Geomatics and Developments in BIM Education in Ireland

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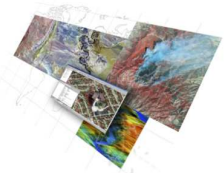

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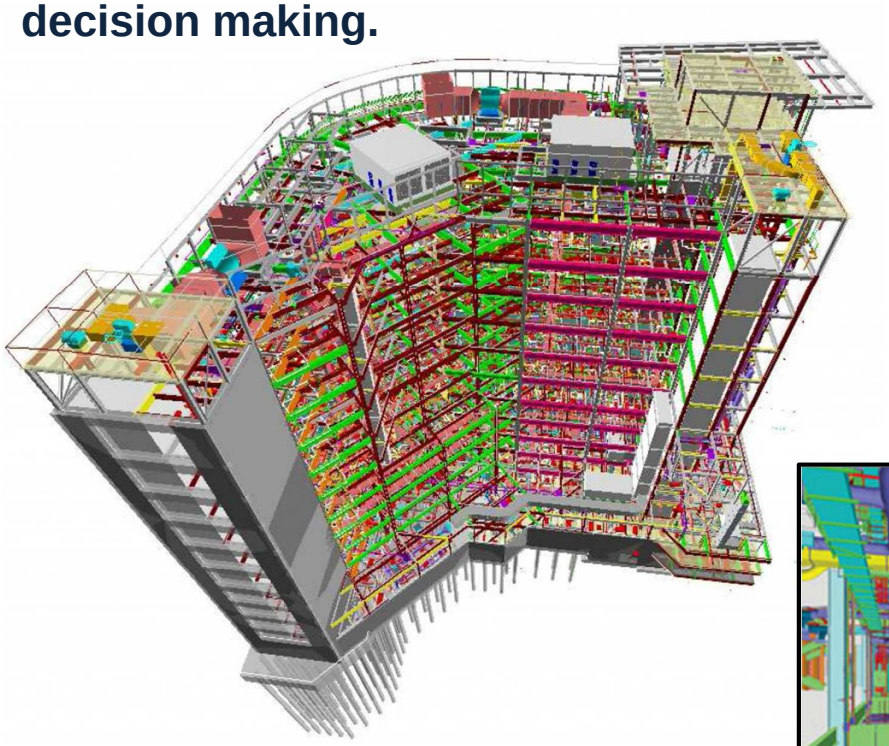
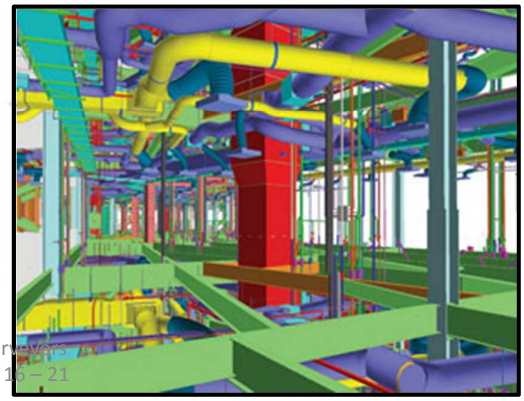
What is BIM?

Building Information Modelling (BIM) is a digital representation of the physical and functional characteristics of a facility.

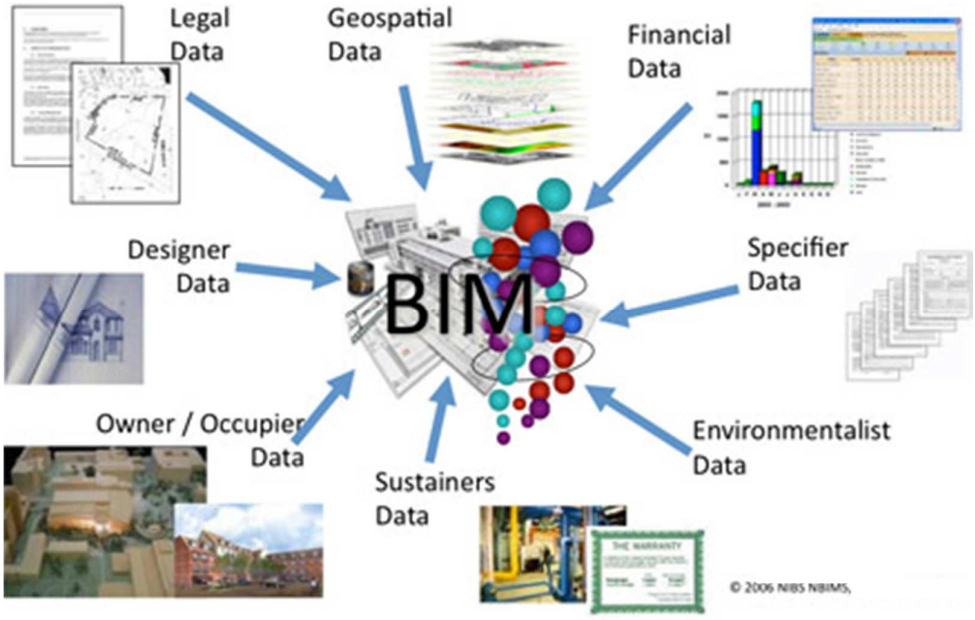
BIM is a shared knowledge resource for information about the facility that forms a reliable basis for decision making.

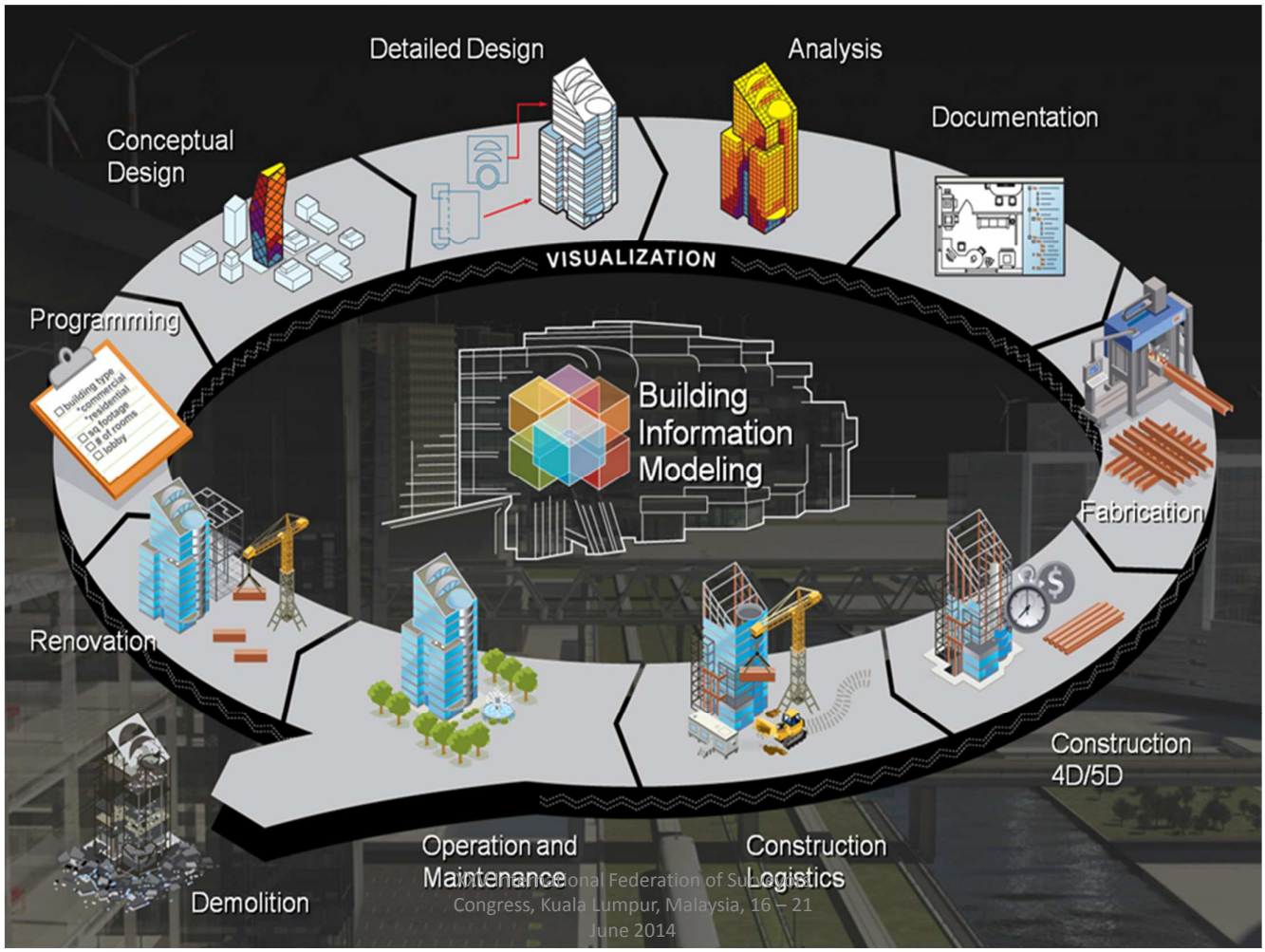




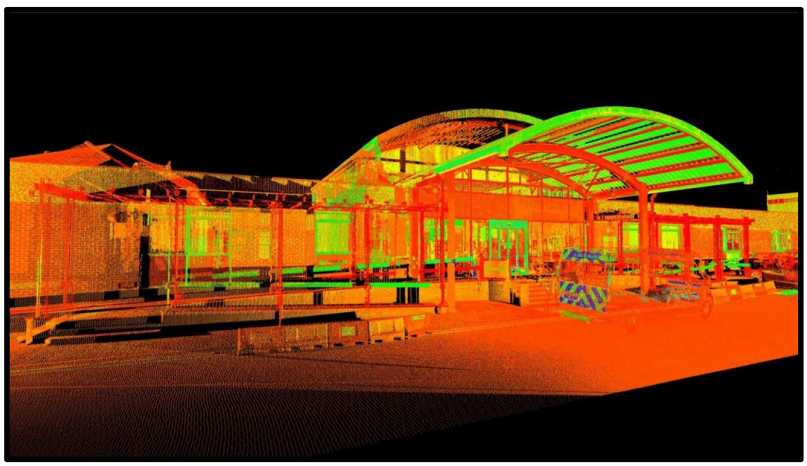
Collaboration is the key to BIM.

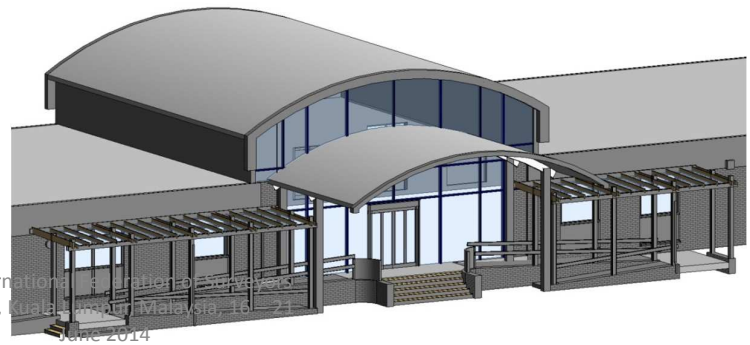
Knowledge resource can include many layers of information beyond the fundamental.



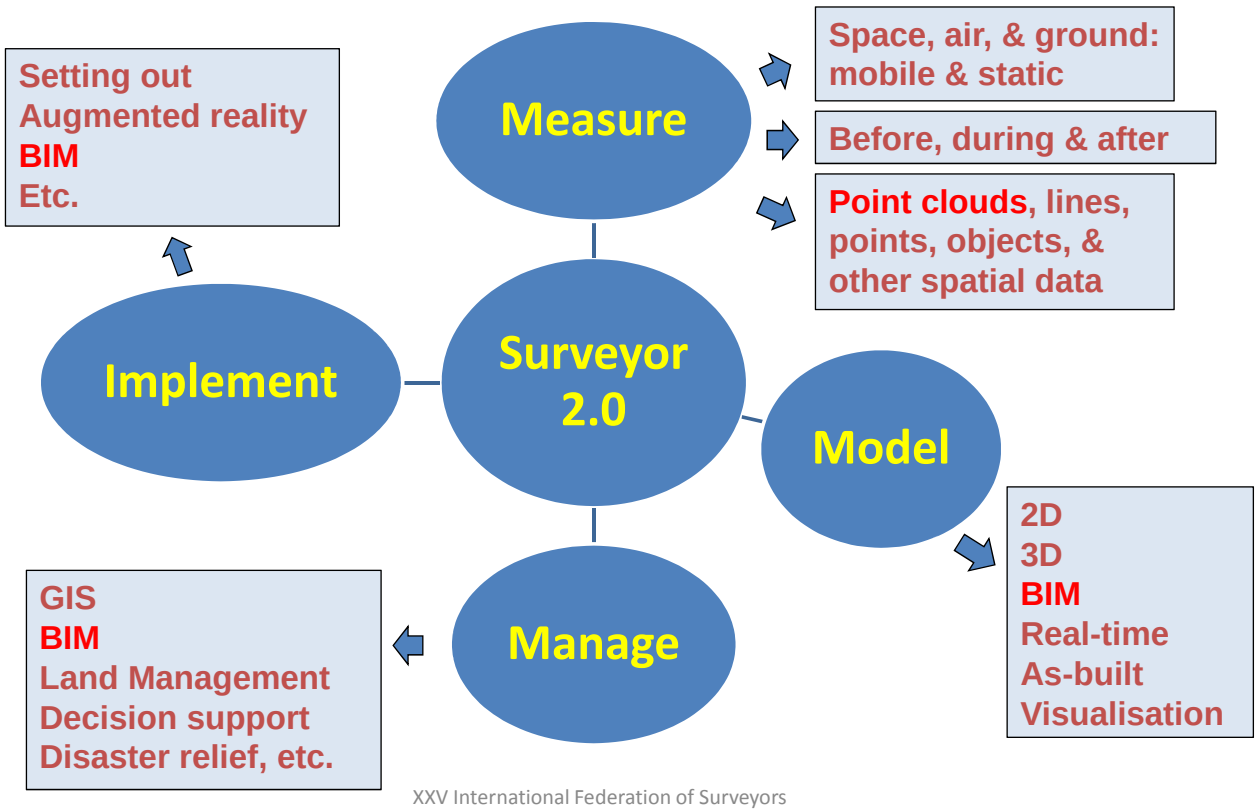


BIM for Existing Buildings requires a significant Geomatics input



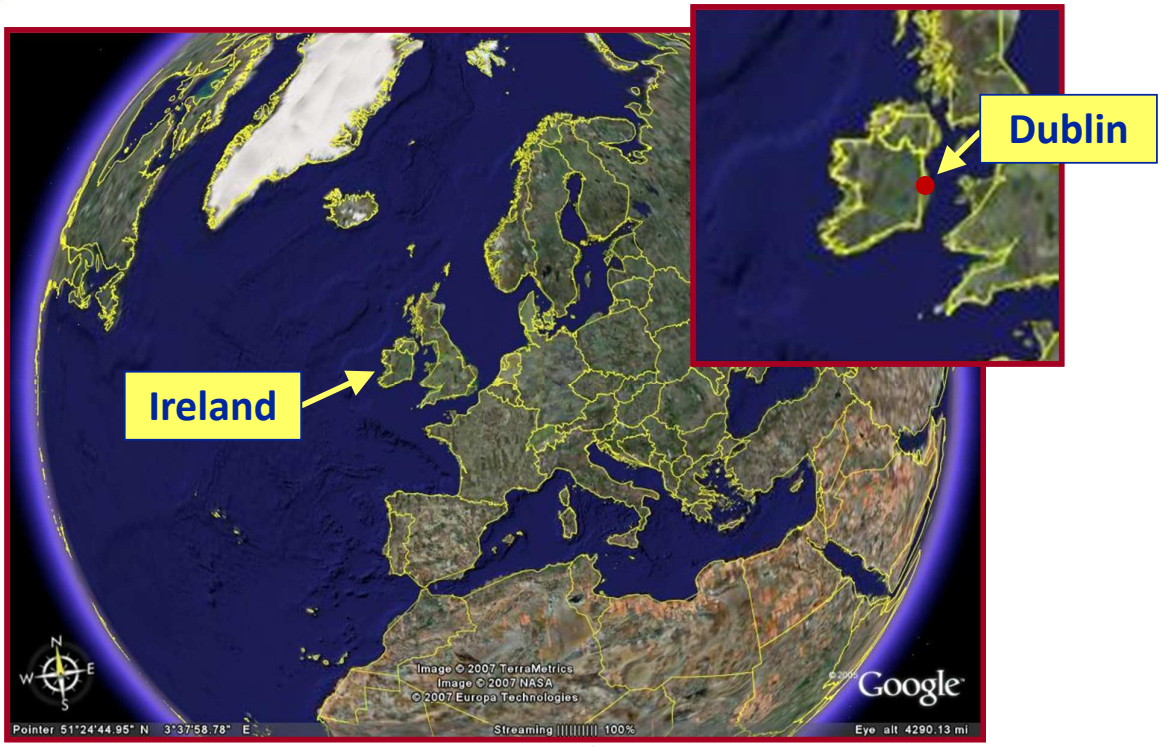


"Surveyor 2.0" has skills that are required by the BIM process.



Mr. CheeHai Teo, FIG President

The Dublin Institute of Technology



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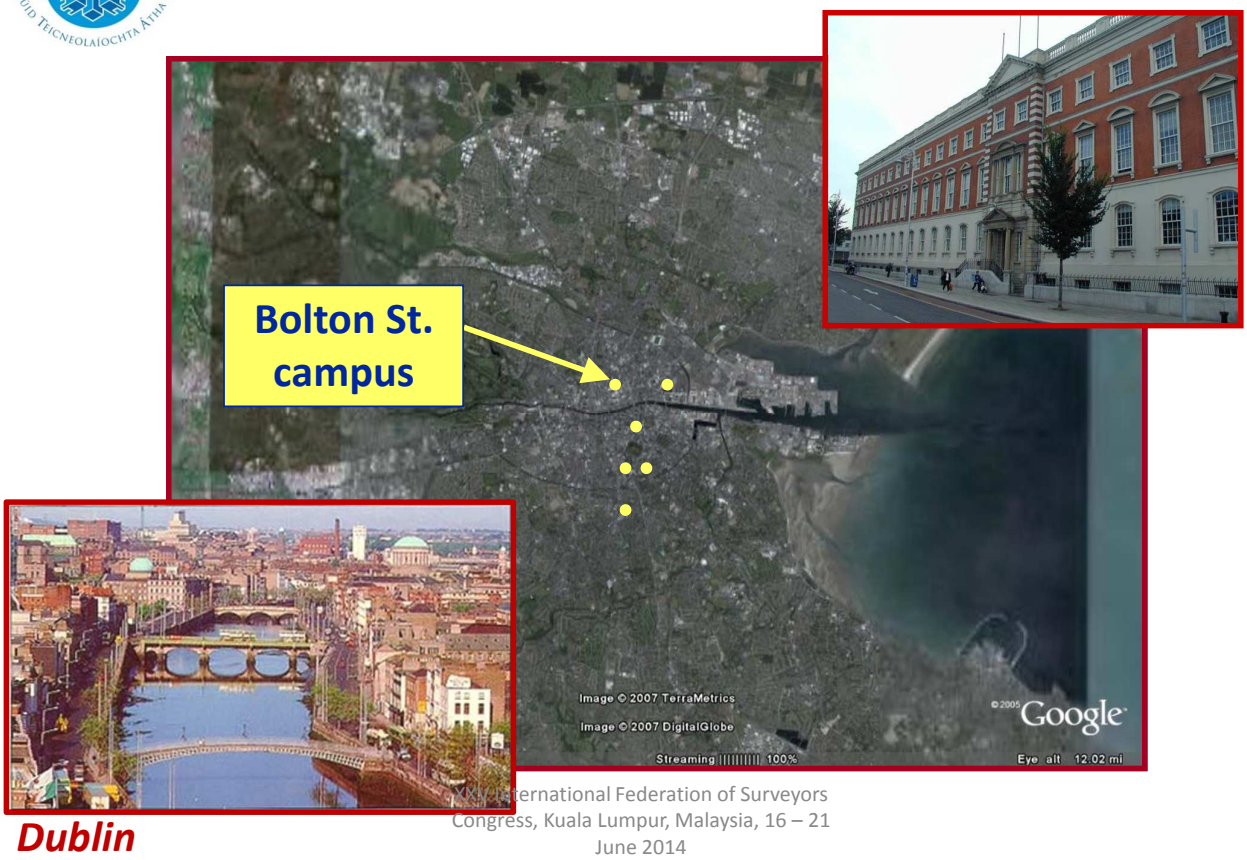
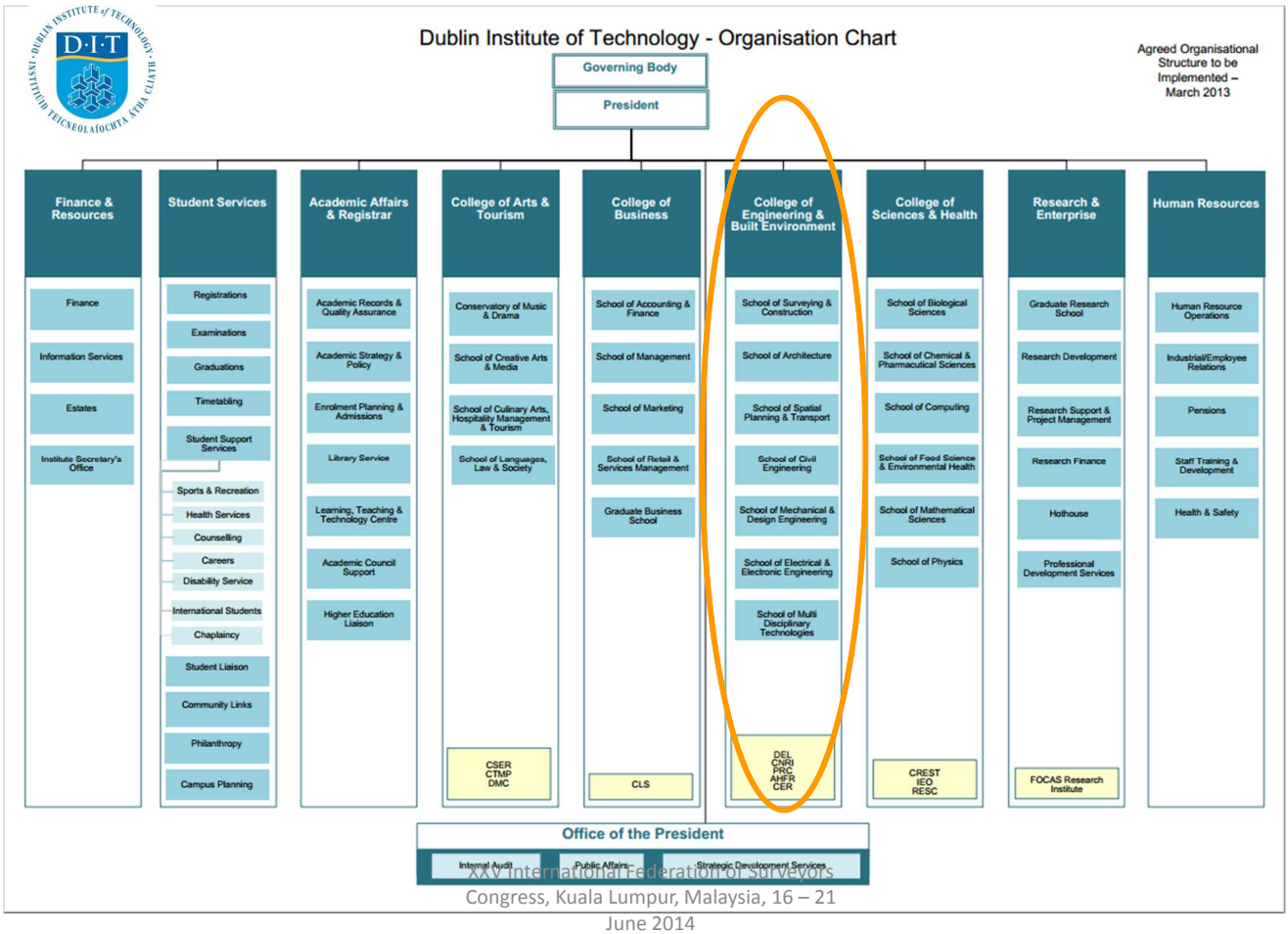
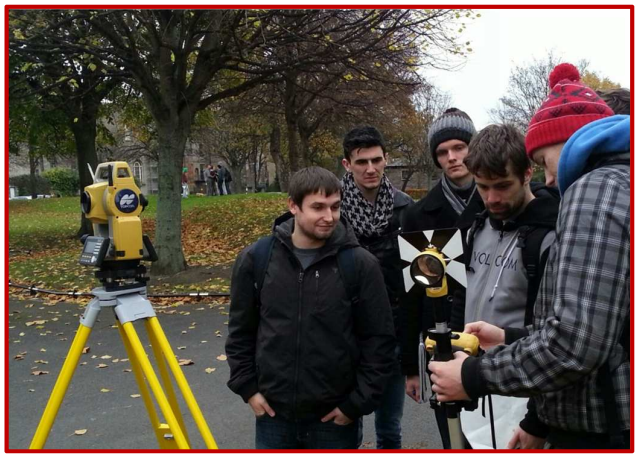


Dublin



DIT College of Engineering & Built Environment BIM policy:

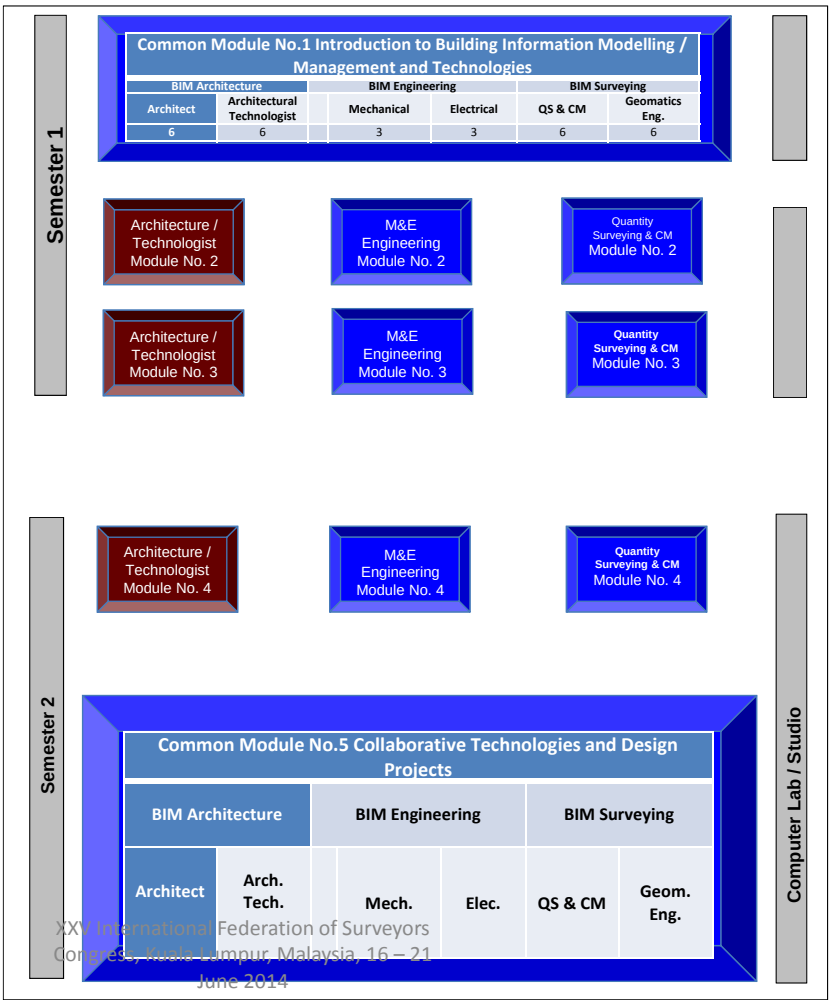
"To embed core BIM skills amongst all undergraduate programmes to enable collaborative, multi-disciplinary interaction amongst students through the medium of BIM."



Geomatics students instruct architectural students.

Collaborative lab session

Original Programme Design – Stage 1



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Original Programme Design – Stage 2

Semester 3 – 15 ECTS Credits – Design Studio

Common Module No. 6 Advanced Building Information Modelling Processes and Management

Key Concepts of Collaborative Construction; BIM as a Building Process; BIM as a Business Process; BIM-Based Workflows; BIM Within the Project; BIM Implementation Strategies; Business Opportunities with BIM; The Client and BIM; The Ingredients of BIM; FM and BIM; How to Implement BIM; Collaborative BIM in a Legal Context; BIM Contracts; Building Life Cycles; The Future of BIM; Multidisciplinary Collaborative Design; Change Management and Frameworks; BIM Tools; Interoperability; BIM for Various Disciplines: This Module links to Module No.7 in Preparation and Programming for Collaborative Multidisciplinary Design Project.

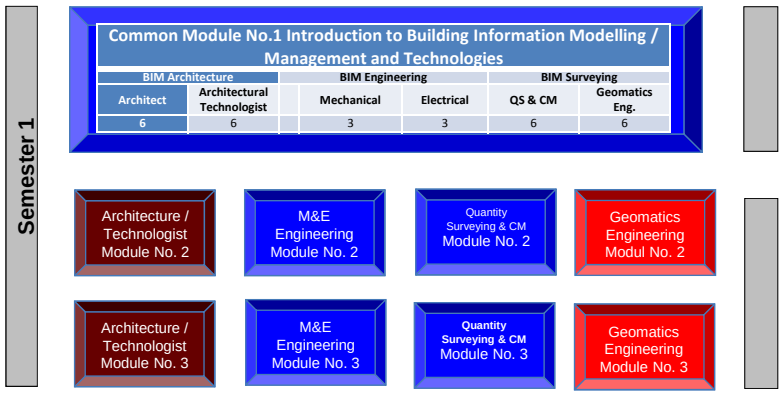
Semester 4 – 15 ECTS Credits – Design Studio

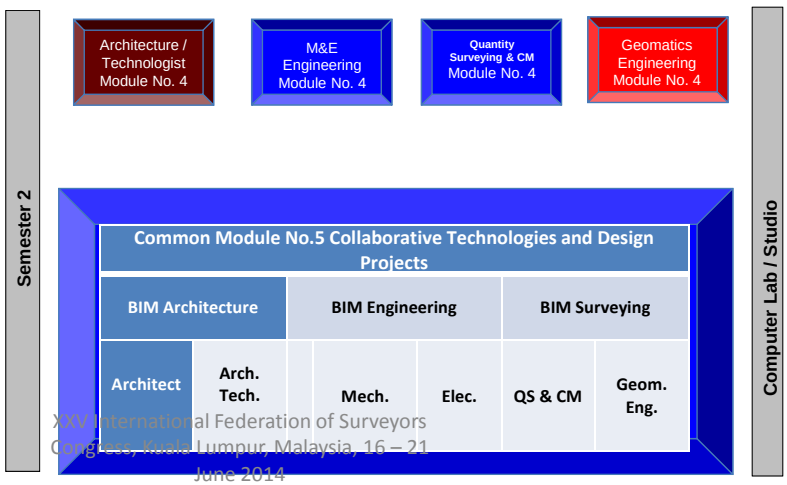
Common Module No. 7 Collaborative Multidisciplinary Design Project

In Teams of Six, course participants will mimic real industry practice to bring together all of the Technologies from Year 1 along with their theoretical knowledge of multidisciplinary collaboration gained from Module No. 6 to collectively design a building project. Using the planning programmes, contracts and design templates produced in Module No. 6, participants will create not only a workable design model but will also produce all of the appropriate contractual documents typical of a medium sized construction contract.

Revised Programme Design – Stage 1

Separate Geomatics Stream now included





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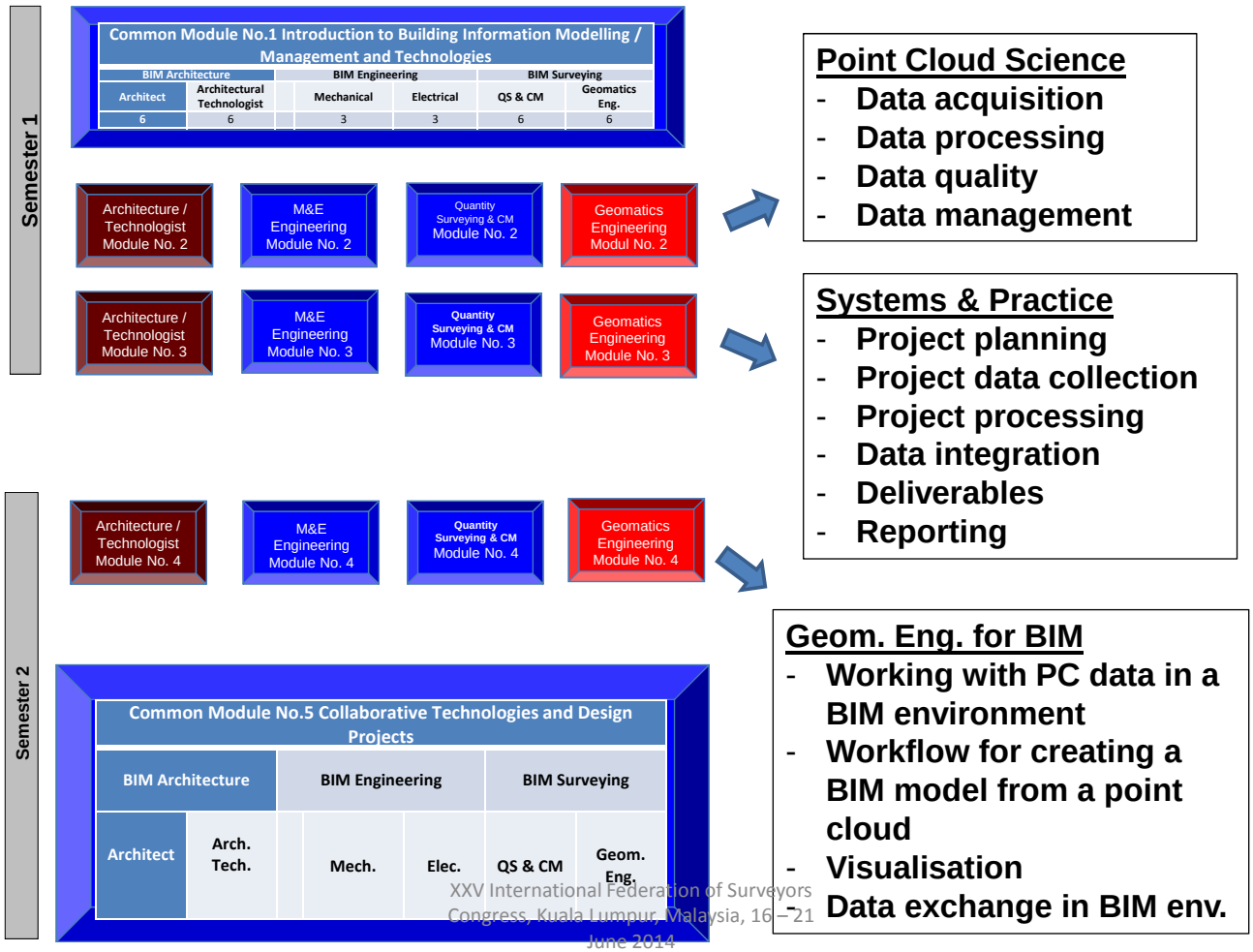

Point Cloud Science
- Data acquisition
- Data processing
- Data quality
- Data management

Systems & Practice
- Project planning
- Project data collection
- Project processing
- Data integration
- Deliverables
- Reporting

Geom. Eng. for BIM
- Working with PC data in a BIM environment
- Workflow for creating a BIM model from a point cloud
- Visualisation
- Data exchange in BIM env.

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Summary

- **BIM is fast becoming a standard within the building and construction industries.**
- **Many of those working in the associated professions are having to upskill to participate in the coming years.**
- **DIT has been proactive in the adoption of BIM and the development of a College-wide BIM strategy that is fully collaborative, reflecting the philosophical basis of BIM.**
- **Geomatics is now fully embedded within these developments in DIT**
- **This represents an important recognition of the role and importance of Geomatics within the BIM environment.**

Thank you for your attention

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