Main findings of the feasibility study and how the workplan will be modified

Virtual Upscaling partner meeting

16th December, 2016

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Introduction

- The aim of the feasibility study is to evaluate the possible operational and business models for the Modelling Factory Ecosystem
- Study template was provided by EIT
  - Section 1: Description of the solution
  - Section 2: Analysis
  - Section 3: Market plan
- EIT's main concern is how to commercialize R&D project results

Authors and methods

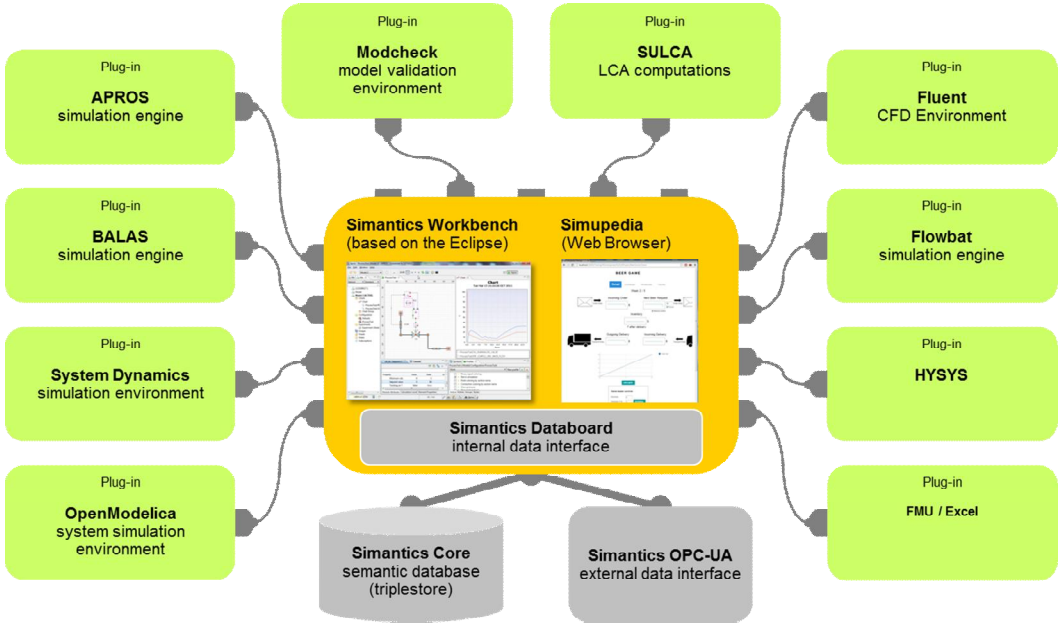
- Main authors of the study are from VTT, with strong experience in the system engineering and business development:
  - Research Professor Tommi Karhela, Data-driven solutions
  - Senior Scientist Sami Majaniemi, Material modeling and eco-design
  - Senior Scientist Jukka Hemilä, Business Ecosystem Development
  - Senior Scientist Päivi Jaring, Business Ecosystem Development
- Contributions from the partners:
  - Kari Saloheimo and Susanna Horn, Outotec
  - Miguel Seco Calleja, Tecnalia
- Study was based on the literature survey and the expert group workshop organized in June 2016 at VTT.
  - Expert Workshop was held on 13.6.2016 with theme ”Understanding the Platform Economy in the industrial context”
  - Expert group consist of specialist in different field related to platforms, engineering and science

Section 1: Description of the solution

- The idea in the Modelling Factory is to create a virtual working space (Transaction Platform), where individuals and organizations can test and share their ideas (Innovation Platform) on how to advance material efficiency and circular economy by creating different types of computational models and solutions and to validate them against real provided scientific, industrial and environmental data.
- Modelling Factory acts as both a dissemination channel of the results and a virtual work room where the results are produced.
- Project group has defined three use scenarios which will test the usefulness of MF. These are:
  - Value Chain LCA: demonstrates the core operating principle of MF, which is shared knowledge
  - Computational Material Database: Various materials databases exist currently, both commercial and open source.
  - On-line LCA Service: LCA method is used very often retrospectively for the analyses of environmental footprint.

Section 1: Description of the solution

- Short overview done, but more deeper understanding needed:
  - Case requirements for the platform
  - IPR
  - Trust & Security
  - Differentiation in markets - comparization to competitors

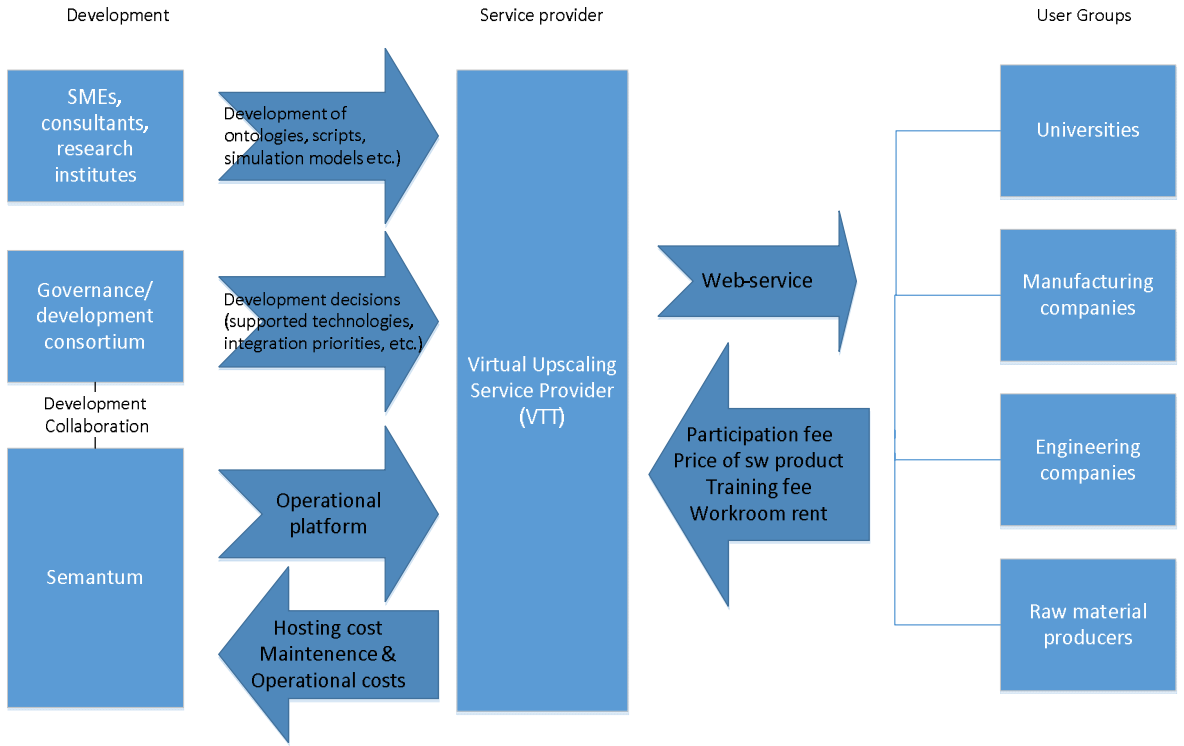


Section 2: Analysis

- Three potential markets have been identified and analyzed in the feasibility study:

	Market #1	Market #2	Market #3
Market name	Integrated Computational Material Engineering	Environmental footprint computation	Business Process simulation (System Dynamics)

Value Chain



Section 2: Analysis

- More research needed for Challenges and Opportunities
  - Technical
  - Societal & Economical
  - Operational
  - Value chain and ecosystem

Section 3: Market plan

- Business Model needs more detailed analysis –> validation of BM
- Go-To-Market strategy

VTT's Modelling factory Business Model Canvas

KP	KA	VP	CR	CS
Governance / Development Consortium Semantum (platform technology developer)	Maintain and operate Communication Platform KR Modelling and simulation Group	Communication Platform for Designers and Decision makers Environmental footprint computation Product /Material Property Optimization Global Product/business Design Optimization	Helpdesk Social Media Content Production Customer visits Webinars Training material CH Web service	Universities Manufacturing Companies Engineering companies Raw Material Producers

C$	RS
Hosting service fee Maintenance and operational costs (e.g. simulation model development and integration work)	Governance Consortium Participation fee Direct sales of sw products via platform webstore Training fee Platform workroom rent

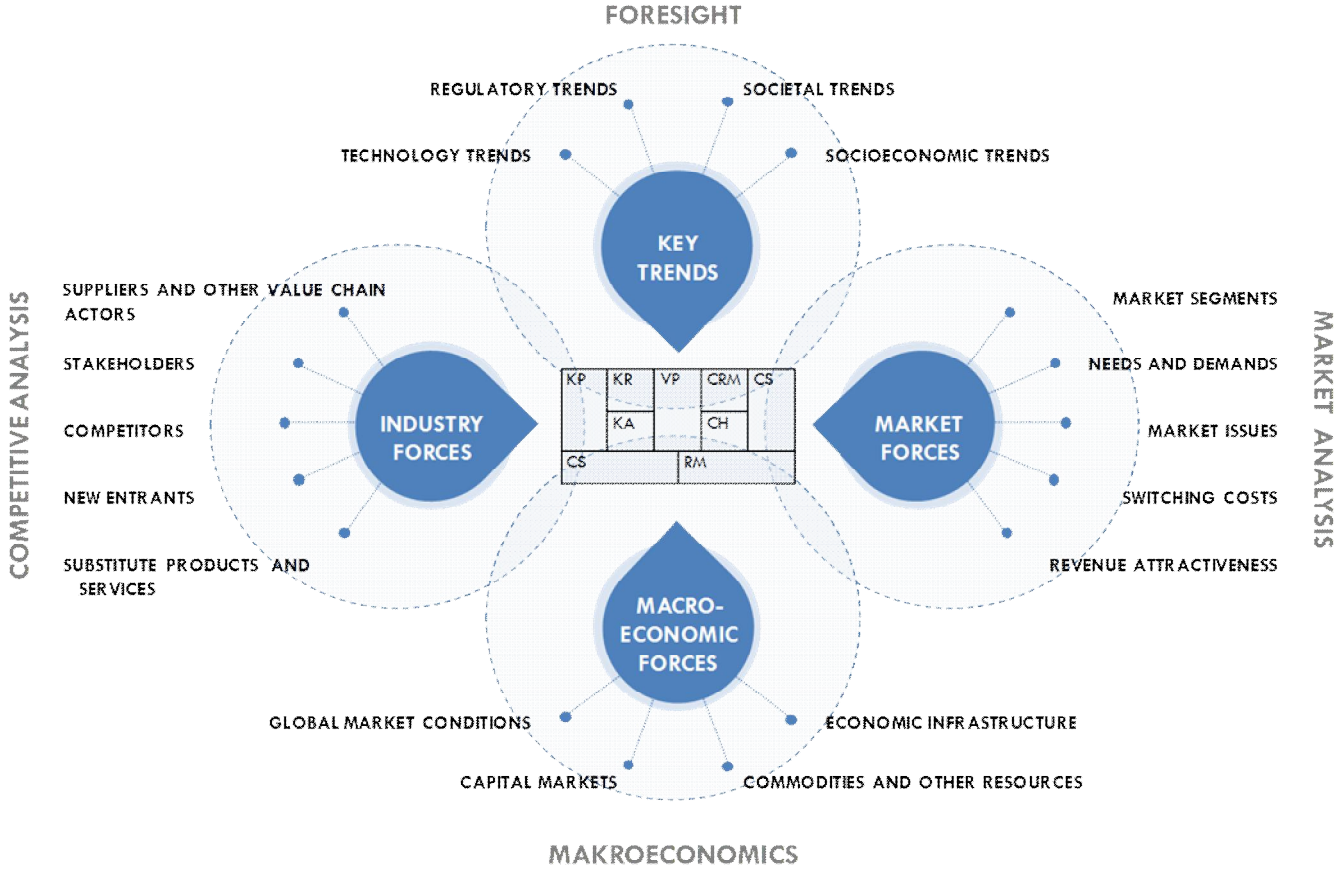
KP = Key Partners
KA = Key Activities
KR = Key resources
C$ = Cost structure
VP = Value Proposition
CR = Customer relationships
CH = Channels
CS= Customer Segments
RS = Revenue Streams

Recommendations for project plan update

- Success factors in business model development

Recommendations for project plan update

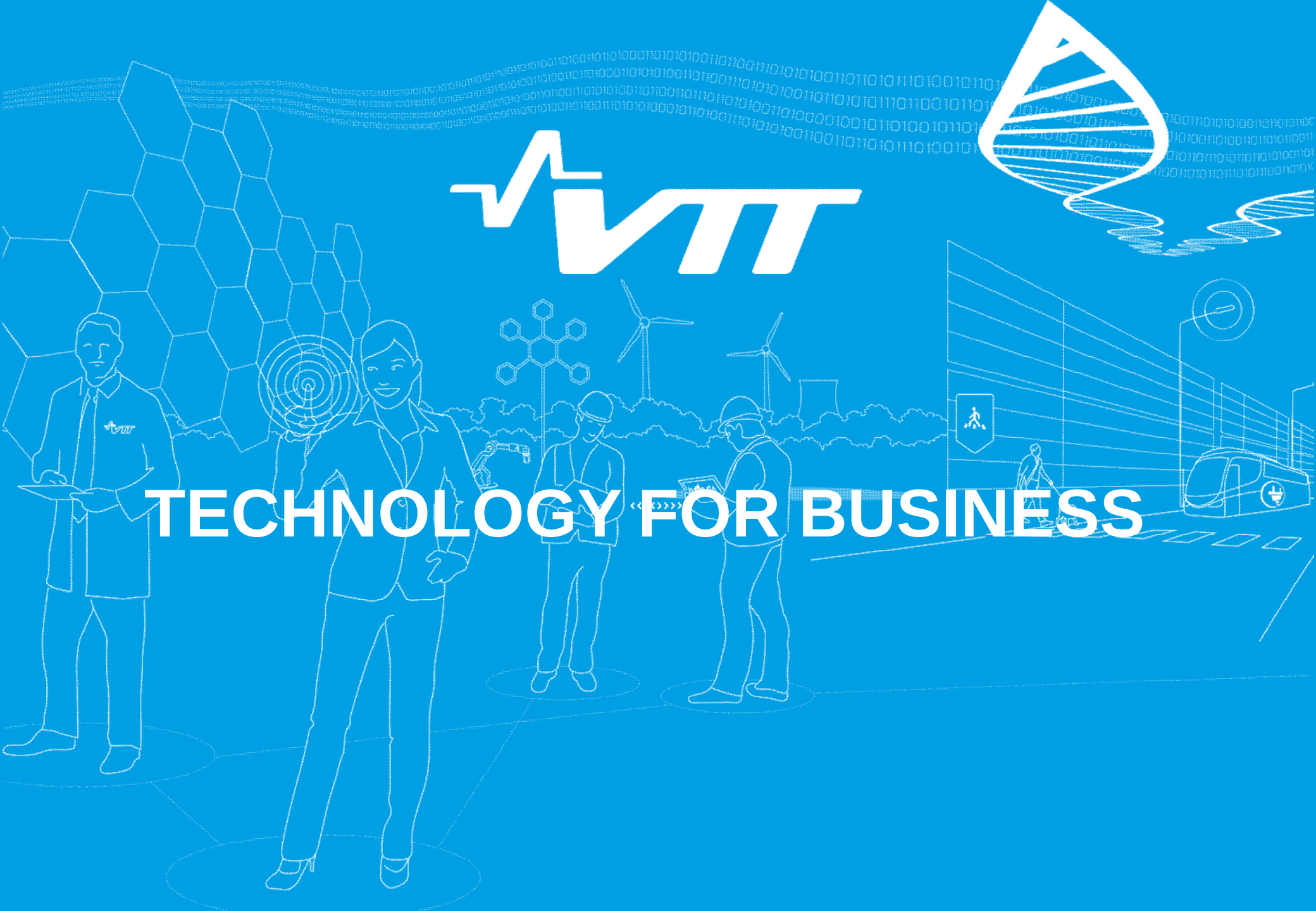
- Success needs better definition of business ecosystem



Lähde: Muokattu, Osterwalder et al. 2009

Recommendations for project plan update

- Existing Project plan business perspective is included in:
  - WP0 Feasibility Study (VU first tasks)
  - WP5 Modelling Factory Business Ecosystem (VU last task)
- Change request:
  - Business research to be continuous process
    - Case studies -> Customer perspective, Value Proposition Design
    - Commercialization: Virtual Upscaling through Modelling Factory
      - IPR, service value & level, partners & operational model, sales channel, pricing&earning logic
    - Development and validation of business model
    - Future planning: Platform economy and creation of ecosystem around VU -> implementation and exploitation plans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