



# Seminar Software Architecture About the Seminar

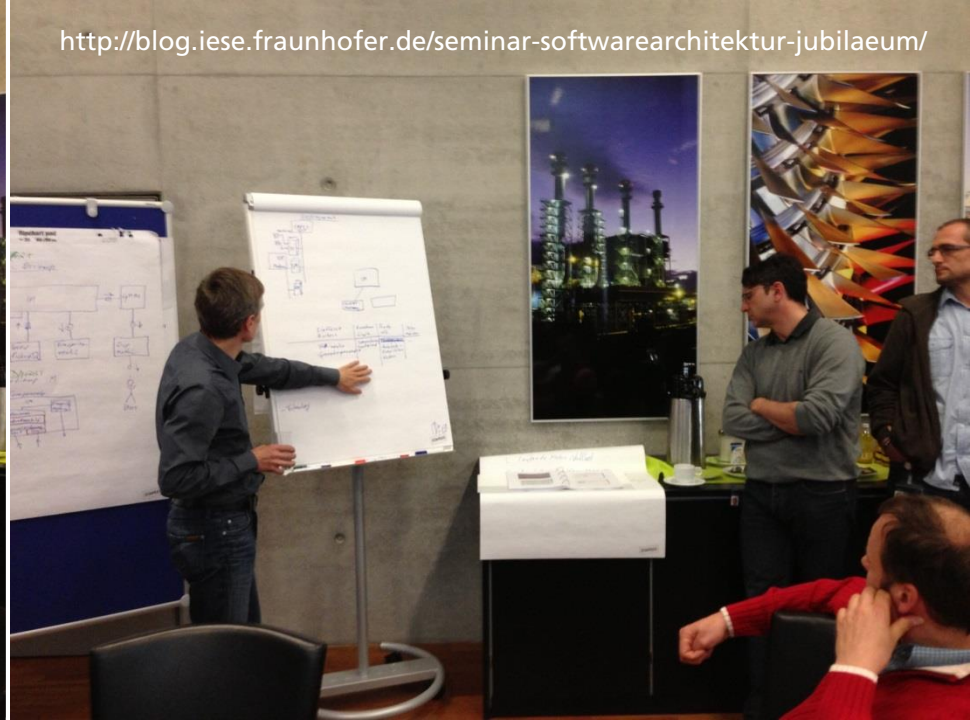


Dr. Dominik Rost  
Dr. Matthias Naab  
Balthasar Weitzel  
Dr. Pablo Antonino  
Dr. Johannes Schneider

# Onsite @ customer



<http://blog.iese.fraunhofer.de/seminar-softwarearchitektur-jubilaeum/>



# Academy @ IESE



> 350 participants since 2010



# About the Seminar

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**ACES –  
Architecture-Centric Engineering Solutions**

**The Fraunhofer Approach for  
Modeling Software and System Architectures**

**Compiled Best Practices from literature,  
scaled and tailored for effective architecting in practice**

**More than 20 years of architecting experiences across domains:  
Embedded Systems, Information Systems, Smart Ecosystems**



# In this Seminar, We Show You...

- ... the “big picture” of architecture
- ... and how to:
  - Elicit architecturally-significant requirements
  - Design architectures
  - Document architectures
  - Evaluate architectures
  - Reconstruct architectures
  - Communicate architectural decisions
  - Benefit from architectures
  - Successfully work as a software architect 😊!
- **But...**

# The Seminar

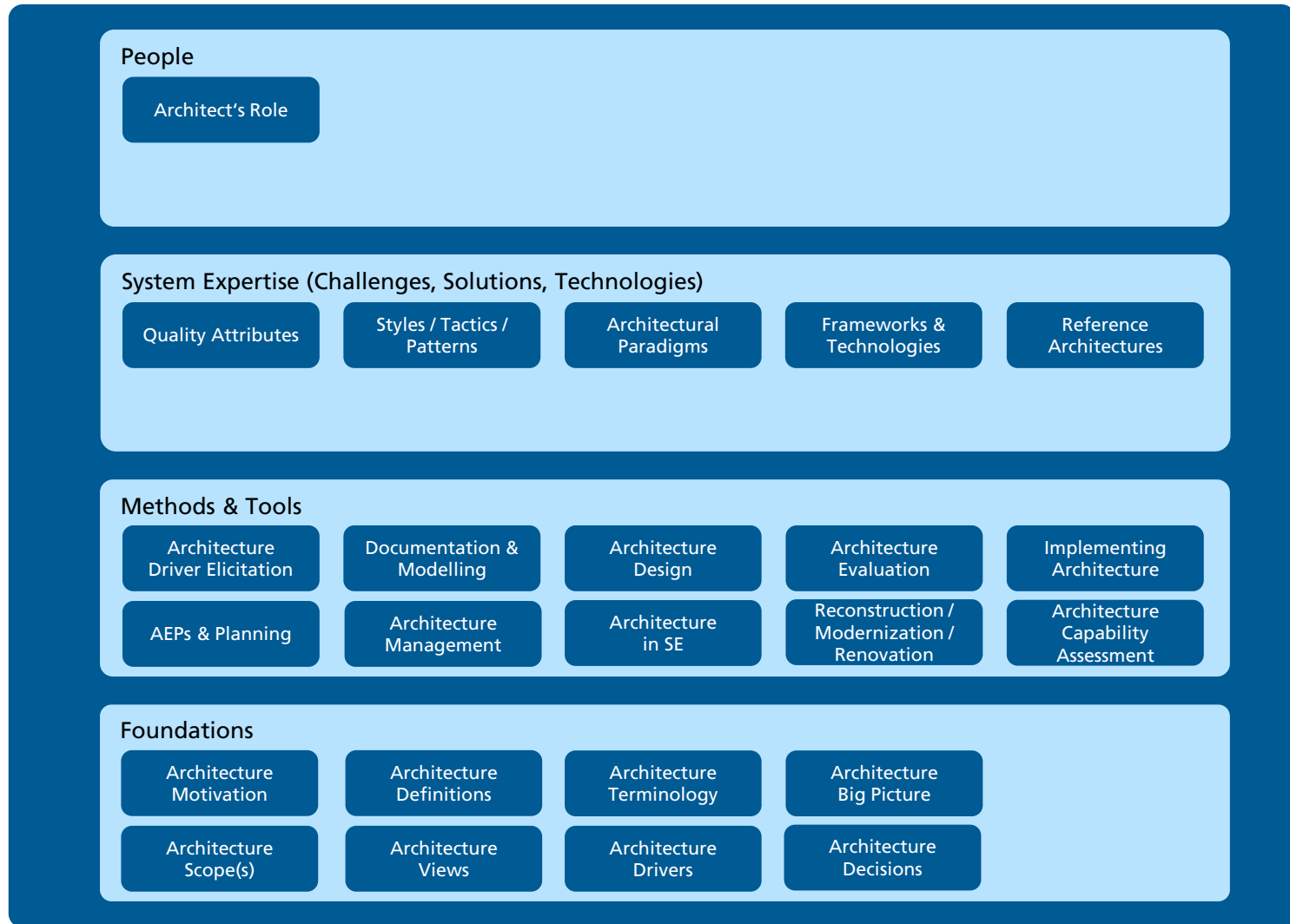
## What it is

- Real world questions
- For practitioners
- Interactive
- Paradigm-spanning
- Using technologies
- Integrated method  
→ the **big picture**

## What it is NOT

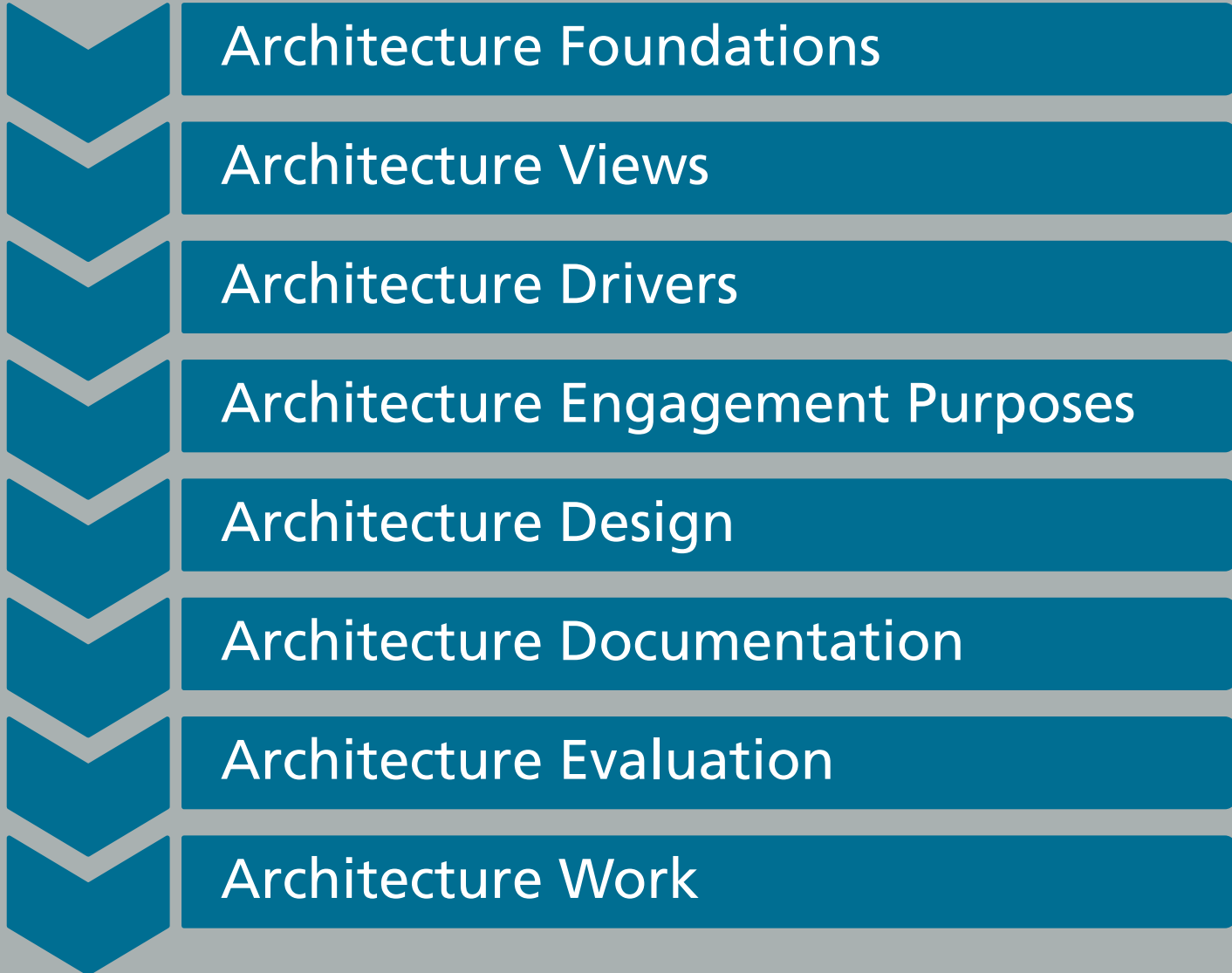
- Out-of-touch architecture
- Academic and formal
- One-way lecture
- OOD/OOP course
- Technology course

# Architecture Competence Areas



# Agenda





	Mon	Tue	Wed	Thu	Fri
09:00-10:30	Architecture Foundations	Architecture Engagement Purposes	Architecture Evaluation	Enterprise Architect Introduction	Design in Depth
Coffee					
11:00-12:30	Architecture Views	Architecture Design	Architecture Evaluation	Enterprise Architect Exercises	Design in Depth
Lunch					
13:30-15:00	Architecture Drivers	Architecture Design	Architecture Work	Enterprise Architect Exercises	Design in Depth
Coffee					
15:30-17:00	Architecture Drivers	Architecture Documentation	Feedback & Wrapup	Enterprise Architect Exercises	

# Day 1 – Fundamentals of Software Architecture

- Motivation of software architecture
  - What is software architecture?
  - Why do we need it?
  - How can we make use of it?
  - The big picture of software architecture ... (Definitions and Landscape)
- Project examples – success factor architecture
- Architecture decomposition framework (ADF)
  - Which aspects about architecture are there?
  - How to document them in architecture views?
  - Which views do I need for my purposes?
- Stakeholders of architecture
  - Which stakeholders are there and what do they want?
  - The role of the architect
- Stakeholder analysis and architecture drivers
  - What are architecture drivers?
  - How to capture architecture drivers?

# Day 2 – Design

- Design process overview
- Scenario-driven design
  - Functionality-driven decomposition
  - Data-driven decomposition
  - Deployment-driven decomposition
  - Designing for quality attributes
  - Design with patterns
- Connecting architecture and implementation
- Architecture documentation
- Context factors affecting architecture in real projects

# Day 3 – Evaluation of Architecture

- Motivation of architecture evaluation
  - Practical example
  - Which decisions can we support with architecture evaluation?
- Overview on architecture evaluation
  - Concern elicitation check
  - Architecture adequacy assessment
  - Sound documentation assessment
  - Distance investigation (Compliance checking)
  - Code quality assessment
  - Sustainability check
- Techniques for architecture evaluation
- Audit experiences

# Day 4 – Tool-based Modeling

- Introduction to architecture modeling
  - Overview on available tools
  - Limitations
  - How to use UML modeling tools as architecture modeling tools
  - In the seminar, we use Enterprise Architect as our modeling tool
- Enterprise Architect (Sparx) Basics
  - Profiles, Toolboxes, Addins
- View modeling
  - Instantiating the architecture decomposition framework (views)
  - Practical modeling exercises
- Documentation generation

# Day 5 – Architecture Design in more Depth

- More guidelines for architecture design
- Topics (to be selected from)
  - Modularity
  - Modernization & Renovation
  - Domain-Driven Design & Microservices
  - Cloud Computing
  - Data-Driven Design
  - DevOps
  - Event-Driven Design
  - Comprehensive Examples

# Feedback of Participants



## What I liked best ...

“The quality and credibility of the content taught”

“The switching between theory and practical exercises”

“The substantial conversations with the seminar leaders and the participants outside the official meetings”

“The fact that the participants came from various domains and thus opened up different/new perspectives”



## How would you summarize the seminar in one sentence?

“At the seminar, a comprehensive proposal was made regarding how to design the role of the architect.”

“Well organized, very helpful. Thank you!”

“Provided a sensible summary of the complex issue of software architecture to create a good basis on which to build further.”

“A comprehensive overview of this topic and with practical in-depth information/applications; good exchange with colleagues from other companies.”

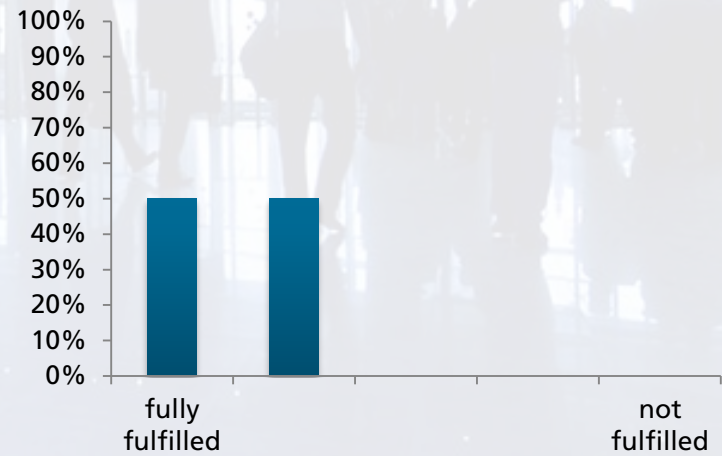
“Enriching”



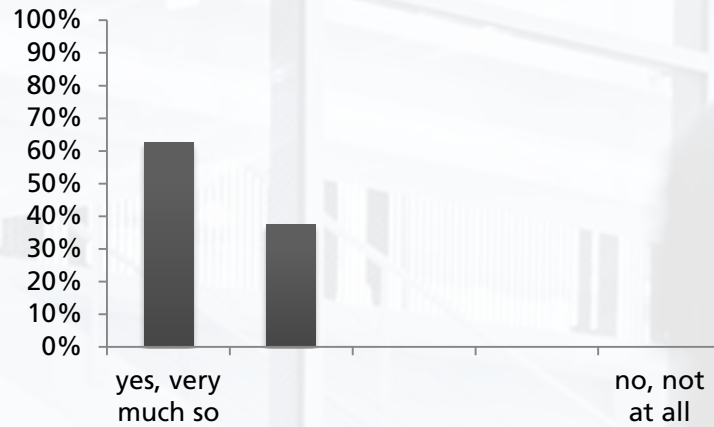
Overall, my opinion regarding the seminar is that I am ...



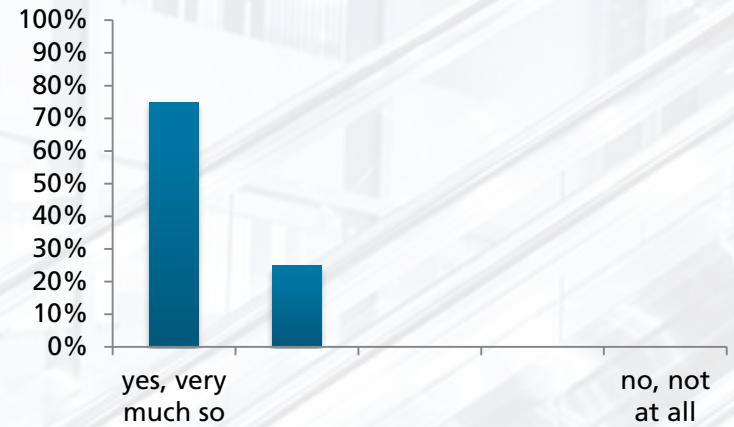
My expectations regarding the seminar were ...



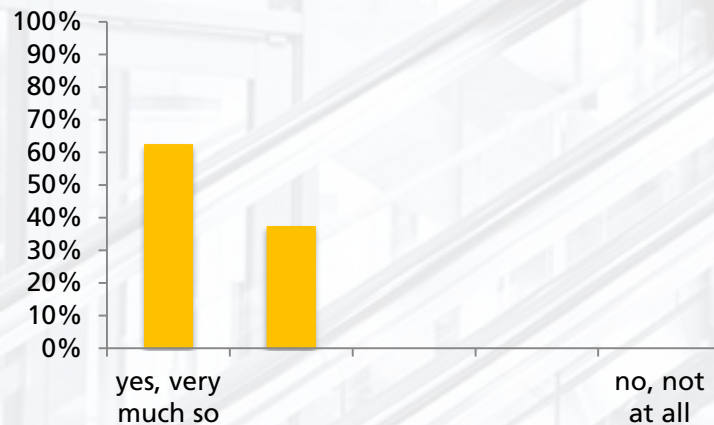
The lecturers presented the topic in an understandable manner.



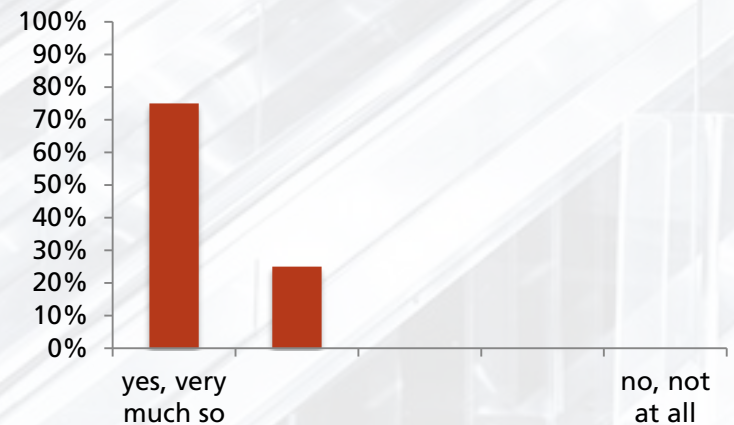
The lecturers created a relaxed Learning atmosphere.



The lecturers paid attention to the needs of the participants.



The lecturers are professionally competent.



## **Kontakt**

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