itemis & geensys

The Eclipse Modeling Platform Gap Analyis

itemis, geensys, Zeligsoft

Roadmap

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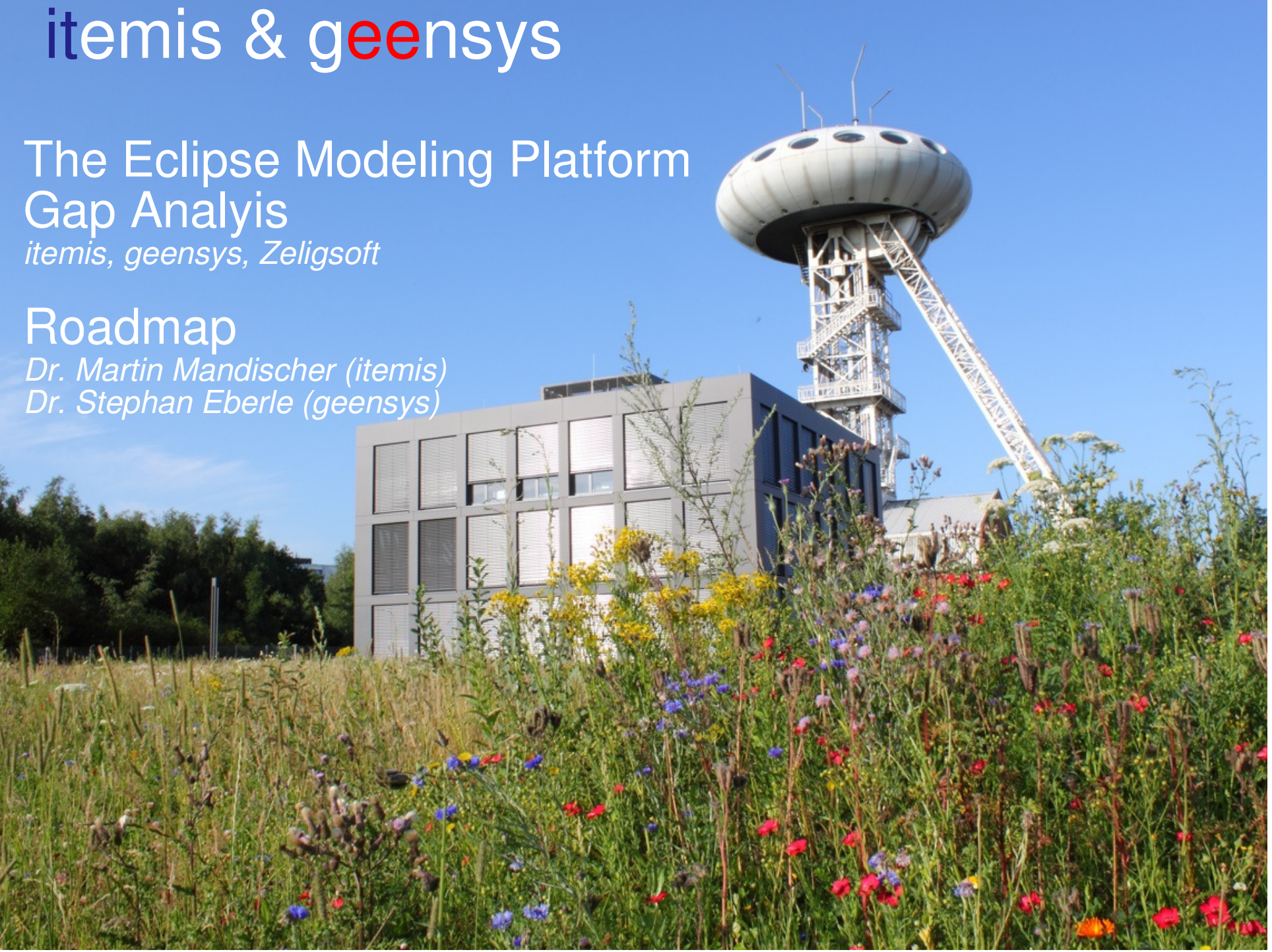
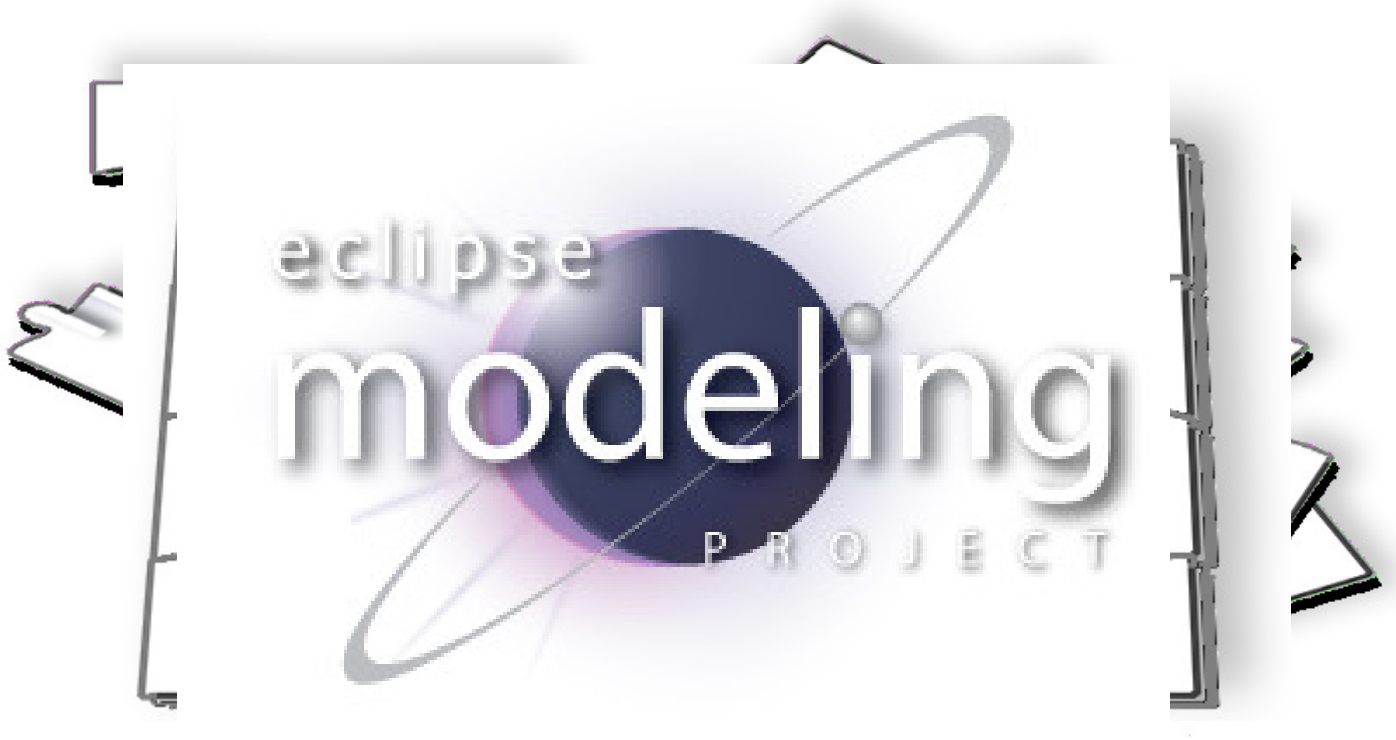


Agenda

- Vision and Goals of The Eclipse Modeling Platform
- Key Requirements and Architecture of the MP
- The Project Plan
  - Gaps and Eclipse Projects
  - Roadmap
  - Process
- Next Steps

Eclipse Modeling Project □ Eclipse Modeling Platform



Vision

Goals

- Identification, refinement and prioritization of key requirements
- Architecture
- Gap analysis and roadmap definition
- Planning and organization of an IWG
- Funding of development in selected Eclipse Modeling projects
- Project management and integration of platform

Current status

- MPIWG goals are clear
- High level requirements are understood
- Architecture draft exists
- Gaps in Eclipse Modeling projects analyzed
- Roadmap for requirements to be implemented in 2011
- Process definition
- Formal approval of IWG at Eclipse Foundation
- Funding
- Development

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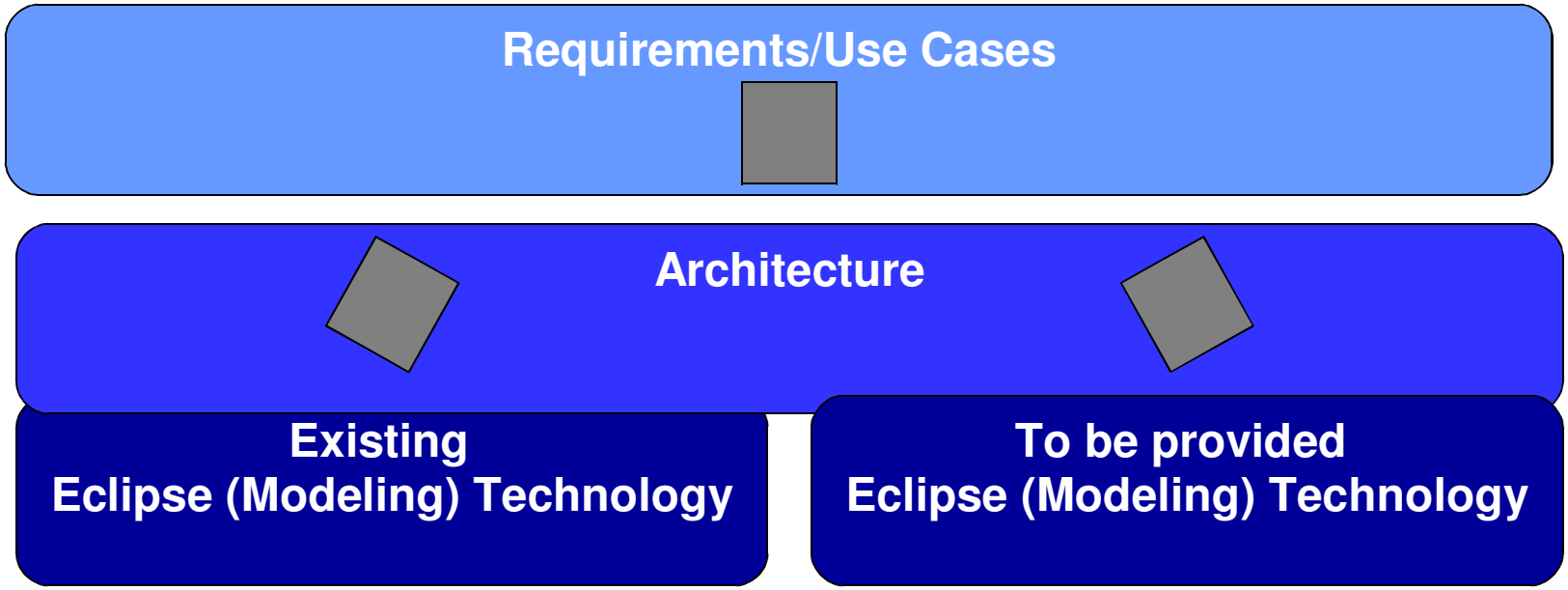
Key Requirements (functional)

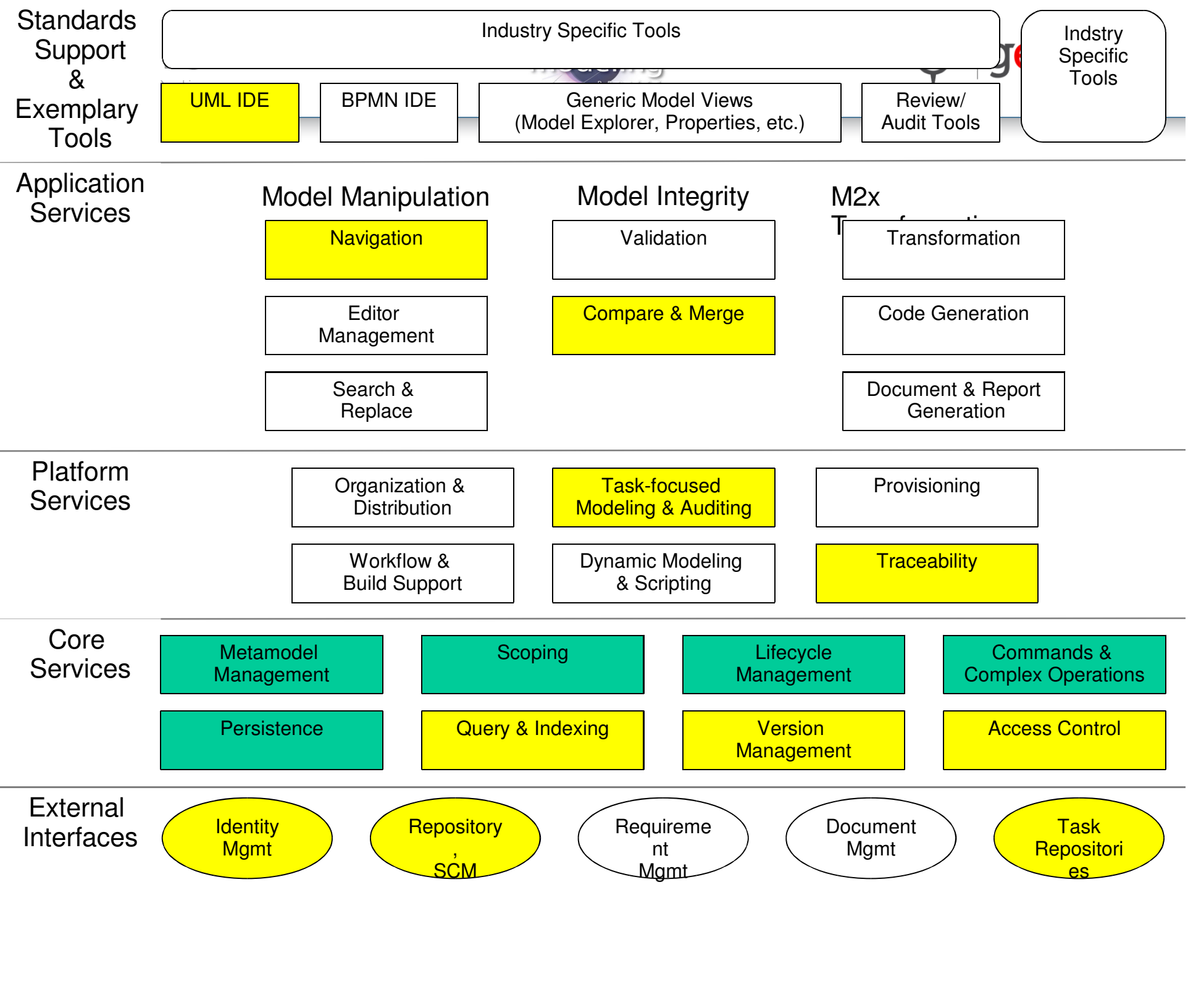
- Model Version Management (Life-cycle Support)
  - Versioning of metamodels and instances
  - Support of muli-user and distributed development teams
- Model Migration
  - Support for automatic application of metamodel changes to model instances
- Model-level Compare and Merge
  - Comparison/merge of model elements or fragments instead of entire resources/files
  - Model repository support
- Traceability
- Model Auditing
  - Support for review cycles and approvals

Key Requirements (non-functional)

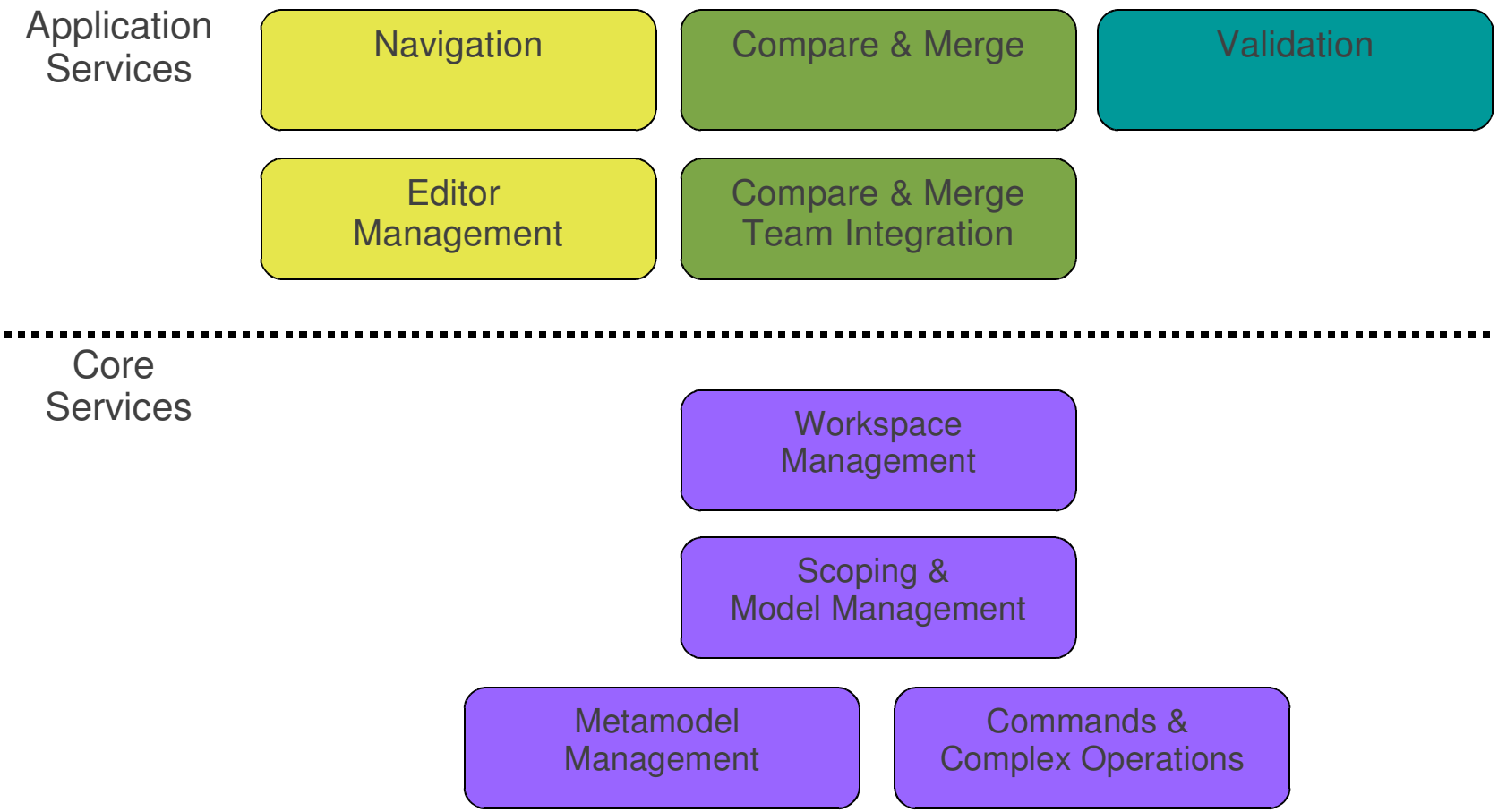
- Scalability
  - Support for models containing 500 000+ model objects
  - 300 000 model objects in 7000 resources
- Multi Modeling Language Support
  - Support for different types of models during different steps of the software development lifecycle
  - Support for different versions of a metamodel in the same environment
  - Out of the box support of industry standards UML, BPMN and SysML
  - All MP services must be applicable to user-defined domain specific modeling languages

Feature vs. Architecture-driven Approach




Standards Support & Exemplary Tools
Industry Specific Tools
Indstry Specific Tools
UML IDE
BPMN IDE
Generic Model Views (Model Explorer, Properties, etc.)
Review/ Audit Tools
Application Services
Model Manipulation
Model Integrity
M2x
Navigation
Validation
Transformation
Editor Management
Compare & Merge
Code Generation
Search & Replace
Document & Report Generation
Platform Services
Organization & Distribution
Task-focused Modeling & Auditing
Provisioning
Workflow & Build Support
Dynamic Modeling & Scripting
Traceability
Core Services
Metamodel Management
Scoping
Lifecycle Management
Commands & Complex Operations
Persistence
Query & Indexing
Version Management
Access Control
External Interfaces
Identity Mgmt
Repository, SCM
Requirement Mgmt
Document Mgmt
Task Repositories

Current Sphinx Architecture



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Project Plan (Deliverables)

1. Gap analysis spreadsheets reflecting the refined priorities and some additional requirements and capabilities.
2. Executable project plan with budgets and milestones based on top priority requirements.
3. Identification of the potential solution provider.
4. Process definition for the development.
5. Suggestions for IWG's future collaboration.

Planning Assumptions

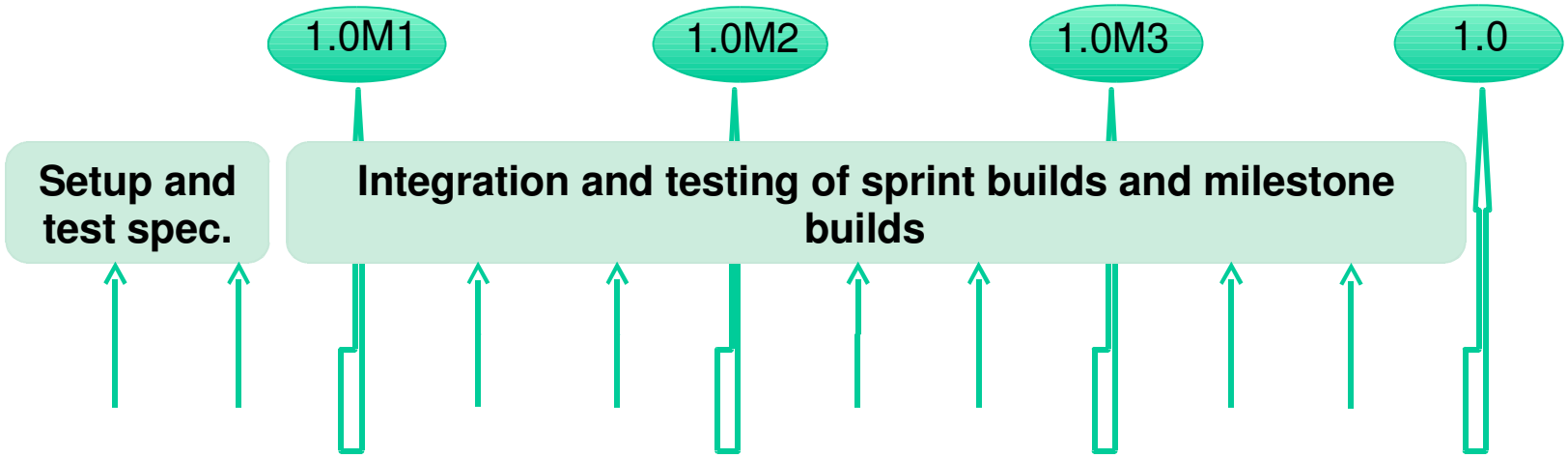
- Small but solid start and a long-term perspective.
- Roadmap starts with a feasible team setup.
- Further refinements of requirements and regular deliverables and a feedback loops from user companies are needed.
- Depending on the detailed definitions of requirements and the actual project progress the features sets may change throughout the project.
- We have a single project with a dedicated and distributed project team.
- Instead of padding the project with extensive buffers we consider features with lower priorities as optional in case of unexpected problems or scope changes.

Staffing and Budgeting Plan

		Q1			Q2			Q3			Q4		
Person	**Category**	January	February	March	April	Mai	June	July	August	Septembe	October	Novembe	Decembe
NN1	***Manag / Req.***	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN2	***Manag / Req.***		17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN3	***Integration / Test***			17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN4	***Integration / Test***			8,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN5	***Integration / Test***	8,0	8,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN6	***Dev***	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN7	***Dev***	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN8	***Dev***	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN9	***Dev***		17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN10	***Dev***			17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN11	***Dev***			17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN12	***Dev***				17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN13	***Dev***				17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0	17,0
NN14	***Dev***					17,0	17,0	17,0	17,0	17,0	17,0	17,0	
NN15	***Dev***					17,0	17,0	17,0	17,0	17,0	17,0		
	Days per month	**76**	**110**	**178**	**221**	**255**	**255**	**255**	**255**	**255**	**255**	**238**	**221**
	PM / Budgets		**364.000,00 €**			**731.000,00 €**			**765.000,00 €**			**714.000,00 €**	
	Man. / Dev / Total M	**8**	**13**	**21**	**15**	**28**	**43**	**15**	**30**	**45**	**15**	**27**	**42**

- Start with small ramp up
- Integrated Testing

Estimated costs	
Average no. persons	12,5
Work days per year	204
Average cost	**2.550.000€**
Budgeted cost	**2.574.000€**



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Result of gap analysis

Modeling Platform Requirement	Requirement Effort for 1.0M1 [PM]	Requirement Effort for 1.0M2 [PM]	Requirement Effort for 1.0M3 [PM]	Requirement Effort for 1.0 [PM]	P1 .. P3 Requirement Effort [PM]	P4 .. P5 Requirement Effort [PM]	Total Requirement effort for 2011 [PM]	Total requirement effort [PM]
Imported Effort Budgets (see Staffing and Budgeting Plan A.1.xls for details)	13	28	30	27			152	
Overall Project Execution							152	1231,5
I. Management							24,5	198,6
II. Platform integration							4,9	39,7
III. Integration testing							24,5	198,6
IV. Development	13	28	30	27	77,5	16	98	794,5
0. Platform architecture	4,5						4,5	4,5
A. Model Version Management (Life-cycle Support)	6,5	24	30	23	71,5	12	83,5	290
1. Managing versions on various model granularity, meta-model and instances	1	9	15	6	31	0	31	62
2. Analysis of model changes	0	0	0	0	0	0	0	17,5
3. Merging of different models and versions of models	3	8,5	6	14	25,5	6	31,5	108,5
4. Change analysis to identify root cause and impact analysis for changes to all levels of model content	0	2	0	1	0	3	3	5
5. Traceability to identify connections between model elements	0	0	8	0	8	0	8	56
6. Support for meta-model change and update to appropriate instances	2,5	4,5	1	2	7	3	10	41
B. Model Audit Support	0	0	0	4	0	4	4	23
1. Overall end-to-end lifecycle management/model governance (elements can be in different 'review' states)	0	0	0	4	0	4	4	17
2. Quality checks for models	0	0	0	0	0	0	0	6
C. Core Platform Features for Enterprise Use	0	0	0	0	0	0	0	0
1. Support for large models, including lazy loading, partial collection handling							0	0
2. Ability to work offline and then merge changes back into a model							0	0
3. Support for modeling standards and open formats. Lowest denominator is the EObject (Ecore)							0	0
4. End-to-End project support from business architecture to code and testing							0	0
D. Flexible Content Support	2	4	0	0	6	0	6	362
1. General purpose models based on industry standards like UML, BPMN and SysML	2	4	0	0	6	0	6	203
2. Domain Specific Models							0	0
3. M2M Transformations							0	110
4. Model to Text (M2T) Transformations	0	0	0	0	0	0	0	49
E. Governance	0	0	0	0	0	0	0	42
1. Tracking and managing project status							0	0
2. Toolset configuration and management							0	42
F. Host and Target Debugging	0	0	0	0	0	0	0	73

GAP Analysis

Potential Eclipse projects Providers

Acceleo	MTF
ATL	MWE
BIRT	MXF
BPMN	Mylyn
CDO	OCL
EAdapt	Papyrus
EMF Compare	QVTo
EMF Core	Sphinx
EMF Transaction	UML 2
EMF Validation	Xpand
Yakindu	Xtend

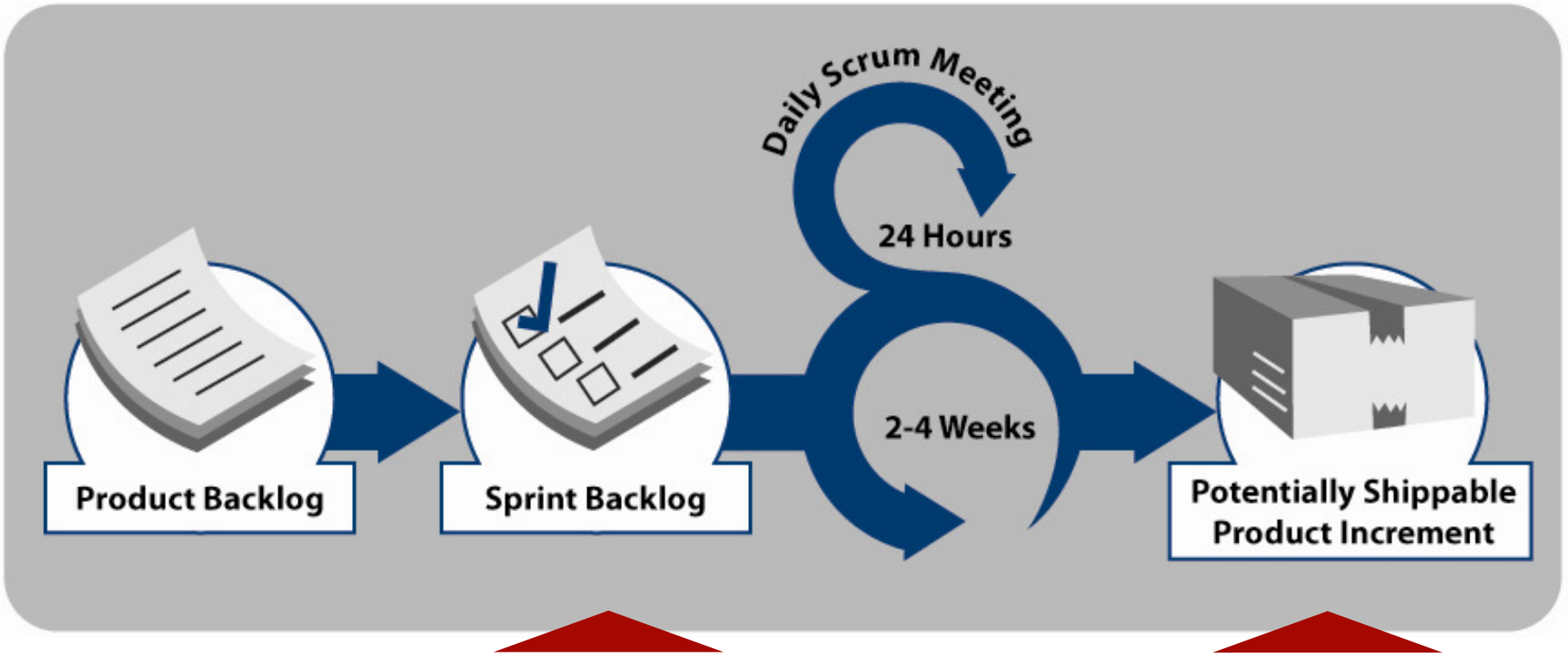
Solution

CDO
itemis
Tasktop
Geensys
Obeo
Zeligsoft

Process Definition

- Iterative, incremental and related to SCRUM
- Embedded into the EDP
- Definition of roles & responsibilities
- Benefits
  - Master-Untertitelformat bearbeiten
    - Concentrating on the essentials
    - Short, team-oriented coordination
    - Regular reviews and retrospectives
    - Simple controlling mechanisms

Process Definition (Scrum-Like)



Sprint
Planning
Meeting

Sprint Review Meeting
+
Retrospektive

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Questions & Discussion

Information

Links: www.eclipse.org

wiki.eclipse.org/ModelingPlatform

Mail: mpwg@eclipse.org

itemis: www.itemis.de

geensys: www.geensys.com