BIM Collaboration
Communication is the Key

HDR

You say BIM, I say…

Building Information Model:

"Is the **digital representation of physical and functional characteristics** of a facility. […]."
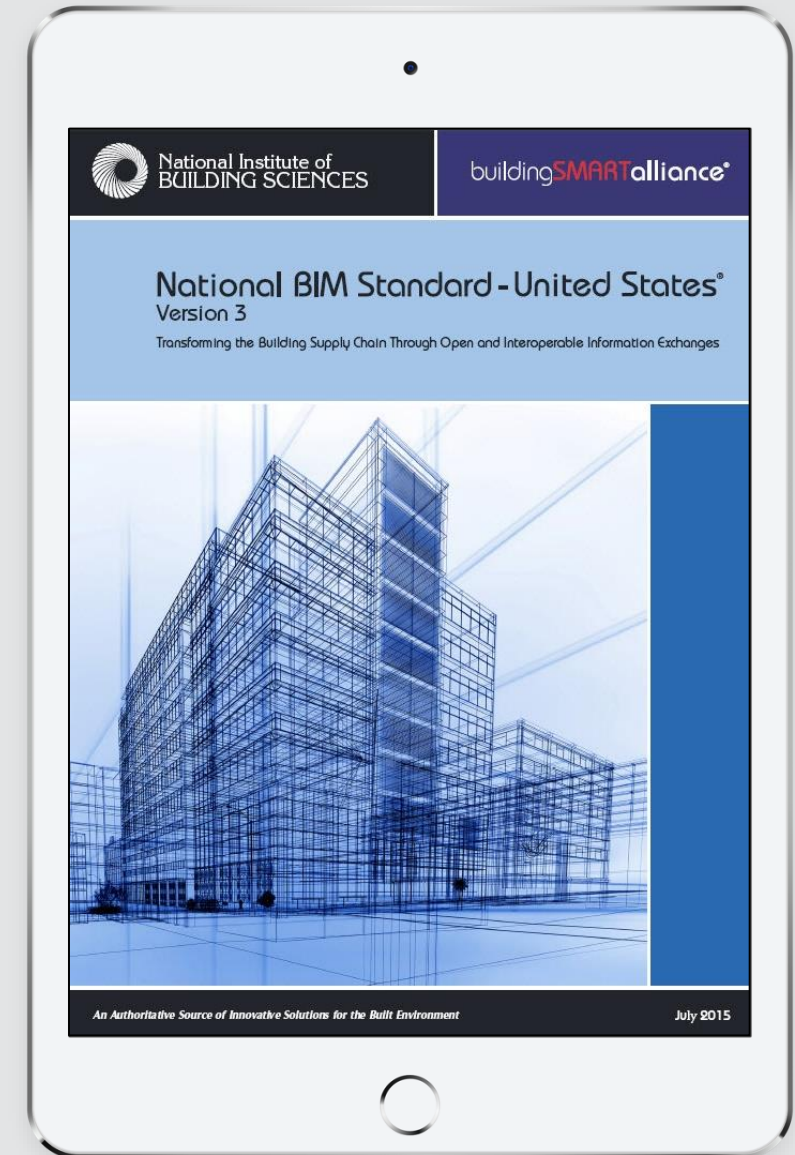
Building Information Modelling:

"Is a **business process for generating and leveraging building data** to design, construct and operate the building during its lifecycle. […]."

Building Information Management:

"Is the **organisation and control of the business process** by utilising the information in the digital prototype to effect the sharing of information over the entire lifecycle of an asset. […]."

National Institute of BUILDING SCIENCES — buildingSMARTalliance®

National BIM Standard - United States®
Version 3
Transforming the Building Supply Chain Through Open and Interoperable Information Exchanges

An Authoritative Source of Innovative Solutions for the Built Environment — July 2015

Building Information Management

Building

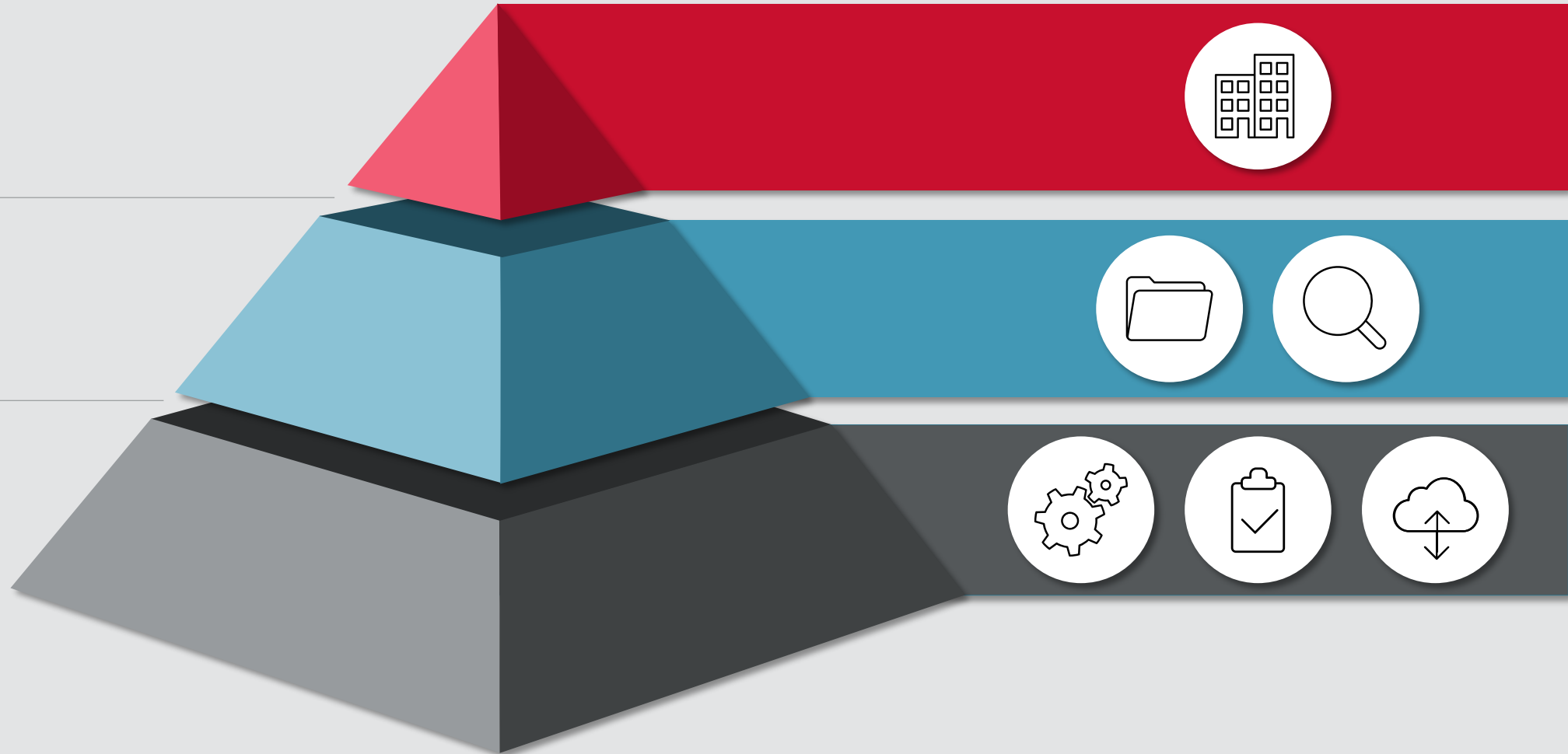- Architectural Model
- Structural Model
- MEP Model

Information
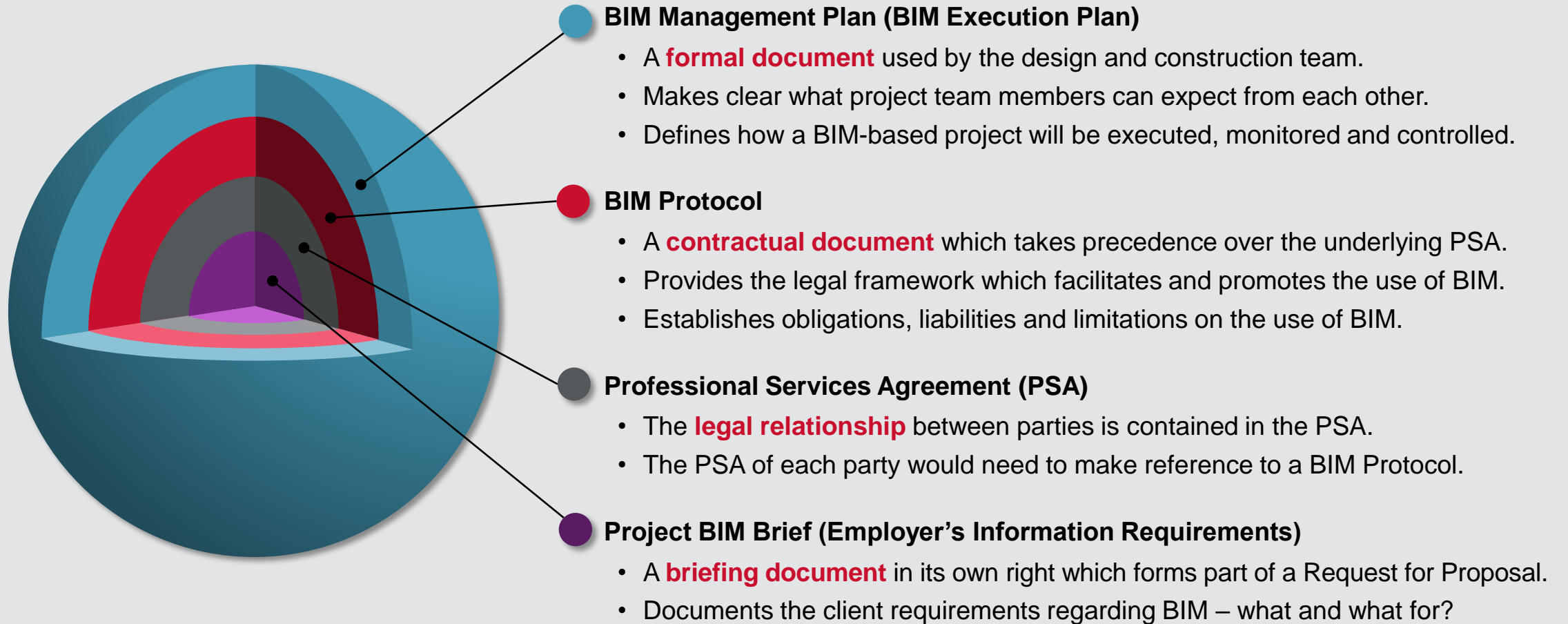
- Scheduling
- Classification
- Quantities and Costs

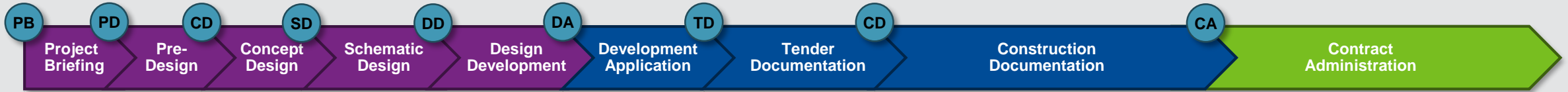**Management**

- Feedback
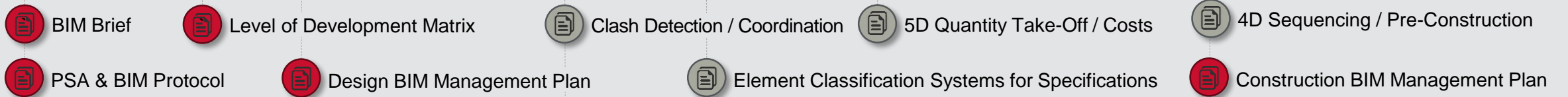- Status and Approval
- Quality Assurance

BIM Supporting Documents

BIM Management Plan (BIM Execution Plan)

- A **formal document** used by the design and construction team.
- Makes clear what project team members can expect from each other.
- Defines how a BIM-based project will be executed, monitored and controlled.

BIM Protocol

- A **contractual document** which takes precedence over the underlying PSA.
- Provides the legal framework which facilitates and promotes the use of BIM.
- Establishes obligations, liabilities and limitations on the use of BIM.

Professional Services Agreement (PSA)

- The **legal relationship** between parties is contained in the PSA.
- The PSA of each party would need to make reference to a BIM Protocol.

Project BIM Brief (Employer's Information Requirements)

- A **briefing document** in its own right which forms part of a Request for Proposal.
- Documents the client requirements regarding BIM – what and what for?

BIM and Project Stages

PROJECT STAGES

PB	PD	CD	SD	DD	DA	TD	CD	CA
Project Briefing	Pre-Design	Concept Design	Schematic Design	Design Development	Development Application	Tender Documentation	Construction Documentation	Contract Administration

BUILDING INFORMATION MANAGEMENT

- BIM Brief
- Level of Development Matrix
- Clash Detection / Coordination
- 5D Quantity Take-Off / Costs
- 4D Sequencing / Pre-Construction
- PSA & BIM Protocol
- Design BIM Management Plan
- Element Classification Systems for Specifications
- Construction BIM Management Plan

TYPICAL SOFTWARE APPLICATIONS

- AutoCAD Architecture
- FormIt / Rhino / SketchUp
- Grasshopper
- Revit / ArchiCAD
- Navisworks / Solibri
- Dynamo

OPEN BIM

1. Design Phase
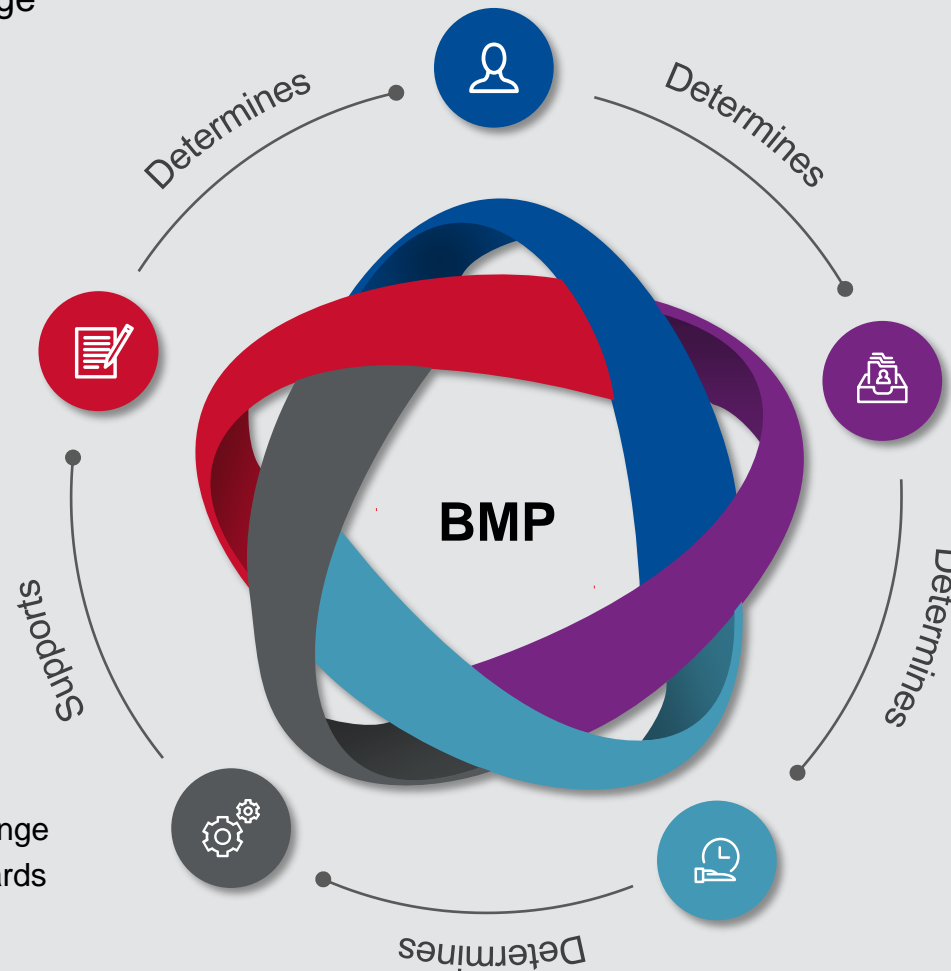2. Contract Documentation
3. Construction Phase
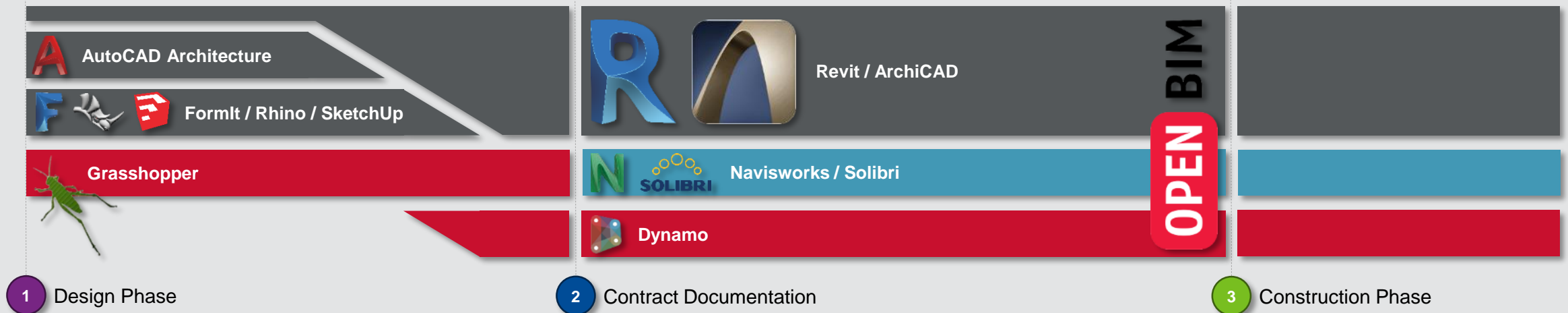
What should be addressed?

A **BMP can be used to manage communication effectively and efficiently** which has a huge influence on the project team's success.

Who
› Project Team
› Roles and Responsibilities
› Organisational Structure

What
› Goals and Objectives
› BIM Brief Requirements
› Project Deliverables

When
› Project Deliverables
› Program for Design (PFD)
› Tasks and Activities

Why
› Contractual Requirements
› Project Procurement Strategy
› Completion Dates

How
› Software Tools and Workflows
› Collaborative Information Exchange
› Digital Infrastructure and Standards

Determines
Determines
Determines
Determines
Supports

BMP

When should it be addressed?

Iteration 1: Prepared by one party with the client. The focus is on 'why' including strategic considerations such as contractual requirements, the most appropriate project procurement strategy and completion dates.

Iteration 2: Prepared when the **project team has been assembled** and **the need for organised collaboration is established**. The focus is on the 'who', 'what' and 'when' including roles and responsibilities, project deliverables, and uses of BIM necessary to achieve the project goals and objectives.

Iteration 3: After the general project management framework has been established, the **details that allow team members to share information and collaborate effectively need to be agreed**. The focus is on the 'how' including processes, protocols, and the tools and infrastructure required to support them.

To effectively communicate, we must realize that we are all different in the way we perceive the world and use this understanding as a guide to our communication with others.

Tony Robbins