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Low-cost rapid control prototyping system with an open-source platform for the functional development of embedded mechatronic systems (LoCoRCP)

Project management: Prof. Dr.-Ing. Xiaobo Liu-Henke

Summary: In order to safely cope with the ever increasing demands on new products, increasingly intelligent hardware and software is being integrated in technical systems. An important part of this is formed by the control units and the software functions implemented on them. In designing the functions of such embedded systems, a holistic, model-based development methodology is used. A high level of integration and a high degree of automation are characteristic of methodology of this type. Rapid control prototyping (RCP) is one such method, supported by an end-to-end, computer-based, fully automated CAE platform. The process described here can currently only be achieved using expensive software and hardware. Many small and medium-sized enterprises (SMEs) do not therefore have the necessary resources to build a competitive capacity in the field of mechatronic systems. The LoCoRCP research project aims to close the gaps in the low-cost development process, and thus give SMEs the opportunity to develop mechatronic products economically and competitively.

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