EDC at the Eclipse Foundation

April 2021

The Open Source Foundation of choice in Europe

With a global presence, reach and reputation

Eclipse Foundation AISBL is based in Brussels
Under EU-based laws and regulations, hosting code in Europe

Visit eclipse.org/europe

ECLIPSE FOUNDATION

Eclipse Foundation Strategic Members

Europe


BOSCH

Daimler TSS

USA

Asia

Skymind

Governance principles

The Eclipse Foundation and Europe: Shaping The Future of Open Cloud

- Europe is setting key industry standards around cloud services access, data privacy, and digital sovereignty
- Gaia-X and Catena-X are major new initiatives rooted in Europe that will shape global cloud development
  - Gaia-X: 2500+ participants across 500+ institutions
  - Catena-X: 28+ partners from the automotive industry
- Eclipse Foundation is the open source home for global, European-based open source cloud initiatives
  - Strategic open source partner for Gaia-x and Catena-X, hosting their open source development
  - Home to key open source projects, including cloud development platforms, cloud-native Java, DataSpace Connector, edge-native open source, AICE (AI, Cloud, Edge) Open Lab, etc.

GXFS at the Eclipse foundation

www.gxfs.de

GXFS toolbox is a set of software components, source code, that is being developed inside the **Eclipse project**. Some of the advantages of using the Eclipse framework are, using a well-known operating model and having better visibility and attraction among the developer community.

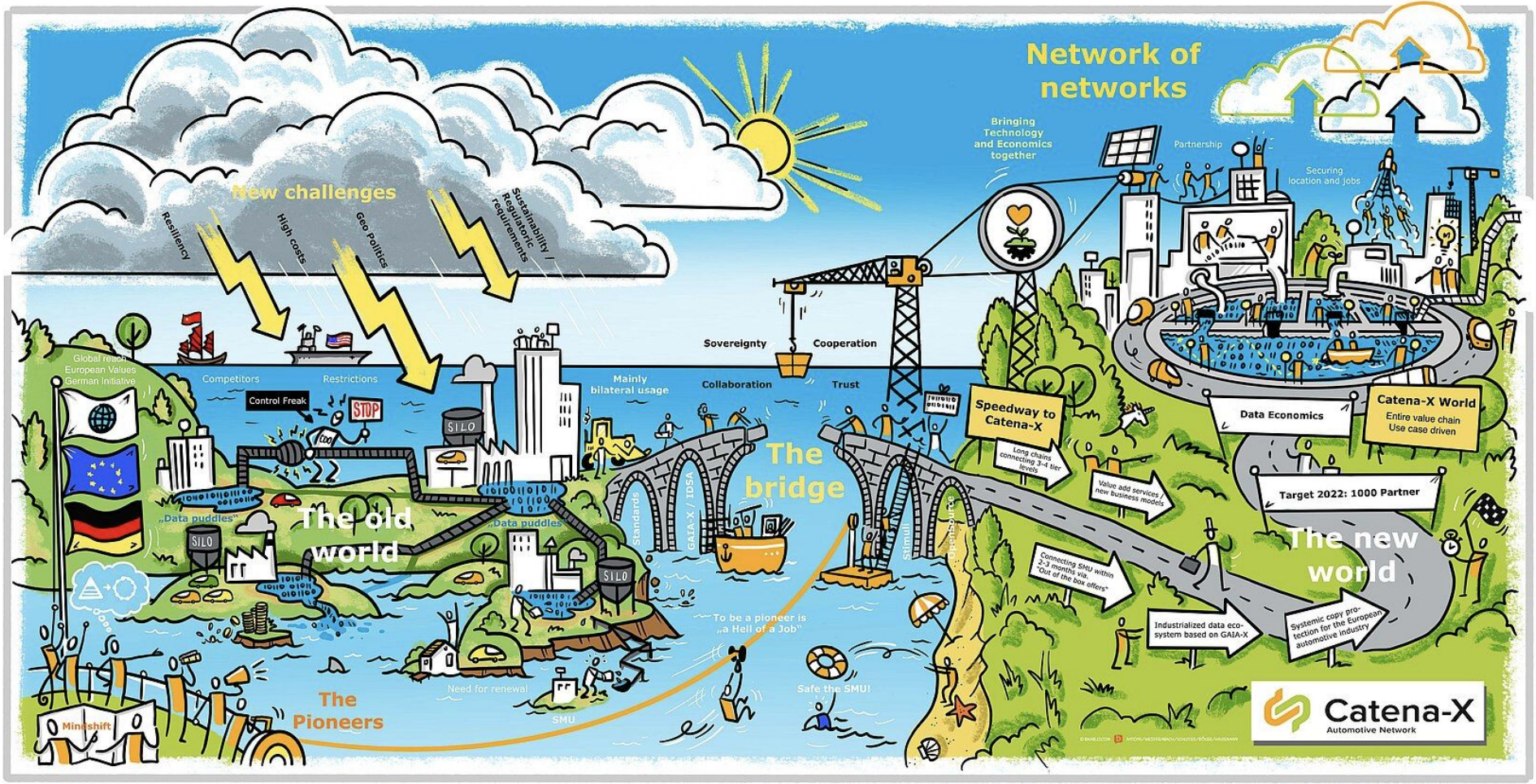
Gaia-X Tech Monthly Newsletter - February

Opensource project governances

	Gaia-X association Governance	Eclipse Foundation Governance
Contributions	Full control	Community driven
Releases	Full control	- Community driven under Eclipse name - Gaia-X association driven under Gaia-X project name (release)
Feature set & Prioritisation	Full control	Community driven
Legal	Gaia-X's Contributor License Agreement (CLA)	Eclipse's Developer Certificate of Origin (DCO)
Copyright owners	Gaia-X association	individual contributors
Trademark (project name)	Owned by Gaia-X association	Owned by the Eclipse Foundation

Concerned projects:

- Gaia-X Registry
- Gaia-X Compliance



Catena-X Operating System / Architecture

One Operating System

Data Sovereignty & Interoperability (europ. architecture)

- Decentralized data rooms
- Competition at application level

gaia-x IDSA

One Operating System (decentralized, federated, FOSS)

- Operating System on GitHub
- Plug and Play - Standardized APIs

Collaborative and agile product development

- Eclipse Open Source Community
- 100% Agile working model

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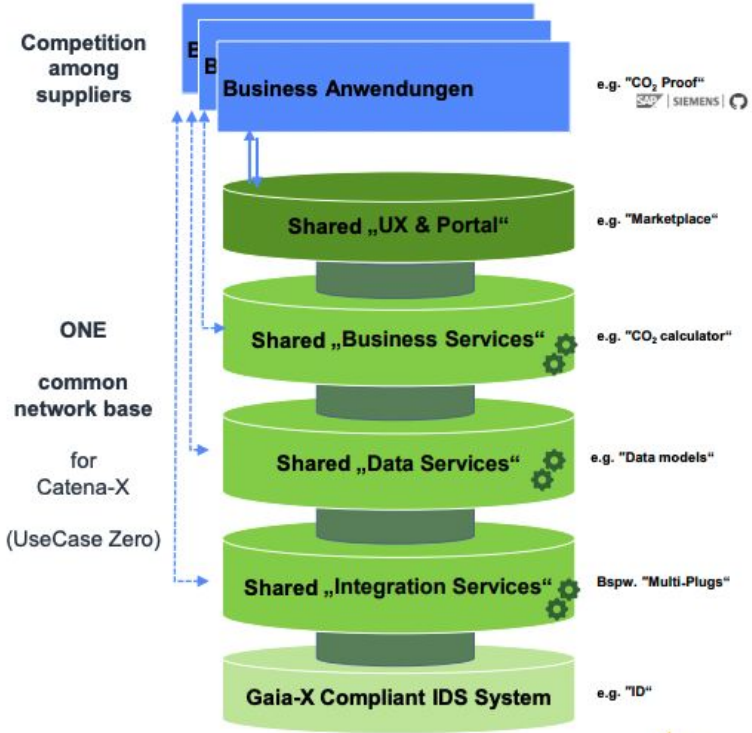


Source: https://catena-x.net/fileadmin/user_upload/intro_praesenationen/eng_overview_catena-x_v1.01.pdf

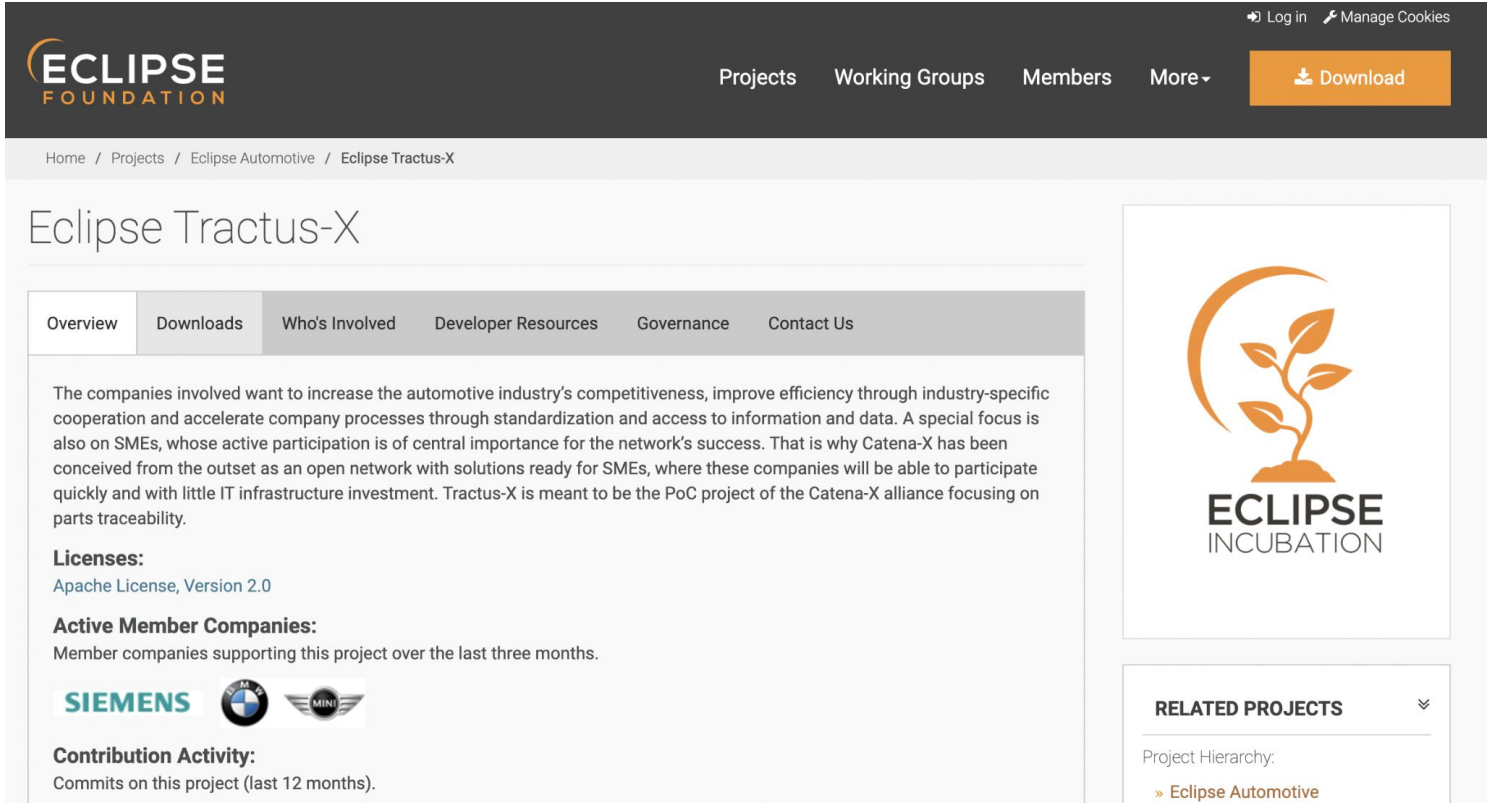
Eclipse Dataspace Connector (EDC)

The Eclipse Dataspace Connector

- A 100% open-source platform to address the problems of data sharing
- Provides the technology you need to create and participate in a **secure dataspace**
- Backed by global partners

Eclipse Tractus-X

projects.eclipse.org/projects/automotive.tractusx
github.com/eclipse/tractusx



Open Source

The easy way to get started with your own Asset Administration Shell. Open source software provides you with a quick and easy way to create your own AAS or install your own server with your AAS. With the AASX Package Explorer you get a powerful editor for the AAS.

The AASX Server is ready for immediate use as a docker.

Eclipse Foundation

In addition to allowing you to test the AAS, IDTA would like to provide you with open source software for use in products and systems. This productisation of the AAS takes place in the corresponding Eclipse projects.

The rules of the Eclipse Foundation, which have proven effective for many years, are used for this.

To Eclipse Digital Twin Top-Level Project

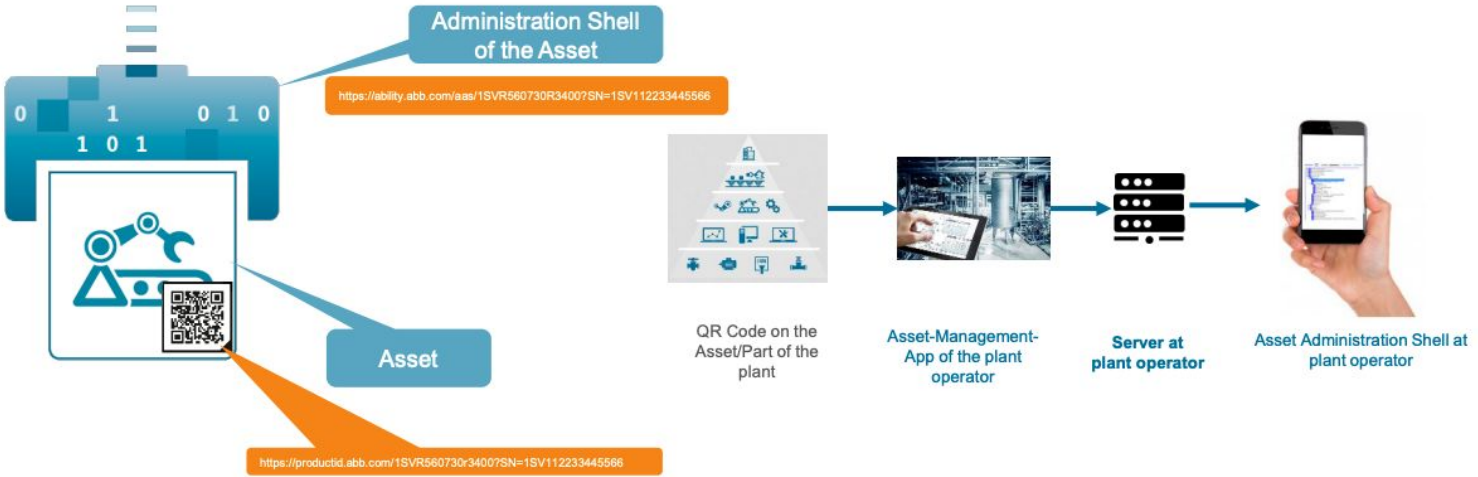
GitHub repositories

The source code of the open source projects is maintained in GitHub repositories. GitHub continuous integration constantly generates up-to-date versions for testing. Further GitHub repositories provide AAS submodels, specifications and FAQs.

Go to Github

The Asset Administration Shell

Access to the Asset Administration Shell
Example: plant operator



https://www.plattform-i40.de/IP/Redaktion/EN/Downloads/Publikation/Hardshell-softcore_ppt.pdf?__blob=publicationFile&v=2

Our Impact: Open Innovation at Industrial Scale

Competition Layer

Commercial Adopters focus resources on rapidly building differentiating features

Requirements & Use Cases

Value Line

Product-Ready Technologies

Collaboration Layer

Technology Producers jointly **define roadmap** and **build core capabilities**

Governance Layer

The Eclipse Foundation provides an **open, vendor-neutral development environment** to enable collaboration

$13+ billion

of shared investment to date

How an Association is Made

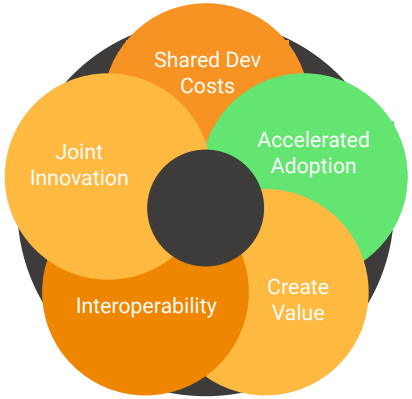
ORGANIZATIONS

- Company
- SME
- R&D

WANT TO COLLABORATE

- Software
- Services
- Specifications

FOR VARIOUS PURPOSES



AND CREATE AN ASSOCIATION

Purposes of an Association

GOVERNANCE

- Antitrust
- Bylaws
- IP Management
- AoA
- Processes

OPERATIONS

- Specifications
- Development
- Community
- Infrastructure

Hid Motivation

- Mai Control
- Licens
- Gatekeep

Eclipse Foundation Working Groups
Foundation in a box

Vendor-Neutral Governance
Collaboration under a vendor neutral governance model

Ecosystem Development and Marketing
Eclipse Foundation staff help build a community for collaboration through marketing and community programs

Collaborative Management
Working groups coordinate the efforts of open source projects by providing a shared vision and roadmap

Specification Development
Eclipse Working Groups use the proven Eclipse Specification Development processes that provides a framework for the development of specifications in open source

Branding and Compatibility
Creating branding and compatibility programs to build a trusted ecosystem of implementers and consumers

Research@Eclipse
The Eclipse Foundation participates in many government funded industry research projects

How to get started with contribution - The first idea

	GitHub
Thriving developer community	✔
High quality code that solves complex problems	✔

So which Open Source License should I use ?

Thinking bigger?

	GitHub	Single-Vendor Open Source
Thriving developer community	✔	✔
High quality code that solves complex problems	✔	✔
Ecosystem development and marketing services to drive adoption and monetization		✔

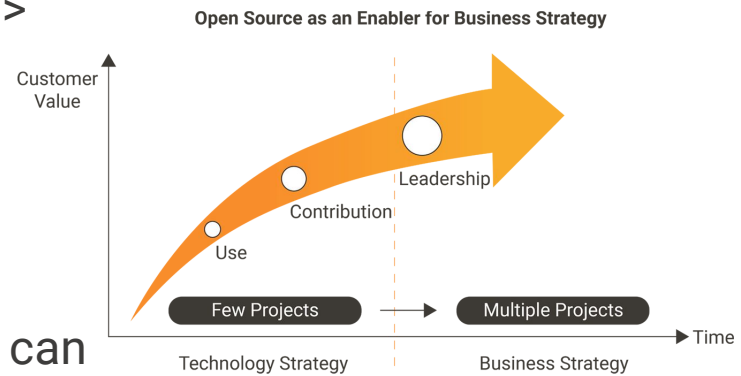
How do I control my Open Source Software?

Disadvantages of single vendor approaches

- Vendor wants to keep control
- Usually ask for transfer of exclusive rights (CLA) => can re-license future releases
- Difficult to get other organisations involved => limited protection of investments

  “Use” = yes

  “Contribute” = limited



But if they are ready to invest enough, users can use the Ultimate Weapon in Open Source: The Fork

The Foundation way

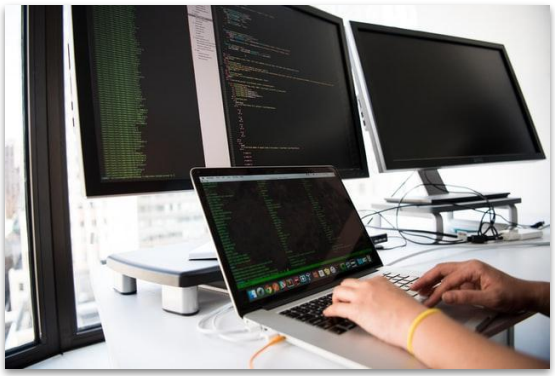
	GitHub	Single-Vendor Open Source	Eclipse Foundation
Thriving developer community	✔	✔	✔
High quality code that solves complex problems	✔	✔	✔
Ecosystem development and marketing services to drive adoption and monetization		✔	✔
Predictable processes and guidance to deliver large-scale innovation on a regular cadence			✔
Vendor-neutral governance model to support industry-wide collaboration			✔
Business-friendly IP and licensing services to enable commercialization			✔

Eclipse Development Process

Projects and Working Groups

Transparent
Open
Vendor-neutral

Projects



Working Groups

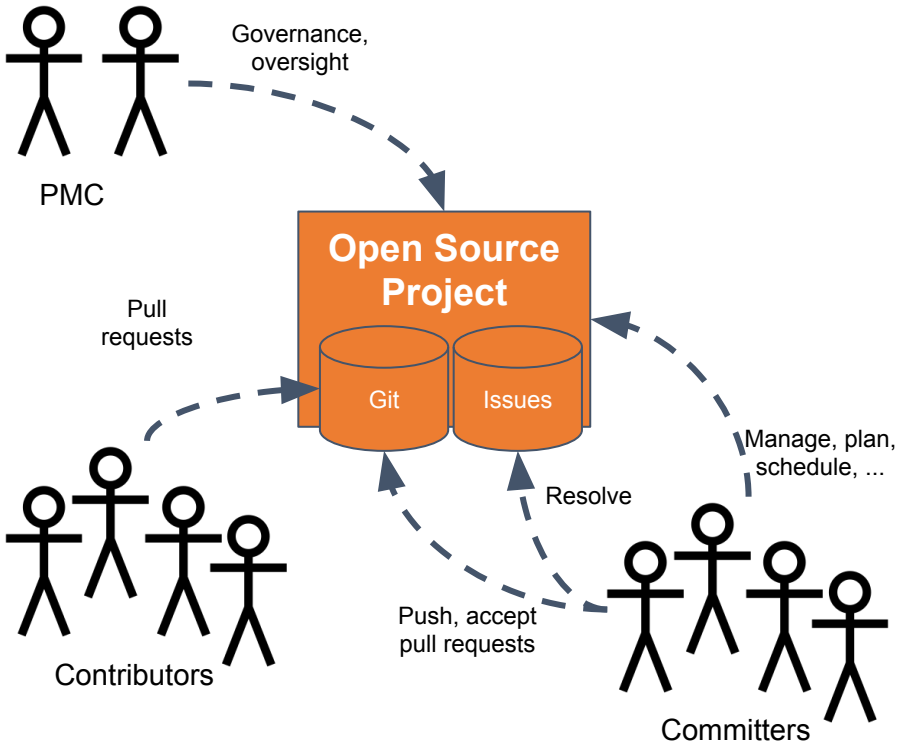
Group of committers

Build code, specifications, documentation
Meritocracy

Group of organizations

Focus, promote and augment Eclipse technologies
Open Governance

Project

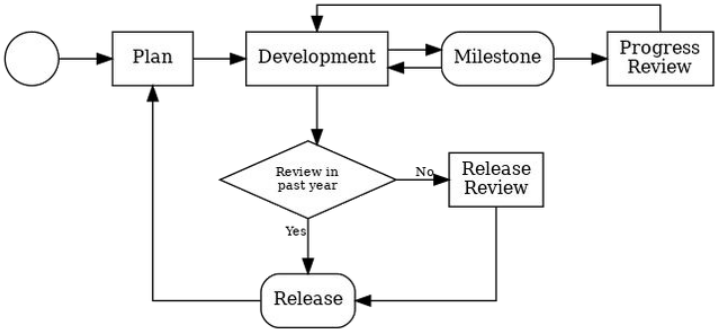


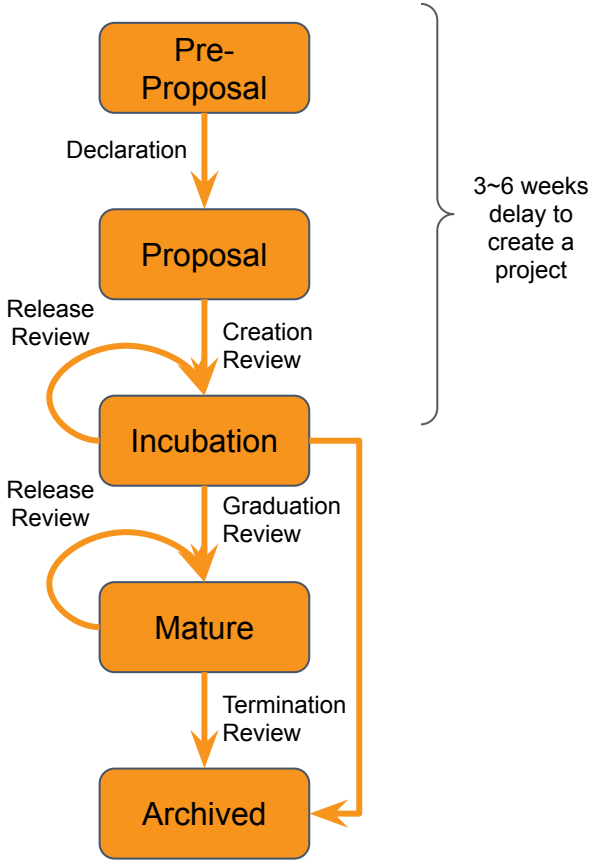
Are initially appointed and elected throughout the project

Eclipse Development Process

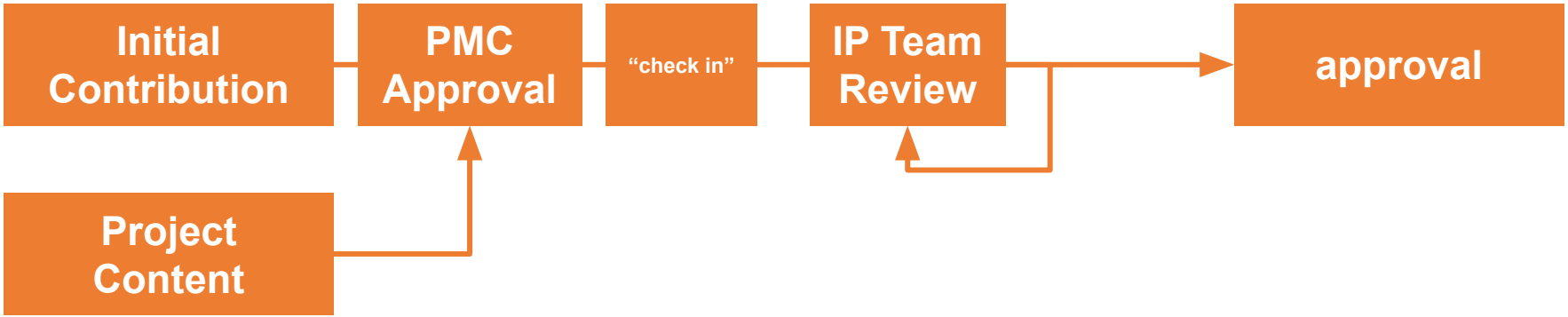
Rigorous and predictable processes and guidance

1. Fully documented: https://www.eclipse.org/projects/handbook
2. Prepare your code (Copyright Headers, Zip the source)
3. List Contributors
4. Engage with the IP Team (Send Initial Contribution)
5. Ask contributors to sign the Contributor Agreement
6. Move the code to Eclipse repo
7. Fix 3rd-party issues, if any →ensure license compatibilities
8. Make your first Eclipse release
9. Then follow the release process and graduate to “Mature” project:



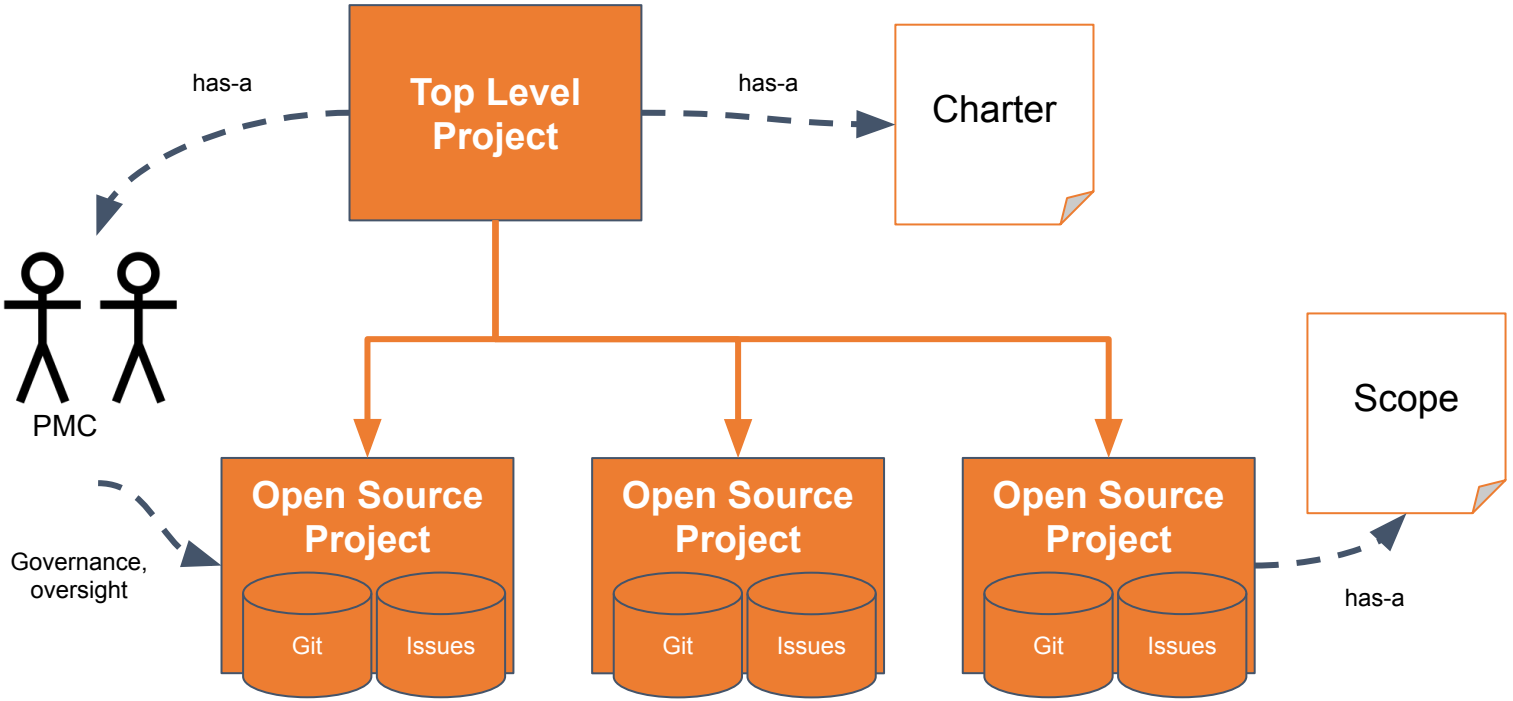


Intellectual Property Due Diligence

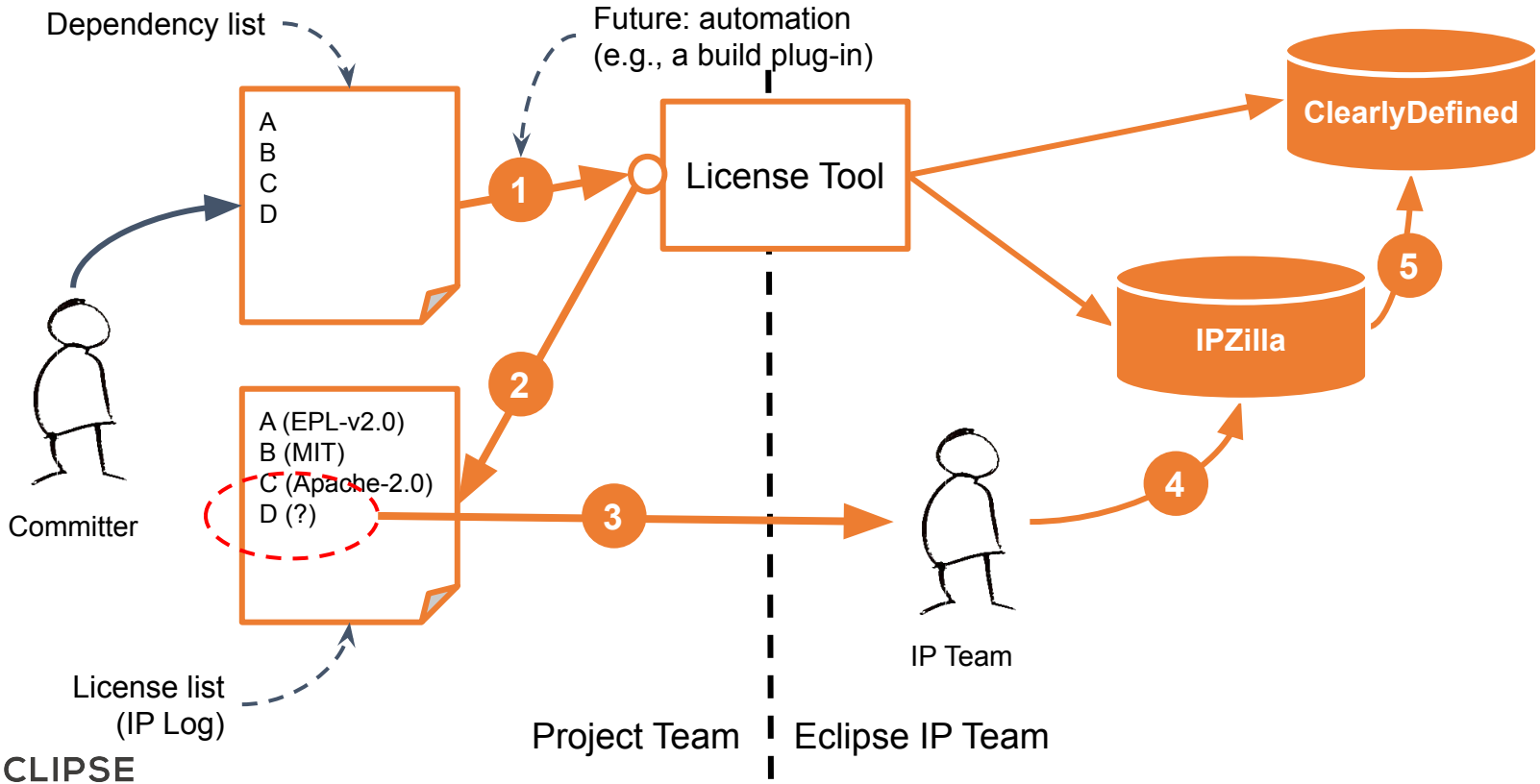


Top Level Projects

PMC leads are approved by the Board of Directors
PMC members are elected by the existing PMC leads and members, and approved by the EMO(ED)



Third Party Content Due Diligence



Eclipse Contributor Agreement

- Contributors must digitally sign the ECA
  - Confirms that contributor agrees to comply with the DCO
  - Contributors keep 100% of their IP
- Developer's Certificate of Origin
  - You have authored 100% of the content
  - You have the necessary rights
  - Provided under the project license(s)
  - Your contributions are public

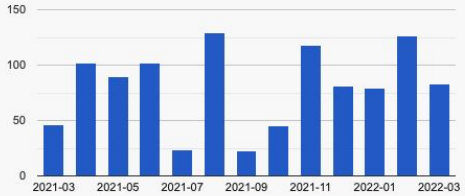
`https://eclipse.org/legal/ECA.php`

Eclipse Dataspace Connector

Overview | Downloads | Who's Involved | Developer Resources | Governance | Contact Us

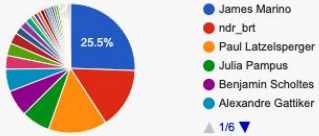
Contribution Activity:

Commits on this project (last 12 months).



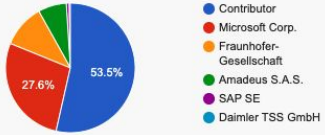
Individual Contribution Activity:

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



Organization Contribution Activity:

Commits on this project by supporting organization over the last three months.



Active Member Companies:

Member companies supporting this project over the last three months.

SAP amadeus Microsoft Fraunhofer Daimler TSS

By the numbers

ECLIPSE FOUNDATION

The people behind EDC

Project Lead

Markus Spiekermann

Committers

Alexandru Danciu

Florian Seidel

Franco Wolf

James Marino

Julia Pampus

Markus Spiekermann

Moritz Keppler

Stefan Ettl

Werner Jost

Contributors 34

+ 23 contributors

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