

Real time solutions.
Real time success.



Presented by COMIT and Fiatch

10 - 11 Nov. 2015

Hallam Conference Centre London

Efficiency through Digital Projects – Real Time Solutions Real Time Success

Day one Agenda

Time	Presentation
08.45 – 9.10	Tea and coffee on arrival
09.10 – 9.40	Chairman's Introductions <i>Calum Chace, London Futurists & author of Surviving AI</i>
09.40 – 10.10	Key Note :- Virtualizing Bridges Vertical and horizontal infrastructure is comprised of large assets that need sizable budgets to design, construct and operate/maintain them. Cost reductions throughout their lifecycle can generate significant savings to all involved parties. Such reductions can be derived directly through productivity improvements or indirectly through safety and quality control improvements. Creating and maintaining an up-to-date electronic record of these assets in the form of rich Bridge Information Models (BIM) can help generate such improvements. New research is being conducted at the University of Cambridge on inexpensive methods for generating object-oriented infrastructure geometry, detecting and mapping visible defects on the resulting BIM, automatically extracting defect spatial measurements, and sensor and sensor data modelling. The results of these methods are further exploited through their application in design for manufacturing and assembly (DfMA), augmented-reality-enabled mobile inspection, and proactive asset protection from accidental damage. Virtualization methods can produce a reliable digital record of infrastructure and enable owners to reliably protect, monitor and maintain the condition of their asset. <i>Ioannis Brilakis, Laing O'Rourke Lecturer University of Cambridge Solutions</i>
10.10 – 10.35	Tomorrow's World Looking towards the future of technology <i>Fran Rabuck, Futurist</i>
10.35 – 11.00	Accelerating Data and Document Hand over Owner/Operators are recognising that a significant volume of the engineering data and documents that are handed over can be recycled across major capital projects. Cloud technology is gaining widespread acceptance which also enables the distribution of information and creates opportunities for information sharing. This paper outlines an approach adopted on two of the World's largest projects and highlights areas of commonality to accelerate delivery on your next project <i>Steve Pearson, Executive Chairman, Phusion IM Ltd</i>

11.00 – 11.25 **Integrated Construction Management**

In an industry where every project is unique, run a by a different team, at a different location, with deadlines getting tighter and tighter and with change being the only constant, standardization of practice is our best chance for increasing efficiency. Although this seemed impossible a couple of years ago when information travelled slower than actual events, the introduction of mobile data technologies has changed the landscape. But technology is not enough on its own. Traditional point solutions used all these years have created an adversary culture that is difficult to overcome. Collaboration is key in this direction and the introduction of new processes is the missing element. This presentation describes the application of an Integrated Construction Management system in a Rail project environment.

Tassos Chorozidis, Construction Engineer Team Leader Atkins

11.25 – 11.50 **Coffee Break and Networking**

11.50 – 12.15 **Future-proofing and BIM for Owner Operators**

Owner Operators are performing Asset Management (AM) on a day to day basis, though the concept of future-proofing Assets as an approach against uncertainty is still not well defined. Future-proofing is the process of taking security measures against uncertainty and being proactive throughout the entire project and asset lifecycle, ensuring the asset will be adaptable to a number of future changes in requirements

Ilias Krystallis, BIM Management Consultant, CH2M

12.15 – 12.40 **Capital Projects Governance.**

The understanding and implementation of good governance is key to the effective delivery of major projects programmes. Governance leadership throughout the life of a project that involves the right people, a workable schedule together with a good design and consideration to common information standards helps in the delivery of successful outcomes.

The session looks at the power of good data governance that will allow the team to be successful on modern digital projects.

John Rogers, Workflow Manager, WorleyParsons

12.40 – 12.55 **A Transformational Journey from Manufacturing Automation to Digital Factory to Digital Industry**

- Introduction to Manufacturing Automation, Digital Factory and Industry
 - Smarter, safer robots bringing automation in manufacturing industry
 - The Digital Factory Lifecycle and Case Studies
 - How Digital Factory has positively impacted manufacturers enabling them to produce Faster, Cheaper and Better Products
 - Difference between “looking digital and being digital”
 - The DNA of a Digital Enterprise & how Digital Factory is enabling Digital Industry
- Sanjeev Kapoor, Senior Project Manager, Emerging Technologies, Ford Motor Company*

12.55 – 13.10 **SMAC: The New Enterprise Technology Model**

What is it? How it can help you?

- What is SMAC (Social, Mobile, Analytics and Cloud)?
- Key Trends in Social, Mobile, Analytics and Cloud Technologies
- How SMAC Technologies collectively can digitally transform your organization?
- Case Studies – How organizations across industries are leveraging SMAC Technologies for innovation and business growth?
- Future of SMAC Technologies

Sanjeev Kapoor, Senior Project Manager, Emerging Technologies, Ford Motor Company

13.10 – 13.55 **Lunch and Networking**

13.55 – 14.20 **Smart city Concept at Sellafield**

- What is the Sellafield city and how does it compare to a smart city.
- How Smart are Nuclear sites and other industries.
- What can cities learn from Industry?
- BIM, hindrance or help

John Robison, Capability Lead, Sellafield Ltd

-
- 14.20 – 14.45 **The Digitally Enabling Electrification project**
Applying the latest information management, survey and digital modelling techniques to the railway electrification lifecycle. It is a partnership between Laing O'Rourke, Atkins, DHP11 and Imperial College set up to align with the UK Government BIM strategy. The project is demonstrating real world construction efficiencies brought about by the management of information through digital engineering. It is grant funded by the Rail Safety and Standards Board (RSSB) and Innovate UK under Future Railways. A key aim is to develop an open data format to allow easy transfer of data between parties. By examining and redefining the information flows between Designers, Surveyor, Constructor, Manufacturer and Asset owner the project aims to minimise on site errors and rework
Ray Dudding, BIM and Automated Design, Atkins and Alex Heward, Engineering Excellence Group, Laing O'Rourke
- 14.45 – 15.10 **Integrated Modern Materials Management**
Combining mobile IT, intelligent automated job sites, the Internet of Things, and integrated modern materials management in an effort to support advanced work packaging while recruiting and training the next generation workforce on our projects. This new approach to modern materials management supports the industry evolution from single-site, stick-built execution to off-site modularization in an effort to efficiently build and operate capital assets now and in the future
Mitch Shewchuck, Program Manager, Atlas RFID Solutions
- 15.10 – 15.35 **How do you engineer a car to go faster than 1000 mph?**
The Bloodhound team's challenge of pushing a car through the sound barrier has ensured they have had to break a few engineering boundaries. But that is only half the story. They have also set their sights on encouraging the next generation to become engineers." Project "What engineering challenges have been faced. update on the progress of the challenge The test run in South Africa, STEM, Rocket Car challenge for Kids
Sarah Dorey and Oli Morgan, REME Bloodhound SSC Ambassador at British Army
- 15.35 – 16.00 **Coffee Break and Networking**
- 16.00 – 16.25 **Use of Mobile IT for as-built data capture and collaboration**
This is an introduction to collaboration in the industry based on industry facts with case Study material and results from the project - use of Basestone by CSJV on Crossrail with outputs that demonstrate real improvements to all round collaboration and the resultant business insights
Alex Siljanovski, CEO Basestone with Ben Feltham, Head of BIM Skanska
- 16.25 – 17.00 **Technology Enabled Facility Lifecycle Data Management**
Today's facility owners are looking for ways to obtain operation and maintenance data effectively and efficiently at handover. Data standardization is the key to obtain consistent data, and technology enabled systems and processes are equally critical in eliminating data loss, improving efficiency and data accuracy.
Grace Wang, Practice Technology, BIM, Jacobs Engineering
- 17.00 – 17.25 **Change Readiness and Scanning the Horizon**
In today's modern building world, the number of technologies available seems to be constantly growing. This begs the questions: What technologies should be used to add value to the building industry? And when a choice is made to implement a new technology, what enablers and barriers exist to that technological adoption? This presentation will address these questions by discussing the work of Fiatech's Horizon 360 team as well as recent research related to Change Readiness.
Steven Ayres, Assistant Professor, Arizona State University
- 17.25 – 17.45 **Panel Questions from Open floor forum**
Calum Chace, London Futurists & author of Surviving AI
- 17.45 – 19.30 **Drinks and Networking Session**
Close
-

Day two Agenda

Time	Presentation
08.45 – 09.15	Tea and coffee on arrival
09.15 – 09.45	Chairman’s Introduction <i>Phil Jackson, Industry Expert</i>
09.45 – 10.15	Keynote: – Rapid Response Technology permeates our working lives like never before. Our innovation and dynamic culture results in more systems on site to cut costs, drive productivity, and improve safety. We use a whole myriad of technologies and applications to do a vast number of functions and to communicate. Generally, these technology systems tend to evolve over time and in relative isolation. Leaving us with competing and duplicated systems that really could function so much more efficiently together. If only they were not so inoperable and so inflexible. The Rapid Response Solution is designed specifically to overcome these integration barriers of interoperability, cost, flexibility and multiple vendors/suppliers <i>Anthony Shooter, Director, The Hub Group</i>
10.15 – 10.40	Security-minded digital built assets and environments With the increasing use of digital technologies in the management of assets, it is necessary for organisations to identify and implement appropriate and proportionate measures to reduce the risk of loss or disclosure of information which could impact on the safety and security of: personnel and other occupants or users of the built asset and its services; The built asset itself; asset information; and/or the benefits the built asset exists to deliver, whether social, environmental and/or commercial. This presentation will give an understanding of the key vulnerability issues and the nature of the controls required to deliver the trustworthiness and security of digital built assets within the built environment <i>Alexandra Luck, Principal, A Luck Associates</i>
10.40 – 11.05	Do-it-yourself dynamics – Vibration Assessment using smartphones In past years much progress has been made to demystify the issue of ‘vibrations and dynamics’. Well established methods of advanced analysis and testing are now available to practicing engineers to assess and verify performance – for both construction vibrations and for performance of the as-built structure itself. However, physical testing of vibrations still remains an area reserved for specialists, and it is generally only undertaken if an obvious problem has arisen. Traditional instrumentation/measurement approaches can have long lead times, are time-consuming and costly. During the presentation we will live-demonstrate the “Vibrate-it” testing app for floor vibrations, which has been developed by Expedition and is free-to-download. A discussion of potential future uses will follow, including benefits, pitfalls and hints for others that may be interested in this emerging field. <i>Pete Winslow and James Parker, Expedition Engineering</i>
11.05 – 11.30	Next Generation BIM Today’s BIM solutions offer users an ability to view a three dimensional simulation of the stages of work and/or progress proposed to take place over the course of the project. These simulations are primarily leveraged during the pre-construction phase of a project. The simulation combines schedule data to design plans resulting in what is referred to as a 4D BIM solution. When a software expert designs the model to additionally reflect project costs within the proposed project, this is referred to as 5D BIM. <i>Sriram Sridharan, COO, Ineight</i>
11.30 – 11.55	Coffee Break and Networking

-
- 11.55 – 12.25 **Keynote - Preparing for a Digital Built Britain**
The Digital Built Britain (DBB) programme will build a digital economy for the construction industry in support of dramatically improving delivery, operations and services provided to citizens building on the standards and savings delivered by the BIM level 2 initiative. This session will explore how the Digital Built Britain strategy will take the next steps in defining advanced standards, creating new commercial models and identifying technologies to transform our approach to social infrastructure development and construction. The session will look at the need for operational data sets and integration of telemetry and IoT within the Built Environment and a shift towards Level 3 BIM. Level 3 will enable the interconnected digital design of different elements in a built environment and will extend BIM into the operation of assets over their lifetimes supporting the accelerated delivery of smart cities, services and grids.
David Philp, Director BIM – EMEA at AECOM, Head of BIM, UK BIM Task Group
- 12.25 – 12.55 **Panel Session – Owner’s Perspective on Digitising of Asset data**
This session will invite owners to the stage and look at what they have realised so far, and what they are likely to get from full implementation and use of digital data in the future as the whole supply chain embraces and uses the technology.
Chaired by Ray Topping, Executive Director, Fiatch
- 12.55 – 13.45 **Lunch and Networking**
- 13.45 – 14.10 **Upskilling the Workforce of a Digital Build Era**
This is critical to enable dramatic transformation and everyone should take responsibility for ensuring formal and informal learning becomes a valued element of change, alongside technology and process development. This session will explore how industry can partner with academia to ensure the necessary capability is developed, to establish a more efficient and effective sector, delivering greater economic and social benefit.
Richard Lane, Global Program Manager at Engage Global Solutions, Director Creonova Consulting Limited and BIM Departmental Support & Training Development Officer, UK BIM Task Group
- 14.10 – 14.35 **The Future of Making Things, Architecture, Engineering, Construction**
An overview of the disruptions and technological advances shaping the AEC industries and setting the stage for a monumental era. This session will cover the changes happening in production, demand and the products themselves and what these evolving trends can mean to AEC customers as well as the business challenges and opportunities they face.
Pat Jenakanandhini, Sr. Industry Strategy Manager – Natural Resources, Autodesk
- 14.35 – 14.55 **Mars Rover Image-based Localization using 3D Point Cloud Models for Mobile Field Reporting Applications**
The method which is marker-less and infrastructure-independent, leverages simple digital images taken on a commodity smartphone or a tablet, identifies the location and orientation of the user in 3D, and provides access to project information and Building Information Model (BIM) without the need for storing any of the project information (including BIM) on the mobile device
Mani Golpavar-Fard, Assistant Professor, University of Illinois and Rayan Jreije, Manager 3D Software Development, CCC
-

-
- 14.55 – 15.00 **Eye in the Sky**
This Initiative delivers an adoptable and adaptable guideline for implementation and safe operation of Unmanned Aerial Vehicles (UAVs) – equipped with digital and thermal cameras and/or laser scanners– for monitoring construction and operation of capital projects. It specifically looks into the requirements for accurate and timely collection, analysis, and communication of construction and operation performance data. It also brings traceability and accountability for safe and efficient operation of the UAVs on project sites.
Mani Golpavar-Fard, Assistant Professor, University of Illinois and Rayan Jreije, Manager 3D Software Development, CCC
- 15.00 – 15.20 **Technology Enabled Equipment**
Laurini Officine Meccaniche is one of Italy’s biggest pipeline contractors founded in 1955 has been innovative from the start. They developed a deep belief in the “intelligent force” which then shaped the company’s path. Laurini sought to make their machinery intelligent and have the strength, reliability and adaptability irrespective of the terrain. The Iploca Innovation award sponsored by BP has been awarded 3 times to the organisation. They recently developed a new mechanised method to lay pipes, this technology would deliver the following whilst meeting some exacting standards, safe and reliable, easily transported, minimal inspections and approvals, useable in developed and non-developed regions, economical in terms of initial investment.
Marco Laurini and Marco Jannuzzi, Laurini Officine Meccaniche.
- 15.20 - 15.55 **Toys for Techies**
Is it a just a toy or is it serious technology?
Fran Rabuck, Futurist
- 15.55 – 16.20 **Panel Questions from Open Floor forum**
Innovation award Session and announcement of Ahead of The Game Winners
Iain Miskimmin, Construction Industry and BIM Specialist, Bentley Systems
- 16.20 – 16.30 **Closing remarks**
-