

Improved time-to-market through "Partnered Product Development"

Background

Scanfil and Etteplan partnered in the area of product development services already in 2019. We both foresaw the trend that an increasing amount of customers are looking for a more complete outsourcing, moving away from the traditional split between product development and operations. Several of our customers were also starting to think of device creation and manufacturing as a commodity, not necessarily seeing that as a core competence anymore. Their focus was shifting to higher value add service creation, software development, etc.

Our common target with Etteplan from the very beginning has been to offer a turnkey product development service from specification to ready products coming out from the Scanfil manufacturing line. Minimizing the time to market by having a seamless interface between Development and Operations and bringing the voice of manufacturing to the project from the very beginning was also seen as a key benefit to our customers. With our set up, we saw that we could also bring about truly Concurrent Engineering by securing the needed investments and setting up the equipment for manufacturing and testing in parallel with the product development work, i.e. developing the product and the manufacturing process at the same time.

Customer demand for the service has been very good and we already had several projects under our belt when we started the process improvement work in 2022. We had not seen any major issues with the service delivery, but both of us recognized the potential to do better in the spirit of continuous improvement.

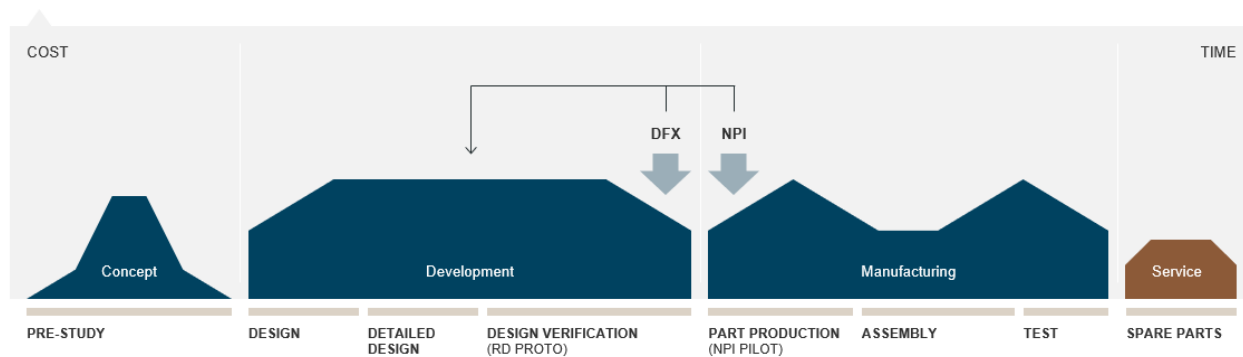


Figure 1. Traditional way of working in new product development.

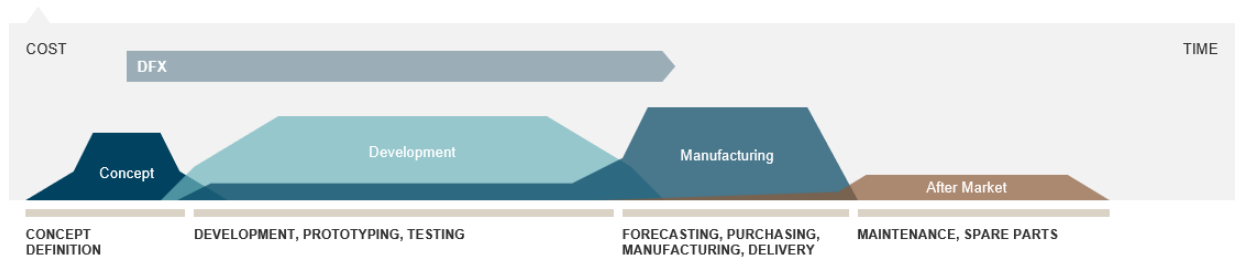


Figure 2. Modern way of working with "concurrent engineering". Design for Excellence, preparation of the manufacturing process is done simultaneously with the product design.

Process improvement

When we started offering the service together, we had created some rather high-level instructions targeting mainly the Project Managers at both Etteplan and Scanfil. These gave the PM's some guidelines on the common way of working and the responsibilities on both sides, but still left quite a lot for the Project to decide and we could see it as variance in the way of working from one project to the next.

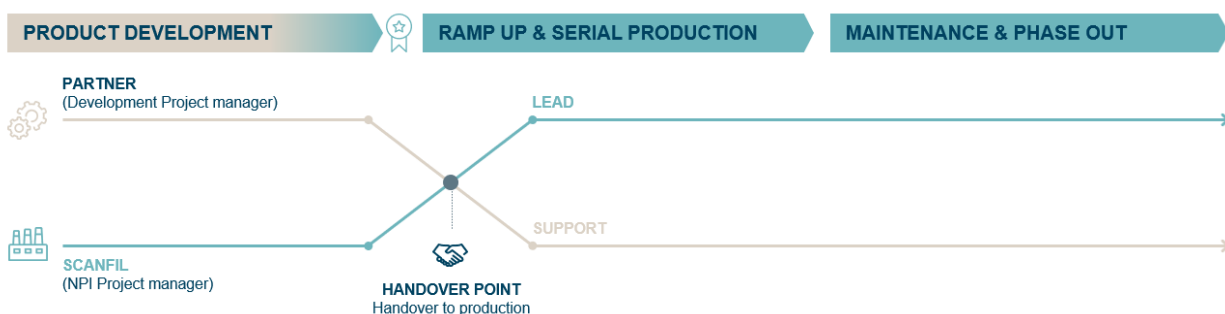


Figure 3. First ideas of the responsibilities within a partnered development project.

We started the improvement work with identifying the roles that we see between the Customer as the product owner, Etteplan as the product development service provider and Scanfil as the manufacturing service provider. We also performed extensive lessons learned from all the projects we had done together, both from the customer point-of-view as well as internally at both Scanfil and Etteplan to identify what challenges we had encountered in the past.

“Scanfil and Etteplan are not really working together as one project team” was an important comment from one customer in the lessons learned session. We realized that we needed to build a process model that the Project Managers working on the projects can execute, pulling in tools & resources from both companies to work towards a common goal: Building a quality product for our common customer in world class time to market.

After the roles were clear and we had an understanding of the challenges we were trying to tackle, we proceeded to making a detailed Value Stream Mapping (VSM) of the entire process from specification to product manufacturing. The result of this work was a swim lane model that lists the tasks for the key project members per the project phases.

Work flow phases	Concepting & market analysis	Requirements specification	Design Specification	Design engineering	Procurement preparation	Manufacturing and assembly
End customer	Company goals, product strategy and NEEDS	Contractual topics and clarity on project parties roles – Kick off	Production volume estimates and ramp up plan	Prototyping orders and production volume estimates	Design validation	Declaration of conformity (DoX) & life cycle management plan
Partner Lead engineer	Product goals, Product & system requirements (CRS)	Technology platforms (TRS), System & product architecture	Communication leadership & one interface to customer		CE marking and certification preparations	Project handover including roles update between the parties and lessons learnt documentation
		Potential concept and Technical studies. Testing strategy.	Compliance consultation & verification planning	System verification & DFX preparation	NPI project stages alignment	
Scanfil NPI lead engineer		DFMA & component availability, design preparation and other feedback	Design guidelines including preferred components & DoX	DFX and Prototyping preparations. Component availability analysis	Production line and test system creation based on NPI proces	Assembly and final testing & Comm. leadership
Partner design engineers			Preliminary risk assesment	Product design, MAX Bom, technical drawings, structures..	Prototyping and procurement support	Design documentation transfer
Technical documentation				Spareparts, manuals, and instructions	Technical file completion	Design documentation transfer
Tools and systems	Way of working and communications plan	Common teams channel, Kick off and PM starter kit	Communication plan included with handover criterias	Product structure and BOM communication methods and roles		

Implementation

After the new improved way of working had been laid out, we proceeded to planning the implementation. Both parties created a plan for deploying the process into their organizations, and we also made a joint “Project Manager Starter Kit” that we can use to re-iterate the message during the kick-off for each new project.

Outcome

We have already seen a 7% improvement in our customer satisfaction survey and plan to keep improving even further. Customers also voice their satisfaction in our project steering meetings, and we have seen several “repeat projects” where the same customer comes back to us with new product development needs.

“The process improvements have been received very well in our Project Manager community. It gives us a clear framework in which to execute the project and create a higher value add to the end customer” says Project Manager Antti Seppänen from Etteplan who was one of the key persons in the process improvement work and later in implementing the new way of working.

“After the new process was implemented, we saw a clear improvement in our performance. The projects get up to speed much faster and the project team consisting of resources from both Scanfil and Etteplan clearly play towards the same goal” says Development Manager Reijo Kalenius from Scanfil.