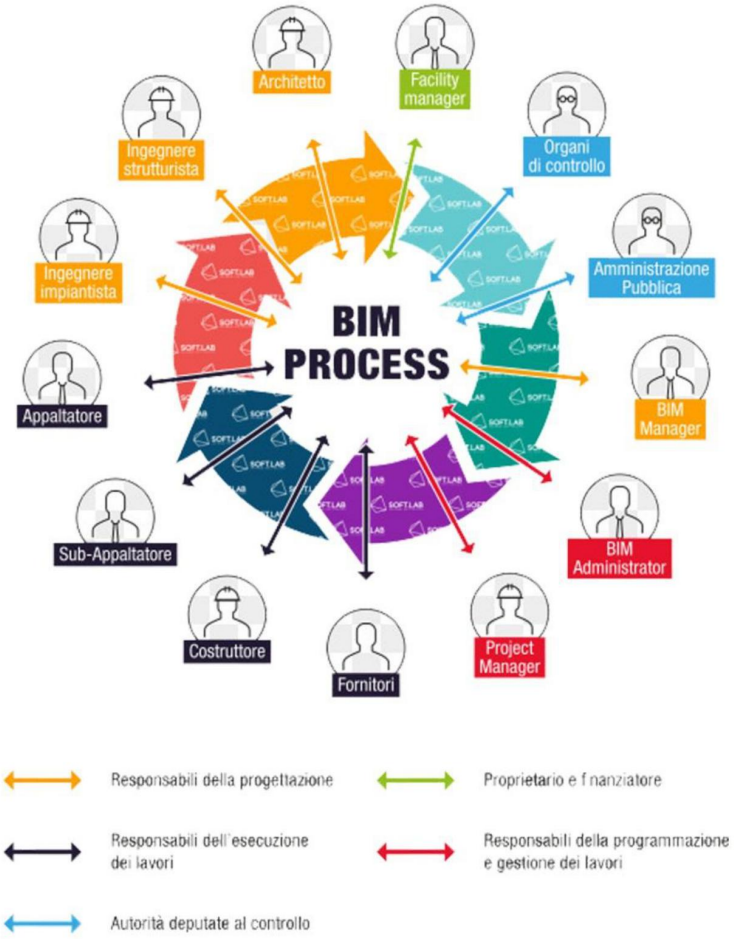
TIBET

Pathways to your future.

THE INSTITUTE OF BUSINESS, ENGINEERING & TECHNOLOGY

BIM

All About Improved Communication



Our Course Content

- Traditional Construction
- Identify current problems in Construction
- Evolution in the IT front
- IT Terminologies
- Intelligent VS Unintelligent Models
- Explaining BIM
- BIM Dimensions (3D to ND)
- Project Information Model
- Asset Information Model
- Common Data Environment
- BIM maturity levels
- Software platforms (Modelling, Analysis, Time scheduling, Commercial Management, Facility Management)
- New roles in the Project Team
- Documents (EIR, BIM Execution Plan, BIM protocol, PAS 1192)
- Current issues in implementation of BIM (Security of the Model, Contractual and other barriers)
- Future of BIM
  * IOT
  * Artificial Intelligence
  * Smart Building
- Fundamental concepts, BIM Workflows, study Advantages in using BIM
- BIM Technology – Basic (Architectural/Engineering models & industry expectations Using Civil 3D
- Architectural modelling using Revit
  Modelling of Mechanical components using Revit
- Time line tools (Synchro, Fuzor, Asta Power, Navis
  AR and VR workflows using BIM
- Clash Detection
- Creating projects, understanding different applications of each software, BIM collaboration, integration with GIS.

What is BIM

BIM is a process for creating and managing information on a construction project throughout its whole life cycle.

As part of this process, a coordinated digital description of every aspect of the
built asset is developed, using a set of appropriate technology.

It is likely that this digital description includes a combination of information-rich 3D models and associated structured data such as product, execution and handover information.

Internationally, the BIM process and associated data structures are best defined in the
ISO 19650 and 12006 series of standards.

How can BIM help you?

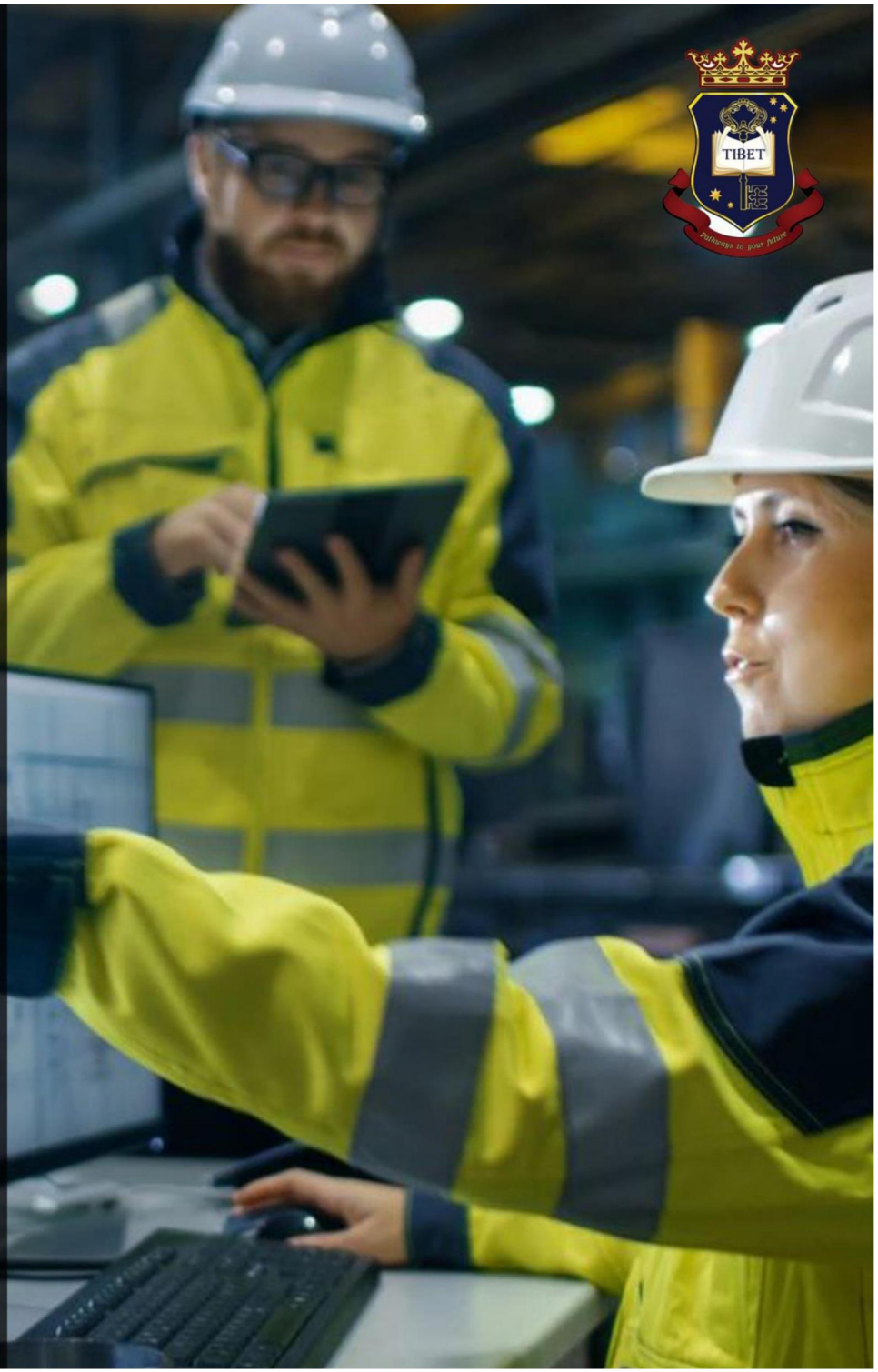
In the early stages of a BIM project, a collaborative team is assembled. It agrees the process and information structures to ensure that the design information developed is coordinated, and will be of maximum benefit to those involved in the construction and operation stages.

Involvement of those that will be involved at a later stage of the project (such as manufacturers or the client's FM team) can greatly help with this initiation.

As the project enters the construction stage, the information developed can be used to plan and build more efficiently. Where revisions to the design are required, any changes can follow the agreed process in a transparent and recorded way.

Finally, as the construction project is completed and the in-use stage commences, the information that has been modelled can be used to operate the built asset.

Real-time information about the asset's performance is modelled so that certain aspects of the built asset have a 'digital twin' equivalent.



BIM is the gathering of the following three components:

1.Agile development.

2. Lean construction for the building industry.

3. Complete digitalisation of building design processes.

BIM is used to improve the efficiency of the construction process, reduce waste during the construction and to improve the quality and the efficiency of the buildings.

Why adopt BIM?

- Via a rapid exchange of design information, different scenarios can be explored faster, allowing for more iterations of the architecture, structure and engineering systems and resulting in an accurate and optimised building design.

- All drawings can be captured into one comprehensive 3D model, avoiding information loss and enabling more educated decisions based on data.

- Necessary engineering calculations for ventilation, heating and piping systems can be performed quickly and easily. All geometric and spatial data required to perform energy calculations can be produced directly from the model.

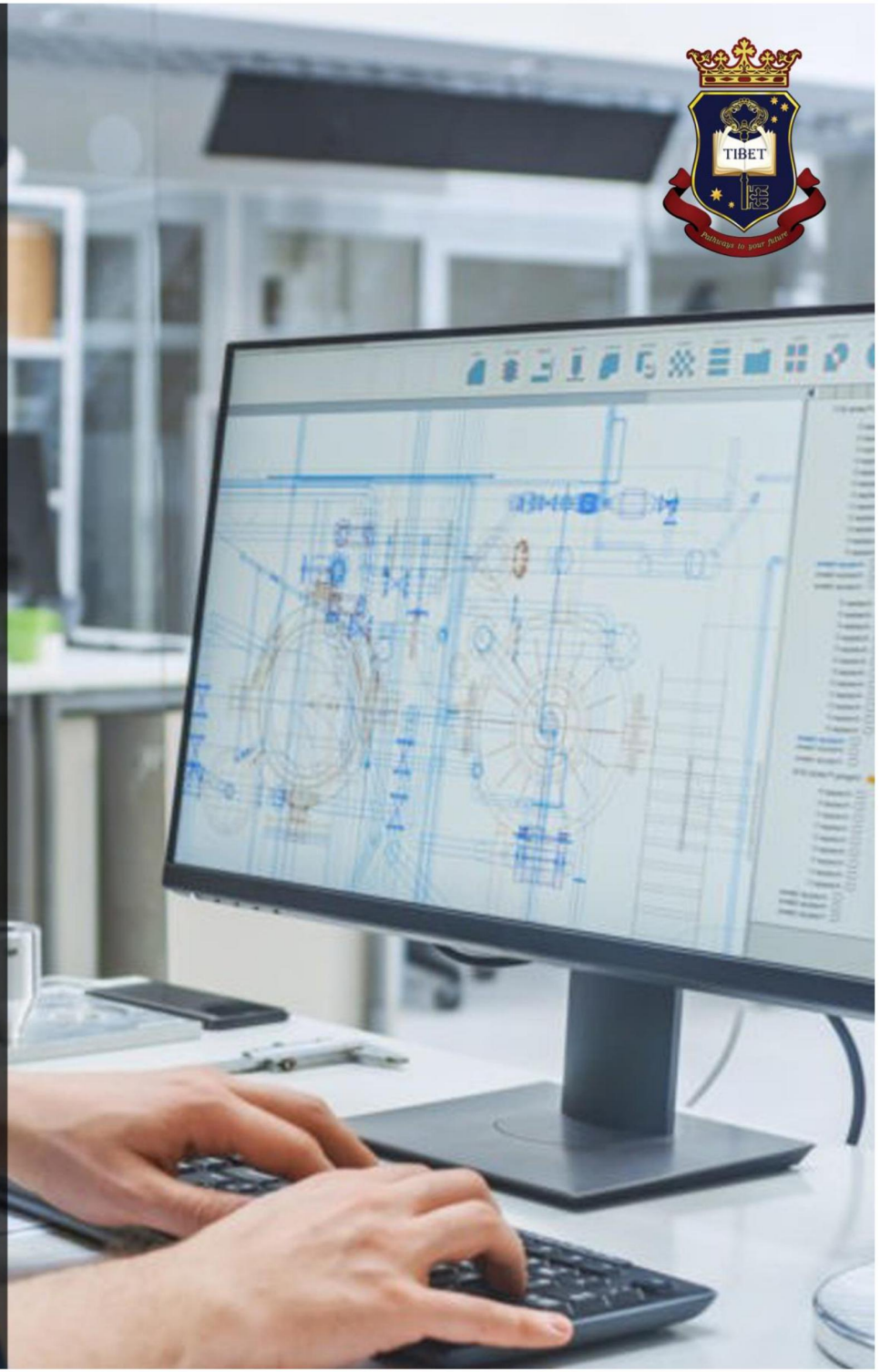
- Ensuring compliance with environmental requirements is easier and the increased efficiency helps reduce building lifecycle costs. Integration of cost and scheduling data enables online cost estimation and visualisation of the construction progression.

- Accurate Bills of Quantities can be produced directly from the model.

- Data required to control procurement can be linked directly from the model, optimising the procurement process.

- Detailed model contains all data and geometry required for accurate installation of MEP systems.

- Once the building is completed, the next version of the model will inform facilities management decision-making and systems, allowing for preventative maintenance and repair.



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