School of the Built Environment
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BIM and Integrated Design education at SOBE

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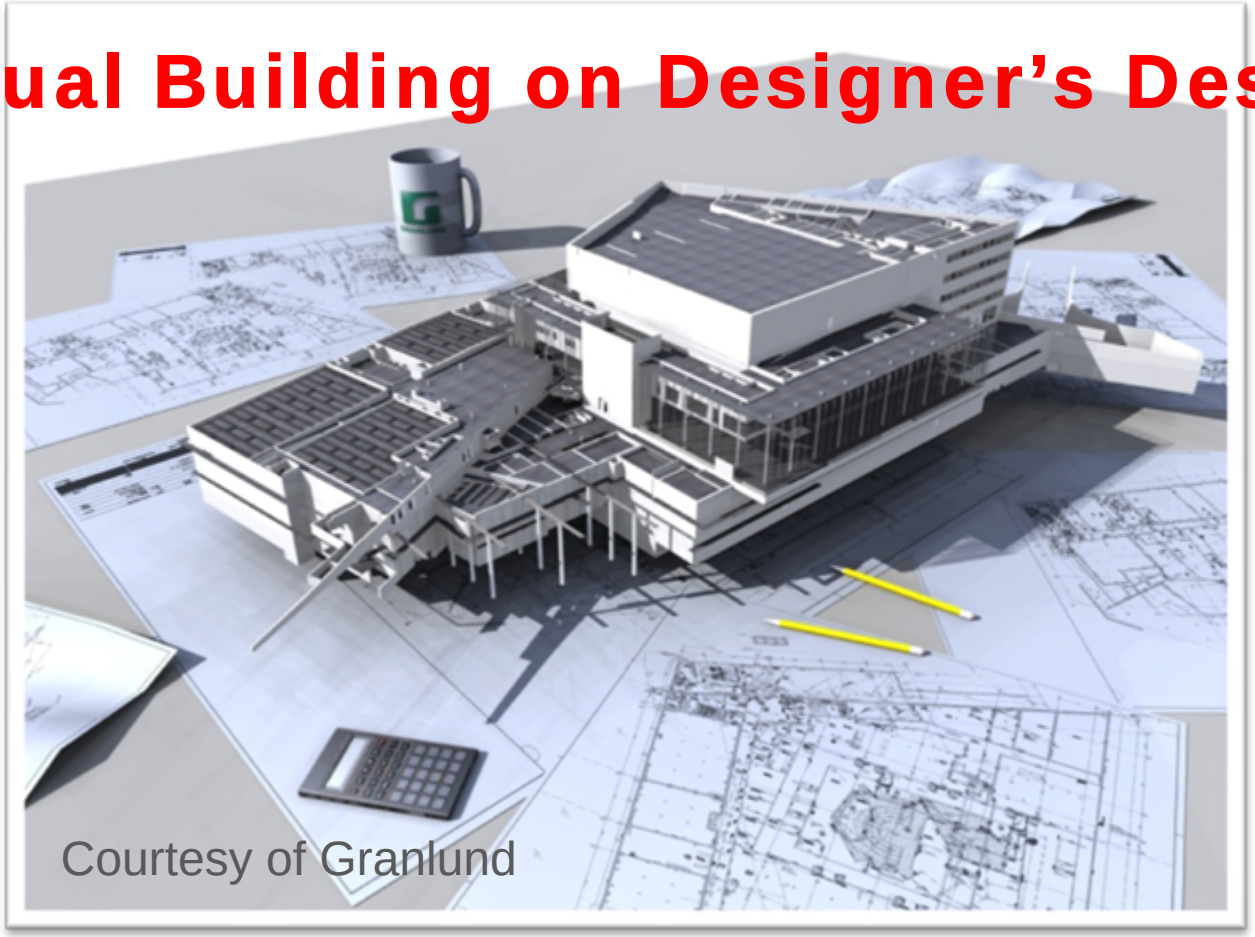
New paradigm

"Virtual Building on Designer's Desktop"



Introducing the digital paradigm as a new shared language in all the areas of the Built Environment education and practice

Why, what and how?

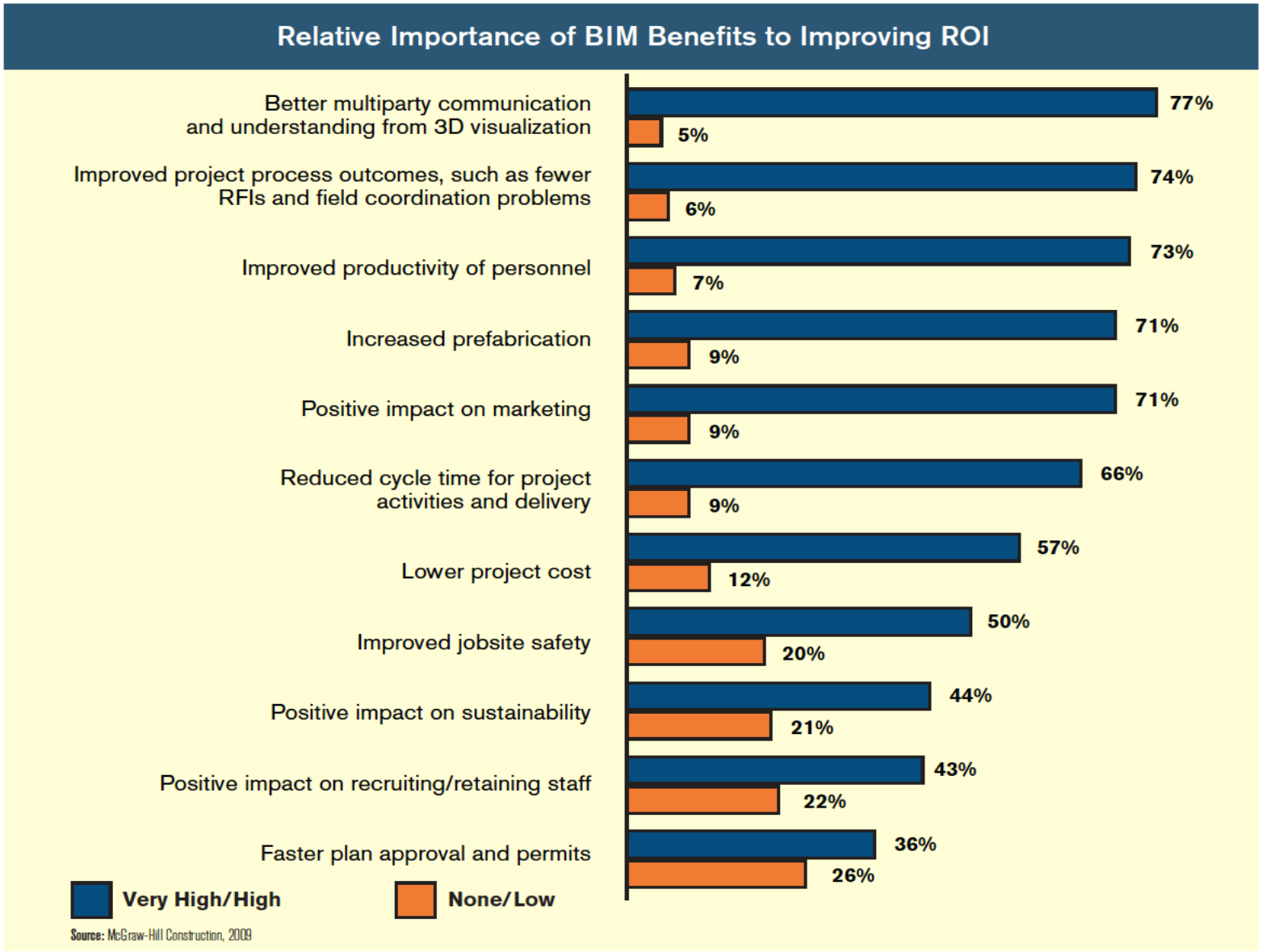
This is a "model populated" world.
"A model is an abstraction of reality for a purpose"

- A part form the reality itself, everything in this world is a model. We know the real world and share the experiences of it through models. Language, images, cinema, the arts, mathematic, physic, informatics are models.
- We all communicate among us through a translation process that use models as language.
- Data content depends on the desired purpose(s). Data in a context create information

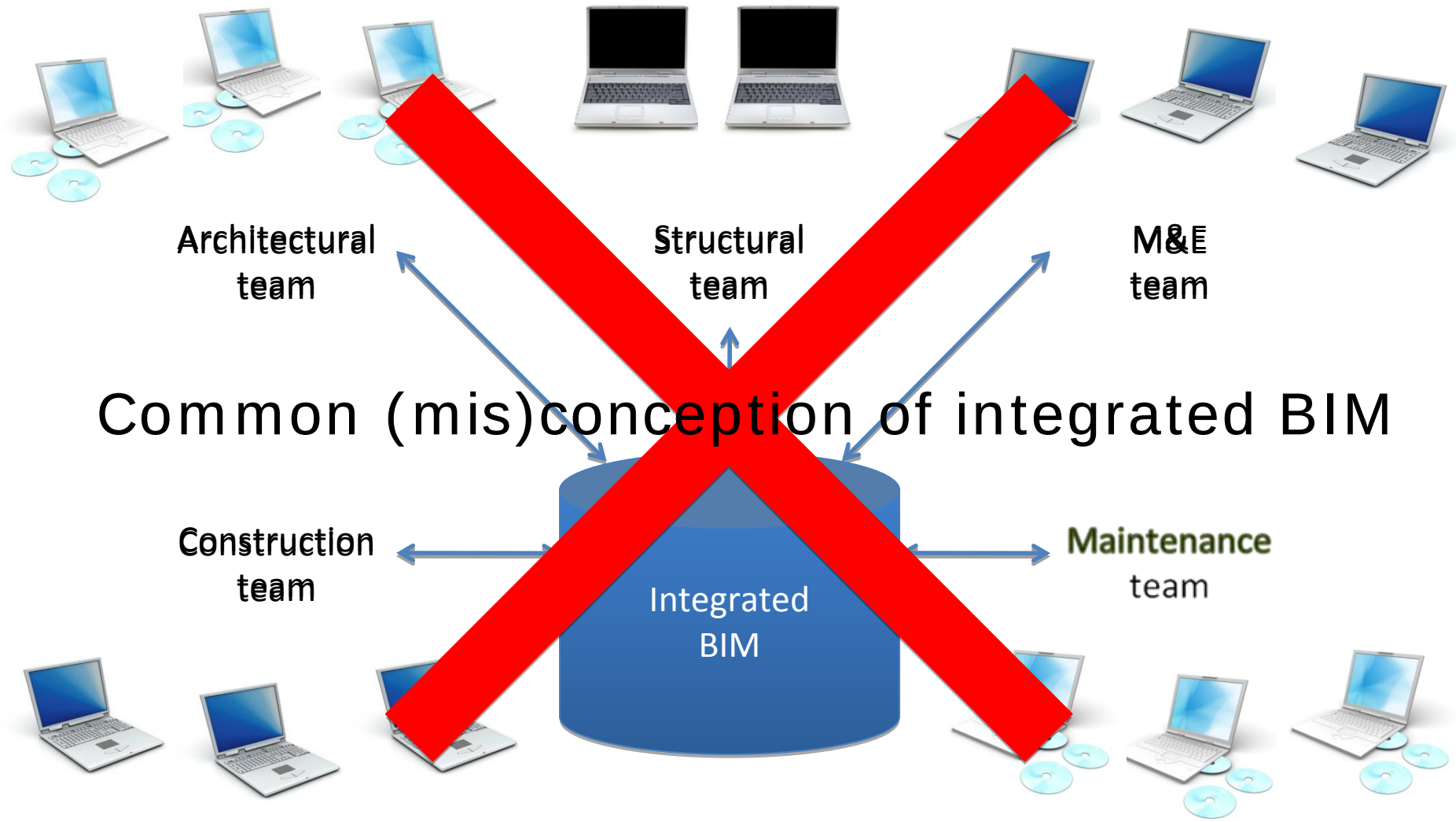
Why, what and how?

- Shared understanding of the required content in different stages: defined processes and deliverables
- Quality control: required structure and content, merging and coordination of different domain models
  - Unless data is reliable it can not be used efficiently
  - Manual checking is not usable; some mistakes difficult or impossible to find in a cost effective way
  - (Semi)automated model checking required, client or even project specific rule sets necessary

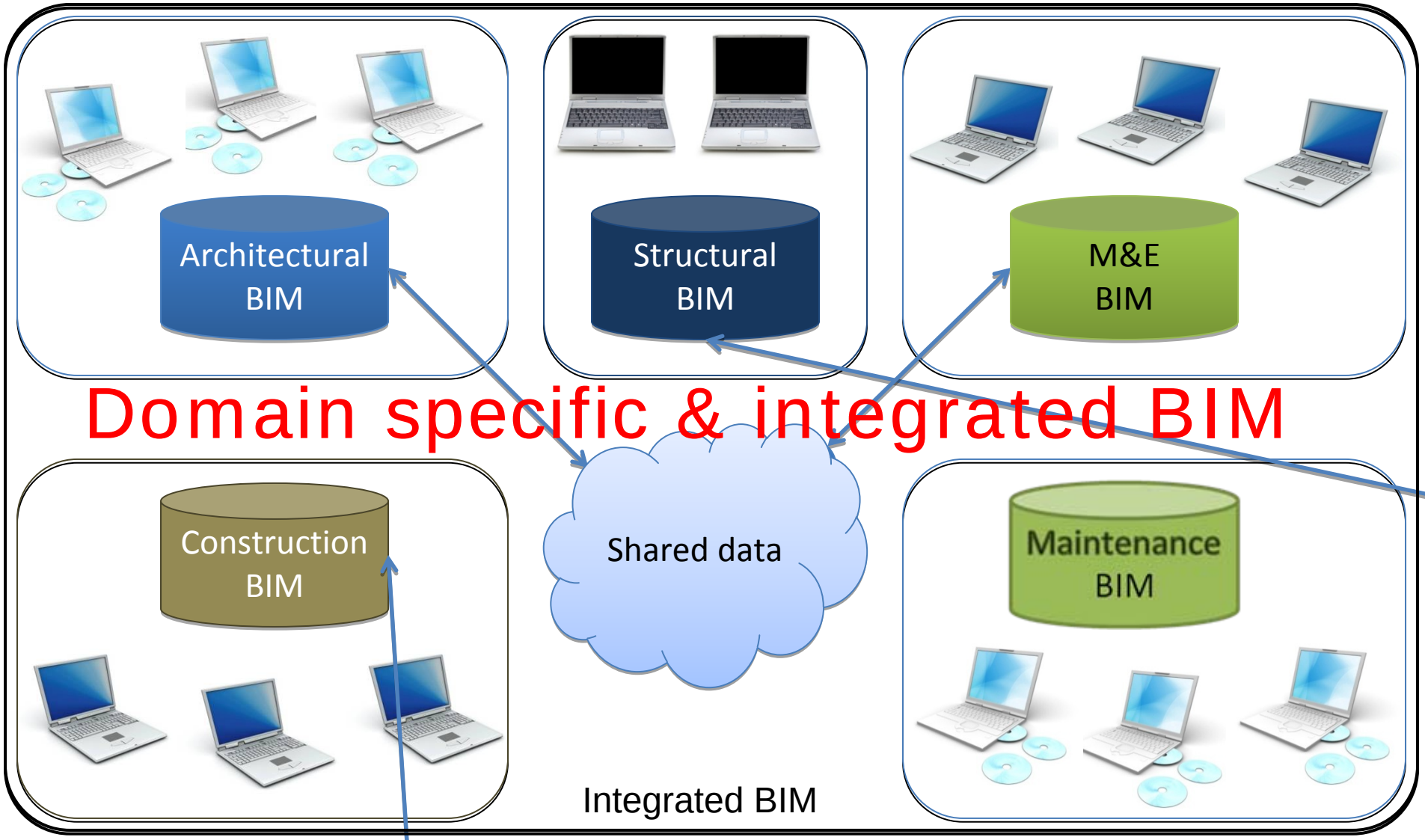
BIM in industry



BIM (mis)conception



Integrated BIM



Questions in BIM projects

- Goal(s): What do you want to achieve?
  - Internal efficiencies, design coordination and clash detection, construction management, quantity take-off, cost estimation, scheduling, environmental and lifecycle assessments, requirements management, simulations and verification, FM and maintenance databases…
- Content: What is needed to achieve the goal(s)?
  - Model content in different project phases
- Tools: Which software participants are using?
  - Authoring tools: same or different platform?
  - Data exchange between applications: native or IFC?
- Management: Who is the “modelling champion”?
  - Someone must take the leadership role and also check the quality of the models

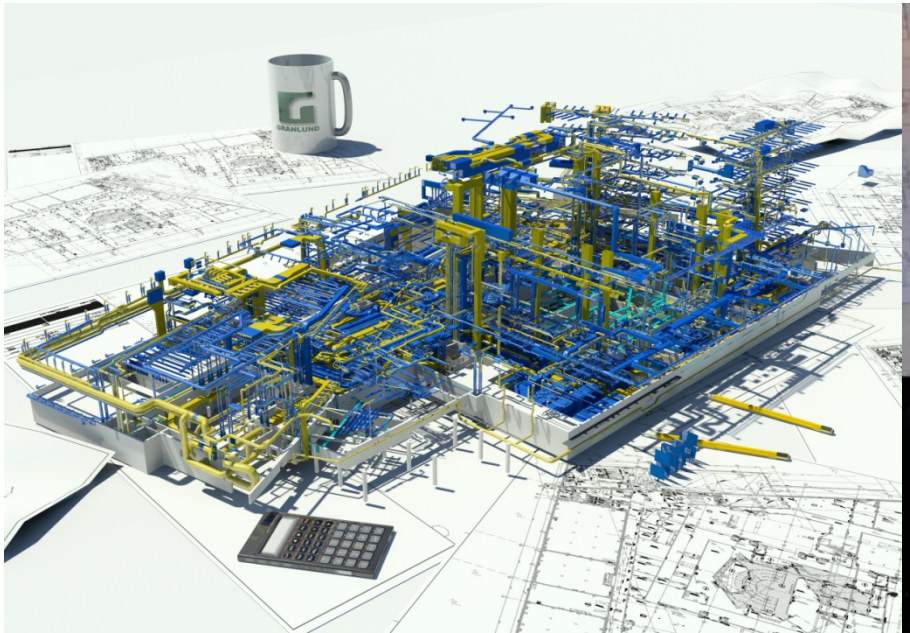
Pg framework

Framework for Post Graduate Design Programmes

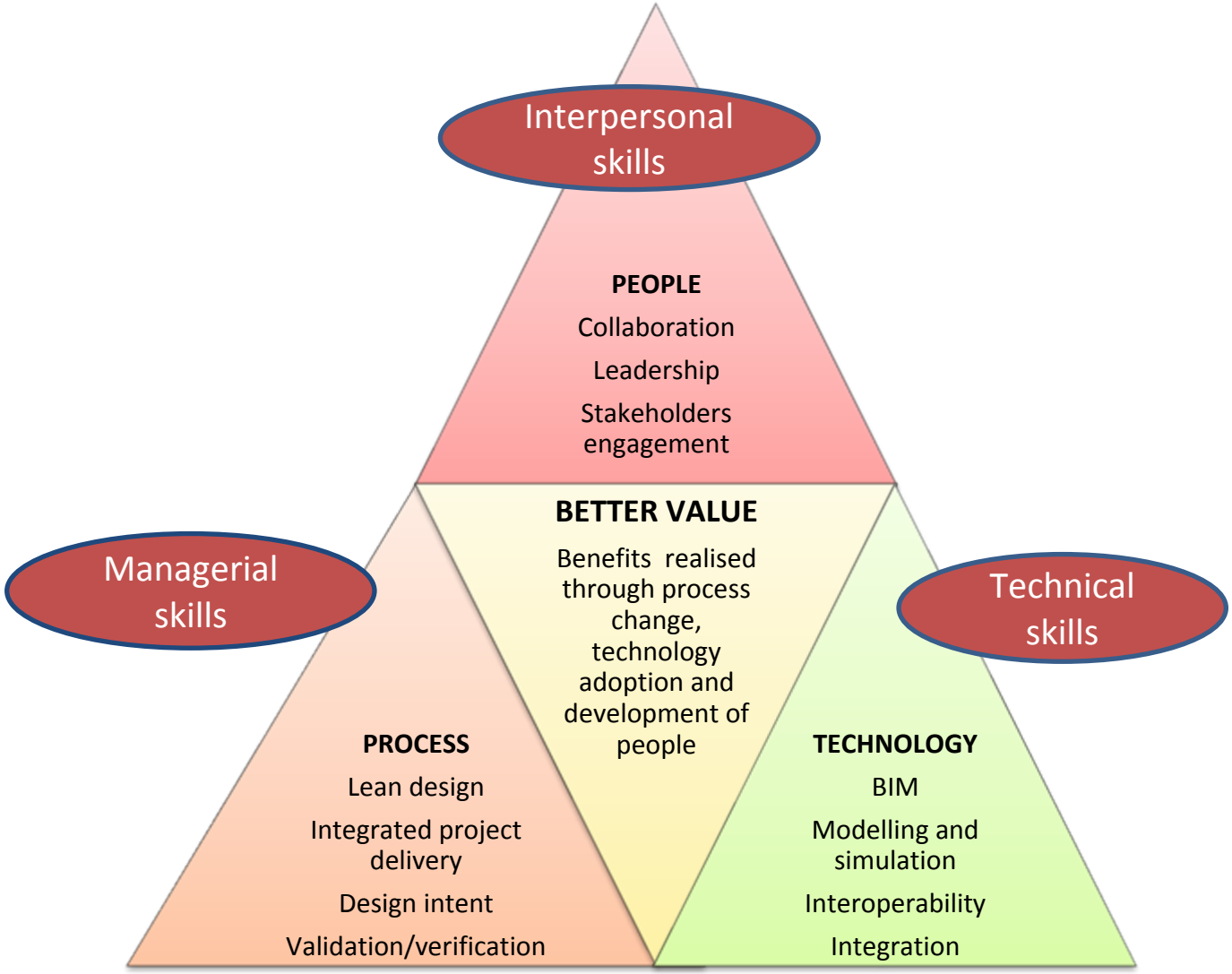
Area	Post Graduate Programme
Architecture & Digital Design	Digital Architectural Design BIM & Integrated Design MSc Architecture (Part 2 RIBA)
Sustainability & Environment	Sustainable Building Design
Urban Planning	Urban Design and Regeneration

Programme aims

- Advanced knowledge on lean, integrated design processes with the use of BIM technology
- Educate those involved with designing and managing (complex) re/development of built environment
- Develop managerial, technical and interpersonal skills to deliver better value through design



Programme aims



I-design Modules

Design Collaboration and Management of Integrated Projects → Building Information Modelling Theory and Practice → Lean Integrated Design and Production → Advanced Tech. for Collaborative Design OR Sustainable Design Theory and Practice → Dissertation OR Research by Design

PGCert

PGDip

MSc

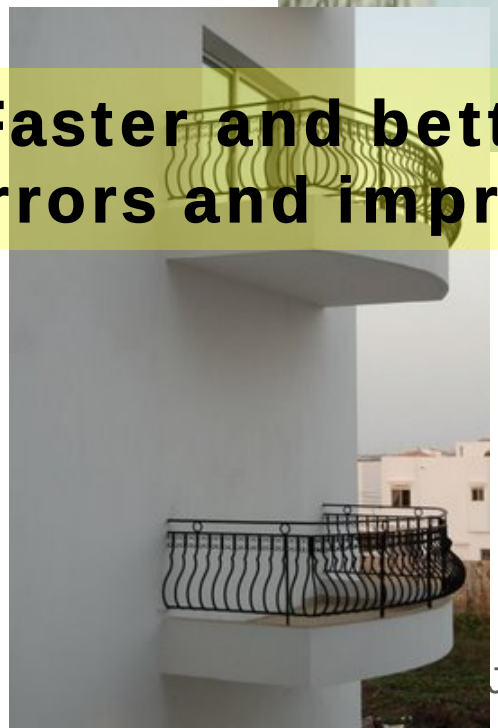
Special features

- Linking BIM and Lean
- Teaching modes
  - virtual studio-based design with tutorials; block seminars and workshops; live case study projects, real clients and projects
- Field trips
  - field trip to at least one innovative project developed with the use of BIM-lean
- Summer school
  - 2-day event including seminars, group working and student presentations
- Salford study days
  - Workshops
- International case studies
- Guest seminars by leading edge practitioners

Why?

Faster and better

Reducing errors and improving quality



Thank you

- For more see http://www.sobe.salford.ac.uk/sobe/courses/postgraduate-programmes/bim-and-integrated-design