

# Compositional Software Language Engineering

Bernhard Rumpe  
RWTH Aachen University, Germany  
rumpe@se-rwth.de

## ABSTRACT

We examine the current state and problems of modeling enterprises as well as software systems and discuss a number of approaches to tackle those. In particular, we discuss how to make use of models in large development projects, where a set of heterogeneous models of different languages needs is developed and needs to fit together e.g. describing high-level structures of the organization, business processes, data structures, automatically executable functions, constraints and so on. A model based development process (both with UML as well as a domain specific modeling language (DSML)) heavily relies on modeling core parts individually and composing those through generators to early and repeatedly cut code and tests from these models. We in detail discuss compositionality on models and heterogeneous modeling languages and how it supports agile evolution of such infrastructures.

of eight books and Editor-in-Chief of the Springer International Journal on Software and Systems Modeling

## Categories and Subject Descriptors

D.2.0 [Software Engineering]: General

## Keywords

Modeling Languages, Unified Modeling Language (UML)

## 1. SPEAKER BRIEF BIO

Bernhard Rumpe is chair of the Department for Software Engineering at the RWTH Aachen University, Germany. His main interests are software development methods and techniques that benefit from both rigorous and practical approaches. This includes the impact of new technologies such as model-engineering based on UML-like notations and domain specific languages and evolutionary, test-based methods, software architecture as well as the methodical and technical implications of their use in industry. He has furthermore contributed to the communities of formal methods and UML. Since 2009 he started combining modelling techniques and Cloud Computing. He is author and editor

Permission to make digital or hard copies of all or part of this work for personal or classroom use is granted without fee provided that copies are not made or distributed for profit or commercial advantage and that copies bear this notice and the full citation on the first page. Copyrights for components of this work owned by others than ACM must be honored. Abstracting with credit is permitted. To copy otherwise, or republish, to post on servers or to redistribute to lists, requires prior specific permission and/or a fee. Request permissions from [Permissions@acm.org](mailto:Permissions@acm.org).

ISEC '15, February 18 - 20, 2015, Bangalore, India  
Copyright 2015 ACM 978-1-4503-3432-7/15/02 ...\$15.00.  
<http://dx.doi.org/10.1145/2723742.2723766>.



[Rum15] B. Rumpe:  
Compositional Software Language Engineering (abstract).  
In: India Software Engineering Conference (ISEC), pp. 7-7, Bangalore, India, ACM New York, 2015.  
[www.se-rwth.de/publications](http://www.se-rwth.de/publications)