Digital Twins based on the Trimble Ecosystem

Trimble is Uniquely Positioned to Connect the Digital and Physical Worlds
Overview

01 Introduction and Trimble Ecosystem

02 Trimble Solutions & Workflow Examples
Digital Construction

Twins, Concepts, Workflows

- **Question:**
  - Do new technologies and trends influence the way we work?
  - Are we changing or adapting our work processes?
  - What is a trend?
Connecting a Fragmented Industry

Enabling data to flow seamlessly between all project stakeholders and work processes

- One digital source of truth e.g. Civil + BIM
- Provide Contractors with insight into ongoing and latest design, enabling improved planning of construction work
- Provide Owners full visibility of project data, design and construction processes
- Connect teams and information, communicate directly in the model
Digital Twins - Digital Construction

What does it mean?

With digitalisation, all players along the value chain are networked and become an integral part of continuous processes: "Together, instead of everyone for themselves"
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Digital

3D Model, GIS, Constructible BIM, Digital Twin
Software for design, visualization, data preparation

Physical

Positioning, Sensing & Control, Field Data
Sensing, measuring & dynamically controlling in a geospatial context

What

Common Data Environment
Our platform connects these technologies & workflows together via a Common Data Environment

Where

Why

Industry Analytics and Optimization
Supporting informed decision making by delivering reliable, accurate information to engineering & construction, utilities, mining, oil & gas, etc.
Enabled via Real-time Collaboration

Transforming the way the industry works by unlocking the unrealized potential of digital construction

**Multi-User Common Data Environment**
Multi-user, multi-disciplined central model enables collaboration throughout the entire construction lifecycle.

**Object Based 3D Model**
Facilitates near real-time updating of the 3D model without having to wait for full design updates.

**Software Agnostic Platform**
Allow all stakeholders (i.e. owners, designers, contractors, consultants) to maximize the value of their existing hardware and software technologies and expertise.
Suggested Digital Twin Workflow

Based on the Trimble Ecosystem

Most Important - Proper data flow!
- Capture digital data in the field and processed in the office.
- Add data and outputs from processing (metadata) to a common data environment.
- All the data combined together in a common data environment could assist in better and timely decision making.

Processing data

Outputs from office processing attributes/metadata

Processors
The End Goal the Digital As-Built

Optimize the design process
All team members can share model data across all disciplines, where changes are shared continuously in a transparent and agile process.

Deliver construction-ready design
Minimize idle time, downtime and theft, and extend the life of your equipment.

Collaborate throughout the project
Track design changes through real-time collaboration in one central model.