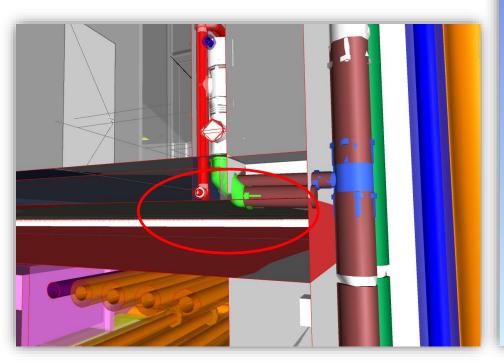
#### Database for Construction Data Standard - DDSS

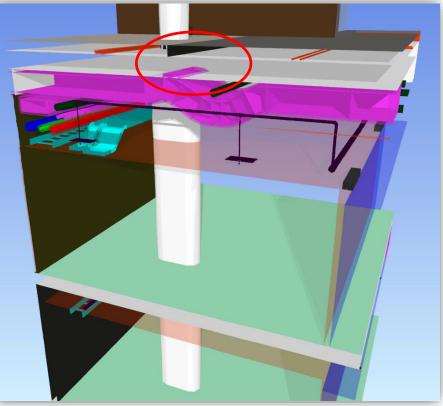


Enhanced construction sector cooperation efficiency development



## Project Risk Mitigations

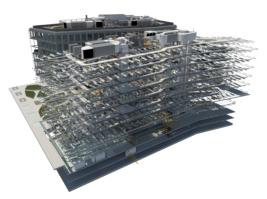


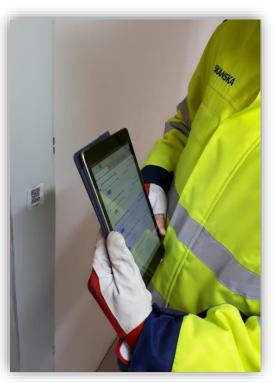


#### Mobile Technologies On-site

Health and safety Issues and checklist RFIs Documents database Gallery







## **MEP Prefabrication**



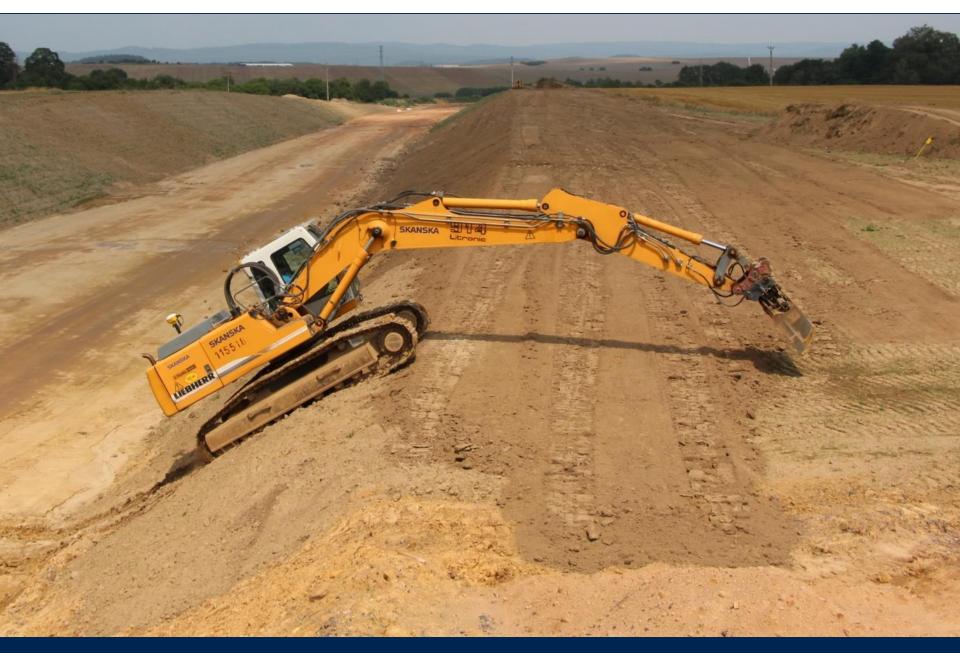






## Machine controll systems





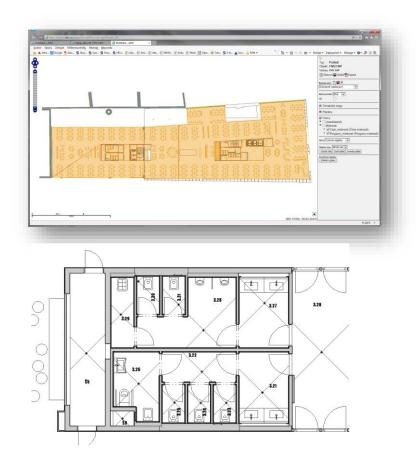
Data Rich Cost Management





#### Operation and Asset Management









#### Current Skanska Joint Developments





### Education

### BIM Lab since 2014

4 voluntary courses since 2015

First mandatory course since 2019





CTU in Prague K126 Department of management and economics



# Thank you for your attention.

