Zarzadzanie Dokumentacja
Autodesk – Collaboration & Data Management

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BIM
BIM without the Information is no BIM
The industry
The European Construction Sector

- Strategic importance
- 10% of GDP in EU
- 20 millions direct jobs (7.5% of total employment in EU)
- 1.9 million firms:
  - 97% have fewer than 20 workers
  - 93% have fewer than 10 workers
- EU international contractors generate €167 billion (2012)
Three eras of technological disruption

Era 1: Documentation (Replication)
2D Drafting
80s-90s

Era 2: Optimization (Project Model)
BIM
2000-now

Era 3: Connection (Model Systems)
Next Gen BIM
Moving to Future

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Challenges
Explosion of data
Business complexity

Information flow between stakeholders within phases

Information flow between phases by stakeholders
JOHN W. LATTIMORE
CONTRACTOR
1980
Collaborative 3D BIM with all project and asset information, documentation and data being electronic.

By 2016 a staged plan will be published with mandated milestones showing measurable progress at the end of each year.
BS 1192 / PAS 1192
UK Key BIM Standards

- Part 1 – Collaborative production of information in AEC
- Part 2 – Information Management Construction phase
- Part 3 – Information Management Operational phase
- Part 4 – Information exchange Construction phase to O&M
BRUSSELS—15th January, 2014
On 15th January the European Parliament voted in favor to accept amendments to the European Public Procurement Directive which includes two references to BIM.

As part of its vote, the European Parliament agreed to recommend the use of electronic tools such as BIM for public works contracts to ultimately enable more efficient construction and building projects in Europe.

This Directive paves the way for all 28 EU Member States to recommend, specify or mandate the use of BIM for publicly funded construction and building projects in the European Union by 2016. The UK, Netherlands, Denmark, Finland and Norway already require the use of BIM for publicly funded building projects.

Article, 19.3 Rules applicable to communications provides that:
“For works contracts and design contests, Member States may require the use of specific electronic tools, such as of building information electronic modelling tools or similar.”
Deliver complete, accurate, connected, digital information across the project lifecycle for whoever needs it, whenever they need it, wherever they are.
Single source of truth: Focus more on design and less on data organization.

Maintain security of project data: Give the right people access to the right project data.

Maintain accountability: Get tools that assist with standards compliance.

Maintain consistency: Keep all team members using the most current project data.

Share data with all stakeholders: Enable collaborative concurrent design.

SINGLE SOLUTION

DATA SECURITY

DRIVE STANDARDS

VERSIONING

COLLABORATE
Where did I save it?

Hmm… but what is the last version?

Oh no, I overwrote my data, hopefully IT will have it in backup…

Do you know which version of the drawings we send to the investor?

I am sure I already used this family in the past, but where did I save it?

MEP guys called that they do not have the latest design!

Drainage does not match the design, why???

Damn, who overwrote data????

Please, could you mail me the current drawings?

These drawings look the same, but most probably they are not the same…

Which clashes are the current ones and which ones are already solved?

Have you approved the project? Which part?
Where did I save it?

I am sure I already used this assembly in the past, but where did I save it?

Damn, who overwrote data????

The drainage department called that they do not have the latest design!

Drainage does not match the design, why???

Oh no, I overwrote my data, hopefully IT will have it in backup…

Please, could you mail me the current drawings?

These drawings look like the one, but most probably they are not the same…

Which clashes are the current ones and which ones are already solved?

Have you approved the project? Which part?

Why does this happen?

How can I prevent it?
Where did I save it?

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1. Order in data
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2. Data sharing and team collaboration

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4. Intellectual property protection

Have you approved the project? Which part?
100 000+
#1 Order in data

- Centralize data
- Standardize data capture
- Extended search capabilities
#1 Order in data
#2 Data sharing and team collaboration

Sharing within the company

- One common data source
- Understanding CAD/BIM data structure
- Integration with BIM software
#2 Data sharing and team collaboration

External collaboration

- Autodesk Vault
- External associate
- Company

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#2 Data sharing and team collaboration

Step I: aggregating data
#3 Capture project status and milestones

- Data versioning
- Document lifecycle
- Milestones
- Reports
#3 Capture project status and milestones

Versioning examples:

- Primary: A 1  
  30% Done
- Secondary: A.1 1.1  
  30% Done.A
- Tertiary: A.1.1 1.1.1  
  30% Done.A.A
#3 Capture project status and milestones

Document lifecycle

WORK IN PROGRESS → FOR APPROVAL → APPROVED → ARCHIVE

Category Name
- Architectural - Model Drawings
- Architectural - Sheet Drawings
- Civil - Model Drawings
- Civil - Sheet Drawings
- Electrical - Model Drawings
- Electrical - Sheet Drawings
- Mechanical - Model Drawings
- Mechanical - Sheet Drawings
- Office
- Standard
- Structural - Model Drawings
- Structural - Sheet Drawings
- Survey - Model Drawings
- Survey - Sheet Drawings

Rule Criteria:
- File Name starts with C-
- Sheet File is yes
- File Name contains .dwg

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#3 Capture project status and milestones

Reports
#4 Intellectual property protection

- Secure storage
- Control over who, when, and what can access
- Monitoring unexpected activities
Questions?