SEVENTH FRAMEWORK PROGRAMME

EPES Concept

EPES

Outline

- General description of the EPES Concept
  - Motivation
  - EPES solution
- Industrial perspective
- Research / Development perspective

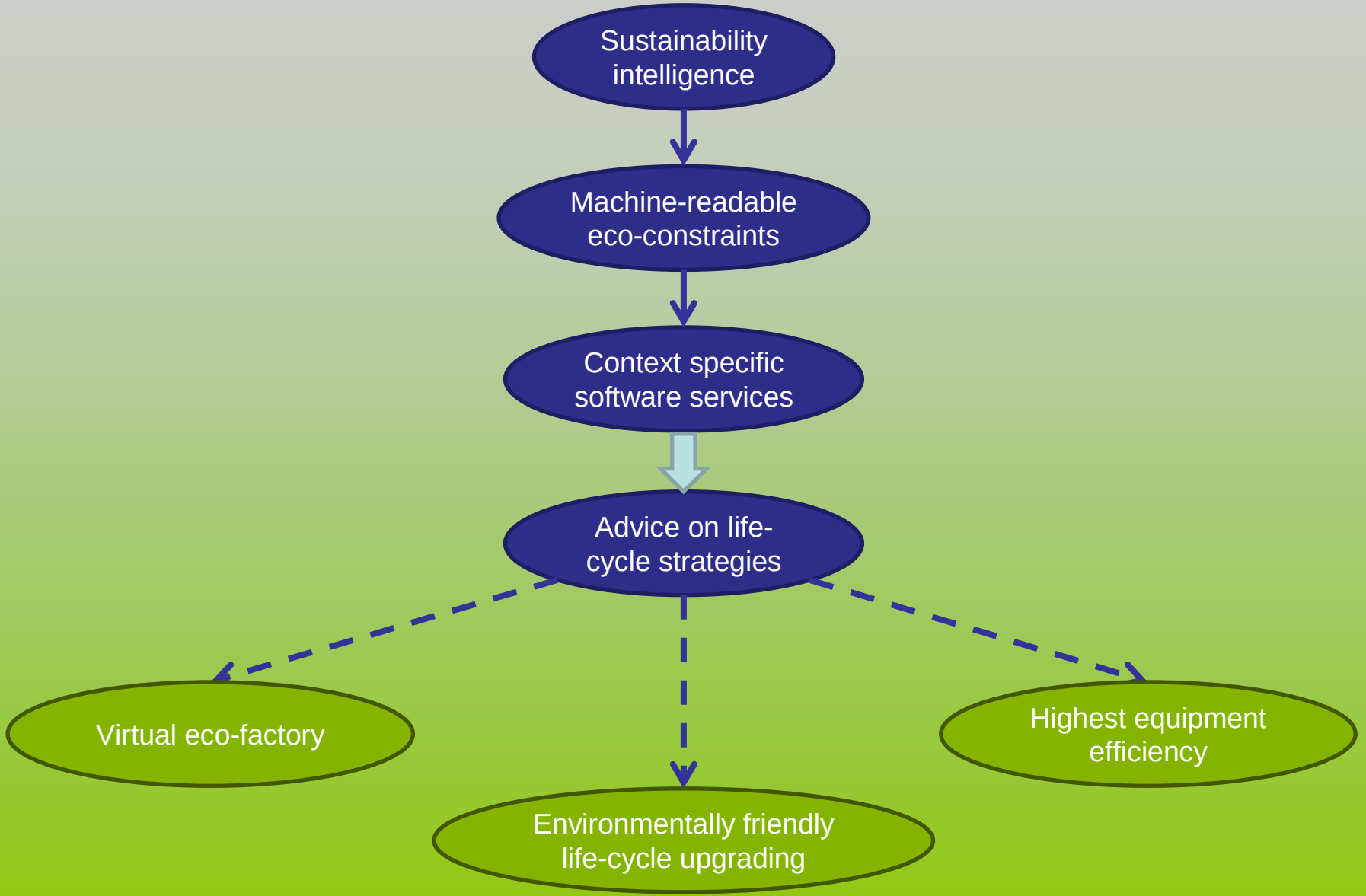
Motivation

- Optimizing the life-cycle of industrial products is subject to options of continuously updating them by
  - Incorporating edge technologies
  - Replacing worn out pieces by new improved ones
  - Conceptually changing components of the product itself
- New products benefit from cutting edge technologies
- Highest impact: upgrading existing products in operation
  - “Long life Eco-products” concept
- Traditional maintenance systems
  - Only focus on replacing worn out parts
  - No knowledgeable analysis of upgrading possibilities that may arise from the concepts of sustainable development

How does EPES help?

- EPES solution
  - Allows industries to evaluate the performance of engineered products based on the whole lifecycle
  - Eco Key Performance Indicators (KPIs) for capturing sustainability information
  - Product engineering teams can exploit this information to adapt design, operation and disposal strategies through managed “eco-constraints” relevant to their market contexts
- Improved production efficiency
- Improved health and safety
- Reduced environmental impact
- Increased useful life

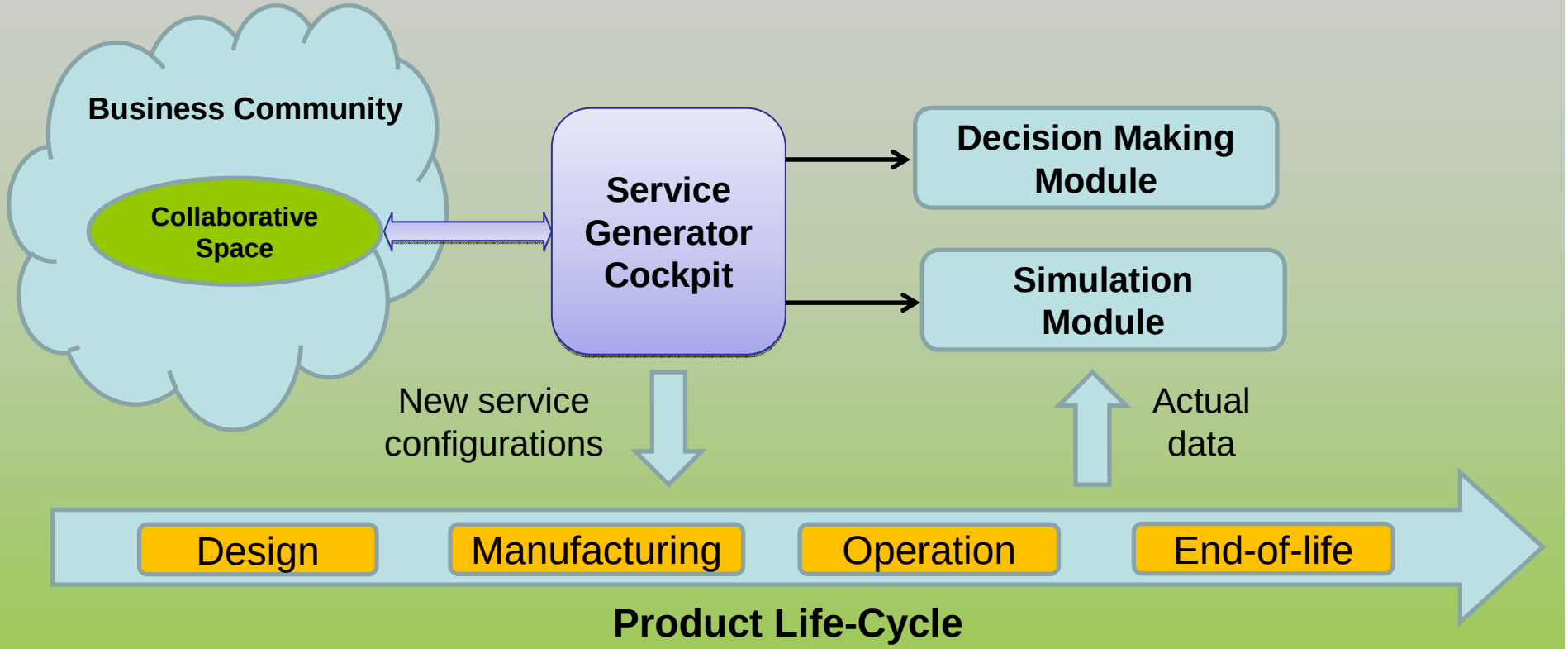
EPES Solution: Strategic Objectives



EPES Solution: Business Objectives

- Longer durability of produced products and/or components
- Longer durability of production installations
- Reduced use of energy, raw materials, water, dangerous substances, auxiliary materials
- Reduction of wastage, air pollution, industrial spillages, noise

EPES Solution: High-level view



EPES solution

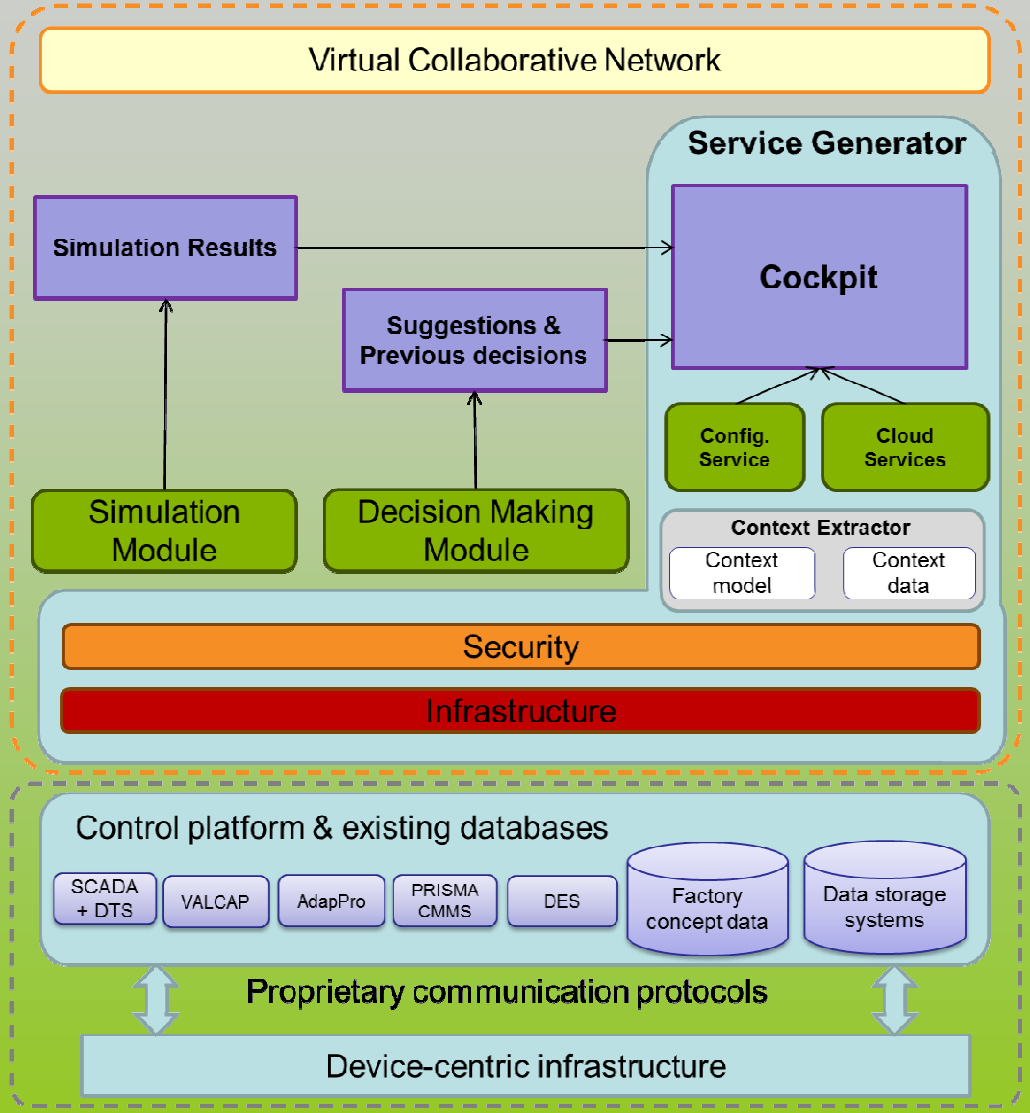
- Set of ICT tools
  - Easy configuration / adaptation of new life-cycle services
  - Storing & re-using knowledge in order to improve the services and develop new ones with the objectives of:
    - Continuous improvement of products in operation along their life-cycle
    - Applying best up to date technologies for end of life treatment of the products
    - Same in order to improve future product designs

- Methodology
  - Working handbook

EPES Components

- **Virtual Collaborative Network** (VCN) module provides EPES end-users (non-experts) with a main point of access to the whole EPES ICT system
  - Collaborative Space
- **Service Generator Module** (SGM) allows users to modify configuration for various life-cycle services
- **Simulation Module** (SM) provides a capability for running numerical analyses related to the life-cycle assessment process
- **Decision Making Module** (DMM) is an interactive system intended to help decision-makers to use data and models to identify and solve problems and to make decisions

Generic EPES solution: architecture view



EPES Reference Architecture