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Goals, Approach, Functionality of Resulting Tools, and Project Structure

This chapter consists of three sections.

Section 1.1 gives a detailed problem analysis of design processes in Chemical Engineering and the deficits of tools available in practice to support these processes. Then, we describe the overall goals and approach of IMPROVE, namely to introduce novel process aspects from the Engineering and the Informatics side to get a better support for designers. The resulting key problem is to formalize design processes and their products. From the tool perspective the task is to build up an integrated environment for the cooperation of different designers.

In Sect. 1.2 we present one practical result of IMPROVE, namely one version of an integrated environment of existing, extended, and new tools, built to support different facets of a cooperative and distributed design process in Chemical Engineering and Plastics Processing. The results are shown by giving a demo in form of a guided tour. We concentrate on those development steps where the novel IMPROVE concepts induce a remarkably better collaboration of developers.

In Sect. 1.3, finally, we explain the IMPROVE project structure. The project addresses the problem of Sect. 1.1 and produces results like that of Sect. 1.2. The section also characterizes the predecessor projects on which IMPROVE is based and gives an overview of the structure of this book. Finally, this section contains figures about the funding of IMPROVE.