

CitA | **TECH**
LIVE Let's Talk Digital!



Programme

CitA Tech Live:
Showcasing construction technologies

CitA Tech Live 2018, Croke Park, November 8th & 9th

Let's Talk Digital!

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IoT and Smart Cities



Reality Technologies



Automation & Robotics



Drones and
Geospatial Technologies



3D Printing



BIM Innovations

Welcome to the CitA **TechLive**

I would like to welcome all our delegates to CitA Tech Live 2018.

This is the first time that CitA has hosted a specific event that seeks to focus on the “technology” and its application in the construction industry.

There has been so much in the media about digital transformation and how technology will radically change the way we work in the industry into the future, but also how it will “disrupt” the offering that is currently in the market. I guess if one looks at the travel, financial, recruitment and retail sectors, one can see clearly how technology is changing customer behaviour. We keep hearing “construction is ripe for change”. Thus, disruption and change are inevitable, but when?

Should we panic and invest in technology before much of our industry is put out of business? I for one would not agree with this rhetoric but it is important that businesses, both big and small, keep pace with technological developments and leverage the use of appropriate technologies to drive greater efficiencies within their businesses.

CitA Tech Live seeks to go beyond BIM and look at other technologies that are beginning to be deployed in the construction industry. For example, Drones, Augmented and Virtual Reality, Robotics and 3D printing are all being deployed in others sectors and are quickly being seen as viable platforms to improve overall productivity in the sector.

Of course, that acronym “BIM” is not going away and will become more mainstream in the future. 2D drawings will eventually disappear but this will take time and the advent of the “Digital Twin” will become routine in our sector not because more and more clients will demand it but because it just makes sense and modern agile construction businesses will want to work smarter and 2D will not be the smart way in the future.

It’s amazing to think how far our sector has come even in the past decade. There is no doubt that we can build great buildings and structures, but can we use state of the art technologies, without expecting to be paid to use it. The debate of “why” in my view has past, and today and into the future is “when” and CitA is there to help and encourage.

I hope you all get an insight over the next two days into the amazing power of technology and how it will make our working lives better, leading to better project outcomes and happier clients.

So, sit back and enjoy.

Let’s talk digital.



Dr. Alan Hore
CitA Tech Live 2018
Event Chair
School of Surveying and Construction Management
Dublin Institute of Technology
Founding Director of CitA





IoT and Smart Cities



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BIM Innovations

Let's Talk Digital!

The Programme



The Programme **Day One, Morning**
Digital disruption of the AEC Sector:
Future Directions

07.30 Registration & Networking			
Chair: John McGowan, Tualatin			
08.05	Dr. Alan Hore	Dublin Institute of Technology and Founding Director CitA	Welcome Address
08.10	Minister Pat Breen, TD	Office of the Minister for Trade, Employment, Business, EU Digital Single Market and Data Protection.	Opening Address
08.20	Savannah de Savary	CEO and Founder, Built ID	The Impact of Robotics and 3D Printing on the Construction Industry
08.55	Martin McDonnell	CEO, Soluis	Superpowers for the Future Workplace: Science Fiction Becomes Science Fact
09.30	John Kerrigan	Ireland Country Manager, Leica Geosystems	Hexagon and Leica Geosystems: Shaping Smart Change
09.50	Anand Mecheri	CEO, Invicara	Digital Twins: Pivotal for digital transformation
10.10	Michael Guerin	Programme Manager, Smart Docklands	Delivering a Smart District through City to City Collaboration

10.30 Q & A

10.50 Morning break (until 11.30)

11.30 Live Stages

1

Smart Cities and IoT

Chair: Emma Hayes
Digital Built Consultants

Resilient Defence:
Cyber threat landscape and Risk Mitigation

DFM Systems:
Using Digital Safety files for FM and Asset life cycle post-handover

Evercam:
Site Cameras as a live project management and Marketing resource

2

Reality Technologies

Chair: Ken Thomas
Waterford Institute of Technology

VRAI:
From Somalia to the site: Hazardous Environment training using Virtual Reality

Digital Construction Technologies:
The transition from PAS 1192 to ISO 19650

AECHackathon Winners:
Real-time Life Cycle Analysis of a Revit Model

3

Drones, Geo Spatial and BIM

Chair: Eugen Niculae
Dublin Institute of Technology

FlyRyte:
Incorporating drones into your organisation

LES:
Survey Technology for BIM

LERO:
Exploration of BIM Process from Information Flow Perspective

4

BIM Innovations

Chair: Anand Mecheri
Invicara

Bluebeam:
There is no "I" in Team
The future of digital collaboration using Bluebeam Revu

Diatec:
Moving from BIM enablement to BIM excellence

FenestraPro:
Façade Design Optimisation and Generative Design using FenestraPro Premium for Revit

12.45 Lunch (until 14.00)

The Programme **Day One, Afternoon**
Digital disruption of the AEC Sector:
Future Directions

Chair: Dr. Ken Thomas, Waterford Institute of Technology			
14.00	Donal Sullivan	Vice-President & General Manager, Johnson Controls Ltd	Smart Buildings and The Digital Journey
14.30	Gearoid O’Brian	CEO, Unmanned Aircraft Association of Ireland (UAAI)	Drones: The future? The past, present and future of drone technology in Ireland and internationally.
15.00	Stephen Kennedy	Technical Sales & Support, Topcon	Automation in the Irish Construction Industry
15.20	Ricardo Oliveira	Murphy Surveys	Meaningful point clouds
15.40	Q & A		
15.50	Afternoon break (until 16.10)		
16.10	Live Stages		



 **1**

BIM Innovations

Chair: Vinnie Quinn
Evercam

Exactal:
Linking 2D with BIM for Cost Estimating

Zutec:
Westfield London Case Study: BIM for Operations and Maintenance

 **2**

Reality Technologies

Chair: Bobby Gallagher
DFM Systems

Daqri:
Augmented Reality for the Construction Industry: Applications and use-cases

EnergyElephant:
Using A.I. to Automate Construction’s Sustainability Big Data

 **3**

3D Printing and Automation

Chair: Joe Mady
Digital Construction Technologies

Hackett 3D:
3D Printing in the construction industry

BIM & Scan:
BIM & Scan AutoCorr™: Automated Model Validation Utilising Semantic Point Clouds

 **4**

Smart Cities and IoT

Chair: Louise Kelly
ACB Group

Site Passport:
How blockchain and decentralisation can revolutionise the construction industry

Sonitus Systems:
Noise, Vibration and Dust: Automated compliance monitoring

The Programme **Day Two**

**Digital transition of the AEC sector:
Changing the way we work**

07.30 Registration & Networking		
Chair: Kathryn Meghen, CEO, RIAI		
08.20	Alain Waha	Global lead for BIM & Digital Transformation, BuroHappold Engineering
		From BIM Models to (performance) Outcomes
08.50	Bruce Mace	Director of Facilities Management UCSF
		BIM4FM: Convergence on the Horizon
09.20	Owen Sisk	Performance Director, John Sisk & Son
		The Productivity Opportunity
09.50	Karl Thurston	BIM Consultant, Graphisoft
		Pragmatic BIM for Digital Transition
10.10	Ben Lam	Vectorworks/Assael Architecture
		Transition to BIM
10.30 Q & A		
10.50 Morning break (until 11.30)		
11.30 Live Stages		

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<p>Collaboration Initiatives</p> <p>Chair: Dr. Alan Hore Dublin Institute of Technology and CitA</p> <p>NBS: Strategic Partnership Proposal with CitA</p> <p>BRE: Delivering a Digital Built Britain – Structuring BIM Data</p>	<p>Lean Construction</p> <p>Chair: Rob Fox Site Passport</p> <p>LCI: Lean synergy with BIM and how Lean Construction Ireland can help your business</p> <p>Ardmac: Our Lean Story so Far</p>	<p>BIM in the UK</p> <p>Chair: Ralph Montague Arcdox</p> <p>UK BIM Alliance: Update on UKI buildingSMART Open BIM Qualification</p> <p>Women in BIM: Our Story</p>	<p>BIM Innovations</p> <p>Chair: Kevin Rudden Garland</p> <p>BAM: Digital Construction Infrastructure</p> <p>CoEngineers.io: The first blockchain developed for Engineers by Engineers</p>

12.30 Lunch (until 14.00)		
Chair: Dr. Alan Hore, Dublin Institute of Technology and Founding Director CitA		
14.00	Alexandra Bolton	Deputy Director, Centre for Digital Built Britain
		Bytes & Mortar: The Potential for Digital to Transform the Construction & Infrastructure Sectors
14.30	May Winfield	Senior Legal Counsel, ENGIE
		The Legal Frontier: Managing the Risks of Construction Technology
15.00	Cillian Leonowicz	Head of Business Development, Deloitte EMEA Blockchain Lab
		Blockchain, Construction and Ireland – use cases to foster sustainable growth
15.30	Harry O’Neill	Sales Manager, Solibri
		Solibri – A Quality Assured Model
16.00	Panel Discussion:	Digital Transition of Ireland’s Construction Industry – Next Steps
16.20	Dr. Alan Hore	Dublin Institute of Technology and CitA
		Closing Address

Let's Talk Digital!

The Keynote Speakers



Savannah de Savary
Founder and CEO of Built-ID.

Bruce Mace
Director of Facilities Management for UCSF Health.

Martin McDonnell
Chairman and Founder of the Soluis Group and Sublime.

Gearoid O'Briain
Chairperson of the Unmanned Aircraft Association of Ireland.

Donal Sullivan
Vice-President and General Manager of Johnson Controls Ireland.

Alain Waha
Global lead for BIM and Digital Transformation
at BuroHappold Engineering.

May Winfield
Senior Legal Counsel, ENGIE.

Alexandra Bolton
Deputy Director, Centre for Digital Built Britain.

Savannah de Savary

Savannah de Savary is the Founder and CEO of Built-ID: a proptech platform powered by leading property consultants and developers showcasing their projects and collaborations. After graduating from the University of Oxford in 2013, Savannah joined Thor Equities, where she managed NYC real estate development projects. In June 2015 she founded Built-ID, a proptech platform that makes it faster and easier to discover and collaborate on real estate inspiration and to instantly identify the creators behind those projects.

Bruce Mace

Bruce Mace is Director of Facilities Management for the pre-eminent UCSF Health regional hospital system in San Francisco, California. With a career in architecture, 2D/3D design and construction, turning the corner to healthcare operations thirteen years ago was profound. Unfolding that opportunity into a passion with a small team of creative, committed believers exposed the chasm between integrated project delivery BIM data output and powerful computerized maintenance management system potential. This then is the journey which has unfolded: a reaffirmation of the belief that project delivery BIM data can (and should) be the source for daily operational values. Driven from the facilities-centric lifecycle perspective, specifying project output to provide the foundational basis for successful operations is the holy grail, and a mission aimed at laying down project development and delivery silo's one on top of the other to create that lifecycle continuum.

Martin McDonnell

Martin is the Chairman and Founder of the Soluis Group and Sublime. Since 2000 Martin has built a group of successful businesses that deliver best in class 3D visualisation and interactive digital presentation. His vision to connect the latest digital technology platforms to the needs of different market sectors has led his businesses to be amongst the earliest innovators in bringing the benefits of augmented and virtual reality to the industries including design, construction, manufacturing and healthcare. This drive has led his business Sublime to recently win one of only three inaugural Higgs EDGE awards and Soluis to win Innovate UK's IC Tomorrow competition to develop augmented reality (AR) software, utilised at Crossrail sites in London. Martin is now pioneering, and a recognised thought leader, in the development of shared immersive solutions for business and advanced AR assisted tools that will transform the world of work.

Gearoid O'Briain

Gearoid is the chairperson of the Unmanned Aircraft Association of Ireland (UAAI), an organisation which represents all stakeholders in the Unmanned Aircraft Industry. As a qualified military flight instructor, civilian drone flight instructor and Irish Aviation Authority approved examiner, Gearoid is involved with several aspects of the unmanned aviation industry, from training, to software development to providing representation to stakeholders to the Irish Aviation Authority. With an MBA from Smurfit and over 10 years industry experience Gearoid is committed to progressing the capabilities of unmanned aircraft to support and enhance every life and industry.

Donal Sullivan

Donal is the Vice-President and General Manager of Johnson Controls Ireland. Donal began his career as an engineer and has extensive experience working with multi-national companies including Apple, Flextronics, Tyco and now Johnson Controls. Donal leads a number of businesses within JCI's Data Enabled Business including the Connected Converged Security Business, which provides solutions to new threats and risks for large enterprises. In addition, JCI's location services business, provides innovative solutions tracking assets i.e. people and things, in complex environments. Donal is based in Cork Ireland, at One Albert Quay, 'Ireland's Smartest Building' which is a demonstration site for customers of the power of JCI innovation and a major R&D centre. Johnson Controls is a global diversified technology and multi industry leader serving a wide range of customers in more than 150 countries.

Alain Waha

Alain is the global lead for BIM and Digital Transformation at BuroHappold Engineering. Reporting to the Global Design & Technology Director, Alain's work since 2014 has been to institutionalize BIM across this global practice, and to steer technology initiatives. He also works with digital startups in #proptech and automotive. Alain joined the construction industry in 2008 after a career in Aerospace and Automotive. Since entering the AEC sector, he held roles as CEO of VC backed BIM services firms where he delivered BIM transformation and digital implementation. His experience now spans the breadth the AEC sector in term of supply chain, geography and projects. This includes VDC in the Middle-East, Design projects in Europe, and Supply Chain enablement in the United States. Alain is a regular invited speaker at Digital Transformation and industry events such as BUILTWorlds, BILT, AutoDesk University, Ecobuild, and is an advisor to the Institute of Civil Engineers digital initiative.

May Winfield

A senior construction solicitor of over 14 years' experience, May is a recognised specialist in BIM and emerging construction technology. She was one of the first lawyers to research and get involved in the legal and contractual aspects of BIM, and has drafted BIM contractual documents and guidance, advised on disputes and been involved in developing risk management processes in this area. She has experience working closely with the technical, operational and commercial teams to provide practical solutions, guidance and improvements to enable innovative processes to be implemented with minimal delay and maximum mitigation of risks.

Alexandra Bolton

Alexandra Bolton has been CDBB's Deputy Director since the Centre came to Cambridge in August 2017. Most recently, she has held roles within the Department of Engineering at the University of Cambridge. Previously, she has worked in industry and the City, including as an oil trader for a world leading commodities house, and as a chemical engineer for one of the oil majors. She holds degrees in both Chemical Engineering and Law.

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The Exhibiton



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3D Printing



BIM Innovations

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Graphisoft

GRAPHISOFT® ignited the BIM revolution in 1984 with ARCHICAD®, the industry first BIM software for architects. GRAPHISOFT continues to lead the industry with innovative solutions such as its revolutionary BIMcloud®, the world's first real-time BIM collaboration environment; and BIMx®, the world's leading mobile app for lightweight access to BIM for non-professionals. GRAPHISOFT is part of the Nemetschek Group.

www.graphisoft.com



Invicara

Digitalization will transform how buildings are designed, built and operated. And it is not just about BIM. Digitalization is defined as the use of data to drive business workflows, which is predicated on "good data". Structured, Verified, Validated. Invicara is platform for digital buildings, enabling solutions to transform building information into business value.



The foundation for data-driven BIM workflows is laid with BIM Classify - a collaborative, cloud-based software with authoring tool plug-ins that help modelers accurately and consistently classify their model content. BIM Assure, a collaborative, cloud-based software liberates BIM from design tools and helps owners and project teams work together to create complete, reliable model data. With reliable BIM data as a foundation, our consultants work with clients to create tailored solutions on the Invicara platform. We transform 3D models into information models and further into Digital Twins, that becomes the digital handover, super charging maintenance, planning and operations. By aggregating information from multiple sources, the Invicara Digital Twin provides insights into building performance.

We help our clients and their partners succeed with the planning, delivery, and management of data throughout the building lifecycle. Visit our stand at the CitA conference or on the web at invicara.com.

www.invicara



Our Platinum Sponsors

Leica Geosystems

Revolutionising the world of measurement and surveying for nearly 200 years, Leica Geosystems is the industry leader in measurement and information technologies. We create complete solutions for professionals worldwide. Known for innovative product and solution development, professionals in a diverse mix of industries, such as surveying and engineering, building and heavy construction, safety and security, and power and plant trust Leica Geosystems for all their geospatial needs. With precise and accurate instruments, sophisticated software, and trusted services, Leica Geosystems delivers value every day to those shaping the future of our world.

www.leica-geosystems.com

Murphy Surveys

Murphy Surveys is one of the leading survey consultancies in Ireland and the UK. Building on a strong reputation of almost 40 years, we offer a range of solutions to deliver geospatial certainty our clients can trust. We are an ambitious and innovative company and through our commitment to invest in people, technology and best practice, we continuously strive to be the best and remain ahead of the field in everything we do.

With our substantial experience, highly qualified personnel, and understanding of the life cycle of projects, we recognise the challenges faced by clients working in high precision and high-value technical environments in market-leading corporations.

Murphy Surveys are leaders in BIM. Our innovation and continual investment in the latest surveying equipment and technology allows us to provide the most efficient solutions that cuts costs and risks for our clients, while meeting the highest standards in accuracy and detail.

This technological approach and laser scanning expertise paves the way for a fully collaborative process, leading to richer, more accurate BIM ready for a multitude of downstream uses in a project life-cycle.

www.murphysurveys.ie

Survey Instrument Services (SIS)

Established in 1973, Survey Instrument Services are proud to be Leica Geosystems longest serving distribution partner in Ireland. We pride ourselves on the quality and range of solutions we offer, to industries such as surveying, engineering & BIM. We supply the full range of surveying equipment from Total stations and GNS to Lasers & HDS Scanners. With over 45 years experience, we are constantly improving the service we provide, by adding new and innovative solutions to our customers. Today, with ongoing investment in our hire fleet and infrastructure, we are committed to finding solutions, using the most advanced technology, utilising a support team unrivalled in Ireland.

www.sisirl.com

John Sisk & Son (Holdings) Ltd.

John Sisk & Son Ltd is an innovative, international, engineering and construction company that employs 1,300 people across its operations in Ireland, the UK and Europe. Sisk has the track record, scale and capacity to successfully undertake large, complex, multidisciplinary programmes and is recognised by our global customers as world leaders in safe delivery. Sisk is a progressive business with long term vision, operating since 1859 and is Ireland's No. 1 provider of construction services.

Sisk's strategy is to create value for customers, partners and people through technical knowledge, ability and experience.

www.sisk.ie

Solibri

Solibri develops and markets software solutions that improve the quality of building information models (BIM) and includes datasets for building owners, designers and constructors. Solibri Model Checker analyzes and validates the integrity and quality of the design and constructability using logical rulesets to check against building codes, industry, company or project specific standards or any user defined rules. Any potential issues are highlighted and prioritized for communicating back to the author for remediation utilizing Excel, pdf or BCF (BIM Collaboration Format) files for advanced BIM workflows. After the Quality Control process is completed the model can be used for accurate data mining and reporting on quantities or other reports such as COBie with a visual bi-directional link to the model.

www.solibri.com

TOPCON

Topcon is the global positioning partner for construction and geo-businesses in the UK and Ireland, offering precision technology that delivers increased efficiency across the workflow. With tailored support across a number of specialisms, including surveying, civil engineering, machine operation, Building Information Modelling and education, Topcon helps professionals to work smarter.

Topcon equipment is compatible with all site conditions and is easy to manage through real-time, remote monitoring. With a five-year warranty on all lasers, a total station management system that provides asset tracking and remote diagnostics and local support for all its customers, Topcon offers added security and dependable technology to avoid downtime on site.

www.topconpositioning.com

Vectorworks Architect

Vectorworks Architect is the industry's only BIM modelling, drafting and documentation software built with the design process in mind. As the architect's BIM tool, the software enables you to tackle complex ideas in 2D and 3D, refine construction details, explore your project's energy efficiency and streamline costs. Additionally, high-quality renderings can be created with ease and directly inside files thanks to default textures within thousands of Vectorworks content library objects and our easy-to-use Renderworks features. Learn how Architect empowers designers to transform the world like never before at vectorworks.net/uk

www.vectorworks.net





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