

"MTCA.4 for Industry" DESY technology transfer through the HGF Validation Fund

The Helmholtz Validation Fund (HVF) aims to bridge gaps between scientific findings and their commercial applications. It facilitates crossover from public research and private investment. The HVF-project "MTCA.4 for Industry" hosted by DESY with a total funding of 4MEuro has the goal to introduce the state-of-the-art electronic crate standard MicroTCA.4 based on the Telecommunication Computing Architecture (TCA) to a broader research and industrial community.

MTCA.4 is comprised of standardized, interchangeable electronic modules, provides excellent digital performance through high-speed serial interconnections, is well suited for measurements of sensitive analogue signals, and provides high reliability through a sophisticated crate management system allowing for redundancy of power modules and fans, as well as diagnostics of all crate units.

DESY and an industrial consortium of more the 10 partners have taken measures to systematically diminish initial market barriers to this more advanced technology standard. The various work packages within the HVF-project include: licencing of DESY developed electronic modules to industry comprising a complete suite for the RF control of accelerators over a wide frequency range; the development of missing electronic modules by industry with funding support through HVF; investigation of the electro-magnetic interference limitation and road map for further improvements; further development of the crate standard through developments on the digital backplane towards 100Gbps; support and consulting, workshops, presentations at conferences and exhibitions as well as frequent tutorials for different skill levels.