

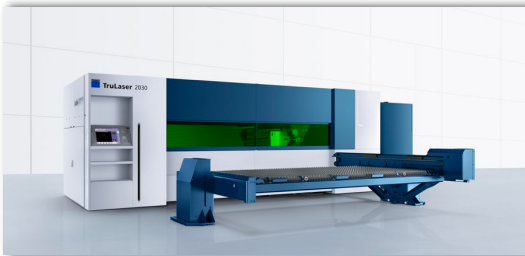
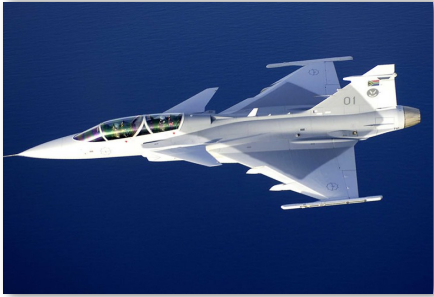


SCRUM @ Hardware?

Agile100 Conference

*March 12th, 2021
Dr. Jörk Hebenstreit*

Some examples



New concept with innovative USP´s, 30% carry over parts



The approach

The management saw no chance to develop the vehicle in 18 months from the idea to the trade fair with the established processes in their own organization.

- » Core team with its own employees (100 % dedicated) and external engineering resources
- » Agile collaboration with engineering service provider (one team – one goal)
- » Common working environment – co-located (core team and system engineers of the service provider)
- » Experienced SCRUM coach trains and accompanies the team (full-time at the beginning)
- » Sprint length one week
- » Reviews with decision-makers every week (practically no reporting to committees)
- » Very early feedback from real customers (multiple)
- » Product development process adapted (lean and agile)
- » Involvement of the internal organization (transparency, discussions, openness)
- » Early cooperation with regulatory body (TÜV)



Early customer feedback



source: MAN

Daily and Review in the assembly area (Engineers and Technicians)



source: MAN

SCRUM Room, Saab



source: Scrum Inc.

Agile organization:

- Roles/responsibilities
- Cadence
- Increment
- Transparency
- Collaboration
- Focus
- Priorities
-

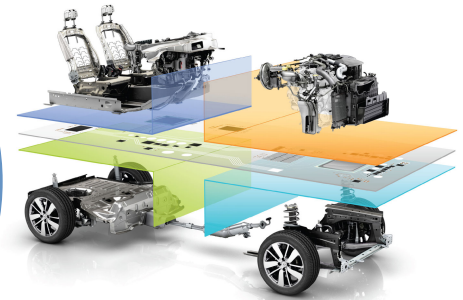
Development Practices:

- User story
- Pairing
- Test driven development
- Test automation
- Simulation
- Additive processes
-

Product architecture:

- Modularity
- Platforms
- Reuse
- Cross platform Synergies
- Stable interfaces
-

Image sources:
<https://qanewsblog.com/>
<https://www.motorauthority.com/>



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Charter for Agile Product Development* @ Hardware

We embrace agile methods as the engine driving innovative solutions and collaboration to amplify economic, ecologic and social benefits across our planet.

Through this work we have come to value:

Cross functional team collaboration *over* specialization, process and tools
Modularity *over* tightly-coupled solutions
Continuous customer collaboration *over* inflexible contracts.
Useful continuous delivery *over* a single comprehensive delivery
Extending development through manufacturing *over* fixing problems in the field
Useful continuous documentation *over* comprehensive documentation

That is, while there is value in the items on the right,
we value the items on the left *more*.

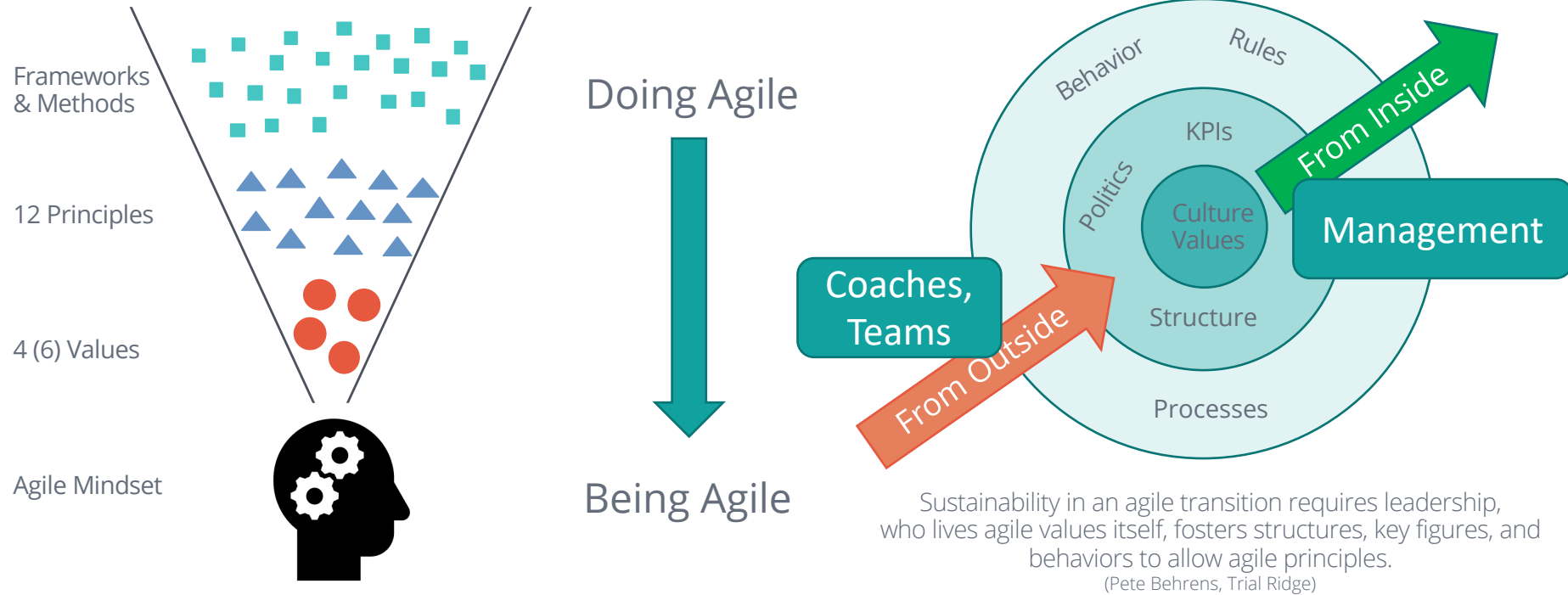
* <https://agileproductcharter.org/>

Challenges



source: OMT

Agile is not only a new Buzzword – it's a cultural change of how we are going to work in an organization



The capability profile of Engineers might need to change

Project Plan	
Task 1	Engineer 1
Task 2	Engineer 2
Task 3	Engineer 3
Task 4	Engineer 1
Task 5	Engineer 2
Task 6	Engineer 3



Product Backlog	
Function 1	Engineer 1, Engineer 3
Function 2	Engineer 2, Engineer 1
Function 3	Engineer 3
Function 4	Engineer 1, Engineer 2
Function 5	Engineer 2, Engineer 3
Function 6	Engineer 3, Engineer 2, Engineer 1

Engineer 1
Engineer 2
Engineer 3

I shaped Profil:

- Lots of specialists
- Everyone works on their own topics
- No common achievement of goals
- I responsibility
- Little team spirit
- Dependence on individuals
- Bottleneck (utilization, availability)
- Not consistently according to priorities
- Little creativity in the solution
- Solution is often perfected

Task focus

T shaped Profil:

- More generalists
- Collaboration at eye level
- Joint achievement of goals
- WE responsibility
- Team culture
- Less dependence on individuals
- More transparency and better communication
- More flexibility and strictly according to priorities
- Room for creative solutions
- Solutions are "good enough"

Product focus

Scrum@Hardware – some myth

We can't deliver
an increment
within a sprint

We need so many
specialists to work
on complex topics

We have to follow
our processes

We have long
waiting time on
deliverables from
suppliers

We need a
complete
requirement list
before we start

We can't ask early
feedback from
customers



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