



The BIM Hub is a trusted environment for BIM, AEC and FM professionals world wide

Monitoring During and After Construction

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 Digital Information Strategy Advisor to government associations; Singapore, Korea, Jordan, Dubai, Qatar and now ATIM for Russian Federation ©

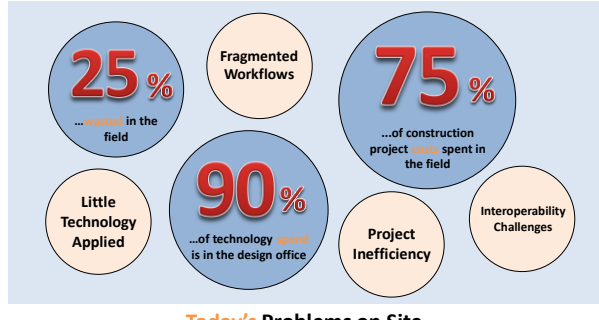
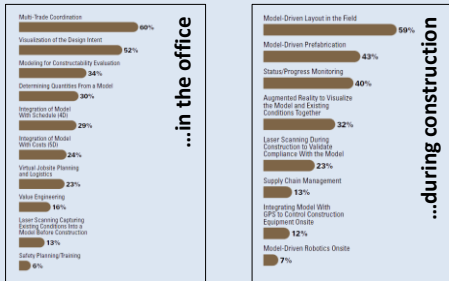


Monitoring

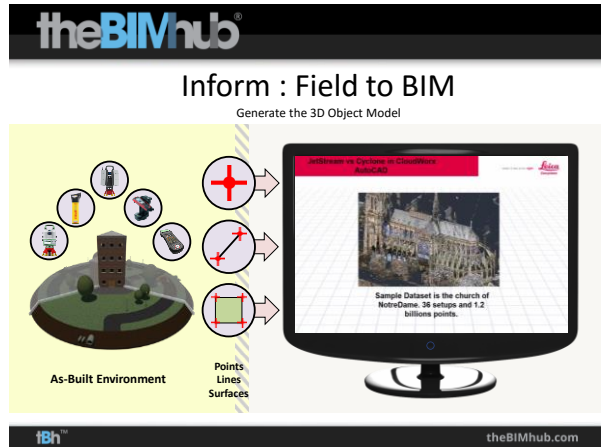
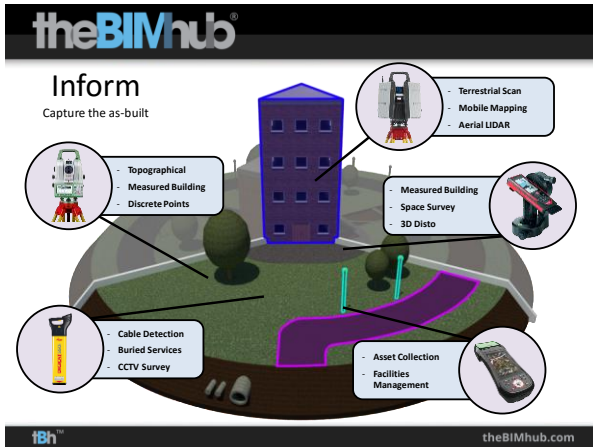
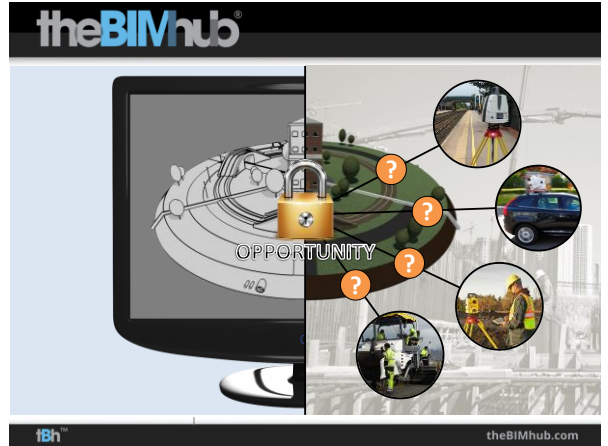
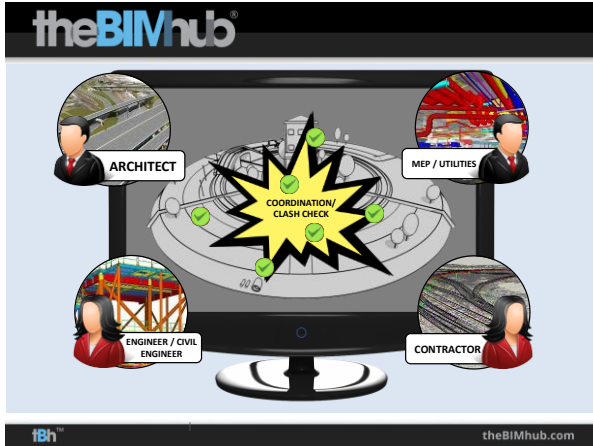
- Construction
- Post Construction



Most Common Uses for BIM...



Today's Problems on Site



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Enrich : BIM to field

Connecting the Office and Site

Models Construction Site

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Enrich

Enrich the data

- Excavating
- Grading
- Earthmoving
- Stake-out/Layout
- Facades
- MEP Installation
- Construction Monitoring
- Asset Life Monitor
- MEP Installation
- Trade Tasks
- Finishing

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Validate

Verify the as-constructed

- Excavating
- Grading
- Earthmoving
- Stake-out/Layout
- Facades
- MEP Installation
- As-Constructed
- Facilities Management
- Terrestrial Scan
- Mobile Mapping
- Aerial LIDAR

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Validate : Field to BIM

Verify the As-Constructed

- Stake-out/Layout
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- As-Constructed
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- Mobile Mapping
- Aerial LIDAR

As-Constructed Asset Points Lines Surfaces

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Owner –

- Better facilities to operate
- Project is on time & on budget
- Improved Return On Investment (ROI)
- Digitally managed asset (IoT)

Others:
Facilities Managers

Embracing BIM out of the office – The benefits to you...

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As-Built Scanning
Validation Scans
Design Software Links

Mobile Mapping
Portable Scanning
Design Software Links

Construction Layout
Digital Workflow
Design Software Links

Today's Site Solutions

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Mobile Mapping – Pegasus Backpack



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Market Working in the cloud



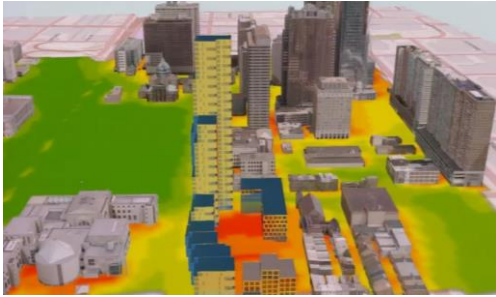
Plan Construction
Manage Tasks
Monitor Progress

Tomorrow's Site Solutions

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Urban Heat Canyon



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Sub Surface Mapping

- **Subsurface Mapping** is underground surface representation, of geologic data, features or utilities beneath the Earth's surface.
- Pinpointing the exact location of utilities is vital when planning and undertaking both design and construction work
- Enable us to map the underground environment for buried utilities of any construction, and anomalies such as voids, tunnels, cellars, foundations or other obstructions so that underground aspects of smart 3D city can be mapped.

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Subsurface Utility Mapping

- **Ground Penetrating RADAR (GPR)** is a powerful tool for mapping the location and depth of metallic, non-metallic, plastic, concrete and asbestos-concrete utilities.
- GPR Mapping rapidly covers an area to reveal the distribution and character of multiple buried utilities


Data Editing

Data Processing: dewow, gain, temporal filters & spatial filters

Advance Data Processing: 2D filters, de-convolution, trace attribute analysis

2D Visualization: Profiles & slices

3D Visualization: Isosurfaces



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Subsurface Utility Mapping

- **EM Locators** is ground penetrating device which employs electromagnetic radiation to identify underground utilities e.g. sewer pipeline, telecom line, gas pipeline etc.
- EM is sensitive to pore-fluid resistivity and the resistivity of the rock matrix.

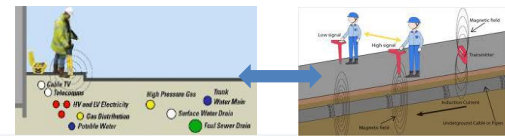
EM survey

Raw Data Processing

Data QC

Visualization: Profiles & slices

1D, 2D or 3D inversions



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Subsurface Data Acquisition

- GPR is a pulse/wave technology. A transmitter generates an electromagnetic wave
- Energy reflected back by an underground target is captured by a Receiving Antenna that travels along the surface.
- The Transmitter and Receiver operate as a single unit or they can be phased.
- Data captured by the Receiver is recorded for later processing & interpretation.

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Smart World

Smart World applications include:

- Air Pollution
- Forest Fire Detection
- Wine Quality Enhancing
- Offspring Care
- Sportswomen Care
- Structural Health
- Smart Highways
- Perimeter Access Control
- Structural Levelling
- Electromagnetic Levitation
- Traffic Congestion
- Smart Roads
- Smart Lighting
- Intelligent Structures
- Smart Urban Meters
- Water Cycles
- Vehicle Anti-Collision
- Item Location
- Waste Management
- Smart Parking
- Smart Courtyards
- Water Quality
- Smart Grids

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BIM facilitating Internet of Things (IoT)

Connecting BIM models with simulation, Sensor, GIS, Heritage and FM data...

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IoT – Smart Cities Waste Management

Infrastructure with access to energy sources and long range data communication

Cloud platform that supports sensing as a service

Garbage Cans (with low cost passive sensors) | Garbage Cans (with active sensors) | Garbage Trucks (as data collectors)

City Council, Recycling Plant, Manufacturing Plant, Health and Safety Authorities

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CONTACT We're always here and happy to hear from you and respond to every email, message or tweet! within 24 hours.

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