


Benefits of 4D in Major Projects

Proicere User Case Studies

Introduction by Simon Cuciurean, Bentley Systems



An aerial photograph of a large dam and reservoir. The reservoir is filled with greenish water and is bordered by a concrete dam structure. A spillway is visible on the right side of the dam, with water flowing through it. The surrounding landscape is lush green with dense forests. In the foreground, there are some construction vehicles and a drilling rig, indicating ongoing work. The sky is blue with scattered white clouds.

**We provide innovative software to advance the world's infrastructure
– sustaining both the global economy and environment –
for improved quality of life**

Global Top 100 Software Company

FOCUSED ON INFRASTRUCTURE ENGINEERING



39

years in operation



> 5,200

colleagues in 40 countries



> 1,400

colleagues with doctoral and master's degrees



87%

colleagues recommend as a place to work



~\$1.1B

annual revenue



> 194

countries where BSY solutions are in use



\$664M

in R&D in past 3 years



290

patents granted or pending



72%

Bentley Infrastructure Top 500 Owners



93%

ENR Top 250 Engineering Firms



initial public offering September 2020



advancing sustainable infrastructure

Comprehensive, Innovative, Open

INFRASTRUCTURE ENGINEERING SOFTWARE

- ▶ Asset lifecycle information management
- ▶ Asset performance
- ▶ Asset reliability



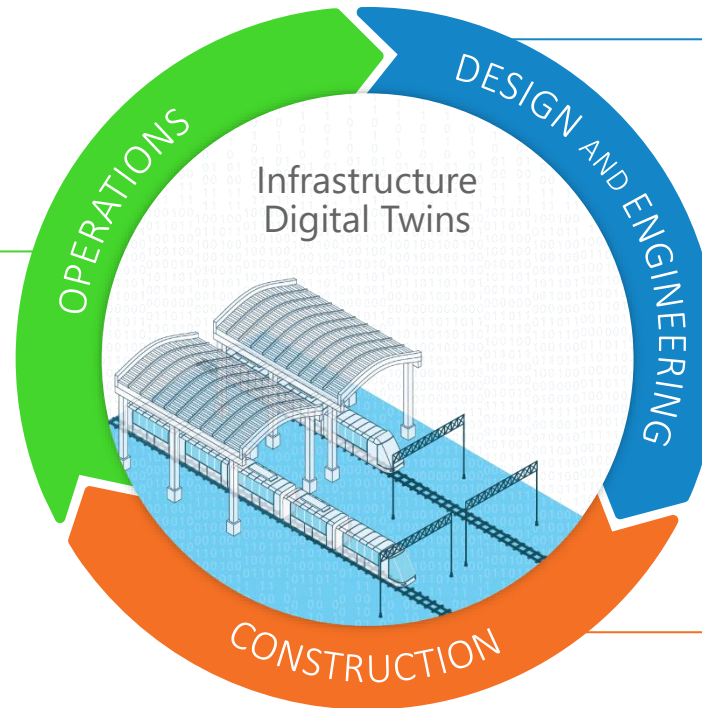
ASSET
RELIABILITY
SOFTWARE AND
SERVICES

#1 North America

#1 Software

- #1 Electric Power T&D
- #1 Oil & Gas
- #1 Transportation & Logistics
- #1 Water/Wastewater

#1 Cloud



- ▶ Civil engineering
- ▶ Structural engineering
- ▶ Geotechnical engineering



ENGINEERING
DESIGN SOFTWARE
AND BIM

#1 Electric T&D, Comms

#1 Mining

**#1 Water/Wastewater
Networks**

#1 Collaborative BIM

- ▶ 4D construction sequencing
- ▶ Cost and perform
- ▶ Field and control

CONSTRUCTION
COMPUTING

CONSTRUCTION
EXECUTIVE

CONSTRUCTECH

Company of the Year 2021

**Top Construction
Technology Firms of 2022**

2023 Top Products Awards

Year In Infrastructure – Selected Projects

<https://www.bentley.com/events/going-digital-awards/winners/>



Year In Infrastructure – Selected Projects

<https://www.bentley.com/events/going-digital-awards/winners/>



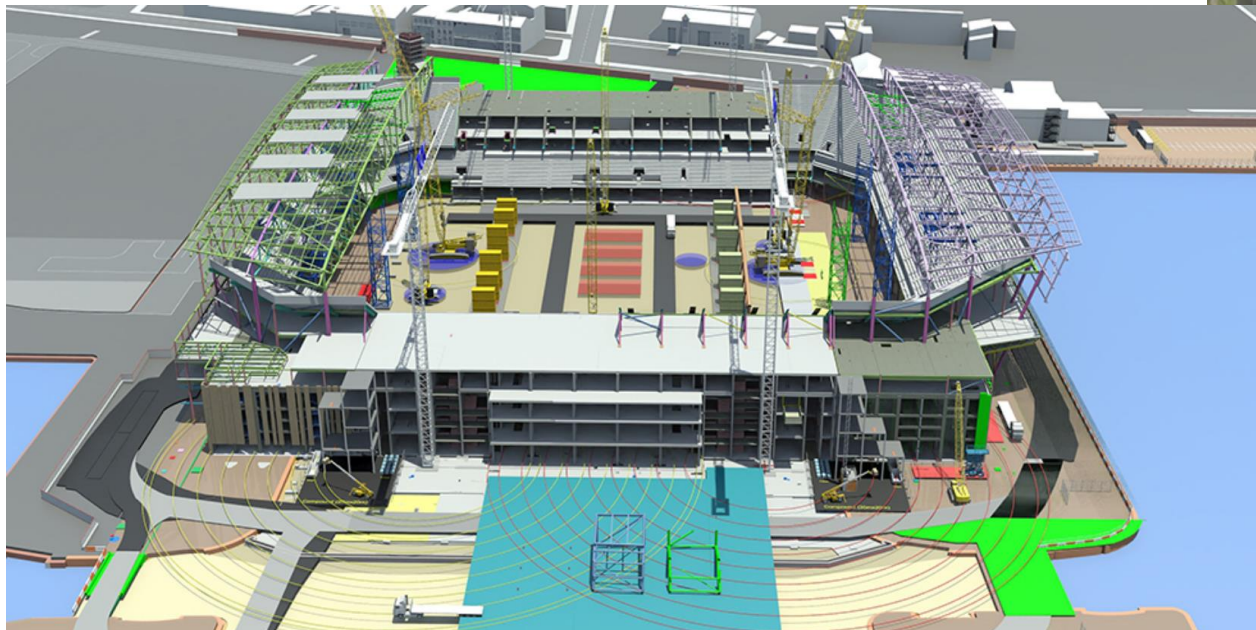
Year In Infrastructure – Selected Projects

<https://www.bentley.com/events/going-digital-awards/winners/>



Year In Infrastructure – Selected Projects

<https://www.bentley.com/events/going-digital-awards/winners/>



Pre-Bid

Pre-Construction Planning

Construction Execution

Closeout

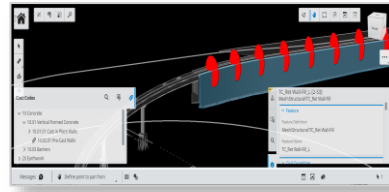
SYNCHRO
Construction

Web | Mobile | Cloud

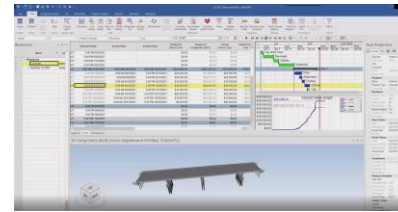
iTwin enabled

Executive Insights = Planning & Virtual Construction Project Management & Collaboration Project Cost Management Field Operations

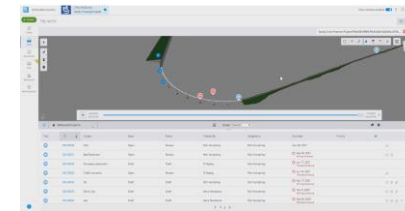
- Third Party and Bentley Design Tools
- MicroStation
 - OpenBuildings Designer
 - OpenPlant Modeler
 - OpenRoads Designer
 - Revit
 - Civil 3D
 - 3D Studio(.3ds)
 - AVEVA Diagrams
 - Intergraph Smart 3D
 - Others



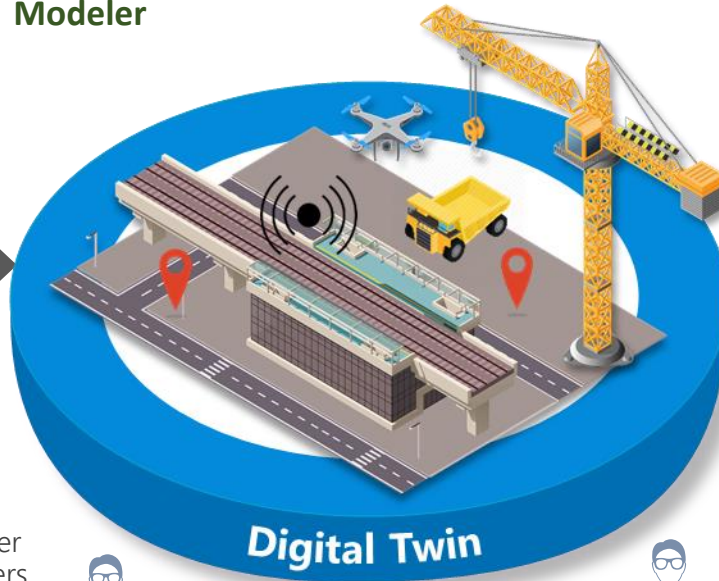
Modeler



4D Pro



Control



Digital Twin

Engineer Designers

Client / Owner

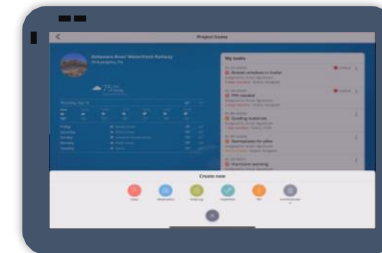
Project Director / Leaders

Planner Estimator

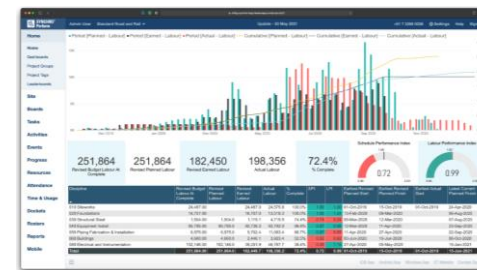
Construction Managers

Superintendents

Project Engineers



Field



Perform

Bentley



Karl Dooner – CEO at Proicere Ltd

30 years in major projects and programmes across many sectors

Much of the last 20 years in the Nuclear sector

Founded Proicere in 2019

Bentley[®]



Project Controls
EXPO
London, UK

Construction and Infrastructure Projects:

According to the Oxford Global Projects Database, large construction and infrastructure projects experience on average a 33% delay relative to their original timelines. And 9 out of 10 large-scale construction projects go over budget on average around 28%.

In a separate study on megaprojects (projects that cost more than £1 billion), 65% faced a cost overrun, and the average overrun was between 50% to 200%.

33%

delay relative to
original timelines

65%

of megaprojects
faced a cost over run
between 50% and
200%

9 out
of 10

Projects go over budget
by 28% on average

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London, UK

Case Studies



Case Study 1 & 2



£80m

schedule
related cost
savings on
this project

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Case Study 3



Using
**Gaming
Software**
to virtually
rehearse high risk
areas of delivery

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Case Study 4



Having a
Timeline
makes the project
schedule to be
easily identified
by even non-
planners

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Case Study 5



Converting a 4D
plan and
producing a

**Virtual
Reality**

output is
beneficial in
numerous areas.

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Case Study 6



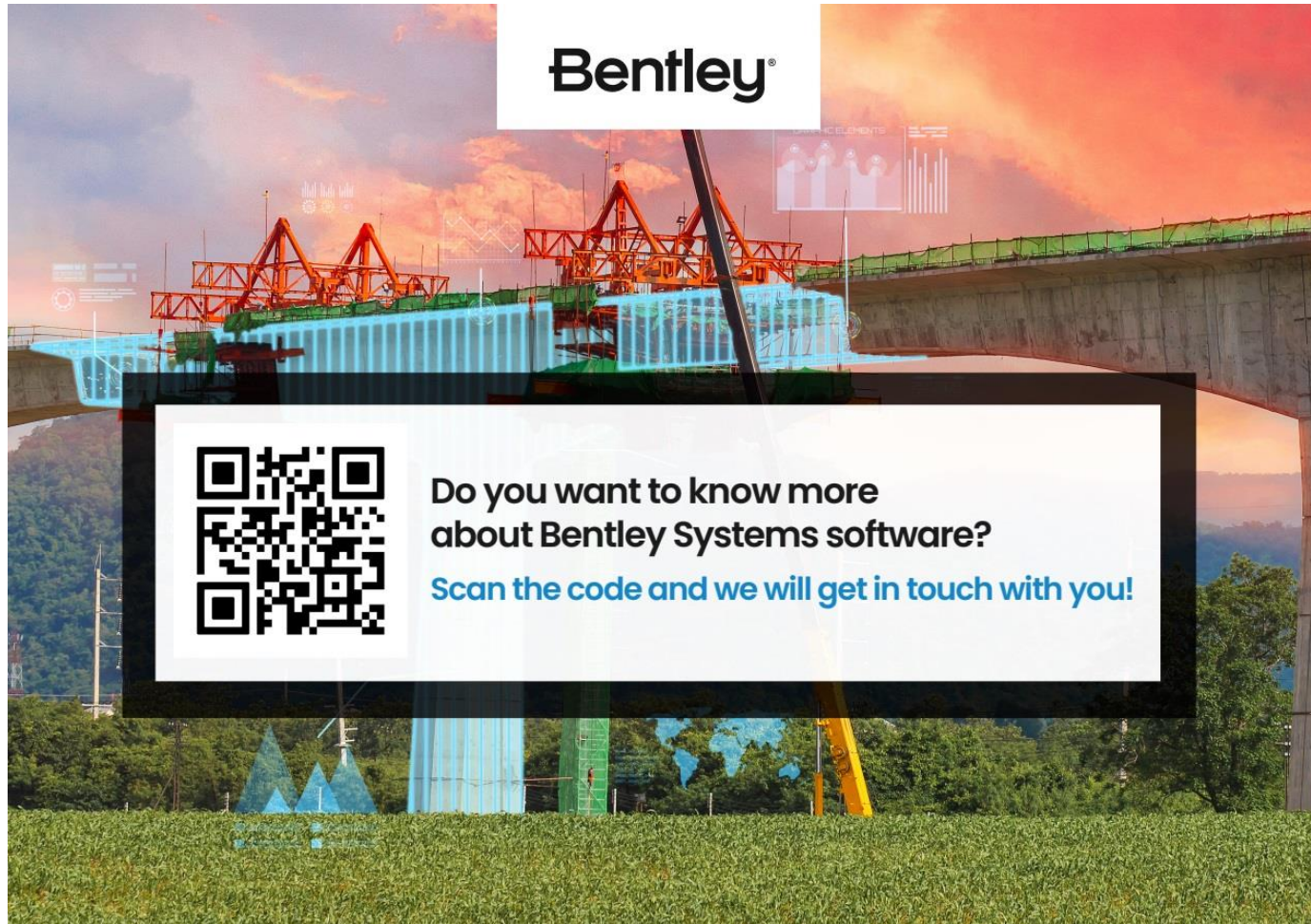
Using Gaming
Software to
**Virtually
Rehearse**
Emergency
Procedures

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Visit the Bentley Systems Stand No. 5



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Scan the code and we will get in touch with you!

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THANK YOU