



Project Profile

REVaMP²

A Software-Intensive Systems and Services (SIS) platform for round-trip engineering

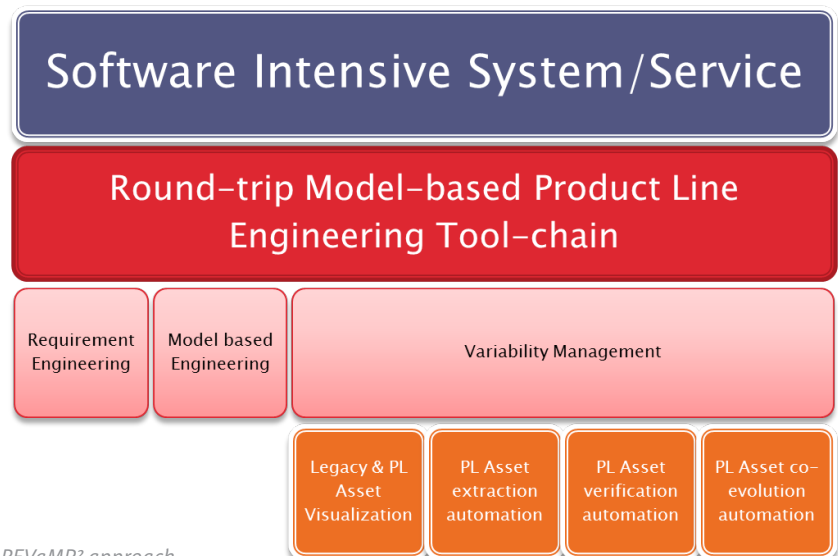
The ITEA 3 project REVaMP² aims to conceive, develop and evaluate the first comprehensive automation tool-chain and associated executable process to support round-trip engineering of SIS Product Lines and thereby helping to profitably engineer mass customised products and services in virtually any economic sector.

ADDRESSING THE CHALLENGE

The trend of ever more *software-intensive* systems and services (SIS) heralds an age of mass customisation that promises to boost customer satisfaction to unprecedented levels and allow a far longer tail of profitable smaller market niches. However, this trend also raises new engineering challenges: SIS must be able to create and adapt to innovative market disruptions and customer whims more quickly and at lower cost than their less software-based competitors. The ITEA project REVaMP² (Round-trip Engineering and Variability Management Platform and Process) aims to support more responsive, lower-cost and more automated SIS product-line engineering thereby reinforcing the concurrent business model trend of shifting away from one-off product sale transactions towards service subscription packages.

PROPOSED SOLUTIONS

One of the solutions is to develop more agile, round-trip engineering processes that better leverage legacy products, and more systematic and automated variability management. By taking meta-models as parameters to generic algorithms, these services will be able to analyse or generate a wide spectrum of Cyber-Physical Systems engineering artefacts: requirements, system models, software models and



REVaMP² approach

code, computing hardware models and mechatronic sensor and actuator models. Another key solution is the development of an executable model of this SIS round-trip engineering process to fully leverage the automation services provided by the REVaMP² tool-chain. In all cases, special focus will be set as well in assets identification and valuation.

PROJECTED RESULTS AND IMPACT

The REVaMP² results will quickly enable the industrial end users to bring variable new products on the market at significantly

lower development costs as they will be able to profit from the efficient integration of already existing company IP. Since the REVaMP² results are completely application domain independent, they can help to profitably engineer mass customised products and services in virtually any economic sector, well beyond those demonstrated through the REVaMP² use cases. The impact it will have on the quality of life could pervade all daily activities and will allow organisations to affordably cater to the special needs of minorities of all kinds.

**Project start**

November 2016

Project leader

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Project website<http://revamp2-project.eu/>**Project end**

December 2019

Project email

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ITEA is the EUREKA Cluster programme supporting innovative, industry-driven, pre-competitive R&D projects in the area of Software-intensive Systems & Services (SiSS). ITEA stimulates projects in an open community of large industry, SMEs, universities, research institutes and user organisations. As ITEA is a EUREKA Cluster, the community is founded in Europe based on the EUREKA principles and is open to participants worldwide.