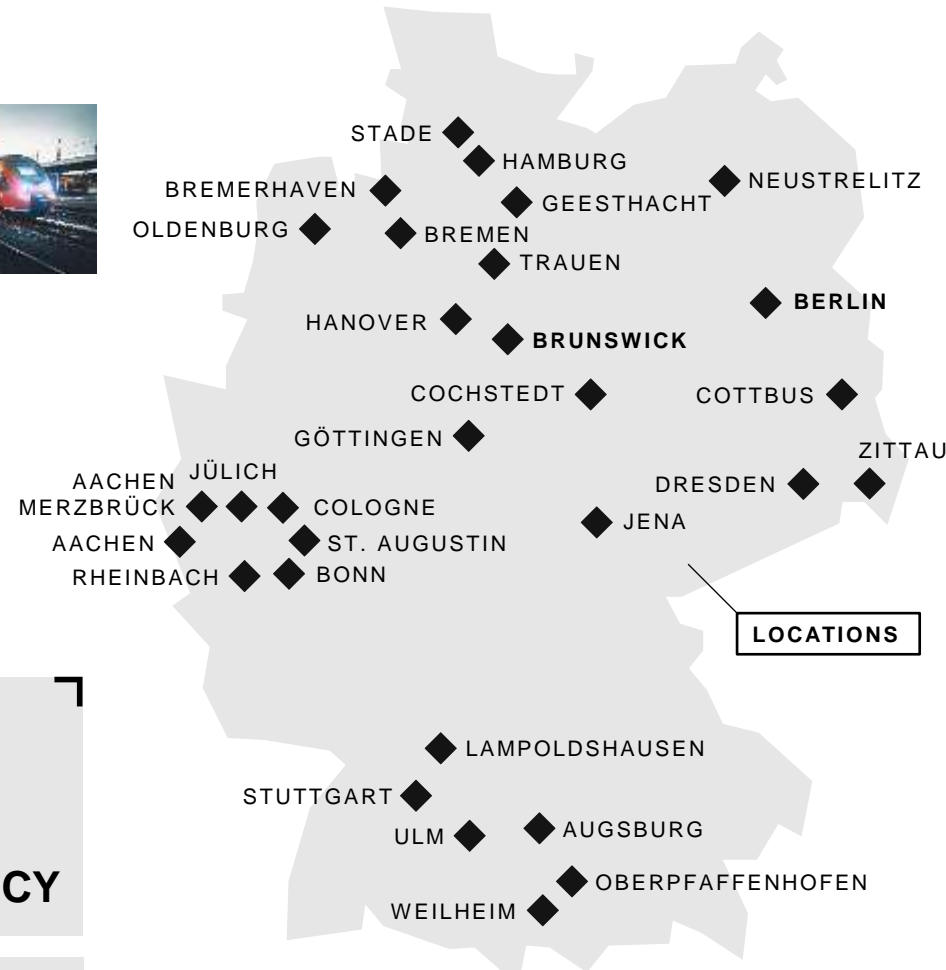
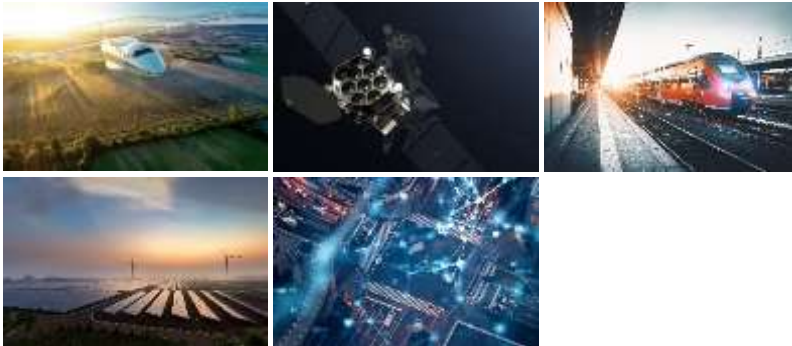


From Code to Ecosystem Growing Research Software with Open Source Foundations

Dr. Robert Hilbrich – Robert.Hilbrich@DLR.de

The German Aerospace Center (DLR) e.V.



RESEARCH FIELDS

Aeronautics
Space
Energy

Transport
Security
Digitalisation



FACTS AND FIGURES

About 10.000 employees

55 institutes/facilities at
30 locations

Offices in Brussels, Paris,
Tokyo and Washington

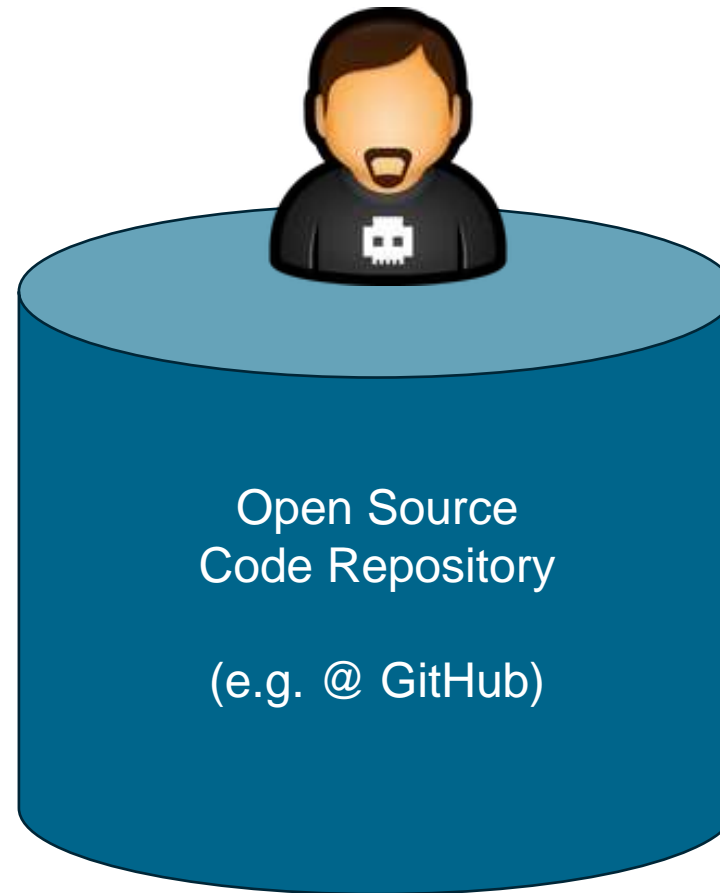
RESEARCH INSTITUTION

SPACE AGENCY

PROJECT MANAGEMENT AGENCY

Member of the Helmholtz-Association

Starting Point



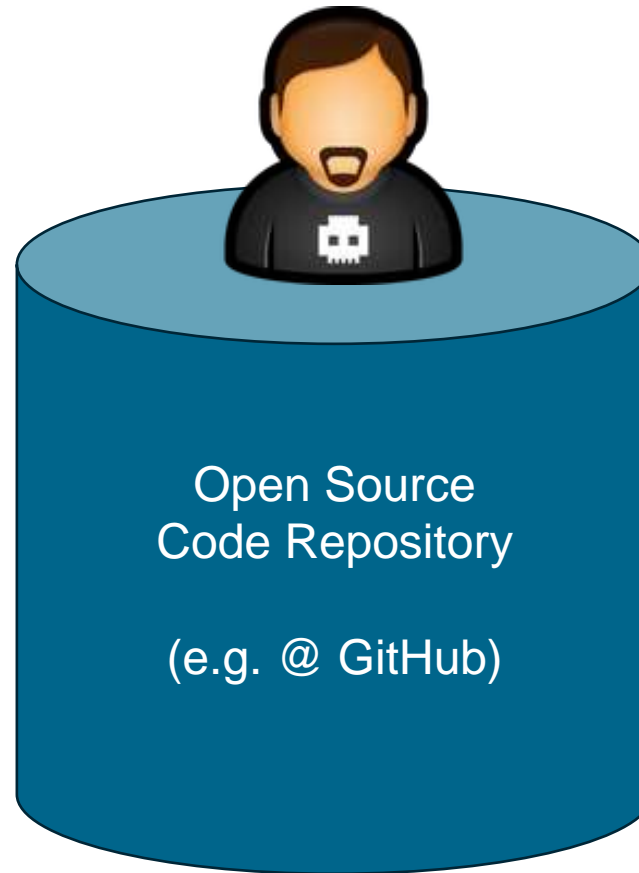




Growing the Community



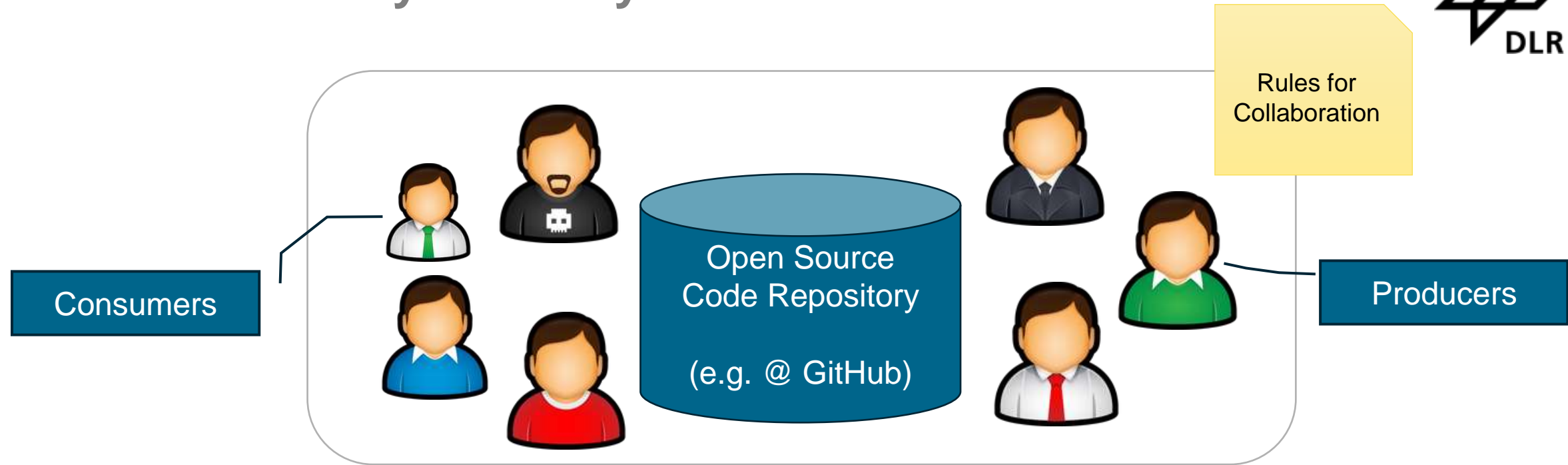
- New features?
- Support, coaching and consulting?
- Funding?
- Contributions from users?
- Trust?
- Sustainable?



- License management?
- Quality assurance?
- Legal issues: Cyber Resiliency Act
- Long term vision and availability?
- Trust?



From Community to Ecosystem



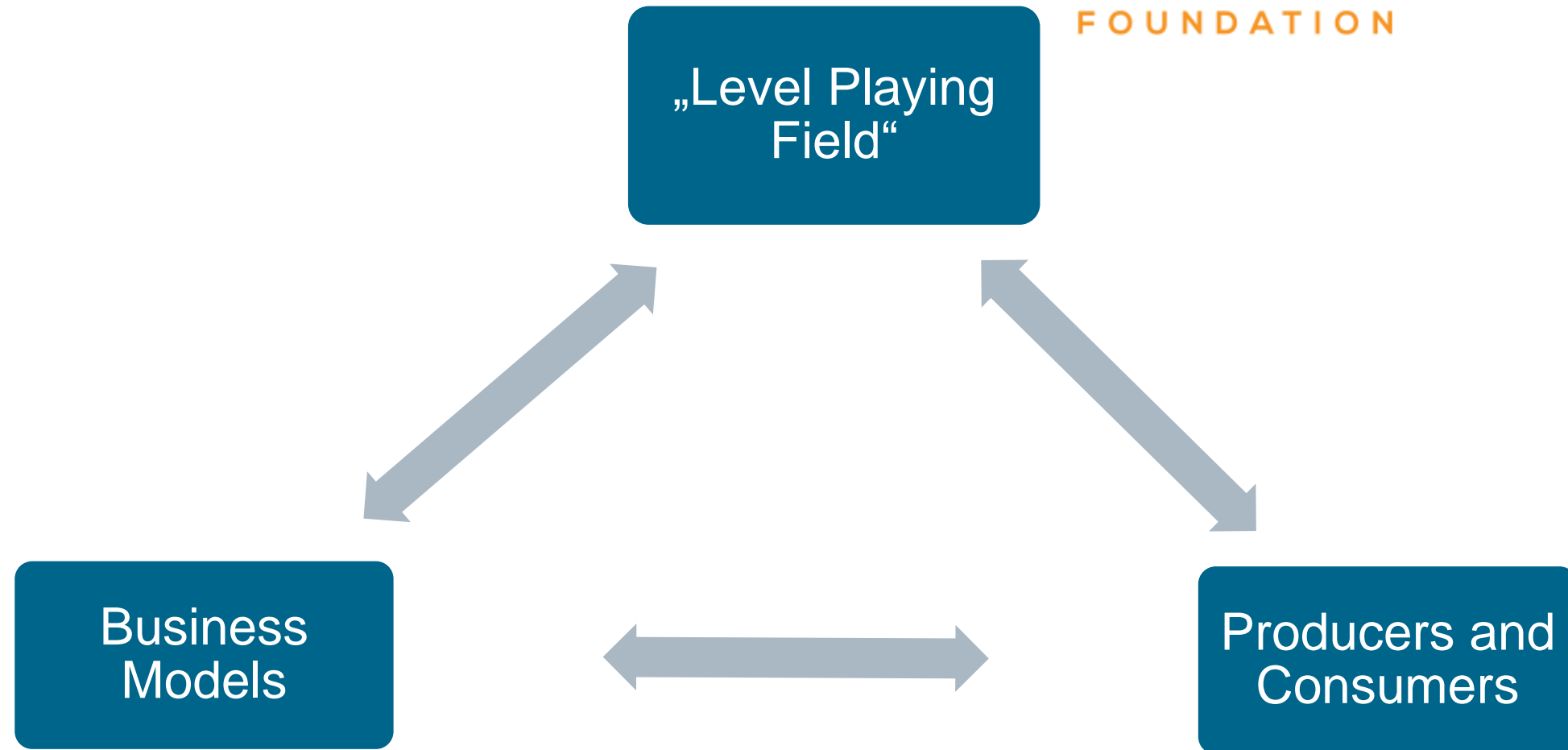
Community:

- A group of people connected by a shared interest, goal, or practice.
- Focus: **exchange, belonging, support**, and identity

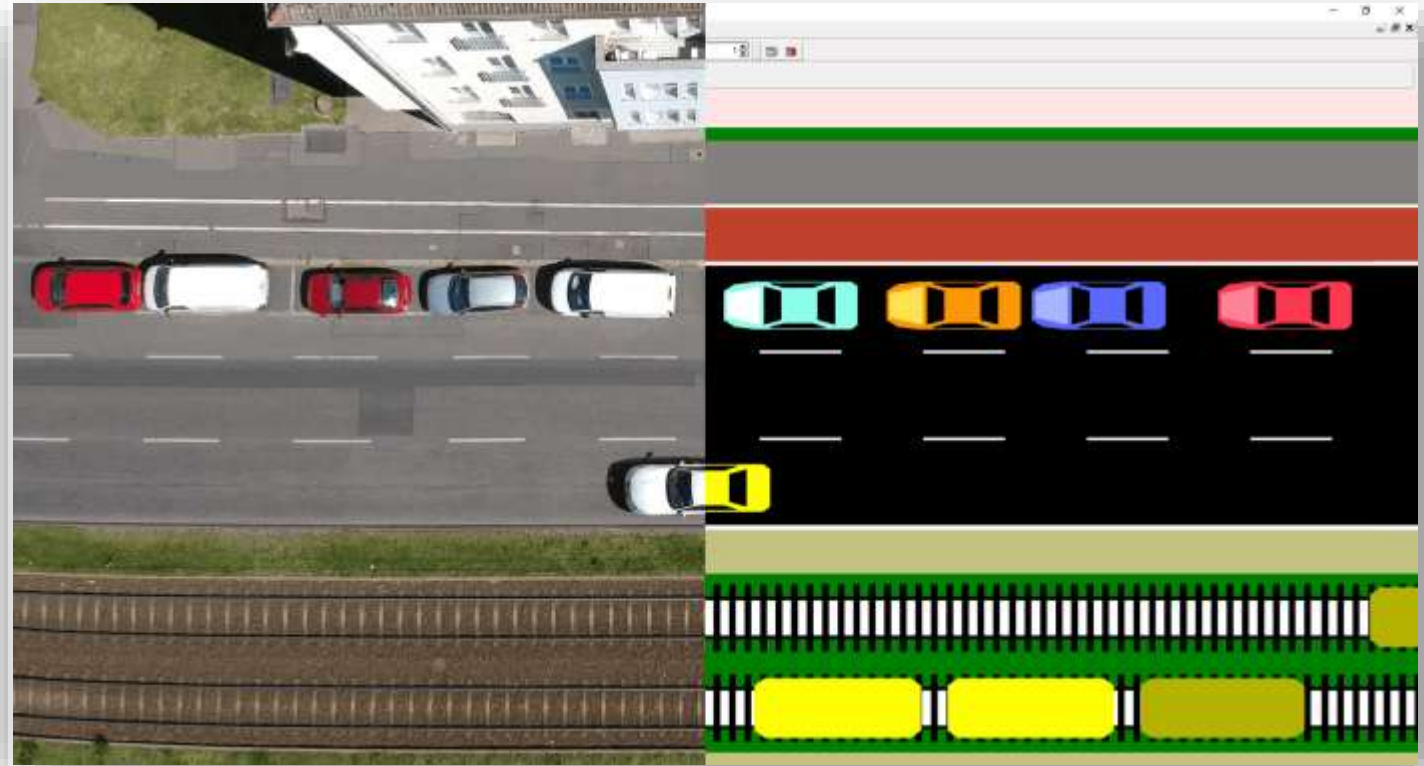
Ecosystem:

- A network of actors (producers, consumers, intermediaries) in mutual interdependence.
- Focus: **creation and exchange of value**, not just belonging

Cornerstones of a Sustainable Ecosystem Development

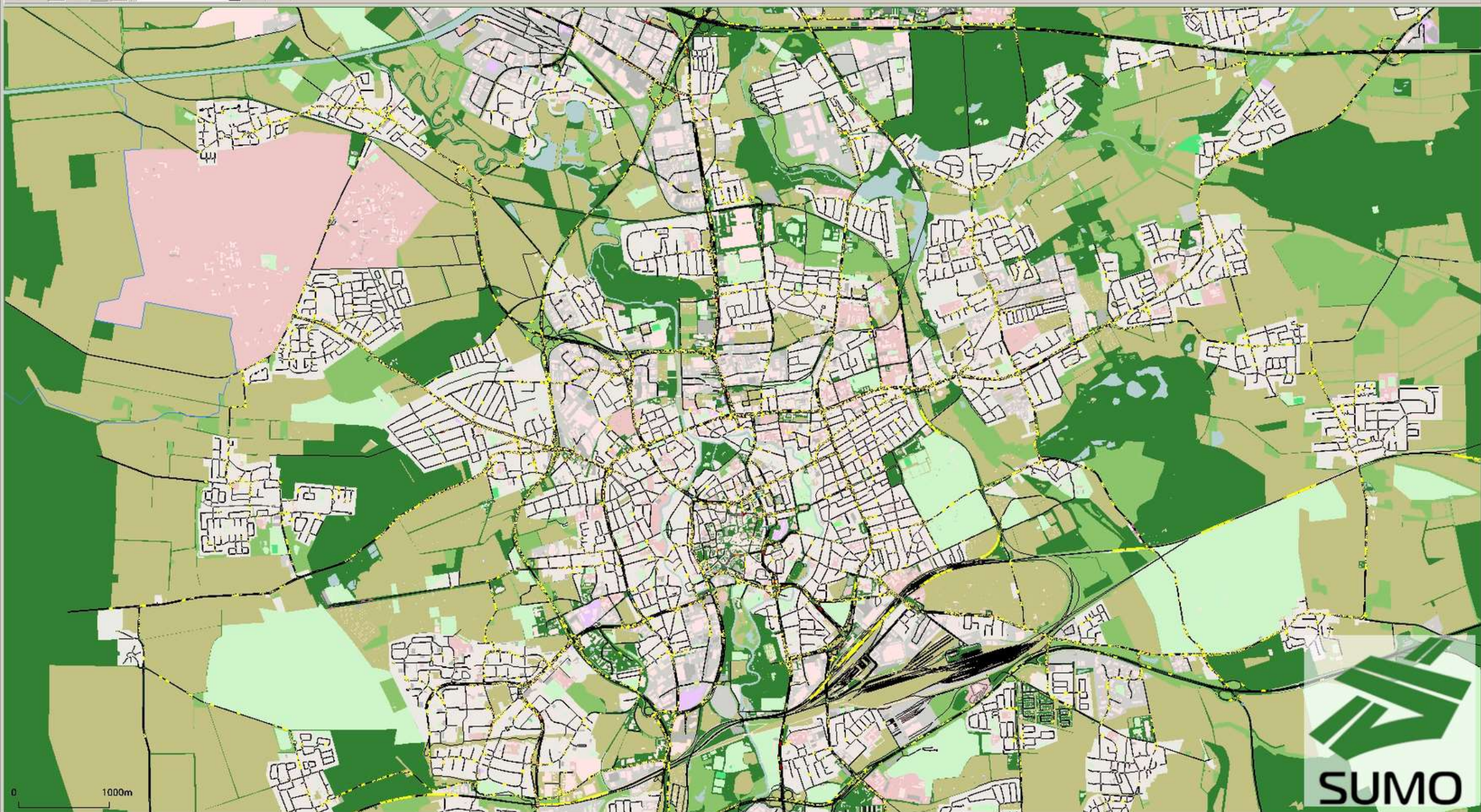


Our Experiences with SUMO



... the most popular open source software project of the German Aerospace Center (DLR)

<https://sumo.dlr.de>



History



SUMO



2001

SourceForge SVN
GPL License

GPL License

“SUMO is **owned** by DLR”

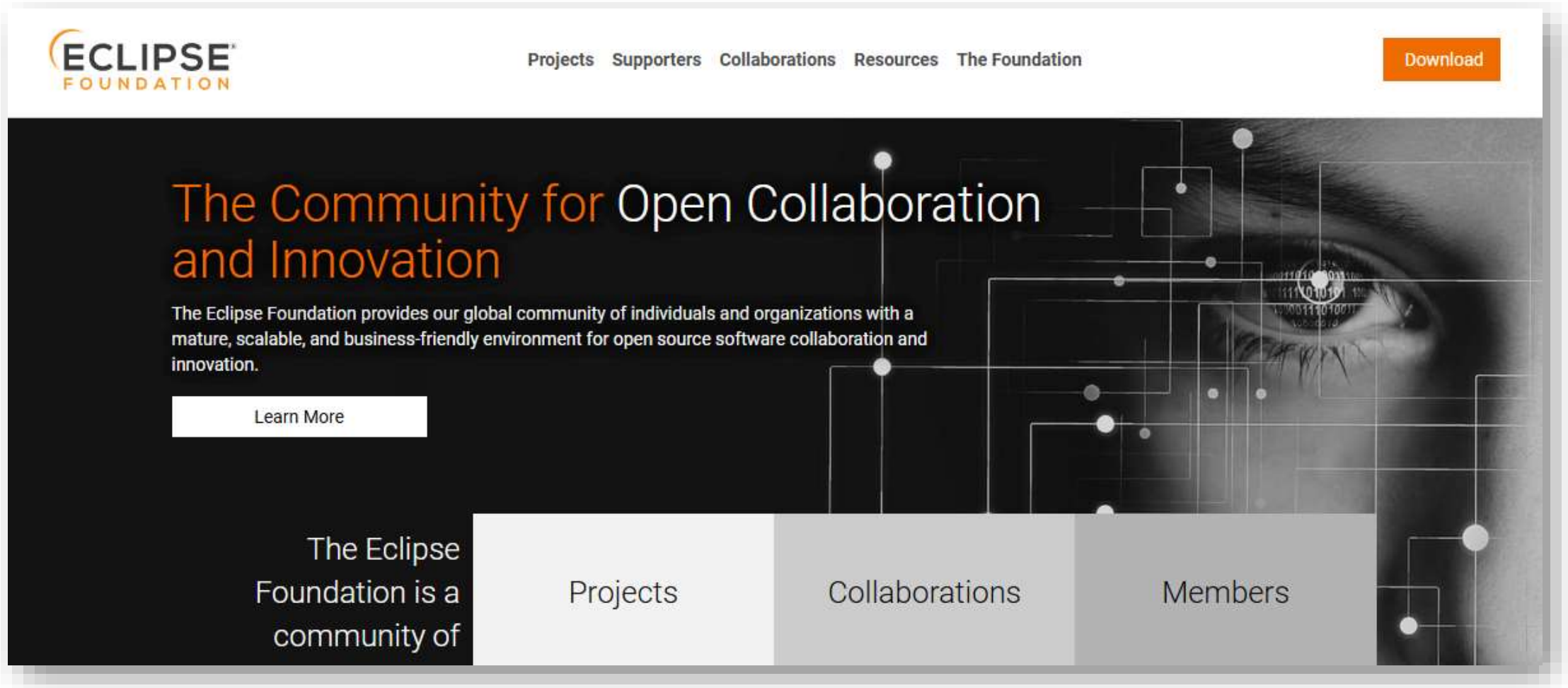


SUMO
SIMULATION OF URBAN MOBILITY

GitHub
EPLv2 License



“DLR is a **contributor** to SUMO”



<https://www.eclipse.org>

- **European** infrastructure and governance for an open and sustainable ecosystem development
- Trustworthy, sustainable and industry-friendly „**level playing field**“

Projects and Working Groups




Eclipse Projects

**Eclipse Working
Groups**

SUMO – An Open Source Eclipse Project



The SUMO logo, which is a stylized white 'S' shape on a green background.

SUMO

[About ▾](#) [Documentation](#) [Downloads](#) [Conference ▾](#) [References ▾](#) [Support ▾](#) [Contact](#)

Simulation of Urban MObility


Welcome to Eclipse **SUMO** (Simulation of Urban MObility), an open source, highly portable, microscopic and continuous multi-modal traffic simulation package designed to handle large networks.


[SUMO 1.24.0 for Windows 64-bit ▾](#)


[Latest Development Version \(Nightly Snapshots\) >](#)
[Older releases >](#)


[View on GitHub](#) [☆ Star](#) 3,680 [Fork](#) 1,627


DOI [10.5281/zenodo.16268320](#)


 linux passing


 windows passing


 macos failing


 documentation failing


 linkcheck passing


 docker passing

 linux-wheels failing

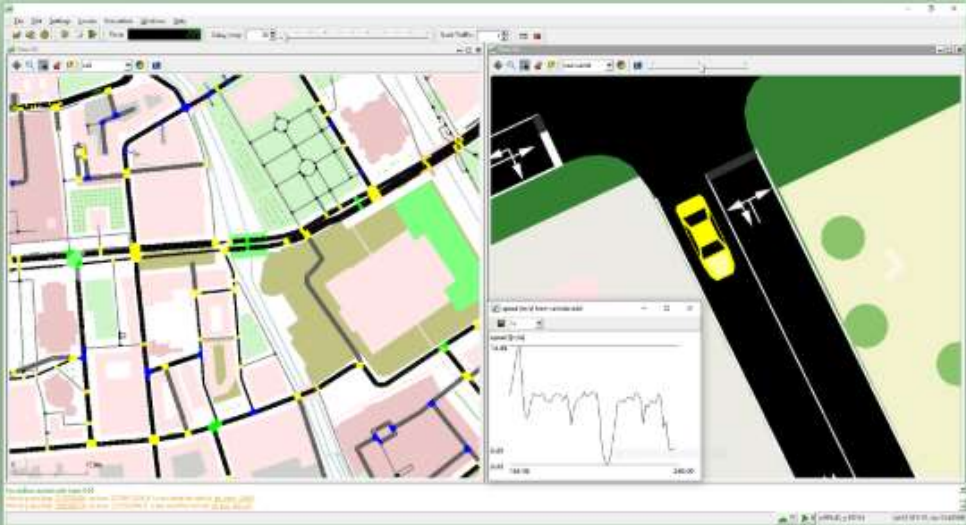
 windows-wheels passing

 macos-wheels passing

 build failing

 security A

[More tests >](#)

A screenshot of the SUMO software interface. It shows a top-down view of a road network with several cars. A yellow car is prominent in the foreground. There are also some smaller windows, including one showing a line graph of traffic data.

<https://eclipse.dev/sumo>

... with a GitHub Repository



eclipse-sumo / sumo

Type / to search

+

<> Code

Issues 2.9k

Pull requests 5

Discussions

Actions

Security

Insights

Settings

sumo

Public

Edit Pins

Watch 68

Fork 1.6k

Starred 3.7k

main

12 Branches

60 Tags

Go to file

Add file

<> Code

About

Edson Pereira and weblate

Translated using Weblate (Portuguese)

f3a6ced · 45 minutes ago

47,751 Commits

.github	Bump actions/setup-python from 5 to 6	last week
.jenkins	uploading to eclipse downloads, refs #15213	4 months ago
bin	delete invalid net in bin folder	5 years ago
build_config	one more jupedsim version to update #22 #3	2 weeks ago
data	Translated using Weblate (Portuguese)	45 minutes ago
docs	#2 doc #16724	yesterday
src	Added angle in all stoppingPlaces. Refs #17085	47 minutes ago
tests	Added new tests. Refs #17085 and #3045	47 minutes ago
tools	Added new tests. Refs #17085 and #3045	47 minutes ago

Eclipse SUMO is an open source, highly portable, microscopic and continuous traffic simulation package designed to handle large networks. It allows for intermodal simulation including pedestrians and comes with a large set of tools for scenario creation.

eclipse.dev/sumo

simulation

traffic

transport

Readme

EPL-2.0 license

Code of conduct

Contributing

Security policy

Cite this repository

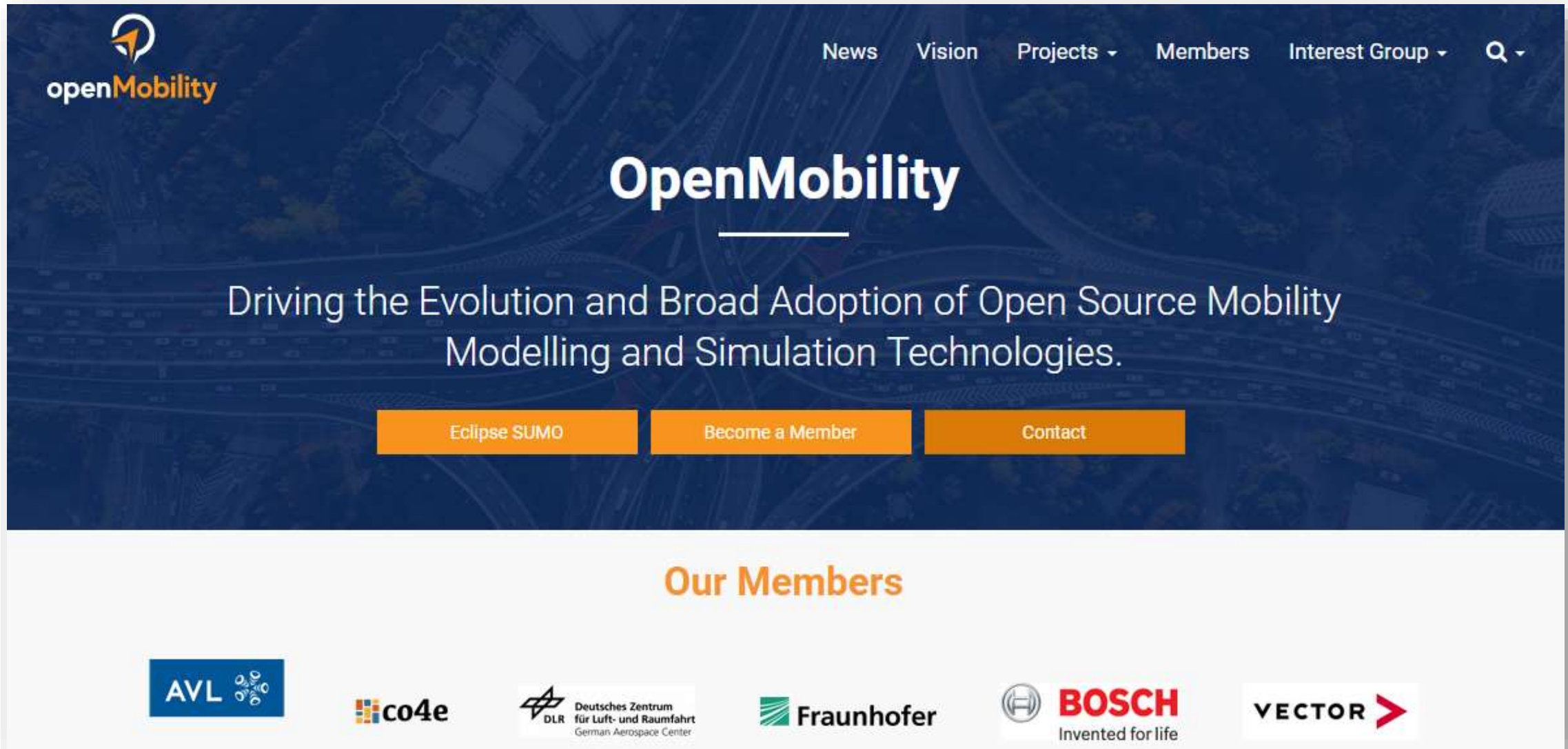
<https://github.com/eclipse-sumo/sumo>

Projects and Working Groups



Eclipse Projects

**Eclipse Working
Groups**

A screenshot of the OpenMobility website. The header includes the "openMobility" logo and navigation links for News, Vision, Projects, Members, Interest Group, and a search icon. The main content area has a dark blue background with a satellite map and the text "OpenMobility" followed by the tagline "Driving the Evolution and Broad Adoption of Open Source Mobility Modelling and Simulation Technologies." Below this are three orange buttons: "Eclipse SUMO", "Become a Member", and "Contact". The footer section, titled "Our Members", displays logos for AVL, co4e, DLR (Deutsches Zentrum für Luft- und Raumfahrt / German Aerospace Center), Fraunhofer, BOSCH (Invented for life), and VECTOR.

Q & A

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