

Kick-starting engineers

Three measurements to optimise the learning curve for new engineers at EDS Casting & Forging B.V.

Introduction

EDS Casting and Forging B.V. (EDS) is a fast growing design agency specialised in the design and supply of metal castings and forgings. When new engineers start at EDS, they need to learn many things before they are able to design an economical casting or forging independently.

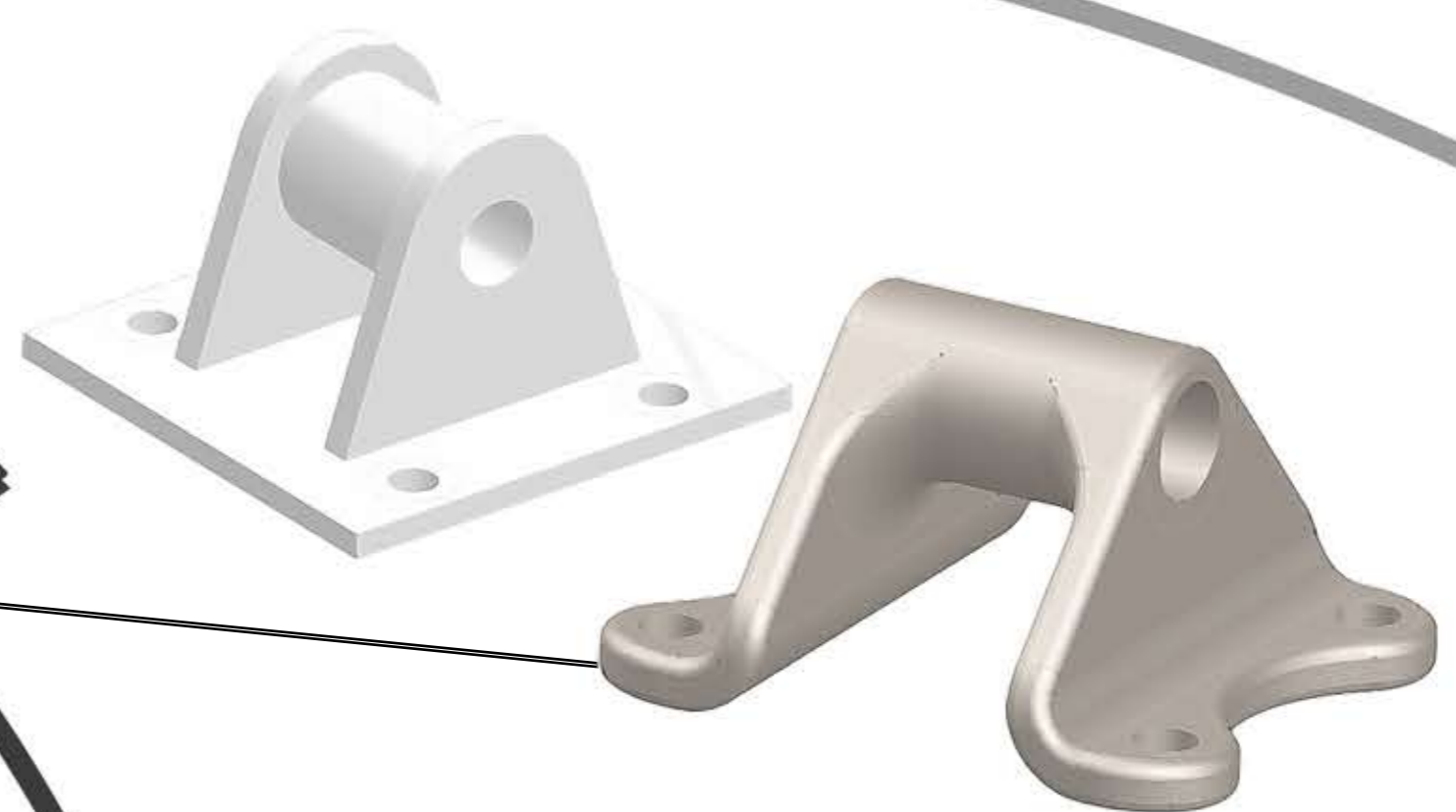
The EDS kick-start dissects the learning time-line of a new engineer into 3 phases, comparable with the phases of the launch of a satellite. For every phase a product (proposal) is developed, which are the EDS traineeship, the EDS learning sources overview, and the EDS quotation book.



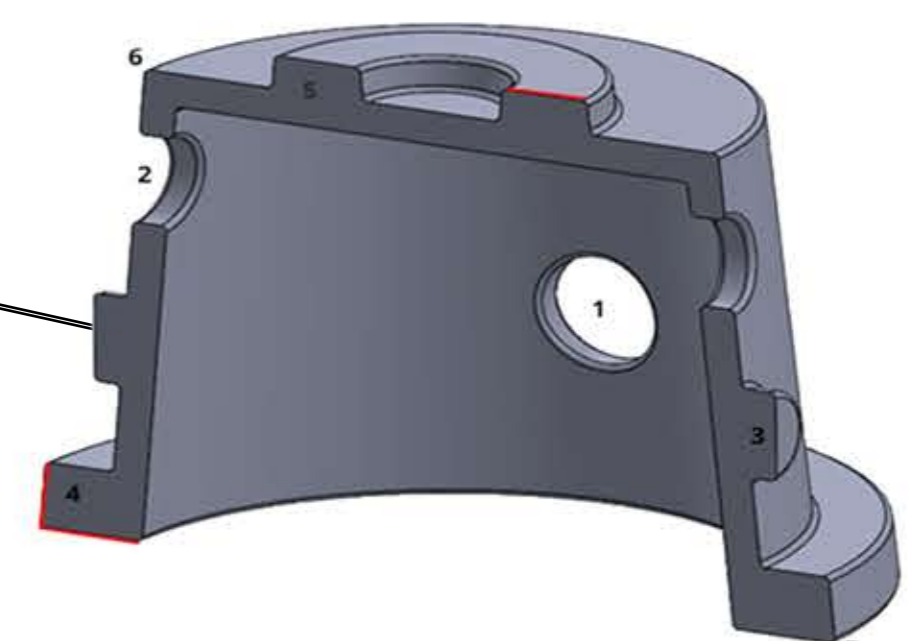
Phase 3: EDS quotation book



Phase 2: EDS learning sources overview



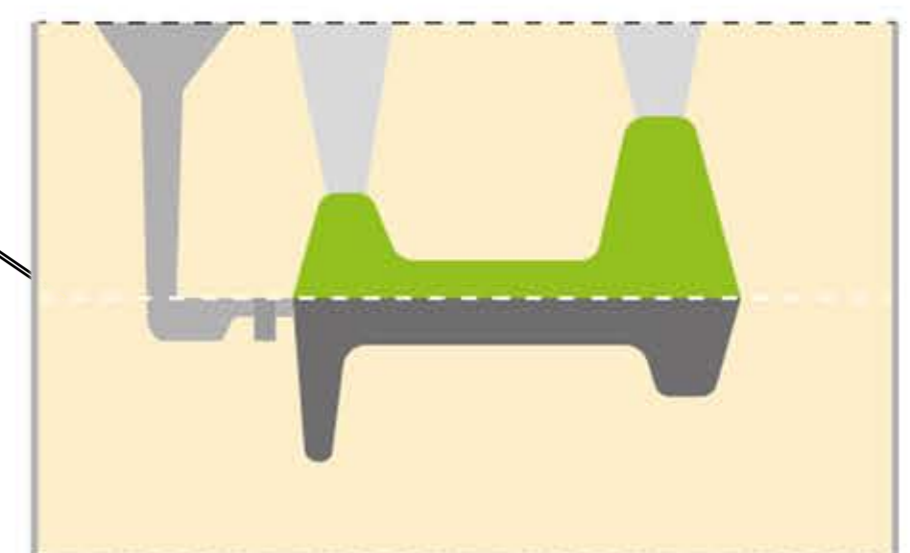
EDS traineeship: Redesigning a formerly welded part



EDS traineeship: Improving 'bad casting design'



EDS traineeship: Understanding gating systems



EDS traineeship: Learning casting vocabulary

Phase 1: Launch (EDS traineeship)

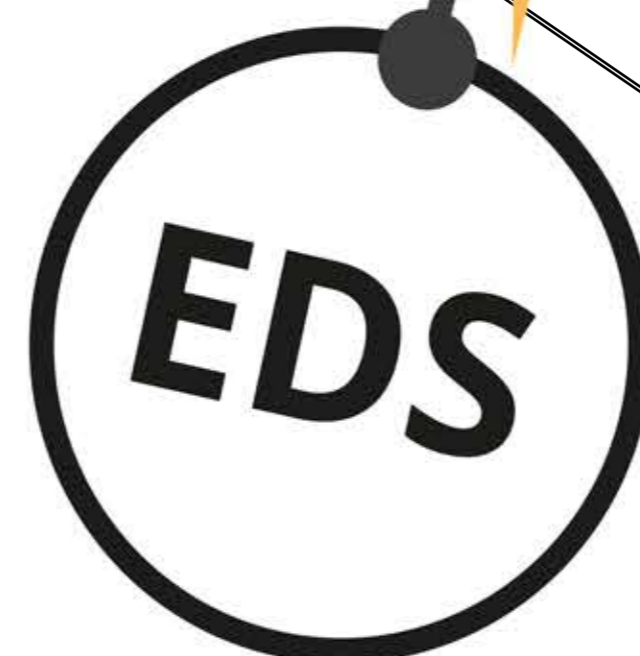
The 1st phase of the EDS kick-start takes 5 days. During this phase the engineer is 'boosted' with the EDS traineeship. The EDS traineeship contains 15 main assignments. By performing these assignments the trainee learns all that is required to execute simple EDS projects under the mentors guidance.

Phase 2: Reaching orbit (EDS learning sources overview)

The 2nd phase takes 3 months. During this phase the engineer is 'pushed' with the 'EDS learning sources overview' to reach a skill-level that would enable him to perform intermediate EDS projects with only limited guidance. By use of the EDS learning sources overview, all engineers can store, rate, and comment on learning sources, enabling new engineers to find good learning sources effectively.

Phase 3: Operating (EDS quotation book)

The 3rd phase takes as long as the engineer is working for EDS. During this phase it is important that the engineer is fully enabled to learn from his practices, and learns the financial consequences of his design decisions. The EDS quotation book summarises the quotations for all EDS projects, this way providing the reader with insights about the costs of castings.



Graduate: Mathijs ter Kuile
 Project title: Kick-starting engineers at EDS Casting & Forging B.V.
 Graduation date: 15-11-2018
 Master track: Integrated Product Design

Chair: Dr.ir. E. Tempelman
 Mentor: Ir. H. Kuipers
 Company mentor: Ir. E. Lette
 Company: EDS Casting & Forging B.V.

