The State of Sirius: Where We Are and Where We Are Going

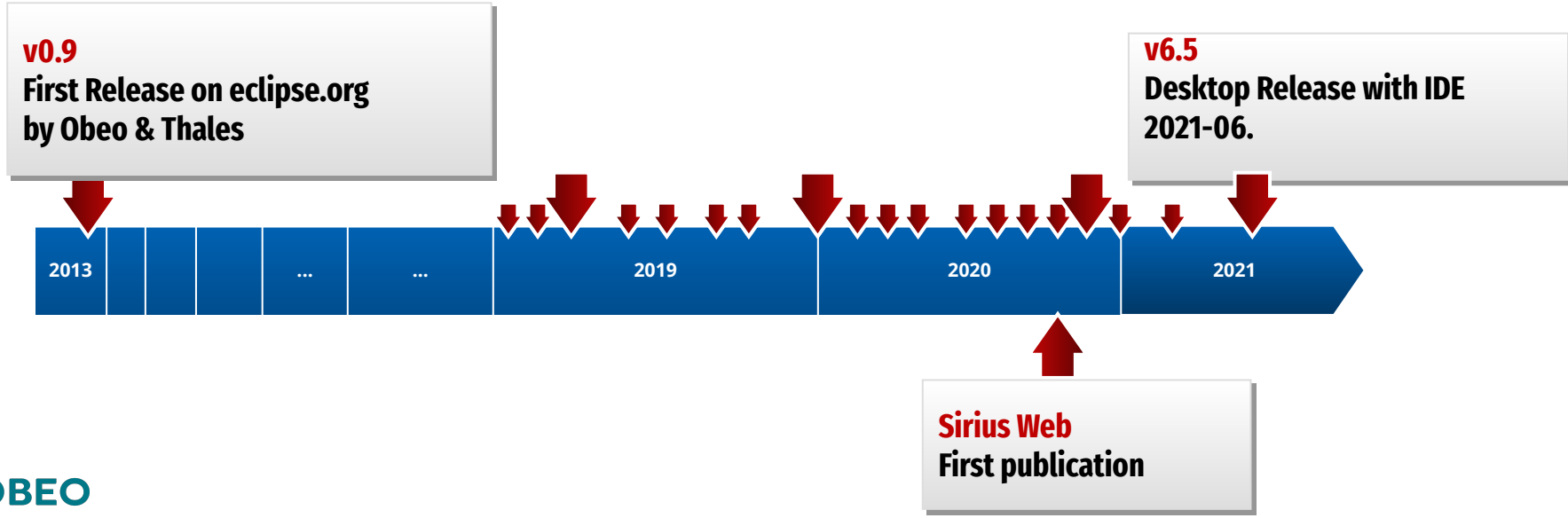
Cédric Brun
CEO
cedric.brun@obeo.fr
@bruncedric

OBEO

The story of an Open Source project

Technology created in 2007 by Thales and Obeo,

Project made Open Source in 2013



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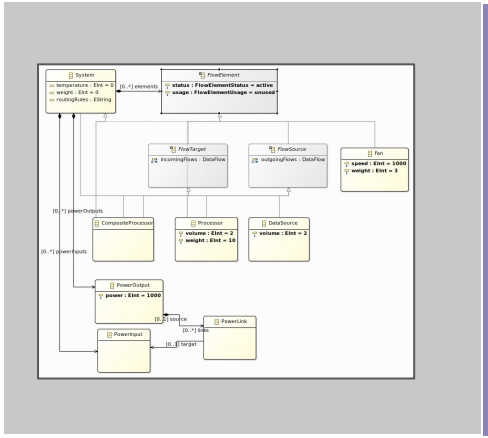
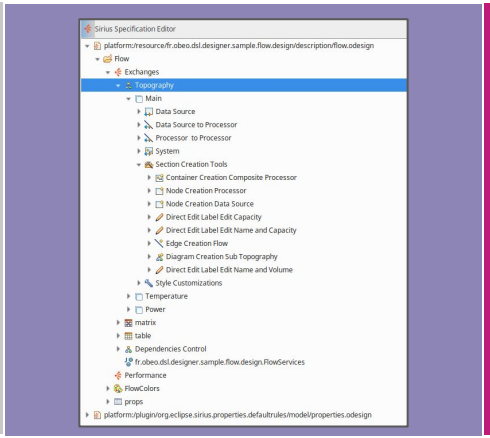
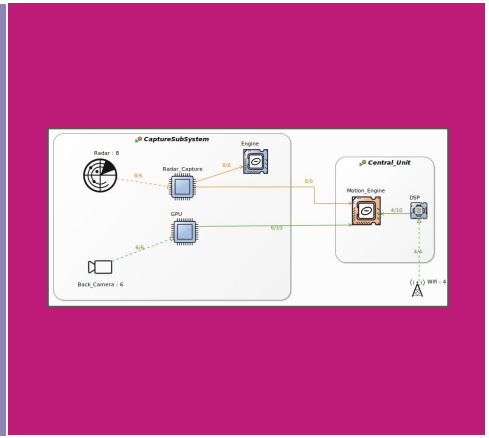
Sirius Principles

Domain model + Sirius configuration = Graphical modeler



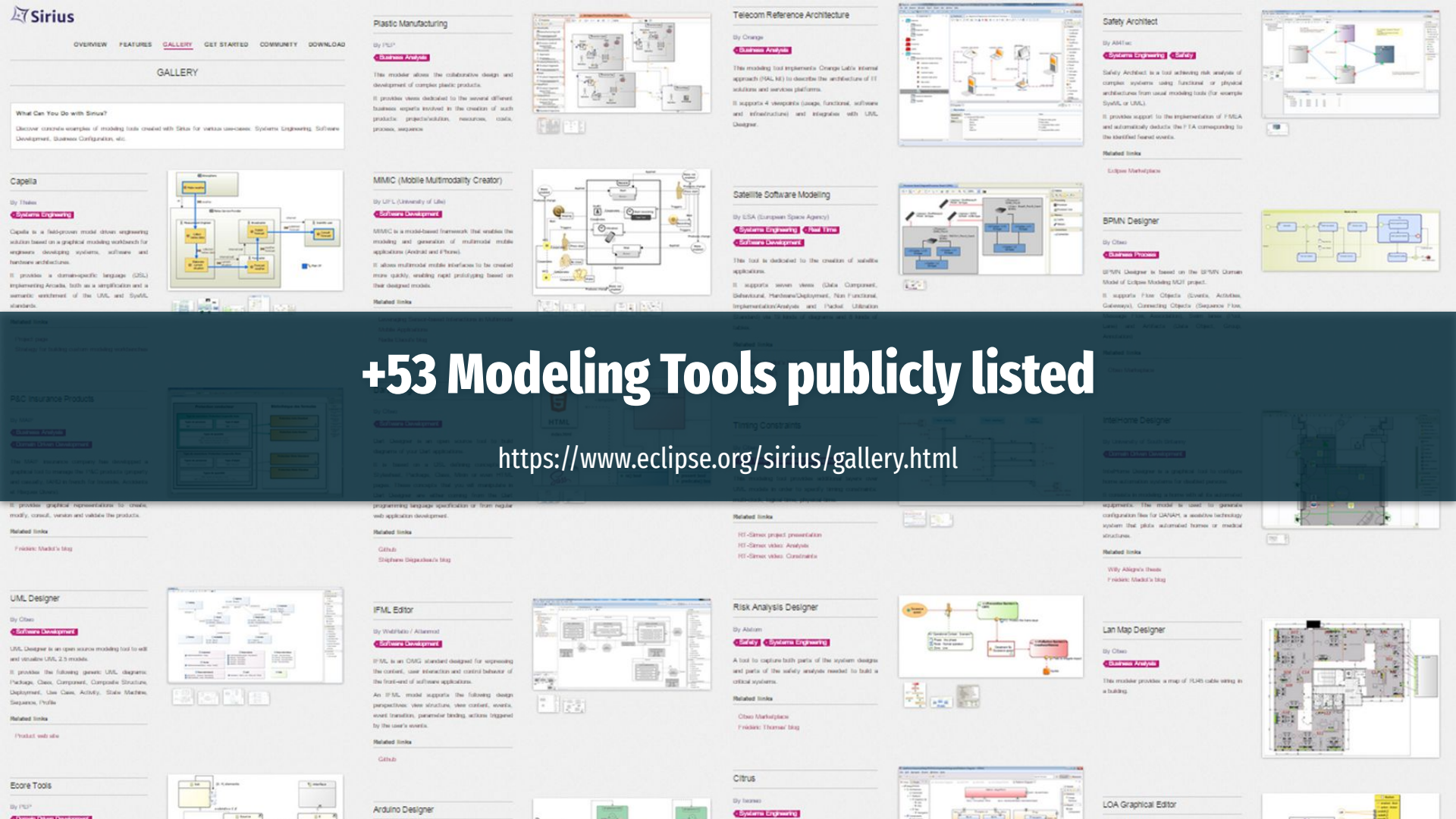




Sirius specifier

Workbench end users

OBEO



+53 Modeling Tools publicly listed

https://www.eclipse.org/sirius/gallery.html

System Engineering
Robotics
Safety
Simulation
Big Data
Business Process
Automotive
MicroControllers
Ontology
IOT
Cloud Computing
Software Development
Embedded
DevOps
Business Analysis
HealthCare
Risk Analysis
CyberSecurity
Enterprise Architecture
...

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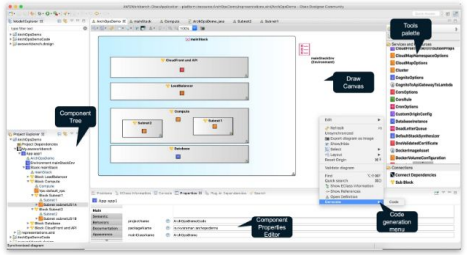
AWS Workbench

By RKVS Raman CLOUD COMPUTING SOFTWARE DEVELOPMENT DEVOPS

AWS Workbench is an ArchOps environment for designing and deploying AWS Infrastructure. It provides a "What You See Is What Is Deployed" (WYSIWID) view of infrastructure that improves cloud architecture design and deployment process.

Related links

- GitHub



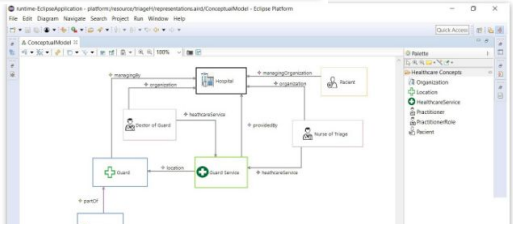
FHIR Designer

By Maria Cecilia Ariste HEALTHCARE

FHIR Designer is based on the open-source healthcare standard FHIR of HL7. It allows to design conceptual models of healthcare systems based on an international open source standard that defines resources of information for interoperatibily between heathcare systems.

Related links

- HL7 FHIR



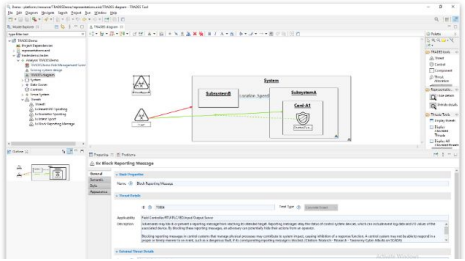
TRADES Tool

By Israel Aerospace Industries / ELTA Cyber Division RISK ANALYSIS CYBERSECURITY

A threat and risk assessment (TRA) tool for the design of engineered systems. TRADES Tool is an open-source design tool, implementing a risk-based, cybersecurity assessment methodology. The underlying model-based approach promotes establishing and maintaining the system's cybersecurity posture throughout the system life cycle.

Related links

- GitHub project



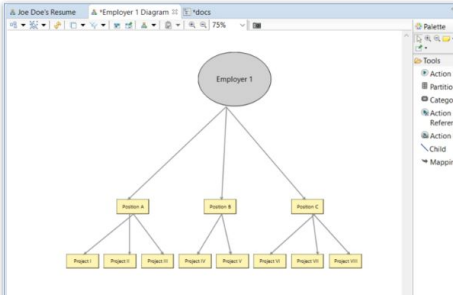
Nasdanika Vinci

By Nasdanika LLC SOFTWARE DEVELOPMENT

A Sirius-based tool for modeling and generation of web sites using diagram and tree representations.

Related links

- Home page
- Get Started Guide
- Site created in Get Started guide




SiriusCon
50 countries


SiriusCon
18th of June, 2020
LIVE 2020
The SmartMDSD Toolchain:
Model-Driven Software Development for Robotics Software Systems
Prof. Dr. Christian Schlegel
Dr. Alex Lotz
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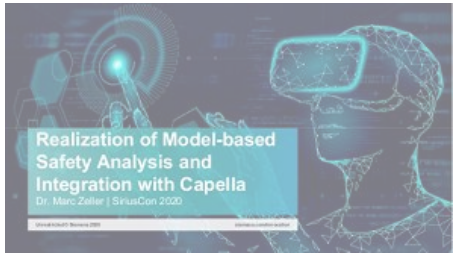
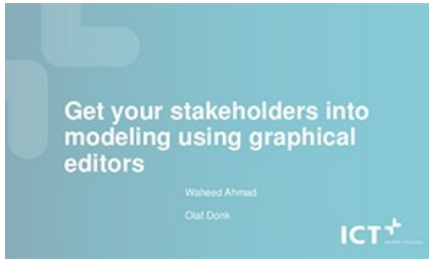

Realization of Model-based Safety Analysis and Integration with Capella
Dr. Marc Zeller | SiriusCon 2020


SiriusCon
LIVE 2018
Eclipse Sirius Applied to a RAD Tool in Japan
4th December, 2018
Akira Tanaka
Ryo Nagamine
Takanobu Ouchi
Aimis Corp.
Aimis


Get your stakeholders into modeling using graphical editors
Waheed Ahmad
Olaf Donk
ICT+


SiriusCon
18th of June, 2020
LIVE 2020
IRI Workbench, a Complete Graphical Data Management Environment Built on Eclipse with Sirius
David Friedland, Claudia Irvine, Don Purnhagen
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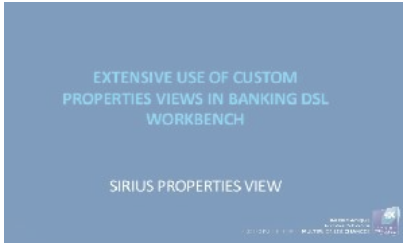

EXTENSIVE USE OF CUSTOM PROPERTIES VIEWS IN BANKING DSL WORKBENCH
SIRIUS PROPERTIES VIEW


SiriusCon
LIVE 2018
AdvoCATE: An Assurance Case Automation Toolset Based on Eclipse and Sirius
4th December, 2018
Ewen Denney & Robbie Henderson
Robust Software Engineering Group


ASML
ASML's MDE going Sirius
Wilbert Alberts


Model Simulation, Graphical Animation, and Omniscient Debugging with (EcoreTools and) Sirius Animator
SiriusCon 2017, Paris, FR
BENOIT COMBEMALE
PROFESSOR, UNIV. TOULOUSE, FRANCE

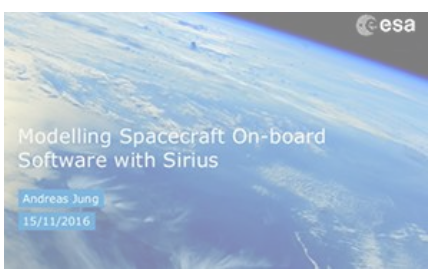

E
L
K
Jan Köhnlein
TypeFox


Sirius CON Paris 2017
API Designer
Patrick TARNAUD – Systeme U Software Architect
Vincent RICHARD – Obeo Consultant
OBEO


KIT
SDQ
A Graphical Approach to Modularization and Layering of Metamodels
Amine Kechaou, Misha Strittmatter
November 9, 2017 – SiriusCon, Paris


SiriusCON 17
Ocetic
Sirius-powered Risk Modelling and Simulation in Industry 4.0 Supply Chains
Christophe Ponsard
OBEO

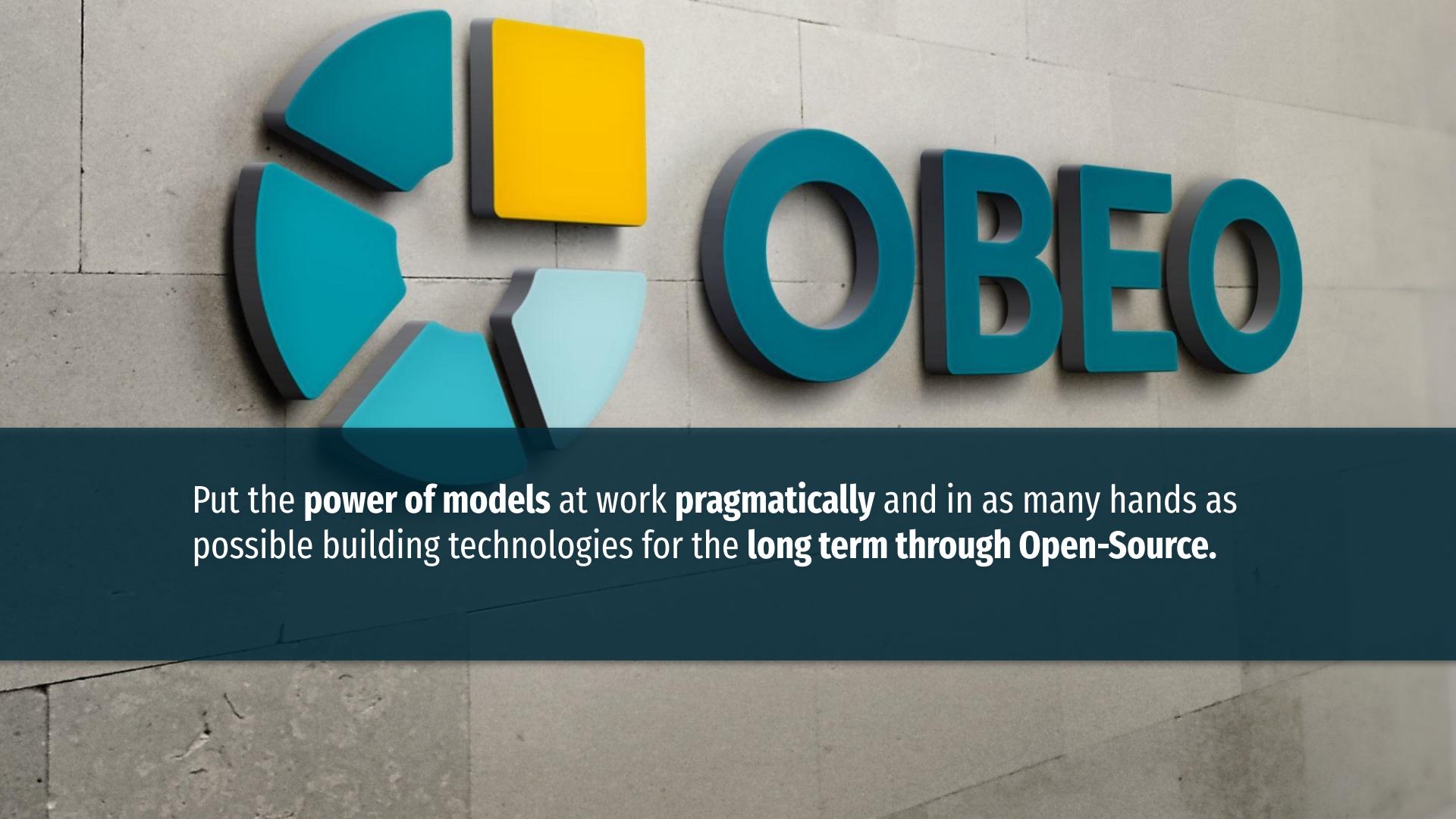

Visualization of Inferred Versioned Schemas from NoSQL Databases
Alberto Hernández Chillón
Diego Sevilla Ruiz
Jesús García Molina
Cátedra SAES-UMU
University of Murcia
Faculty of Computer Science
University of Murcia
SAES
SiriusCON 16


esa
Modelling Spacecraft On-board Software with Sirius
Andreas Jung
15/11/2016


SiriusCon
LIVE 2018
Integrating Sirius, Xtext and EMF Compare to Design Simulators of Complex Physical Phenomena
4th December, 2018
Benoit Lelandais
Marie-Pierre Oudot
Laurent Delaigue
CEA, DAM, DIF

+50 mentions in Research Papers

published in 2020



Put the **power of models** at work **pragmatically** and in as many hands as possible building technologies for the **long term through Open-Source.**


Discover Sirius
Proof of Concept
Pilot
Industrialization

OBEO

Provide **Trainings** and “by the day” **Expertise**
Organize and participate to **events**
Publish information, blog posts, **documentation**
Community support through Forum and Bugzilla

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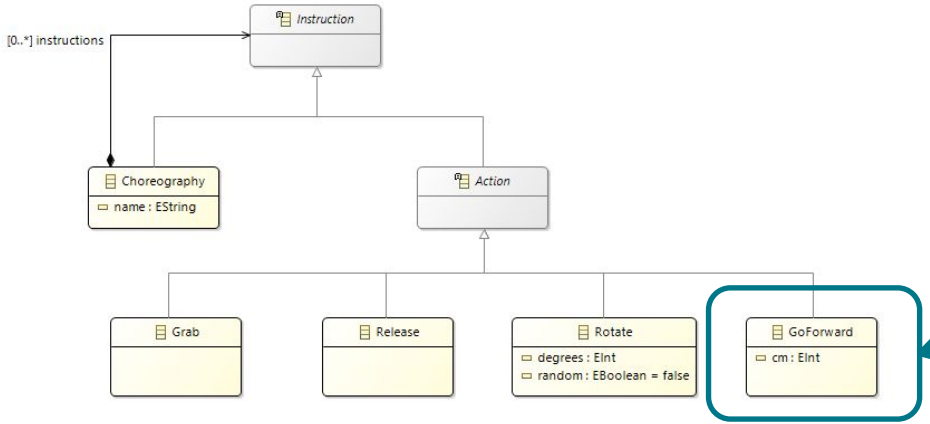
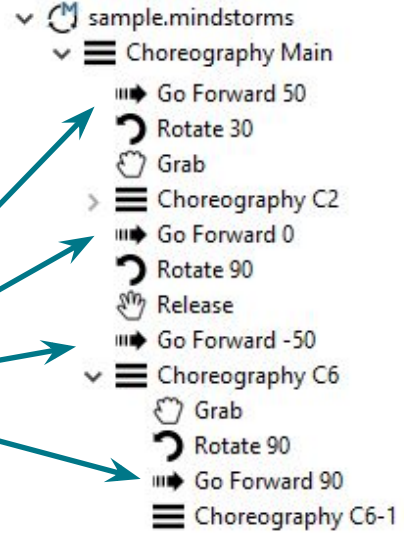
Domain Model

Tool Developer



Domain Model

End user

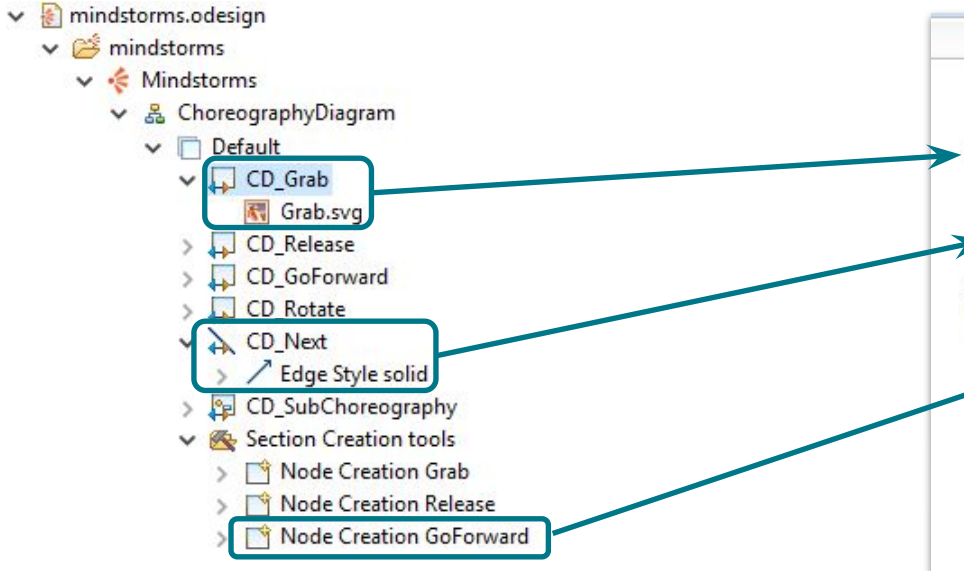


Data

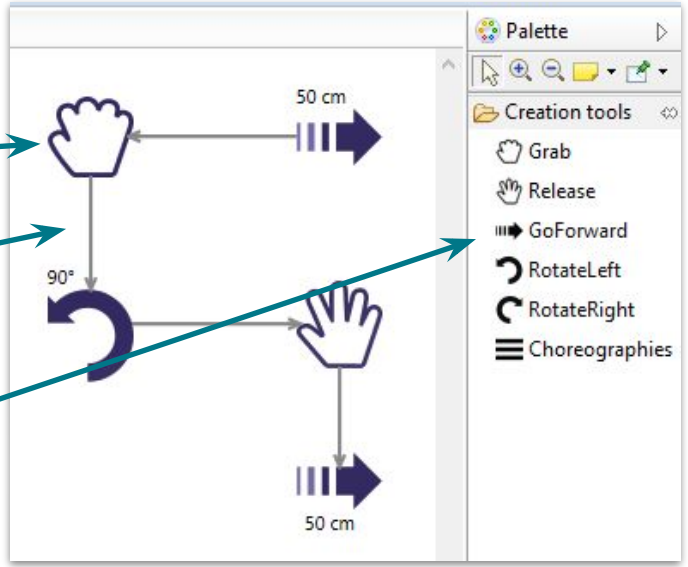
OBEO

Representations

Tool Developer



End user



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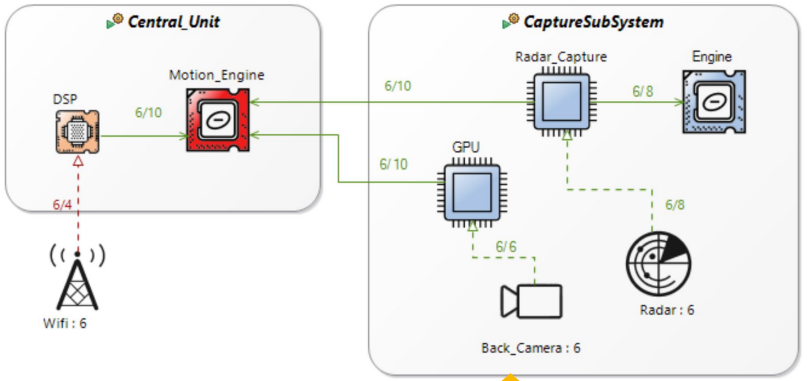
Tests

Customizable features to deal with complexity

- Synchronized Editors
- Conditional Styles
- Layers & Filters
- Rich properties views
- Navigation tools
- Validation tools
- Quickfixes
- *And much more… !*



	capacity	consumption	load	status	usage
DSP	4	40	6	active	over
Motion_Engine	15	150	20	active	high
Radar_Capture	10	100	8	active	standard
Engine	10	100	8	active	standard
GPU	10	100	6	active	standard

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emf

ECLIPSE MODELING FRAMEWORK

The common API to integrate your complete modeling workbench

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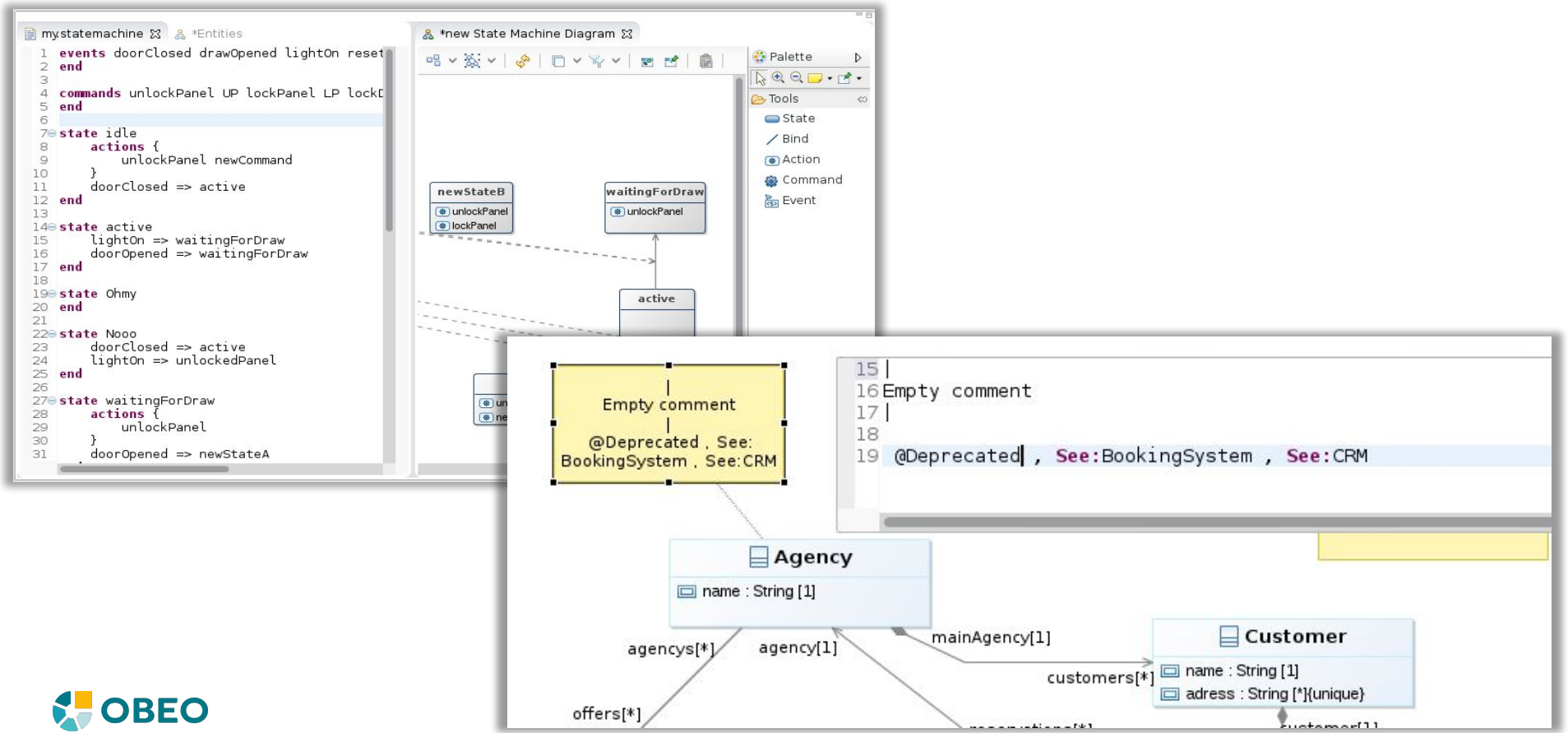
Xtext


mystatemachine
*Entities
events doorClosed drawOpened lightOn reset
end
commands unlockPanel UP lockPanel LP lockD
end
state idle
actions {
unlockPanel newCommand
}
doorClosed => active
end
state active
lightOn => waitingForDraw
doorOpened => waitingForDraw
end
state Ohmy
end
state Nooo
doorClosed => active
lightOn => unlockedPanel
end
state waitingForDraw
actions {
unlockPanel
}
doorOpened => newStateA
*new State Machine Diagram
Palette
Tools
State
Bind
Action
Command
Event
newStateB
unlockPanel
lockPanel
waitingForDraw
unlockPanel
active
Empty comment
@Deprecated , See: BookingSystem , See:CRM
15
16 Empty comment
17
18
19 @Deprecated , See:BookingSystem , See:CRM
Agency
name : String [1]
agencys[*]
agency[1]
mainAgency[1]
customers[*]
Customer
name : String [1]
adress : String [*]{unique}
offers[*]

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Template-based code generation

```
[template public generateEntity(entity : Entity)]

    [comment @main /]
    [file (getFullPathFile().trim(), false, 'UTF-8')]
    package [eContainer(PackageDeclaration).name/];

    [genImports()/]

    @SuppressWarnings("serial")
    @Entity()
    @Table(name="[name.toUpper() /]")
    public class [name/] [genExtends()/] implements Serializable {

        [genTechnicalID()/]

        [comment Generate code for attributes/]
        [for (features)]
            [genAttribute()/]
        [/for]
```

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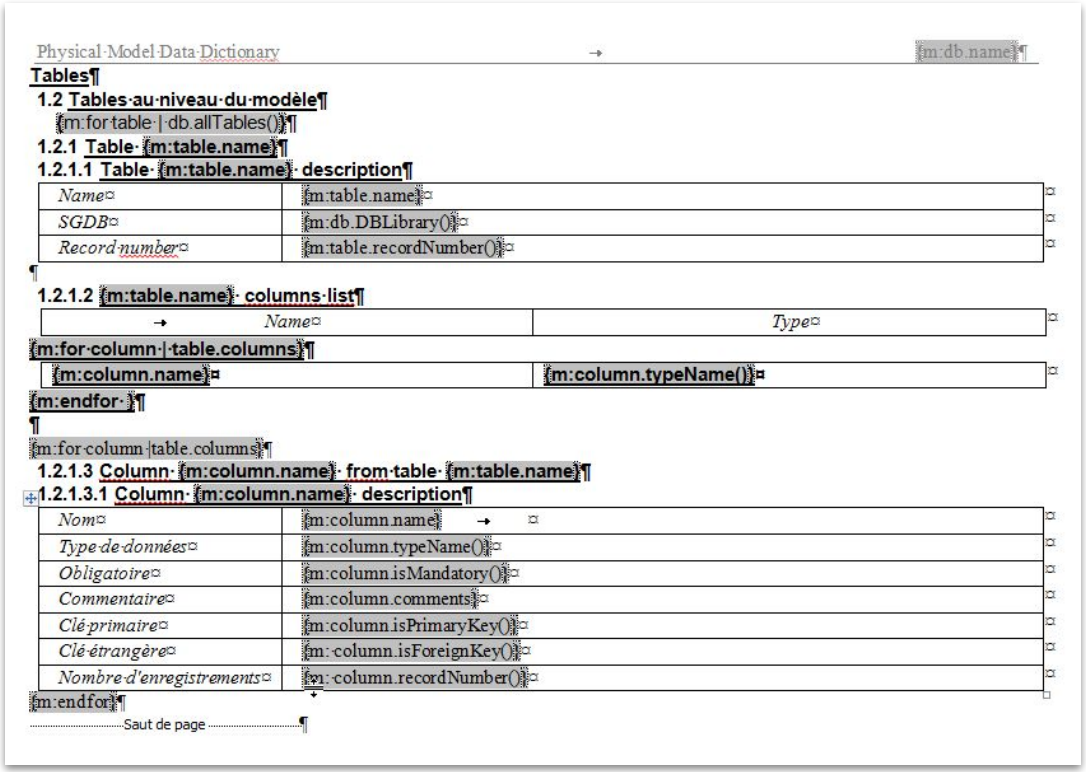
M2Doc

Template-base document generation



Physical Model Data Dictionary → {m:db.name}

Tables

1.2 Tables au niveau du modèle

{m:for table | db.allTables()}

1.2.1 Table {m:table.name}

1.2.1.1 Table {m:table.name} description

Name	{m:table.name}
SGDB	{m:db.DBLibrary()}
Record number	{m:table.recordNumber()}

1.2.1.2 {m:table.name} columns list

→ *Name*	*Type*
{m:for column | table.columns}	
{m:column.name}	{m:column.typeName()}
{m:endfor}	

{m:for column | table.columns}

1.2.1.3 Column {m:column.name} from table {m:table.name}

1.2.1.3.1 Column {m:column.name} description

Nom	{m:column.name} →
Type de données	{m:column.typeName()}
Obligatoire	{m:column.isMandatory()}
Commentaire	{m:column.comments}
Clé primaire	{m:column.isPrimaryKey()}
Clé étrangère	{m:column.isForeignKey()}
Nombre d'enregistrements	{m:column.recordNumber()}

{m:endfor}

Saut de page

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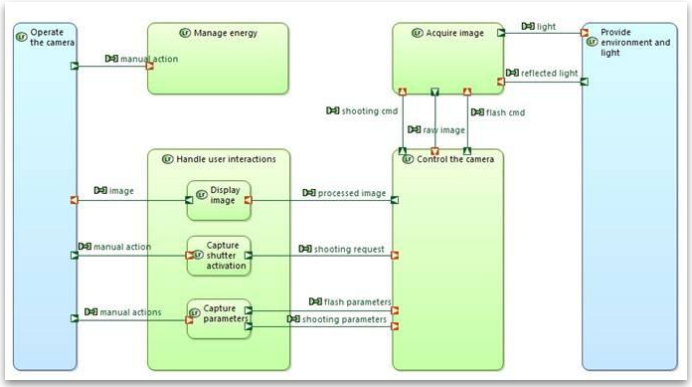
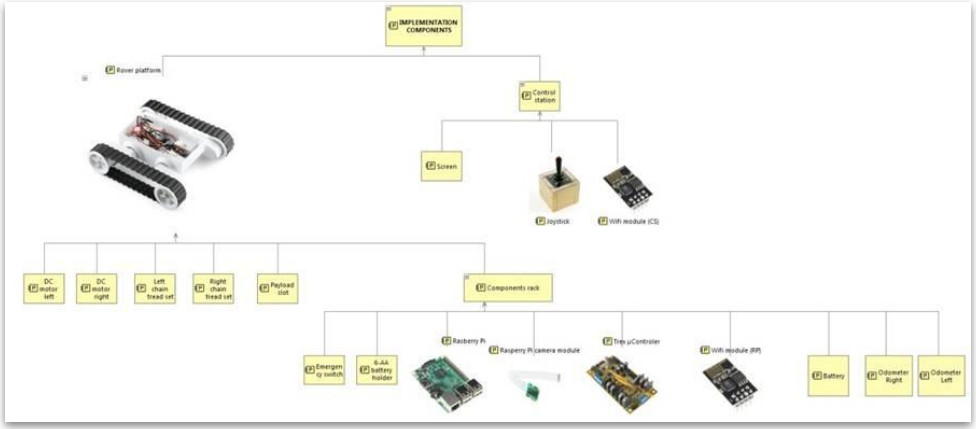
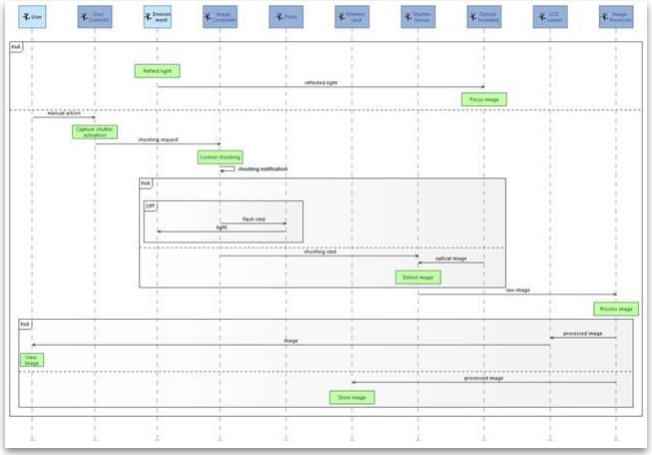
Release Engineering, automation, upgrades
Performance and stress tests
Guaranteed and **private support**
Obeo Designer Team Add-on

OBEO

Model-Based Systems Engineering







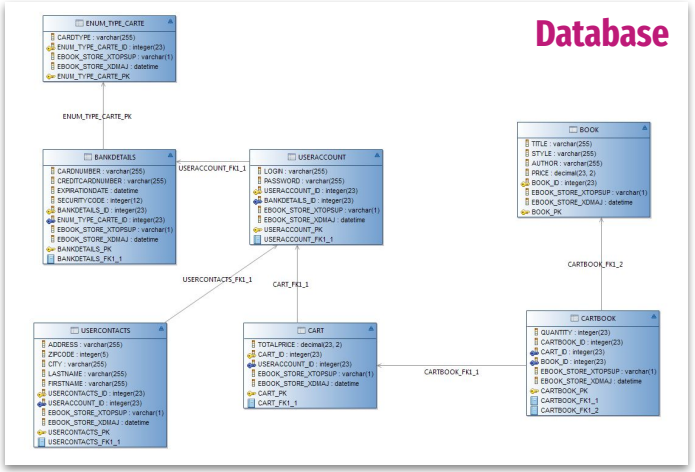
Capella

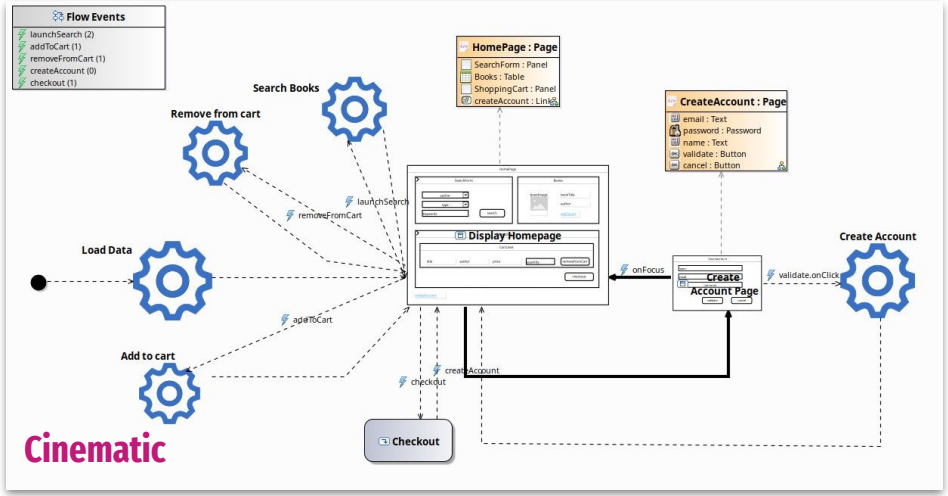
https://www.eclipse.org/capella/

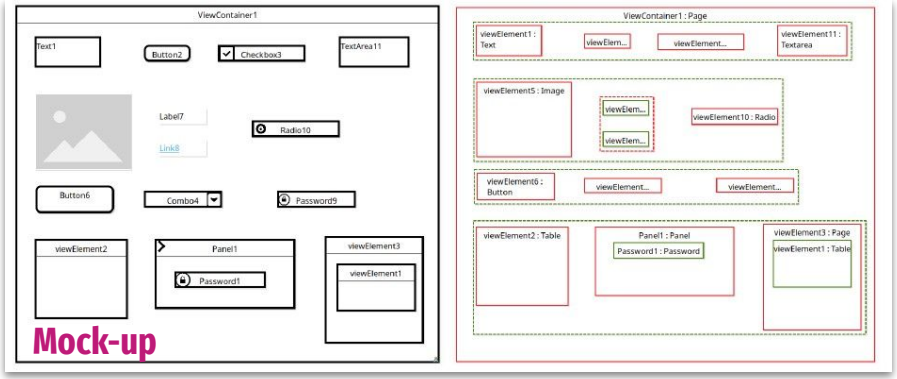
OBEO

Information System Designer

Information System Designer provides a set of tools to help you in the **design and the development of applications**.
Based on Eclipse featuring modelers to capture : User Needs, Requirements, Domain Entities, REST API, Components and much more...







https://github.com/ObeoNetwork/InformationSystem

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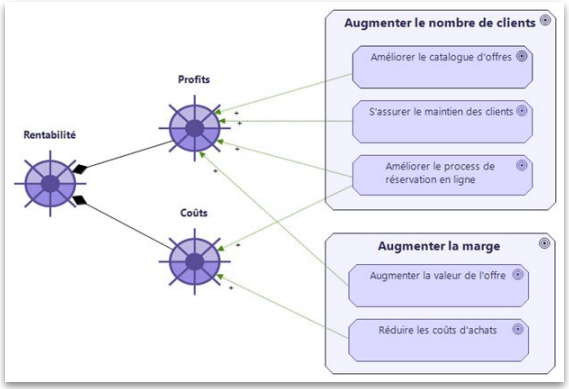
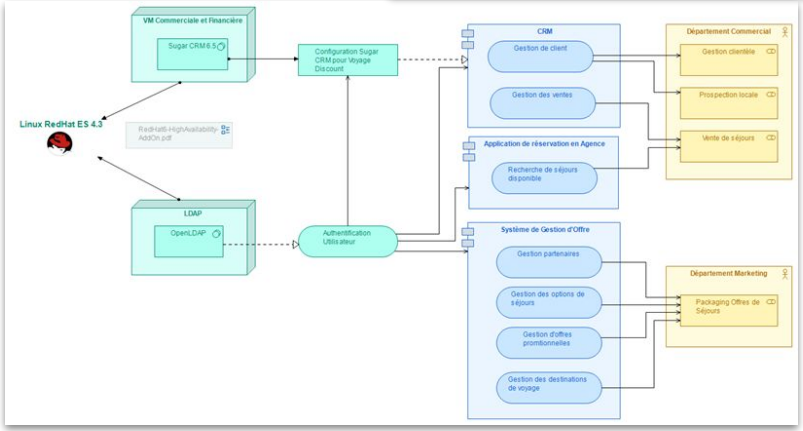
Enterprise Architecture



ARCHIMATE®

OBEO SmartEA



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OBEO

oregano
basil
tomato
mint
lobster

A rich Eco-system along the Journey

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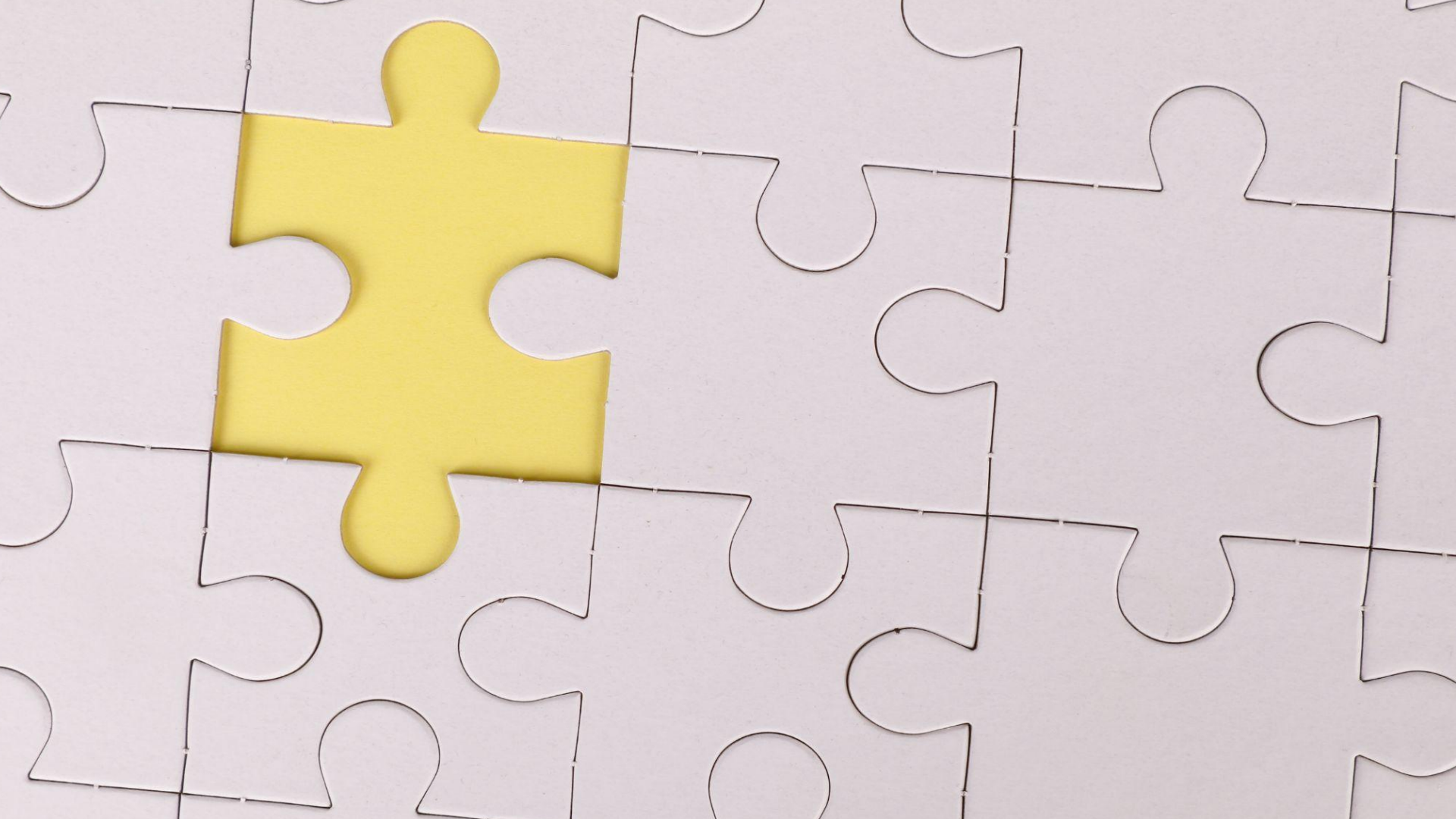
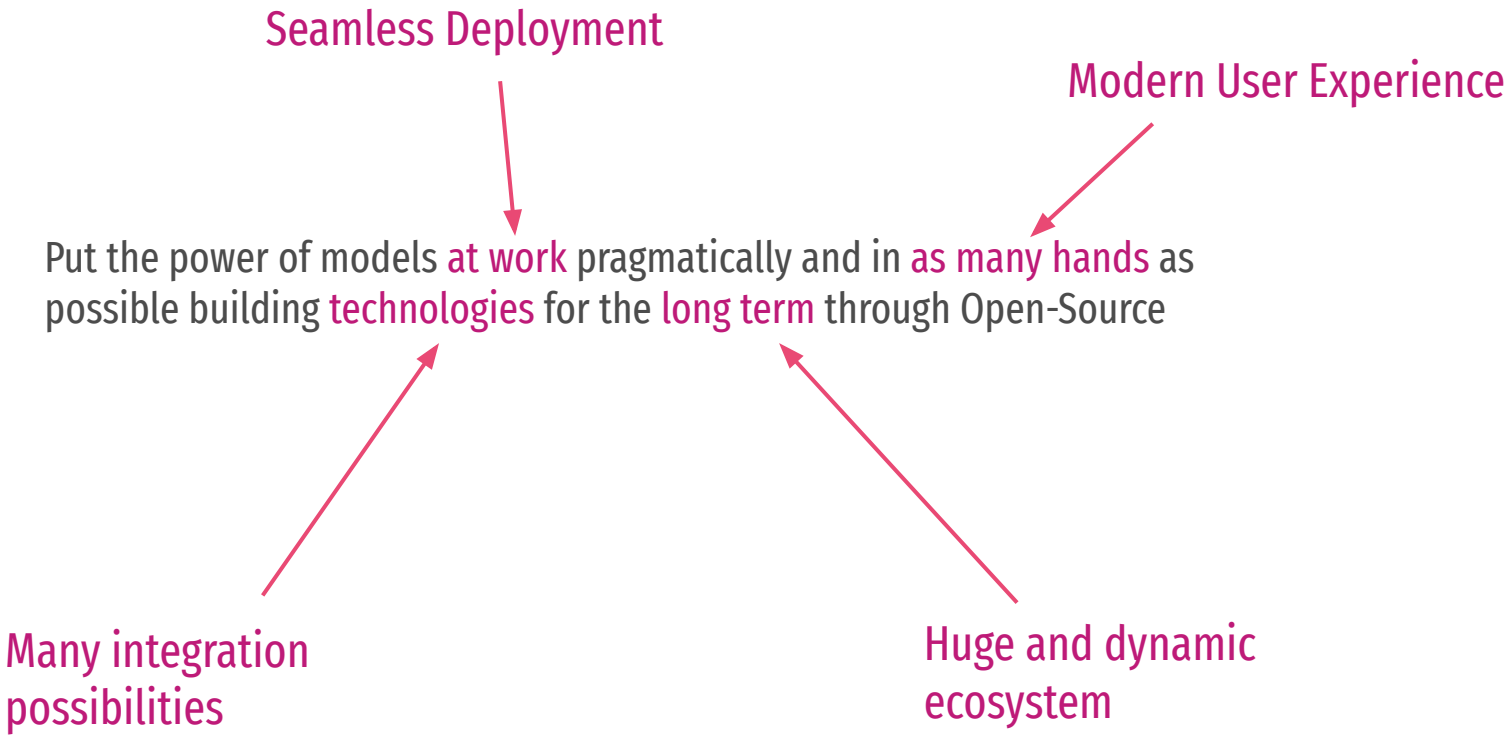


to the Web?



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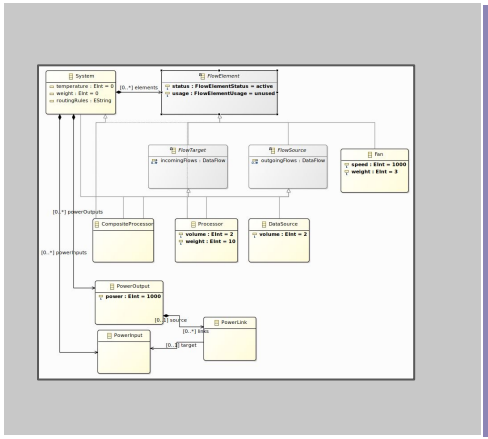
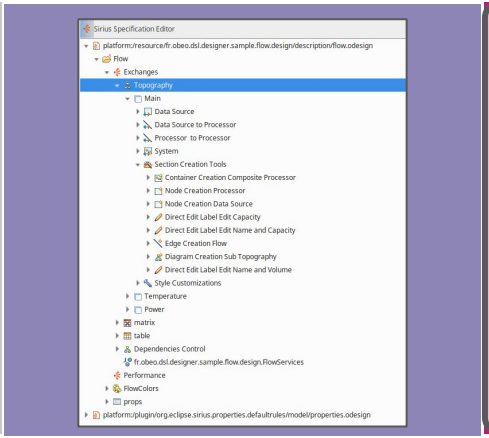
Domain model + Sirius configuration = Graphical modeler





Sirius specifier

Workbench end users

OBEO

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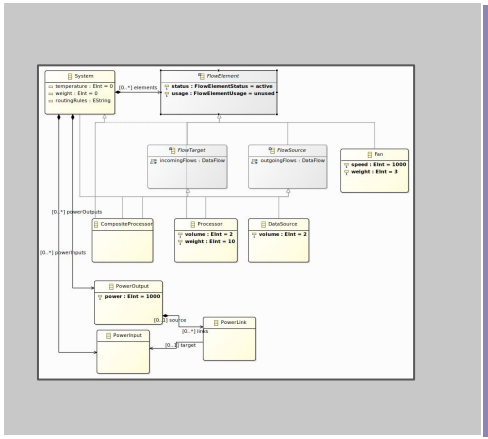

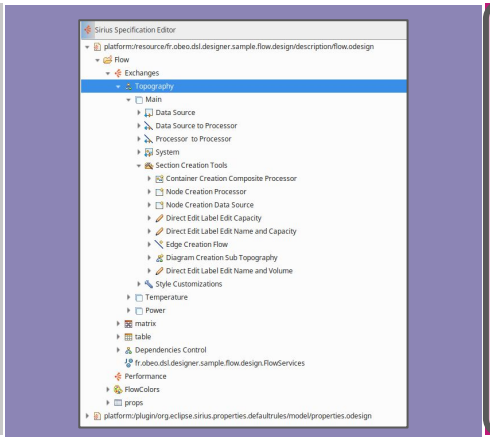

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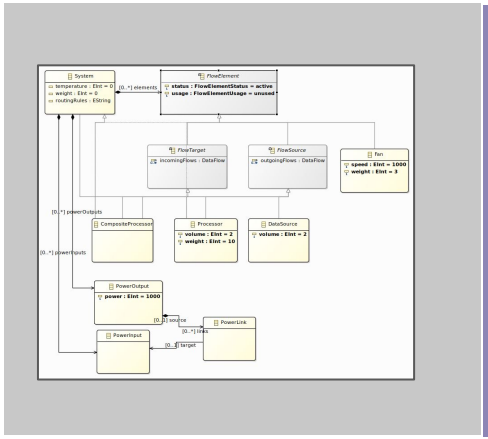
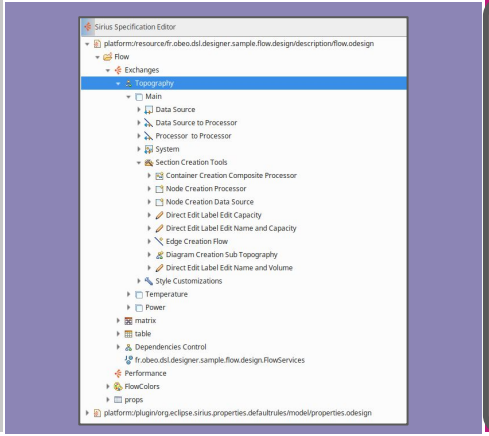
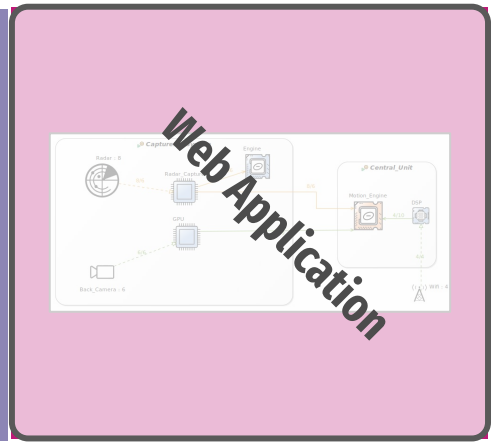
Sirius Web Principles

Domain model + Sirius configuration = Graphical modeler







Sirius specifier

Workbench end users

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Sirius Web

Graphical and
Domain-Specific

Defined by
a Configuration File

Deployed on
a Web Server

Rendered in
a Web Browser

Principles you like in Sirius Desktop,
available on a modern cloud-based stack

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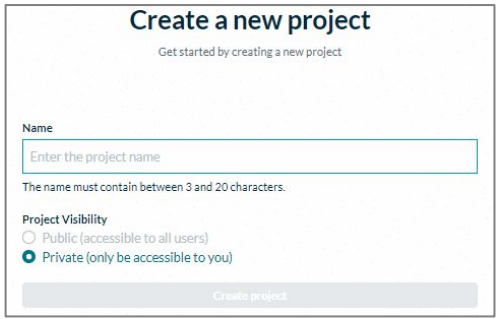
Sirius Web + Obeo Cloud Platform



brings **Enterprise** features to Sirius Web, hosted or on premise with **guaranteed support**:

- **Public/Private projects :** Control project's visibility
- **Users and Teams Management :** Control who can connect and role-based access
- **Indicators of Active Users :** View in real-time who is working on a diagram
- **LDAP Authentication :** Rely on your internal access directory
- and more features are coming to manage large scale deployments !

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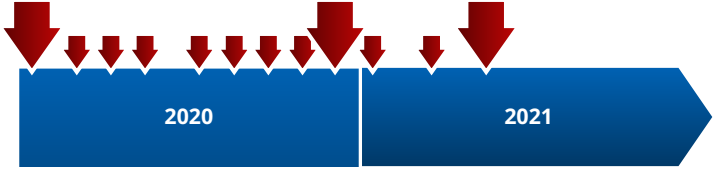
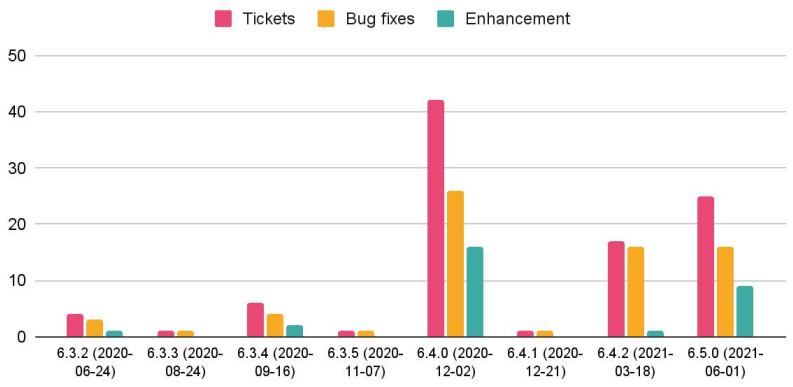
2020

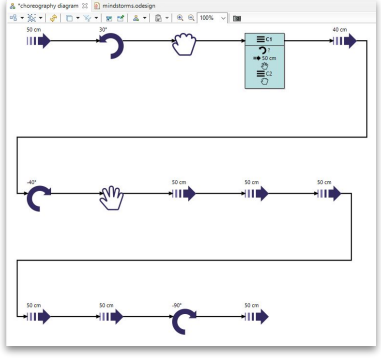
9 Releases





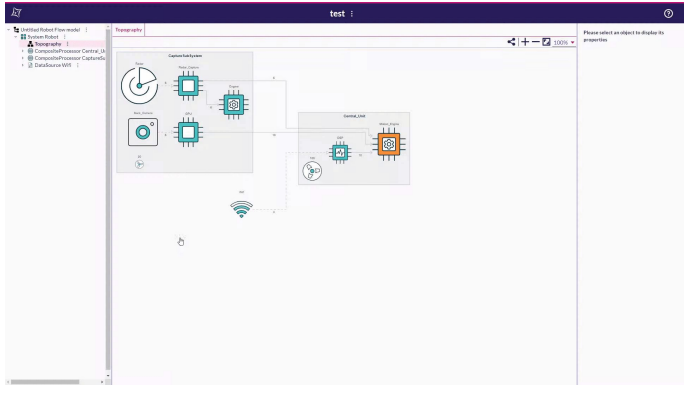
Desktop

Auto-layout with ELK
Performance and Response Time
Copy Format and Layouts
...



Web

Auto and incremental layout, move, resize
List Containers in Diagrams, Form-based Editors
Domain specific representations
Modeler embedded in any web application
...



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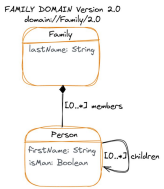
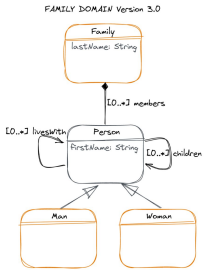
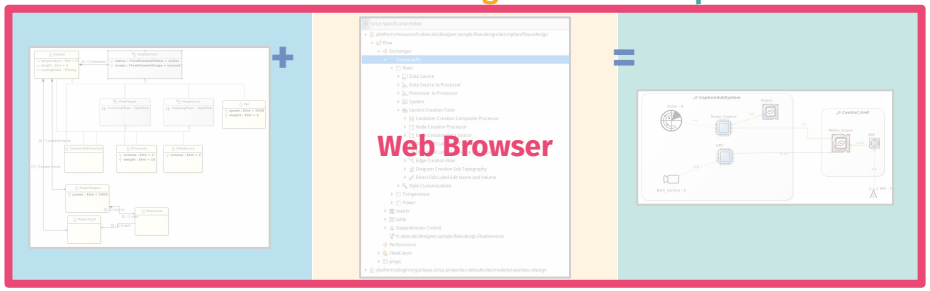




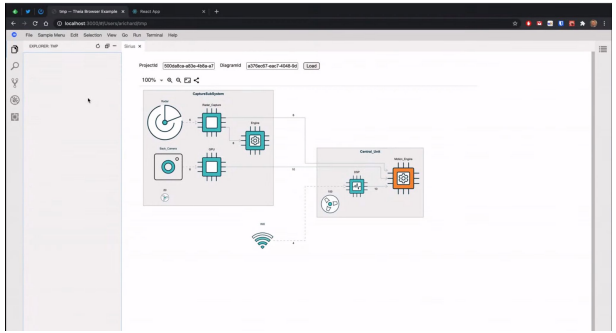
Seamless model migration



Full Web Definition

Put the power of models at work pragmatically and in as many hands as possible building technologies for the long term through Open-Source

Integration with Web Based IDE



Maintain, evolve, prototype, industrialize with you

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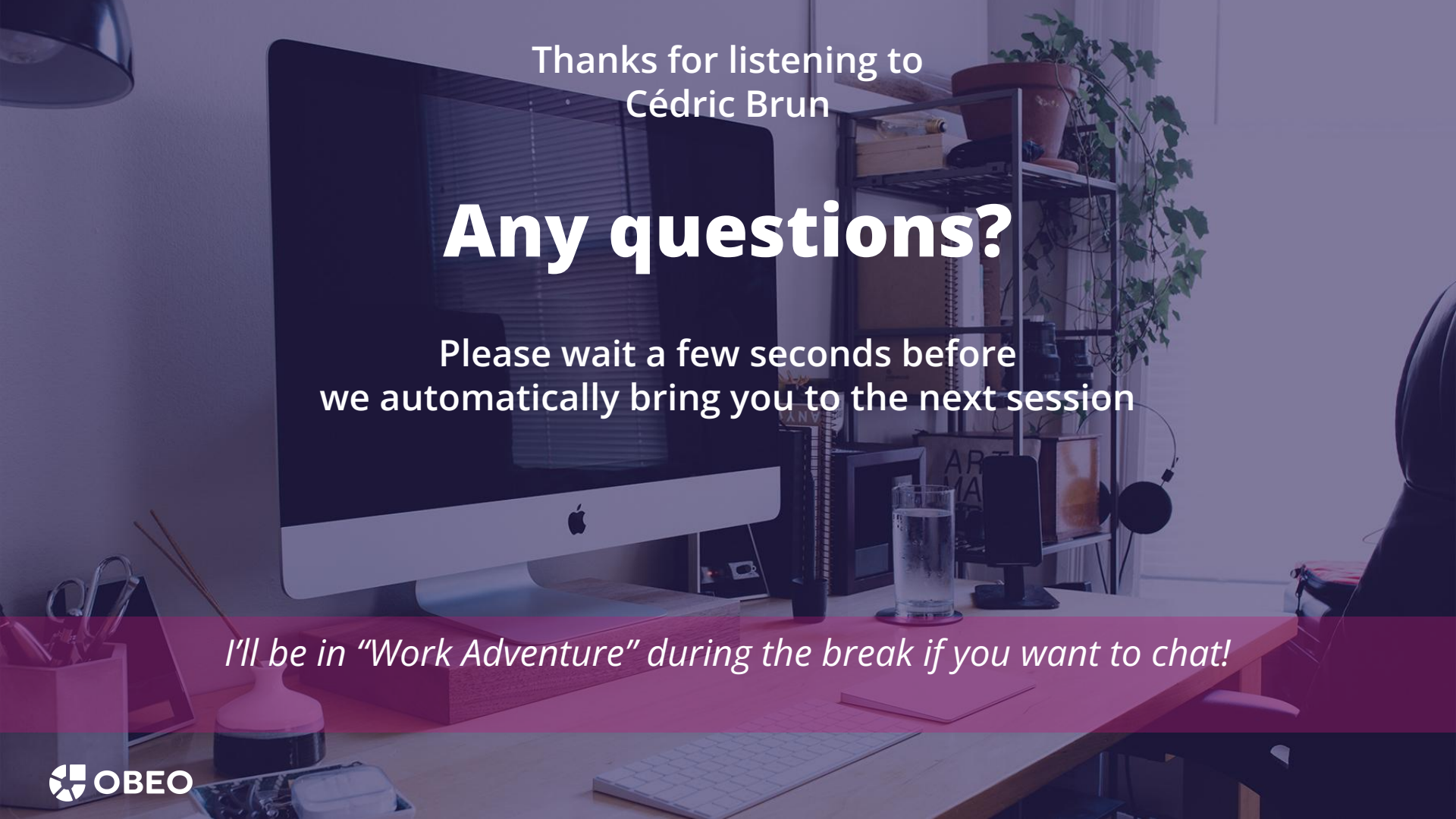
Thanks for listening to
Cédric Brun
Any questions?
Please wait a few seconds before
we automatically bring you to the next session
I'll be in "Work Adventure" during the break if you want to chat!
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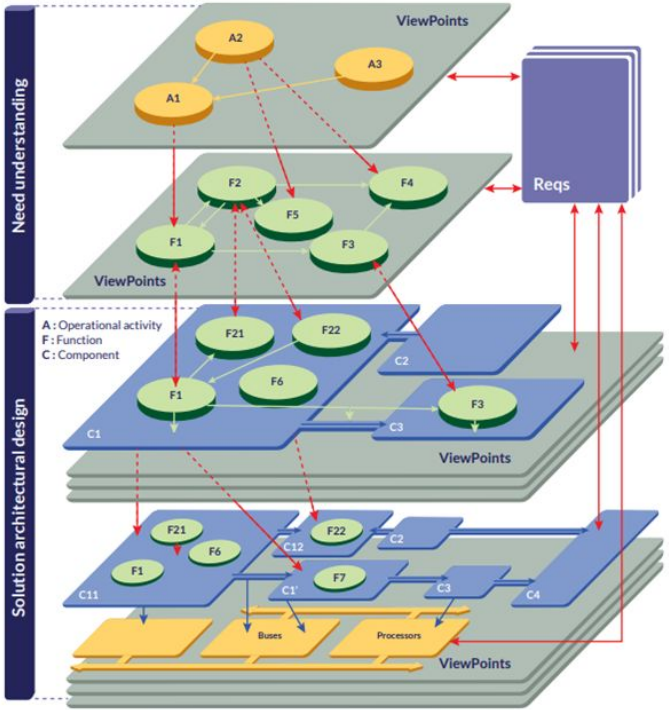
Model-Based Systems Engineering



Operational Analysis
What the users of the system need to accomplish

Functional & Non Functional Need
What the system has to accomplish for the users

Logical Architecture
How the system will work to fulfill expectations

Physical Architecture
How the system will be developed and built

ARCADIA

Capella

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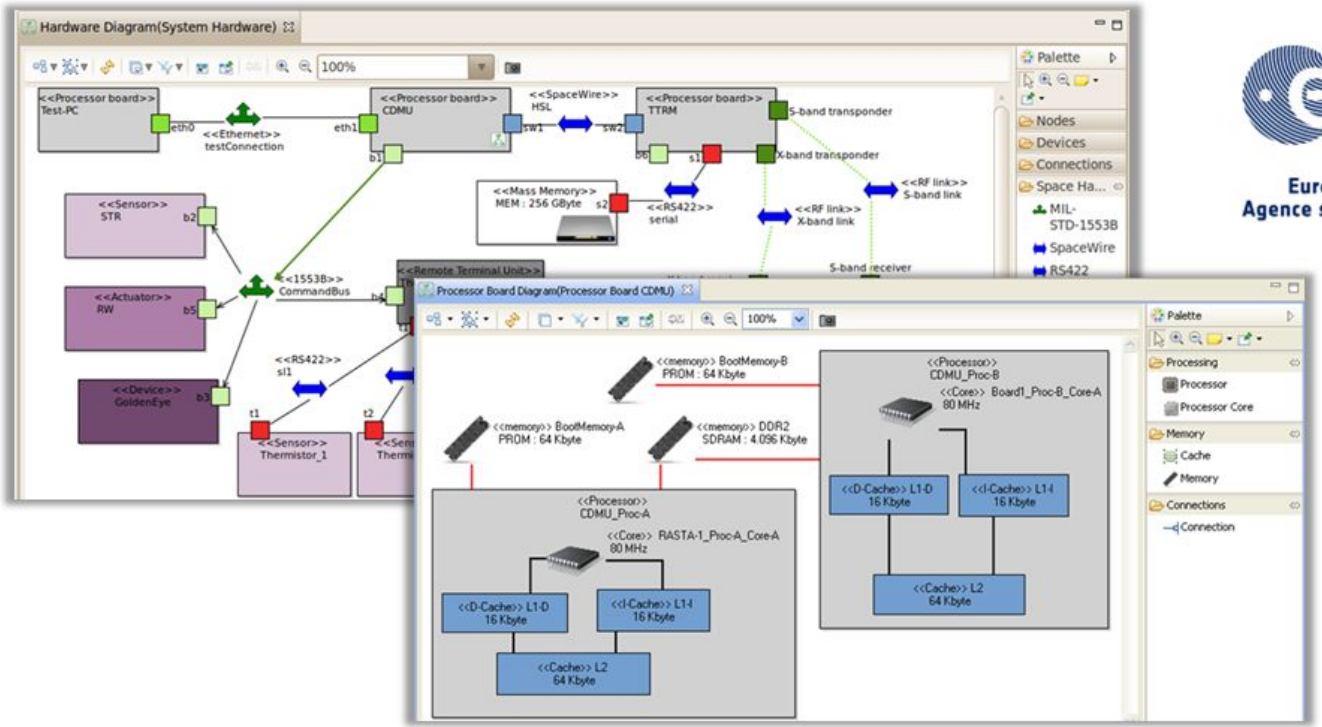
On Board Satellite Applications



esa
European Space Agency
Agence spatiale européenne

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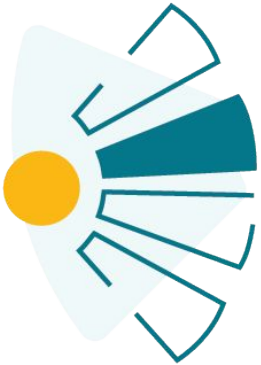
Communication AND Automation



Visual Representations

+

Structured Data

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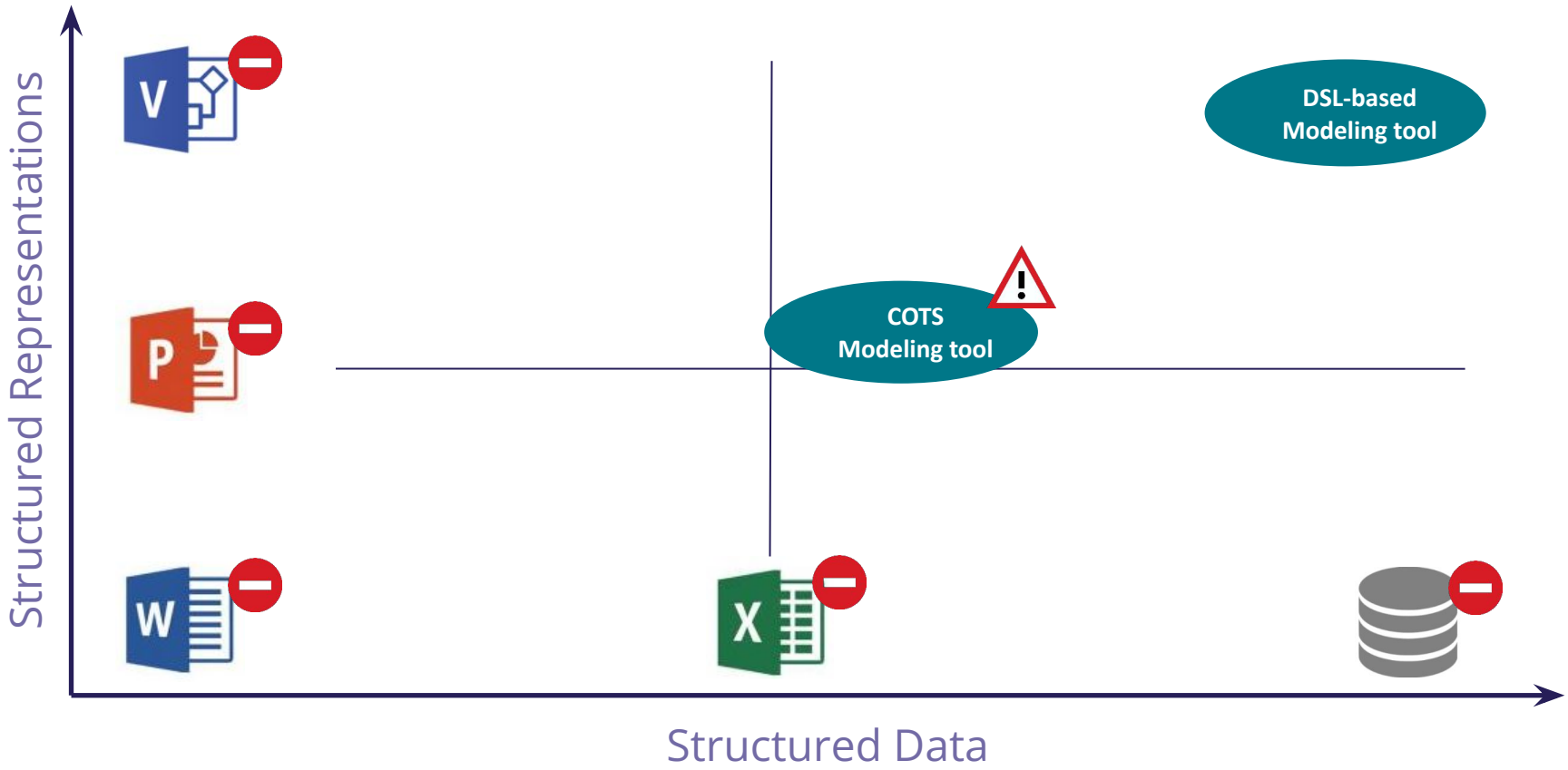
Synchronize representations and data



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Benefits

Tool Developer

Reduce cost & complexity

(3 hours hands-on session to produce first results)

End Users

Tools tailored to their vocabulary & processes

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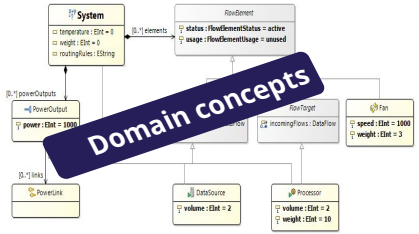
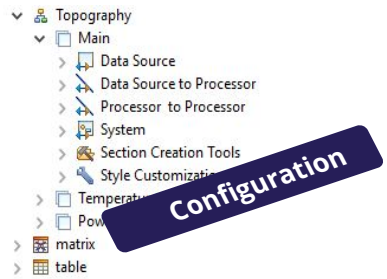
Principles

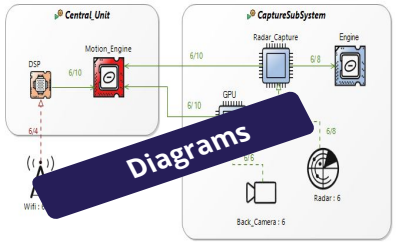
Tool Developer

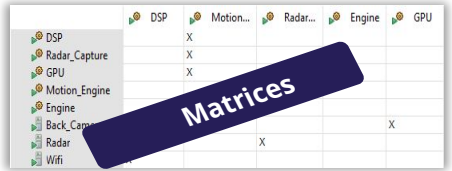


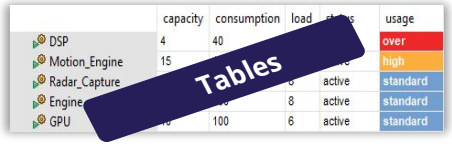


Specification Environment

End Users







Runtime Environment

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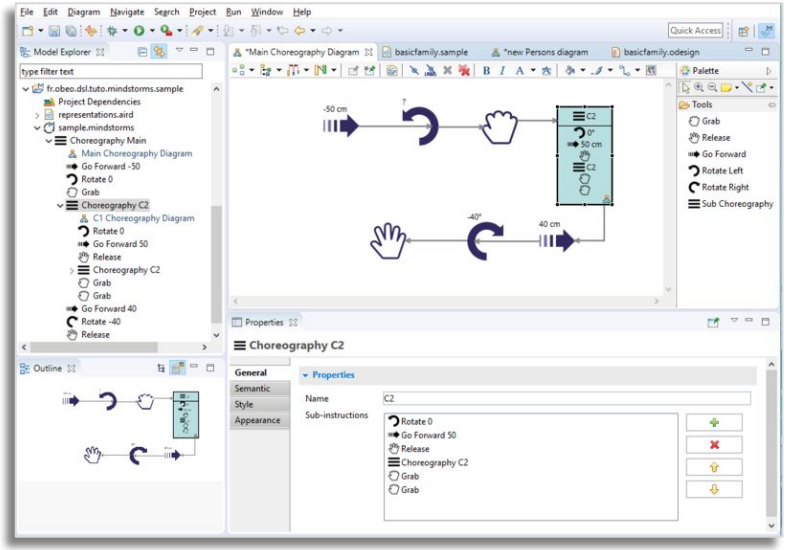
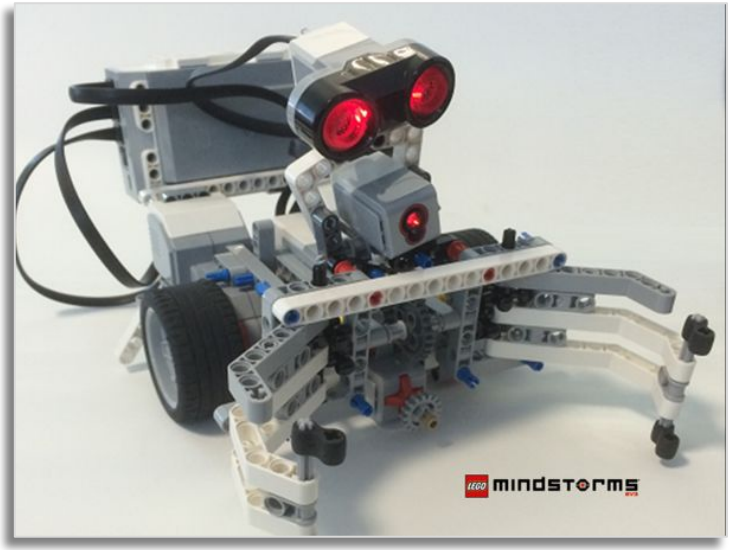
Demo: Mindstorms Designer





The tool created with the Mindstorms tutorial:

https://wiki.eclipse.org/Sirius/Tutorials/Mindstorms

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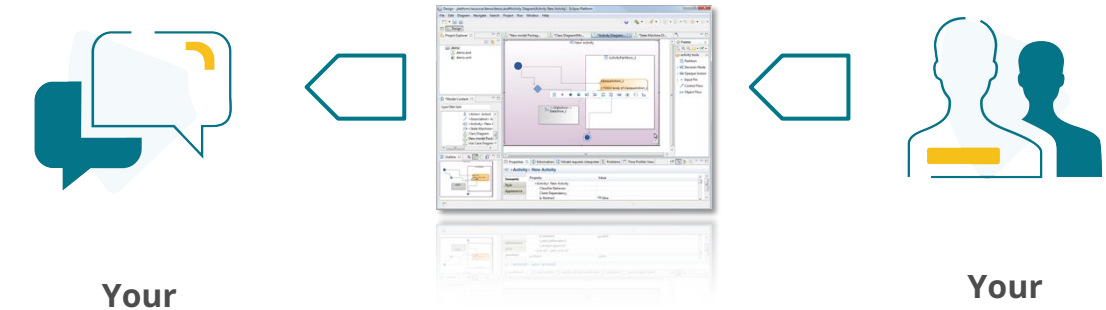
Sirius



Your
Business Domain

Your
Modeling Workbench

Your
Users

Easily and **rapidly** create
custom modeling workbenches

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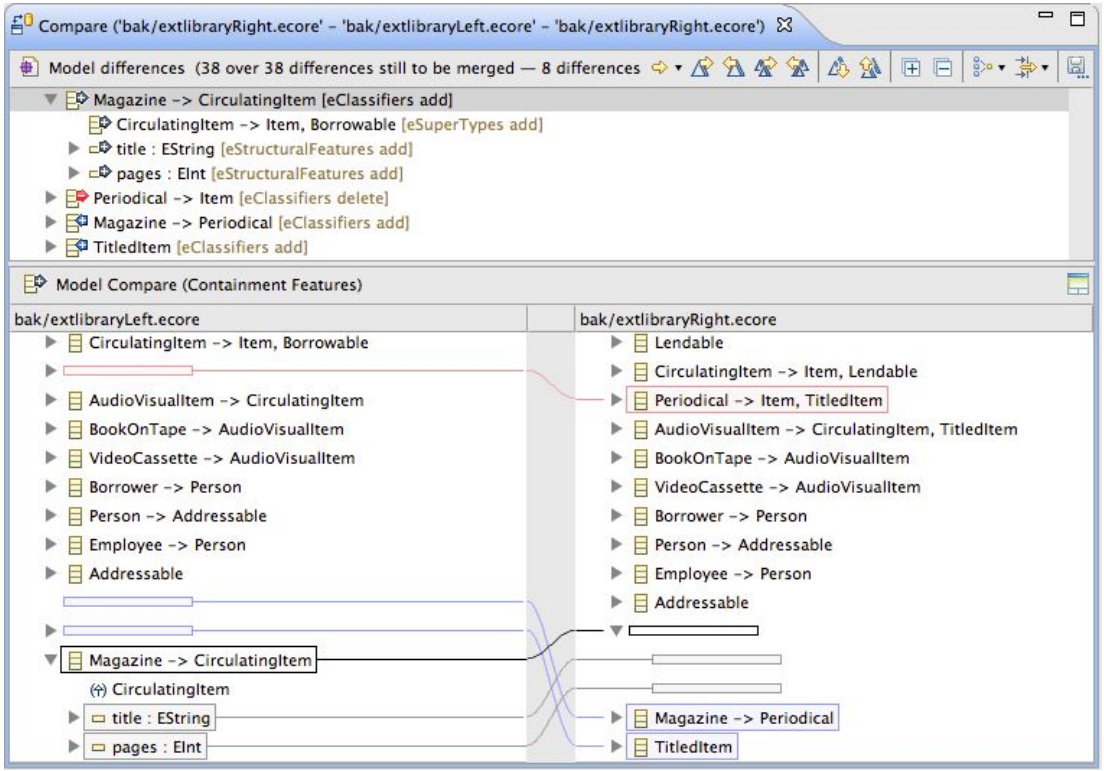
EMF Compare

Diff and merge at the model level



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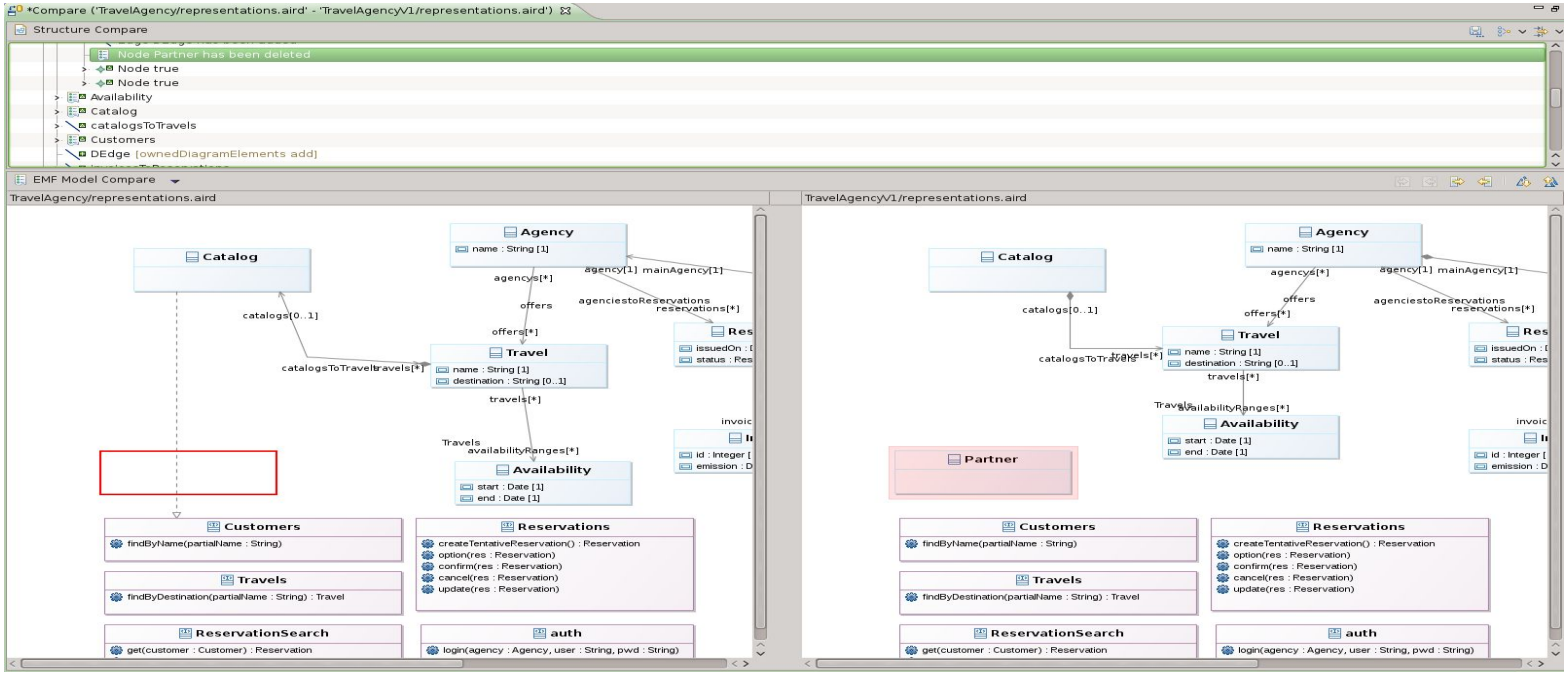
EMF Compare

Diagrams visual differencing



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SiriusCon LIVE 2018 Today 3:30 PM

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