

# A3 Architecture Overview Method as a Facilitating Tool for Early Software Development

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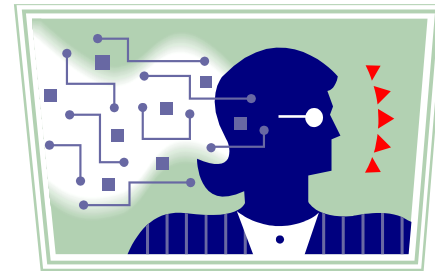


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# The Claim

- The A3AO method has the potential to give the software/project team a good system/software architecture understanding and insight already in the period that the project designs the hardware.



- By starting the planning and design of software as soon as the project starts, the following benefits may be the result:
  - the main characteristics of the software design will be ready at an earlier stage in the projects than before
  - the software department will be even better prepared when hardware department is ready for integration
  - the integration with hardware runs smoother
  - the software- and system solutions will be better
  - the time available for integration testing before the planned software release date will increase

# Evaluation (8)

## - Company success criteria

- The implementation of/trial period with the A3AO method would be a success if the developers in the team find it more feasible than earlier to start software work before the hardware is available.



- The software team stated that we should apply the A3AO method over a longer period, in order to explore the benefits of it even better. The difficult resource situation during the A3AO trial period has influenced the possibility of using the method continuously within the team as first planned. Nevertheless, the team as whole is very positive regarding the possible benefits the A3AO method can add to the daily work.





# Conclusion

The company found that the trial period with the A3AO method was a positive experience, and the software team thought that they should explore it further. During the trial period, we stood face-to-face with the reality: the project we used as a case study did not get the planned amount of resources. However, this is one of the risks when using the industry as a laboratory (Muller, 2013). Nevertheless, we got enough material and feedback to evaluate the method for use in the software team.

The software team got the opportunity to discuss possible solutions on a very early stage in the project, while the hardware was also in the design phase. What we did not get is the opportunity to compare its actual effect on the possibility to start software development earlier compared to an earlier project, as discussed in the section “Research methodology”. The reason for this is the lack of ‘hard’ data (e.g. amount of implemented software) from the project-under-study relative to the resources working on the project.



# Current A3AO «situation»

- A3AOs are not used as a common tool in the daily work
- Why?
  - Need someone to *drive* the implementation
  - Need to invest some time in the implementation of it
  - The engineering department still has a very challenging resource situation

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