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From Science Gateways to Commercial solutions

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ABSTRACT

The European CloudSME project that incorporated 24 European SMEs, besides five academic partners, has finished its funded phase in March 2016. This presentation will provide a summary of the results of the project, and will analyze the challenges and differences when developing “SME Gateways”, when compared to “Science Gateways”.

CloudSME started in 2013 with the aim to develop a cloud-based simulation platform for manufacturing and engineering SMEs. The project was based around industry use-cases, five of which were incorporated in the project from the start, and seven additional ones that were added as an outcome of an open call in January 2015. CloudSME utilized science gateway related technologies, such as the commercial CloudBroker Platform [1] and the WS-PGRADE/gUSE Gateway Framework [2] that were developed in the preceding SCI-BUS project [3].

As most important outcome, the project successfully implemented 12 industry quality demonstrators that showcase how SMEs in the manufacturing and engineering sector can utilize cloud-based simulation services. Some of these solutions are already market-ready and currently being rolled out by the software vendor companies. Some others require further fine-tuning and the implementation of commercial interfaces before being put into the market.

The CloudSME use-cases came from a very wide application spectrum. The project implemented, for example, an open marketplace for micro-breweries to optimize their production and distribution processes, an insole design validation service to be used by podiatrists and shoe manufacturers, a generic stock management solution for manufacturing SMEs, and also several “classical” high-performance computing case-studies, such as fluid dynamics simulations for model helicopter design, and dual-fuel internal combustion engine simulation. As the project generated significant impact and interest in the manufacturing sector, 10 CloudSME stakeholders established a follow-up company called CloudSME UG for the future commercialization of the results.

Besides the success stories, this talk would also like to highlight the difficulties when transferring the outcomes of an academic research project to real commercial applications. The different mindset and approach of academic and industry partners presented a real challenge for the CloudSME project, with some interesting and valuable lessons learnt. The academic way of supporting SMEs did not always work well with the rather different working practices and culture of many participants. Also, the quality of support regarding operational solutions required by the SMEs is well beyond the typical support services academic institutions are prepared for. Finally, a clear lack of trust in academic solutions when compared to commercial solutions was also imminent. The talk will highlight some of these challenges underpinned by the implementation of the CloudSME use-cases.

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