



Member of VTC Group
VTC 機構成員

An Overview of Construction Innovation in UK

分享英國建造業界創新科技應用的概況

Dr K M Wong

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Established in 1982, VTC is the largest vocational education, training and professional development group in Hong Kong.



Introduction

Organizer	VTC School for Higher and Professional Education (SHAPE)
Name of course	Swansea University “Innovation in Construction programme”
City and country	Swansea, Wales, United Kingdom (UK)
Duration	10 Aug – 24 Aug 2019 (15 days)
Participants	25 full-time SHAPE engineering degree students
Funding	Construction Innovation and Technology Fund



Objectives

The objectives of the enrichment course are:

- To enhance the internationalization exposure of SHAPE students by allowing them to exchange with local professors and practitioners in the field of construction industry in UK;
- To provide opportunities for the students to expose to the recent construction innovations in UK's infrastructures;
- To develop students' international perspectives of the impacts of construction innovation on global infrastructure, economy and climate change;
- To enable students to understand good construction practices and site safety in United Kingdom and to reflect on their applications in Hong Kong.



Swansea University

- Swansea University was founded in 1920. It is a public research university located in Swansea, Wales, United Kingdom. In 2016, Swansea University was named as the best university in Wales (The Times and The Sunday Times Good University Guide 2017 League Table).
- Civil Engineering is a particular strength of Swansea University. Civil Engineering at Swansea University is recognised as one of the top 200 departments in the world (QS World Subject Rankings). In addition, the Civil Engineering department at Swansea is ranked 13th in the UK (The Times University Guide 2019).



Itinerary (Day 1-5)

Day 1 10/8/2019 (Sat)	Morning	Departure from Hong Kong International Airport to London
	Afternoon	Arrival to London
Day 2 11/8/2019 (Sun)	Morning	Visit to London city area
	Afternoon	Local transportation from London to Swansea University
Day 3 12/8/2019 (Mon)	Morning	Orientation and Campus tour
	Afternoon	Technical Lecture
Day 4 13/8/2019 (Tue)	Morning	Technical Lecture & Workshop
	Afternoon	Guided tour
Day 5 14/8/2019 (Wed)	Morning	Technical Lecture & Workshop
	Afternoon	Guided tour



Itinerary (Day 6-10)

Day 6 15/8/2019 (Thu)	Morning	1. Technical Lecture 2. Guided tour
	Afternoon	Site Visit
Day 7 16/8/2019 (Fri)	Morning	1. Technical Lecture 2. Factory Visit
	Afternoon	Technical Lecture
Day 8 17/8/2019 (Sat)		Guide tour
Day 9 18/8/2019 (Sun)		Cultural visits
Day 10 19/8/2019 (Mon)	Morning	1. Technical Lecture 2. Technical Visit
	Afternoon	Site Visit



Itinerary (Day 11-15)

Day 11 20/8/2019 (Tue)	Morning	1. Technical Lecture
	Afternoon	2. Industrial Visit
Day 12 21/8/2019 (Wed)	Morning	Technical Lecture
	Afternoon	Technical Lecture
Day 13 22/8/2019 (Thu)	Morning	Concluding gala ceremony & certificates / awards presentation
	Afternoon	Local transportation from Swansea University to London
Day 14 23/8/2019 (Fri)	Morning	Visit to London city area
	Afternoon	Departure from London to Hong Kong International Airport.
Day 15 24/8/2019 (Sat)	Afternoon	Arrival to Hong Kong



Highlights of Construction Innovation

- Modular Integrated Construction (MiC)
- Active Buildings – Energy Positive Buildings
- Site Visit
- Computational Simulation



Modular Integrated Construction (MiC)



Modular Teaching Facility, Swansea University's Bay Campus

<https://www.wernick.co.uk/teaching-facility-swanea-university/>



Active Classroom & Office, Swansea University's Bay Campus

MiC: Visit to Wernick Factory



MiC: Visit to Wernick Factory



MiC: Visit to Wernick Factory



Active Buildings

- Buildings as power stations
- The UK's first energy-positive classroom generated more than one and a half times the energy it consumed, according to data from its first year of operation



Active Buildings



<http://www.specific.eu.com/>

Active Buildings

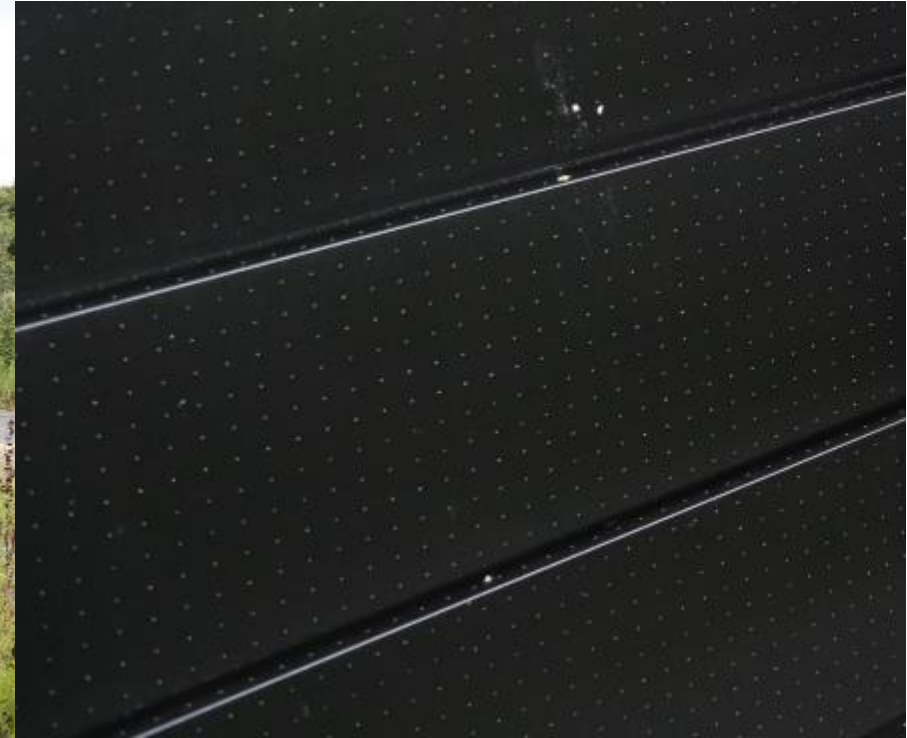


Active Buildings



<http://www.specific.eu.com/>

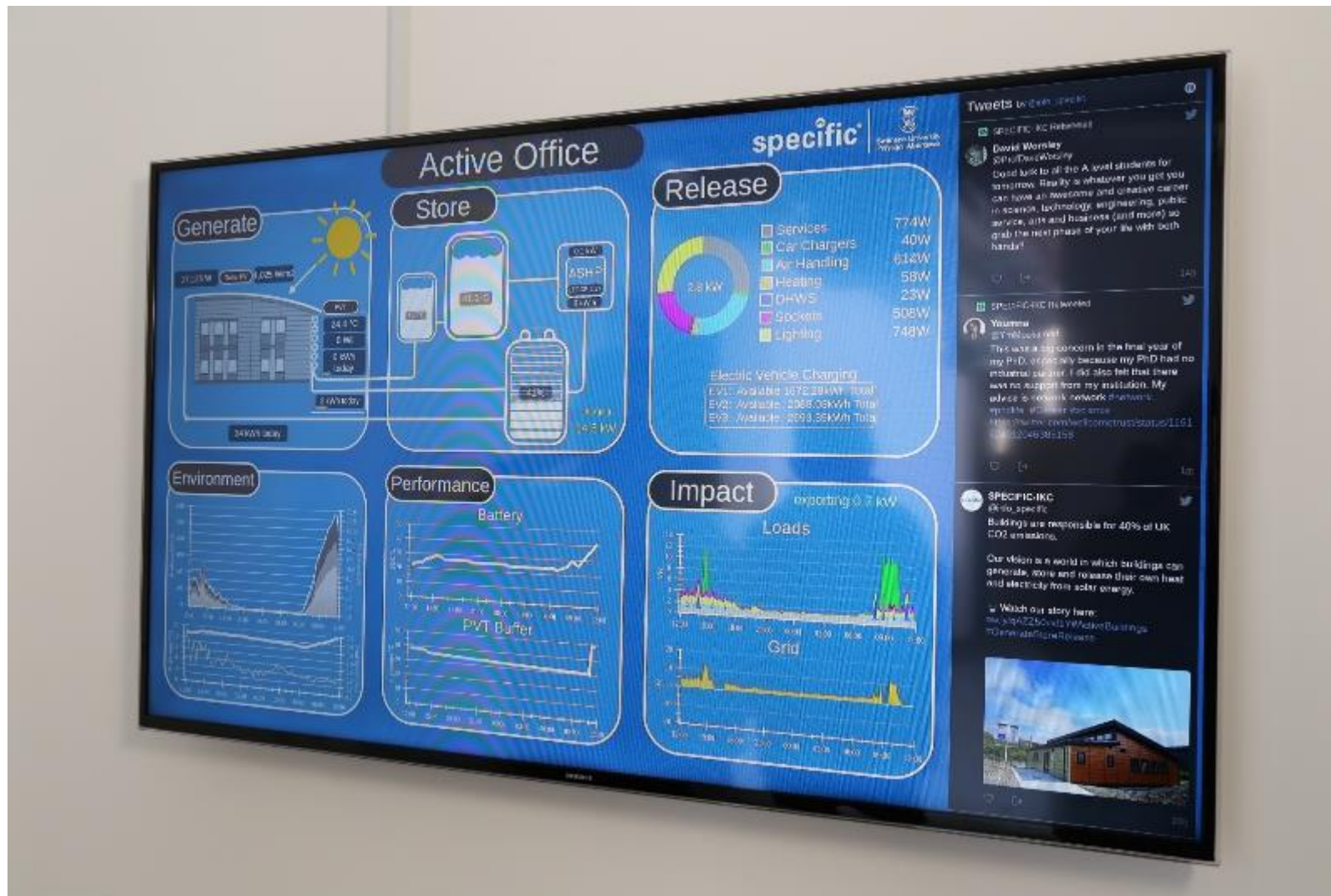
Active Buildings



Active Buildings



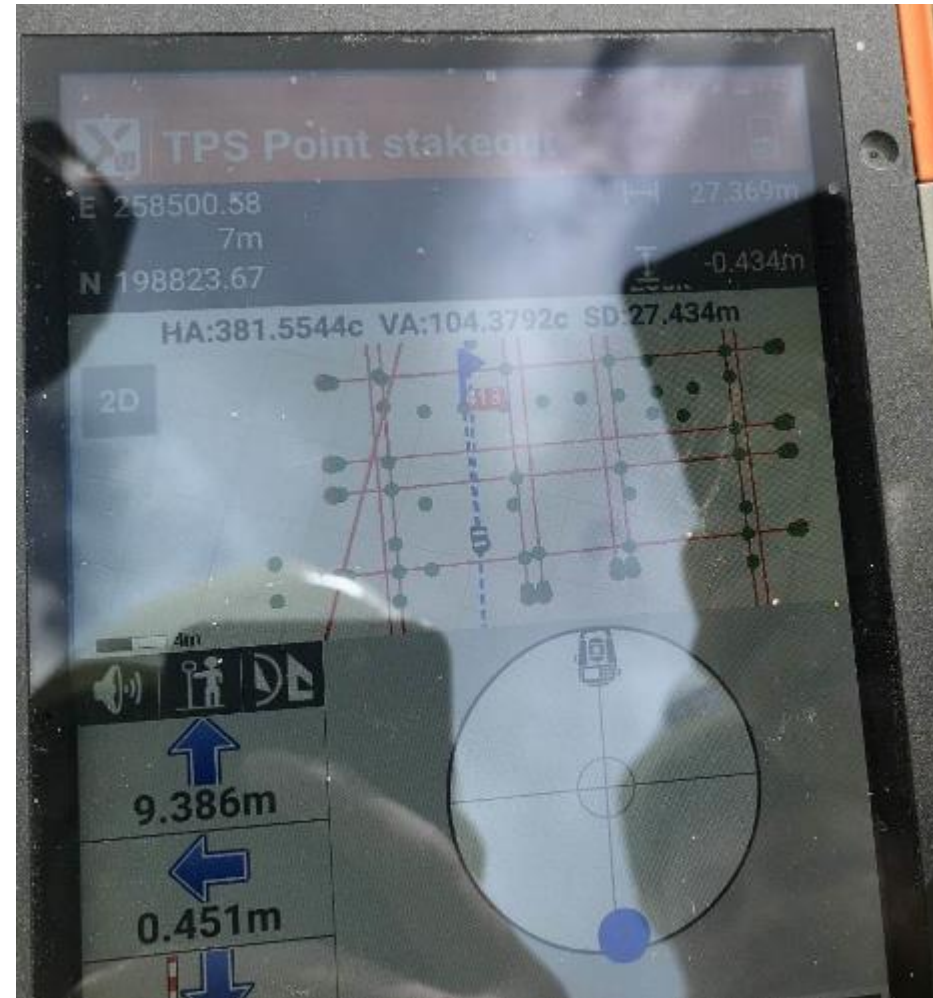
Active Buildings



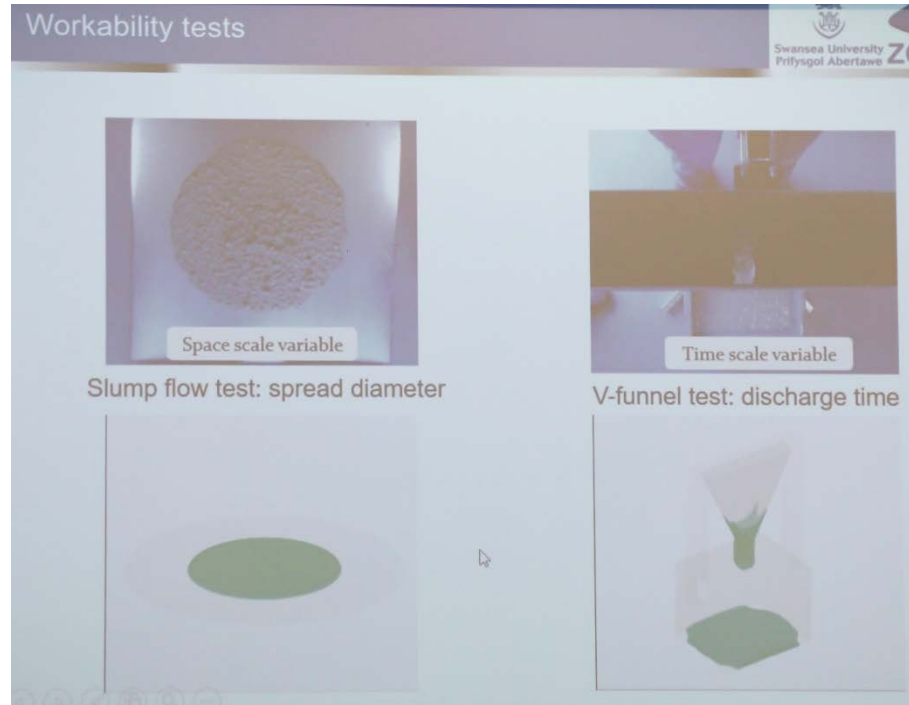
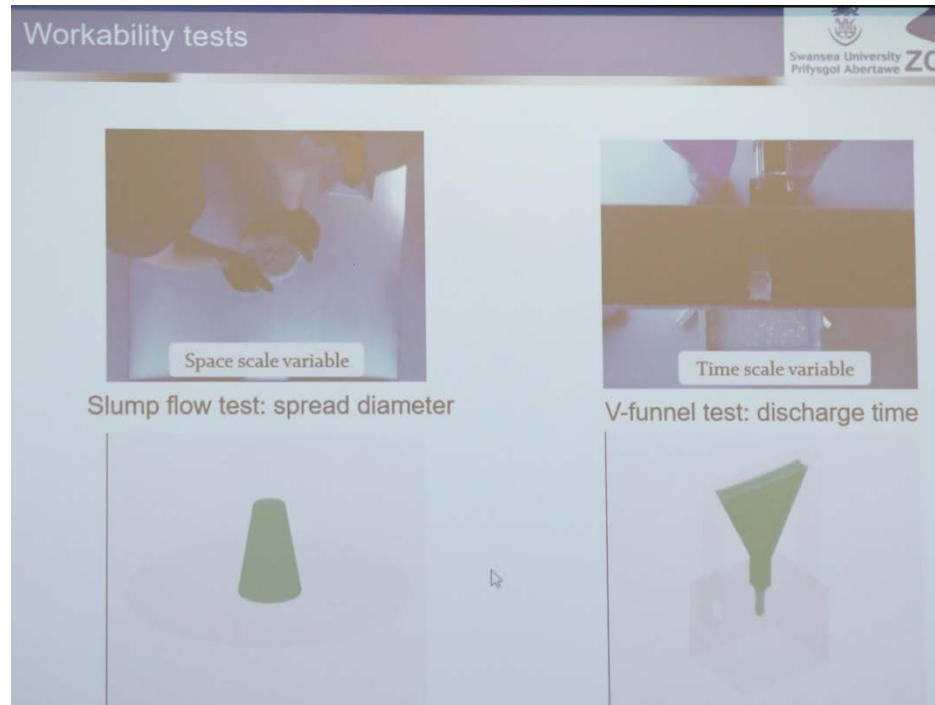
Site Visit



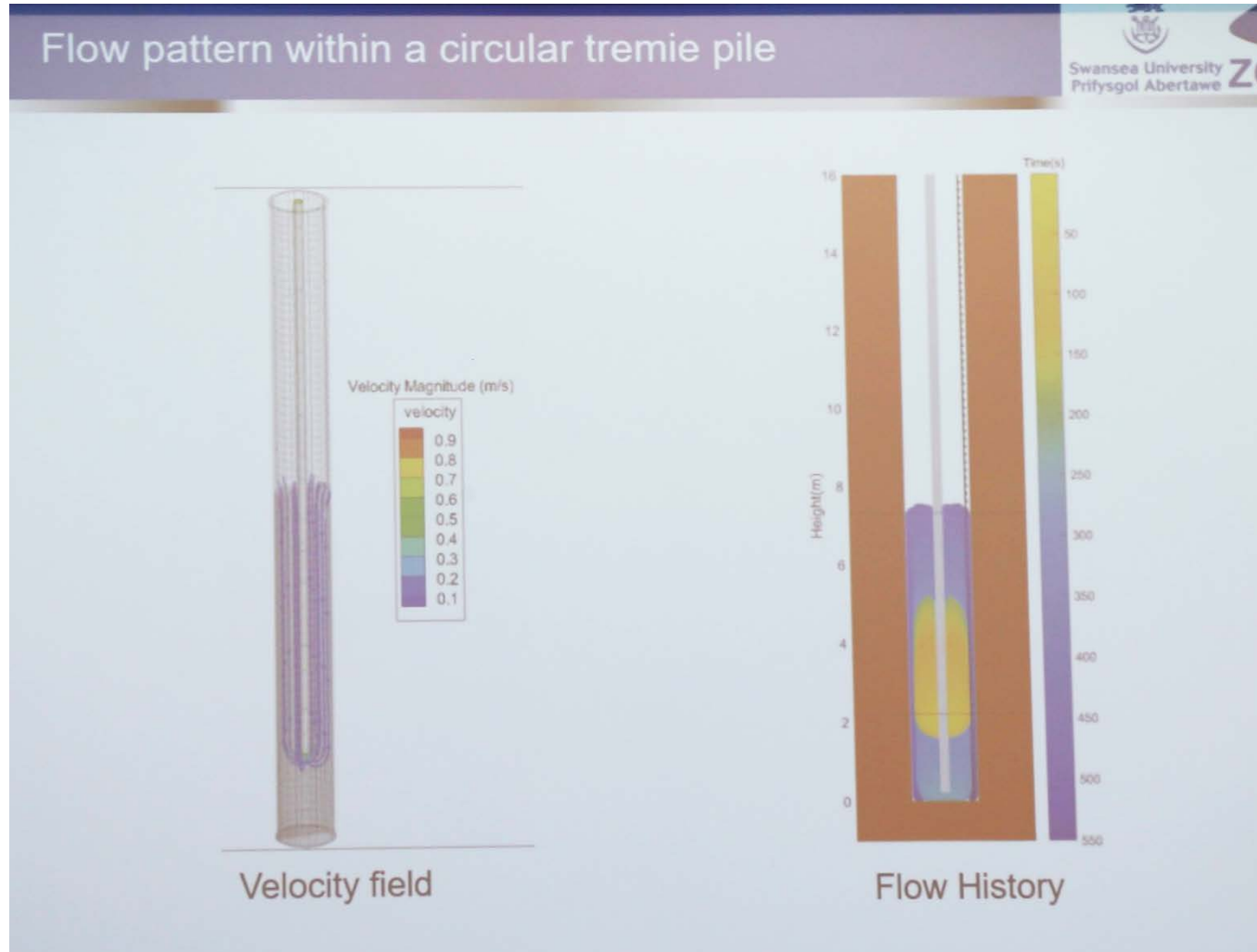
Robotic Total Station



Computational Simulation



Computational Simulation





Thank you

Feel free to contact us at:

School for Hi



www.shape.edu.hk



2595 2771



shape@vtc.edu.hk



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