BUILT ENVIRONMENT TECHNICAL WEBINAR SERIES (IDD TRACK):

INNOVATION IN DIGITAL DESIGN AND CONSTRUCTION

24 August 2021, 3.00pm to 5.30pm

As the Built Environment sector is undergoing a digital transformation, it is critical for firms and projects to adopt Integrated Digital Delivery (IDD) through optimization of data, digital technologies and tools as mainstream approach towards productivity and collaboration across the value chain.

In this webinar, you will hear from both local and international practitioners covering best practices and innovation in digital design and construction, in the areas of adoption of computational and data-driven in design, leveraging data analytics and artificial intelligence (AI) geared towards Industry 4.0, as well as digitalization of construction processes for productivity gains.

TIME	PROGRAMME
3.00pm	**Welcome Address**
3.05pm	**Data-driven Design and Build, Opportunities and Challenges** Mr Tsukasa Ishizawa, *Group Leader, Computational Design Group, Advanced Design Department, Takenaka Corporation Head Office, Japan*
3.30pm	**Elevating Productivity through a Digitalized Worksite** Mr Muhammad Khalil, *Senior Digital Delivery Manager, Boustead Projects E&C*
3.55pm	**Practical Analytics for Built Environment** Dr Edna Chan, *Centre Director, Data Science and Analytics, Singapore Polytechnic*
4.20pm	**6D BIM: Carbon Neutral Smart Cities** Mr John Tan, *Smart Cities Business Development Director, SoftwareONE*
4.45pm	**Data-driven Workflows for Greater Project Efficiency** Mr Jorge Benéitez, *Managing Partner and Co-founder, Enzyme APD, Hong Kong SAR*
5.10pm	**Q&A**
5.30pm	**End**

DATA-DRIVEN DESIGN AND BUILD, OPPORTUNITIES AND CHALLENGES

The computational approach in AEC industry is gaining more attention in recent years. There is higher expectation to integrate the approach to enable connections of broader services in smart city development. For architectural projects, being data-driven is much more vital today to increase productivity in handling complex project requirements. Tsukasa will share the latest discoveries on the use of data, enhanced with computational approach in the latest projects by Takenaka Corporation, a design-build contractor in Japan. He will also introduce the vision of data ownership towards a smarter built environment value chain.

Mr Tsukasa Ishizawa
*Group Leader,
Computational Design
Group, Advanced
Design Department,
Takenaka Corporation
Head Office, Japan*

Tsukasa Ishizawa is a BIM, computational design, and data-driven design-build specialist. Tsukasa is a Senior Manager of Takenaka Corporation, one of the largest among Japanese design-build general contractors. Since joining the firm in 2006, Tsukasa has been at the center of corporate digital transformation in architectural design.

Tsukasa's design works as an architect include Forever XXI, Shiseido Headquarter, and Kanda Holdings (all in Tokyo). His BIM management projects include Capita Green in Singapore, Changi Airport Terminal 4. His computational design projects include Tokyo Disneyland, Nagoya Castle Reconstruction, and multiple stadium projects in Japan.

Tsukasa is a familiar speaker at international event, including Advancing Computational Building Design, SCPW@SG, Autodesk University, and ArchiFuture. He is also an enthusiastic writer and has authored numerous articles for ArchiFuture Web and JABS as well as published research to CAADRIA, AIJISA and AIJ.

ELEVATING PRODUCTIVITY THROUGH A DIGITALISED WORKSITE

With digitalization in mind, Boustead Projects E&C has incorporated emerging technologies such as artificial intelligence (AI), data analytics and 360-degree camera systematically into the construction operations to increase the productivity. In addition to the technologies, the firm also adopted design thinking approach to drive innovation and behavioral change within the organization. Khalil will share the challenges faced, strategies to overcome them as well as benefits as the firm and projects embark on their digital transformation journey.

Mr Muhammad Khalil
*Senior Digital Delivery
Manager, Boustead
Projects E&C*

Muhammad Khalil has been in the Building & Construction industry in Singapore since 2005. A firm believer in technological solutions and innovative workflow, he constantly keeps himself abreast of upcoming technologies in the effort to increase productivity in the construction industry. He is an avid promoter and implementer for game changing solutions including BIM, Virtual Design Construction (VDC) and Digital Platform. Currently, Khalil oversees the digital transformation of Boustead Projects E&C Pte Ltd, set up roadmap, and integrate digital work processes at operational and management level.

PRACTICAL ANALYTICS FOR BUILT ENVIRONMENT

Despite the known benefits of leveraging analytics for businesses, analytics adoption in businesses is still relatively slow especially in the BE sector. While BE is overflowing with a plethora of data, an undisputable and pertinent commodity necessary for analytics adoption, only a small amount of data is used meaningfully today. In this session, Dr Edna will share how Singapore Polytechnic has taken practical steps to support companies to leverage data for analytics adoption as part of companies' industry 4.0 (or i4.0) transformation.

Dr Edna Chan
*Centre Director, Data
Science and Analytics
Centre, Singapore
Polytechnic*

Dr Edna is the Centre Director of Data Science and Analytics Centre (DSAC) at Singapore Polytechnic. She leads DSAC to partner industries to drive artificial intelligence, data science and analytics (ADSA) through innovation, solutioning and training. Since the inception of the Centre, Dr Edna and her team has supported more than 30 companies in their ADSA efforts.

6D BIM: CARBON NEUTRAL SMART CITIES

In 2019, the CO_2 emissions of the building and construction industry increased to their highest levels to date, representing 38% of global energy related CO_2 emissions. As an industry that employs 7% of the world's working age population and as 68% of the world's population will live in urban areas by 2050, stakeholders in this industry must take responsibility to reduce emissions and create a sustainable and net-zero future for everyone. From this session, we will discuss how 6D BIM Construction Platform – MTWO Construction Cloud can help building and construction companies achieve a sustainable future without compromising their productivity.

Mr John Tan
Smart Cities Business Development Director, SoftwareONE

John Tan is the Smart Cities Business Development Director for SoftwareONE. He works with key stakeholders in the AEC industry in Singapore to digitally transform their business through the adoption of a vertical cloud solution - MTWO. With more than 8 years experience working in the AEC sector, he is familiar with the needs and challenges of the industry. He has worked on many Smart Building projects, and is a key advocate for the adoption of Smart technology to meet the growing demand for building smarter and more sustainable buildings in Singapore.

DATA-DRIVEN WORKFLOWS FOR GREATER PROJECT EFFICIENCY

The industry is changing fast, adapting to the rapid development occurring in the digital realm; technologies such as Computational Design, Real Time Rendering, Environmental Analysis, AI, Big Data are available to us, but the challenge is how to integrate them in a workflow that can combine the data and make it useful and friendly for architects, engineers, and end-users.

Enzyme has been mastering the use of Archicad, not only as a design tool but as a platform to enable the integrations of tools and data. We will explore some of the workflows and case-studies where we were seeking this seamless integration between platforms and stakeholders.

Mr Jorge Benéitez
Managing Partner and Co-founder, Enzyme APD, Hong Kong SAR

Jorge Benéitez is a Master Architect and Urban Planner from the Polytechnic University of Madrid (ETSAM). He has lived and worked in several countries across Europe, Asia and Africa. He is currently based in Hong Kong.

Jorge co-founded enzyme in 2015 with the goal of pursuing a better implementation of technology and the development of methodologies to improve the design and building process.

He is an Archicad Registered Consultant and an expert on BIM and Computational Design, having developed workflows between both platforms seeking for better performance of the tools and enhancing the design capabilities of BIM workflows.