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Scaling agile in regulated markets: Busting the non-discipline myth

“Agile software development lacks discipline” is a persistent myth in the automotive industry that needs debunking, writes Hans-Jürgen Kugler, Chief Scientist at Kugler Maag Cie.

In the last 18 years the software contents of cars has skyrocketed to one hundred and more millions of lines of code. The large hadron collider has about 50 million lines of code. Innovation around the software car is determined by software competence. The next generation, the connected car, “merges” with the Internet. Automotive companies have to become software companies with faster release cycles.

The automotive industry is a tightly regulated industry. There are public regulators and there are the OEMs, the original equipment manufacturers, who carry the product liability.

Regulated markets are compliance oriented. Prod-

ucts, services and processes need to adhere to industry specific standards reflecting industry good practice. This compliance travels down the value creation chain. Before companies can scale agile development to their mainstay approach, the regulators need to be scaled to permit a change of behavior and re-interpret their regulations.

“Agile software development approaches may help productivity-wise, if it wasn’t for the lack of discipline,” you hear from decision makers in the automotive industry, especially from the OEMs. This “no discipline” myth needs busting. It is a common barrier to successful deployment of agile teams. It must be broken at the regulators, first.

The automotive compliance system is based on a discipline that forms the basis of a hierarchical command and control culture that is in the DNA of most automotive organisations. Many believe that any productivity gain has to come from skipping development practices, such as testing or documen-



tation. The latter is strengthened by some of the statements made by agile proponents. The second myth is the “code only” myth. This myth can be busted by looking at the definition of delivering customer value. But let us return to the notion of discipline.

Externally enforced discipline – through their own and regulators’ quality assurance – is part of the automotive culture. This is a success story until now. The growth of complexity in connected automatic ‘driving’ requires more effective development.

If the effectiveness of agile development depends on “skipping” development practices, then any increase in velocity would be linear. Data from high performing agile teams show multiples. And they deal with changes in the customer’s requirements much better. Proper agile teams are self-organizing, eliminating decision cycles. Self-organization relies on discipline – the self-discipline of the individual: self-discipline to become and stay a valued team member. The resulting agile team discipline is not

of the command and control style, like marching in lockstep. It is the discipline of the dancers of a ballet troupe. Discipline in training and execution produces an agility that makes one forget gravity.

Regulated markets expect compliance. Discipline is essential. One has to win the hearts and minds of the regulators by showing that a new, more powerful, discipline is at work. Some automotive OEMs and suppliers have understood this. ■



Hans-Jürgen Kugler is a Chief Scientist at Kugler Maag Cie, a German consultant company. For more challenges of the automotive industry read our report “Software Drives. Automotive E/E Development 2030”.