

FIG
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8-11 May 2018, İstanbul



The implementation of BIM in Slovakia – state of the art

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Scope

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- present state in the field of BIM implementation in Slovakia
- activities of the **BIM Association** in Slovakia – BIMAS
- **standardisation** of BIM in Slovakia
- **survey** about BIM exploitation – in **cooperation** with key professional organisations

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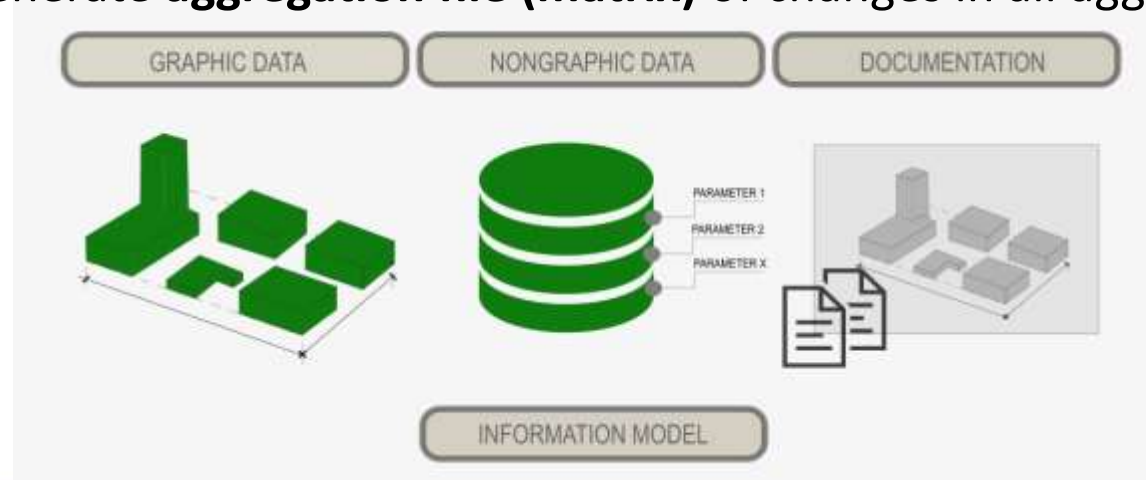
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- information model of the construction is in fact **parametric object-oriented 3D data information model**
- interoperability** and **parametric** behaviour of their objects
- due to change of any parameter generate **aggregation file (matrix)** of changes in all aggrieved model parameters and objects





BIM

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- model data consists from 3 parts - graphic and non-graphic data (information) and documents connected with the project
- each data are implemented in one **Common Data Environment (CDE)**
- detail of BIM is defined with their **Level of Development (LOD)**, required LOD should include all information, which are defined in the agreement between the customer and the constructor
- information, which should the model include could be defined by **Level of Information (LOI)**
- ambition to define the **Level of Accuracy (LOA)** today (US Institute for Building Documentation – Spec. ver. 2.0)

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BIM implementation

- implementation of BIM in many projects supported by public sources since 2007
- EU parliament approved two new directions in 2014 for Public Projects - EUPPD
- EU Commission authorised the **EU BIM Task Group**
- EU BIM Task Group creates the document

„Handbook for the introduction of Building Information Modelling by the European Public Sector“
(www.eubim.eu)

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BIM in Slovakia

- direct response to EU activities in Slovakia was the establishment of BIM Association in Slovakia - **BIMAS**
- non-governmental organisation, which activities are devoted to BIM implementation to all fields of civil engineering practice, starting design, realisation and maintenance during the all life cycle of the building
- propagation, popularisation and development of BIM usage and implementation in Slovakia
 - **education/popularisation** for students and practice
 - **standardisation**

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BIM education

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- **National BIM Conference** – organised on yearly base by BIMAS, education/training for professionals, promotion of BIM projects, targeting specifics of BIM usage, space for discussion, more than 200 participants
- Seminars/conferences – partly devoted to BIM conference on „**Engineering and Industry Surveying**“, 110 participants (surveyors)



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BIM education

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- **BIM Chalange** – competition organised on yearly base by BIMAS for all civil engineering students in Slovakia, students have 5 hours to create the design of specific structure appropriate level of student´s skills and the given time in detail which is needed for approval the structure,
- **BIM4FREE** – lectures for students implemented to curricula of different study programmes prepared by experts from practice



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BIM standardisation

- **ISO** – TC 59 Building and Civil Engineering Works
SC 13 Organization of information about construction works
- **CEN** – TC 442 Building Information Modelling (BIM)
 - WG 1 Strategy and Planning
 - WG 2 Exchange information
 - WG 3 Information Delivery Specification
 - WG 4 Support Data Dictionaries
 - WG 5 Chairperson's Advisory Group

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BIM standardisation

- **STN – TC 121 BIM – Information Modelling of Buildings** ---- established in 2017
- Implemented standards **STN EN ISO 16739**, **STN EN ISO 29481-2** and **STN EN ISO 12006-3**
- **prEN ISO 19650-1** Organization of information about construction works – Information management using building information modelling -- Part 1: Concepts and principles,
- **prEN ISO 19650-2** Organization of information about construction works – Information management using building information modelling -- Part 2: Delivery phase of assets.

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BIM survey

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In 2017 was realized survey between professionals, whit the **scope** to determine the **level of usage of BIM in Slovakia –2327 persons** attend, from these were **199 surveyors**.

The measure was made in **cooperation** with professional bodies:

- Slovak Chamber of Civil Engineers
- Slovak Chamber of Architects
- Chamber of Surveyors and Cartographers
- Association of Slovak Enterprisers in Civil Engineering
- publishing house EUROSTAV.

The query was oriented to **working field** of the attendance, **skills** with BIM usage, identification of their **motivation** to use BIM.

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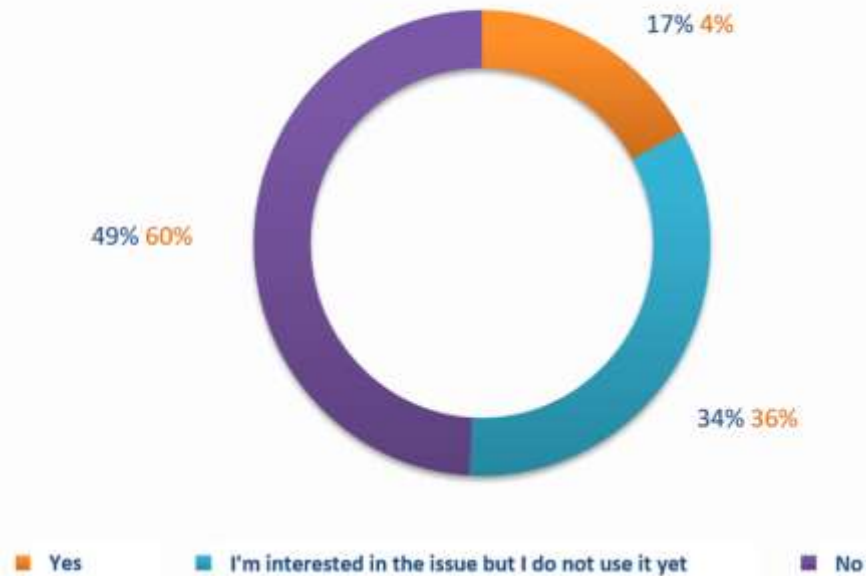




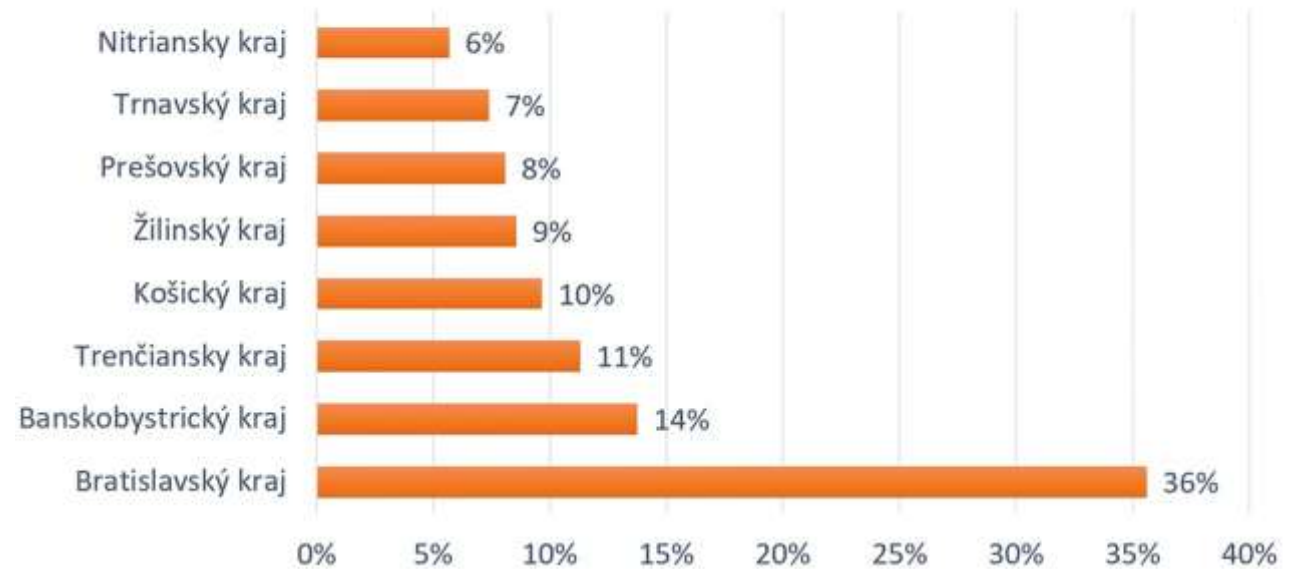
BIM survey

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Do you use BIM to practise your profession?



Which region are the main interest of your company?



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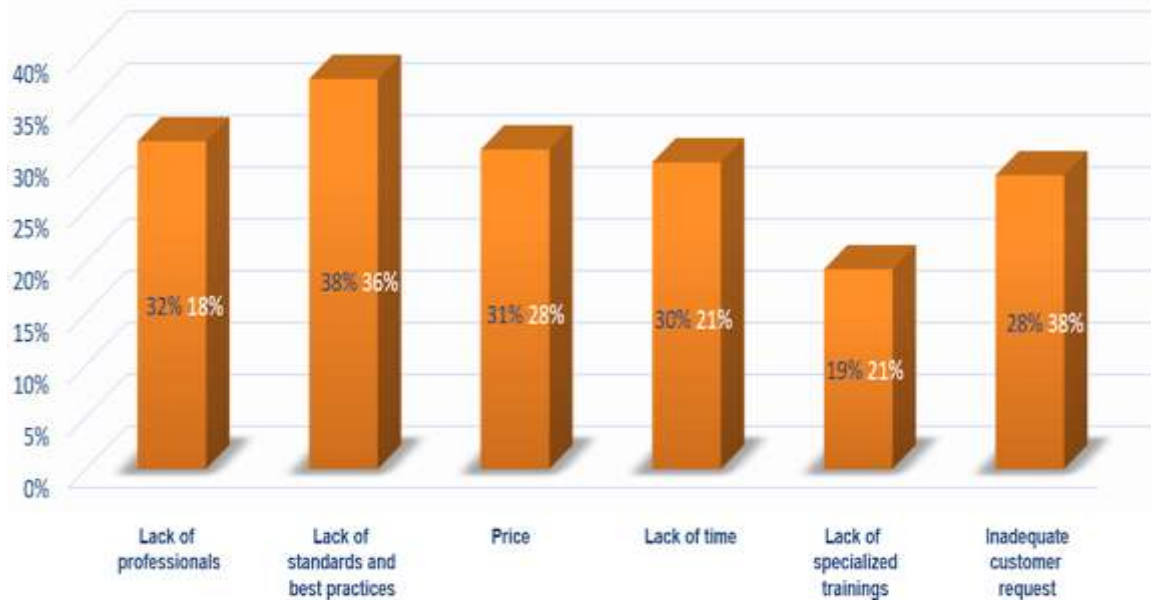
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BIM survey

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What are the main barriers to using BIM on projects?



What are your assumptions about using BIM in your organization?



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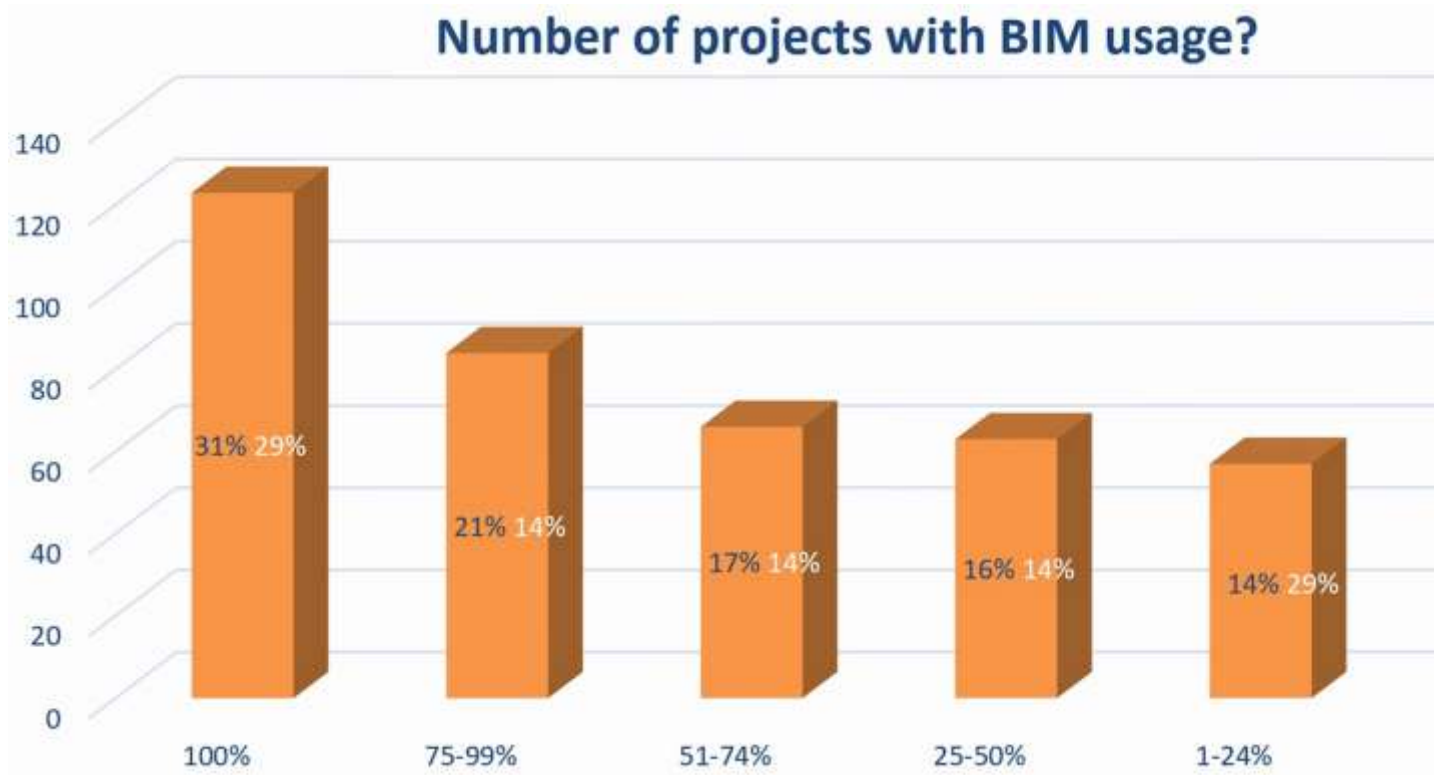


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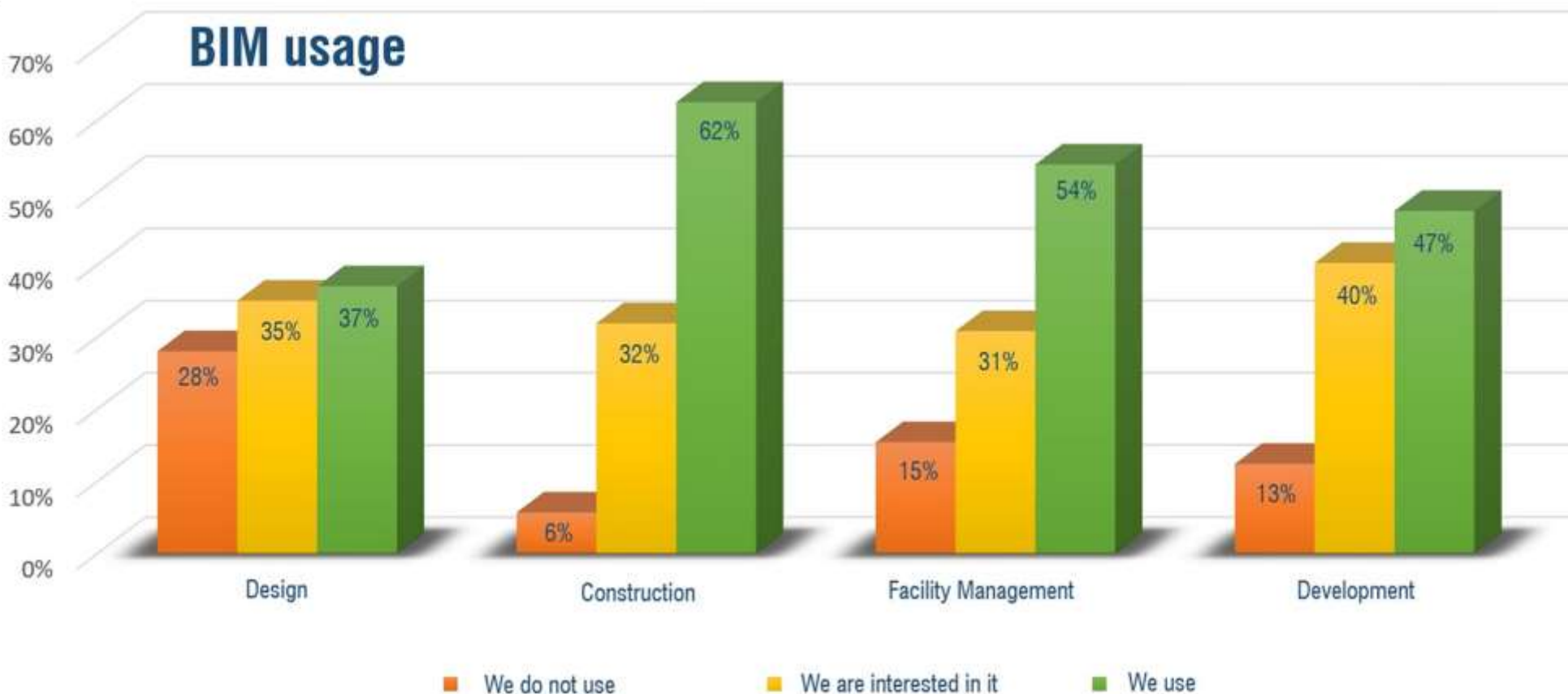


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Conclusion

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As the main barriers of BIM usage, marked by the attendants of the measure, are **missing standards**, **low number of experts** in this field, small number of seminars and **low interest of investors**.

Positive, only one thirds of attendants is the meaning, the price of BIM is to high.

Results recorded by BIMAS, it is a good starting position, and the **acceleration of all processes is expected** mainly in the state sector.

The active **cooperation of all subjects including the TC 121** will be helpful for the **future implementation** of BIM rules in Slovakia.

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Conclusion

The process was **started by enthusiast and innovators**, private companies, which take a big effort to assure state, to take account this and be paying attention to this topic.

The **support of European Commission**, as well as the all Europe is **remarkable**, today.

There are **many new projects**, which results are helpful in implementation of BIM into the daily practice at different level and point of the construction industry, in Slovakia.

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Thank you for your attention!

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