

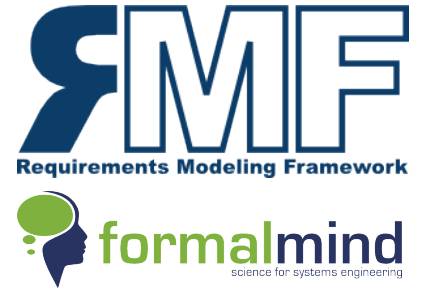
# **Eclipse RMF**

**Requirements Modeling Framework**

**Requirements Interchange Format  
(ReqIF) in Open Source  
23.05.2012**

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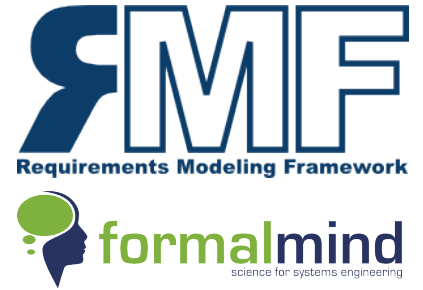
# RMF Overview



- Framework for working with requirements
- Based on ReqIF (Requirements Interchange Format)
- Eclipse-based Open Source project
- GUI (**ProR**) and Core
- Extensible (Eclipse plug-ins / EMF)
- Roots in academia
- Designed for industry



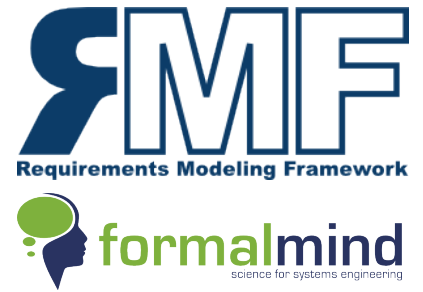
# RMF History



- **Initial Development ProR (Focus on GUI)**  
April 2010 – June 2010
- **Verde Collaboration (ReqIF Core)**  
July 2010 – February 2011
- **Eclipse Foundation Submission (RMF)**  
March 2011 – November 2011
- **Preperation for first Eclipse Integration Build**  
December 2011 – January 2012
- **Following the Roadmap**  
February 2012 – present



# ReqIF Overview

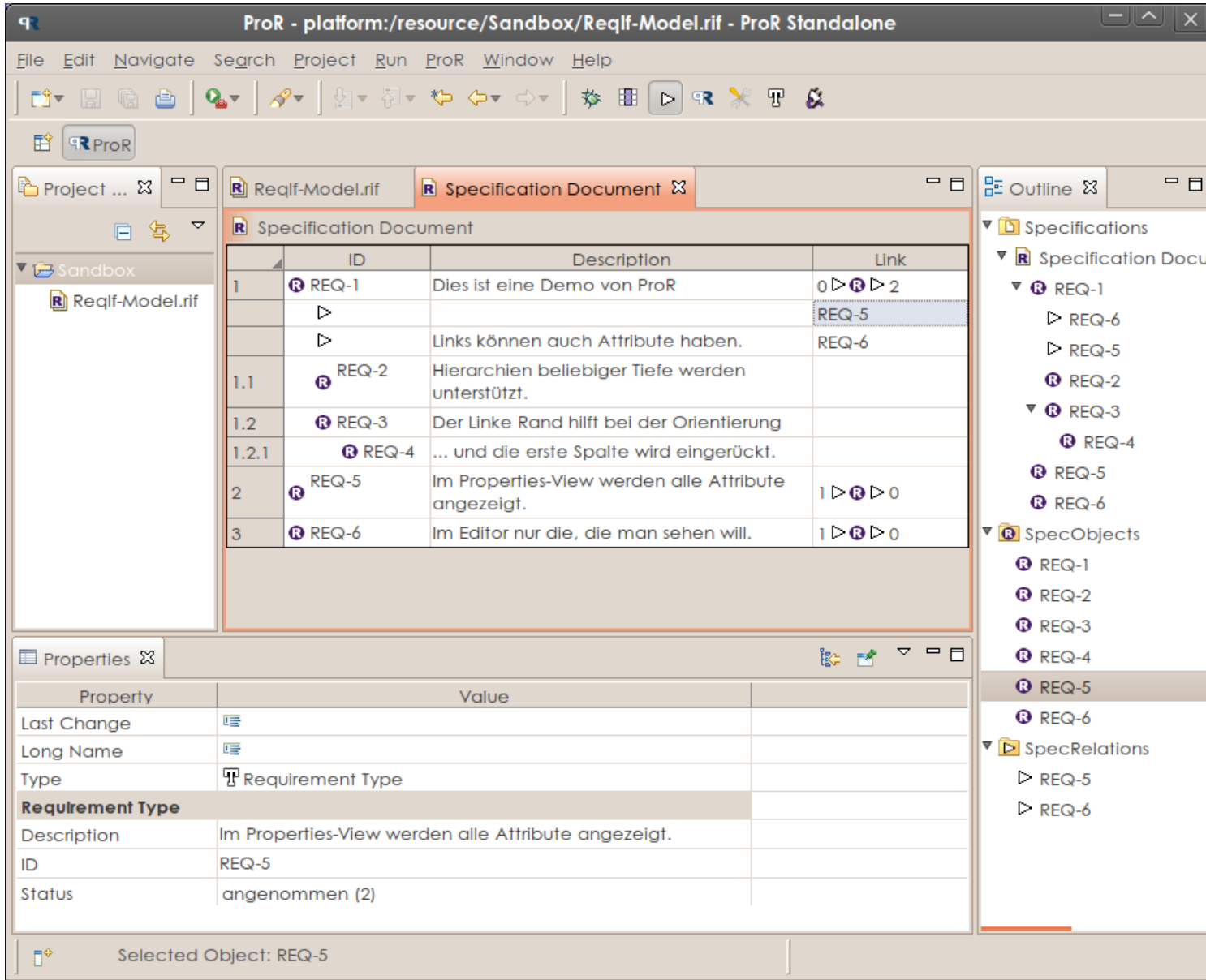


- Format to exchange requirements
- Developed by the German Automotive Industry
- First version in 2004
- Now OMG standard
- Gaining traction (previous version supported by industry tools like IBM DOORS)
- Much more than a file format: a data model
- ProSTEP implementor forum ensures interoperability



# ProR, the RMF GUI

Download at [eclipse.org/rmf/pror](http://eclipse.org/rmf/pror)



The screenshot shows the ProR GUI interface. The main window displays a 'Specification Document' table with the following data:

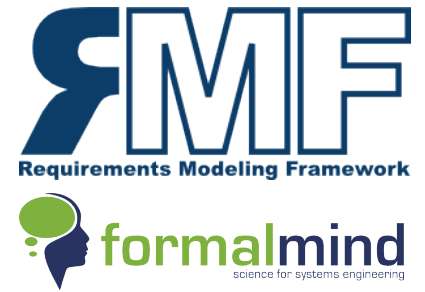
ID	Description	Link
1	Dies ist eine Demo von ProR	0 ▷ REQ ▷ 2
		REQ-5
	Links können auch Attribute haben.	REQ-6
1.1	Hierarchien beliebiger Tiefe werden unterstützt.	
1.2	Der Linke Rand hilft bei der Orientierung	
1.2.1	... und die erste Spalte wird eingerückt.	
2	Im Properties-View werden alle Attribute angezeigt.	1 ▷ REQ ▷ 0
3	Im Editor nur die, die man sehen will.	1 ▷ REQ ▷ 0

The 'Properties' view for the selected object 'REQ-5' is shown below:

Property	Value
Last Change	
Long Name	
Type	Requirement Type
<b>Requirement Type</b>	
Description	Im Properties-View werden alle Attribute angezeigt.
ID	REQ-5
Status	angenommen (2)

The 'Outline' view on the right shows a hierarchical tree structure of the model, including 'Specifications', 'Specification Docu', 'REQ-1' through 'REQ-6', 'SpecObjects', and 'SpecRelations'.

# Collaborators



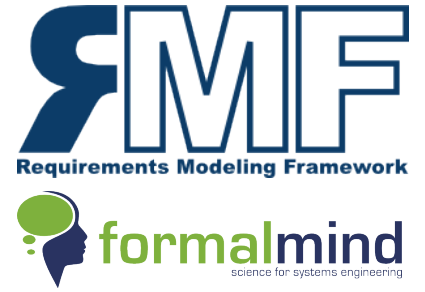
- Formal Method Integration and Traceability
- Deploy FP7 Project

- Traceability
- DSLs
- ITEA Verde Project

- Traceability
- Formal Method Integration
- Academic Spin-Off

**Interest from:** Airbus, Atos, emergn Ltd, HOOD GmbH, MKS, ModelAchemy, Obeo, Prostep, TCL Software and more (see Eclipse Proposal)

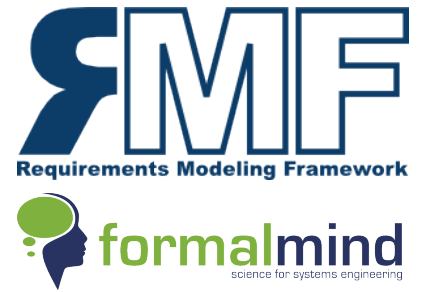
# RMF and Polarsys/auto-iwg



- Requirements Modeling (new in Eclipse)
- Long term viability (ReqIF)
- Topcased Integration (Paper published)
- Industry tool compatibility (DOORS, Integrity, etc.)



# Roadmap



- Ensure ReqIF interoperability (ProSTEP Implementer Forum)
- Make RMF & ProR feature-complete and useable
- Continue academic work (Düsseldorf)
- SPICE-compliant development process (itemis)
- Feedback from Polarsys and auto-iwg will be incorporated





# Thank you!

**RMF Talk tomorrow**

**[eclipse.org/rmf](http://eclipse.org/rmf)**



**Requirements Modeling Framework**



**formalmind**

science for systems engineering

# Backup



# ReqIF: Core Content

Figure 8 provides an overview of the information types aggregated by a ReqIFContent element.

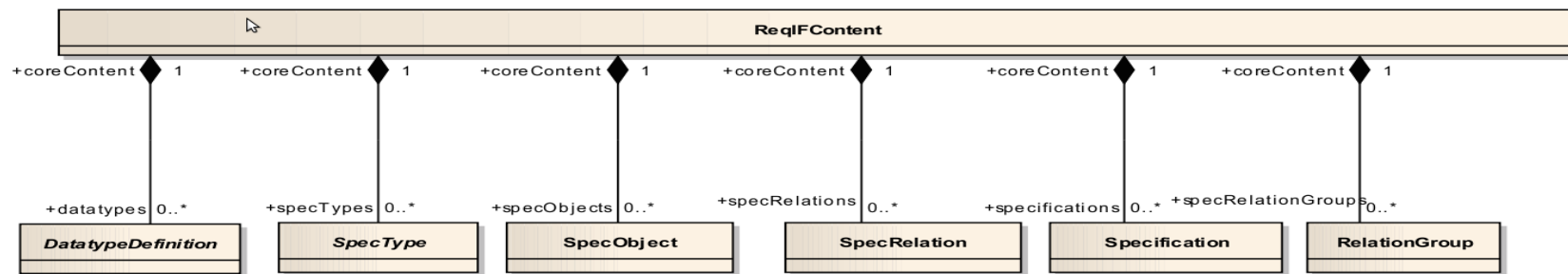
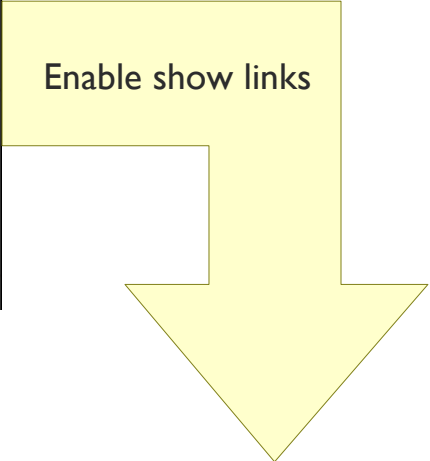


Figure 8 – Exchange Document core content

# ProR Rodin Integration

ID	Description	Link
1	<b>Trafficlight Specification</b>	
2	REQ-1 The System is controlling cars on a road and pedestrians crossing the road.	
3	REQ-2 The System is equipped with two traffic lights for the cars [tl_cars], with the [COLORS] [RED], [YELLOW] and [GREEN].	0 ▷ REQ ▷ 5
3.1	inv02_1: tl_cars ⊆ COLORS	
4	REQ-3 The System is equipped with two traffic lights for the pedestrians [tl_peds] with the [COLORS] [RED] and [GREEN].	
5	REQ-4 [tl_cars] stop the cars on both sides of a crosswalk.	

In- and Outgoing Links



Event-B Model Element

Highlighted Event-B Model Element Names

3	REQ-2	The System is equipped with two traffic lights for the cars [tl_cars], with the [COLORS] [RED], [YELLOW] and [GREEN].	0 ▷ REQ ▷ 5
	▷ LINK-1		COLORS (ctx01)
	▷ LINK-2		RED (ctx01)
	▷ LINK-3	This color is not used for the Pedstrian light [tl_peds]	YELLOW (ctx01)
	▷ LINK-4		GREEN (ctx01)
	▷ LINK-5		tl_cars (mac02)
3.1	inv02_1	tl_cars ⊆ COLORS	

Links with comment

Target Element of Link