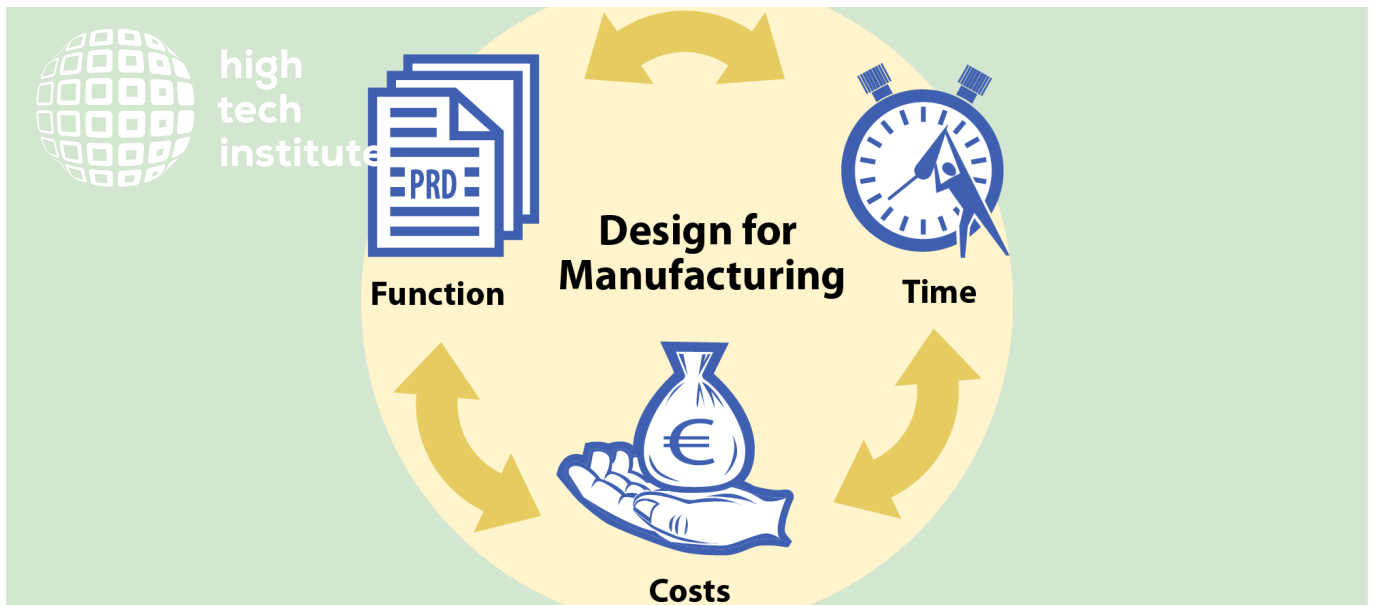


TRAINING BROCHURE

Design for manufacturing training



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Design for manufacturing

Price: € 1,880 excl. VAT *

Duration: 3 days in 3 weeks + assurance session

Contact: training@hightechinstitute.nl, +31 85 401 3600

Intro

Design for Manufacturing (DfM) is a method to achieve successful designs by optimally aligning product design with production methods.

In practice, the required production process development is often strongly underestimated in the design phase, resulting in delays and financial setbacks. In most cases, more attention to production methods in the design phase leads to immediate cost and time savings.

A product design needs to be checked on manufacturability to qualify it as product design. Experience shows that well-founded decisions during designing and checking prevent numerous detail adjustments that lead to a re-design instead of production at tempo.

During this in-depth course you will learn how to anticipate on manufacturability to save time and to effectively communicate the chances.

This training helps to ensure a smooth start of production, resulting in a short time to market, favorable cost and ultimately a successful business.

That is why the DfM approach is also known as Design for Success. DfM starts in the concept phase: manufacturing processes are consciously chosen and the design is tailored to those manufacturing processes and vice versa. Success factors are functionality, total lead time and integral cost price (costs up to and including a few years of production).

Objective

During the training you learn to use the DfM approach. This means that manufacturability is incorporated into a design through careful assessment and ranking of alternatives via design choice criteria. In addition, a motivated scrapping of alternatives ensures a better focus, also within the development team.

The DfM approach of this training focuses on supporting the design decisions, whereby knowledge of manufacturing processes is important. Collecting and deploying knowledge of manufacturing processes is therefore an important part of the course.

Intended for

Designers, architects and their managers who make design decisions.

Participants have at least a bachelor degree and experience in product design, whereby knowledge and experience in manufacturing processes is an advantage.

Certification

This course is certified by [the European society for precision engineering & nanotechnology \(euspen\)](#) and [the Dutch Society for Precision Engineering \(DSPE\)](#) and leads to the **ECP2-certificate**.

Course leader

[Arnold Schout MSc](#)

Trainers

[Arnold Schout MSc](#)

** Prices are subject to change. Price correction will be applied at the end of the year.*

Keep me posted



Program

Applying the method in your own cases and exercising and completing homework during the course is important and mandatory to become familiar with the method and to discover your pitfalls.

That is why presentations of applications, preferable of own work, are part of the course. No need to say that homework is vital for the effectiveness of the training and of yourself.

During day two we will discuss how alternative designs can and will influence Time to market.

During day three you will present the complete ranking of alternative designs using the three criteria main level: Functionality, Total lead time, Integral cost.

In the training you will learn how to make and to communicate well-founded design decisions.

Topics

Day 1

1. Definition & method DfM
 - Definition of DfM
 - How to judge manufacturability of a design
 - Applying DfM; Why, how, when, who, etc
 - How to handle alternative designs and ideas
2. Product requirements
 - What is needed at the start of the design job and to be used as reference at moment of a design decision?
 - Case: set up a requirement document for a simple product or product detail
3. DfM in the Product Generation Process
 - Especially at set-backs
4. Case: How is it made?
5. Time to market estimations
6. Questions & answers

Day 2

1. Presentations of your own exercises
2. Manufacturing process knowledge for a designer, via knowledge of:
 - Ability of manufacturing processes as: freedom of forms
 - Influences of manufacturing process choices on manufacturability aspects
 - Limitations and possibilities to produce certain product-details per manufacturing process
 - Design details needed per process. As: start & stop spots for laser cutting. Space to assemble, etc.
 - Product details as a result of the manufacturing process. As: influenced layers, weld lines, burrs, roughness, etc.
 - Subsequent process needed as a result of earlier processes. Often to remove/repair unwanted details. As: removing support structure after 3D printing
 - Influences on Time to market and Integral cost
3. Assembling as important manufacturing process and part of DfM. Design for Assembling as part of DfM
4. Integral cost and product cost estimations
5. Q & A

Day 3

1. Presentations of your own exercises
2. Material selection
3. Interactions between: Product design (details) + Material + Manufacturing Process choices
4. Approach in DfM

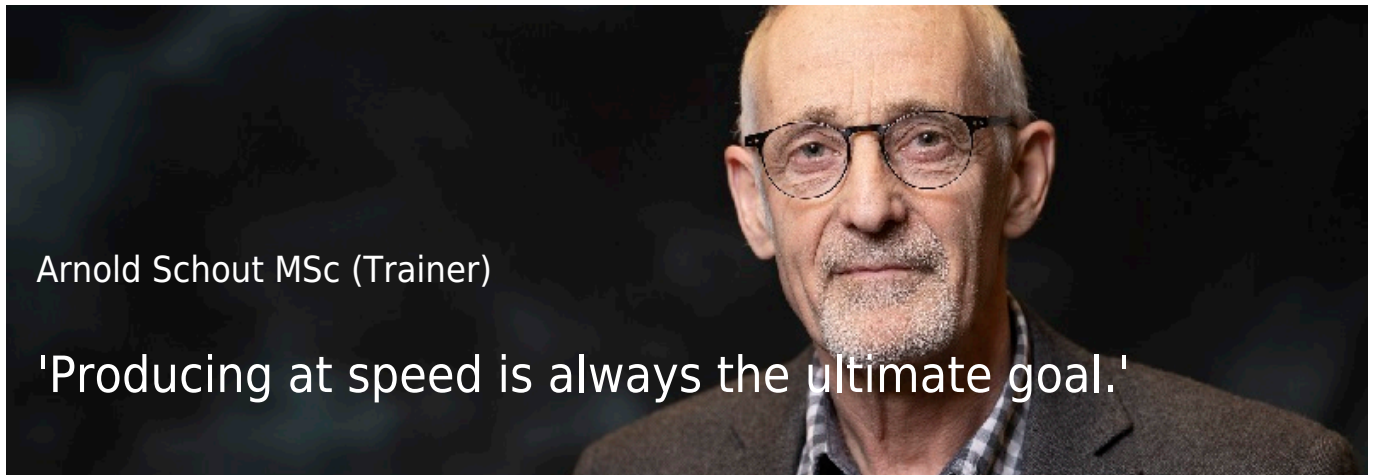
5. Securing session
6. Q & A
7. Closure

The training consists of three days and then after two weeks a so-called assurance session. In this session, students present a design from their own practice in the presence of their own team leader and senior management. This meeting must show that participants have understood the methodology and can work with it in practice.

Methods

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Read the interview:



Arnold Schout MSc (Trainer)

'Producing at speed is always the ultimate goal.'