

Eclipse SUMO & openMobility Working Group

Dr. Robert Hilbrich
robert.hilbrich@dlr.de

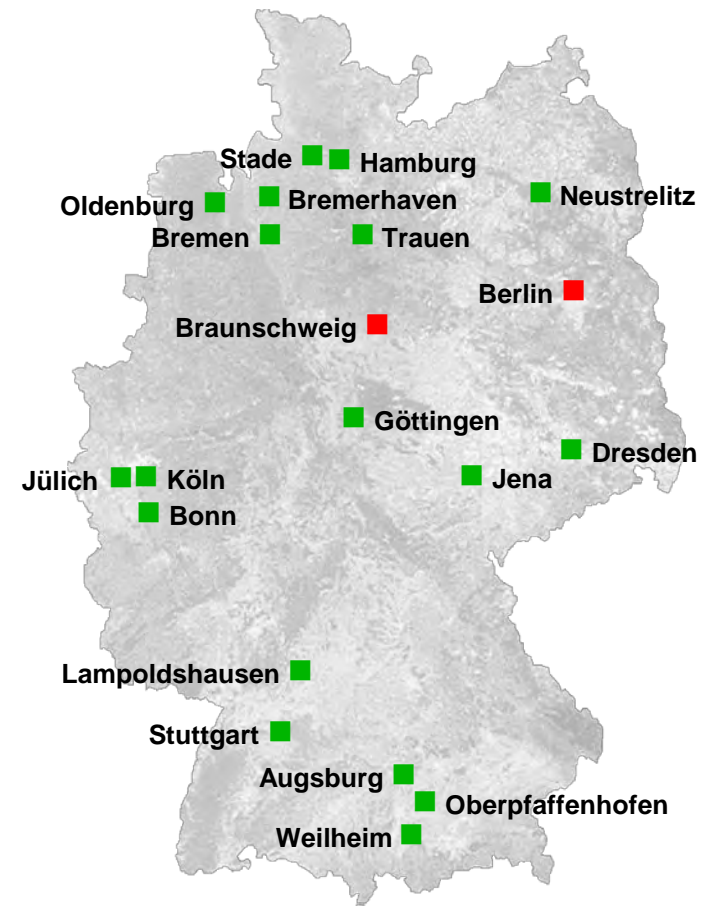
German Aerospace Center (DLR)
Berlin, Germany

Knowledge for Tomorrow

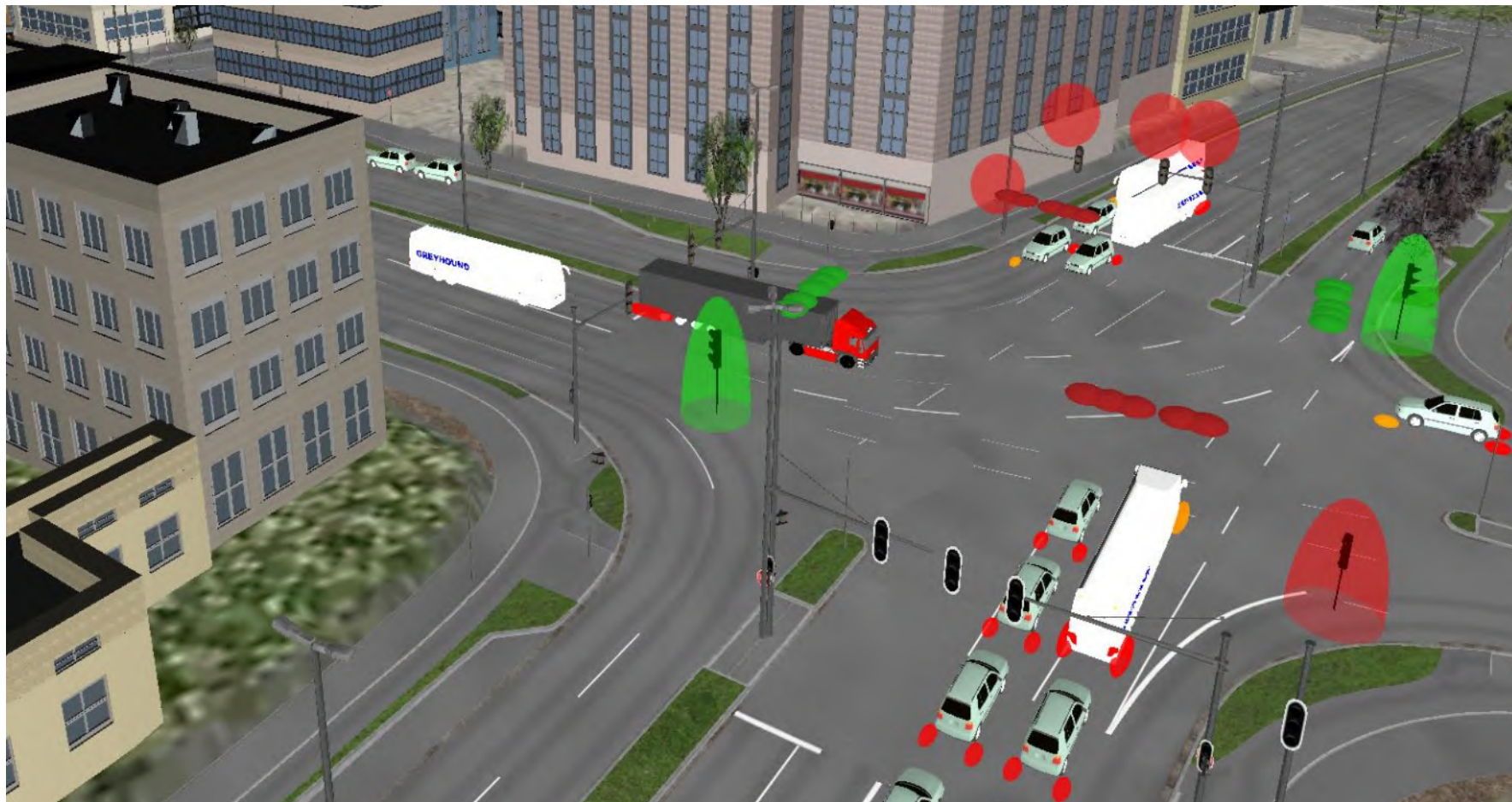


German Aerospace Center Research Institution and Space Agency

- Research branches
 - Aeronautics / Space / Transport / Energy
 - Safety / Digitalization
- Around 8.000 employees working in 40 research institutes and facilities at 20 sites in Germany.
- Offices in Brussels, Paris, Washington, and Tokyo.



Simulation of Urban Mobility (SUMO) - A Real World Traffic Simulator

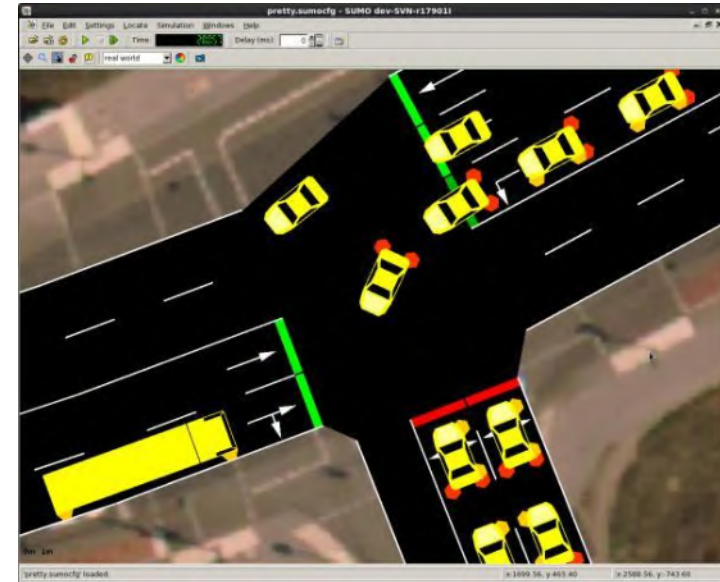


3D version



SUMO – What is it?

- DLR's open source microscopic transportation system simulation software
- Under development since 2001, with the explicit goal to simulate even large cities / areas in more than real-time
- SUMO comes with a full-fledged suite of helper programs that do setting up, running, and controlling such a simulation



2D version



Eclipse SUMO Project

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 1.7.0 for Windows 64bits

Latest Development Version (Nightly Snapshots)

Older releases

View on GitHub Star 812 Fork 543

Registration is now open!

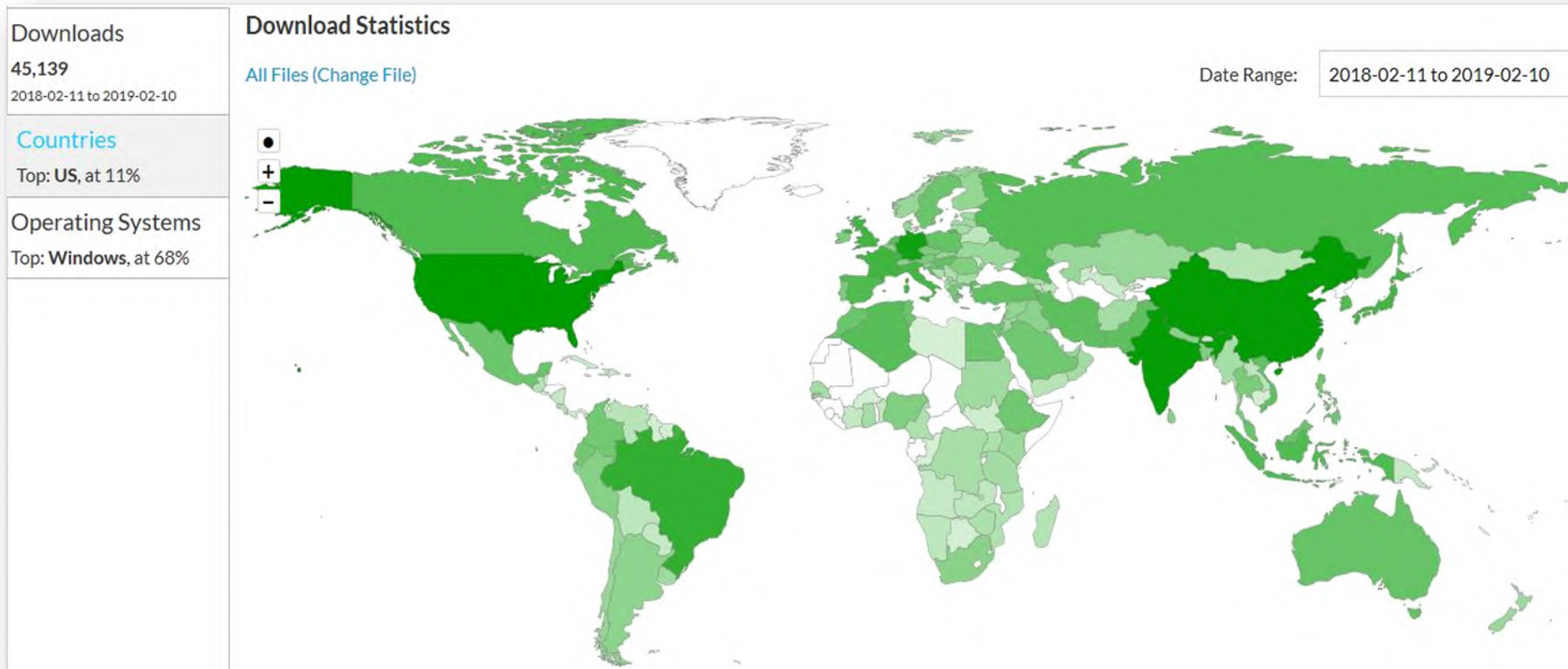
The **SUMO User Conference 2020** takes place October 26-28, 2020. This year's conference is going to be **online** and the participation will be **free** of charge. [More info about the conference](#)

[http://eclipse.org/sumo](#)



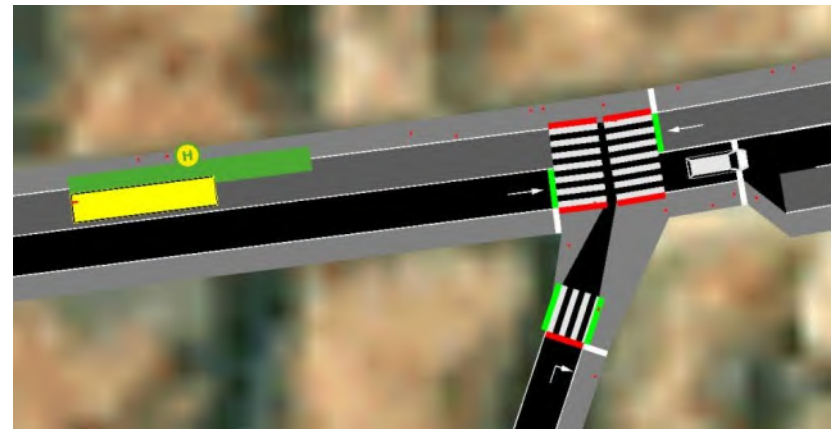
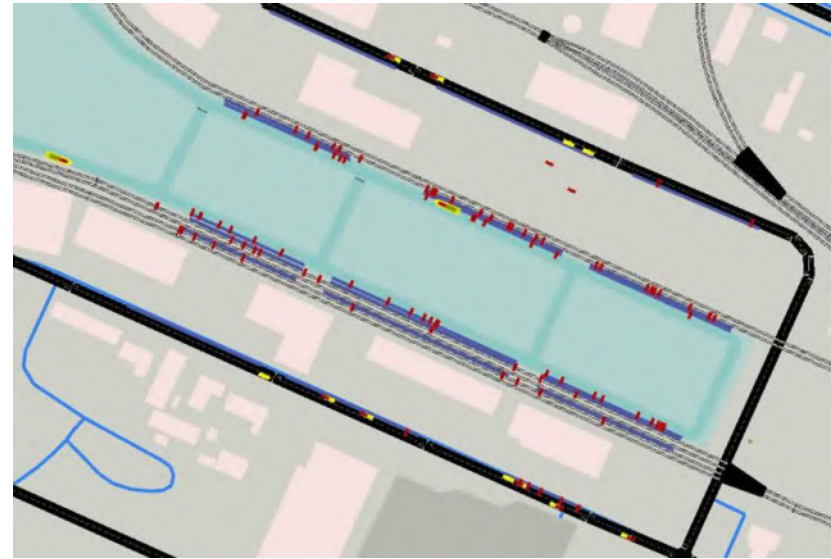
Open Source since the beginning

- Used world-wide, especially in the scientific community
- 26k hits on Google Scholar for 'sumo traffic'
- #Downloads 2019: > 50 000

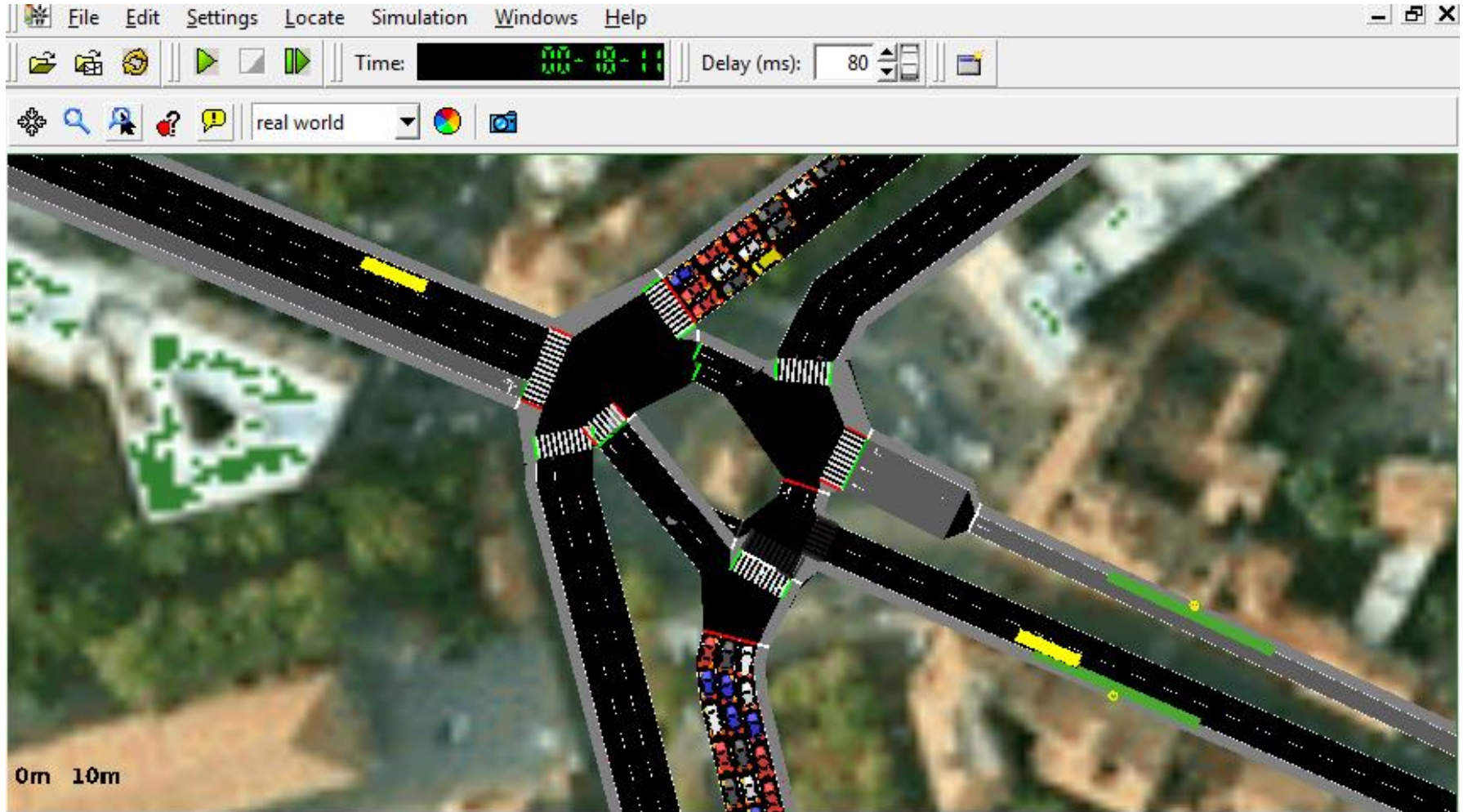


SUMO – what can be run?

- (Almost) any moving object in a city can be simulated with SUMO
 - Cars,
 - Busses,
 - Passengers,
 - Bicycles,
 - Pedestrians,
 - Ships,
 - Goods traffic,
 - ...



Example: City of Bologna




Driving Simulation





Unity's Windridge environment for virtual test drives with DYNA4 and stochastic SUMO traffic

Virtual test driving in complex surrounding traffic with DYNA4 and SUMO

Integration of SUMO traffic simulation into DYNA4  vehicle and environment simulation for virtual development and testing of driver assistance systems (ADAS) and autonomous driving functions.

Applications

- Development and test of driver assistance systems
- Development of autonomous driving and Car2X
- Virtual validation of AI functions
- Development of intelligent transportation systems





ADD TRAFFIC AND PEDESTRIANS TO **YOUR TESTING**

For many types of testing it is important to populate your virtual test routes with accurately modelled traffic and pedestrians, for example, the testing of ADAS and Autonomous systems, or simulated RDE test runs.

rFpro allows you to populate the virtual test world with intelligent traffic, from swarm tools such as **SUMO** and PTV-Vissim. It also allows you to create specific scenarios, such as a potential collision at an intersection, using tools such as CarMaker Traffic, or even under direct control via Simulink IO Block. rFpro passes the details of the human test driver's car to the traffic systems, so that the intelligent traffic avoids and gives way to the vehicle under test.

CARLA 0.9.8 release

CARLA and ROS Debian packages, night mode, weather extension, improvements on the traffic manager, new documentation, SUMO co-simulation and much more.

Posted by @sergi-e on March 09, 2020

The CARLA team is delighted to finally announce the release of **CARLA 0.9.8!**

This release makes for a new CARLA experience, bringing improvements to well established modules, along with a bunch of new features. Among these features we would like to highlight the new installation method using deb packages for Ubuntu. A new repository provides deb packages for the CARLA simulator and the ROS bridge, which can be easily installed using apt.

Automated Mobility District “Digital Twin” Provides Insights for Urban Transportation Systems

Sept. 15, 2020

“[...] Overall, the AMD modeling and simulation toolkit offers insights into a range of mobility options not covered by previous transportation analysis models. The toolkit builds on the existing open-source [Simulation of Urban Mobility \(SUMO\)](#) package and the [Future Automotive Systems Technology Simulator](#) developed at NREL.”



The Automated Mobility District Toolkit acts as a decision-making resource for implementing emerging mobility systems, such as this automated electric vehicle at the NREL campus. *Photo by Dennis Schroeder, NREL*

<https://www.nrel.gov/news/program/2020/amd-digital-twin-provides-insight-for-urban-transportation-systems.html>



SUMO User Conference 2020



SUMO ABOUT ▾ DOWNLOAD DOCUMENTATION CONFERENCE REFERENCES ▾ SUPPORT ▾ CONTACT

SUMO User Conference 2020

October 26-28 | From Traffic Flow to Mobility Modeling

(Archive) Select previous year ▾

Important notice
Registration is now open!

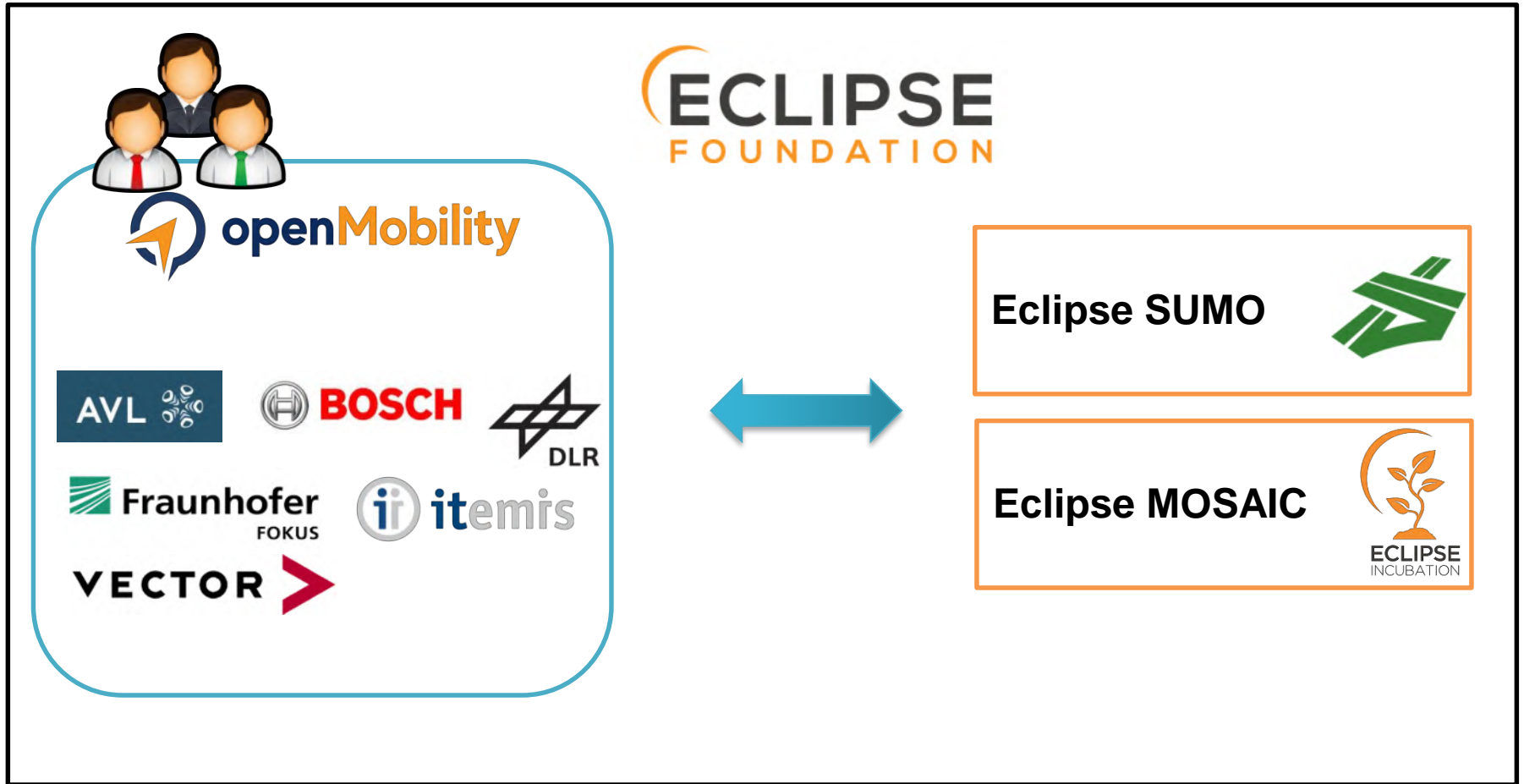
Participation at this year's conference will be **free** of charge!
Due to the Coronavirus crisis and the measures imposed, the SUMO User Conference 2020 is going to be **online**.



<https://eclipse.org/sumo/conference>



openMobility Working Group



openMobility Working Group

The screenshot shows the homepage of the openMobility Working Group. At the top left is the openMobility logo. The navigation menu includes Home, News, Events, Vision, Technologies, Members, Working Group, and More, along with a search icon. In the top right corner, there are links for 'Edit my account' and 'Manage Cookies'. The main heading is 'OpenMobility Working Group', 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'.

Our Members



BOSCH
Invented for life



Deutsches Zentrum
für Luft- und Raumfahrt
German Aerospace Center



Fraunhofer
FOKUS



itemis

VECTOR



<https://openMobility.eclipse.org>



User Stories on GitHub

openmobility-wg / userstories

Unwatch 8 Star 6 Fork 0

Code Issues 12 Pull requests Actions Projects Wiki Security Insights Settings

Filters is:issue is:open Labels 9 Milestones 0 New issue


12 Open 1 Closed Author Label Projects Milestones Assignee Sort

- Use customisable API in Traci/Sumolib to change vehicle parameters** User: BOSCH
#13 opened on 20 Apr by ZoltanBaksa
- Understand vehicle's decisions** SUMO User: BOSCH User: Uni Trento/Bolzano 5
#12 opened on 2 Sep 2019 by RobertHilbrich
- Be able to use SUMO in an ASAM openX Standards environment** SUMO User: BOSCH User: DLR 1
User: Vector
#11 opened on 2 Sep 2019 by RobertHilbrich
- Create traffic surrounding an ego-vehicle "on-the-fly"** SUMO User: DLR User: Vector 3
#10 opened on 2 Sep 2019 by RobertHilbrich
- Run SUMO on SiL and HiL platforms (Software-/Hardware-in-the-Loop)** SUMO User: DLR 2
User: Vector
#9 opened on 2 Sep 2019 by RobertHilbrich
- Use SUMO to evaluate my fleet scheduling** SUMO User: DLR 1
#8 opened on 2 Sep 2019 by RobertHilbrich



How to reach the openMobility Working Group?

Welcome, rhlbrich ▾



[Projects](#) [Working Groups](#) [Members](#) [More ▾](#) [Download](#)

▾ My Profile

Q

You are currently subscribed to the openMobility mailing list. ✕

Mailing list: openMobility (55 subscribers)

openMobility Working Group

About openmobility

openMobility Working Group

Using openmobility

To post a message to all the list members, send email to openmobility@eclipse.org. You must be subscribed to the list before you can post. To access a web archive of this list, visit the [openmobility Archives](#) or subscribe to this list's [RSS feed](#)

Subscribing openmobility

All contributions you make to our web site are governed by our [Terms Of Use](#). Your interactions with the Eclipse Foundation web properties and any information you may provide us about yourself are governed by our [Privacy Policy](#).

MAILING LIST

- [View All Mailing Lists](#)
- [View Archived Mailing Lists](#)
- [Privacy Policy](#)
- [Terms of Use](#)
- Mailing list: openmobility**
 - [RSS Feed](#)
 - [Archive](#)

<https://accounts.eclipse.org/mailling-list/openMobility>



Q & A

Robert.Hilbrich@dlr.de

 @EclipseSUMO

