

THESIS FOR THE DEGREE OF MASTER OF SCIENCE IN
PRODUCT DEVELOPMENT

Integrating Environmental Aspects into the Product Development Process

- Proposing a Lifecycle-based Concept for Amor PDD
to Strengthen L&N as a Sustainable Company

SANDRA LANGE
CHRISTIAN NYBERG



Department of Product and Production Development
CHALMERS UNIVERSITY OF TECHNOLOGY
Gothenburg, Sweden

Supervisor & Examiner:
Lars Almefelt,
Associated Scientist Chalmers University of Technology

Supervisors at L&N Company:
Eva-Li, Product developer
Maria, Product developer

Integrating Environmental Aspects into the Product Development Process
- Proposing a Lifecycle-based Concept for Amor PDD to Strengthen L&N as a Sustainable
Company

© Sandra Lange, Christian Nyberg, 2010

Department of Product and Production Development
Chalmers University of Technology
SE-412 96 Gothenburg
Sweden
Telephone +46(0)31-7721000

ABSTRACT

The environmental focus has rapidly increased during the last years. Most of the global companies are proactively taking responsibility for a more sustainable approach, including L&N. Within areas such as factories, the environmental work has come very far and L&N is continuously improving their environmental performance. L&N was among the most pioneering companies to start with environmental assessments and it has been a part of their product development for several years. Today, they wish to increase their environmental thinking in the product development process, more specifically at the product development department Amor (forward on referred to as Amor PDD).

The purpose of this project has been to investigate how environmental aspects further can be integrated within the product developer's work and the development process at L&N Amor PDD. The presented recommendations may lie as foundation for Amor PDD's continued environmental work.

The research has been performed primary based on three main sections. Initially, the Amor PDD development process was studied with respect to important aspects that could facilitate an integration of environmental aspects. Documents, process tools and vital decision-making elements were main areas of interest. The second part refers to an internal benchmarking of best practice on other departments of L&N. The main focus was to understand how the implementation of environment has proceeded and what the main motives for applying the environmental concerns were. The last part of the research was conducted based on external benchmarking where four companies with high environmental focus were analysed.

The research from L&N Amor PDD showed that the product developers consider environment to a fairly low extent. It can be seen that few and vague environmental strategies are formulated, which is a prerequisite for implementing environmental considerations. The level of knowledge among the developers of how to apply environmental considerations in the everyday work is also fairly low and there are no facilitating tools that support an implementation in the process.

In order to better integrate environmental considerations into the product development process at L&N Amor PDD, a proposal including a serial of steps is recommended. The proposal includes procedures and recommendations based on current level of environmental implementation.

Proposed recommendations for Amor PDD are:

- Formulate and develop environmental strategies
- Define environmental objectives in documents
- Develop environmental assessment report
- Develop environmental tools and methods for developers
- Appoint environmental coordinators
- Initiate environmental projects
- Expand current environmental training

Keywords:

Product Development Process, Concurrent Engineering, Sustainable Development, Sustainability, Life Cycle Thinking, Life Cycle Management, Design for Environment, LCA