

Success story – Automotive manufacturer

How INEOS Automotive and 4flow collaborated to develop an automotive supply chain from the ground up

Customer

- > INEOS Automotive
- > Automotive manufacturer
- > Established 2017
- > 210 global suppliers

Project scope

Process mapping, site design and IT implementation of a production plant during product testing to enable start of production for a new vehicle for an automotive start-up.

INEOS

Supply chain's essential role in automotive start-ups

When INEOS Automotive was founded in 2017 as a new automotive manufacturer, it faced a unique challenge. It aimed to start production of a new vehicle in just four years, which meant it needed to establish end-to-end supply chain processes, including information and material flows, as efficiently as possible. To reach this ambitious goal, INEOS Automotive partnered with 4flow, who supported the process with an expert approach from strategy to implementation.

Automotive supply chains are complex by nature, as production depends on thousands of parts from suppliers around the globe. In general, when producing a new vehicle, automotive manufacturers limit complexity by using existing facilities, known suppliers and established IT systems and processes.

For INEOS Automotive, all these elements were new. The automotive start-up needed to manage the start of production of an especially complex new vehicle, the Grenadier, an off-road 4x4, while building an entirely new ecosystem of suppliers, IT systems and processes. As this large project included the development of the product, processes and supply chain organization, 4flow and INEOS Automotive maintained a holistic focus, adjusting for changes across the supply chain as pieces came together.

Preparing for production with cross-functional collaboration and a network study

As a first step, INEOS Automotive worked with 4flow to define and implement a target operating model, including how supply chain management would collaborate with the research & development, sales, manufacturing

and procurement functions. Without historical sales data or established production, forecasting demand and production capacity was difficult. Requirements and interdependencies between these functional teams were collected to ensure a foundation for reliable planning. This way, even as processes were adjusted during testing and production, the functional stakeholders could consider their impact on the entire supply chain.

The start of production for the Grenadier was a brownfield operation – INEOS Automotive acquired an existing automotive plant in Hambach, France. This meant existing constraints, such as infrastructure, needed to be considered in the planning of the plant. At the same time, INEOS Automotive needed to create a new IT strategy and implement appropriate supply chain software solutions.

Once the site was chosen, 4flow supported the automotive manufacturer with a network design study for its inbound network. Based on a given footprint, the team optimized routes, modes of transportation and inventory levels in the INEOS Automotive network. The result of the network study consequently limits complexity, simplifies processes and inbound organization and enables short lead times.

4flow also supported INEOS Automotive throughout the tendering phase for its supply chain management software. The team defined sales and operations processes for the automotive manufacturer and created RFQs to reflect the requirements. When INEOS Automotive selected Kinaxis

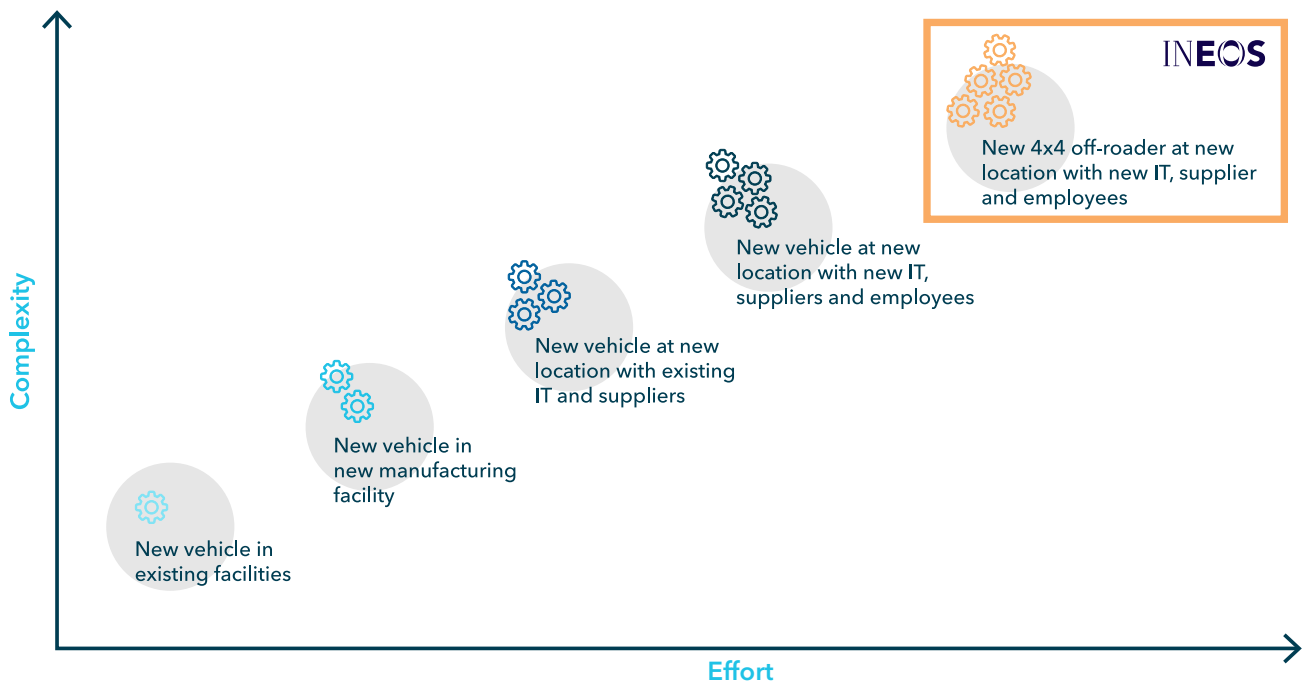
RapidResponse as an S&OP platform, 4flow supported with implementing the solution. The joint team also implemented SAP TM for the inbound network.

Processes and IT are considered together to design a new site layout

With a brownfield site, processes needed to be designed around existing infrastructure. The original site was set up for much smaller

vehicles, including the Smart Fortwo. To enable production of the Grenadier, which is more than twice the size of the Fortwo and has very different requirements, INEOS Automotive and 4flow realigned the logistics processes and layout.

4flow supported INEOS Automotive with logistics planning. The material flow and line feeding process were determined for each



As an automotive start-up, INEOS Automotive faced the challenge of building a new organization and managing the start of production of a new vehicle at a new location with new IT, new suppliers and a new production team.

part of the Grenadier, from arrival at the plant to the point of use. The new plant layout involved setting up machinery for a new body shop to fit the five-meter-long Grenadier. Additionally, INEOS Automotive redesigned the assembly line and logistics areas – all without impacting Fortwo vehicle production, which is still produced in another building at the site.

Throughout the process, the team continued to adapt to changes in the supply chain and production environment. For instance,

4flow helped INEOS Automotive determine interdependencies between transportation, intralogistics and other processes by modeling the impact of the frequency of inbound transportation on inventory.

At the same time, the joint team designed a software landscape to support the flow of materials, including SAP EWM, SAP iPPE and SAP S4/HANA. 4flow supported the INEOS Automotive team with transformation management, coordinating with stakeholders across the supply chain to build and align

processes, organization and IT concurrently. A series of agile sprints ensured a focused, step-by-step implementation.

"It is not just an IT set-up you need to do," emphasized Fredrik Karlsson, head of supply chain management at INEOS Automotive. The software strategy needed to support business goals and processes, which requires careful planning and collaboration across the organization. "We had to define what we wanted the IT to do."

Managing complexity for a successful ramp-up

With 4flow, INEOS Automotive established and stabilized its supply chain processes - enabling it to begin production of an entirely new vehicle in less than four years. Now, the automotive manufacturer is ramping up production of the Grenadier at its plant in Hambach, France.

Supply chain management played a central role in enabling the business's growth by managing complexity across the organization,

from procurement to sales. "Collaboration is absolutely a key success factor for us," said Fredrik Karlsson. "Together with the 4flow team, we used the opportunities presented by our start-up environment to integrate IT and processes across the organization." With collaborative processes as its foundation, INEOS Automotive is set up to respond with agility to future challenges and continue its path to success.



INEOS Automotive worked with 4flow to define how supply chain management would collaborate with other functions. 4flow then supported the implementation of this operating model.

Results



Start of production in less than 4 years from the start of development



Layout and process design from inbound transportation to production



IT landscape implemented, including SAP and Kinaxis products

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About 4flow

4flow is a leading provider of supply chain consulting, software and fourth-party logistics (4PL) services. With more than 1000 team members, 4flow is a global partner for its customers at more than 20 locations in Europe, Asia, North America, and South America. 4flow completes more than 300 projects a year in cooperation with customers on 5 continents, in more than 40 different countries and regions. 4flow is headquartered in Berlin, Germany.

20+

offices in Europe, Asia and the Americas

1300+

team members globally

400+

customers globally

300+

projects annually around the world

