

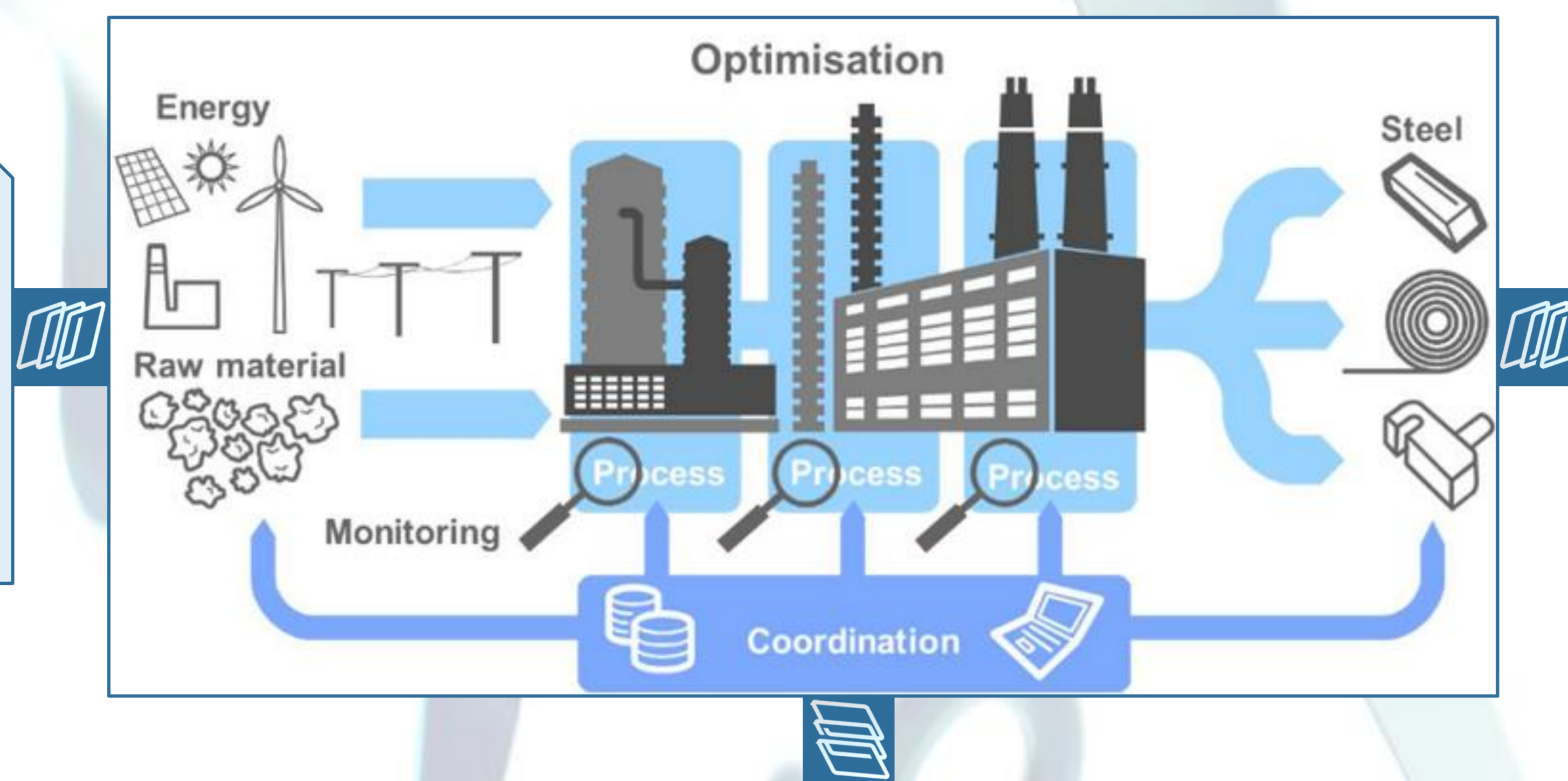
Model-based optimisation for efficient use of resources and energy



Morse is a SPIRE funded project under the topic: SPIRE07-2017 Process Optimisation, which aims to improve the products, business operations and competitiveness, as well as energy and raw material efficiency, of the European Steel Industry. It brings together software houses, researchers developing models and steel factories for developing software tools that will be used to reform, accelerate and manage heavy production processes.

Objectives

The **vision** of Morse is to develop and apply control software solutions for integrated optimisation of the entire chain of production processes, to minimise the use of resources for producing high quality products with maximum yields.

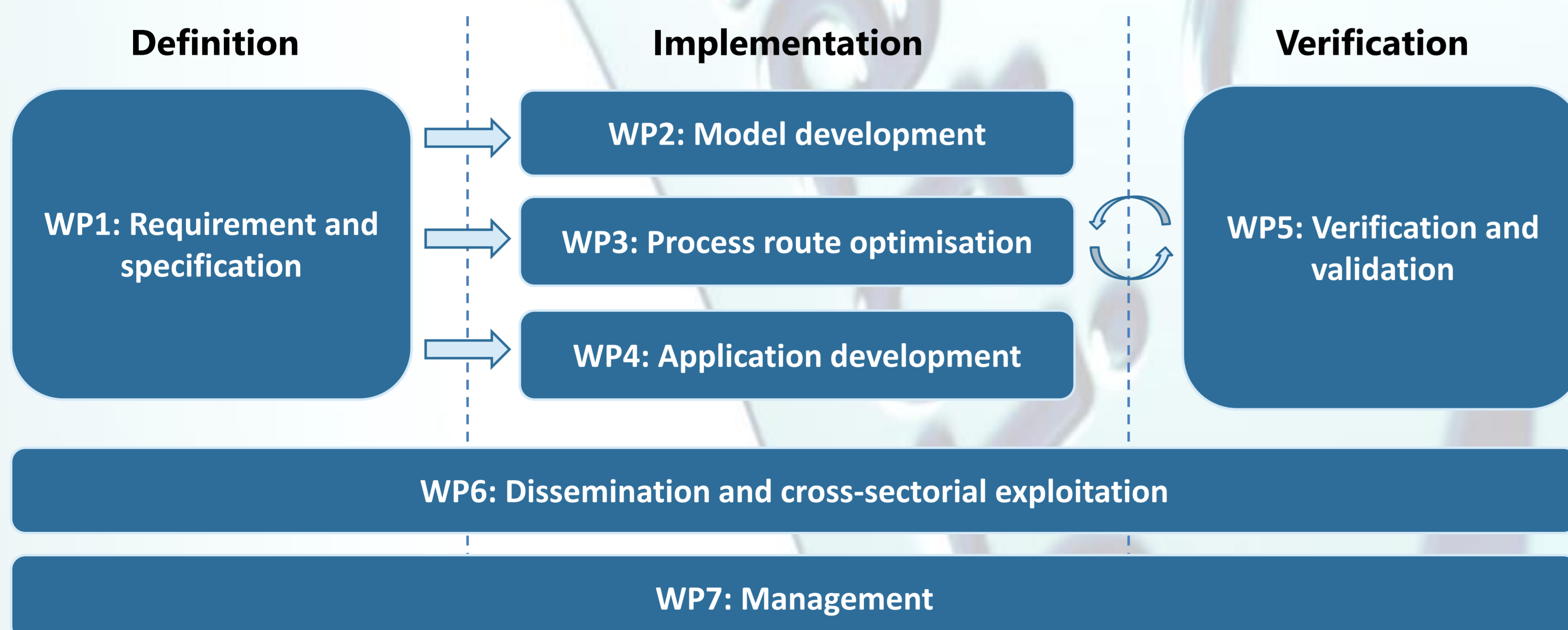


The **mission** of Morse is to develop model-based, predictive raw material and energy optimisation tools for the whole process route. This approach will be demonstrated in steel industry, to increase yield and product quality in production of high-strength carbon, stainless and cast steels.

The aims are to further **develop and to integrate a set of software tools that have partly already been validated in different process steps in Steel industries**. With the enhanced tools, companies of the process industry will be enabled to optimise the use of raw materials and energy by coordinated prediction and control of resource input and product quality along the entire process route from raw material and energy intake to customer delivery. **Specific objectives** are:

- To specify system requirements for integrated process optimisation and coordination
- To develop process models for specific applications
- To develop and implement optimisation algorithms for process coordination and production management
- To demonstrate process improvements in terms of resource efficiency and sustainability using the developed software tools in three different case studies
- To prepare cross-sectorial exploitation of Morse results

Actions



More info

	Start date	1st October 2017
	Duration	48 months
	Budget	4700692,5 €
	Coordinator	Dr. Heli Helaakoski (VTT)

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Partners

