

# ITQ GMBH: CLOUD-BASED ORDERING OF CUSTOMISED POWERBANKS

Knowledge Dimension:  
Technology

Advanced Teaching Case  
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Access the full version of this teaching case in the InnoPeer AVM advanced course “Industry 4.0: Aspects of Technology Advanced, Part 1” on OPEN vhb:  
<https://open.vhb.org/blocks/ildmetaselect/detailpage.php?id=124>

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This case was developed solely as the basis for class discussion. Cases are not intended to serve as endorsement, sources of primary data or illustrations of effective or ineffective management.

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The biggest initiative regarding Advanced Manufacturing (AVM) in Germany is promoted as the fourth industrial revolution and therefore called “Industrie 4.0” (I4.0). It was founded in 2011 and is heavily supported by the German government. The need for such an initiative results out of different developments in the current market situation, such as shorter product life cycles, volatile markets or the customer need for individualised (mass-) products. To tackle these challenges, “I4.0-production systems” need to be highly flexible, connected and customer oriented. This can only be done with extensive use of software in the phases of engineering and production, which is one of the main reasons the company ITQ was founded in the year 1998 with its core competence in mechatronic software and systems engineering. While at that point in time, the awareness for the importance of software in industrial applications was very low, it rapidly grew over the last decade, which helped ITQ to become one of the leading SMEs for I4.0-related software applications. This is why the German association for food processing and packaging machinery (VDMA) first went to ITQ when they needed an innovative I4.0-demonstrator on their booth for the 2017 Interpack trade fair, which should show a vision of a future packaging system for a Powerbank manufacturer. Required key features by the VDMA were a customization of the Powerbank itself and its packaging by a customer over a cloud-based ordering process - so true batch size one. This teaching case elaborates in detail how ITQ used advanced digital technologies in the phases of engineering as well as in the demonstrator to fulfil the requirements of the customer and tackle the challenges of having to coordinate a multinational, interdisciplinary project team within the very tight time schedule of just 36 weeks.

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