

An overhead photograph of a group of people sitting around a wooden table in a meeting or workshop. The floor is covered with a colorful geometric tile pattern. The Eclipse Foundation logo is overlaid on the image. The logo consists of an orange arc on the left, followed by the word "ECLIPSE" in large white capital letters with a "TM" trademark symbol, and the word "FOUNDATION" in smaller orange capital letters below it.

ECLIPSETM

FOUNDATION

Gaël Blondelle
December 2018

The Eclipse Foundation

(and its Robotics Activities)



Eclipse Foundation

350+

Projects

280+

Corporate Members

1500+

Committers

30+

Professional Staff

**By the
Numbers**

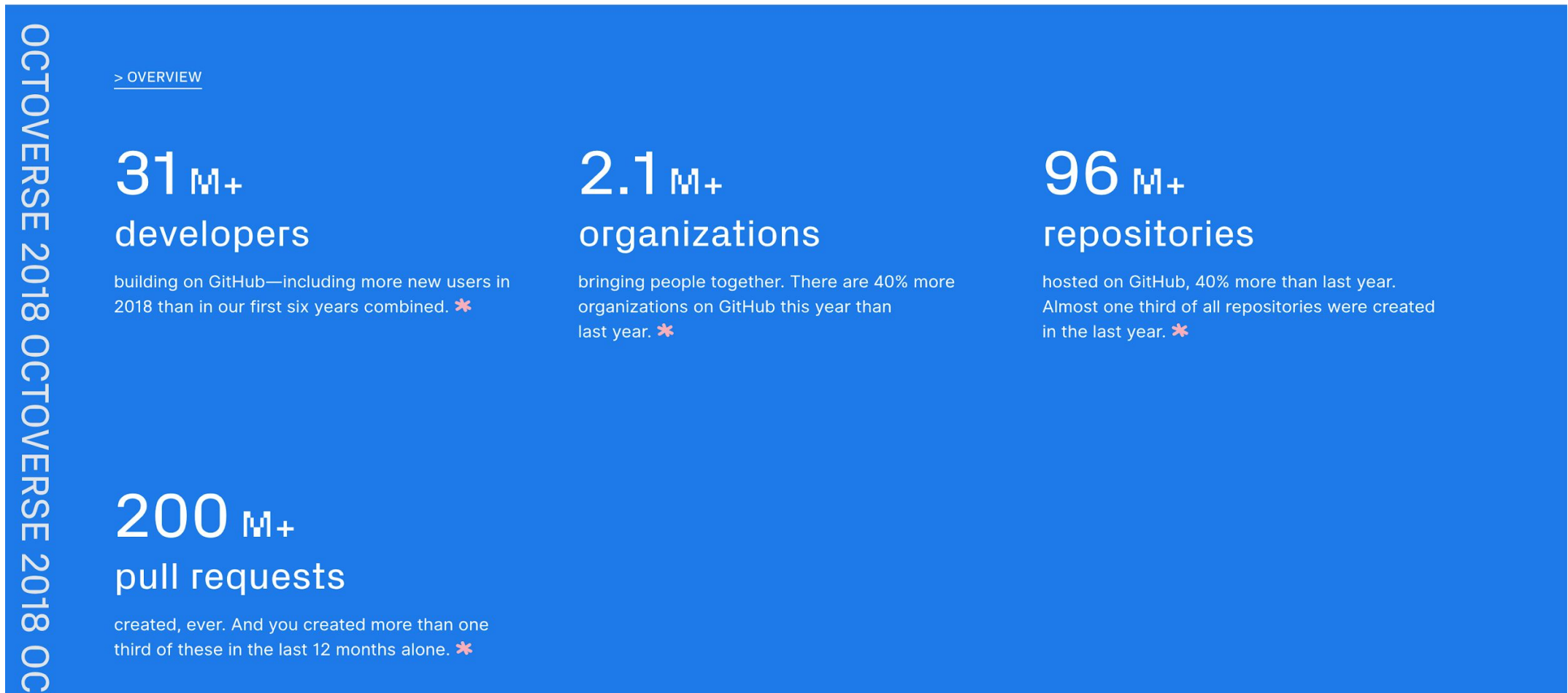
The Platform for Open Innovation and Collaboration



An Eclipse Project...

- Conforms to the EDP and Eclipse IP Policy;
- Calls itself an “Eclipse Project” and conforms to Eclipse Foundation Branding Guidelines;
- Operates independently from any specific vendor;
- Uses infrastructure provided by the Eclipse Foundation for core content.

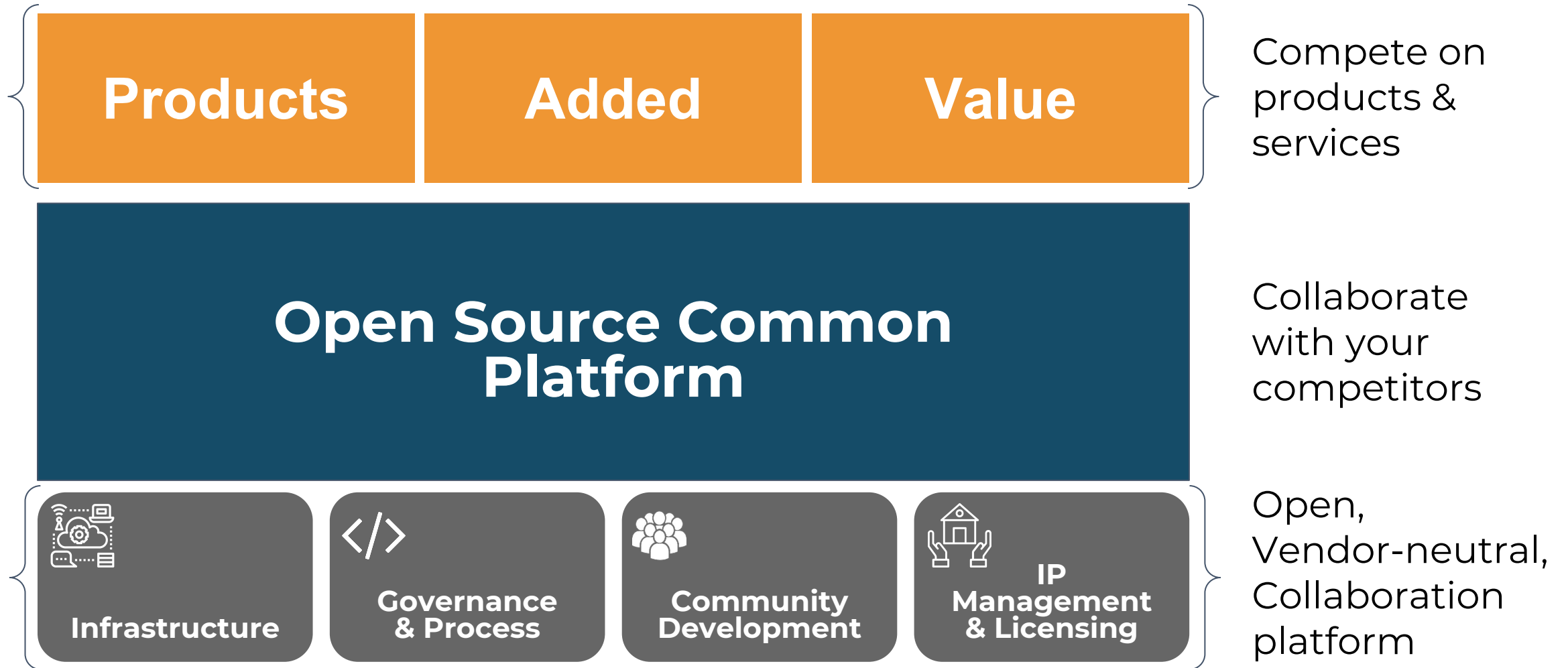
Is publishing on GitHub enough?



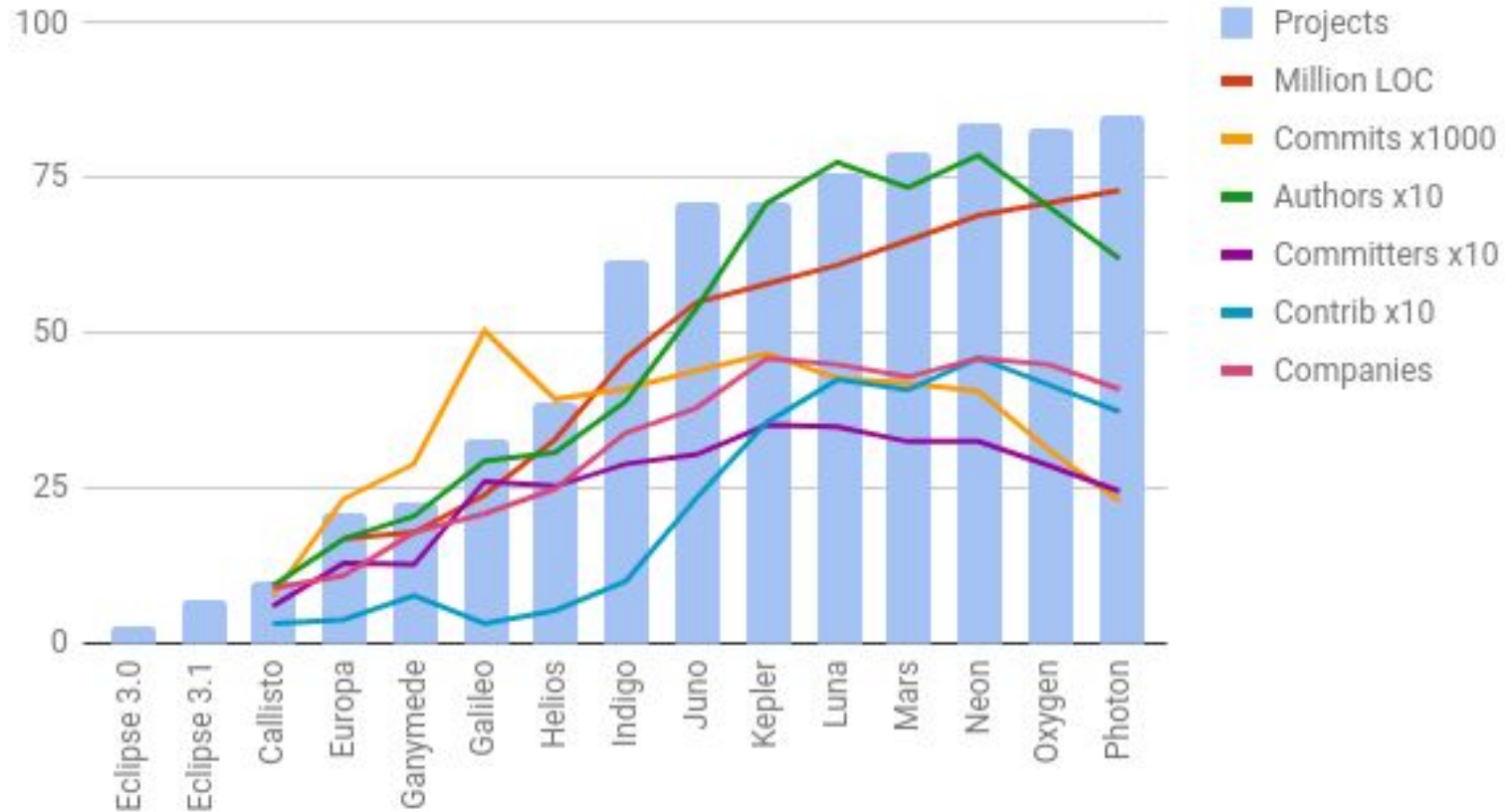


GitHub
hosts more than
96 Million
of repositories

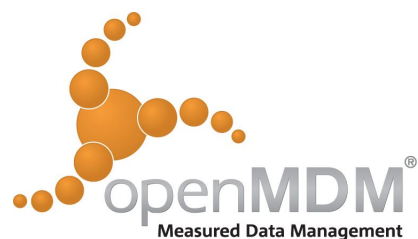
A business friendly ecosystem based on extensible platforms



Simultaneous Release Metrics



Predictability



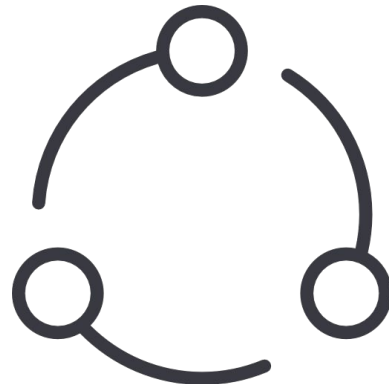
Eclipse Foundation Working Groups

Value Proposition of Eclipse Working Groups

- Open Collaboration through open source
- IP Management
- Joint Governance
- Co-Funding of development
- Anti-Trust Policy
- Specifications and “certification”



Open Source Foundations enable vendor-neutral open collaboration



Redis has a license to kill: Open-source database maker takes some code proprietary

It's 'cuz cloud giants use tools without giving anything back

By [Thomas Claburn](#) in [San Francisco](#) 23 Aug 2018 at 06:05 65  [SHARE](#) ▼



Database maker Redis Labs this week moved the Redis Modules developed by the company from the AGPL to a license that combines Apache v2.0 with [Commons Clause](#), which restricts the sale of covered software.

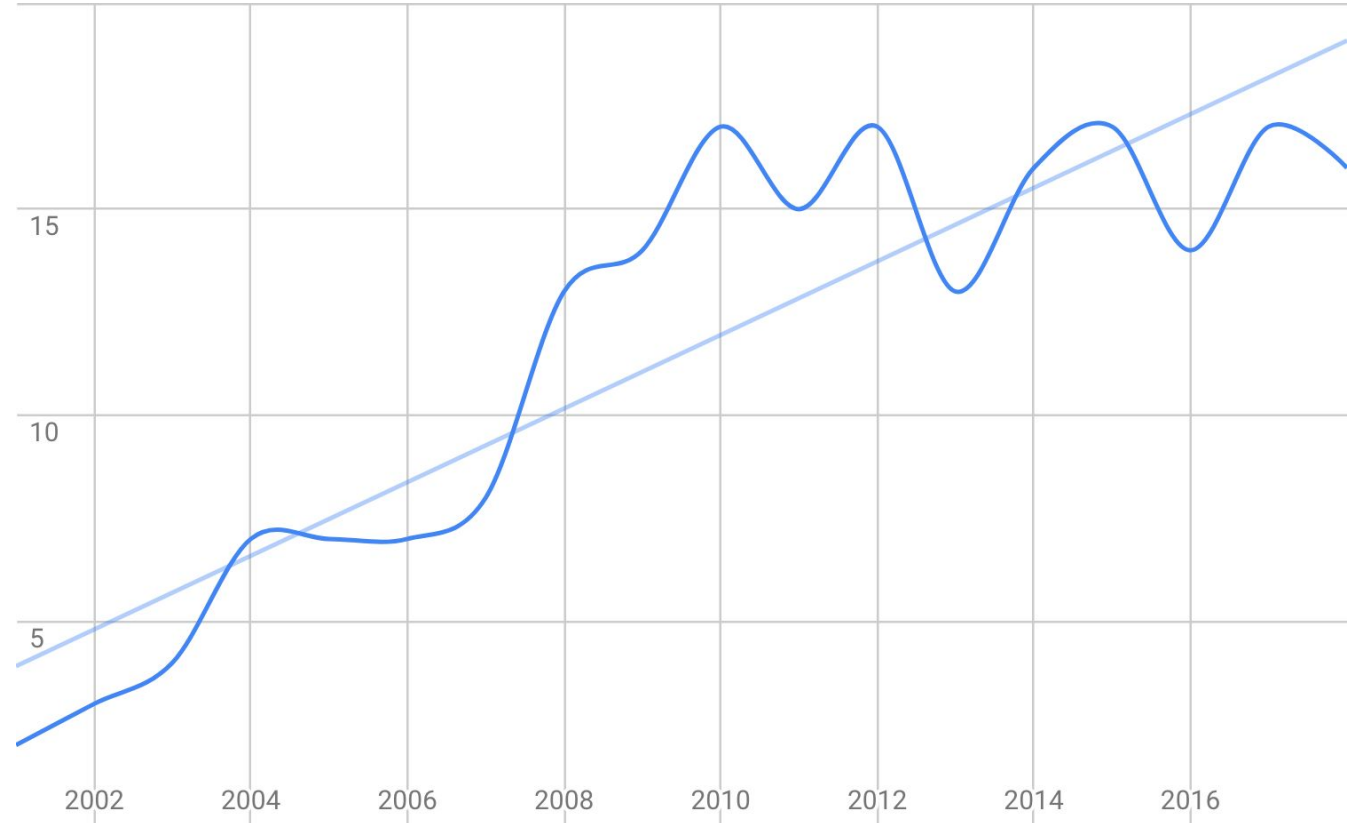
The licensing change means that house-made Redis Modules – RediSearch, Redis Graph, ReJSON, ReBloom and Redis-ML – are no longer open-source software, as the term is generally defined. Instead, they become "source available."

- Control by a single company
- Companies pivot!
- Need for a trusted third party

Foundations ensure sustainability by...

Securing copyright

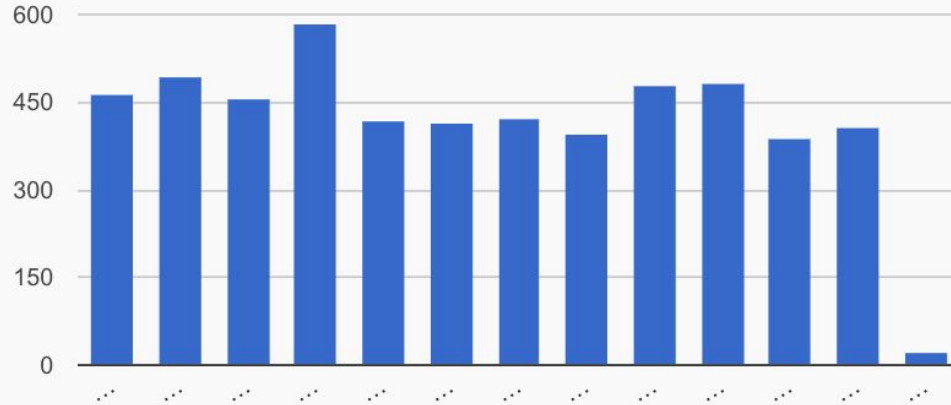
Ensuring diversity



<https://projects.eclipse.org/projects/eclipse>

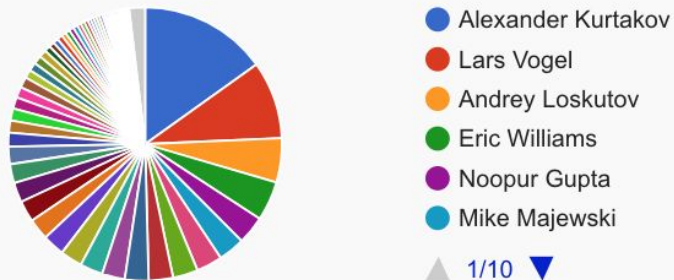
Contribution Activity:

Commits on this project (last 12 months).



Individual Contribution Activity:

Commits on this project by individuals over the last three months.



Foundations ensure sustainability by community diversity

**Open Source principles
are beneficial to the
ecosystem!**

A collage of images representing transparency. It includes a Dell monitor displaying a game, a Sony PSP, and a Sony monitor in the background.

Transparency

A collage of images representing openness. It features a group of colorful parrots, including orange, yellow, and green ones, in a close-up shot.

Openness

A collage of images representing meritocracy. It shows a person wearing a graduation cap and gown, with a blue tassel, in a close-up shot.

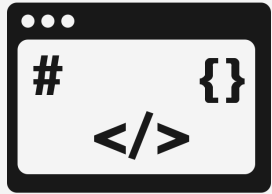
Meritocracy

Robotics (and related) Activities



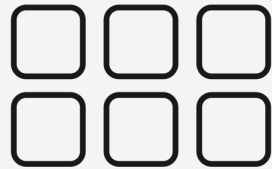


To provide a **forum** for
individuals and organizations to **build and promote**
open source software, open standards and open
collaboration models needed to create a **scalable**
Open Internet of Things



2.8M

lines of code



37

projects



350+

contributors



140K

monthly
visitors

*“No company can realize the IoT on its own...
Within the Eclipse Community, through the
contribution of many IoT developers, tools
and standards are created on an open
platform that many companies can benefit
from for their IoT applications.”*

Stefan Ferber

CEO, Bosch Software Innovations



BOSCH

Invented for life

2015: Bosch becomes Strategic Member



Co-Develop end-2-end IoT Suite



The 3 IoT Software Stacks



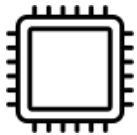
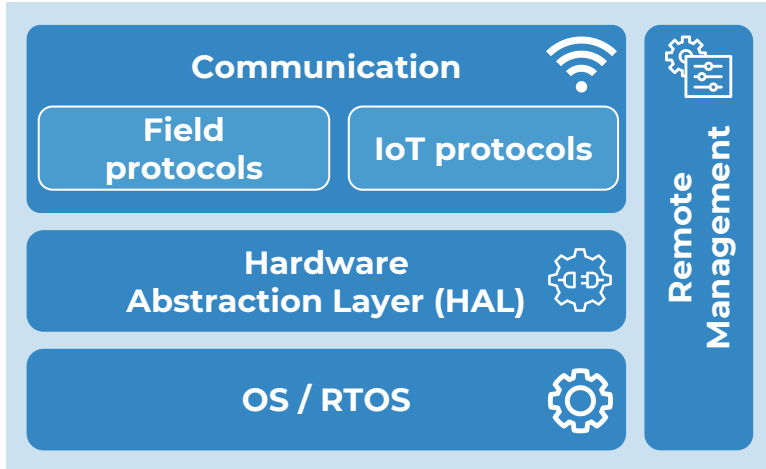
SECURITY



ONTOLOGIES

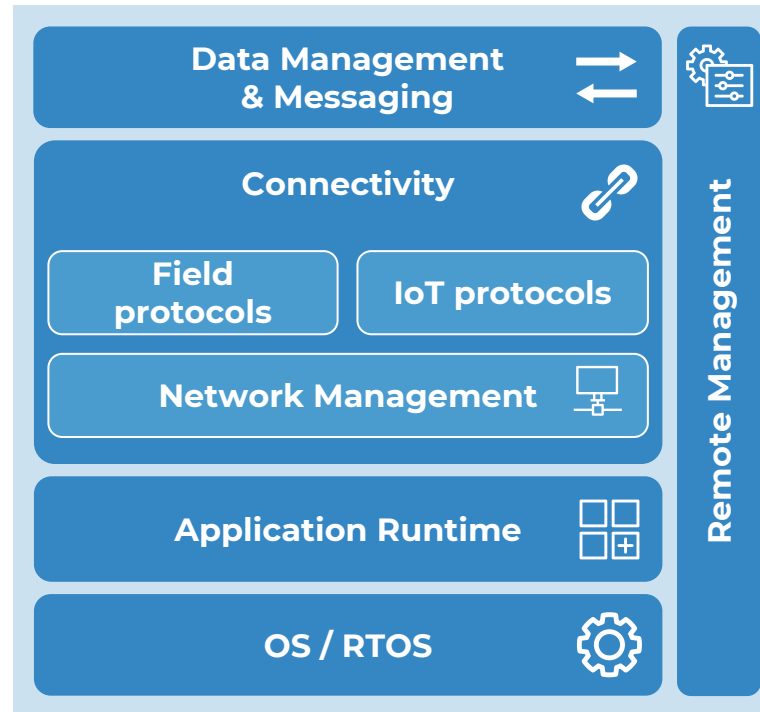


TOOLS & SDKs

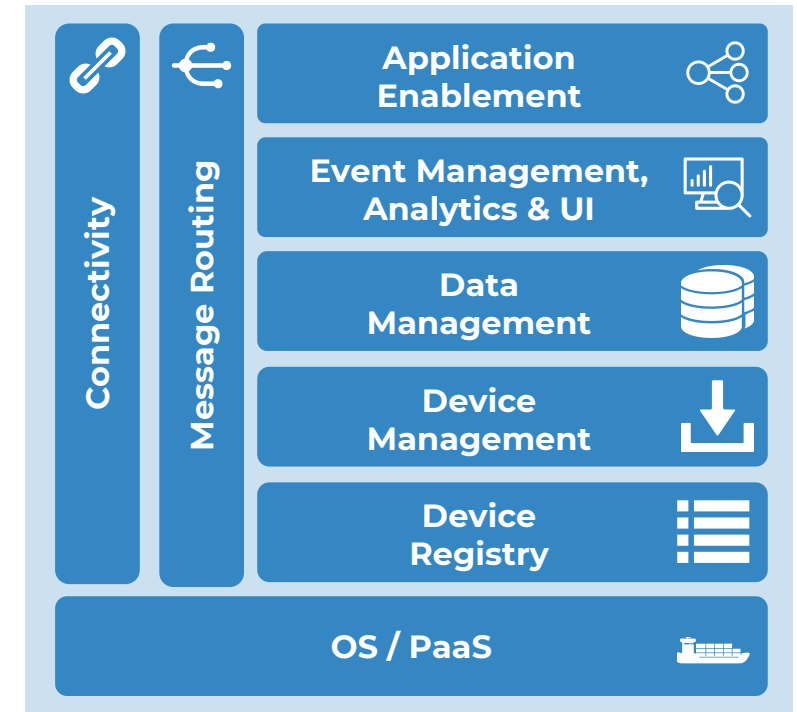


CONSTRAINED DEVICES

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GATEWAYS AND SMART DEVICES



IOT CLOUD PLATFORM

The 3 IoT Software Stacks

tinyDTLS

Keti



SECURITY

Vorto

ONTOLOGIES

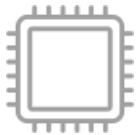
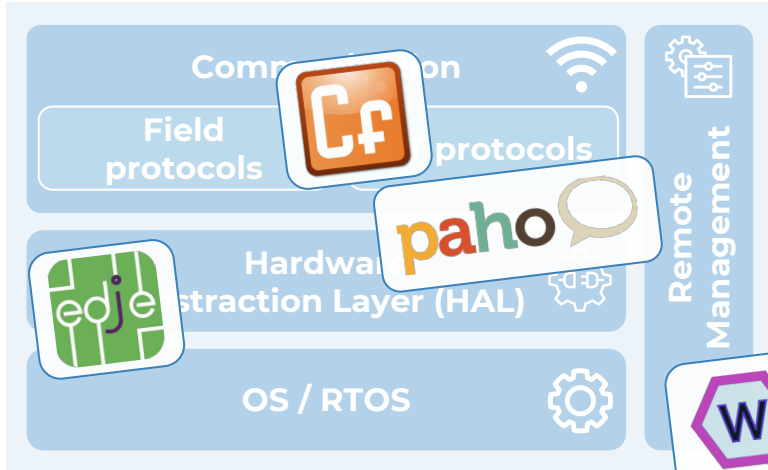
unice



TOOLS & SDKs

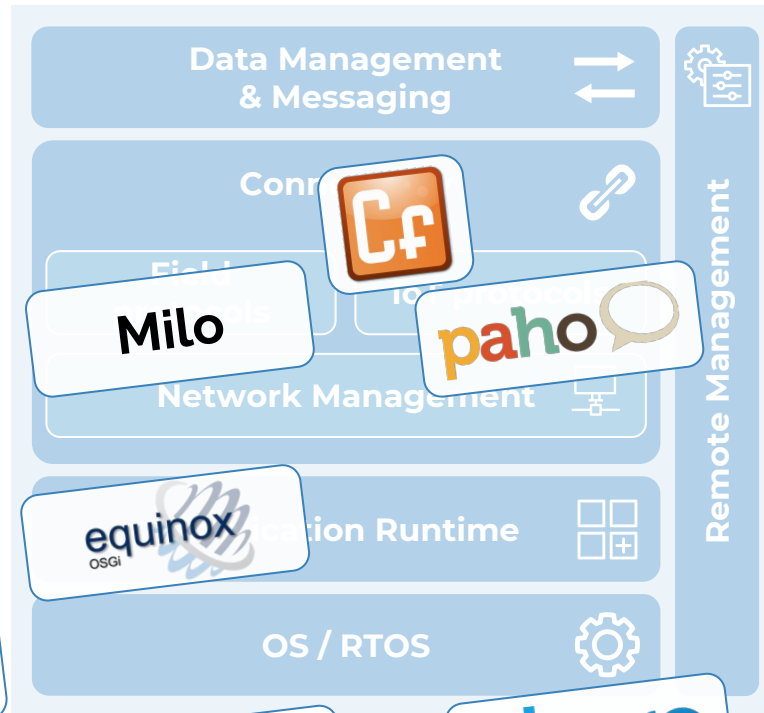


Eclipse Che



CONSTRAINED DEVICES

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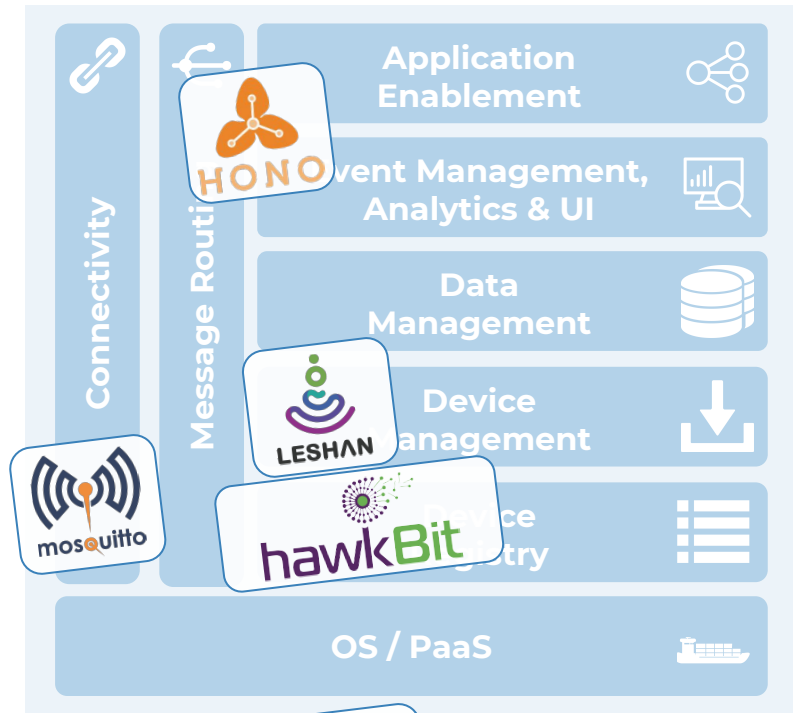


eclipse
smarthome

kura

4diac

GATEWAY DEVICES



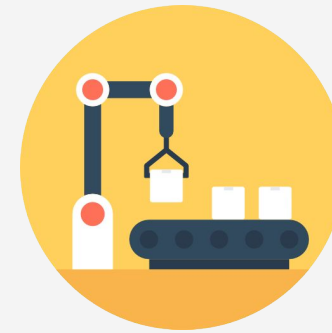
Kapua

IOT CLOUD PLATFORM

Asset Tracking Management



Production Performance Management



BOSCH
Invented for life



CONTACT
Software



SAMSUNG
ARTIK™

AZUL
SYSTEMS®

EUROTECH
Imagine. Build. Succeed.

fortiss

EUROTECH
Imagine. Build. Succeed.

Automotive



Eclipse
Sumo

OpenADx
Automated Drive Tools

SIEMENS DAIMLER

MÜLLER-BBM
VibroAkustik Systeme





Industry 4.0

**Basys Research Project:
Building the Platform for I40**

**I4.0 Standards:
Agile Standardization DKE/DIN**

BaSys 4.0

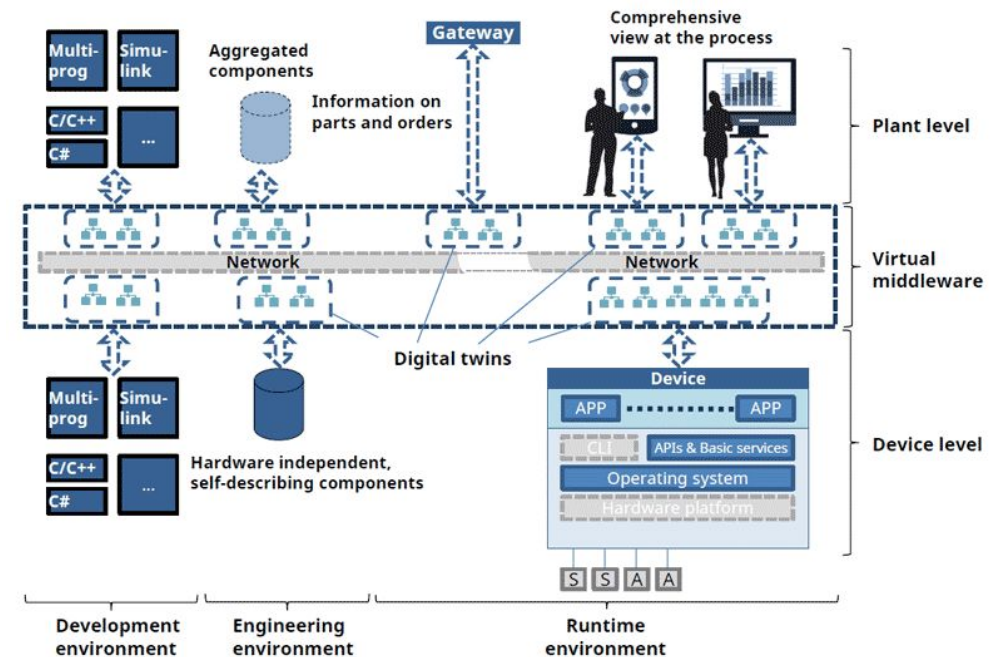
DKE
VDE DIN

BaSys 4.0



- BaSys 4.0 — Basic System Industry 4.0
- "Operating System" for versatile production plants
- Developing products and plants in parallel
- Optimal interoperability thanks to standardised communication
- User-friendly interface
- Self-learning systems and digital twins
- Event-driven production control
- Bringing users and providers together
- Collaborative project: 15 German partners

• www.basys40.de



Eclipse BaSyx

Overview Downloads Who's Involved Developer Resources Governance Contact Us

An essential goal of BaSyx 4.0 is the use of IT technology for production systems. It develops a middleware that integrates traditional production systems (e.g. PLC controllers), state-of-the art IT technology (BPMN engine, SOA) to enable next generation changeable production.

Why BaSyx?

Industrie 4.0 is networked production. It transforms traditional automation systems into a cyber-physical system to address challenges of production systems:

Lot-size 1

Existing production lines are most efficient for large lot sizes of identical products. The Industrie 4.0 paradigm of mass customization propagates individually customized products that are manufactured in small lot sizes down to lot-size 1 with the same efficiency as current mass production. Lot size 1 requires the ability to change production processes for each product. BaSyx supports efficient production with lot-size 1 by enabling multiple different products on the same production line.

Changeable production lines

The integration of new devices is another significant challenge for plant operators. Product line changes become necessary because of the replacement of old devices, or of the extension of production lines. The BaSyx middleware enables the integration of different devices, and the development of Asset Administration Shells that provide unified interfaces to all production entities.

Changeable production

Reconfiguration of a production system for the manufacturing of new products is time consuming. Manufacturing of a new product requires significant changes in PLC controllers that control manufacturing devices. Even though devices might be sufficiently flexible to manufacture other products, the necessary adaptation of PLC software often limits the ability to change production. BaSyx support changeable production with a BPMN based production control engine.

Adaptive manufacturing

The ability to react to unforeseen events is important; nevertheless, it is more important to predict events to react even better to them. With BaSyx, developers and automation engineers may create a middleware that connects and integrates all production entities and enables data aggregation and consolidation, which is an important prerequisite for predictive maintenance.



PROJECT LINKS

Getting Started

Documentation

Project Leads



Markus Damm



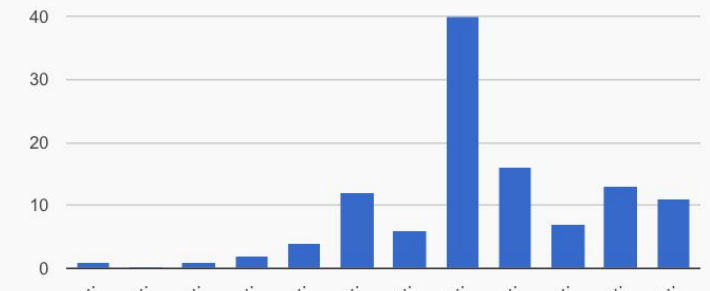
Thomas Kuhn

- Eclipse BaSyx
- Open Source results of the BaSys project
- Published under EPL 1.0
- Leader: Fraunhofer IESE

<https://projects.eclipse.org/projects/technology.basys>

Contribution Activity:

Commits on this project (last 12 months).



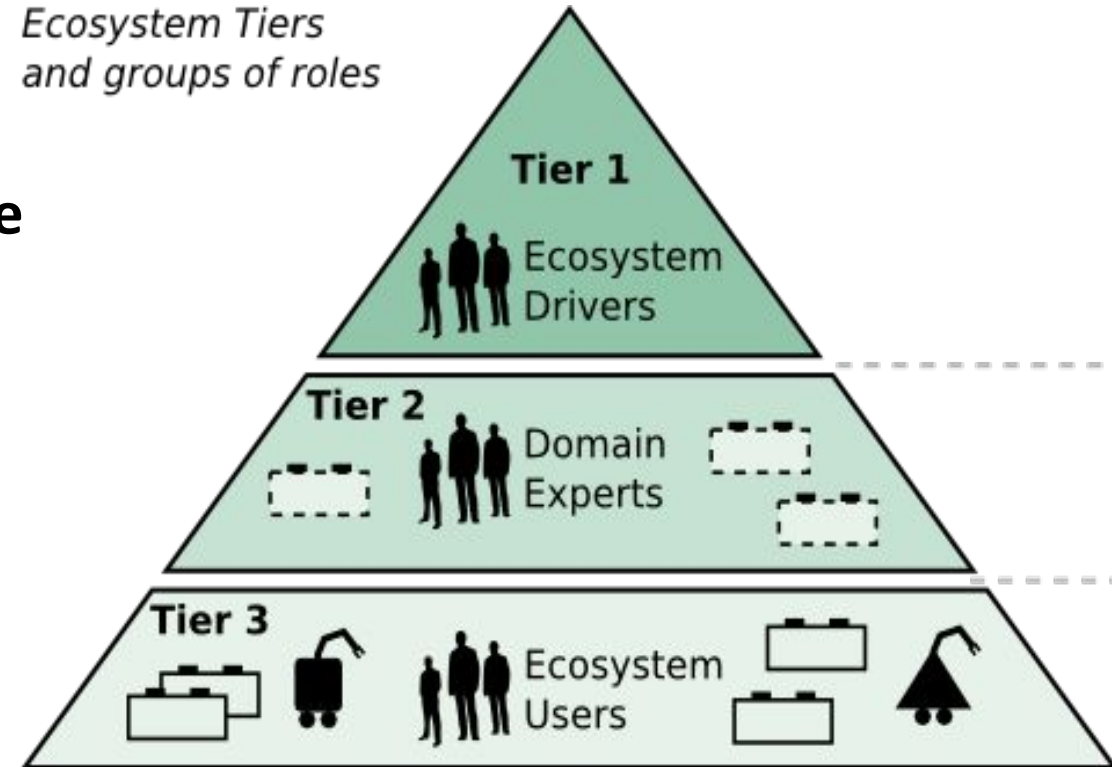
Eclipse Foundation as a partner of RobMoSys

- Help promote the results of the project
- Recruit new technology in the robotics domain
- Connect the robotic ecosystem to Eclipse technologies in tooling and IoT
- Enable a platform for tooling in robotics
- Avoid re-inventing the wheel

Create a Working Group for

- Tools for Robotics

*Ecosystem Tiers
and groups of roles*





Eclipse Foundation

Is a vendor neutral space for open collaboration in open source

Strong player in IoT and Industry 4.0

Drives RobMoSys open source community building

Will be happy to collaborate with you on more activities in robotics



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@gblondelle

