

## Integrated development with ModelBus

Dr. Tom Ritter; [tom.ritter@fokus.fraunhofer.de](mailto:tom.ritter@fokus.fraunhofer.de)



March 2012, Polarsys Meeting, Bilbao



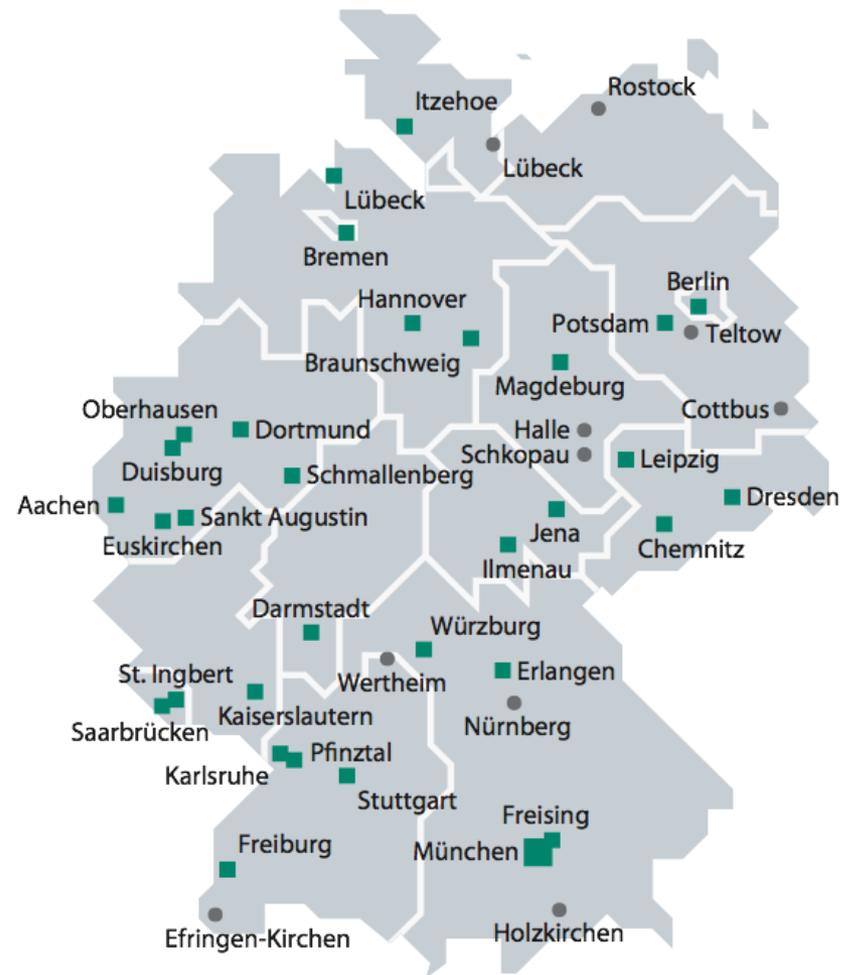
# Fraunhofer in Germany and Worldwide

At present Fraunhofer Germany maintains

- 57 Fraunhofer institutes
- with a staff of 17.000 scientists & engineers

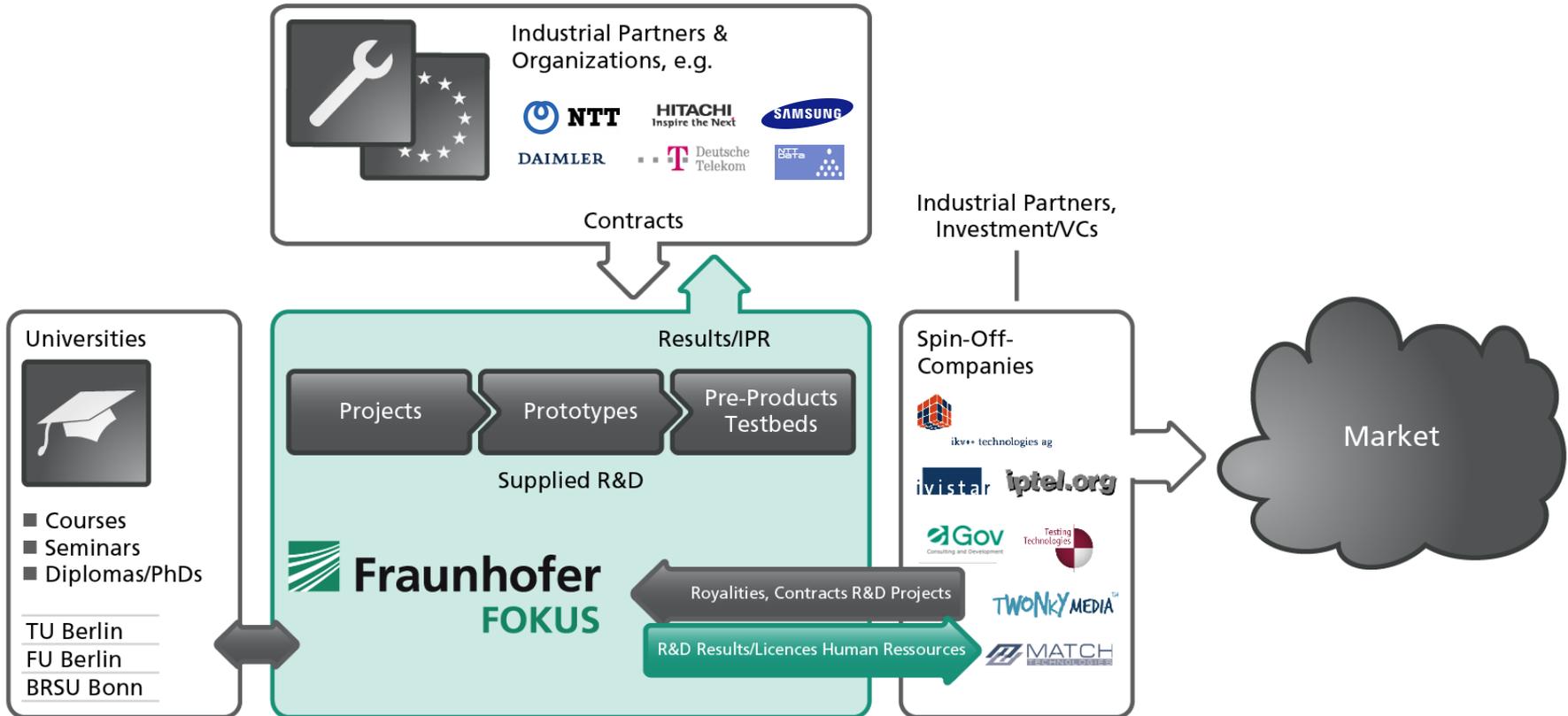
Worldwide

- 2009: Fraunhofer Portugal, Austria
- 2009: Fraunhofer is founding member of the eCAESAR Association in Romania
- Fraunhofer USA, Inc. maintains 7 centers next to the headquarters in Plymouth, MI
- In Asia, Fraunhofer offices are located in China, Indonesia, Korea and Japan



# FOKUS

## A virtual organization - from idea to market



# FOKUS Spin-offs



ikv++ technologies ag

IKV++ Technologies AG  
[www.ikv.de](http://www.ikv.de)

IVISTAR AG  
[www.ivistar.de](http://www.ivistar.de)



Testing Technologies IST GmbH  
[www.testingtech.de](http://www.testingtech.de)

Iptel.org GmbH  
[www.iptel.org](http://www.iptel.org)

TwonkyVision GmbH /  
PacketVideo Germany GmbH  
[www.twonkyvision.de/www.pv.com](http://www.twonkyvision.de/www.pv.com)

Match Technologies GmbH  
[www.match-technologies.com](http://www.match-technologies.com)

eGov Consulting and  
Development GmbH  
[www.egovcd.com](http://www.egovcd.com)

OpenRide GmbH i.G.  
[www.open-ride.com](http://www.open-ride.com)

# MOTION – Modeling & Testing for System and Service Solutions

## Construction and Optimization of Software Engineering Processes

### Research & Development

- Model-driven engineering
- Model-based testing & test automation
- Process optimization & automation
- Model management & model quality
- Security and risk-based testing
- Smart cities engineering support
- Conformance, interoperability, performance, and security support
- Cooperation with TU Berlin and FU Berlin



### Laboratories

- CertLab
- eHealth Lab
- Automotive Lab
- Interoperability & Conformance Test Lab

### Key Projects

CESAR, VERDE & SPRINT - Embedded system development & testing  
▪ BSI, DIAMONDS - Security testing and certification  
▪ MUT, OPN - Model-Based Testing  
▪ REMICS - Engineering for the Cloud  
▪ PROVALIDIS – Model-Based Light Engineering  
▪ SimTD, TEMEA - ECU Testing  
▪ OpenCities, OpenData & OutSmart - Smart Cities Engineering

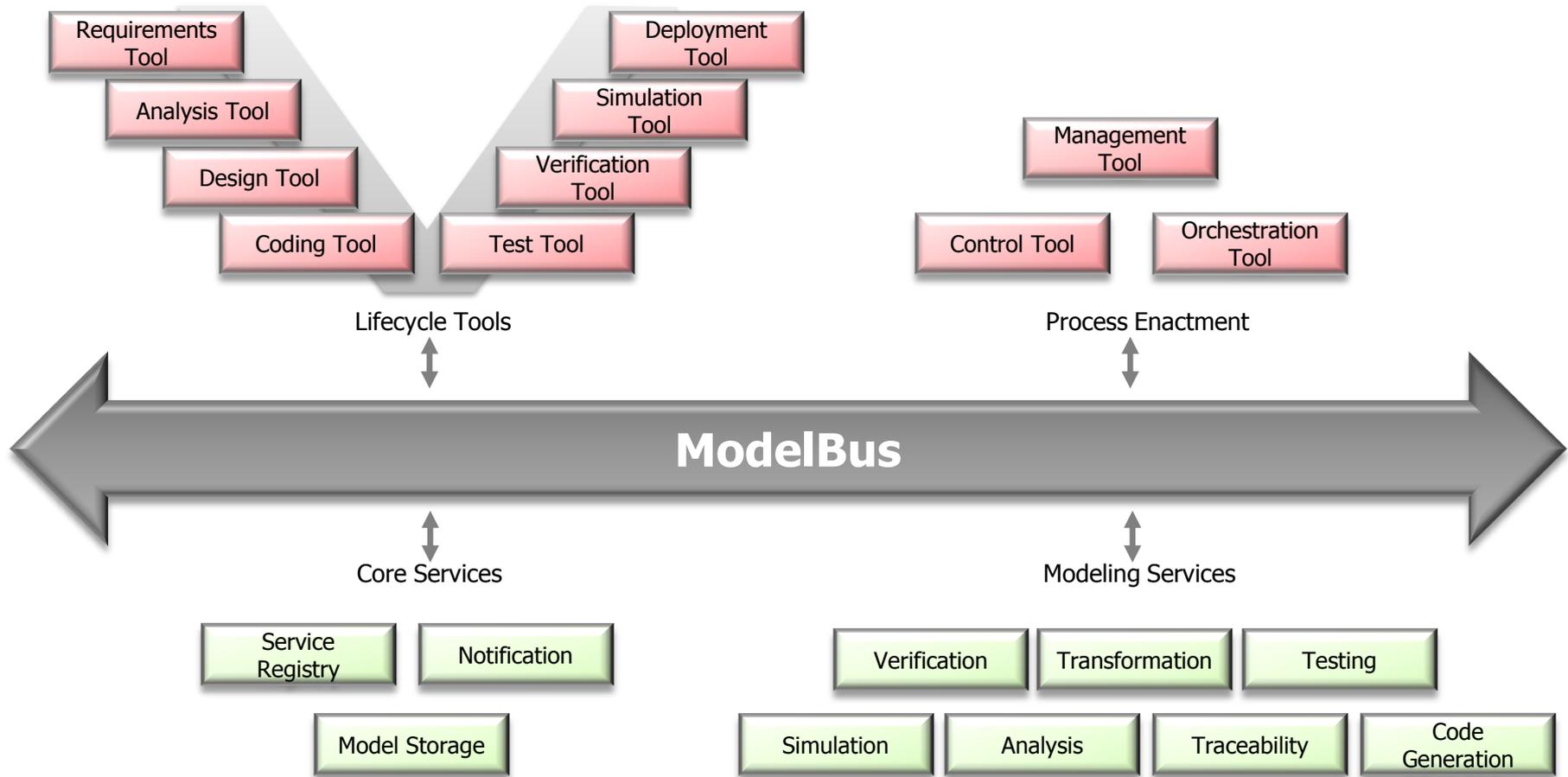
# ModelBus- Introduction

ModelBus is a model-driven tool integration framework which allows you to build a seamlessly integrated tool environment for your development process.

- ModelBus is concerned with the Application Lifecycle Management (ALM)
- ModelBus is based on SOA principles and well established standards
- Commercial off the shelf tools (COTS) can be plugged to ModelBus to make their functionality available
- ModelBus helps automating your engineering processes

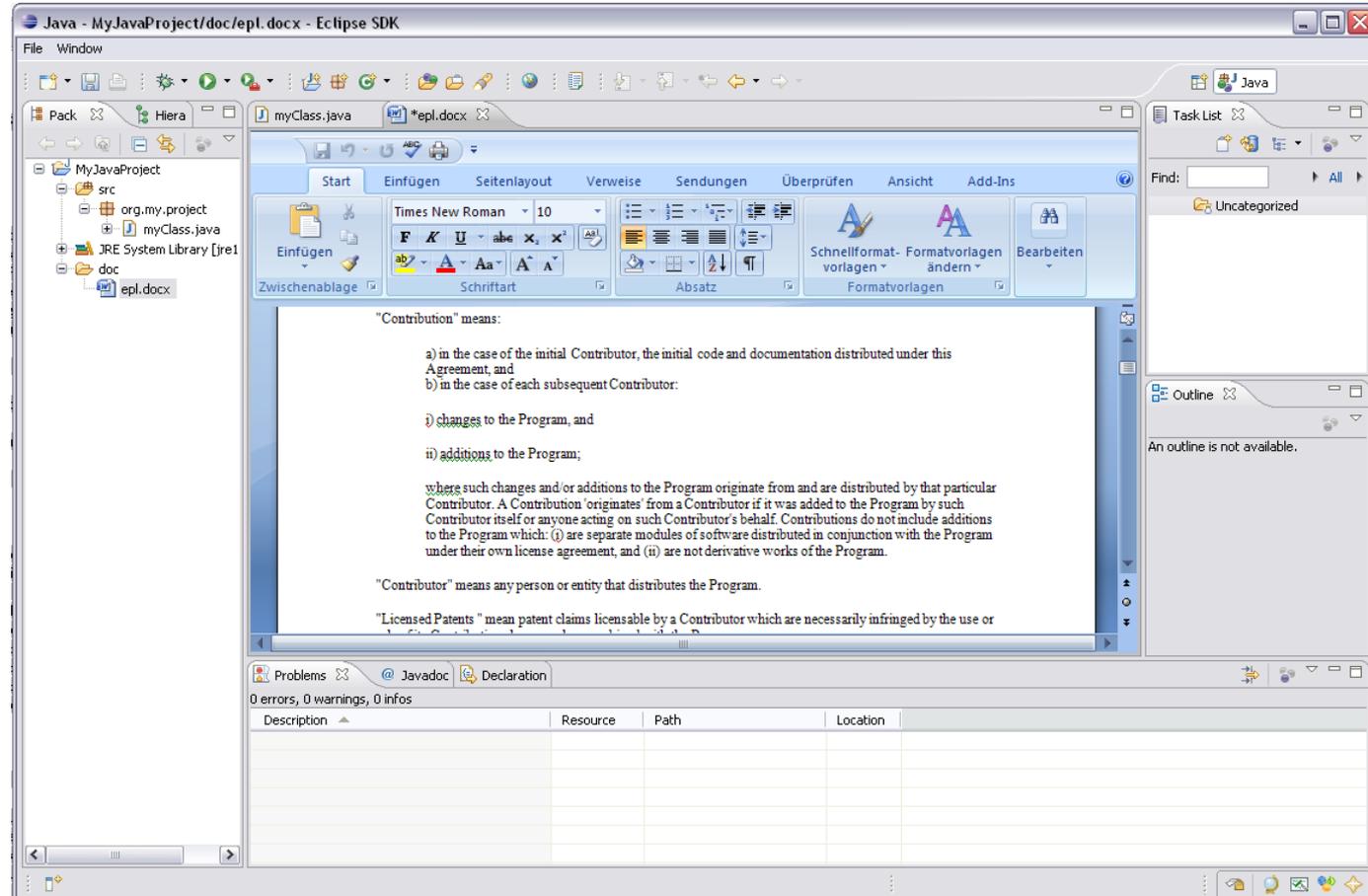
# ModelBus

## General Concept

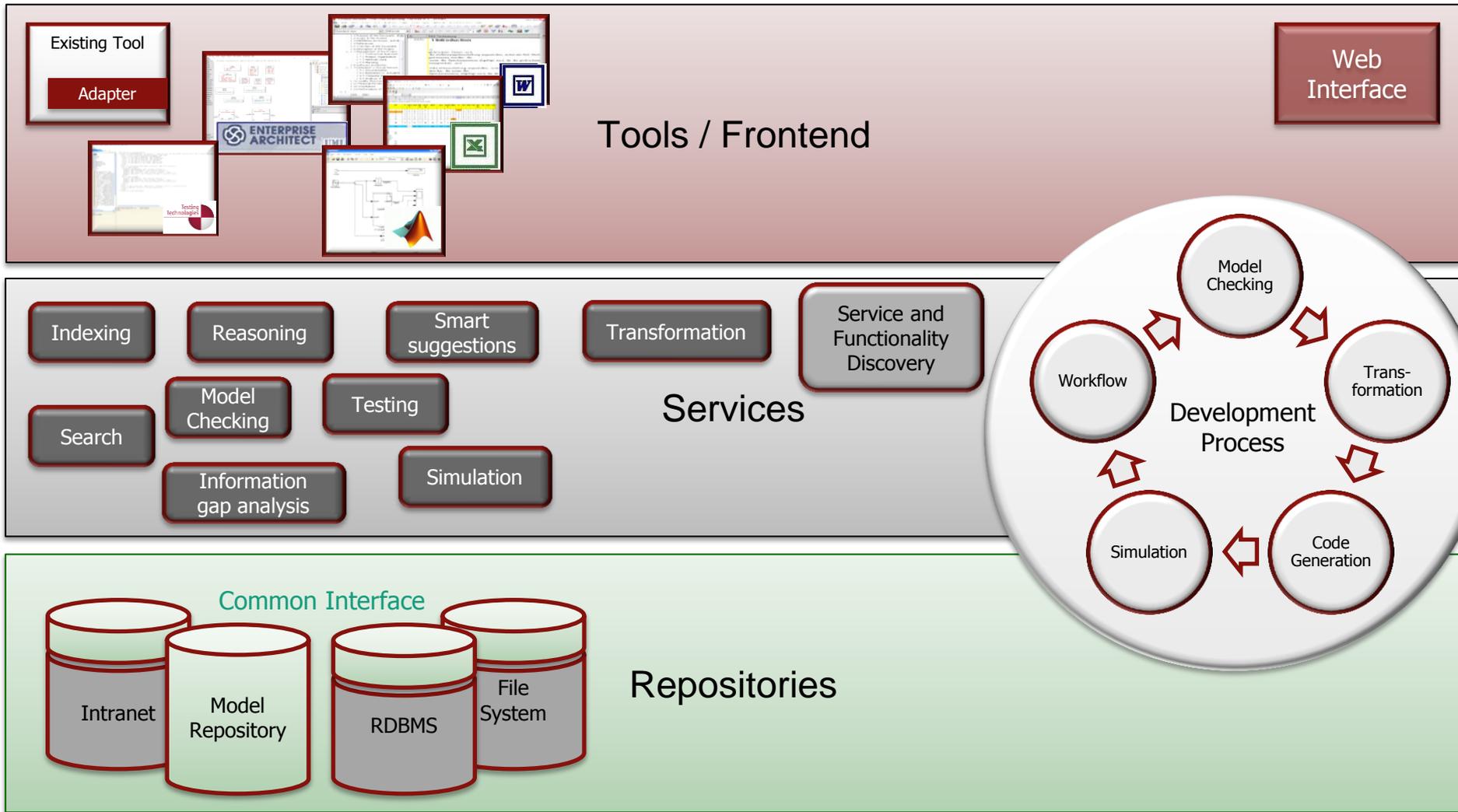


# Unsatisfying Integration

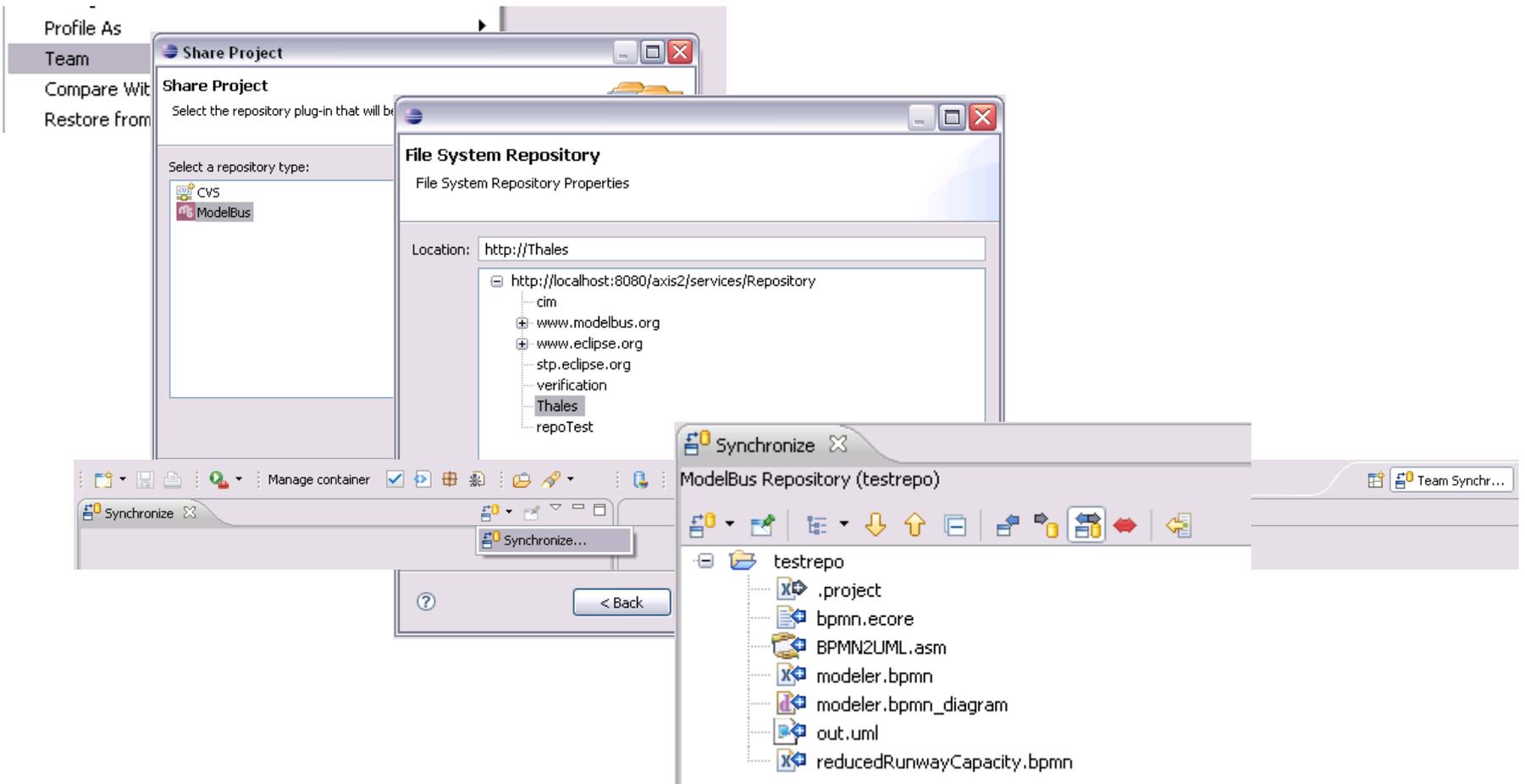
## Word in Eclipse



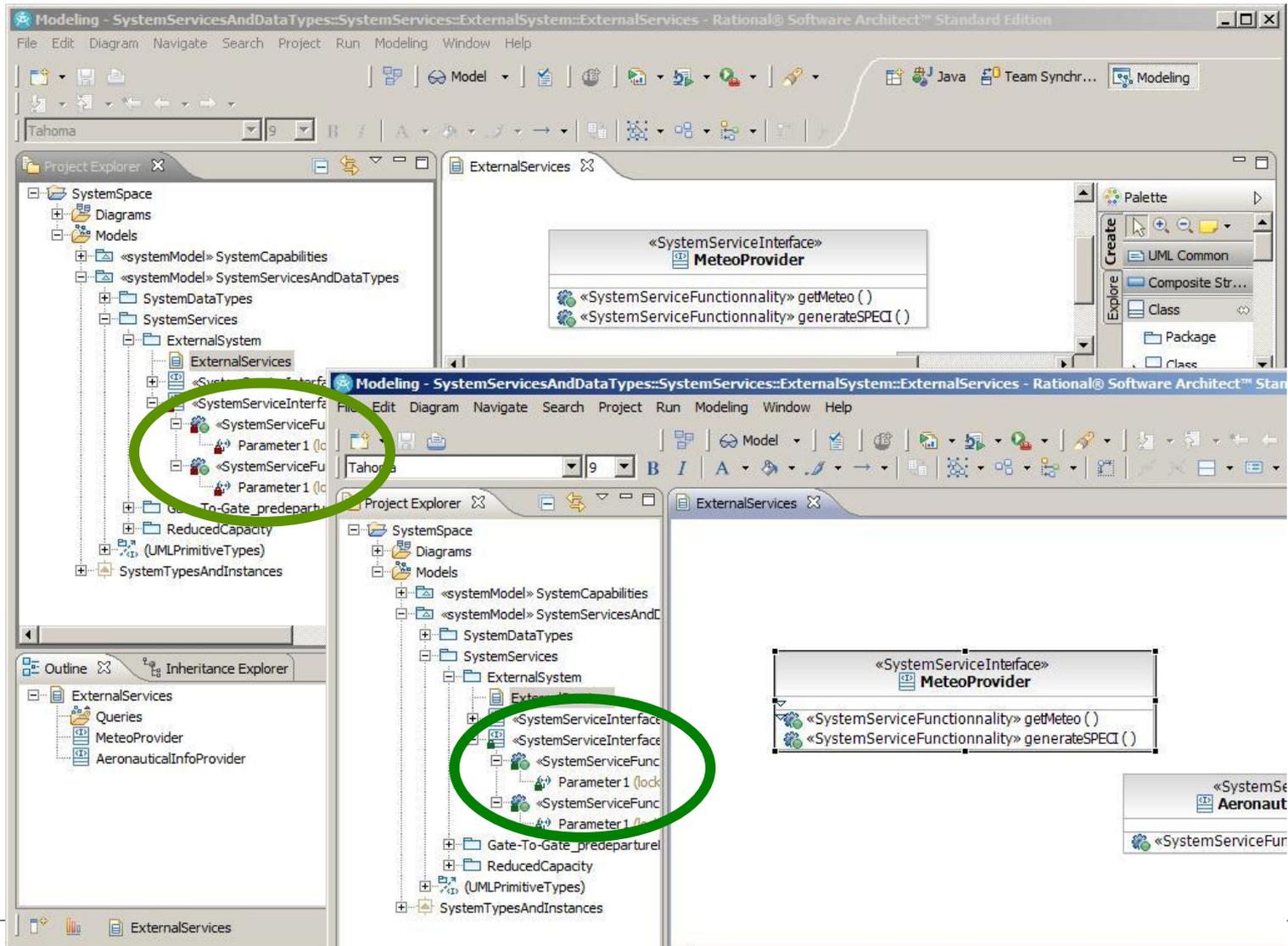
# ModelBus Architecture



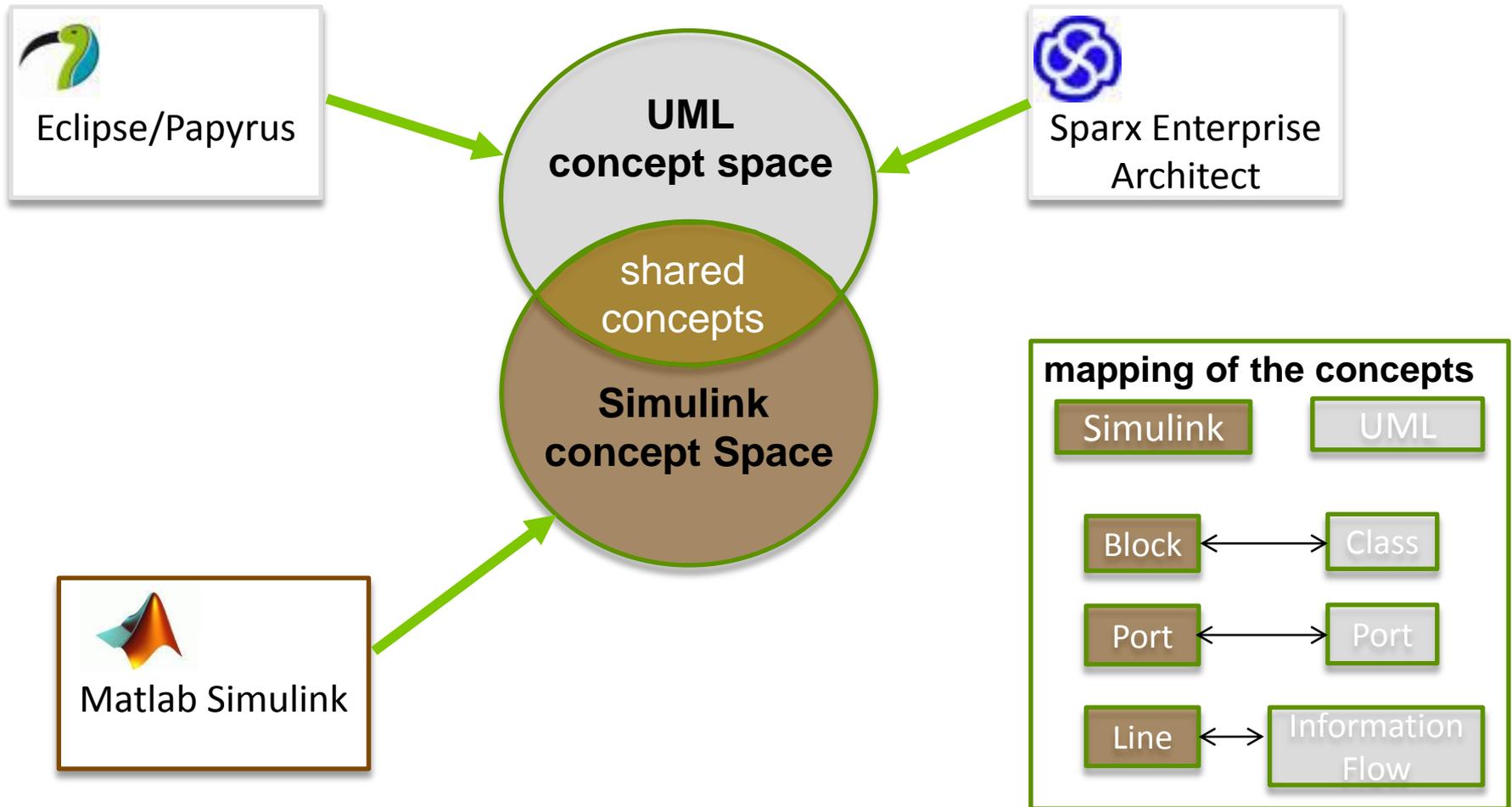
# ModelBus TeamProvider



# Locking of Model Elements



# Demo



# Selection of Connected Tools

- Eclipse-based Tools
  - Topcased, Papyrus, ProR, ...
- Rational Software Architect
- Doors
- Rhapsody
- Simulink
- Microsoft Office (Word, Excel)
- Sparx Enterprise Architect
- AVL InMotion
- Modelling Services
  - QVT, ATL, OCL, Metric Computation, Report Generation, Model Repository, ...
  
- More tools are currently under development

# Polarsys Participation

- Fraunhofer FOKUS intends to participate to Polarsys as academic partner
- ModelBus can be contributed as component to Polarsys
  - ModelBus Core and Eclipse Adapter (TeamProvider)
- A future or existing spin-off company component may become member as labeled provider for ModelBus
  
- Testing solutions could be an additional contribution in future

# Contact

## **Dr. Tom Ritter**

Deputy Head of Competence Center MOTION

Fraunhofer Institute  
for Open Communication Systems FOKUS  
Kaiserin-Augusta-Allee 31, 10589 Berlin, Germany

Tel +49 (30) 34 63 – 7278

Fax +49 (30) 34 63 – 8000

[tom.ritter@fokus.fraunhofer.de](mailto:tom.ritter@fokus.fraunhofer.de)

<http://www.fokus.fraunhofer.de/go/motion>

<http://www.modelbus.org>



— MOTION  
Modeling and Testing for  
Systems and Service Solutions



# 3<sup>rd</sup> Eclipse Integrated Development Day

- Call for presentations deadline March 30, Berlin
- [http://wiki.eclipse.org/Eclipse\\_IDD\\_2012](http://wiki.eclipse.org/Eclipse_IDD_2012)

