

























6-11 May 2018 ISTANBUL

EMBRACING OUR SMART WORLD WHERE THE CONTINENTS CONNECT:

ENHANCING THE GEOSPATIAL MATURITY OF SOCIETIES

Integrated Field to Finish **BIM for Surveyors**

Boris Skopljak (boris skopljak@trimble.com) Market Manager, Trimble Geospatial Office Software















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Agenda

- Trimble Introduction
- BIM relevance in Trimble
- **Trimble Buildings**
- Civil Engineering and Construction
- **BIM** in Geospatial
- Field to Finish Workflows
- **Expanding Business Opportunities**















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Trimble Snapshot



Company



NASDAQ: **TRMB**



\$2.65B In Revenue



31%+
Building & Infrastructure



Innovation



2,000 Patents



360 Construction Workflow & Technology Patents



14% R&D re-invested



People



9000+ Employees in 35 Countries



800+ Construction Professionals

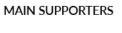


Global Customers in **150** countries























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Core Business Franchises

Our core industries are global trillion \$ industries which operate in demanding environments, with technology adoption in the early phases







Buildings



Civil Engineering and Construction



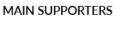
Geospatial



Transportation and Logistics

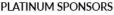


















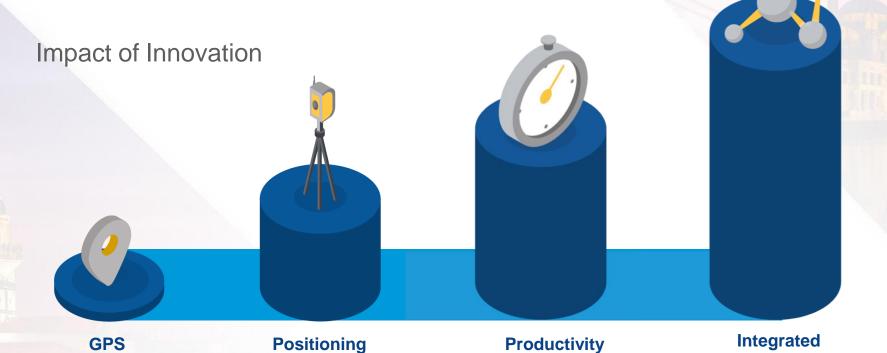


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Trimble's Transformation





















Work Process



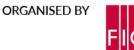
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Supporting Every Phase of the Project



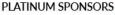




















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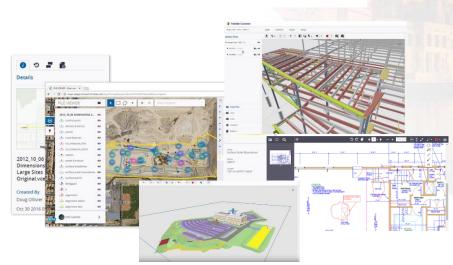
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BIM Tools – Trimble Connect



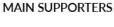
Collaborate across 40+ tools & Integrations + 16 Languages



Communicate and manage data across 3D Models, 2D Drawings & Geospatial Data



















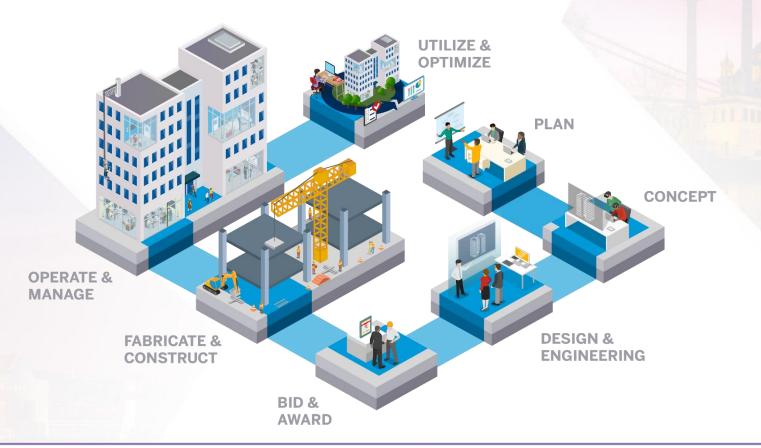


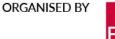
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Trimble Buildings





















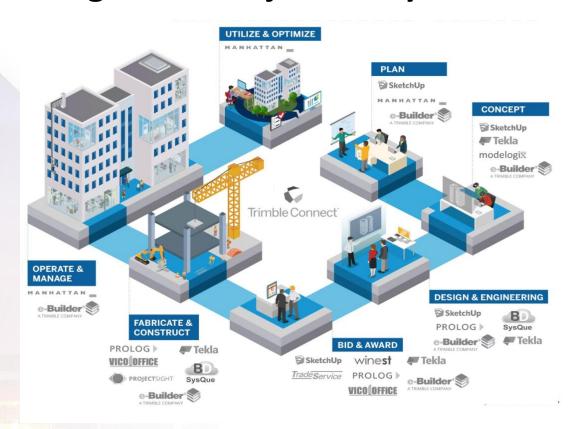


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Covering Entire Project Lifecycle



\$500,000,000



has been acquired by



February 2018

\$1,200,000,000



a Bain Capital Private Equity portfolio company

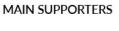
has agreed to be acquired by



Pending

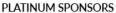


















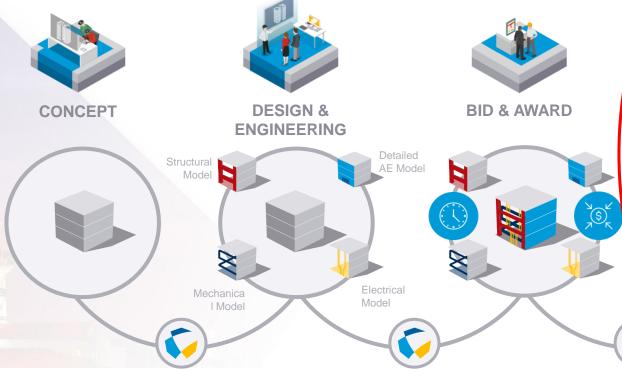


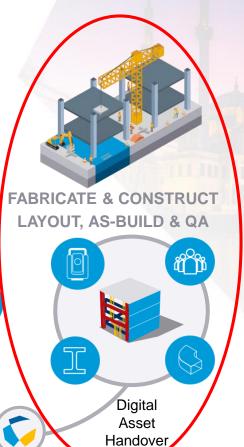
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Trimble Buildings - Constructible BIM





Constructible - Connected - Content - Collaboration

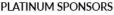




















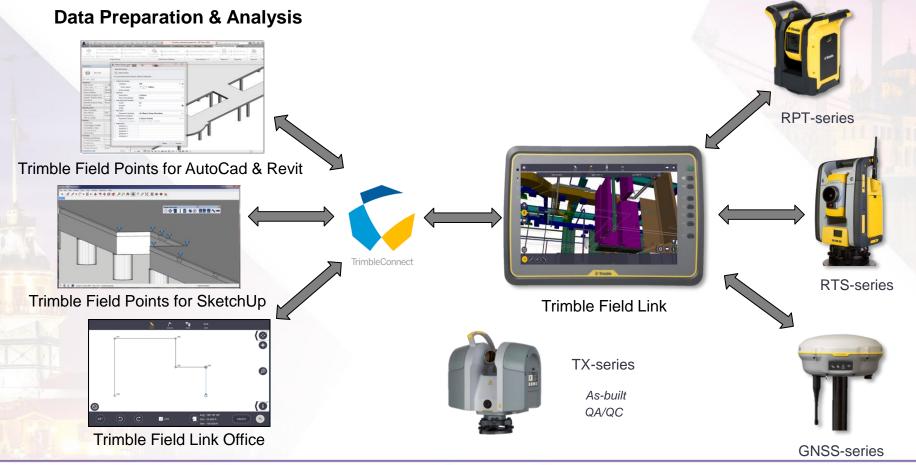
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Trimble Buildings – Field Solutions

Positioning Devices























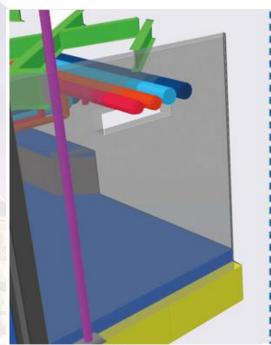


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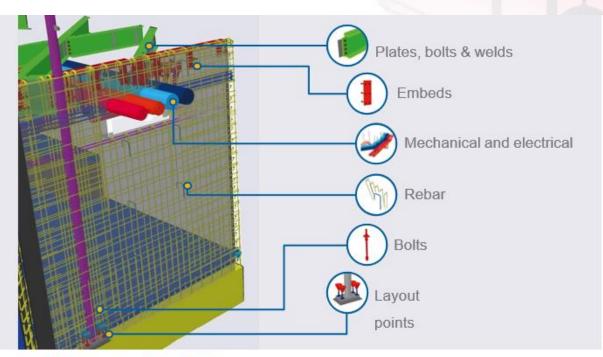
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Trimble Constructible Model has high LOD



Traditional CAD Providers



Trimble Constructible Model





















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Productivity, Project Duration & Cost Improvement



Building Construction



Reduction in project duration



Reduced cost of the field layout



Increase in accuracy and reduced cost of rework



Operations & Management



Reduction in Lease Admin



Reduction in operations and maintenance costs



Reduction in space planning and management costs



Professional Services



Reduction to overall cost and schedule



Reduction in unique building components

*Data derived through internal Trimble testing and customer interviews





















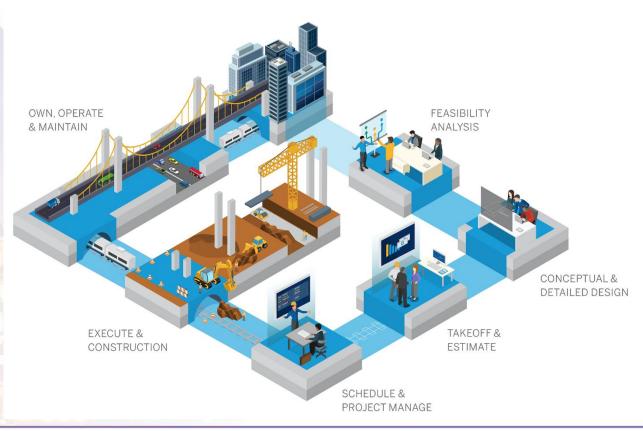


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Trimble Civil Engineering and Construction



Our Vision

To be the essential ecosystem for the entire lifecycle of all of the world's infrastructure













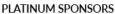










FIG Congress 2018

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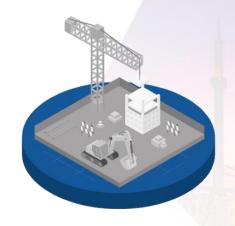
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Execute Construction

Trimble Connected Site® solutions for civil construction. projects can significantly improve efficiency and productivity, while minimizing errors, waste and cost at every stage of the project - from planning and design, to construction, operation and maintenance.

- Fleet and Asset Management
- Machine Control
- **Site Positioning Systems**
- Software Solutions
- Weighing and Monitoring



Civil Construction



Reduction in rework



Cost savings



Increase in accuracy

*Data derived through internal Trimble testing and customer interviews

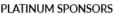
















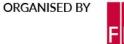




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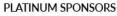






BAKANLIĞI













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Role of the Geospatial



Geospatial





Buildings













AWARD









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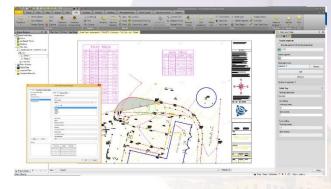
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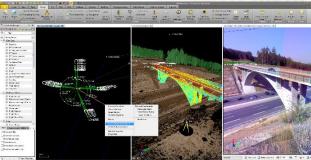
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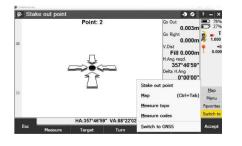
Geospatial Data in BIM

Existing Condition Information

- Traditional deliverables (Level 0)
 - Topographic surveys, DTM
 - Building surveys (floor plans, elevations)
- Intelligent data and models (Level 2+)
 - Point Clouds, imagery
 - 3D models, intelligent models
- Visualization and sharing
 Demarcation of new constructible models







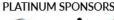
















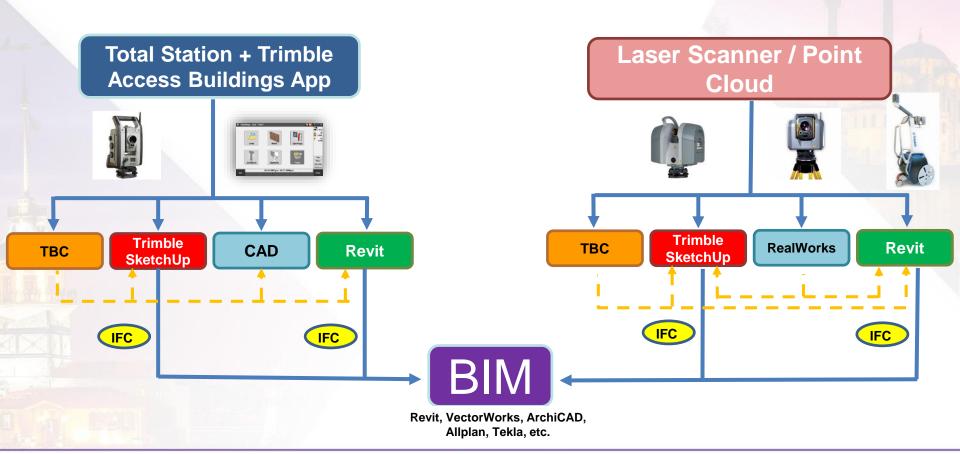


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Workflows - Field to BIM



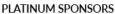




















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Preconstruction and As-Built – 3D Growth



2007...

2012

2013

2014

2015

2016

2017

2018

ORGANISED BY



MAIN SUPPORTERS





PLATINUM SPONSORS







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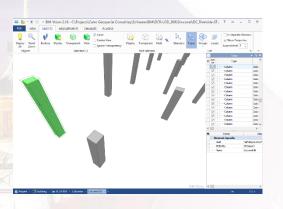
Workflows - BIM to Field

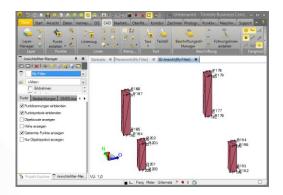
Revit, VectorWorks, ArchiCAD, Allplan, Tekla, Connect, etc

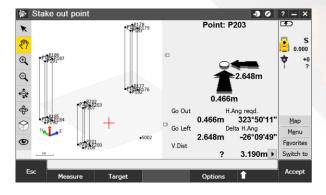
BIM

TBC

Trimble Access







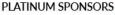
















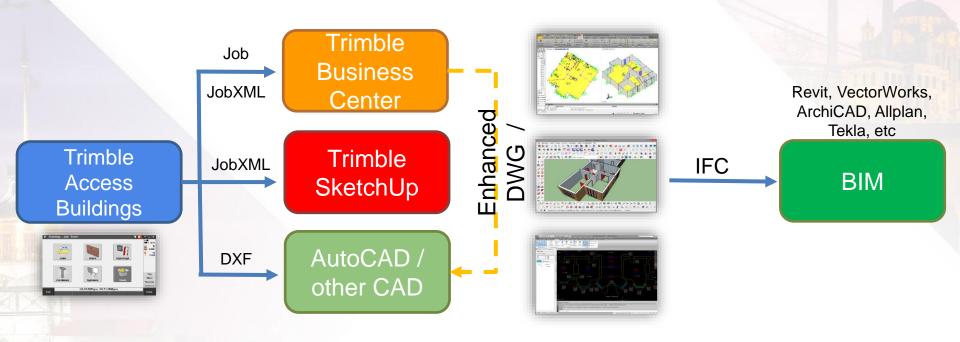


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Workflows - Buildings App for Trimble Access

















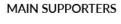
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Expanding Business Opportunity - Surveying Site Layout

Typical Surveyor Scope

 Property corners and lines, Bldg corners, topo's...

Additional items needed and available in BIM:

 Fencing, trailers, stockpiles, laydown area, control point, storm water mgmt, mock up areas, crane pads

















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Expanding Business Opportunity - Surveying Site Layout

Typical Surveyor Scope

 Utilities 25' - 50' OC with offsets and pins for changes in direction/intersections

Additional items needed and available in BIM:

 As-builts for all utilities including temporary gas, electrical, plumbing, low-volt, irrigation lines















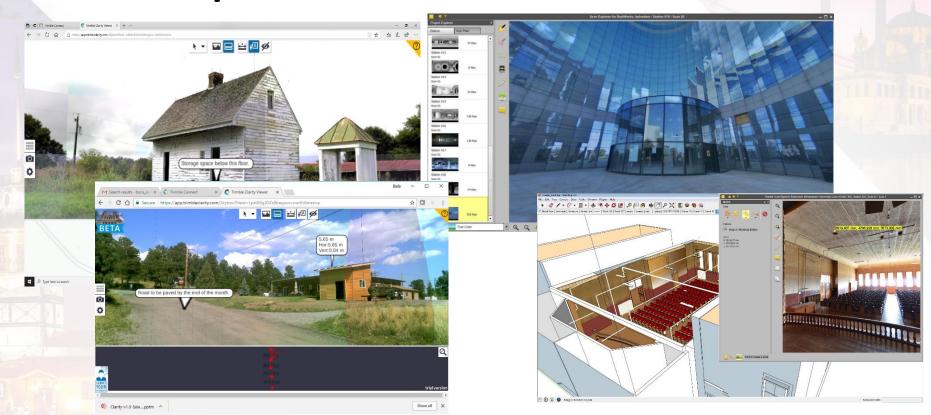


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Selling the Value – Start with Viewers and SketchUp





















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Virtual/Augmented/Mixed Reality

- Trimble SketchUp Viewer for HoloLens
 - Collaborate in real-time in the immersive environment
 - Fly around project models, query entities or measure
- Trimble SiteVision
 - High Accuracy Outdoor Data Viewing
 - Combines design information and data with actual environment





















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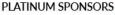
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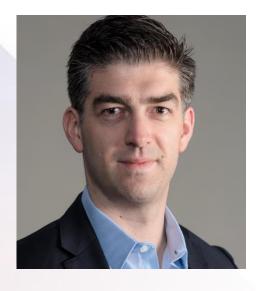




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boris_skopljak@trimble.com
+1 720 491 2592

















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