Abstract
This article gives a vision of the position of research in today's fast changing world, where knowledge plays a dominant role.

The process view in this article is based on the business decomposition as described in "The Process Decomposition Of a Business".

This article is triggered by a series of sessions initiated by Martin Schuurmans about the "backbone of the NatLab".

Distribution
This article or presentation is written as part of the Gaudi project. The Gaudi project philosophy is to improve by obtaining frequent feedback. Frequent feedback is pursued by an open creation process. This document is published as intermediate or nearly mature version to get feedback. Further distribution is allowed as long as the document remains complete and unchanged.

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Value of Research

1. Creation of Technology Options

2. Creation of Intellectual Property position

3. Corporate wide body of know how

4. Source of knowledgeable People
The Position of Research

Gerrit Muller

version: 0.3
March 6, 2013
ResearchDrivers

Relation of Environment and Value

Steady influx of new (young) people
external contacts
open culture
availability of resources
motivated people

facilitated environment and preferred culture
Freedom of thinking (creativity, original)
Stimulating Environment

Values Of Research
New Technology options and IP
knowledgable people
presence of abundant know how

The Position of Research

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ResearchDrivers
The strategic direction (**Which** technologies are required, and **Why**)

The tactical decisions (**How** do we obtain and maintain the required technologies, **Who** is involved)

The operational implementation (**Do Assess, create, acquire, try-out et cetera**)
Core technology brings the added value to the products, in other words it is the right of existence of this product.

Key technology is critical for the performance of the product, however when partners can supply the technology this is welcome. Due to the critical nature of the technology this partnership needs active management.

Base technology is from this business point of view a commodity, which should be acquired from third parties. Active participation should be avoided, however sufficient know how must be present for selection and application.
• know how
• skills
• processes
• tools
Passive Technology Management

Intellectual Property or standardization without product application

- offensive
- negotiation directed
- defensive
The Technology Management Cycle

- Exploration of new ideas
- Application of technology
- Consolidation of know how

Research

- Exploration of new ideas
- Application of technology
- Consolidation of know how

Product Division
Threats

- Budget driven decision making
- Annoying formalisms (bureaucracy)
- Conflicting personal incentives and collective interests (open culture versus "prestatie beloning")
- Challenging technology companies
- Lack of reward, due to long value and feedback chain
- Too many managers and bosses, too few leaders
- Too much passive technology management
- Contribution and recognition of individual in large organization
Working Group "NatLab Backbone"

The following people have been participating in the working group "NatLab Backbone": Peter Slikkerveer, Pierre Woerlee, Reinder Coehoorn, Stan Baggen, Derk Reefman, Gerrit Muller, Albert van der Werf, Martin Schuurmans, Aart van Gorkum, Rick Harwig, Ed Huijbregts.