



Capella and Arcadia

- **Open-source and Governance**

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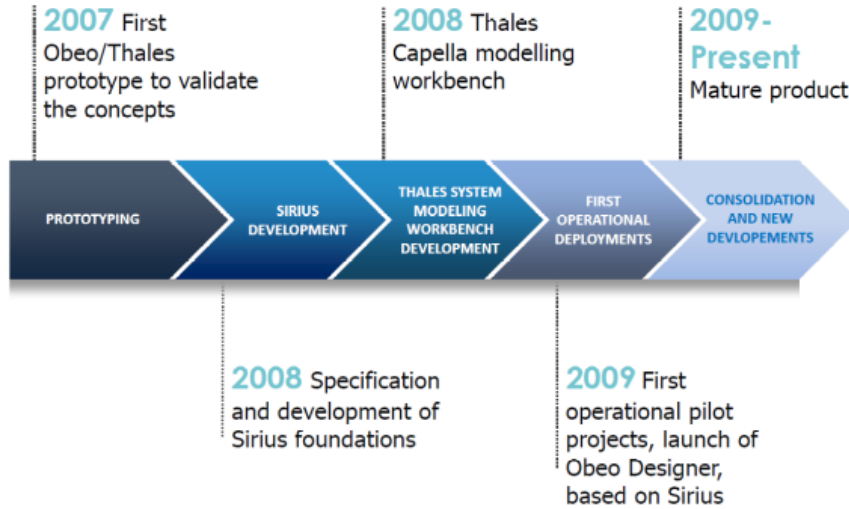


We create modeling tools for systems engineers, software engineers and domain modeling experts



History

THALES



ECLIPSE FOUNDATION

2014
Open source



OBEO

Capella Community



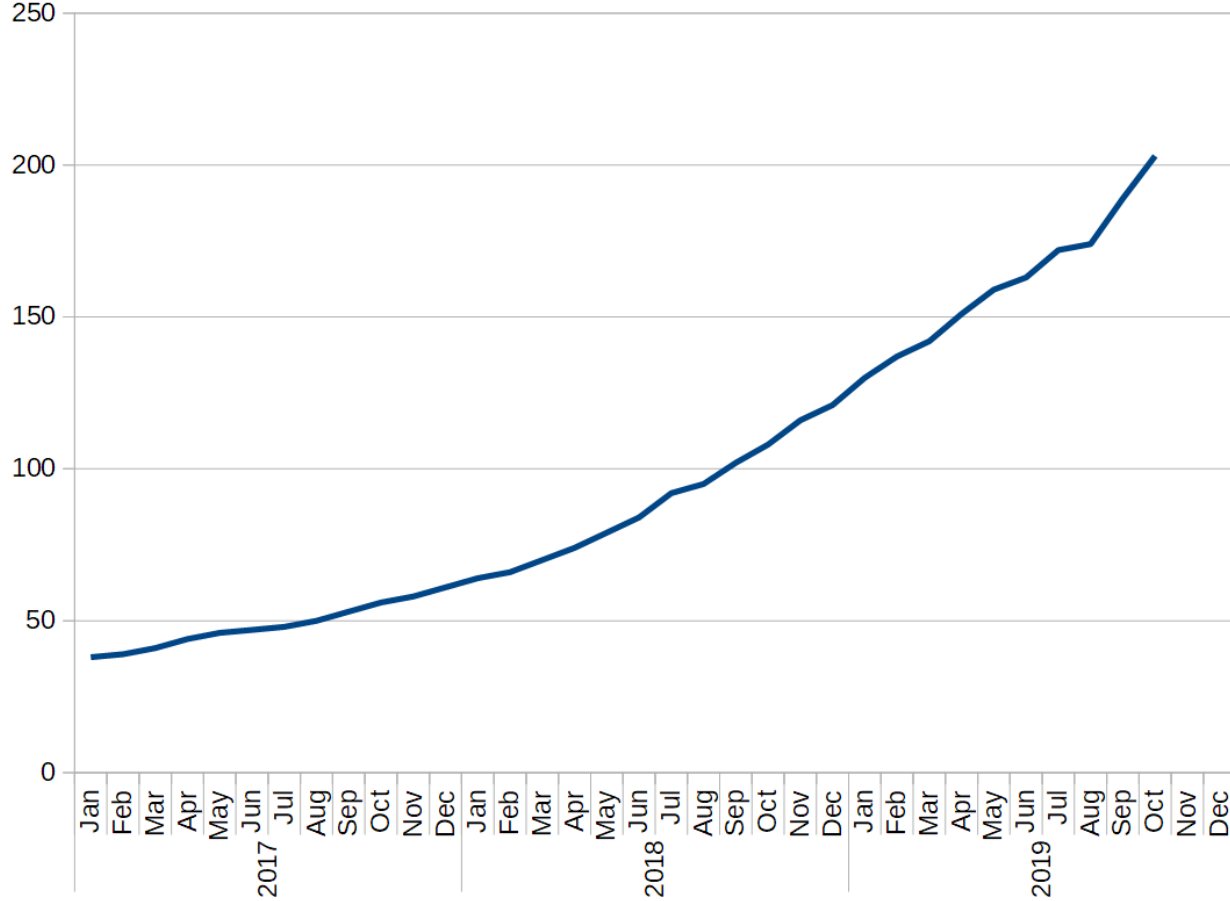
A growing community



Capella Users



Capella Users



Wide Offer

Talks	Speakers
08:45 - 09:15 Coffee	
09:15 - 09:30 Welcome and Introduction	<ul style="list-style-type: none"> Etienne Juliot, Obeo
09:30 - 10:30 Capella and Arcadia <ul style="list-style-type: none"> Introduction to Capella and Arcadia Capella updates and roadmap Augmenting requirements with models to improve the articulation between system engineering levels and optimize V&V practices 	<ul style="list-style-type: none"> Stéphane Bonnet, Thales Corporate Engineering
10:30 - 11:00 Break	
11:00 - 12:20 Community and Ecosystem Session 1 <ul style="list-style-type: none"> Feedback on deployment of Capella at Framatome Feedback on deployment of Capella at RATP Integrating Capella, SCADE and medini analyze, for MBSE, EPC Development and Safety Analysis 	<ul style="list-style-type: none"> Jack Dehainsala, Framatome Maxime Piot, RATP Etienne Juliot, ANSYS
12:30 - 13:30 Lunch	
13:30 - 15:10 Community and Ecosystem Session 2 <ul style="list-style-type: none"> Capella integration with Teamcenter Model Execution and System Simulation Integrating Capella with Thales Providing early timing Model-based software development Fault Trees (CFTs) 	<ul style="list-style-type: none"> Christoph Marhold, Siemens PLM Software Renfei Xu & Wenhua Fang, Glaway Laurent Delaigue, Obeo Benoit Vlaud, Artal Marc Zeller, Siemens Corporate Technology
15:10 - 15:40 Break	
15:40 - 16:40 Community and Ecosystem <ul style="list-style-type: none"> An Excel-based Systems Engineering Tool for Knowledge Sharing and Collaboration across the Enterprise MBSE & PLE: Systematic Reuse of Capella Models with pure:variants Capella integration with RATP - Authoring Tools 	<ul style="list-style-type: none"> Bharani Mohan & Paul Goossens, MapleSoft Robert Hellebrand, pure-Systems Jose Fuentes, The Reuse Company
16:40 - 17:20 Community and Ecosystem Panel During this panel, you and the speakers will discuss about Capella adoption and perspectives.	<ul style="list-style-type: none"> All speakers
17:20 - 17:50 Closing Cocktail	

Ex. CAPELLA DAY Agenda
Munich, September 2019

Siemens PLM Software



SMW – Connection to Teamcenter



SCADE connector



Team for Capella
Customisation & integration



Connection with MapleMBSE



Simulation solution



Variability / Product Line Engineering



Requirement Authoring Tool



Timing Analysis



Open Source



Why participate?

Demonstrate good corporate citizenship

Promote their accomplishments and demonstrate their good corporate citizenship through contributions to open source projects

Accelerate innovation

Share costs and innovation, especially on projects that represent core capabilities “below the value line”, while focusing their resources on rapidly building differentiated features that customers value most

Participate in open collaboration

Participate in open collaboration through professionally managed development initiatives

Safeguard investments

Protect their strategic investments by participating in defining priorities for advancing the technologies they care about, avoiding leaving the features, quality, and sustainability of important technologies to others or to chance

Mitigate business risk

Benefit from ensuring they comply with antitrust laws while sharing intellectual property and embedding clean intellectual property into their commercial products

Retain and recruit top talents

According to [recent research from Harvard Business School](#), companies that are active participants in open source show their social responsibility and improve their ability to recruit top talent



Collaboration in Open Source

Rivals = Collaborators

With open source, even competitive companies will pool their resources to create enormously valuable code. They can realize the benefits of sharing the load on development of core tech, freeing their talent to focus on strategic and differentiating capabilities.

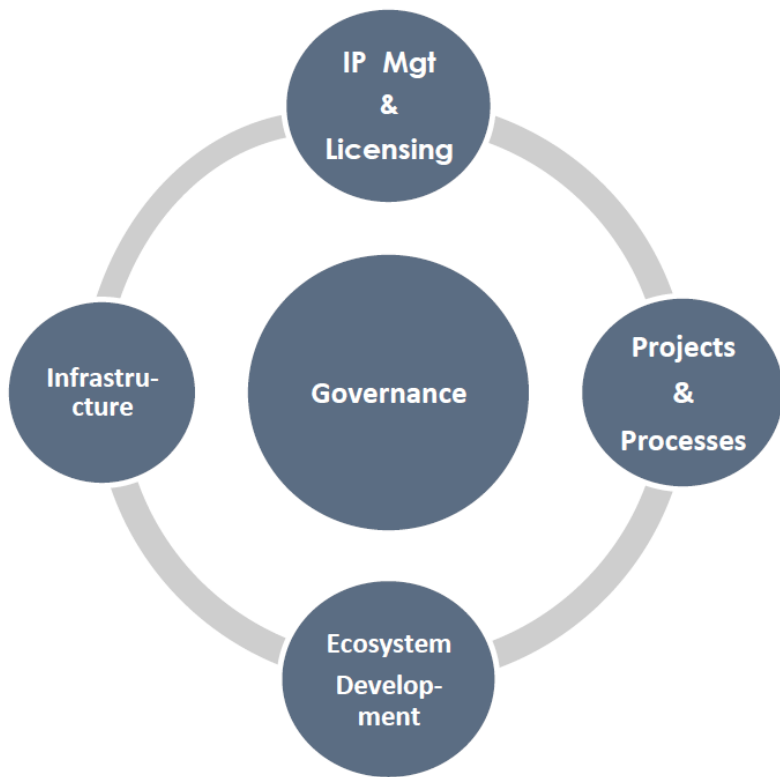
At the Eclipse Foundation's **openMDM** Working Group, **BMW Group, Daimler AG, Volkswagen Group of America**, and other leading automakers and their supply chain partners collaborate on open technologies for the management of standardized measurement data.

In the cloud space, **Alibaba, Amazon, Google, and Microsoft** are members of the Cloud Native Computing Foundation.

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Capella

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Capella is a comprehensive, extensible and field-proven MBSE tool to successfully design system, software, and hardware architecture. Relying on Arcadia, a model-based methodology that covers each engineering phase, Capella helps systems architects to formalize specification and master architectural design

Learn more on the main Capella website.

Licenses:

Eclipse Public License 1.0

Latest Releases:

From January 11th, 2017 to January 29th, 2019

NAME	DATE	REVIEW
1.2.2	2019-01-29	
1.3.0	2018-12-12	
1.2.1	2018-07-10	
1.1.4	2018-04-12	
1.2.0	2017-12-20	
1.1.3	2017-11-02	
1.1.2	2017-08-21	
1.1.1	2017-04-11	
1.0.4	2017-04-11	
0.8.7	2017-01-11	



PROJECT LINKS

- Getting Started
- Capella on Wikipedia
- Documentation
- Arcadia on Wikipedia (FR only)
- Website
- Capella on Linked'In
- Wiki

RELATED PROJECTS

Related Projects:

PolarSys
» Kitalpha

Project Hierarchy:

» PolarSys
» Capella

EVERYONE IS

WELCOME

Community has capacity / Customers have money

Use Capella

Enjoy, it's free!

Promote & Communicate

Promote Capella as a leading solution, Provide material to executive

Knowledge Sharing, Exchange with peers

case studies, technology watch, private exchange workshops on N&N...

Product Management (1)

Requirements co-creation, Discuss the roadmap

Community Development

Collaboration between research/academia, suppliers, end-users

Commercial Addons / Services Providers



Product Management (2)

Evolutions funding, Joint development financing

Promote & Communicate

Externally

- Users list / Public use case
- Conference
- Webinar
- Social media
- Share/standardize reference models
- ...

Internally

- To foster MBSE cultural change
- « Internal » community



CASE-STUDIES



AVIATION
Rolls Royce

Arcadia and Capella for a large complex mechanical system

[READ MORE](#)



AEROSPACE
ArianeGroup

Model-Based Systems Engineering must become a team sport!!

[READ MORE](#)



ENERGY
Framatome

Progressive deployment of MBSE methods in French nuclear industry

[READ MORE](#)



AUTOMOTIVE
Continental Automotive

Driving intelligent transportation systems with Capella

[READ MORE](#)

Collaborations with peers (1)



Between Developers

- Eclipse foundation
 - Vendor neutral structure
 - Governance, Operating rules, etc.
- Very well suited for technical collaborations
 - Product management, co-developments...
- Result
 - Regular releases of **Best in class product**



Between End Users

- **Collaborations**
 - Co-design / Collaborative projects
 - Working group (ex Simulation)
 - User clubs (REX, good practices)
 - Networking
 - Funding (P2P)
- Today Thales and Obeo are acting as **focal points**
 - 'Capella Day' organization
 - Webinars
 - Conferences
 - Capella website & forum
 - Capella Lab (coming soon)
 - Connecting people (common interests, job offers, internships,...)
 - ...



Collaborations with peers (2)

Capella IC

- Attempt to structure exchanges between large user groups
- Initiative terminated December 2018
 - Due to PolarSys WG closure

Capella project is still active and hosted by the *Polarsys project*



An Eclipse WG allows

1. To have a secure framework for exchanges between competitors (NDA, compliance with WTO competition rules),
2. To have a contractual framework to co-finance things (developments, actions, etc)

Work in progress to create a dedicated structure



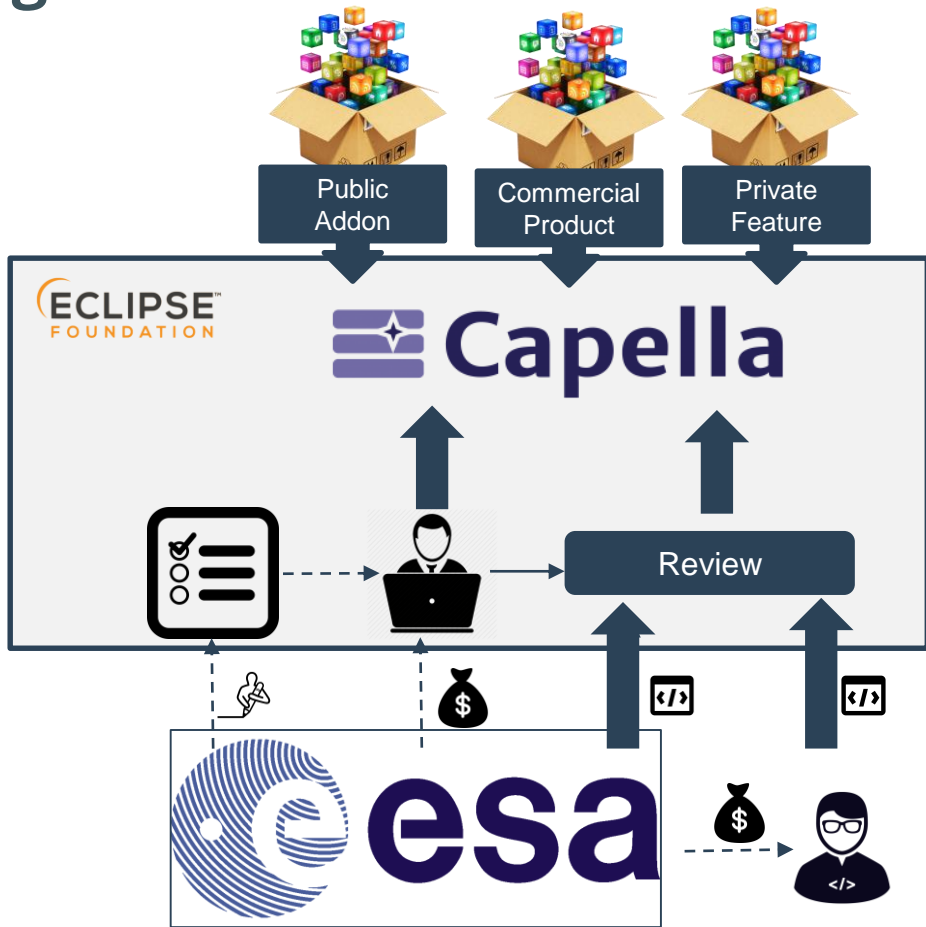
Product Management

1 - User feedback, bug report, feature request

2 - Funding

3 - Direct contribution

4 - Indirect contribution



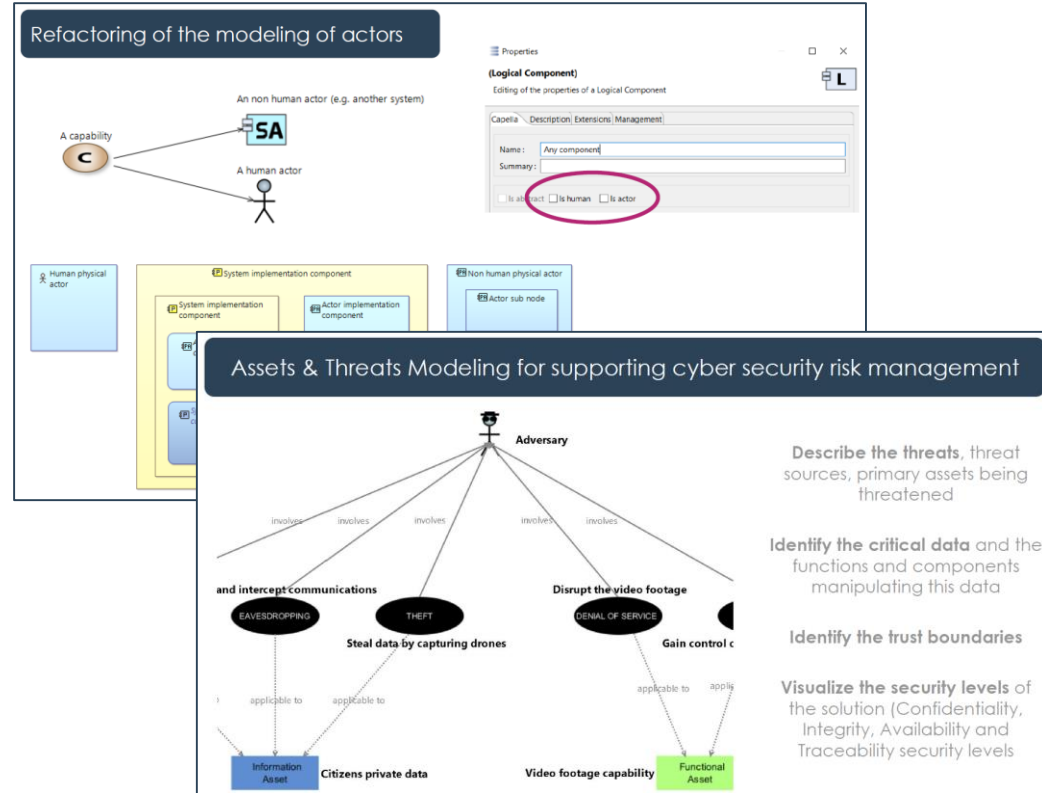
Roadmap

Capella 1.4.0

- Refactoring of the modeling of actors
- Assets & Threats Modeling for supporting cyber security risk management

Global orientations (funding to be secured)

- Tables
- Modes&States improvement
- Filtering addon improvement
- Inter-models traceability module
- ...



Business Driven

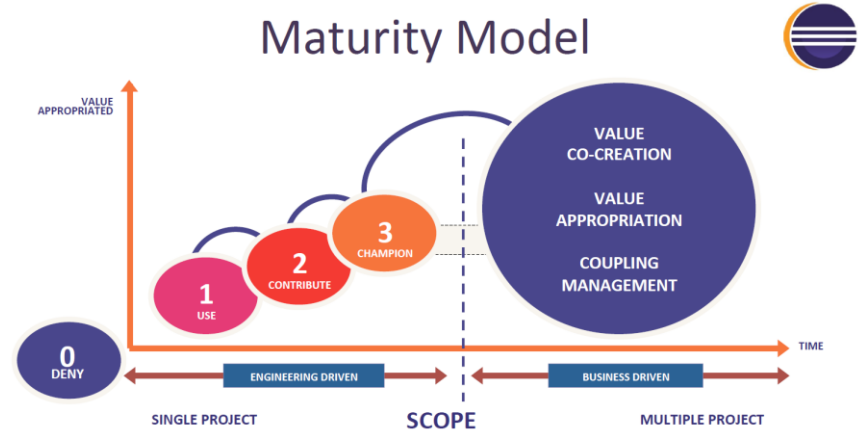
No more at individual/project level but at the **company level**

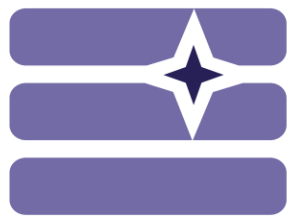
Implies:

- Strategic objectives
- Company strategy
- Scaling and appropriate resources

Extremely diverse motivations:

- Foster operational MBSE adoption and favour collaborations with customers, partners and suppliers
- Commercial Offer Development
- Accelerate innovation,
- Participate in open collaboration,
- Safeguard investments,
- Mitigate business risk...





Capella

Open Source MBSE Solution

Capella 1.4 news and noteworthy

- Actor refactoring: Define Actors as it is possible for Components (decomposition)
- Capella capabilities: Capella seems complicated ? Simplify it to your users by disabling some capabilities
- Git (SCM) and Mylyn () directly integrated into Capella (no need to install them afterwards)
- Appearance of Components will now have the same look across views (project explorer, diagrams, ..)
- Performance improvements
- Search improvement on project explorer, wizards
- UI of Search/Filters, Property views are now more usable on small displays
- 'Capella Project Explorer' is now called 'Project Explorer' as it should have been
- Cybersecurity: A new viewpoint for cybersecurity will be released for Capella. It will allow to define Threats, Security Needs, Primary Assets.