Design of Robot Automation

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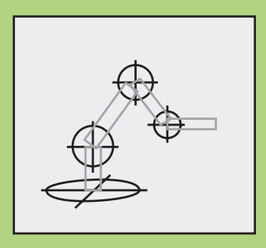
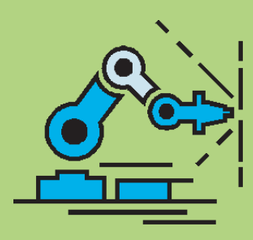
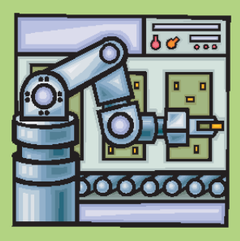






Start

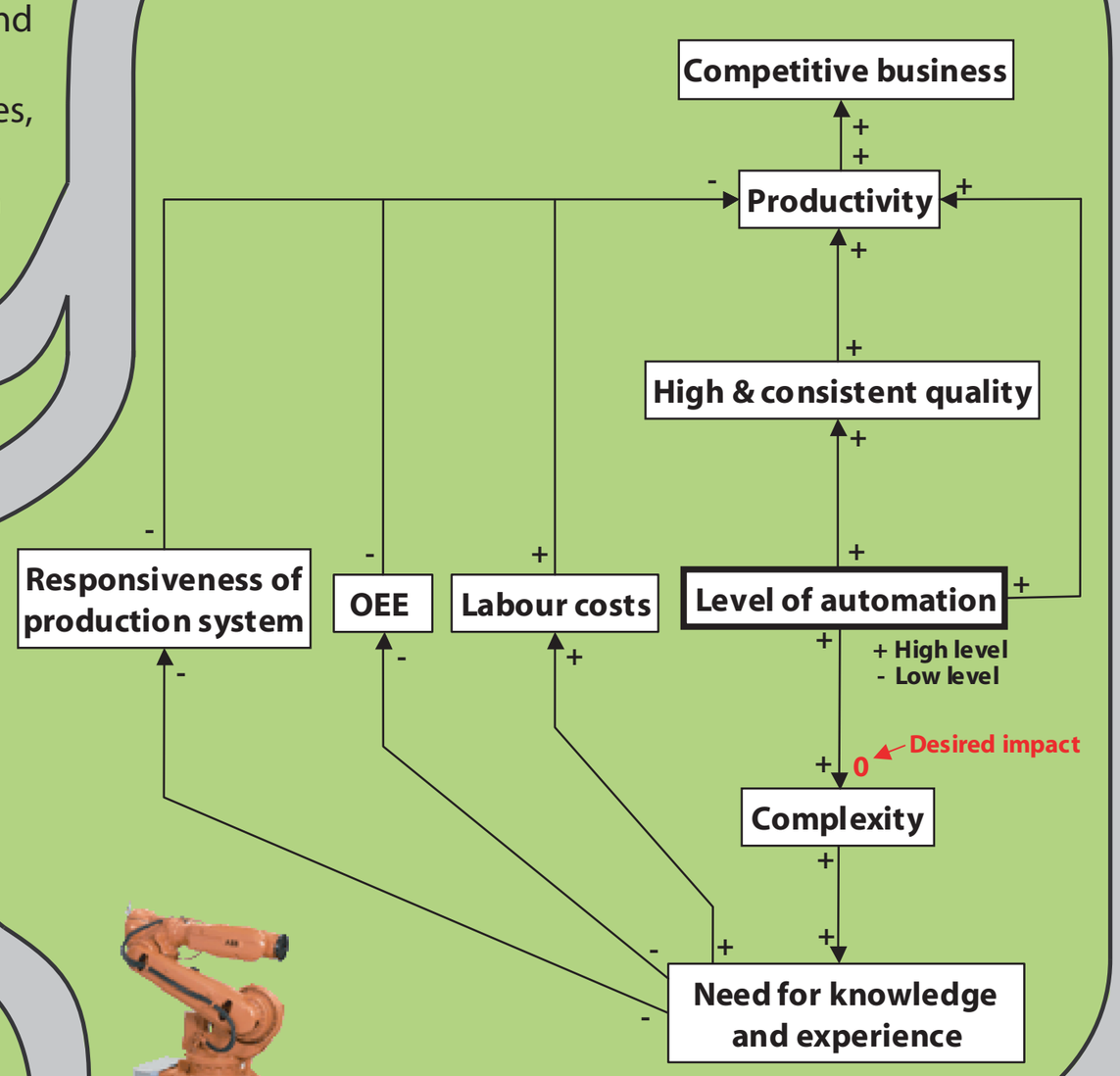
Problem Statement

Automation is considered an enabler for removing ergonomically unsound workstations, obtaining higher productivity and consistent quality. However, many companies, especially small and medium sized enterprises, have a hard time gaining the advantages of utilizing robot automation, often because of high complexity and inflexible solutions combined with insufficient knowledge and experience.

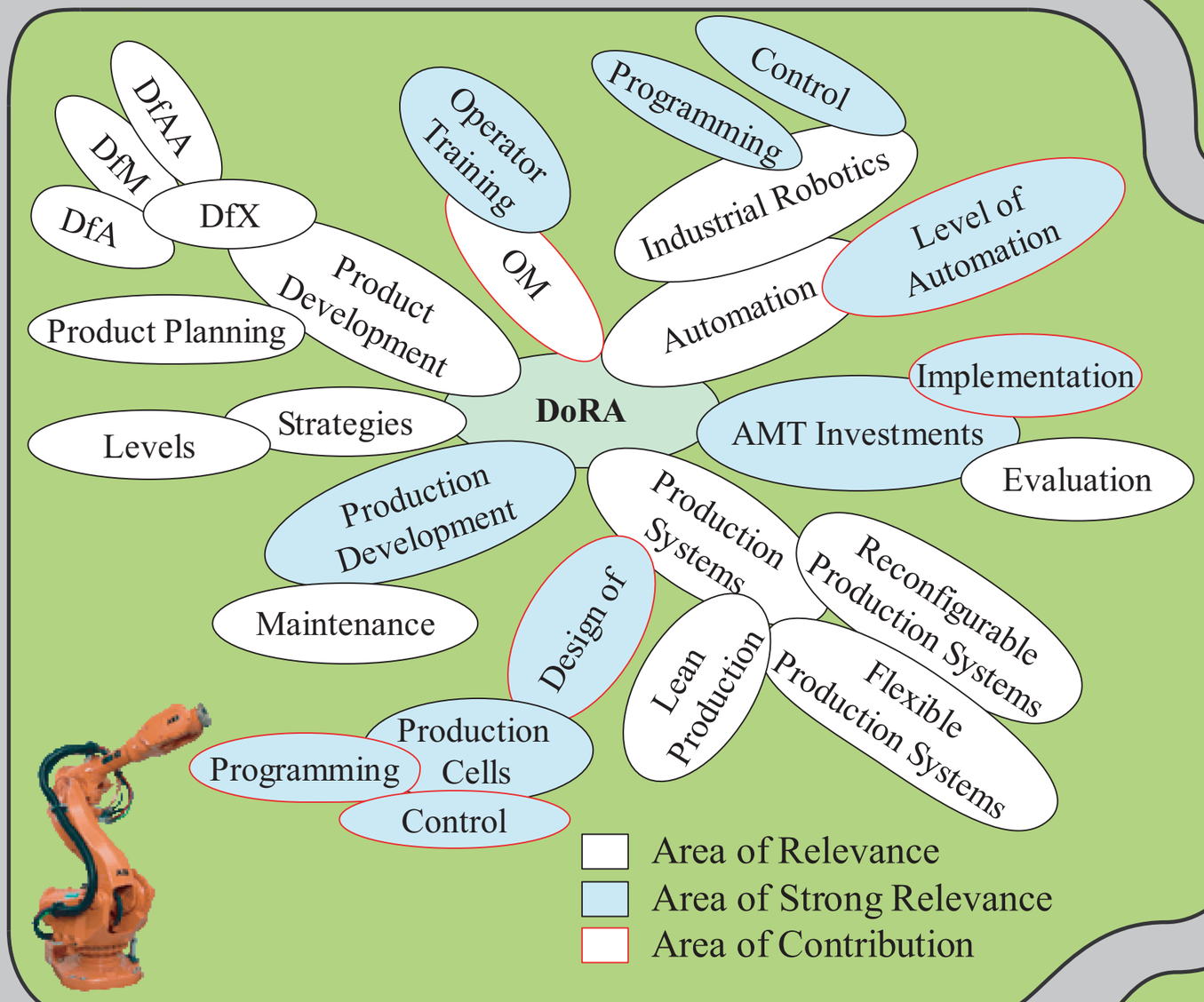
Objective (Lic.)

The objective of the licentiate thesis is to *analyse how to support the design of flexible and reconfigurable robot automation.*

Initial Reference Model



Areas of Relevance and Contribution



Research Questions (Lic.)

RQ1 - *How may flexibility and reconfigurability enable more companies to utilize industrial robot automation?*

RQ2 - *How may flexible software systems enable companies to utilize industrial robot automation?*

RQ3 - *How to support the design of flexible and reconfigurable robotic systems?*

Research Approach

Literature studies
Build on other researchers work and navigate through the different areas of relevance for this research

Case Studies
Connect theoretical evidence with empirical studies

Action Research
Participate in development projects and test research results

Expected Results (Lic.)

The expected results of the licentiate thesis include the analysis of the industrial needs for flexible and reconfigurable robot automation, the software systems enablers and an investigation of the needs for standardized hardware and guidelines for how to work with industrial robot automation. The result of the analysis will be compiled into a framework and used when developing the final method.

Finish