

Advancement through digitalization and innovation

Benefits of digitalization in the A9 highway refurbishment for all project participants

Finnish-German BIM-Workshop

**FINNISH
BIM
PAVILION**



Bundesministerium
für Digitales
und Verkehr



Agenda

- Project Overview – David Bachinger
- How Infrakit was utilized to innovate the construction process – Stefan Argiriu
- Benefits of digitalization for PORR – David Bachinger
- How open cloud platforms transform digitalization processes – Dietmar Bernert
- Questions & Answers - All



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David Bachinger

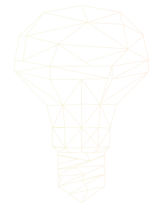
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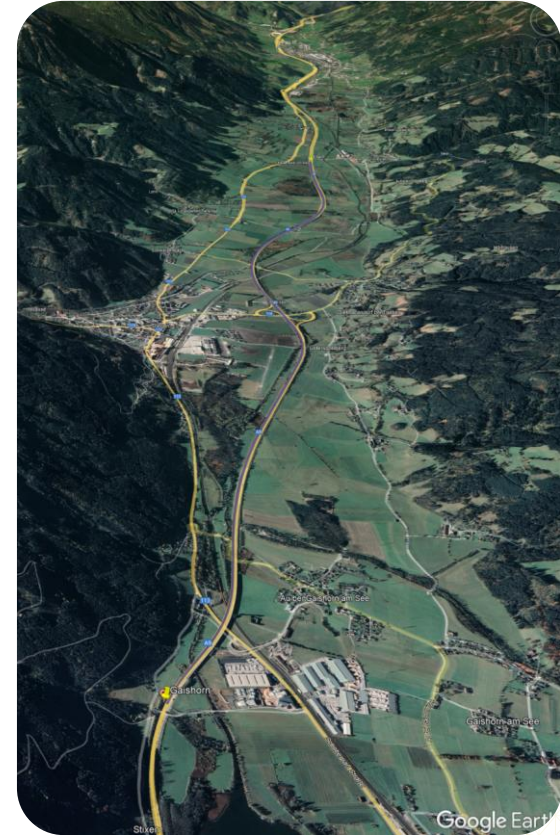
Dietmar Bernert

BIM World Munich
President



Project Overview – A9 Phyrn Autobahn

- Appr. 9.5 kilometers of highway refurbishment
- including 9 bridges + 90.000 tons of asphalt
- 3 retention basins + 3.000 m² noise protection walls
- Contract volume ~ € 60 Million
- 3 years duration (2022-2024)



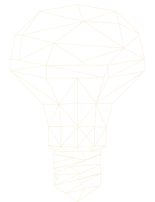
Project Overview

The refurbishment of the Pyhrn Motorway A9 is a groundbreaking project in which ASFINAG, as the owner, has already placed a **strong emphasis on digitalization during the tendering phase**.

In autumn 2021, a **two-envelope procedure** was applied, where the bids were initially evaluated based on quality before the offer price was disclosed.

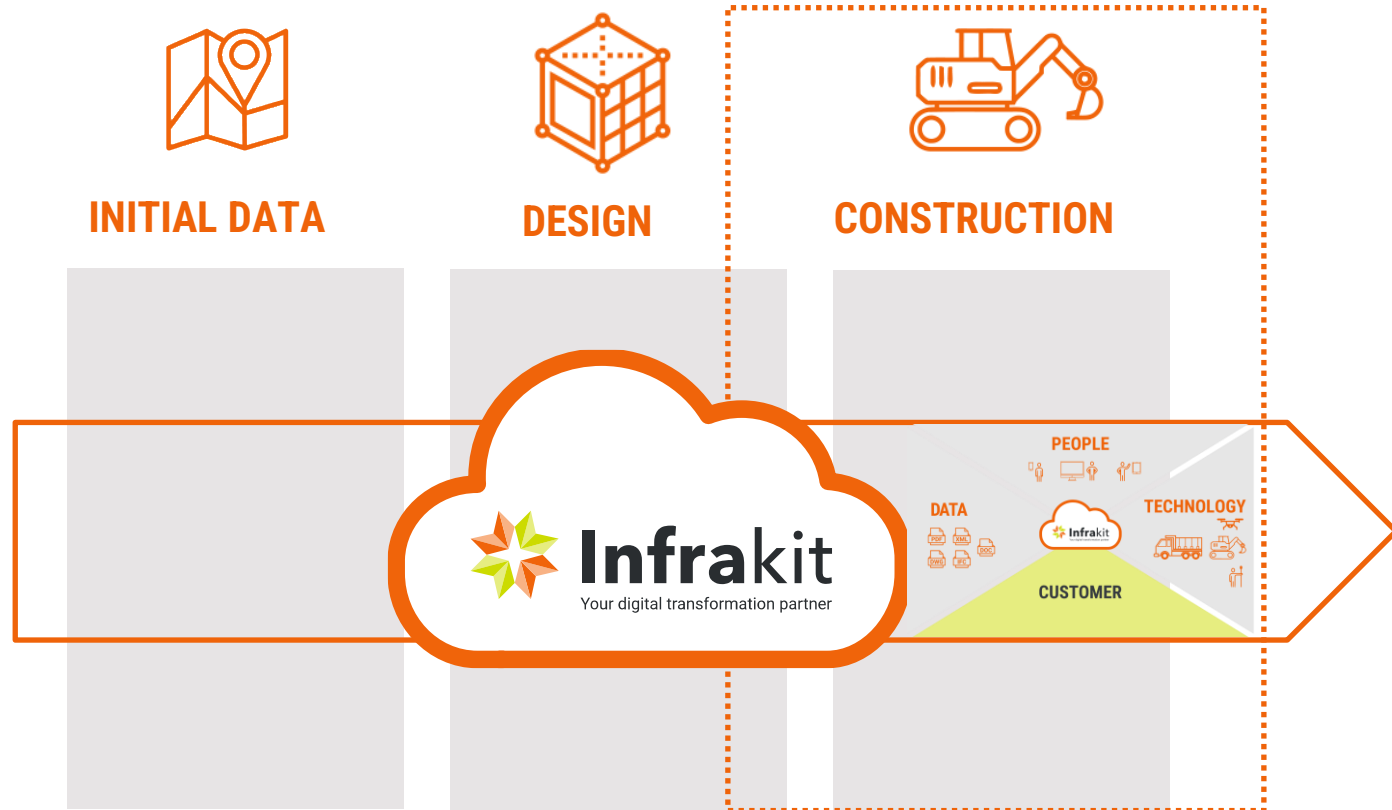
Special features:

- Digital expert + digital technician for construction site mandatory
- Hearing: Present 5 concepts in front of a commission
- Up to 5 percentage points advantage on the contract volume (~ € 3.0 million)



About Infrakit

Infrakit was founded in 2010 by Teemu Kivimaki based on a Finnish research project.



How Infrakit was utilized to innovate the construction process

ASFiNAG as the owner of the project had the goal to facilitate project implementation during the construction phase and increase productivity through innovative solutions from all project participants by using an interface-oriented project platform and sustainable data economy:

- *automated data storage*
- *resource-efficient documentation*
- *seamless information exchange*

explains Susanne Wieser, project manager at ASFINAG.

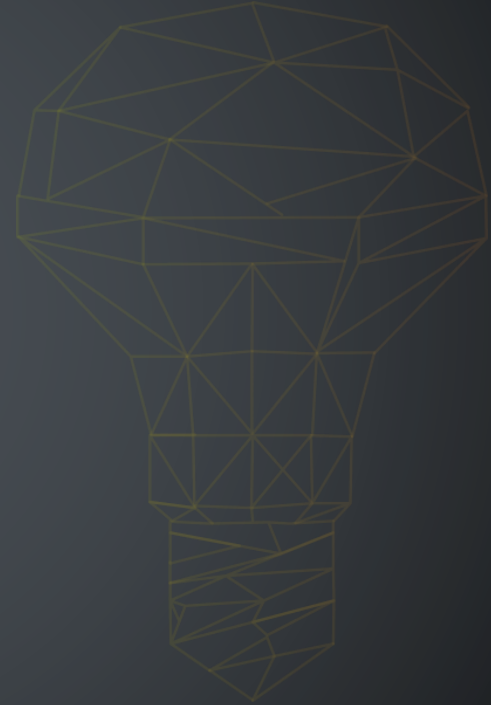
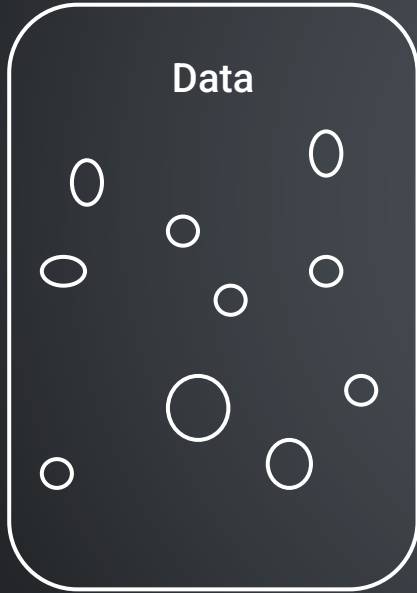


Execution phase

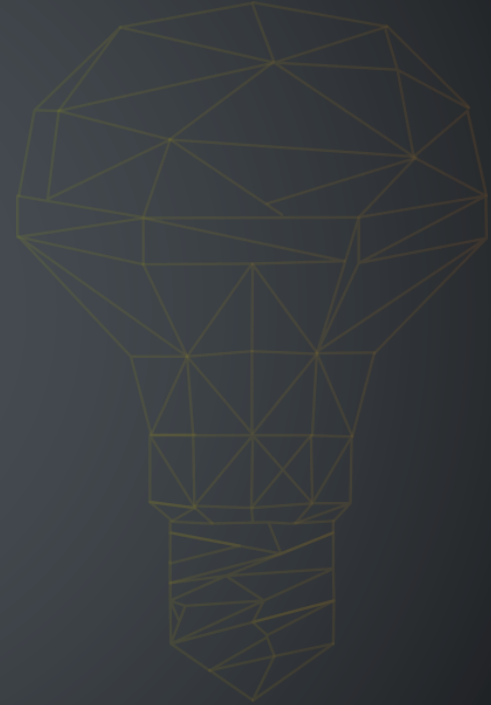
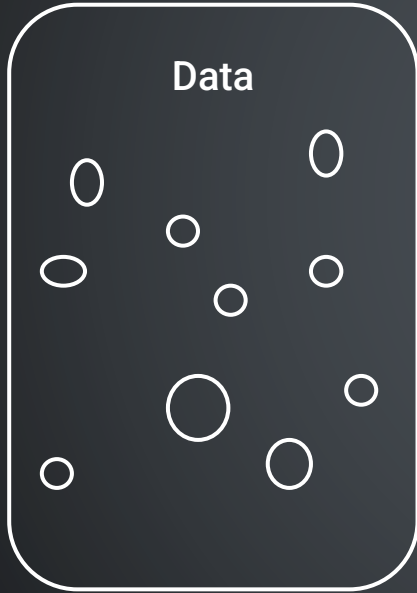
The execution phase of construction projects need to become more efficient!



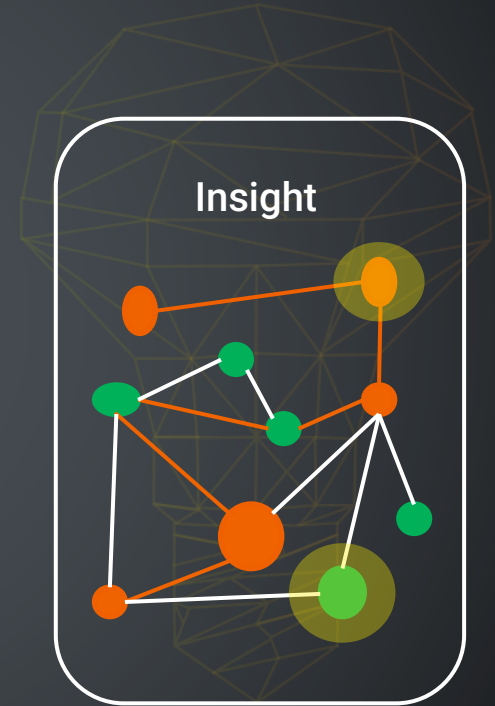
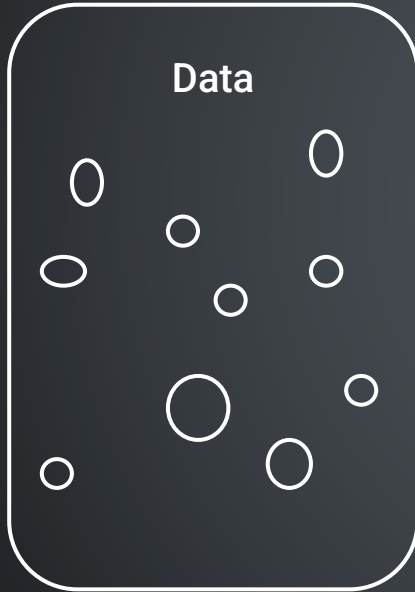
DATA IS GOOD



INFORMATION IS **BETTER**



INSIGHTS ARE **BEST** TO MAKE DECISIONS



DIGITAL SILOS REMAIN HERE



AND HERE...

Design Consultant



Owner



Contractor



How Infrakit was utilized to innovate the construction process

“The great hope of society is in individual character.”

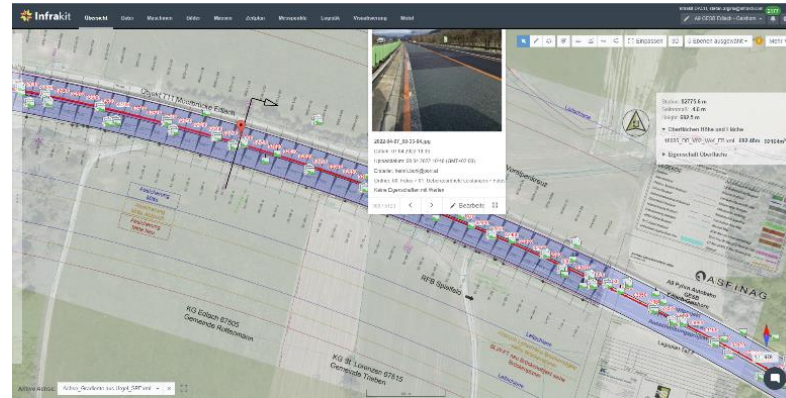
William Ellery Channing



How Infrakit was utilized to innovate the construction process

Using Infrakit, Porr visually represents and utilizes all construction-related data on-site:

- Photo documentation
- Real-time access to model data
- 3D-machine control
- Quality assurance
- Collaboration



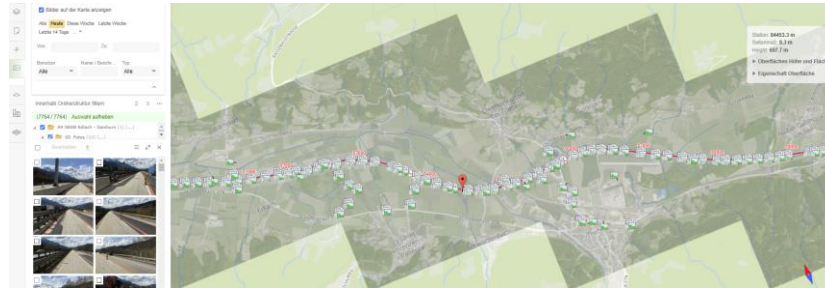
"We aim to create transparent workflows and collaborate with clients, planners, construction supervision, and external surveying offices through Infrakit"

Christoph Winkler, Team Leader of Execution Digitalisation Support & Operational Management at PORR.

How Infrakit was utilized to innovate the construction process

Porr is not only using Infrakit as a collaboration tool among project participants but with the field-tools they were able to:

- Avoid costly rework through QA-Workflows and real-time data integration
- Connect GNSS-Rovers to the field-app to allow highly accurate quality checks



*"Now that the first construction phase has been completed,
I can say that the use of Infrakit has been worthwhile"*

Manfred Hübler, Bauleiter / project manager and digitalization technician at PORR.

How Infrakit was utilized to innovate the construction process

The local construction supervision (Thomas Lorenz ZT GmbH) is benefiting from collaborative factors like:

- Effective communication among all stakeholders
- Neutral platform to create required documentation
- Transparent project monitoring for project management
- One collective knowledge base for all parties



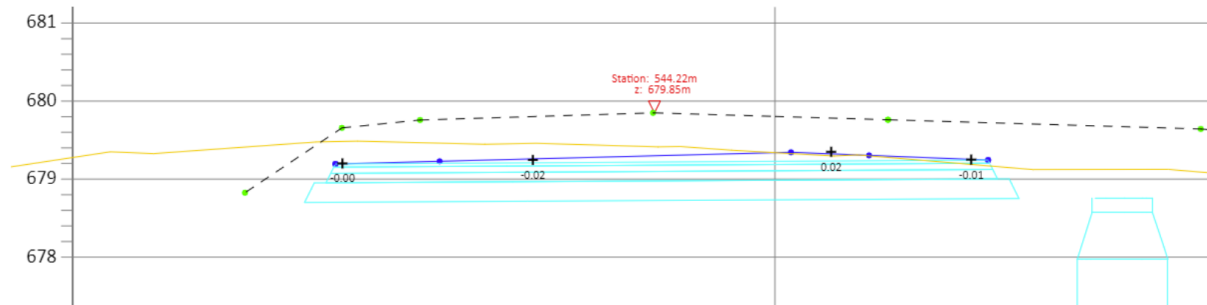
"The central platform Infrakit is groundbreaking in supporting the project team in this aspect, as it enables the creation of the required documentation by all parties involved."

Philipp Premm, Project Manager of Local Construction Supervision at Thomas Lorenz ZT GmbH

How Infrakit was utilized to innovate the construction process

ADP Rinner in Graz, a civil engineering office for project-specific surveying and geoinformation services got contracted by PORR for surveying and QA:

- As-built documentation via Infrakit to enable Quality Assurance in real time



" When I first saw Infrakit at a trade fair in 2019, I knew right away: this is the missing link in the digitalization of the construction industry! It has a user-friendly management system, open interfaces to our surveying systems and various machine controls"

Gerald Fuxjäger, Managing Director of ADP Rinner ZT GmbH

Benefits & challenges of digitalization for PORR



Improved efficiency

Data-driven decision making

Improved documentation

Cost savings

Sustainability

Competitive advantage

Resistance to change

Interoperability

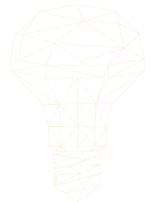
Regulatory compliance

Accelerator: Owners must demand digitalization



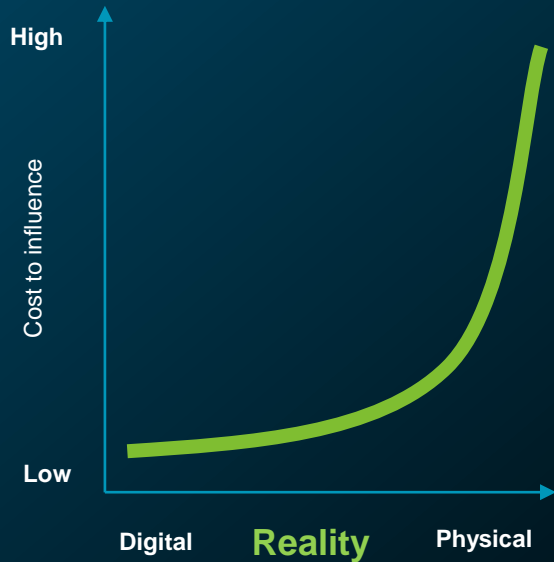
How open cloud platforms transform digitalization processes

- Dietmar Bernert, President BIM World Munich

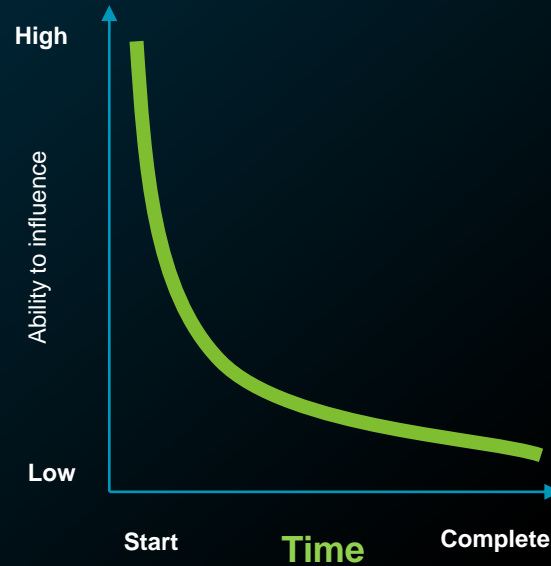


Adding value in construction

Digitally



Early



The data gap

It's all about data - AEC(O) firms manage 2.5x more files than average

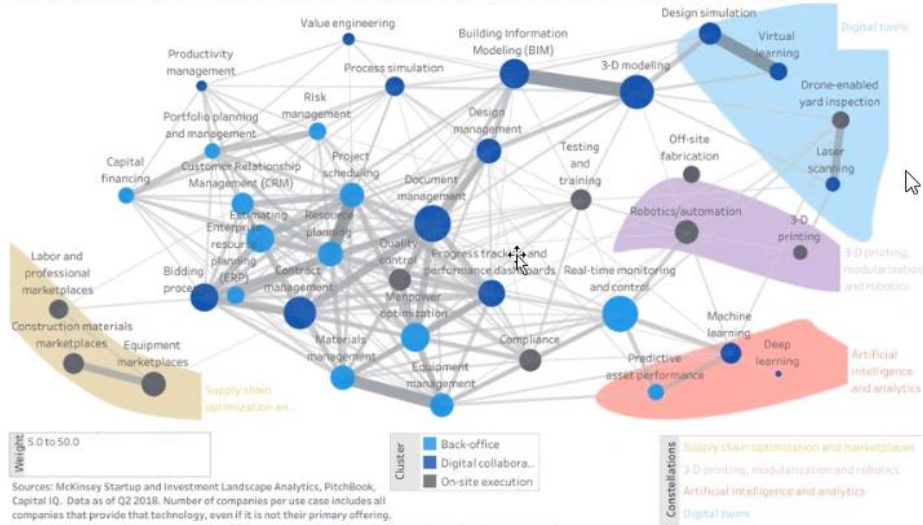
BIM data getting stronger, GIS data emerging, Image data strong, mostly PDF



Seizing opportunity in today's construction technology ecosystem

Mapping the construction technology ecosystem

McKinsey analyzed the growing construction technology landscape to look for trends and constellations of activity around established and emerging use cases. Thicker lines connecting two use cases indicate a greater number of technology companies offering both technologies simultaneously. Click on a use case/technology to view its related solutions. Use the zoom options and weight slider to explore the relationships between different technologies. To isolate technologies by functional cluster or constellation, click to highlight or select the option to filter. Zoom / unfilter by clicking the same option again or the white space.



McKinsey&Company

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Dankeschön für die Aufmerksamkeit
Questions & Answers



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