



# Project „Flexible Assembly Processes for the Car of the Third Millennium (MyCar)“

## **Problem Description**

Integrated Methodology towards PoD  
supported by a PoD Validation Tool

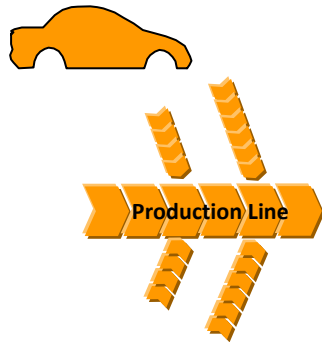
## Problem description

... How can we integrate **new developed products**  
on an **existing production line** ?

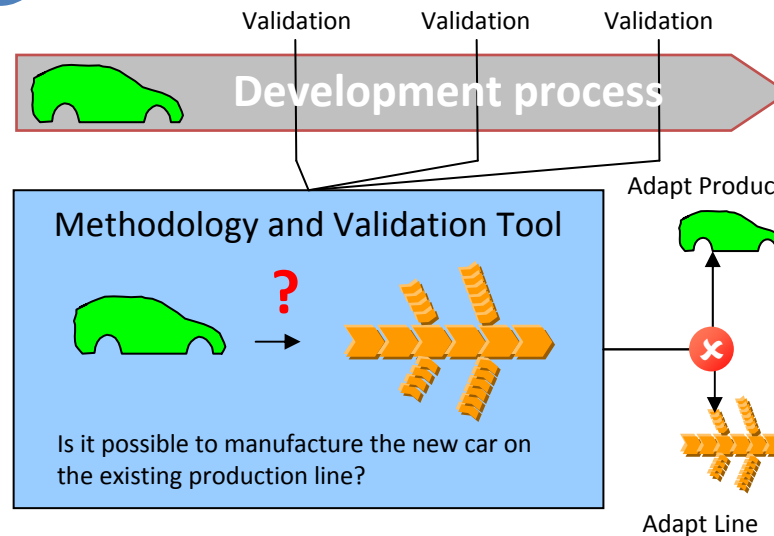
## General explanation of the task

### 1 Initial situation

One car is manufactured on a certain production line

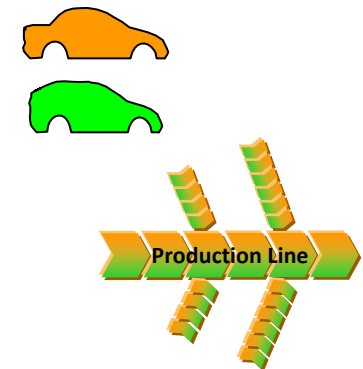


### 2 A new car is developed



### 3 Results

Different cars can be manufactured on one production line!



## General explanation of the task

- The change in customers' demands experienced by the automotive companies in the last past years brought them to think of new ways of developing, producing and selling products. This trend is caused by the multiplication of personal car models and variants, and the demand of customers for individualisation, making it particularly difficult to formulate reliable sell forecasts. This factor does not contradict the classical constraints of producing companies (time, cost, quality requirements) but are added to them and complicate the equations to be solved. One of the general accepted solutions for the increasing complexity of the market is the flexibility of the production units.
- Product development process has also started some mutations by introducing new concepts like design templates, platform and module strategy. This requires an adjustment of the production strategies but also offers valuable possibilities that were not imaginable in the past where this kind of standardisation was not the rule. Indeed standardisation in the product design leads to standardisation in the production, which enables certain flexibility (ability to produce several products on the same production line). On the other side, the progresses of production technologies make it more and more possible to put this paradigm of flexibility into praxis.

## General explanation of the task

**Consequently, overall concepts for the product development and the production planning are necessary, making it possible to produce on the same line: either several different products simultaneously, or subsequent products:**

- A key issue in such a reflection is to combine all the constraints of the different steps of the process chain and develop on their basis a unified solution.
- The definition of flexible production systems is only relevant if the approach also considers the product design phase and if this one already integrates the requirements of the subsequent processes. Consequently, these requirements have to be assessed and validated during the product development phase.