

Programme 2019

4th CitA BIM Gathering

26th September 2019, Galway, Ireland.



Delivering **better outcomes**
for Irish Construction



Welcome to Galway and the CitA BIM Gathering 2019

Good Morning

I am particularly delighted to be here in Galway for the 4th instalment of the BIM Gathering conference. I am a proud Galwegian having grown up in the county and attending Galway RTC in the early 1980's, so in many ways this is a return to my roots.

The conference team and committee have worked tirelessly to present to you a world class conference programme of speakers focusing primarily on Building Information Modelling (BIM) and its application in the construction industry both on an international and domestic stage.

We have an impressive line-up of keynote speakers specially selected to give delegates an insight into how BIM is and should be used routinely in the design, construction and maintenance phases of a construction and engineering project to realise improved project outcomes.

We have had a great response from industry, private clients, government and academia who have prepared formal papers and will be presenting in six breakout sessions throughout the day. I know it will be difficult for delegates to decide which breakout session to attend but hopefully the advance publication of our programme will have provided you with sufficient time to decide on your preferred presentations.

Whilst many conferences of this nature would naturally have a broader message of "Digital Transformation" of our sector, I believe that retaining a predominant focus on BIM and its importance for the Irish construction industry is important if we are to take that first step in transforming how we procure, design, construct and maintain our national built assets.

Despite some negative connotations reported in construction in respect to our digital capability we should remain positive and celebrate our capability in the use of BIM. An example of this is the momentous achievement of the Ireland BIM team winning the World Skills competition in Russia last month. Twenty

three year old Ryan Dempsey from TU Dublin, and twenty year old Luke O'Keeffe from Waterford IT picked up gold in the BIM contest. We are delighted that Ryan and Luke have agreed to show off their medals and present their project on the main stage today. The celebration of our BIM capability is also evident to see in the array of innovative presentations at today's conference.

The CitA team have published a 2019 BIM in Ireland report to coincide with today's event which will further shine a light on how our industry continues to mature in the use of BIM.

I hope you enjoy the day through listening to great speakers, networking and hopefully joining us at the conference dinner later this evening.



Dr. Alan Hore,
TU Dublin
Conference Chair





Organisation Committee

Ralph Montague, ArcDox

Shannon Creagh, Construction IT Alliance

Ylenia Morselli, Construction IT Alliance

Suzanne Purcell, Construction IT Alliance

Sam Whitby, Construction IT Alliance

Emma Hayes, Digital Built Consultants

Joseph Mady, Digital Construction Technologies Group

Mary Flynn, Dublin City Council

Jim O'Connor, GMIT

Anand Mecheri, Invicara

Mark Costello, RPS

John Duffy, Transport infrastructure Ireland

Dr. Alan Hore, TU Dublin

Dr. Barry McAuley, TU Dublin

Keynote Speakers

GERRY CARTY

Managing Director, RPS Consulting UK & Ireland

Gerry has overall responsibility for RPS activities in Ireland. He has led the company since 2012, implementing a comprehensive development strategy focused on achievement of excellence and delivery of high-quality services to clients, using best in practice technology and integrated cross discipline service delivery. He has been responsible for the delivery of a range of PPP projects; motorways, energy, educational, water, health, national and regional road projects from commencement to completion. Gerry is currently an Executive member and Vice President of ACEI. He was Chairman of CWIEM in 1999/2000, chairman of the NHWPP, a member of the EPA Audit Committee, is a trustee and chairman of a large pension fund and is a mentor for the Institute of Directors.

DR. BILL EAST

Founder of Praire Sky Consulting

Dr. Bill East is a construction management researcher who has made contributions to project scheduling, quality management, and building informatics. The innovations created by Dr. East have stood the test of time becoming national and international standards. Bill has been awarded the American Society of Civil Engineer's Government Civil Engineer of the Year award as well as awards from FIATECH, CSI, NIBS, and buldingSMART international. Today, Bill is best known as the inventor of the COBie standard. Bill helps owners and project teams implement COBie through his consultancy Praire Sky Consulting. In addition, Bill is Director of the premier COBie on-line educational resource, the COBie Academy, hosted by the University of Florida. Bill is also Adjunct Professor at the Technical University of Dublin. Dr. East's most recent book, "Lean Handover™: COBie for Contractors," is now available.

SANDRA GANNON

Senior Design Researcher, IBM

Sandra Gannon is a Senior Design Researcher who has worked in software development for over 14 years in the area of Facilities and Asset Management. Sandra has held a number of roles in software development such as Information Developer, Project Manager, and Product Architect and Designer. Sandra's primary role as Research Designer involves conducting user research that deepens the organizations understanding of the user experience and drives portfolio strategy.

DAVID O'BRIEN

Head of the Construction Procurement Policy Unit,
Office of Government Procurement

David O'Brien is the head of the Construction Procurement Policy Unit in the Office of Government Procurement (OGP) and chair of the Government Contracts Committee for Construction. He has been adviser to the Department of Public Expenditure and Reform on public works and construction services procurement since 2011 with oversight of the standard form of public works contracts that are in use across the public capital programme. He is an architect by profession with over twenty years of experience in project diversity in both the private and public sectors.



GERRY



DR BILL



SANDRA



DAVID

Scientific Committee

Dan O'Neill, BimIreland.ie

Martin Taggart, Galway Mayo Institute of Technology

Anand Mecheri, Invicara

Mohamad Kassem, Northumbria University

Jason Underwood, Salford

Roger West, Trinity College Dublin

Avril Behan, TU Dublin

Alan Hore, TU Dublin/CitA

Barry McAuley, TU Dublin

Dermot Kehily, TU Dublin

Lloyd Scott, TU Dublin

Louis Gunnigan, TU Dublin

Eugene McGovern, TU Dublin

Mark Mulville, TU Dublin

Roisin Murphy, TU Dublin

James O'Donnell, University College Dublin

Tomo Cerovsek, University of Ljubljana

Ken Thomas, Waterford Institute of Technology



Keynote Speakers

VICKI REYNOLDS

Digital Manager, Multiplex Construction

Vicki develops and delivers learning strategies to maintain and boost the digital and technical capabilities of Multiplex Construction. Having previously worked in information management, BIM management, BIM consultancy and BIM project management, she has seen Digital Construction from a number of different angles and worked closely with stakeholders of every level of seniority and experience. A core member of Women in BIM, she also regularly presents at schools, colleges and universities to promote STEM and Construction to girls in education and works hard to encourage women of all ages and experience to consider construction as a viable and rewarding career option.

DR. CHRISTOPH ROTHBALLER

Partner & Associate Director, Infrastructure,
Boston Consulting Group

Dr. Christoph Rothballer is a Partner and Associate Director at the Boston Consulting Group in Munich. He advises infrastructure players from across the value chain on digital strategy topics (incl. public agencies and governments, construction and facility management firms, infrastructure operators and investors). Christoph worked with the World Economic Forum on the Future of Construction as well as the Strategic Infrastructure Initiative for six years. Christoph holds a PhD in infrastructure finance, which he completed at the Technical University of Munich and at MIT.

PADDY RYAN

CEO, GagaMuller Group

GagaMuller has become a leading Digital Project Management Consultancy since the business was established in March 2018. GagaMuller Technology was subsequently established in September 2018 to support the digital requirements of forward-thinking organisations in the Construction Industry. The group is led by Paddy Ryan and Thomas Gillen who have amassed the necessary academic and professional experience through their 'MSc. – BIM & Integrated Design' qualification and the years that they spent working in lead roles for Tier 1 Main Contractors on mega projects. A Civil Engineer by trade, CEO Paddy was first introduced to Building Information Modelling & Digital Technology in 2013 and quickly recognised its potential and positive impact on the Construction Industry. Paddy graduated in MSc BIM & Integrated Design with the University of Salford.

JAAN SAAR

Head of Digital Construction, Estonian Ministry of
Economic Affairs and Communications

Jaan has managed processes and IT in the construction industry for over 15 years. He joined the public sector in 2018 with the goal of digitally transforming the construction sector in Estonia – to develop the prerequisites and digital infrastructure for collaborative data sharing throughout the building lifecycle, thus enabling and motivating companies to digitize their processes with the end result of increasing productivity.



VICKI



DR CHRISTOPH



PADDY



JAAN

Our Platinum Sponsors:

BLUEBEAM

RDS Bluebeam is the #1 Bluebeam partner for Ireland. We offer premier digital construction solutions around document management. We are not your average software vendor. We believe in mutual collaboration, working with you in order to achieve success in the world of digital construction, VDC/ BIM. We focus purely on the in-betweens of virtual design management. We are here to re-imagine, re-focus and re-coordinate a collaborative digital construction industry. Being the main partner for Bluebeam in over 20 countries you can always rest assure you will get the best service, advice and technical support from the industry's best experts? We give you our best people, so that your team grows and develops in the same time the critical projects are being delivered. We provide expert sales, training, support and mentorship on Bluebeam Revu. RDS Bluebeam - Setting the standard for digital construction and project collaboration.

COGNEGEN

Cognegen provide a robust document and drawing management solution specifically tailored for Architects, Engineers and design professionals in the construction industry called Excitech DOCS. It simplifies design documentation generation and management from concept through to publishing. With its unique integration with AutoCAD and Revit, Excitech DOCS streamlines many design documentation processes, with features such as automated transmittals, X-ref management, automated extranet uploads and email management to name a few. Excitech DOCS simplifies BIM level 2 and ISO 19650 accreditation by automating many manual processes such as file naming and approval workflows.

Excitech DOCS follows standards, drives consistency, and eliminates user errors:

- Security of project information: Control permissions so that only the right people access project information.
- Follow Standards: Maintain accountability through internal and external standards compliance.
- Drive Consistency: Focus on design and let Excitech DOCS take care of document organisation.
- Collaborate: Share data with all stakeholders from the central data repository – supporting collaborative concurrent design.
- Recover time: Massively reduce the time taken with transmittals & extranet uploads and automate further with Dynamo.

DIA TEC

The Diatec Group is Ireland's leading Autodesk partner focussed on digitising the Construction Industry. Diatec leverages its highly skilled industry focussed team to deliver integrated solutions based on Autodesk's BIM 360 digital project delivery platform & AEC software to its clients in Architecture, Engineering & the Built Environment. Diatec deploys & delivers Autodesk software, instructor led & eLearning training, consultancy, ICT systems & cloud compute & assists customers with the latest digital workflows for Design & Construction project delivery. From design, design collaboration through to documentation & reviews, to pre-construction, & through to quality, safety & operations, Diatec are there to guide & assist in delivering value & unparalleled customer service to clients. Established 1993 & with a staff of 50 & offices in Dublin, Galway & Cork (C-CAD a Diatec Group Company). Diatec builds close working partnerships with their customers based on service & trust, going the extra mile & their extensive sectoral knowledge.

INVICARA

Invicara helps our clients leverage building information to streamline their business and enhance profitability. We offer a unique mix of strategic consulting, flexible technology, and information management services. With our Digital Twin solutions for the building lifecycle, our clients are transforming both capital project delivery and ongoing operations. Invicara's global reach includes current projects in Ireland, the United States, the United Kingdom, India and Singapore. For more about Invicara visit invicara.com or contact us at info@invicara.com.

KINGSPAN

Kingspan Group is the global leader in high-performance insulation and building technologies. Through constant innovation, we improve building performance with products, services and solutions that contribute to a more sustainable, energy-efficient future for our customers and the environment.

PLANGRID

PlanGrid, an Autodesk company, builds simple, beautiful software that construction teams love to use. As part of Autodesk Construction Solutions, PlanGrid's mobile-first solutions empower general contractors, subcontractors, owners and architects to provide fast, accurate information to the field. With unparalleled adoption by field workers, PlanGrid is used on projects as the single source of truth for all construction data — including drawings, photos, and other critical documents. As a result, critical workflows are streamlined, efficiency is improved, and field teams can take on more work and get more done. Visit www.plangrid.com for a 21-day free trial

REVIZTO

Revizto is created by Vizerra SA with HQ in Lausanne, Switzerland and began developing real-time issue tracking software for the AEC industry in 2008. The primary focus of Revizto is to provide a BIM collaboration platform for 3D and 2D workflows that enables users to work and communicate with all project stakeholders in a unified software environment. Currently, more than 100,000 AEC professionals in 150 countries rely on Revizto every day as a project coordination tool on thousands of construction projects.

JOHN SISK & SON (HOLDINGS) LTD.

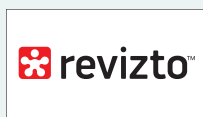
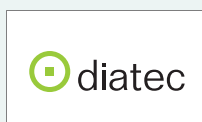
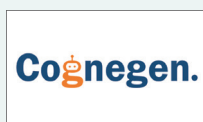
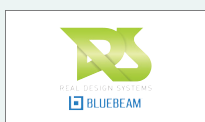
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SOLIBRI

Solibri develops and markets software solutions that improve the quality of building information models (BIM) and included datasets for building owners, designers and constructors. Solibri Office automates previously manual model checks using logical user configurable rules as well as analysing and validating the integrity and quality of the design and constructability to check compliance with building codes, industry, company or project specific standards or any user defined requirements. 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 model information and reports such as COBie with a visual bi-directional link to the model.

VECTORWORKS

Vectorworks UK & Ireland is a design and BIM software provider serving professionals in the architecture and landscape industries. Since 1985, Vectorworks has been committed to helping designers capture inspiration, nurture innovation, communicate effectively and bring their visions to life. With Vectorworks cross-platform software, designers can build data-rich, visual models without sacrificing the design process, whilst at the same time collaborating fully and efficiently throughout the project life-cycle. Vectorworks embraces and supports the openBIM approach to collaborative design using IFC for data exchange and is the first architectural and landscape software developer to achieve IFC4 export certification.



The Morning Session

4th CitA BIM Gathering 26th September 2019.

Plenary	
Inis Mór Ballroom	
08.00	<p>Welcome Address Dr. Alan Hore, Conference Chair</p> <p>Morning Plenary Session Chaired by Mr John McGowan, Chairman, CitA Ltd</p>
08.05	<p>Opening Address: Minister Sean Canney, Department of Rural and Community Development and the Department of Communications, Climate Action and the Environment</p>
08.15	<p>Delivering value using full 3D - Is there a Choice? Gerry Carty, Managing Director RPS, Consulting UK & Ireland</p>
08.40	<p>IBM Watson IoT digital twin marketplace Sandra Gannon, Senior Designer, Research Design, TRIRIGA, Watson Internet of Things, IBM Cognitive Applications</p>
09.05	<p>Back to basics...Digitally Paddy Ryan, CEO, GagaMuller</p>
09.35	<p>Interview with the Irish World Champion winning team from the WorldSkills Competition in BIM held in Russia, August 2019 Ryan Dempsey (TU Dublin Graduate), Luke O'Keeffe (WIT Student) Gordon Chisholm (WIT - Department of Architecture)</p>
09.55	<p>Lean Handover™: COBie for contractors Prof. Bill East, Prairie Sky Consulting</p>
10.15	<p>Q&A</p>
10.30	<p>Coffee Break - Refreshments</p>

Breakouts						
	Inis Mór Section 3	Inis Mór Section 2	Veranda Lounge	Burren Suite	Bodkin Suite	D'Arcy Suite
	Highlight Projects	Operating with Models	Preparing for a Model First Future	Doing More with Less	It's all about the Model	Modelling for the QS
11.00	Innovation in Practice: Center Parcs Ireland. Brian Kennedy & James Moloney, Regional Managers Platinum Sponsor John Sisk & Son Ltd.	The Post-Occupancy Digital Twin: A Quantitative Report on Data Standardisation and Dynamic Building Performance Evaluation. Jonathan Rogers, TU Dublin	Why model checking is no longer a luxury. Harry O'Neill, Strategic Business Manager, UK & Ireland Platinum Sponsor Solibri	A Qualitative Review of BIM, Sustainability and Lean Construction. Is There A Future For Lean Construction? Daniel Clarke Hagan, IT Sligo	What is the "Design Model" James Peters, TU Dublin	Quantitative investigation into the impacts of BIM on information transfer during construction projects. James O'Donnell, UCD
11.25	BIM for Infrastructure on the Bonded and Re-Export Zone at King Abdullah Port, Kingdom of Saudi Arabia. Brian Lahiff, Garland	Two Birds with One Stone: Streamline Handover and Create a Digital Twin for Operations. Louise Kelly, Solutions Consultant Platinum Sponsor Invicara	Exploring the role of BIM in the Circular Economy with a focus on Material Passports. Mark Kelly & Gerard Nicholson, GMT	Effective application of Lean Green BIM in Commercial Fit-out Projects. Andrew Taylor, TPS Butler Consulting	Here's one I made earlier! Create, Interrogate + Construct. Lorraine Mc Morrow, McAvoy Group	A Critical Review of the Requirements of a Quantity Surveyors Model View Definition for 5D Collaborative BIM Engagement. Mary Flynn, Dublin City Council
11.50	The Tallaght Project, Sean Harrington Architects. Luka Stefanovic Architect Product Specialist Platinum Sponsor Vectorworks	Academia - Estates Management Synergies – The Low Hanging Fruit. Peter McDonnell DCU, Roger West, TCD	How software can address ISO 19650 and streamline your path to BIM Level 2 accreditation. Alec Milton, Head of Data Management solutions Platinum Sponsor Cognegon	Lean Construction, BIM and offsite manufacturing; can three equally misunderstood topics actually work well together? Duncan Reed, Trimble Solutions UK Ltd.	The Quality Dimension. David Comiskey, Ulster University & Rori Millar, Felix O'Hare	Whole Life/Life Cycle Costing During the Design Stage of a Construction Project: A Qualitative Review. Daniel Clarke Hagan, IT Sligo.
12.15	BIM in Ireland 2019: A Case Study of BIM Maturity and Diffusion in Ireland. Barry McAuley, CitA & TU Dublin	Digital Engineering, Data Analytics and Model Calibration: The Future of Building Operation? Gary Nixon, IES	Let's discuss the UK BIM Framework, buildingSMART UK&I & how you can get involved in digital transformation of the industry. David Glennon, UK BIM Alliance	External Memory Solution for Large-Scale Point Cloud Data Processing. Neil Hyland, BIM & Scan Ltd.	A Critical Review of the Requirements of Quantity Surveyors for Collaborative BIM Engagement and Success. Mary Flynn, Dublin City Council	Increasing efficiency in 5D BIM by Utilising 'BIM Interoperability Tools' to append ICMS cost codes. Dermot Kehily & Charles Mitchell, TU Dublin
12.40 - 13.30	LUNCH					

The Afternoon Session

4th CitA BIM Gathering 26th September 2019.

Breakouts						
	Inis Mór Section 3	Inis Mór Section 2	Veranda Lounge	Burren Suite	Bodkin Suite	D'Arcy Suite
	Building Better Projects	Building Digital Talent	Extending BIM Potential	SME Zone	Public BIM	No BIM Zone
13.30	The Future of Construction - the Digital Opportunity. Rogier van Nalta, Technical Solutions Executive AEC Platinum Sponsor Plangrid	Using Asynchronous learning to enhance the pedagogical experience in teaching BIM technologies to construction students. Ruairi Hayden, TU Dublin	Digital Modelling - For Production & Construction. Martin Conlon, CAD/CAM/BIM Manager Platinum Sponsor Kingspan Ltd.	Digital Design & Collaboration in the construction industry. Gerard Nicholson, GMIT Mark Costello, RPS	an investigation into current procurement strategies that promote collaboration through early contractor involvement with regards to their suitability for the Irish public work projects. Frederic Lefebvre, TU Dublin	We need to talk about Automation. Robert Klaschka, Evrbilt Ltd.
13.55	Artificial Intelligence-based Decision-Support for Construction Projects. Dr. Houssein Jerbi, Smart PMO	Automating Digital Technologies for monitoring and streamlining site progress on BIM enabled projects. Donnchadh Kelly, AEC Specialist Platinum Sponsor Diatec	Trinity Business School: BIM to Digital Twin - The Journey. Anand Mecheri, Invicara	Delivering Construction Digital Transformation. Paul Oakley, BRE	A Critical Appraisal of the potential for public works contracts' and design-build Clients in Ireland to leverage benefits from BIM processes. Trina Turner, JJ Rhatigan	Incentivising net zero energy building design by employing a microgrid administered using Blockchain Technology. Alan O'Reilly, TU Dublin
14.20	The Real Connected Job Site. Nick Erasmus, Technical Director Platinum Sponsor RDS Bluebeam	The Evolution of collaborative BIM and Digital Construction programmes at Technological University Dublin. Avril Behan, TU Dublin	Revizto - Digitalising Traditional Collaboration today. Rhys Lewis, Business Development Director UKMEA & Europe Platinum Sponsor Revizto	Overcoming Resistance to BIM. How sme's within the AEC industry in Ireland can overcome resistance to the implementation of the BIM process in practice. Sarah MacLoughlin, Kavanagh Tuite.	Interaction between public sector BIM adoption and government policy objectives with the assistance of a systematic literature Review. Shiyao Kuang , TU Dublin	Driving real innovation through mixed reality technologies. Duncan Reed, Trimble Solutions UK Ltd.
14.45	Improving the sustainability of the built environment by training its workforce in more efficient and greener ways of designing and constructing through the horizon2020 energy BIMcert project Barry McAuley, CitA & TU Dublin	The BIM-Futures Toolkit: Designing, developing and piloting a professional development capacity framework for academic staff involved in BIM-related education. Mark Kelly, GMIT	Achieving Smarter Buildings And More Efficient Facilities Management: The Implementation Of Big Data. Mary Catherine Greene, Glenveagh Properties	Digital transformation & BIM implementation for Small Medium Enterprise (SME). Yeu Yeu Ng & Ciaran O'Brien, O'Brien Finucane Architects	From Roadmap to Implementation: Lessons for Ireland's Digital Construction Programme. Alan Hore, TU Dublin and CitA	Using Technology as a means of Verifying the Positioning of Cavity Barriers in a Building Wall Envelope. David Comiskey & Michael Daly, Ulster University
15.10	Coffee Break - Refreshments					

Plenary	
Inis Mór Ballroom	
	Afternoon Plenary Session Chaired by Professor Roger West, Trinity College Dublin
15.35	Defragmenting the construction industry using a digital platform Jaan Saar, Head of Digital Construction Estonian Ministry of Economic Affairs and Communications
16.05	The route to “Model First” project delivery Vicki Reynolds, Digital Manager, Multiplex Construction.
16.35	An update on BIM adoption in the Irish public sector – the policy perspective David O’Brien, Head of the Construction Procurement Policy Unit, Office of Government Procurement
16.55	An overview of the key findings from the joint WEF-BCG project on the Future of Construction Christoph Rothballer, Partner & Associate Director, Infrastructure, Boston Consulting Group
17.25	Closing Address

The exhibitors at CitA BIM Gathering 2019

1 Trimble	15 Invicara
2 Procad	16 Revizto
3 WIT & TUD	17 Kingspan
4 BAM Ireland	18 Diatec
5 SIS	19 UK BIM Alliance
6 Engineers Ireland	20 John Sisk & Son Ltd.
7 SCSi	21 RDS Bluebeam
8 Canon	22 DCTG
9 Winthrop	23 Exactal
10 Irish Building Magazine	24 CitA Skillnet
11 LES	25 Solibri
12 Graphisoft	26 Vectorworks
13 Topcon	27 Plangrid
14 RPS	28 Cognegen

CitA BIM Gathering Best Paper Awards

Best Industrial Paper

Sponsored by JJ Rhatigan

Best Young Researchers Award

Sponsored by Arcdox

Best Overall Award Paper

Sponsored by Dublin City Council







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