



(Sirius + Papyrus) x Web

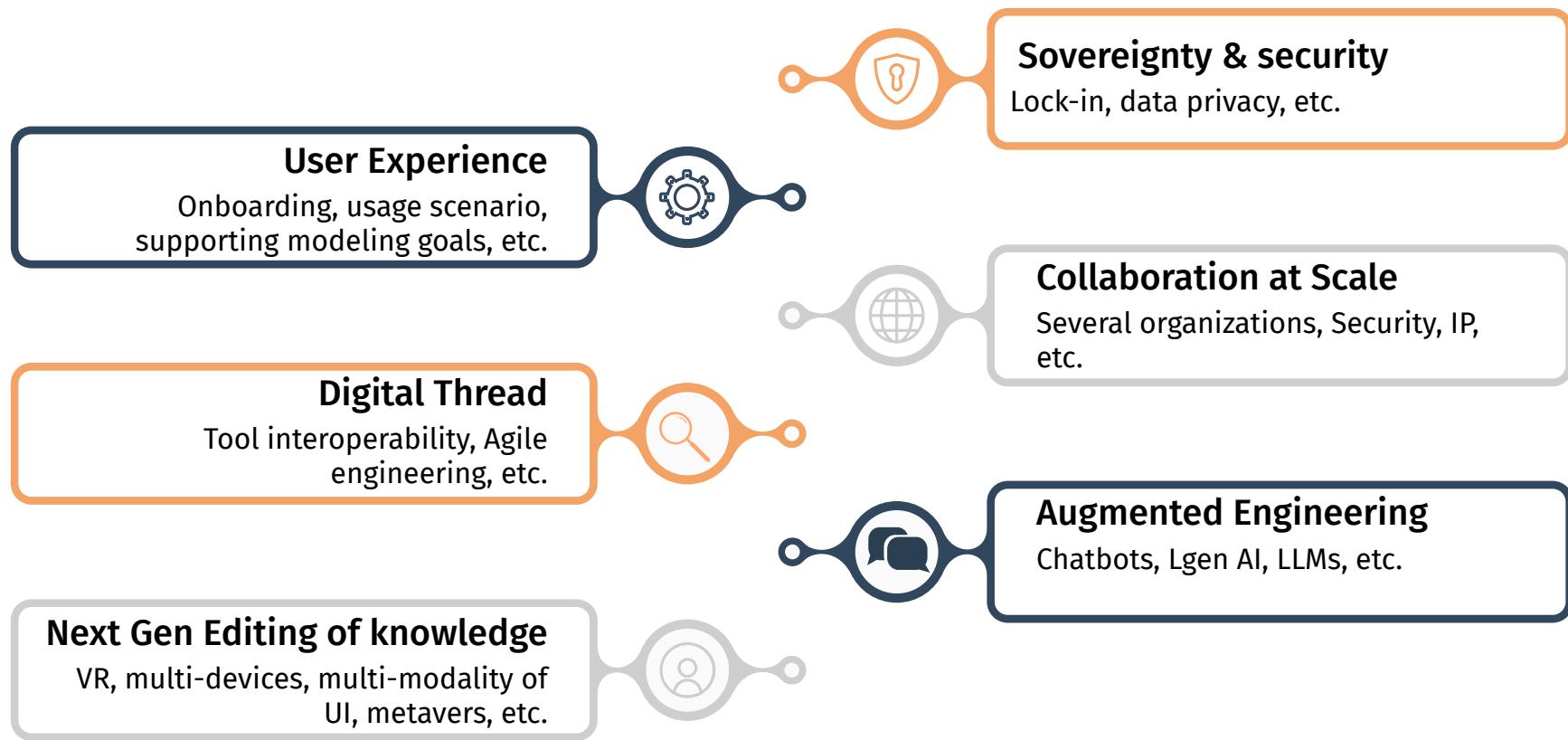
a new Era for Collaborative Engineering tools

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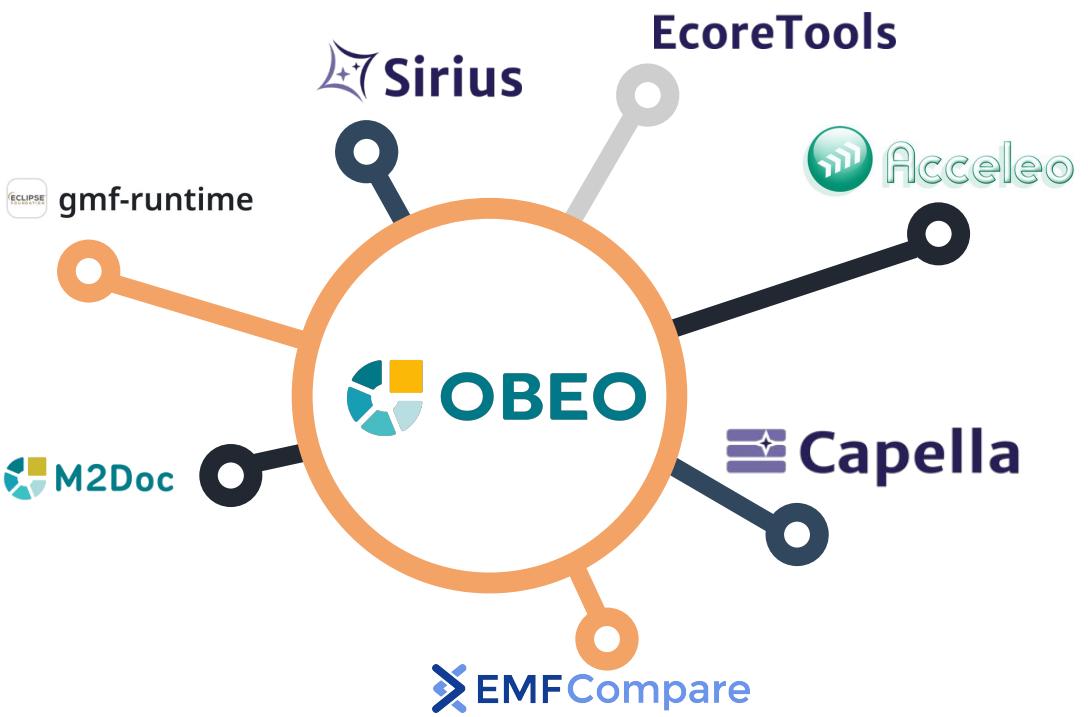
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 ECLIPSE CON2023

Challenges for engineering...



... calls for a long term and open vision for tools



1500 days of OSS effort in 2022

Involved in many Modeling
Technologies

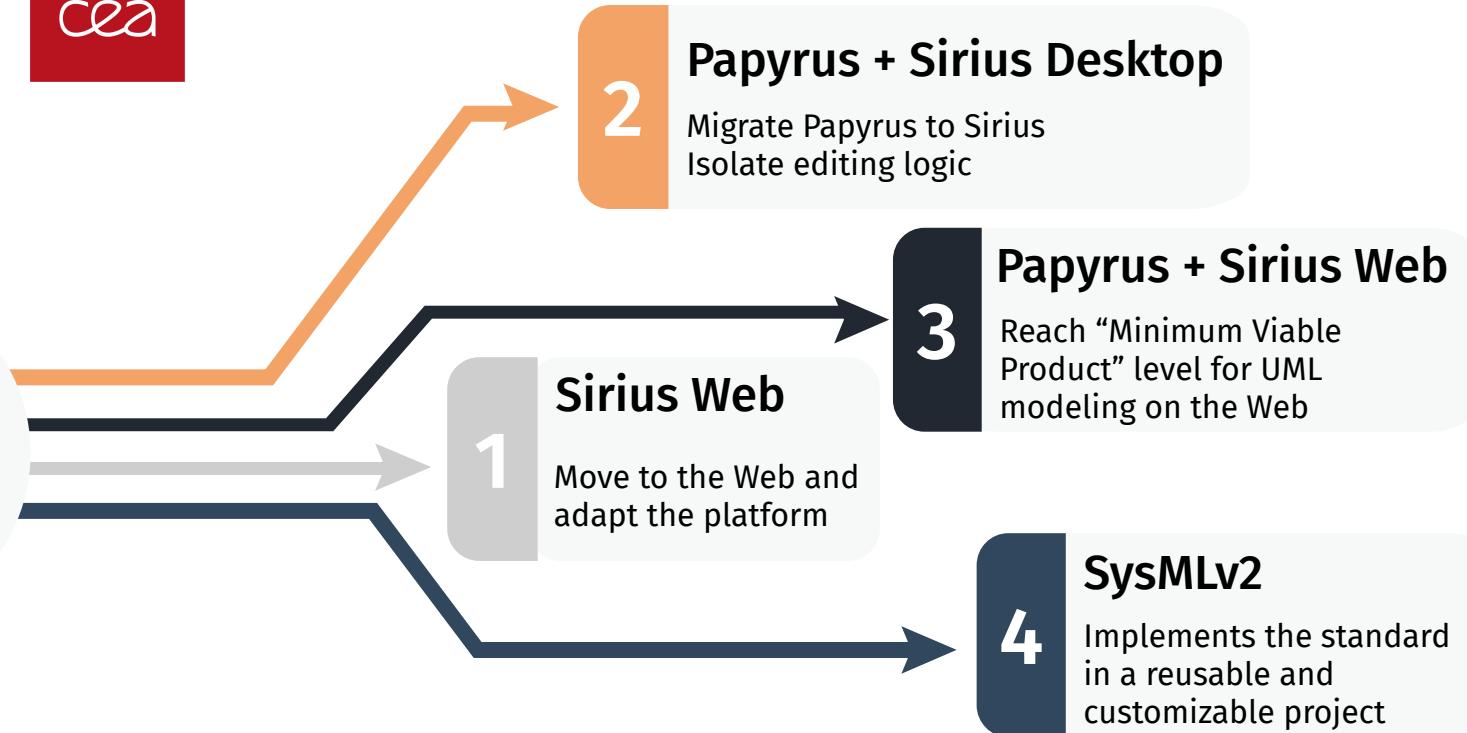


A joint initiative



"The great Eclipse Papyrus migration..."
Thursday 12:20 in Silchersaal

Initial Steps



Papyrus Web Editors

On the Eclipse Foundation Gitlab

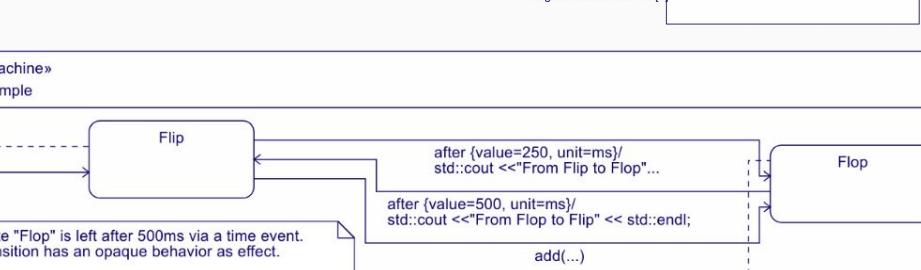
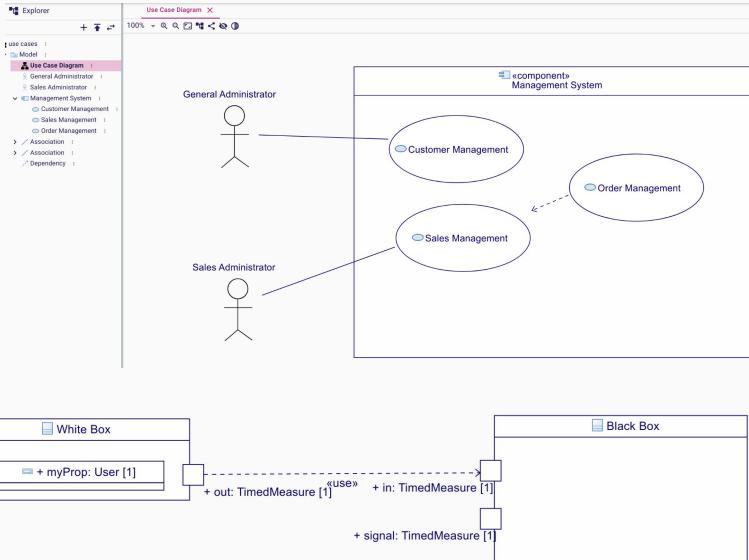
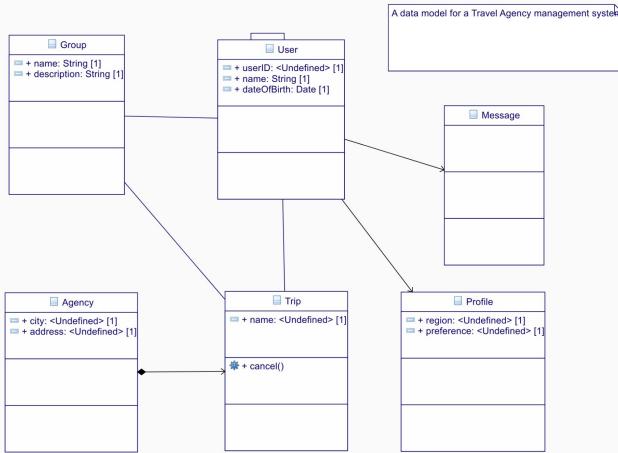
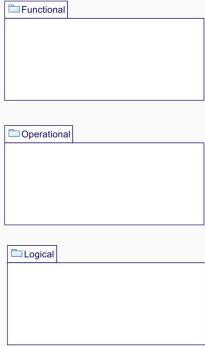
1st milestone:

- 100% metamodel and basic editing
- Files import/export
- Composite / Package / Class / State Machine diagrams
- Profiles Application (under development)
- Rich Properties (under development)
- Layout and UX (under development)

The screenshot shows a web browser displaying the Papyrus Web application on the Eclipse Foundation GitLab repository page for org.eclipse.papyrus-web. The left sidebar contains links for Project information, Repository, Issues (44), Merge requests (1), Deployments, Packages and registries, Monitor, Analytics, Wiki, and Snippets. The main content area has a header "Papyrus Web" and a "Table of Contents" section with links to Quick Start, Building, Requirements, GitHub Access Token, Build Papyrus web application, Development environment, License, Coding rules, and Headers. Below the table of contents is a description of Papyrus web as a web UML modeler. The central part of the screen shows a UML class diagram editor interface. On the left is the Explorer view showing a tree structure with JavaTemplate.uml, Java Template, Main, Class with main method, Main, ProfileApplication, ProfileApplication, ProfileApplication, and Standard Java. In the center, a class named "Main" is selected, showing its properties: Name (Main), Qualified Name (www.eclipse.org/eclipse/papyrus/Main), Visibility (public), is Leaf (unchecked), and Owning Template Parameter (None). A tooltip for the "main" method is displayed, stating: "Class with main method. The UML operation 'main' is declared as static and has a string array as parameter. It refers to an opaque expression of the same name containing Java code." At the bottom, a note says: "This repository, papyrus-web is a mono repo containing both frontend and backend components."

<https://gitlab.eclips.org/eclipse/papyrus/org.eclipse.papyrus-web>

Demo : a Quick Tour of Papyrus Web Editors



File Edit View Insert Tools Options Help

File Edit View Insert Tools Options Help

File Edit View Insert Tools Options Help

File

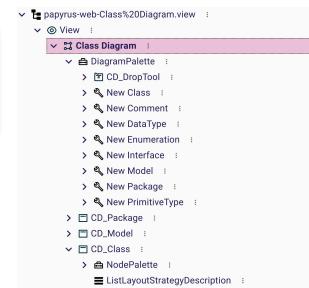
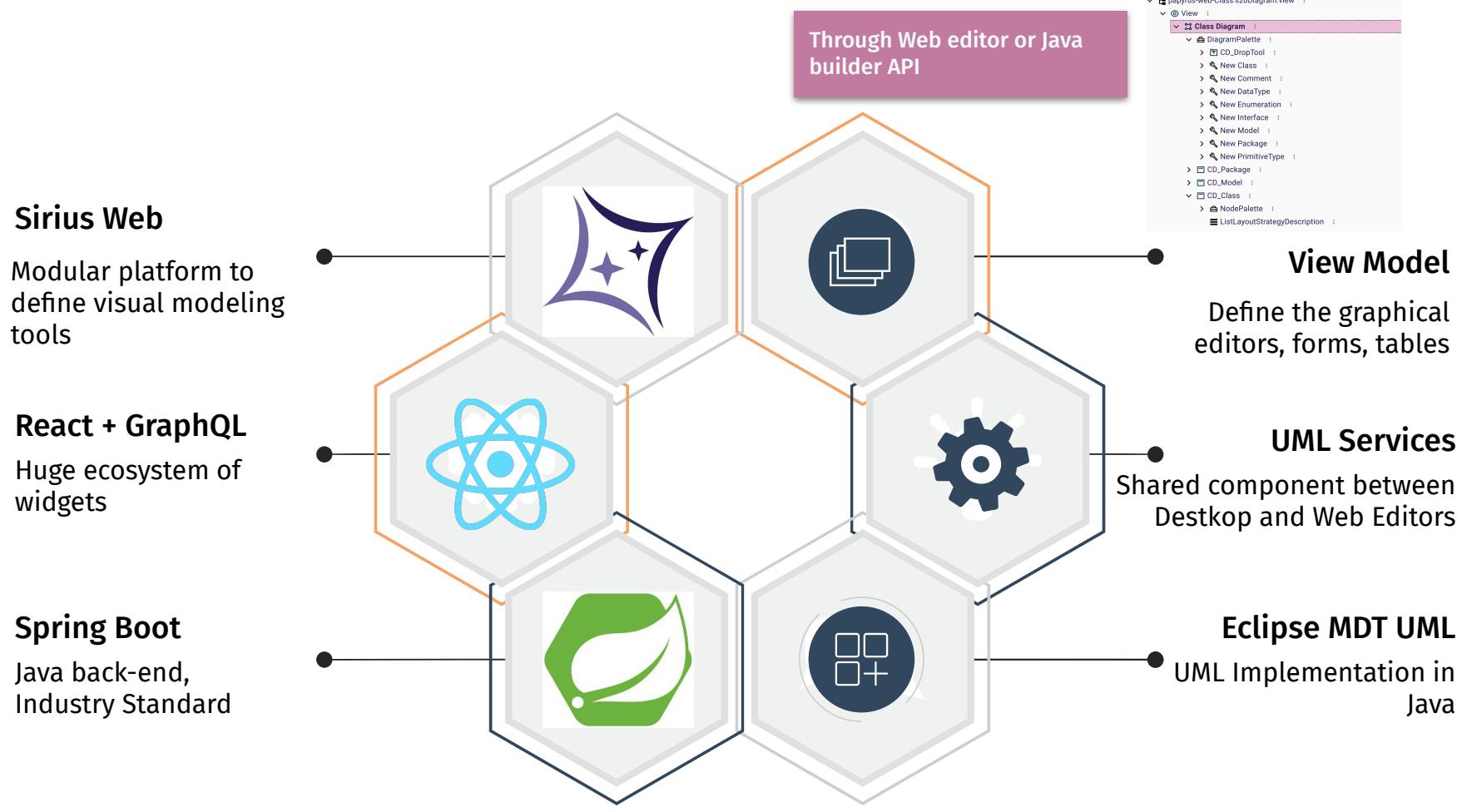
File Edit View Insert Tools Options Help



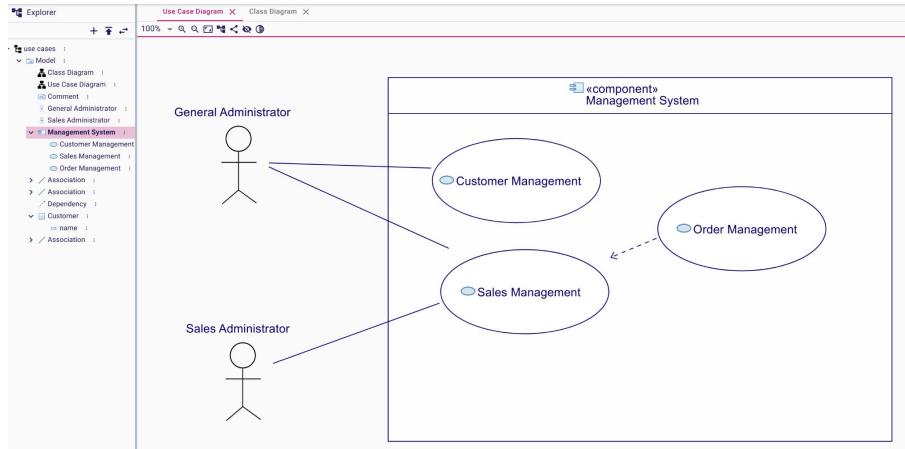
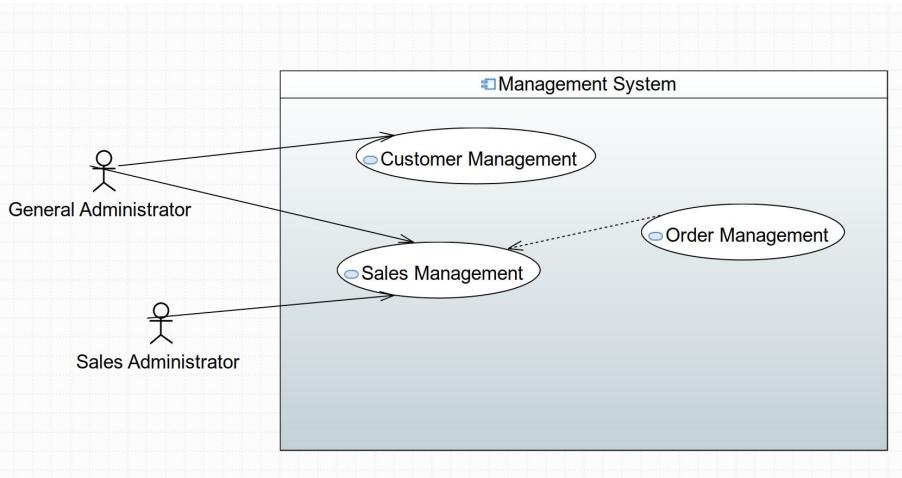
File Edit View Insert Tools Options Help

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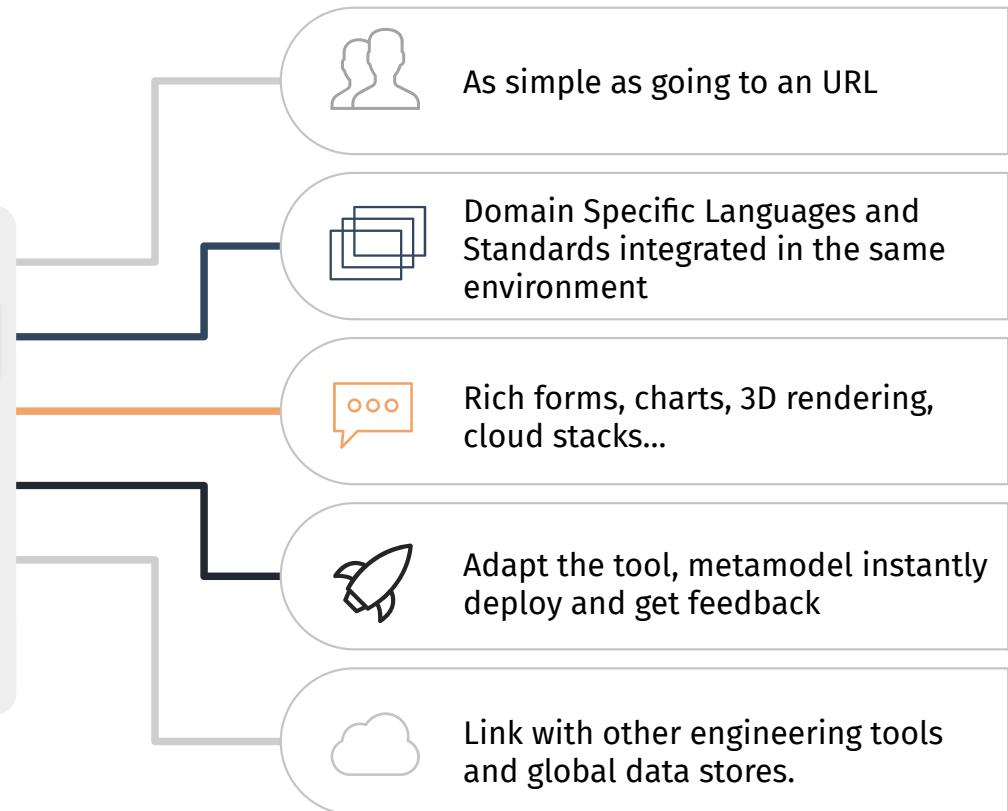
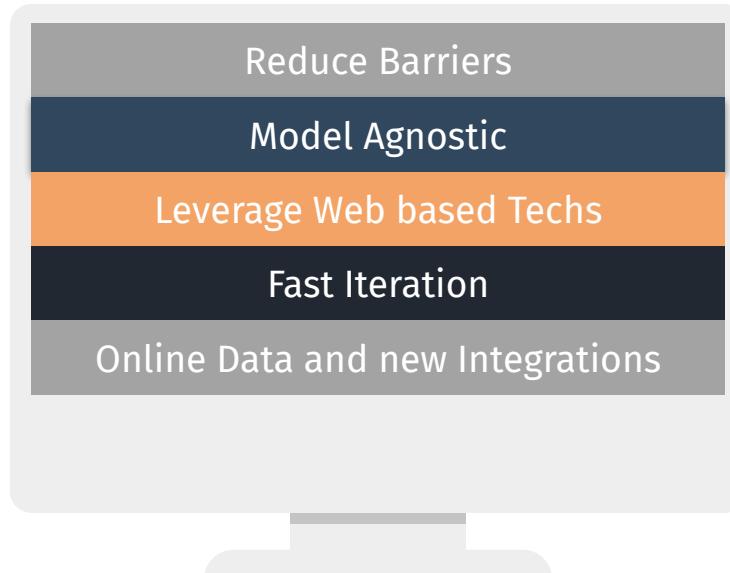
Eclipse UML reused “as is”



Same Implementation for :
Metamodel Implementation
Model Manipulation API
Create/Read/Update/Delete
XMI Serialization

```
@Override  
public Model apply(Model model) {  
  
    for (Class c : Iterables.filter(model.getOwnedElements(),  
        Class.class)) {  
        c.setName(c.getName() + "_renamed");  
        for (Property p : c.getOwnedAttributes()) {  
            p.setName(p.getName() + "_renamed");  
        }  
        Property newOne = UMLFactory.eINSTANCE.createProperty();  
        newOne.setName("Property created from Java code.");  
        newOne.setType(c);  
        c.getOwnedAttributes().add(newOne);  
    }  
  
    return model;  
}
```

Enabler for more innovation

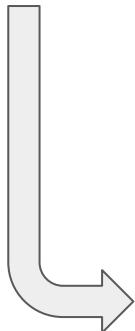


Demo : Papyrus Web Editor + Jupyter Notebook

A missing piece...



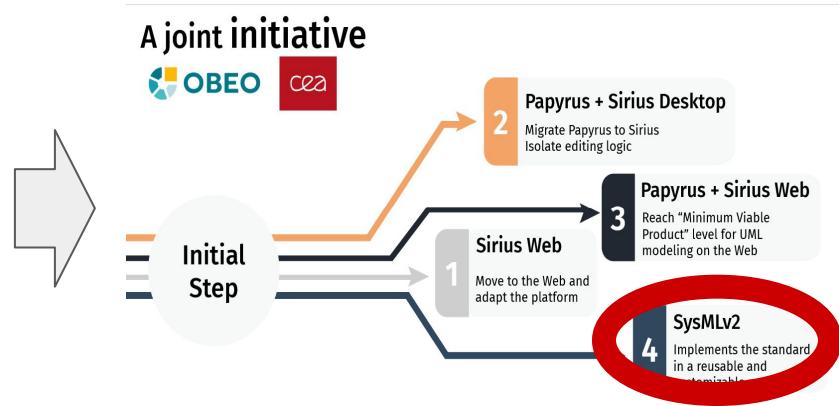
Support for the specification, analysis, design, and V&V of complex systems (incl. HW, SW, information, processes, project, etc.).



SysML v2 Objectives **SST**

Increase adoption and effectiveness of MBSE by enhancing...

- Precision and expressiveness of the language
- Consistency and integration among language concepts
- Interoperability with other engineering models and tools
- Usability by model developers and consumers
- Extensibility to support domain specific applications
- Migration path for SysML v1 users and implementors



Credit to Sanford
Friedenthal
SST Co-Lead

The SysON Open Source project in Eclipse



a Web Modeling Tool for editing SysMLv2 models conforming to the OMG Standard

Integration With Capella

Enable co-design

Structured Editing

Graphical Modeler
Forms
Tables

Re-used in Papyrus

Core of SysMLv2 Support

Co-Lead CEA & Obeo

CEA : OMG and standard “Meta” and extensibility
Obeo : Product and User Experience

Roadmap

Project in proposal phase
Initial contribution by 2023
Basic System Modeling in 2024

User Experience

Shortcuts, edit assists

Interoperability

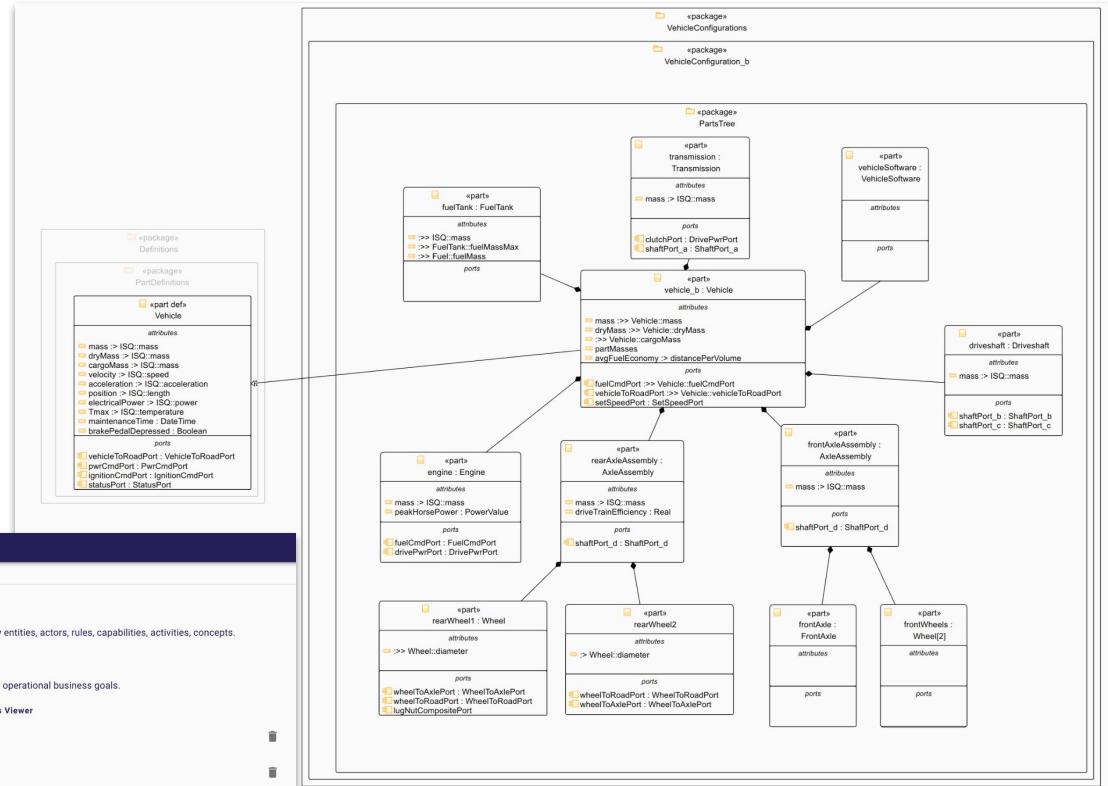
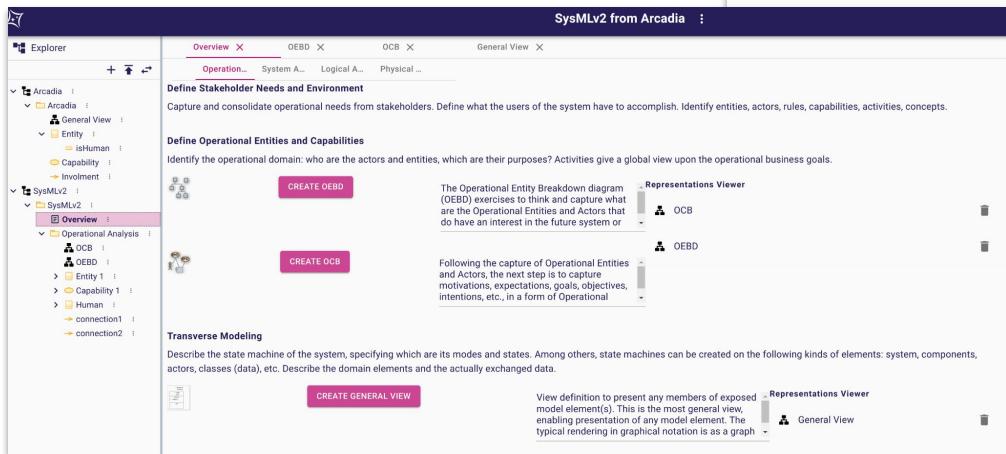
Textual syntax
API

<https://projects.eclipse.org/proposals/eclipse-syson>



Demo : SysON

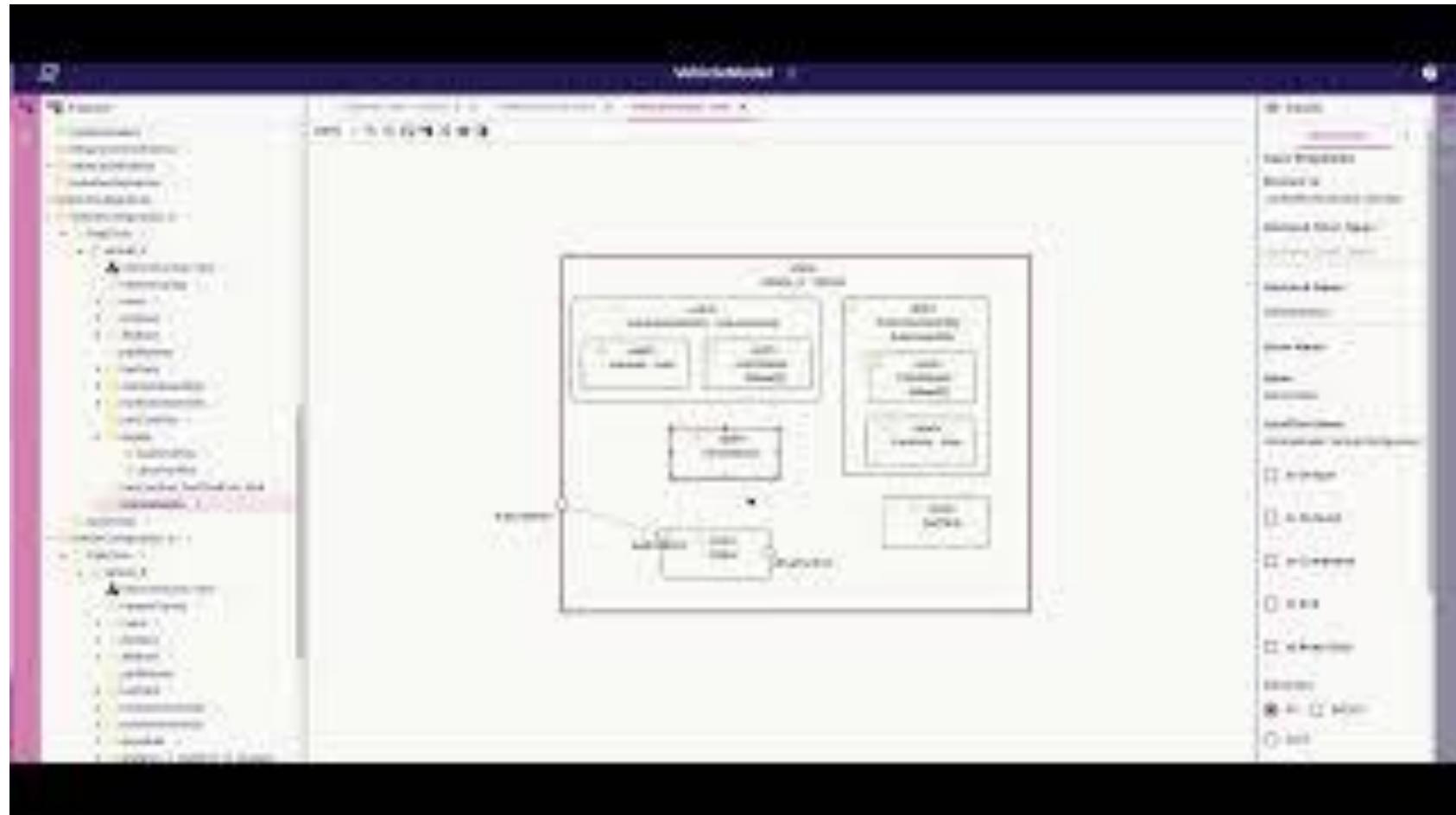
- ❑ General View
- ❑ Direct edit, typing definition, subsetting, reconnect...
- ❑ SysMLv2 + Arcadia



SysON : Vehicle Sample Model



SysON : Interconnection View



SySON : Arcadia Method Overview

The screenshot shows the SySON Arcadia Method Overview page. At the top, there's a navigation bar with tabs for 'Dashboard', 'SyNAPSE', 'SyNAPSE', 'SyNAPSE', and 'SyNAPSE'. Below the navigation bar, the main content area has a dark header 'SyNAPSE from Arcadia'.

Dashboard

Operational Readiness and Planning

Define environmental requirements more from stakeholders. Define core system needs to successfully identify critical systems, areas, resources, and assets.

Operational Readiness and Planning

Define the operational mission requirements and assets. Identify and map resources to support mission requirements across the enterprise business units.

Operational Readiness

Map your mission requirements to mission and resources. Define the Operational Readiness and Assessment tasks.

Operational Readiness

Establish the required operational mission and resources. Review mission requirements and resources.

Planning Meeting

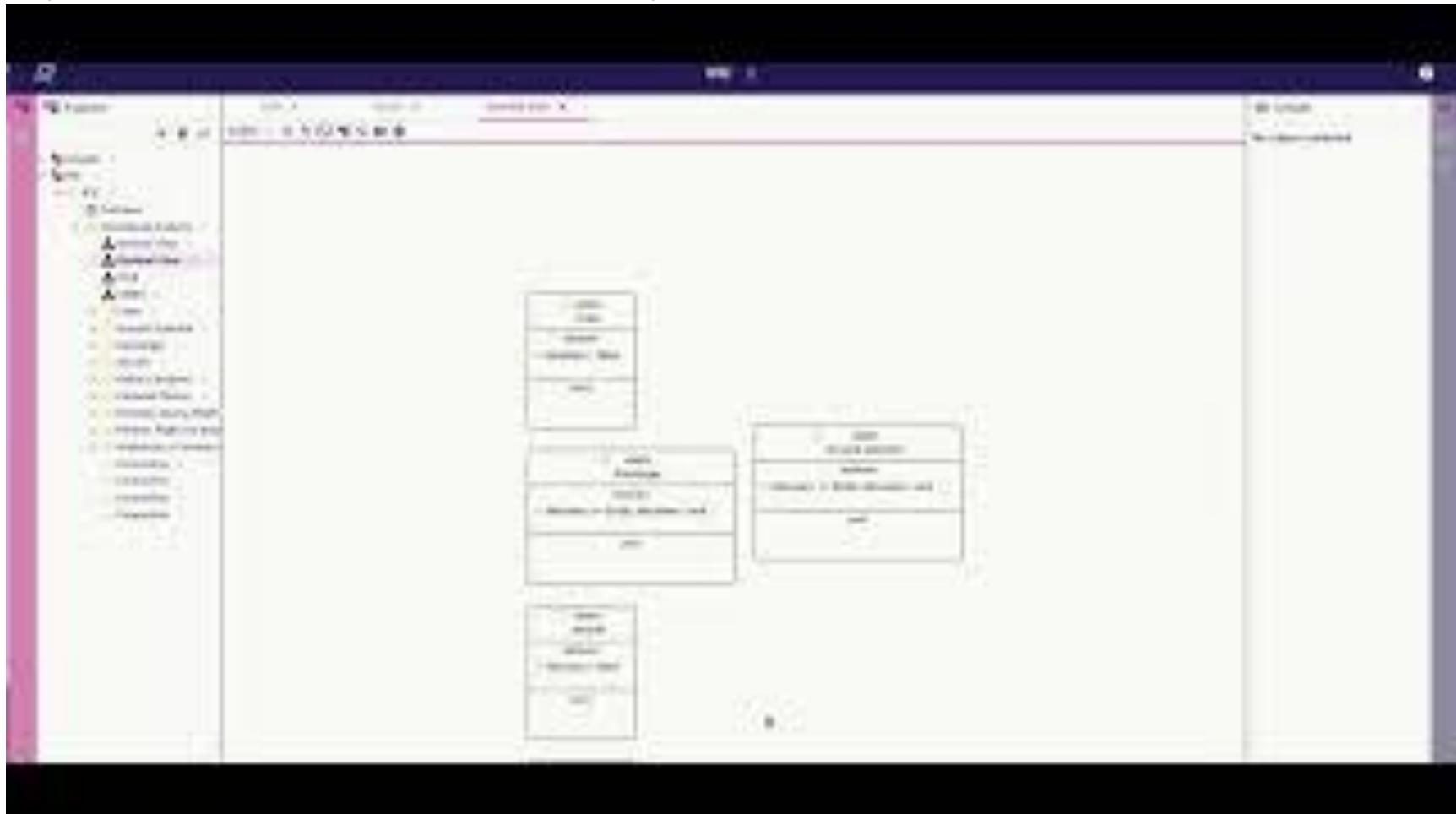
Identify the most important of the mission requirements are to focus attention. Assess mission requirements based on the following rules of thumb: priority requirements - others, mission items, and resources that are critical to the priority requirements.

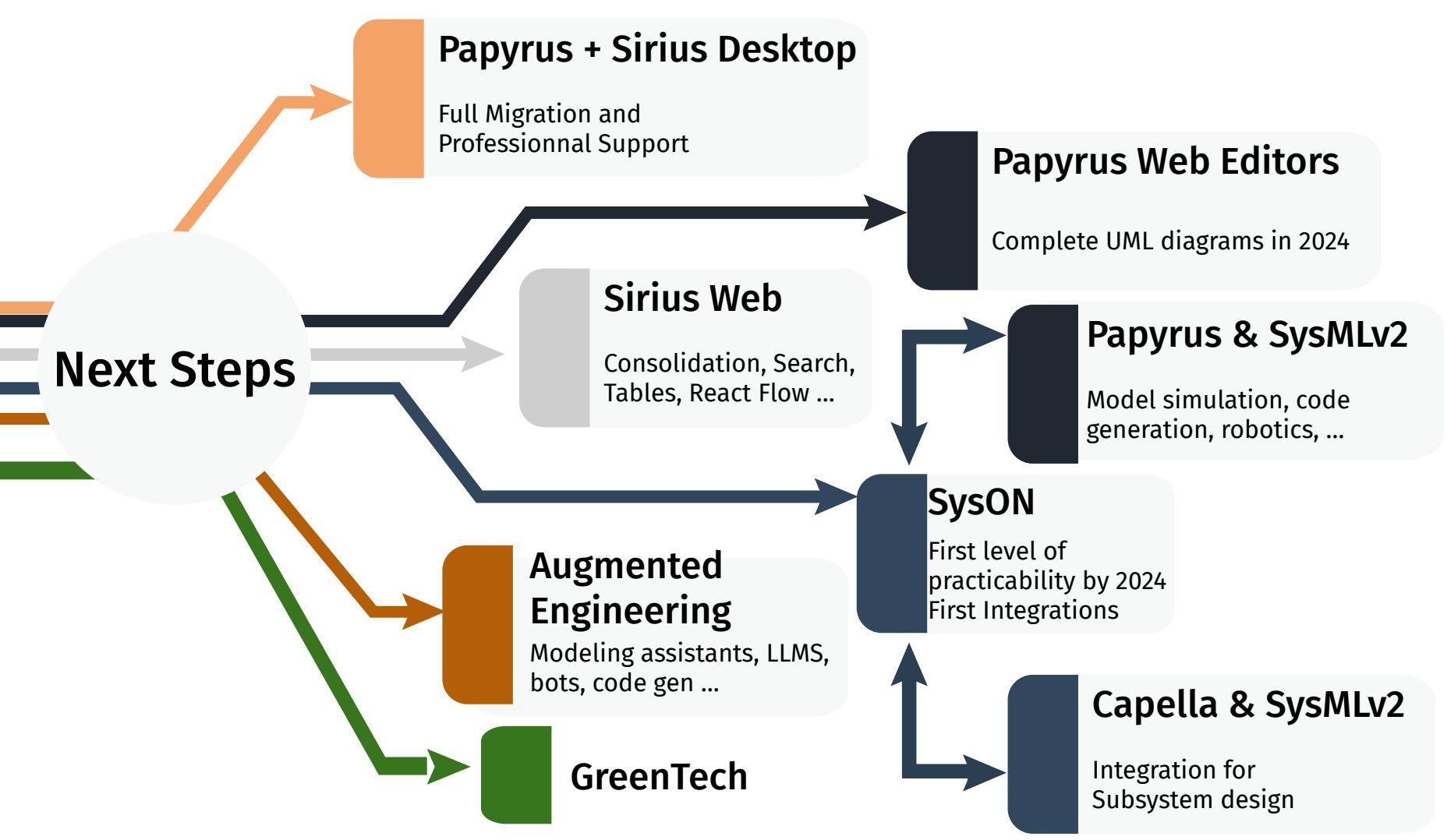
CREATE WORKFLOW

View, edit, or export mission requirements. Assign requirements to specific stakeholders. View the current status and dependencies of all mission requirements. Filter by:

- General view
- Completed
- Pending review
- Open
- Assigned
- Not assigned

SysON : Arcadia and SysMLv2 General View





1

Transitioning the Eclipse Modeling Technologies

While revisiting choices and tradeoffs

2

Papyrus is making the leap to Sirius and Sirius Web

3

We hope to enable new Research and Innovation

4

SysON will bring OpenSource SysMLv2 tooling

More talks:

- Shape Me Up, Before you Go Go! A Journey transforming how we build products
 - Tuesday, 15:15 in Schubartsaal
- The great Eclipse Papyrus migration, from GMF and XWT to Sirius and EEF
 - Thursday 12:20 in Silchersaal

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Contact QR code:



**Get involved:
Interested Parties
R&D Projects
Industrial Use cases
Sponsored Developments**

Thank you for your attention !

Contact

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