PLANNING THE BIM PROCESS IN AEC PROJECTS

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Introduction

- The design process is important to create successful construction projects

- Building information model (BIM)
    - is an efficient tool in design
    - Requires a different design management strategy than traditional 2D –CAD process
    - There are synergy effects between the use og Lean and BIM

- LoD was expected to improve productivity and efficiency in communication

- The planning of BIM processes in building design with the use og LoD and lean needs more attention.

Research Questions

- **RQ1**: What approaches to model maturity are used or attempted in the Norwegian AEC industry?

- **RQ2**: What experiences do the actors of the AEC industry have towards the use of model maturity?

- **RQ3**: How can model maturity be implemented in an AEC project?

RQ1: What approaches to model maturity are used or attempted in the Norwegian AEC industry?

● The AEC Industry have agreed on a common guideline for Model Maturity Index (MMI)
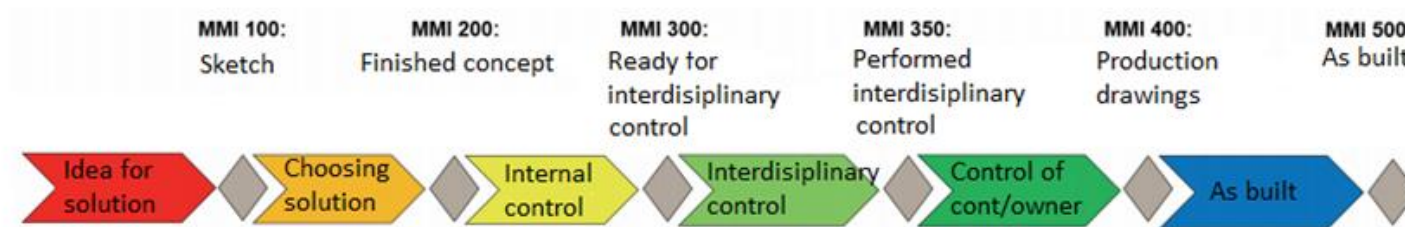
Figure 1: Flow sheet made by Fløisbonn et al. (2018) that should work as a base for a design process using MMI in a Norwegian building project

RQ2: What experiences do the actors of the AEC industry have towards the use of model maturity?

- Positive to the use of model maturity
  - Use MMI to communicate expectations
  - Use MMI to reduce risk
  - Use MMI to plan

- Challenges
  - To acertain the maturity from pre-design models. (DB-contracts)
  - Using LoD on an object level is time consuming

RQ3: How can model maturity be implemented in an AEC project?

- Focus on the start

- Set and agree on the MMI for the project

- Combine the Last Planner system with MMI to plan the design deliveries

- Control, measure and evalute

Table 1: Example of what a delivery plan can look like, this can for example also have a second division under each actor with each building part such as foundation, structure, facade and inner work
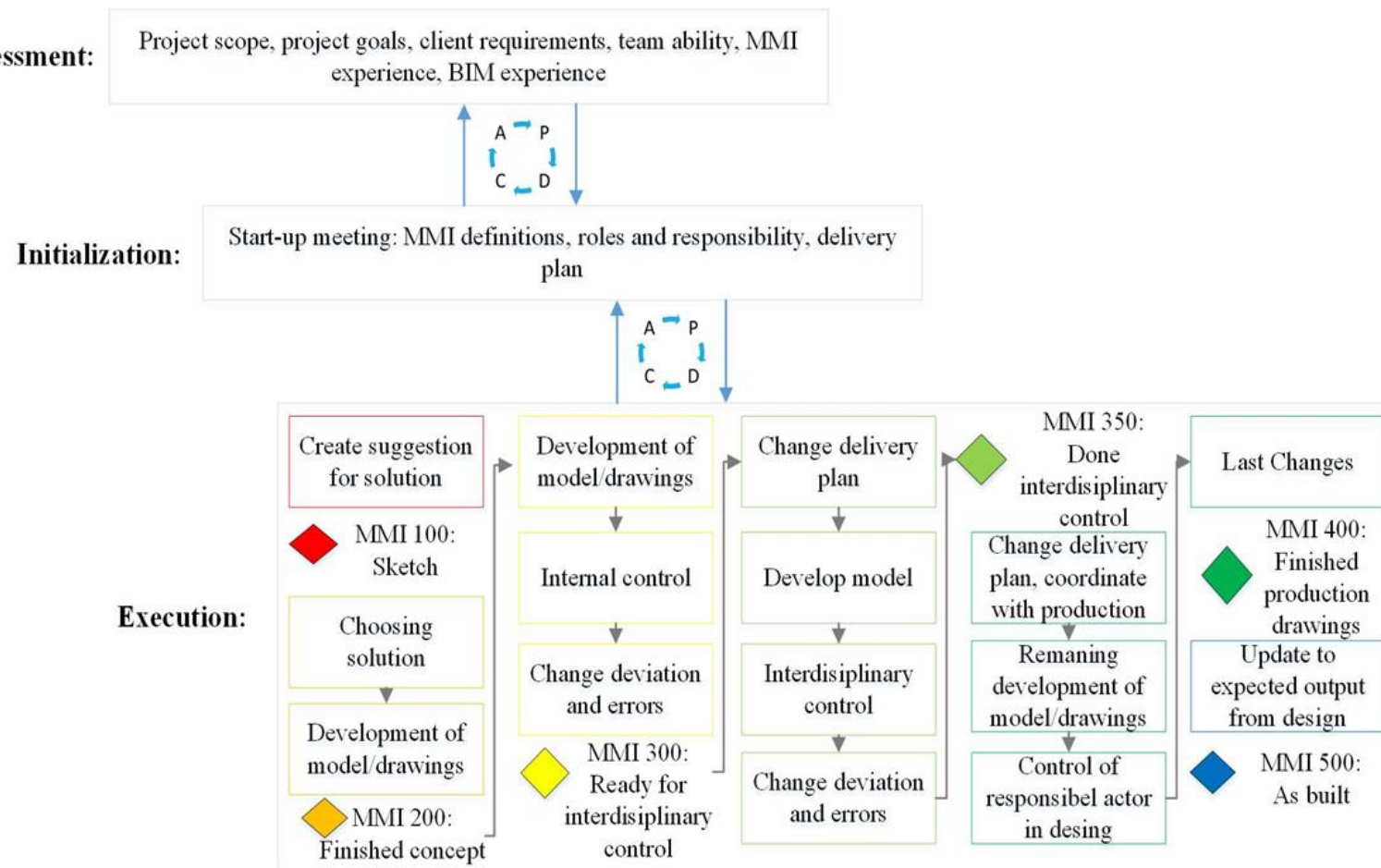
MMI	Contractor	Architect	Structural E.	Electrical E.	Plumbing E.	Mechanical E.
100						
200						
300						
350						
400						
500						

Table 2: Example of how a post – it - note plan can be formed

Week number	10	11	12	13	14	15	16	17	18	19	20	21	22	23
Milestones										MMI 300		MMI 350		
Contractor												MMI 350		
Architect								MMI 300						
Structural E.							MMI 300					MMI 350		
Mechanical E.										MMI 300		MMI 350		
Electrical E									MMI 300			MMI 350		
Plumbing E.									MMI 300			MMI 350		

RQ3: How can model maturity be implemented in an AEC project?

Thank you for your attention