

Gaudi Project; from Incremental Growth towards Publication

by *Gerrit Muller* Buskerud University College

e-mail: `gerrit.muller@embeddedsystems.nl`

`www.gaudisite.nl`

Abstract

The Gaudí project has been ongoing for 10 years. The philosophy of the project is described, and the status after 10 years of incremental development. Next challenge is to consolidate some of the work in the form of published book.

Distribution

This article or presentation is written as part of the Gaudí project. The Gaudí 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.

July 1, 2011
status: preliminary
draft
version: 0

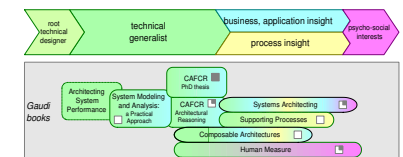


Figure Of Contents™

1. Who is
Gerrit

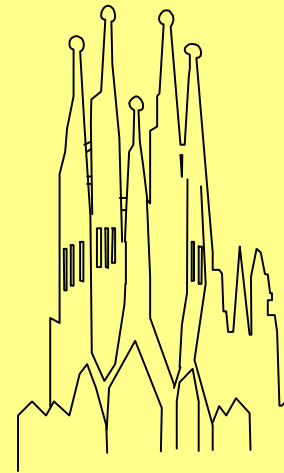
Gaudi Project

2. Goals

3. Process and
Concepts

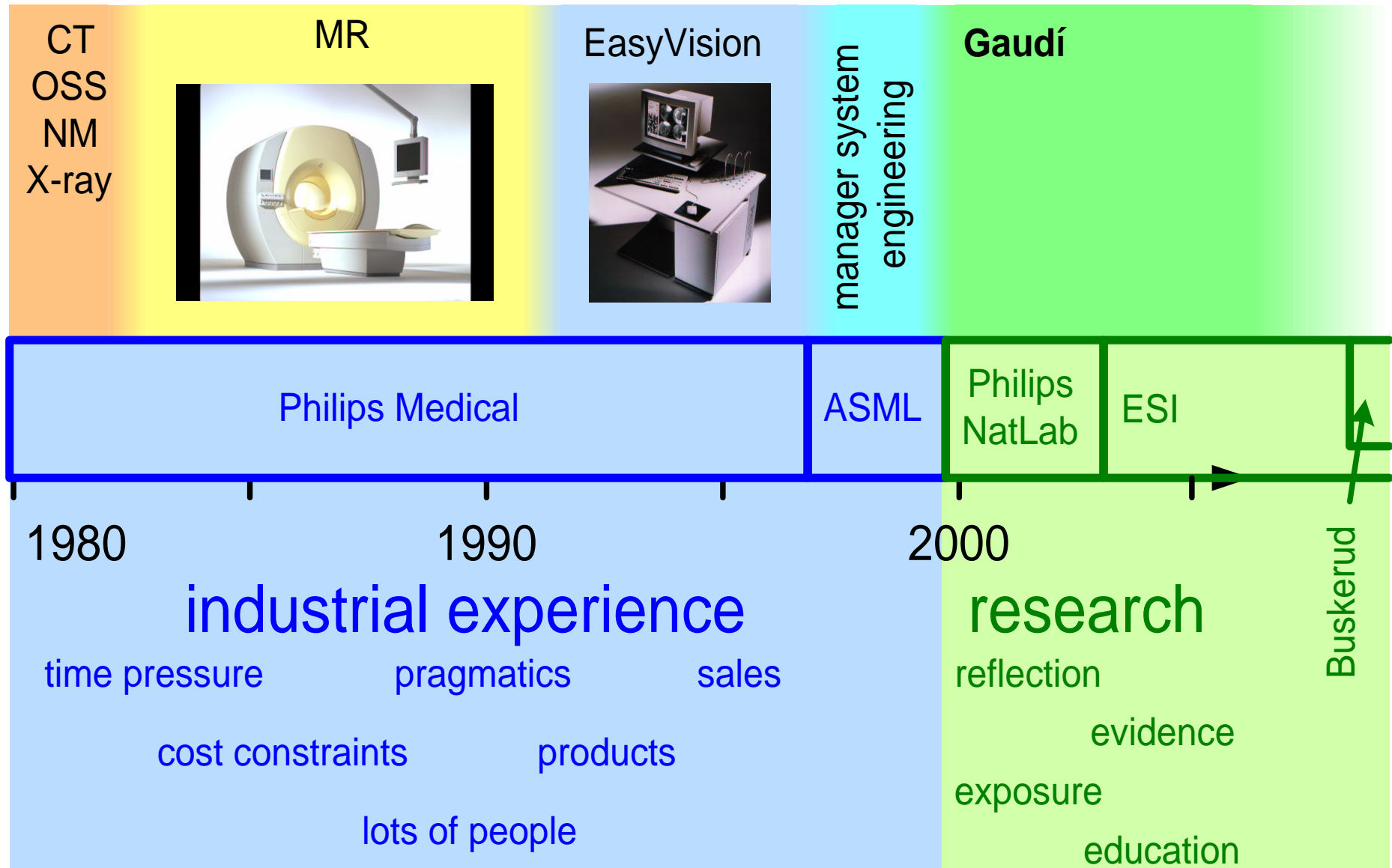
4. Results

5. Future



6. Published
Book

Background Gerrit



1. Who is
Gerrit

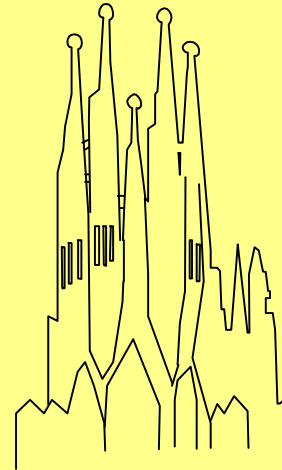
Gaudi Project

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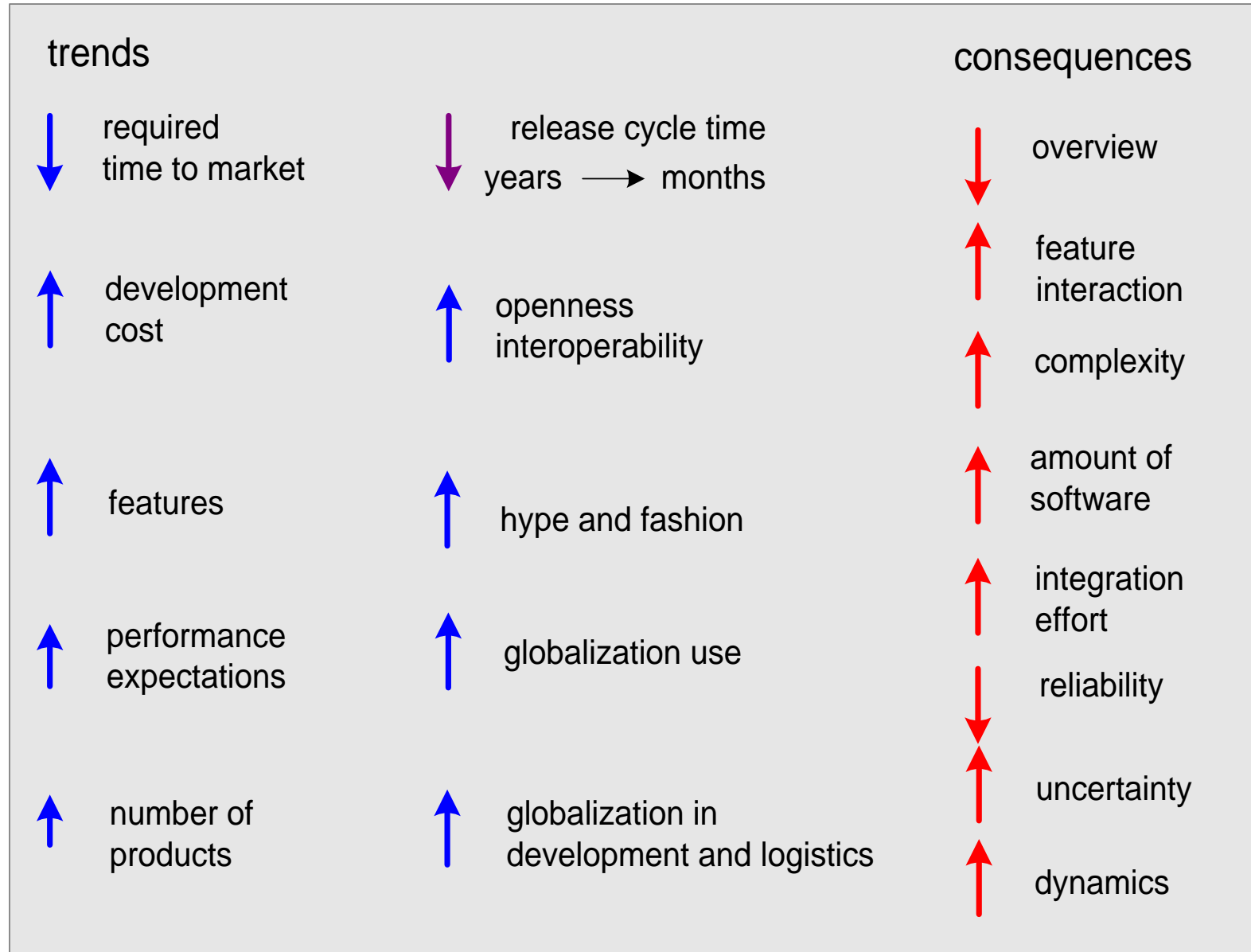
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Companies need more Systems People!



Goals of the Gaudí Project

- Consolidate existing Systems Architecting Methods
evaluate, reflect, generalize
- Make the Systems Architecting art more accessible
case descriptions
- Enable the education of (future) System Architects
curriculum, course material
- Research new or improved Systems Architecting Methods
industry as laboratory

Gaudisite.nl home page

Navigation

- Home
- Reading Guide
- Gaudi project
- Books
 - System Architecting
 - Architectural Reasoning
 - CAFCR; PhD thesis
 - Supporting Processes
 - Composable Architectures
 - Human Measure
- Courses
 - Course descriptions
 - BUC master Systems Eng. SARCH
 - MSARCH
 - CAFCR course
 - ESA stakeholders
 - Platforms and evolubility
 - System Modeling & Analysis
 - Performance EA, ASP
 - OOTI requirements eng.
 - MASTERS ES context
 - Bachelor System Design
- Case studies
 - Medical Imaging
 - EasyVision
 - Wafersteppers
- System Architecting Links
- Doctoral Dissertations
- Python Links
- Reviewed Publications
- Recent Changes
- Pictorial index
- Statistics of the Gaudi website
- Map of Gaudi papers
- Map of Gaudi slides
- Buskerud University College
- Embedded Systems Institute
- Personal Information
- Website tools

Books

Courses

Cases

Research & Education

search

Major Books and Courses

Most recent changes

Down load top 10

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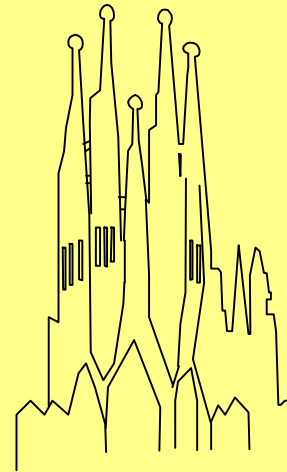
Gaudi Project

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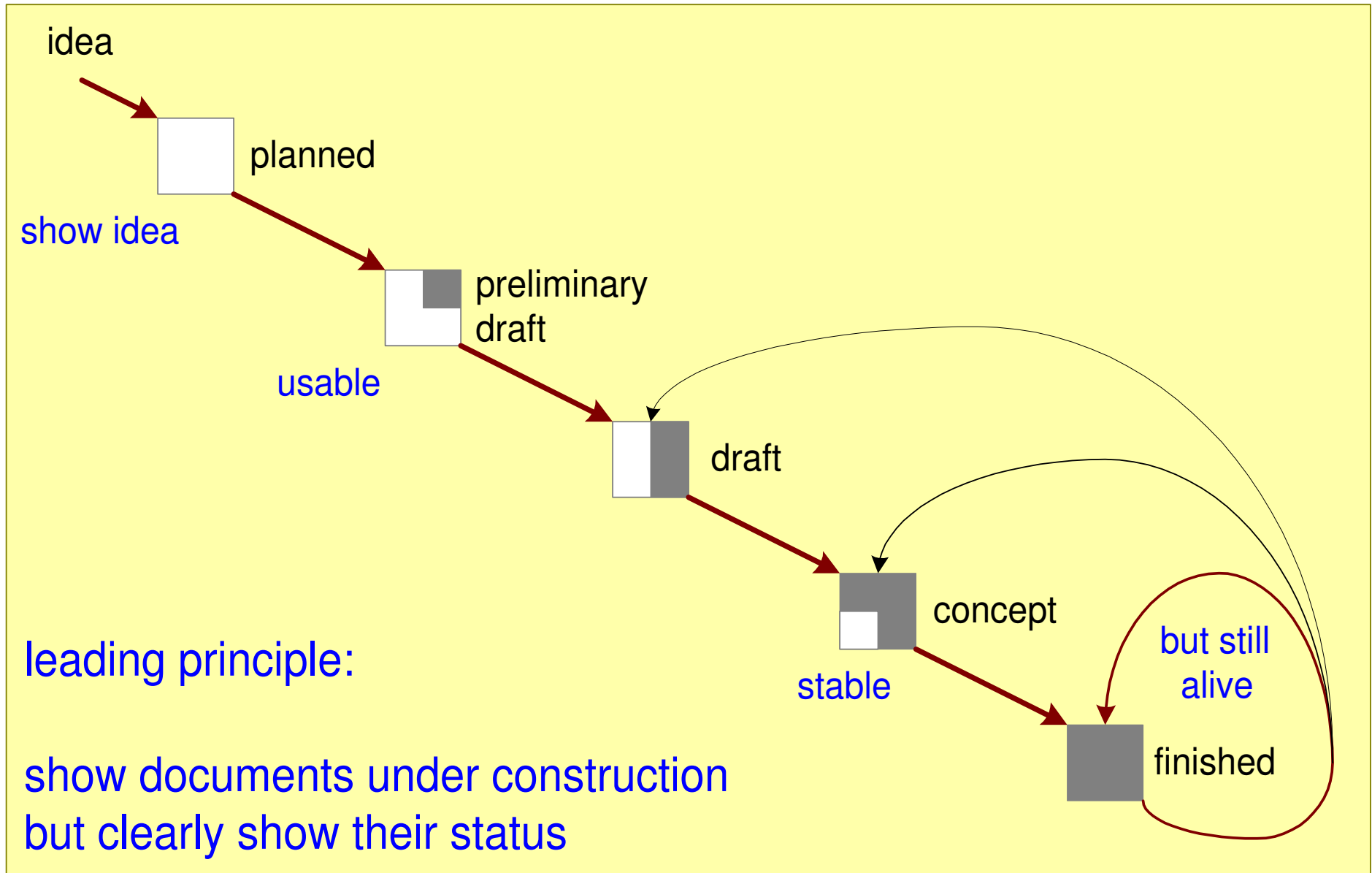
4. Results

5. Future

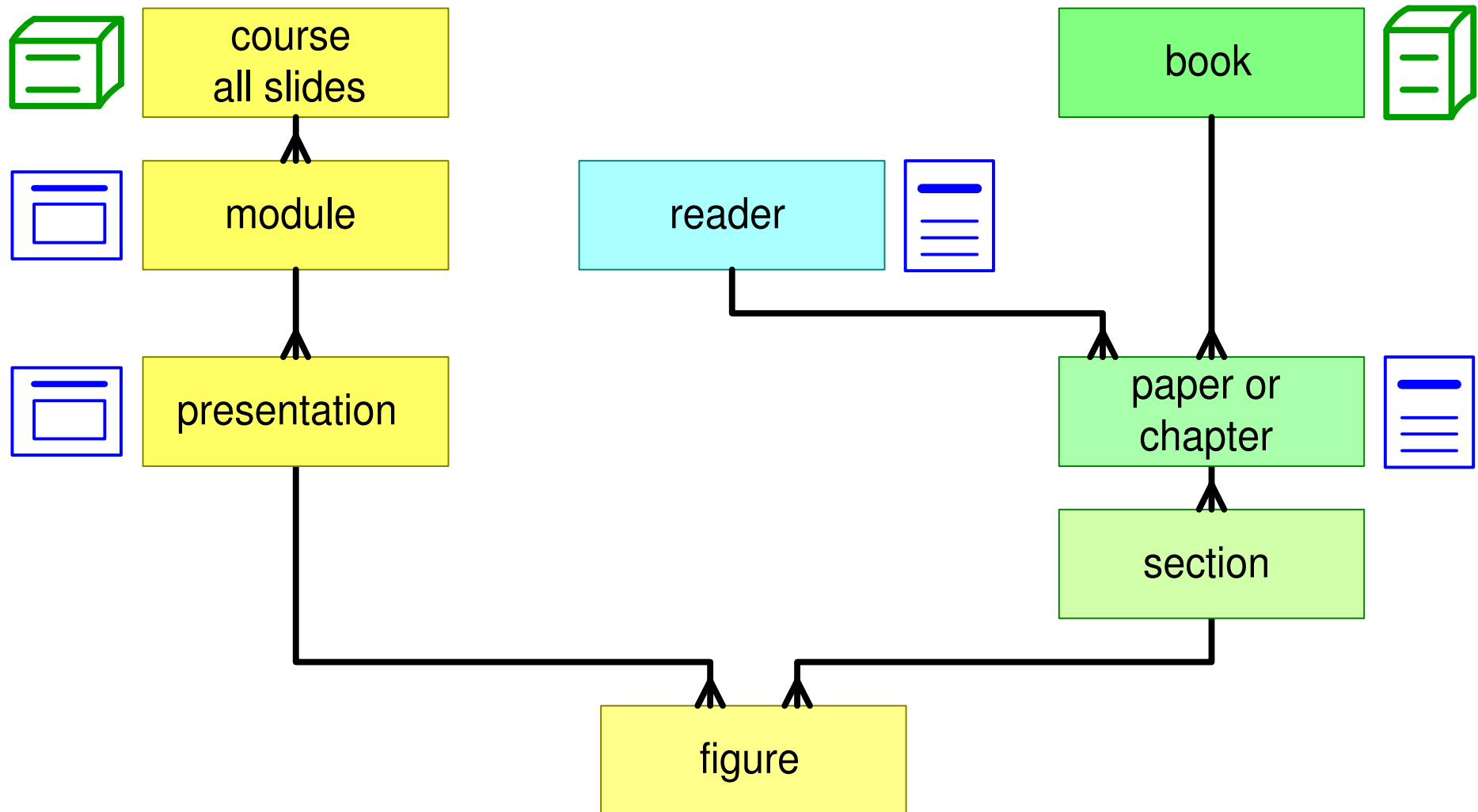


6. Published
Book

Show Early to Get Feedback



Modular approach



Example Book "Systems Architecting"

System Architecting - Mozilla Firefox

Bestand Bewerken Beeld Geschiedenis Bladvijzers Extra Help

http://www.gaudisite.nl/SystemArchitecting.html

Meest bezocht Aan de slag Laatste nieuws

Gaudí System Architecting

System Architecting

Systems Architecting

- System Architecting
- System Architecture: The Silver Bullet?

Processes

- Process Decomposition of a Business
- What is a Process
- The Product Creation Process
- The Importance of Feedback for Architecture
- The System Architecture Process

The System Architect as a Person

- The Awakening of a System Architect
- The Role and Task of the System Architect
- Function Profiles; The sheep with 7 legs
- Architecting Interaction Styles

Market, Requirements, Roadmapping

- Requirements
- The role of roadmapping in the strategy process
- Roadmapping
- Market Product lifecycle consequences for architecting

Product Families, Generics and Software

- Product Families and Generic Aspects
- Product Family Business Analysis and Definition
- Role of Software in Complex Systems

Management and Architects

- The Tense Relation between Architect and Manager
- How to present architecture issues to higher management
- Simplistic Financial Computations for System Architects.
- How to appraise or assess an architect?

Systems Architecting Related

- Tutorial Software as Integrating Technology in Complex Systems
- Role of Systems Architecting in Innovation
- What is a Good Requirement Specification?
- The Informal Nature of Systems Engineering
- From Autonomous Subsystems to Integrated System
- Architecture and Standardization

Book Systems Architecting

Paper Process Decomposition

Slides Process Decomposition

Link document meta information Process Decomposition

Home
Reading Guide
Gaudí project
Books
Courses
Case studies
System Architecting Links
Doctoral Dissertations
Python Links
Reviewed Publications
Recent Changes
Pictorial index
Statistics of the Gaudí website
Map of Gaudí papers
Map of Gaudí slides
Buskerud University College
Embedded Systems Institute
Personal Information
Website tools

Buskerud University College

11

Example Document "Process Decomposition"

Gaudi System Architecting

Process Decomposition of a Business

abstract This article describes the system architecture process in a wider business scope. The goal of this article is intended to help understanding the processes in which the architect (or team of system architects) is involved.

It focuses on an organization that creates and builds systems consisting of hardware and software. Although other product areas such as solution providers, services, courseware, et cetera also need system architects, the process structure will deviate from the structure as presented here.

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slides [paper + slides + sources](#)
source

status: draft
download statistics: [Slide status](#)
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History

1.0 July 2000 Gerrit Muller

- change history
- some visualization improvements
- figures according to naming convention

0.3 April 9 2002 Gerrit Muller

- minor changes only

0.2 September 21 2001 Gerrit Muller

- abstract added

0.1 March 7 2000 Gerrit Muller

- Generic **Something** Creation Process changed in Generic **Developments** Creation Process

figures [Figure thumbnails](#)

[Figure Process Decomposition](#)

Example Figure "Process Decomposition"

The diagram illustrates the 'Process Decomposition' for a customer. It is structured as follows:

- customer** (top level)
- Policy and Planning Process** (left side)
 - Inputs: Customer Roadmap, Business Drivers
 - Outputs: Technology, Process and People roadmaps, Budgets, Product roadmap, Budget, plan, Product Requirements and feedback
- Customer Oriented Process** (middle)
 - Inputs: Information, Order, Product, \$\$\$, Support
 - Outputs: presales sales, logistics, production, service, \$\$\$, material
- Product Creation Process** (bottom middle)
 - Inputs: Requirements and Feedback, Technical Product Documentation, Product related processes
 - Output: People Technology Process
- People and Technology Management Process** (bottom)
 - Input: People Technology Process

Figure Process Decomposition

PDBprocessDecomposition

wmf file for easy import in PowerPoint [PDBprocessDecomposition.wmf](#)

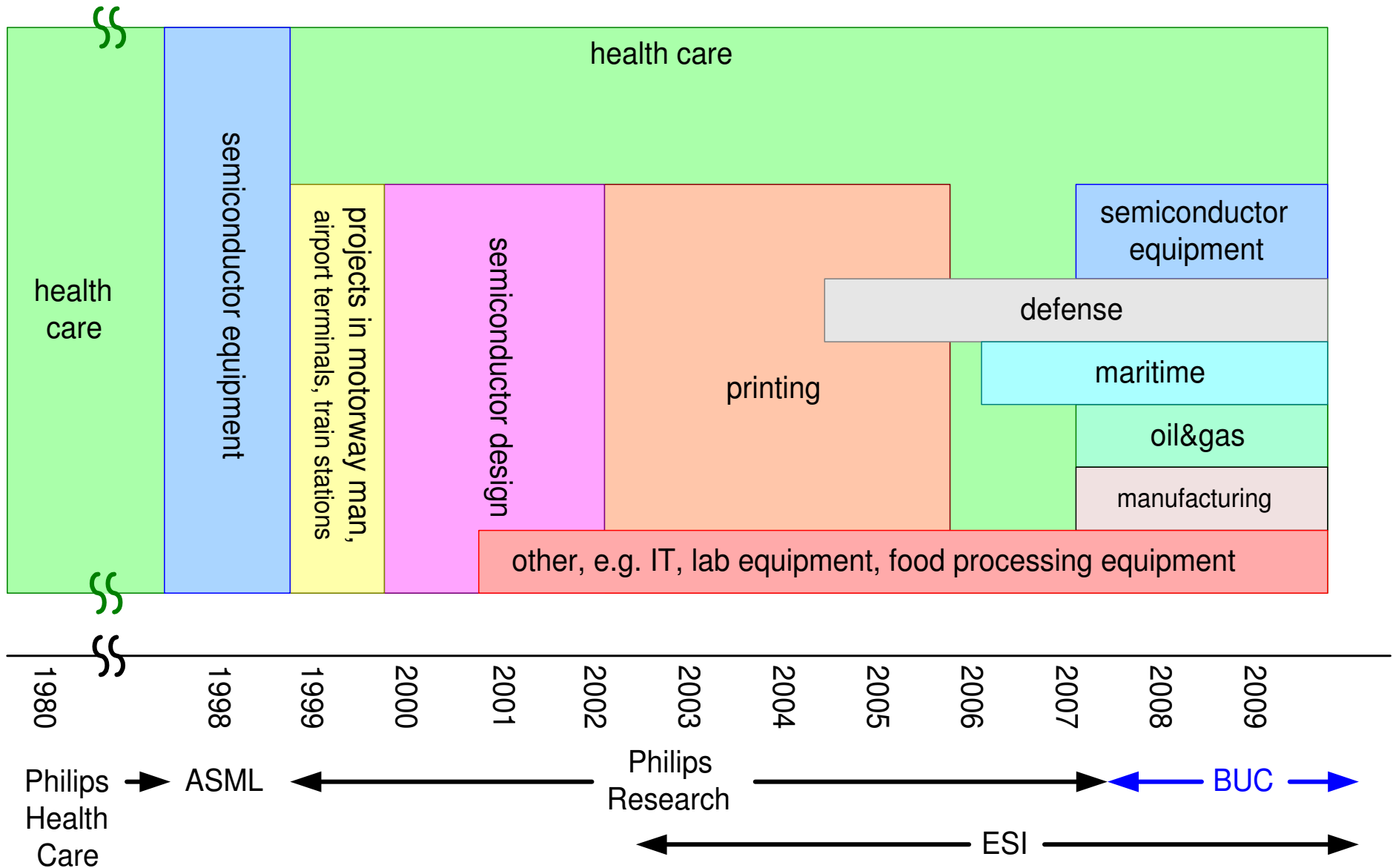
cross reference

- allSlides: [All lecture slides for ESA stakeholders](#)
- Book: [Human Measure and Architecting](#)
- Paper: [Process Decomposition of a Business](#)
- allSlides: [All lecture slides for SARCH](#)
- allSlides: [All lecture slides SARCH for management teams](#)
- Book: [System Architecting](#)
- Paper: [Module 01, System Architecture Context](#)
- allSlides: [Masters Course The Context of Embedded System Design](#)
- Paper: [Decomposing the Architect, What are Critical Success Factors?](#)
- Slides: [Decomposing the Architect, What are Critical Success Factors?](#)

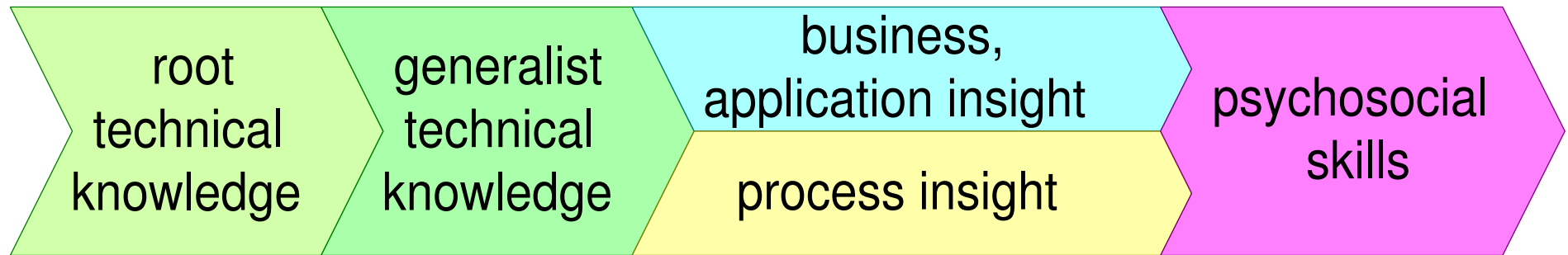
*link to wmf version of figure
(Windows Media Format)
Powerpoint and Word compatible*

*Cross Reference for
Figure Process Decomposition*

Leading Domains



Growth of the System Architect



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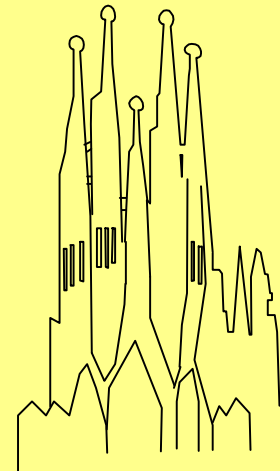
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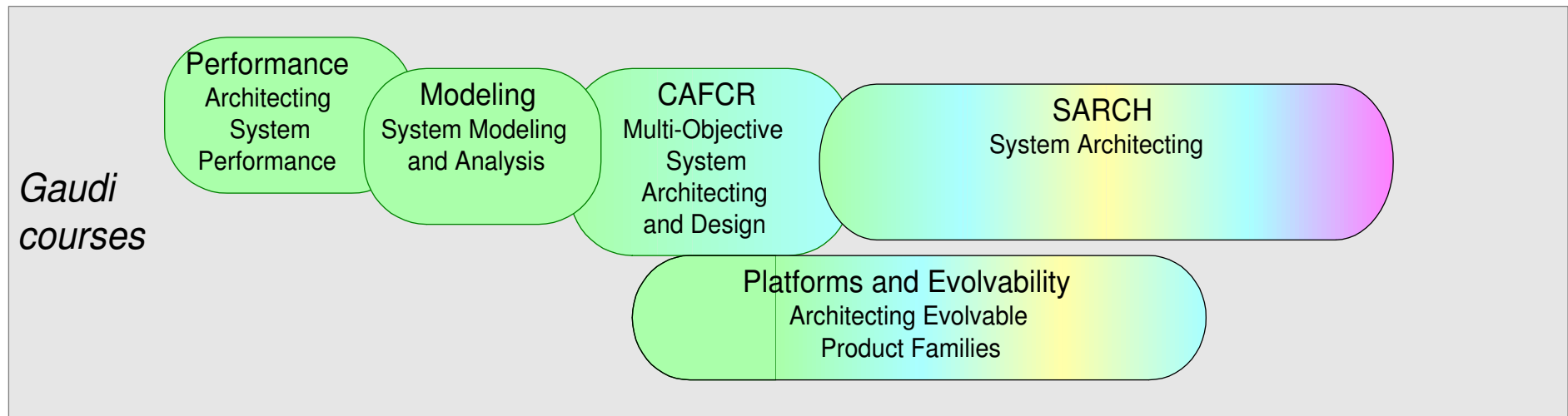
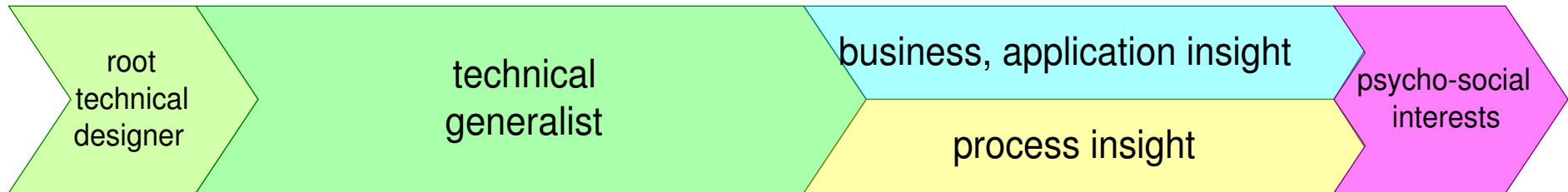
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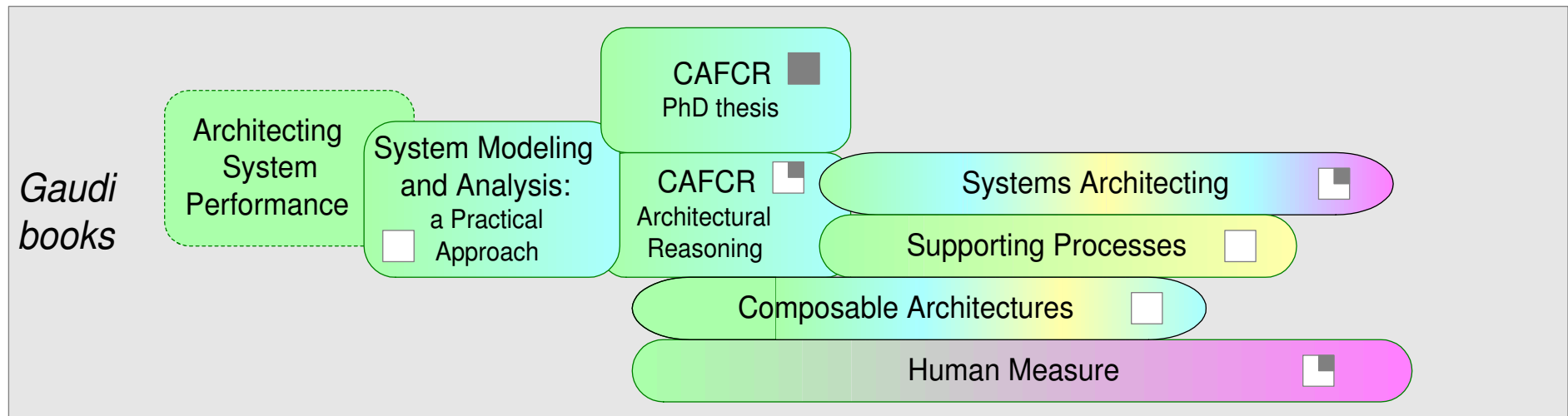
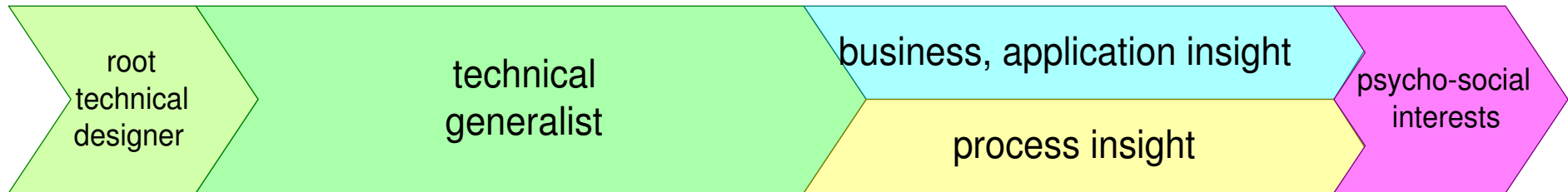


6. Published
Book

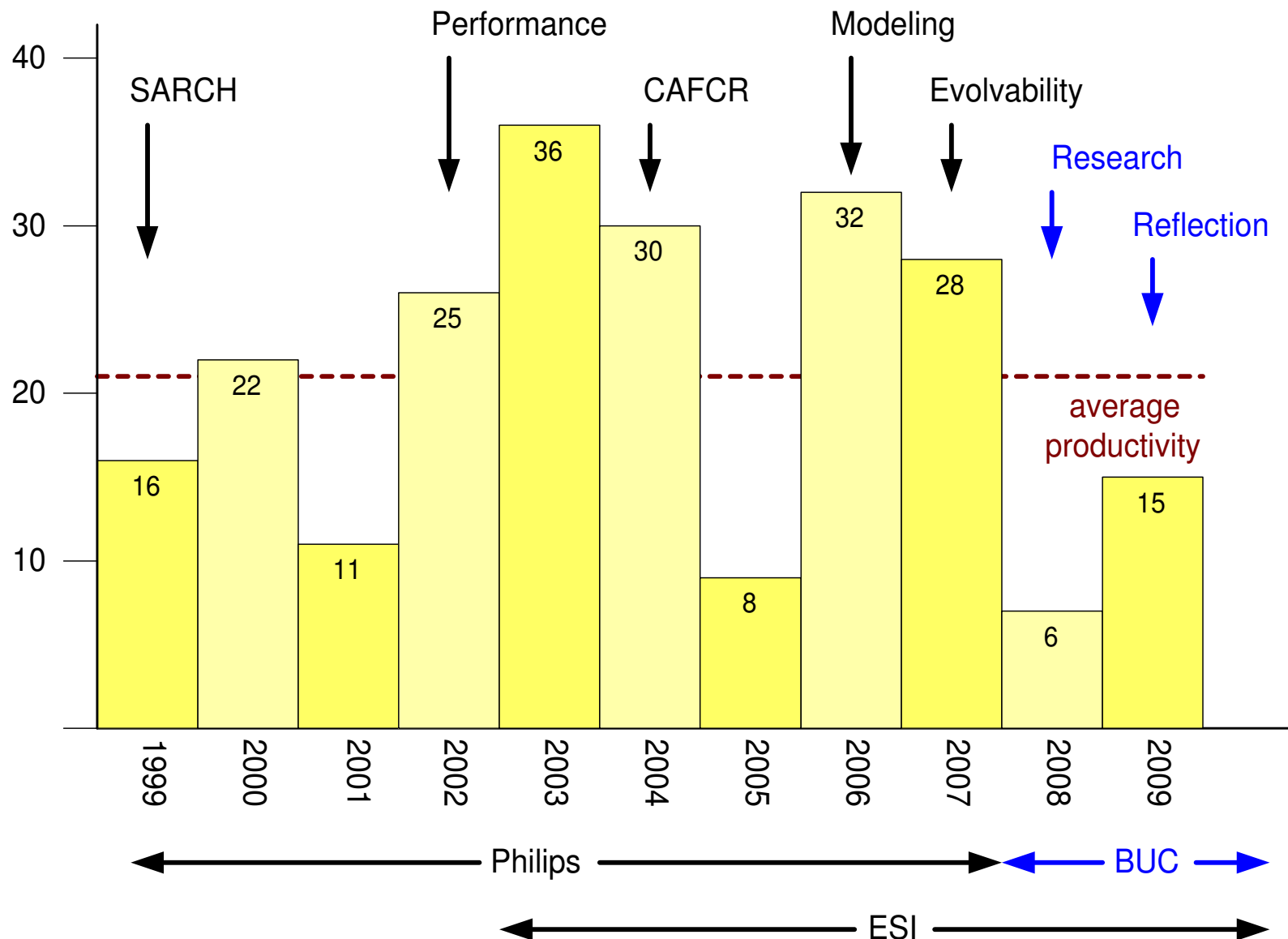
Positioning Courses



Positioning Books



Productivity: number of new entries



Different Perspectives

industrial perspective

academic perspective

<p>valuable useful</p> <p>industrial relevance of subject</p>	<p>new original</p> <p>scientific relevance of subject</p>
<p>goal, solution oriented how to ——— practical</p> <p>————— broad integral</p>	<p>knowledge oriented ——— deep</p> <p>why, what</p>
<p>other contributors are reviewers single author ——— clear responsibility</p>	<p>including reviewers all contributors are authors</p>
<p>pointers to related relevant information</p>	<p>pointers to related scientific work ——— self citations are not-done</p>
<p>clear description juicy description understandable lots of signal, very low noise level</p>	<p>clear argumentation every statement is supported by reference, verifiable facts ——— blocks broadly interested correct language ——— scientists in development clear positioning, well linked in with existing scientific work</p> <p>strong cultural filter in scientific magazines and conferences</p>

productivity

low overhead (e.g. reviews)

few constraints (e.g. academic musts)

immediate feedback (especially through courses)

80/20 principle (80% of value in 20% of effort)

no territorial problems (co-authors)

free choice of tooling (Visio, Latex, Python)

modular, incremental and evolutionary approach

value

practitioners appreciate info

academics appreciate info

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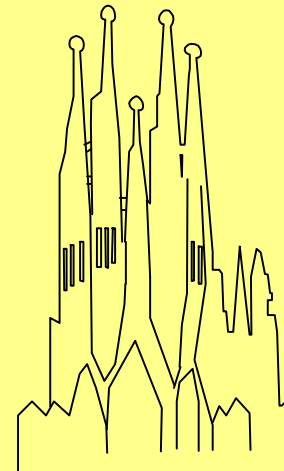
Gaudi Project

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Ideas for Near Future

	2010	2011	2012
Education	SE master program Reflective Practice yr 2 Master Project Modeling and Analysis Bachelor level	Reflective Practice yr 3 System Design Systems Engineering for other masters	SE PhD program
Research	Master Projects Methodology Research Agenda	staffing research model	PhD Projects Methodology broadening
SE Networks	local: SESG, BUC alumni, strategy&roadmapping, KSEE ESI Sr architecten global: architectingforum.org, SoSE network INCOSE academic forum, symposium, CSER, SEANET		
Tools, website	navigation and search	<i>ideas are welcome!</i>	
Book publication	Systems Architecting in Context	Multi-view Architecting and Modeling	

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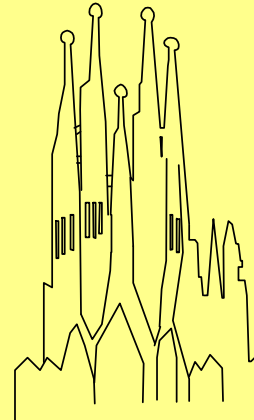
Gaudi Project

2. Goals

3. Process and
Concepts

4. Results

5. Future



**6. Published
Book**

Stakeholders

Publisher

acquisition

sales

support

Author

Readers

industrial system engineers

(junior..senior..fellow)

managers

(e.g. project leader, line manager)

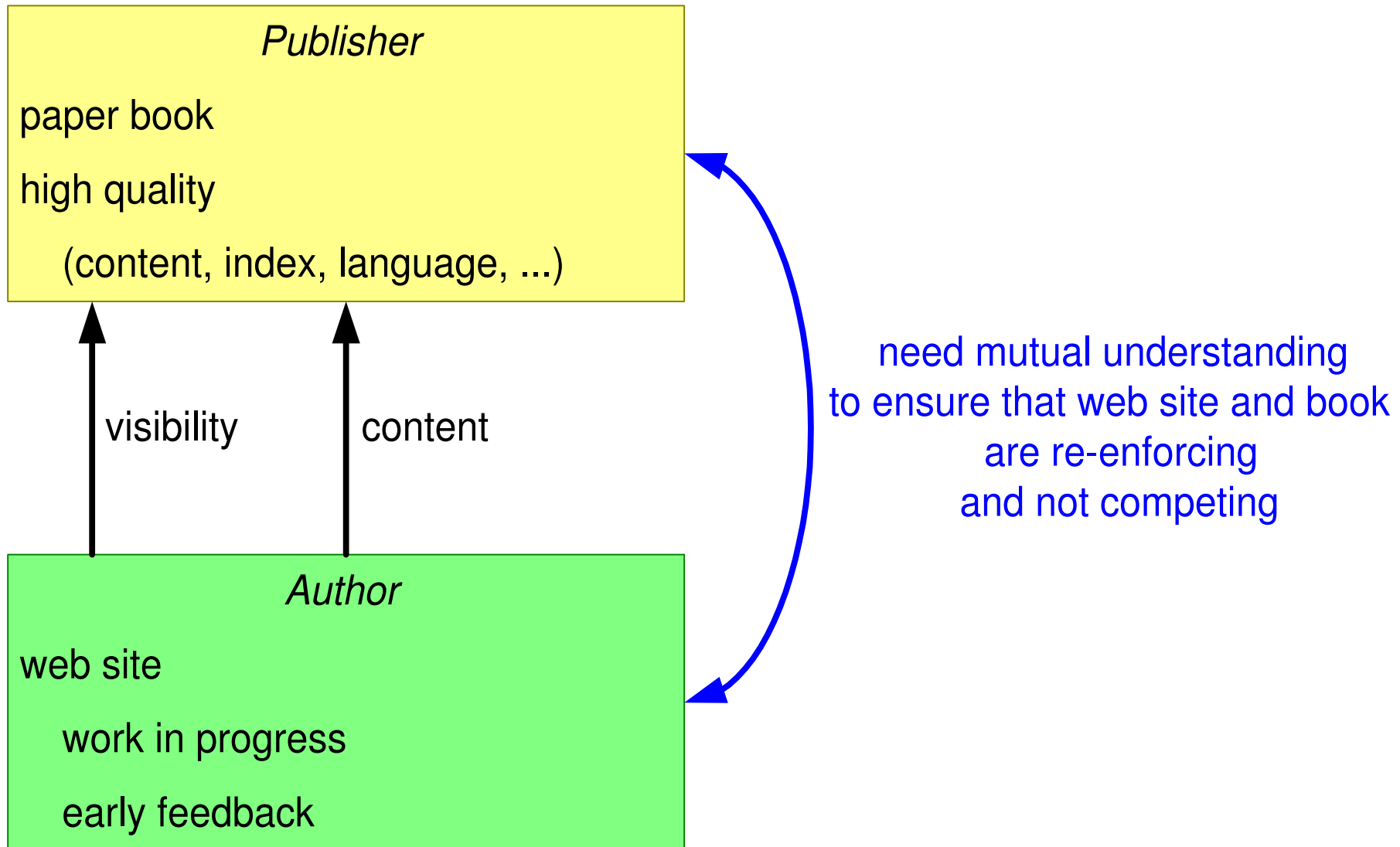
students

(bachelor, master, PhD)

academics

(e.g. professor, teacher, researcher)

Value Proposition



Content

1. How does systems architecting fit in the **organization** and its **processes**?
2. **What** are **deliverables**, **responsibilities** and **activities** of the system architect?
3. How to **elicit requirements**?
4. What **methods**, **tools** and **techniques** are available for the architect?
5. How to anticipate on **future needs**, **trends**, and **changes**?
6. How to **harvest synergy**?
7. How to **present** to less technical **management teams**?
8. What **human factors** impact systems architecting?
9. How to **apply** this material in the own **organization**, short term and long term.

Work to Do

to do

find publisher, agree on approach

integrate all chapters

remove duplications

make consistent

determine order

unify terminology

add foreword, glossary, index, ...

improve language quality

ensure greylevel quality images

current status



1 chapter



8 chapters



7 chapters



4 chapters



0 chapters

Conclusions

Open development yields high productivity.

Feedback mainly through teaching and presentations.

Practitioners appreciate material.

Academics appreciate material, but don't know how to cope with unconventional model.

The final 20% to finish is a lot of work.

Paper books will be around for a few more decades.

Your feedback is highly appreciated and always welcome!