



Industry Collaboration in Open Source - an imperative to master the challenges of the future

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October 2014

Hardware Age



Game Changer



The Age of the Software Products



Wikipedia: Hauptburg Burghausen

Industry Challenges

innovation mostly driven by software

large scale software systems

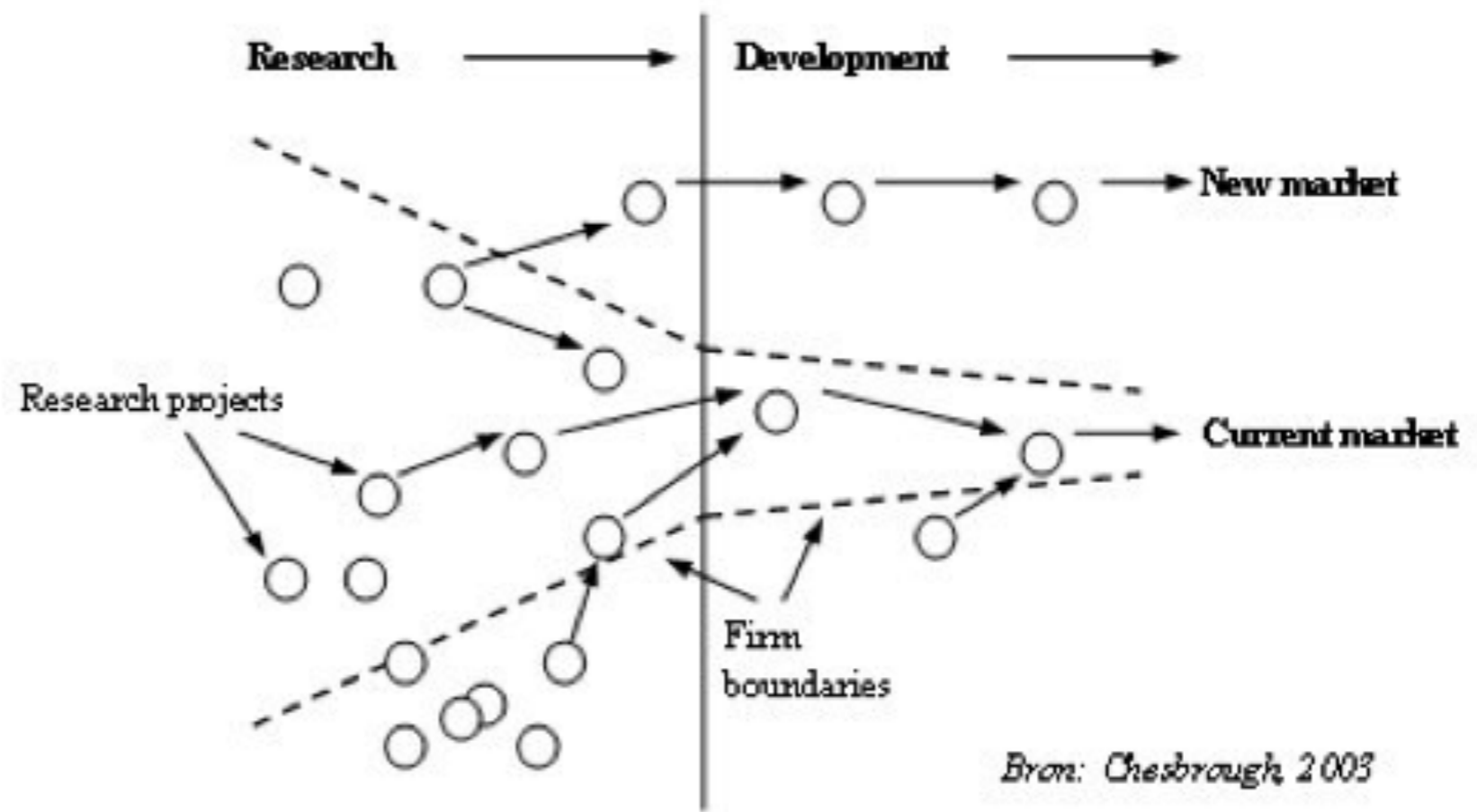
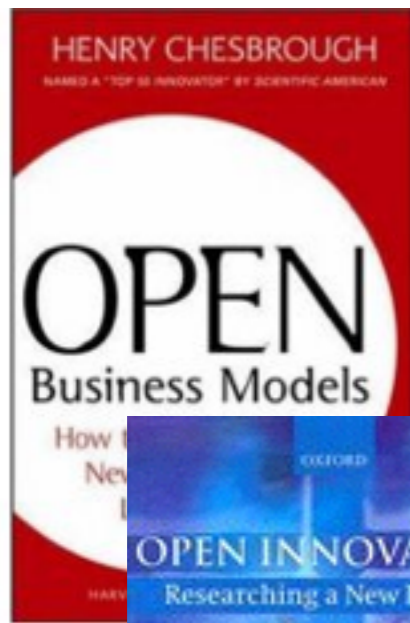
cross-company

cross-discipline

operational safety and security

longevity

The Open World



From: Chesbrough, 2003



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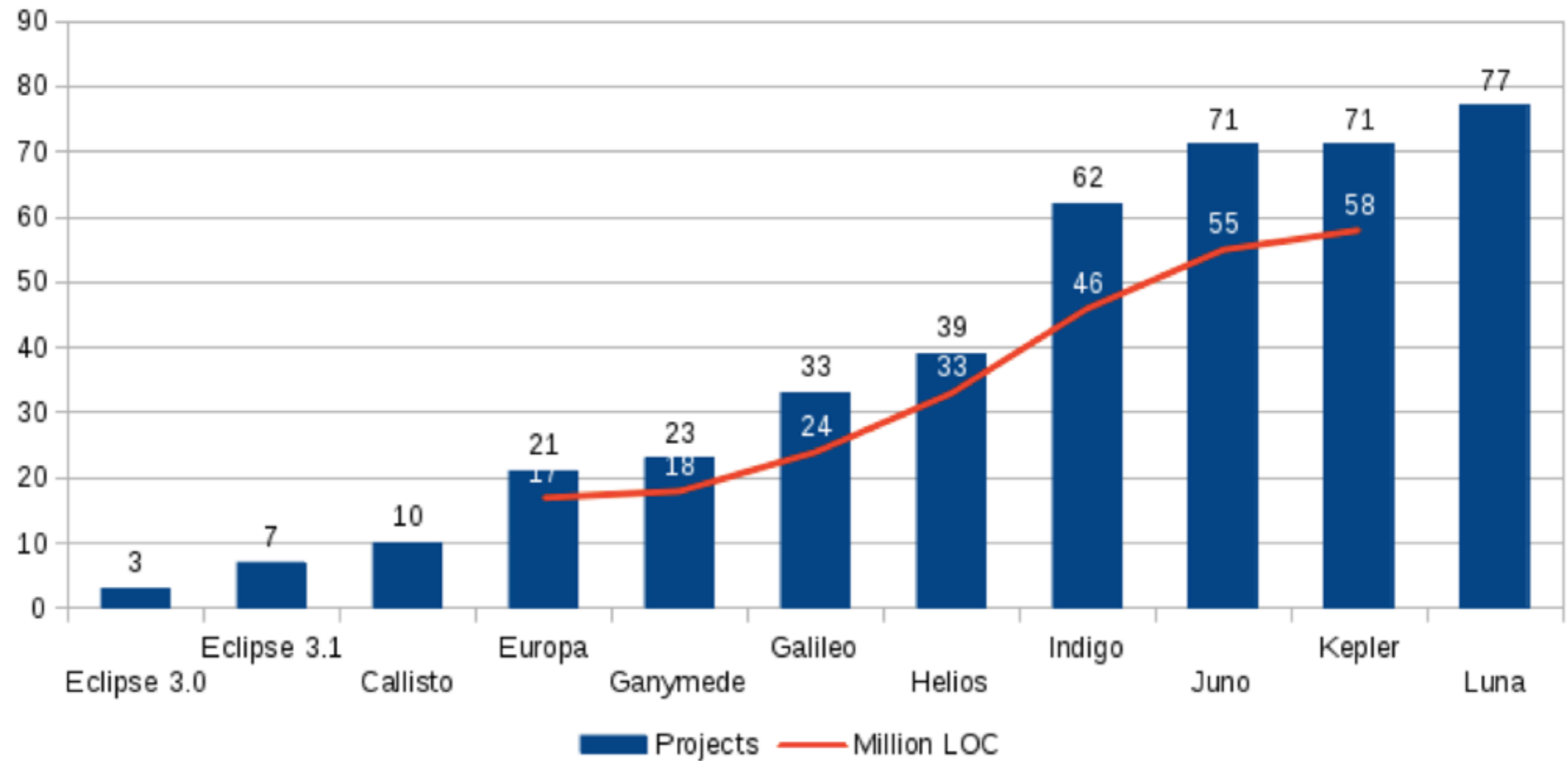
About the Eclipse Foundation

- [What is Eclipse and the Eclipse Foundation?](#)
- [Services of the Foundation](#)
 1. [IT Infrastructure](#)
 2. [Intellectual Property \(IP\) Management](#)
 3. [Development Community Support](#)
 4. [Ecosystem Development](#)
- [A Unique Model for Open Source Development](#)
- [What is the history of Eclipse?](#)

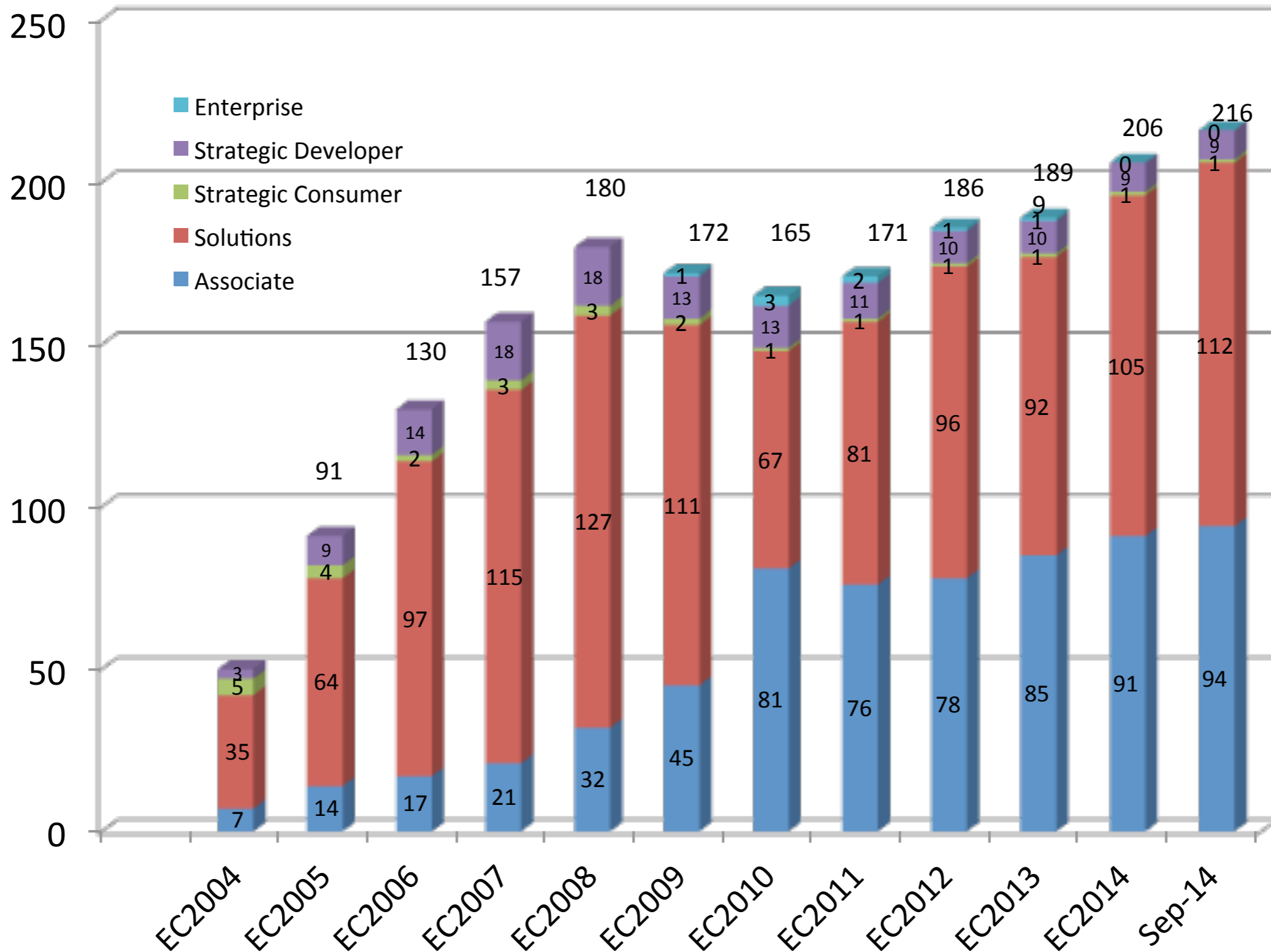
What is Eclipse and the Eclipse Foundation?

Eclipse is a community for individuals and organizations who wish to collaborate on commercially-friendly open source software. Its projects are focused on building an open development platform comprised of extensible frameworks, tools and runtimes for building, deploying and managing software across the lifecycle. The Eclipse Foundation is a not-for-profit, member supported corporation that hosts the **Eclipse projects** and helps cultivate both an open source community and an ecosystem of complementary products and services.

Predictability



Growth



Diversity



Eclipse

- Millions of users
- Thousands of products
- Thousand+ committers
- Hundreds of companies and projects
- twenty employees
- zero product managers



Our constraints



One example : AIRBUS A300

- Program began in 1972 and will stop in 2007
2007-1972 = 35 years...
- Support will last until 2050
2050-1972 = 78 years !!!

On board software development for very long lifecycle products

Case Study: Airbus

- **The software edition does not bring an added value corresponding to the required cost**
 - ▶ Licenses costs are expensive (not linked to the real value of the tool)
 - ▶ Maintenance costs are expensive, although there is finally no real guarantee
 - ▶ Evolution costs are prohibiting
 - ▶ Lack of continuity in front of very long lifecycle product
 - ▶ No mastering of the tools, their evolutions and the editor strategy by the users
- **The question is : Is there a new model for software tools that could respond to our constraints ?**
 - ▶ **Open source is a possible response**

From an Airbus / EADS Presentation



AIRBUS

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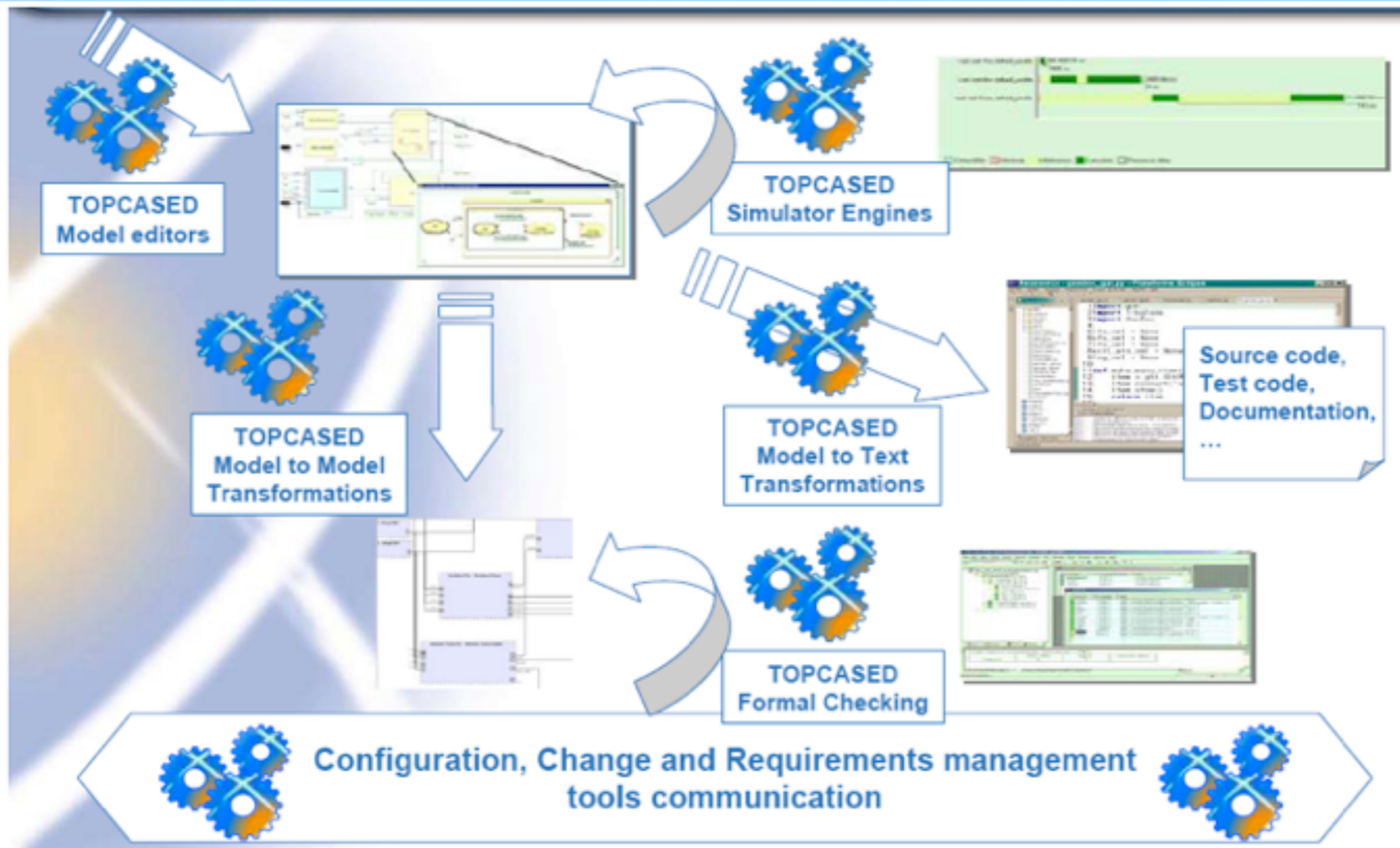
From an Airbus / EADS Presentation



AIRBUS



TOPCASED The Open-Source Toolkit for Critical Systems



TOPCASED Eco System

Industries



SMEs



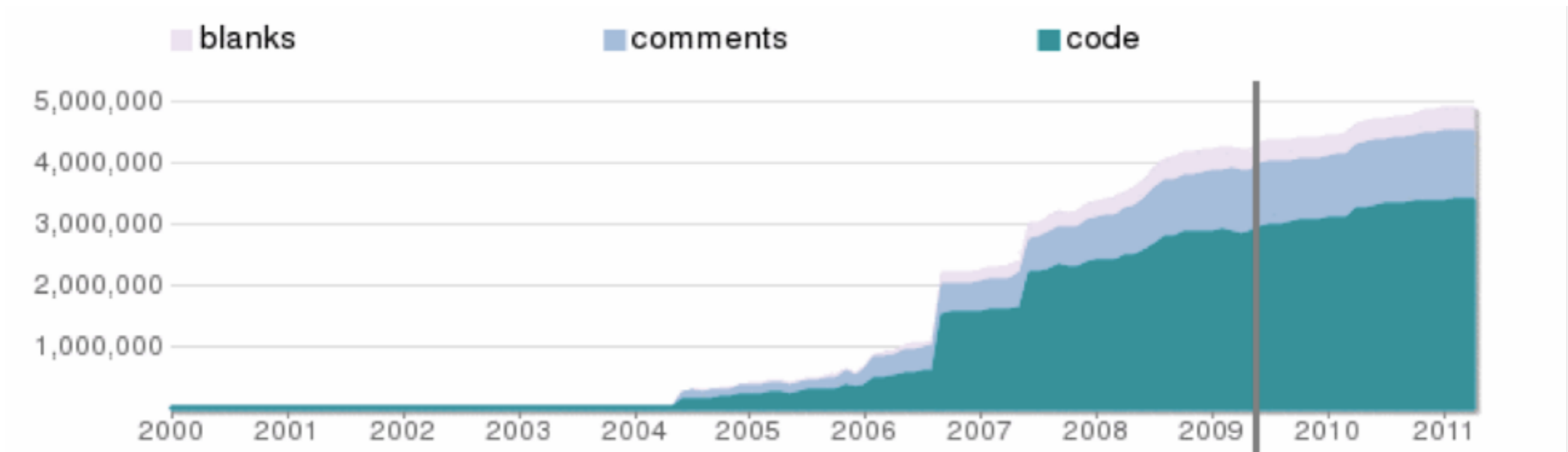
School/Universities



Laboratories

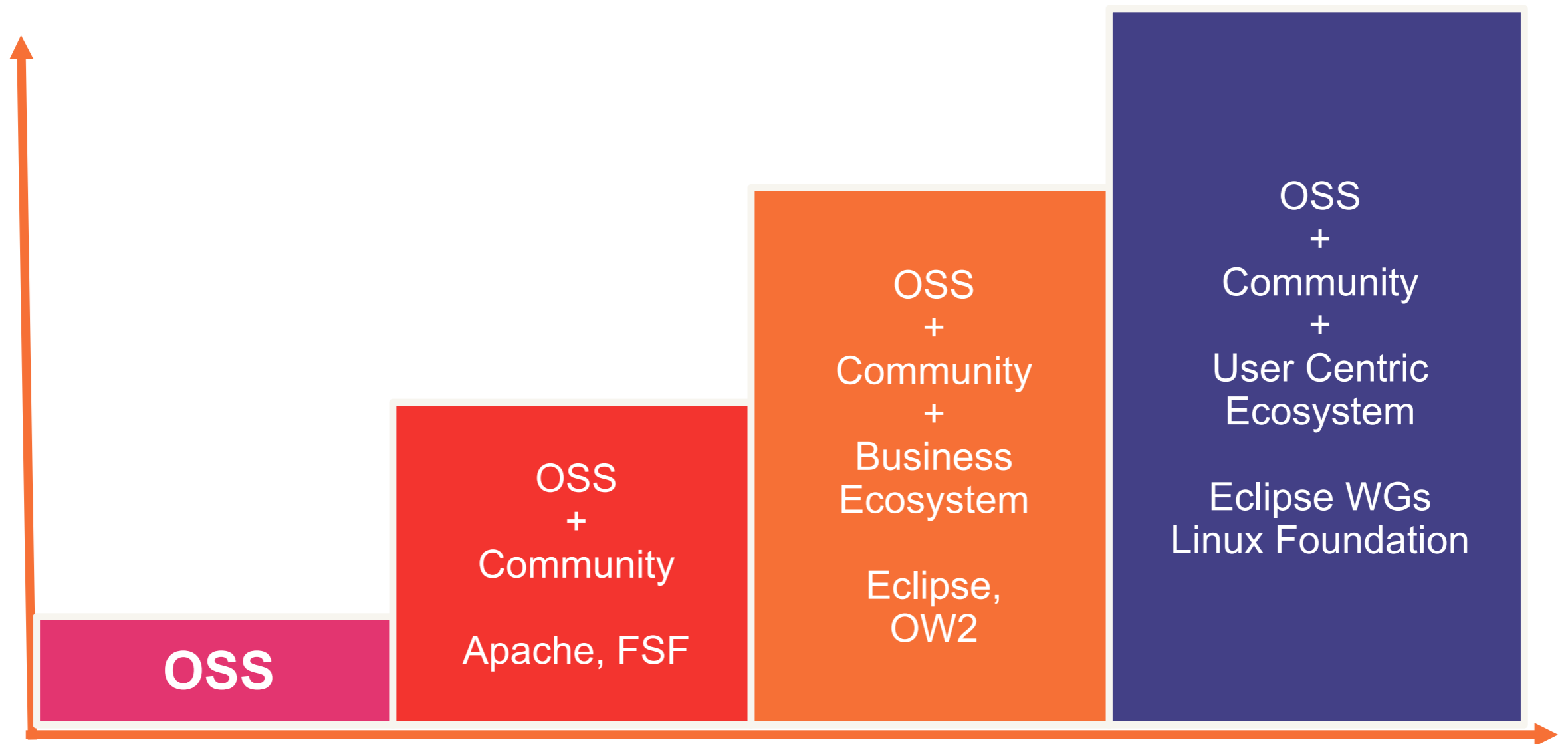


TopCased TTM



* main provider:
change of business

User-Driven Open Source Collaboration





Dürfen wir uns zivile Sicherheitssysteme mit Closed Source Software überhaupt noch leisten?

Denkansätze am Beispiel der ETCS-Migration bei der Eisenbahnsignaltechnik

Deutsche Bahn AG

Klaus-Rüdiger Hase

Technik, Systemverbund und Dienstleistungen

Braunschweig, 03.12.2009



Get your IVI products to market faster

Build your enhancements on GENIVI Alliance's core services platform and streamline your development process.

Why Become a GENIVI Member?

Media and Analysts

Current GENIVI Members

Photo Credits

About the Alliance

GENIVI® is a non-profit industry alliance committed to driving the broad adoption of an In-Vehicle Infotainment (IVI) open-source development platform.

The alliance aims to align requirements, deliver reference implementations, offer certification programs, and foster a vibrant open-source IVI community.

Our work will result in shortened development cycles, faster time-to market, and reduced costs for companies developing IVI equipment and software.

Featured Video

GENIVI executives discuss the future of GENIVI and how companies can help contribute to its success.

News and Views

04/21/2014

Openness breeds creativity
Automotive Engineer

02/24/2014

Industry standards tune up tomorrow's vehicles
Embedded Computing Design

01/17/2014

GENIVI Alliance Debates Collaboration at 2014 CES
Automotive World

12/13/2013

At CES, GENIVI Alliance Advises Automakers - Collaborate or Die
John Day's Automotive Electronics

[View All](#)

Press Releases

GENIVI® Open Source Projects

The GENIVI Alliance component development will be moving to all-new Alliance-sponsored public open-source community projects.

Informational Quick Links:

[Press Release](#)

[Frequently Asked Questions \(FAQ\)](#)

[Current Community Project Listing](#)

Compliance Program

The GENIVI compliance program provides a set of specifications for GENIVI member companies to measure their products and services. Those that meet the specifications may be registered as GENIVI compliant and listed on the GENIVI website. [Read more.](#)

Events in 2014

[GENIVI All Member Meeting](#)

Konsortiale Open-Source-Softwareentwicklung im Energiesektor

Veröffentlicht am 26. November 2013 von Peter Herdt

Der Ausbau der Energie- und Wassernetze, neue Steuerungskonzepte für eine verstärkte Einspeisung von erneuerbaren Energien (EEG) sowie erhöhte Anforderungen an die IT-Sicherheit, als Bestandteil der kritischen Infrastruktur, sind einige der Themen, welche die Netzbetreiber mit ihrer technisch orientierten IT in naher Zukunft meistern müssen.

Dabei ist spürbar, dass es immer komplexer wird, neue Anforderungen in eine über Jahrzehnte gewachsene Systemlandschaft zu integrieren und die historisch gewachsenen Grenzen zwischen den einzelnen strategischen IT-Systemen zunehmend zum Hindernis werden. Die Aufwände, Systemänderungen oder -erweiterungen in proprietären technisch orientierten IT-Systemen durchzuführen, sind durch die Abhängigkeit von wenigen Herstellern unangemessen hoch. Zeitnahes Erfüllen der Anforderungen von Energiewende und Regulierung zu adäquaten Kosten wird damit zunehmend zum Problem.



E-Mail

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- [Der Herzschlag von Open Source](#)

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Eclipse Working Groups



Plan. Measure. Share.

And simplify your
measured data management



The openMDM® community is going to be transformed into an
eclipse industry working group

Thursday, 10. 04. 2014

By spring 2014, an internal working group of the openMDM® community proposed the transformation of the recent community, which is based on the community platform provided by AUDI AG Ingolstadt, to an eclipse industry

Start the tour >

Test it yourself >

Register now!

Members

Create Terrabytes of Data



MEDAMAK

Messdatenmanagement Akustik



MDMFLV

Messdatenmanagement Fahrleistung und Verbrauch



MDMZEUS

Messdatenmanagement Betriebsfestigkeit



MDMHVB

Erprobung unterschiedlicher Energie- und Speichersysteme



MDMFWE

Ablage und Verwaltung von Fahrzeugmessungen



MDMCOKO

Ablage und Verwaltung von INKA-Testdaten im Korrosionsschutz



MDM-FASIS

Fahrerassistenzsysteme und Integrale Sicherheit



MDMCMP

Messdatenmanagement Komponenten



ADDISCO

Messdatenmanagement Betriebsstoffe



MDMHKL

Messdatenmanagement Heiz - und Kühlleistung



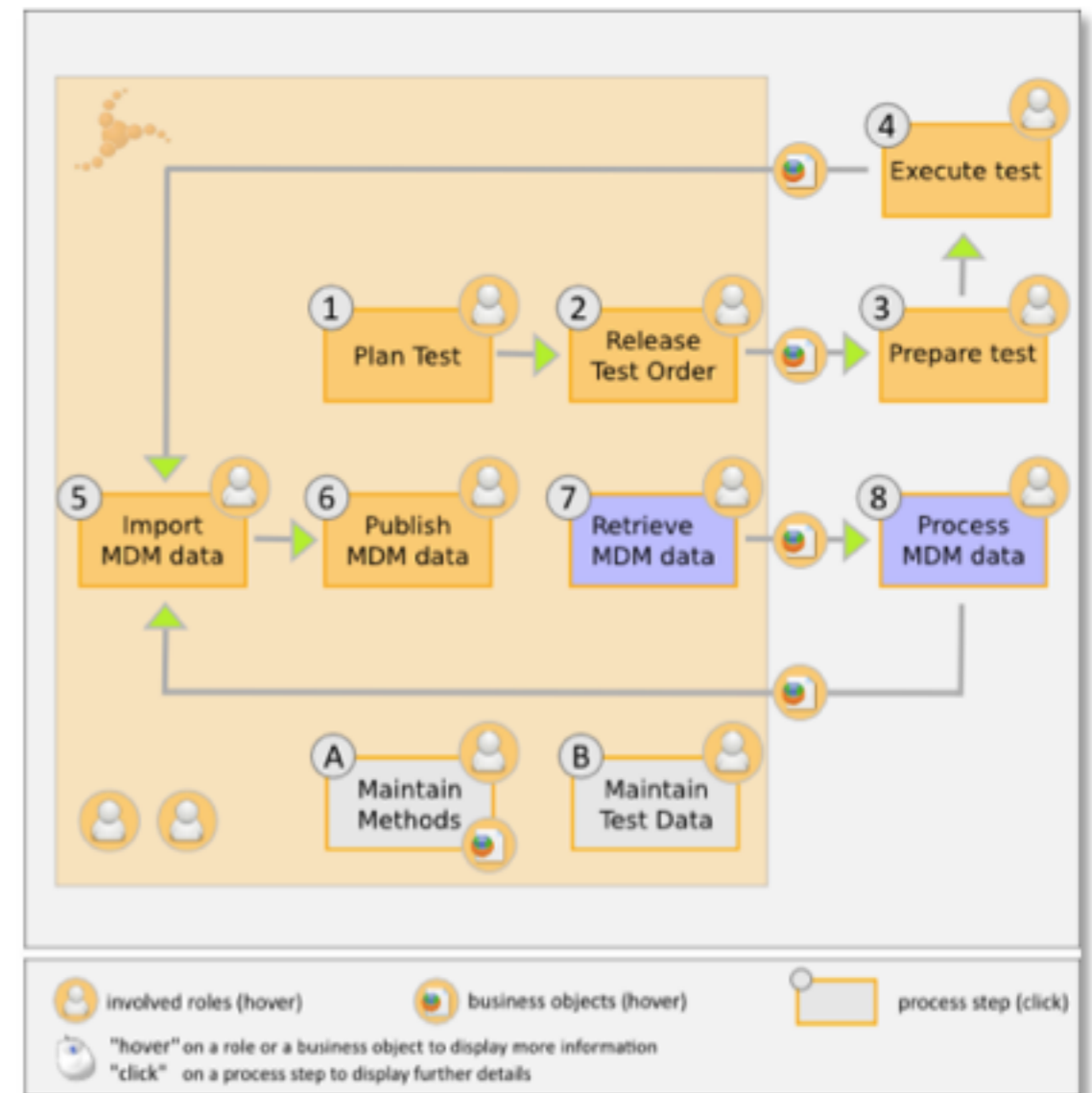
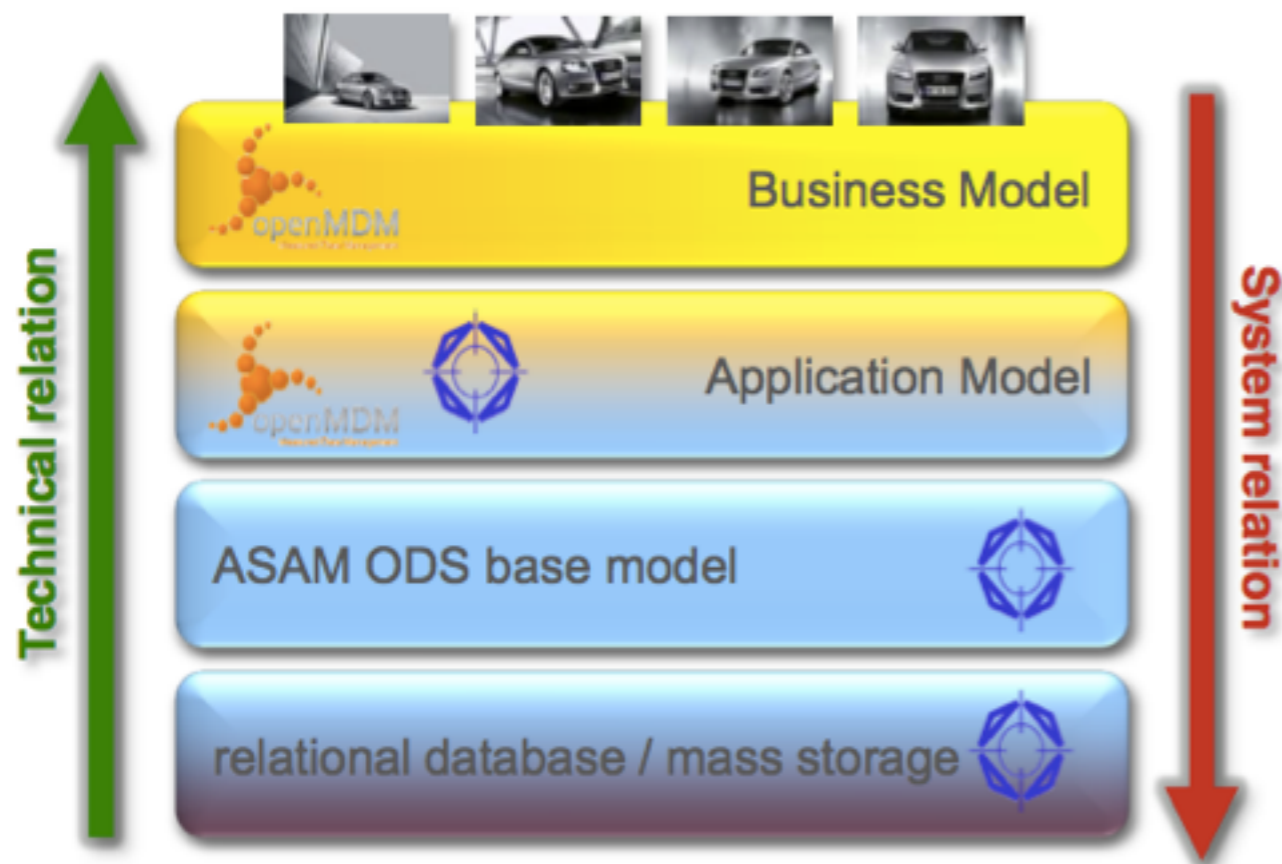
MDMDALA

AUDI AG currently runs eleven productive measuring data management systems based on openMDM®.

Towards a Industry Standard Implementation

openMDM® 4 – Current Status

Technology: Development of ASAM ODS-based Systems

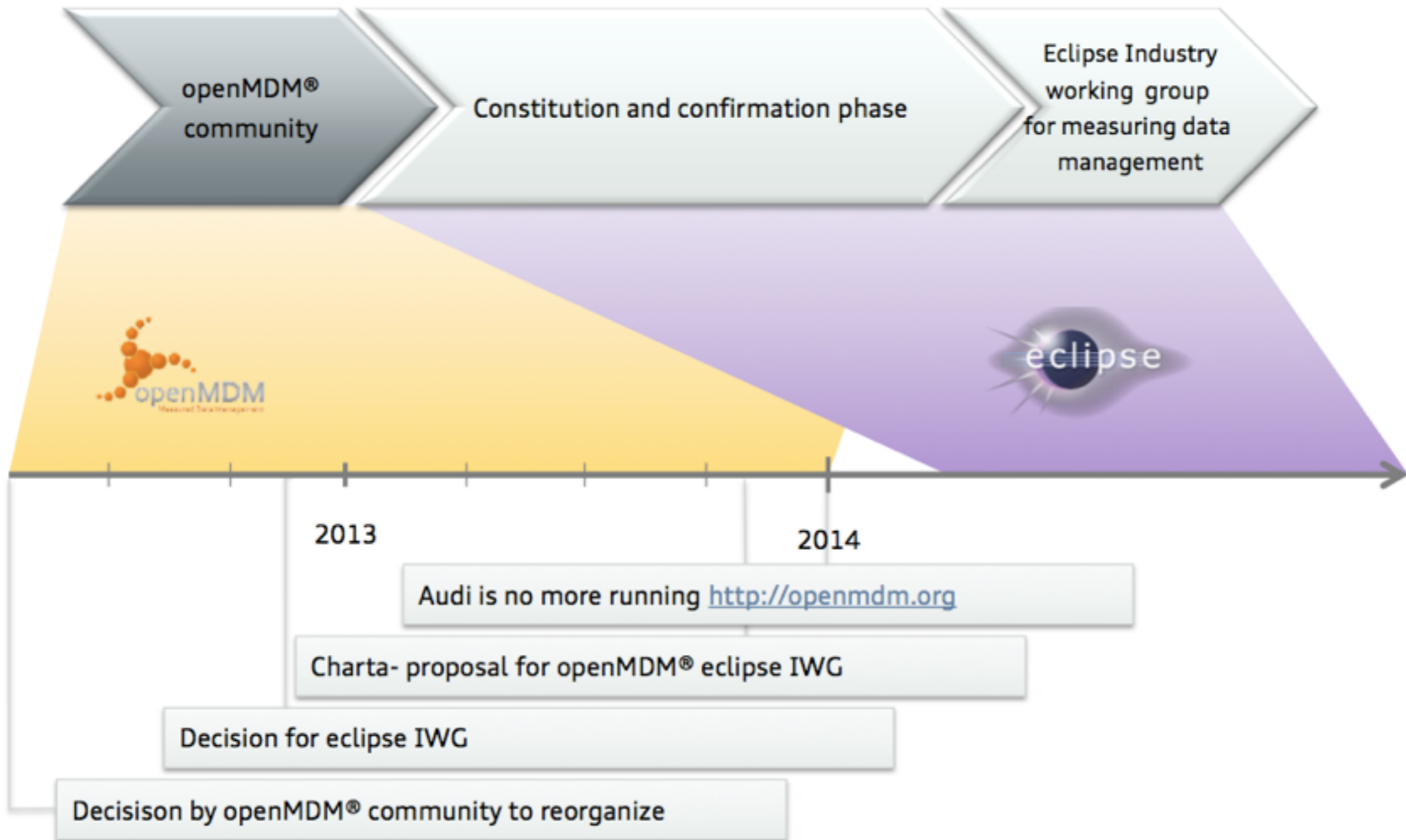


State of openMDM June 2013

openMDM® 4 – Current Status

- ✓ ASAM ODS is established by openMDM® as open, manufacturer independent integration platform
- ✓ openMDM® supports processes at company level and embeds measurement data management in company IT
- ✓ Members of openMDM® community exchange measurement data management software and methods and thus profit mutually
- ☹ No techniques for steering, prioritizing and evenly distributed efforts
- ☹ Parallel development, divergence and extensive consolidation of branches
- ☹ Requirements are not coordinated, reusability of exchanged components is limited
- ☹ Exchanged software can only be developed further by the owner. Dependency and sluggishness

Transformation: The Eclipse openMDM WG founded



The Secret Sauce

- Licensing model for sharing co-developed innovation
- Governance model to ensure level playing field for all participants
- IP management to maximize commercialization opportunities
- Highly modular technical architecture for the platform



A8 connect

A8L 3.0 T quattro







Thank you!