

Implementation of A3 architectural overviews in Lean Product Development Teams; - A case study in the Subsea Industry

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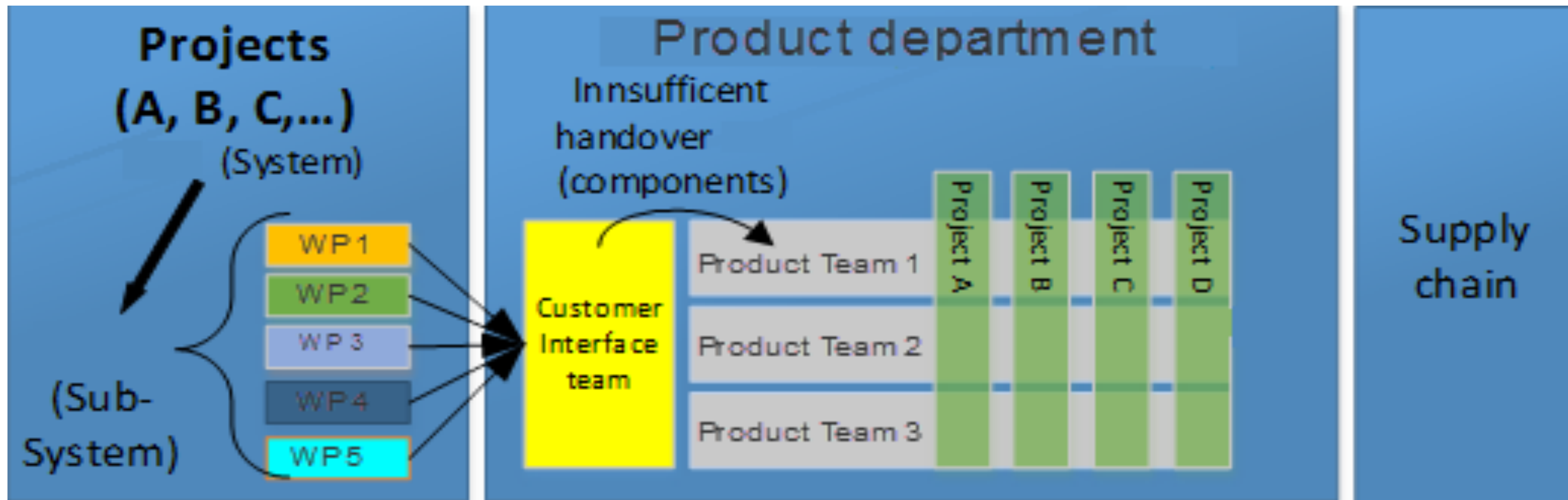
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PURPOSE / PROBLEM

- Effective communication of customer requirements is crucial for successful product development, and sufficient knowledge transfer is an important lean principle.
- There is a need for improved handover of customer requirements to key developers in an engineering department in a large contractor in the oil and gas business.



DATA / RESULTS

- The log sheet results showed that the engineers were overall positive to the concept of the A3AO and they found value in creating them. Some of the engineers were more resistant before start, than after.

After A3 creation		N/A	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	NPS
#	Description							
1	It was difficult to create and visualize what I had intended.			2	1			-3
2	It was difficult to gather the models/drawings/figures that I used in the views.	1		1	1			-2
3	I feel that my creativity is limited because of the tools that I use to create the A3. Example: trouble expressing through drawing.				3			-3
4	It was easy to create the A3AO.				1	2		-1
5	The creation of the A3AO helped me gather information and knowledge about the problem in a structured way.					2	1	1
6	I see the value in creating A3AOs.					1	2	2
7	Creating the A3AO helped me improve my system overview and knowledge about the project.					3		0
8	I think the designer will find great value in my A3AO.					1	2	2
9	I am overall positive to create A3AOs in the future.					2	1	1

- Most of the frustration in the creation process was connected to the computer tool and the time spent creating the sheets.

Sources of frustration	Participant #1	Participant #2	Participant #3	Total:
Computer tools	3	2	1	6
Availability of data	2	1	1	4
Stuck			1	1
Non-available personell	2			2
Time consuming	3		3	6
Template		1		1
Lack of knowledge			1	1

OBJECTIVES / GOALS

The goal has been to research the handover process of requirements to the product developers, and investigate barriers and thresholds in creating A3AO as the proposed solution. A3AO is a lean tool to support effective communication of system knowledge.

The main research questions are:

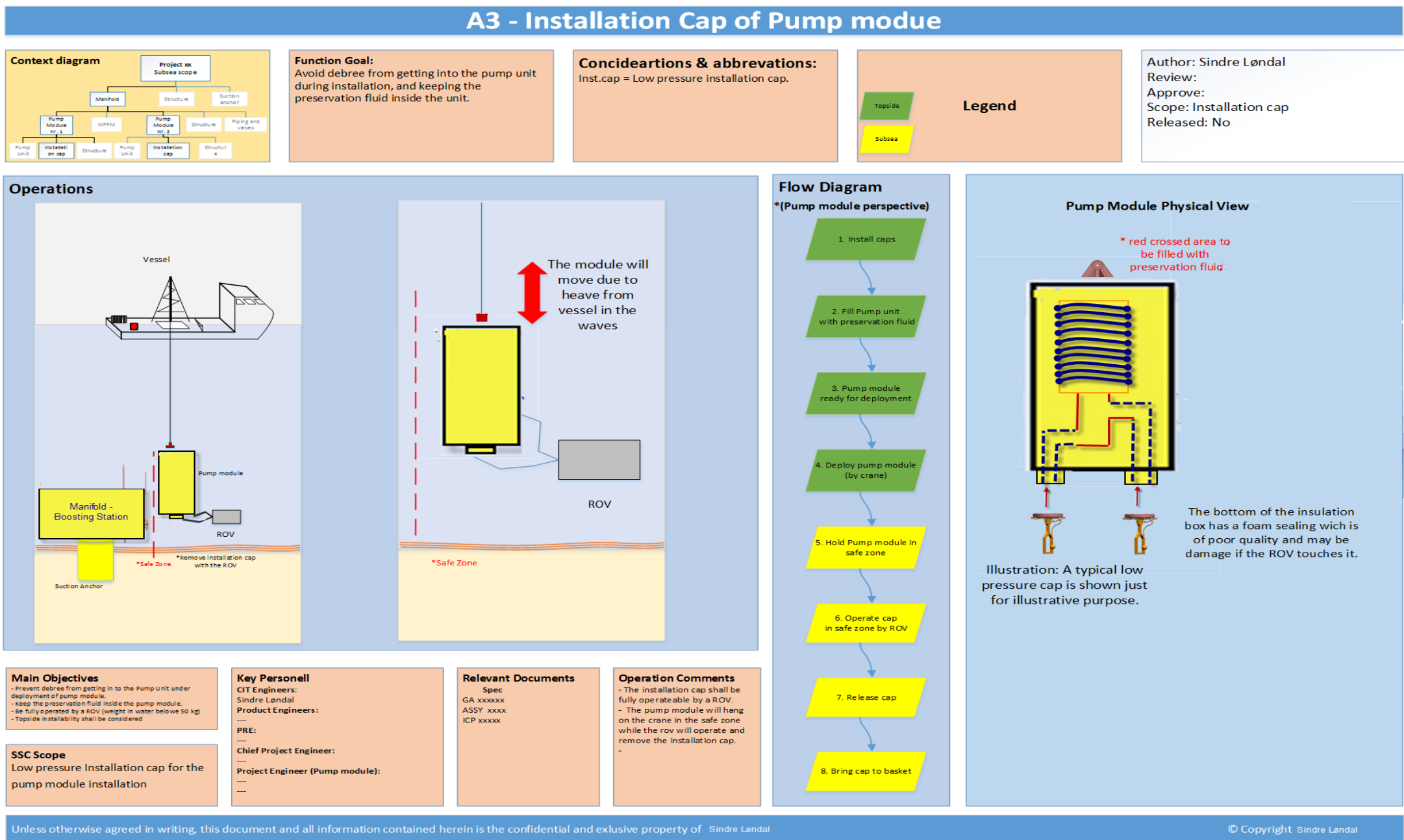
- Is there a need for better handover of requirements to key developers in a product department in the Company?
- Can we use A3AOs to improve communication of requirements in the Company.
- What are the main benefits and challenges with using and implementing A3AOs?

CONCLUSIONS

- Our results show that A3AOs are a useful tool supporting knowledge transfer in lean product development.
- The challenges and benefits we have highlighted can be used to better understand aspects about the A3 approach when implementing in new organizations.
- We conducted our research in the subsea domain, but our findings are relevant in all industries working with product development, especially those implementing lean thinking in their execution.

RESEARCH METHOD

- Surveys, open interviews and a log sheet was used in a real case study in a company.
- Selected engineers tested a new working method using A3AOs.



CONTACTS / REFERENCES

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