

# OPEES

# @

solutions  
**LiN**UX  
**O**pen **S**ource





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Leader OPEES

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*Model Driven Company*

# About beo

*Model Driven Company*

Obeo is honored to celebrate Eclipse Helios  
We are proud to have contributed!

Obeo & Eclipse success story:

- ◆ Eclipse Strategic Member
- ◆ leader of 5 projects
- ◆ 14 committers
- ◆ 1 400 000 lines of code contributed

  
**STRATEGIC  
MEMBERS**

## Eclipse Helios



Model  
Design  
Generate



Understand  
Meter  
Migrate

# OPEES

**Open Platform for the Engineering  
of (Critical) Embedded Systems**

Main Objective:

**Ensure the long term availability of  
Open Source tools for  
Critical systems**

# Long term availability...

## AIRBUS A300 Life Cycle

Program began in 1972, production stopped in 2007

**2007-1972 = 35 years...**

Support will last until 2050

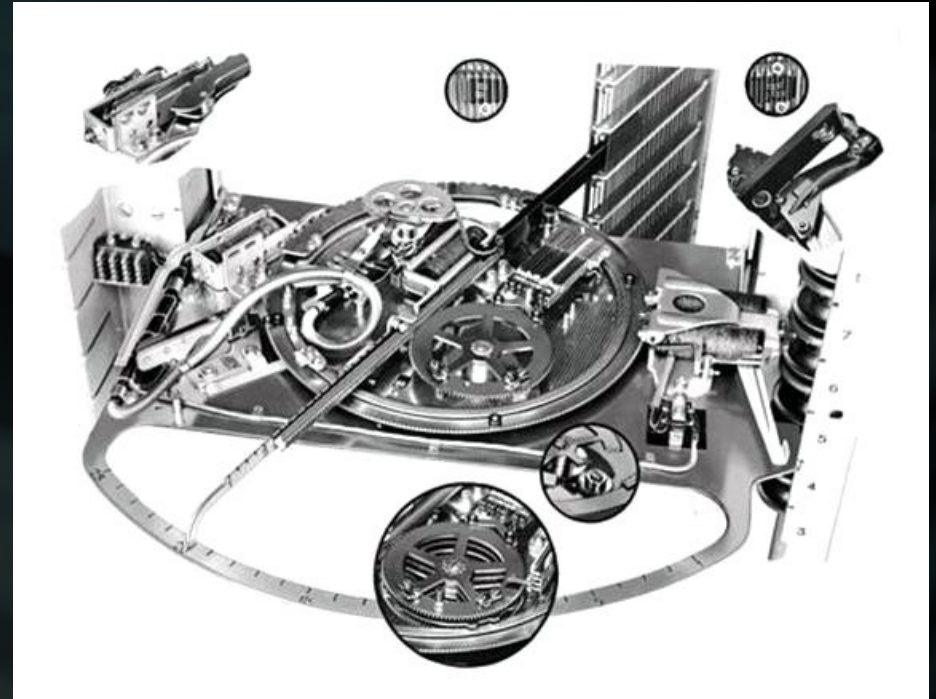
**2050-1972 = 78 years !!**

**On board software development  
for very long lifecycle products**



# Long term availability...

- 500 point selector switch first release in 1920
- Was still used in the 1980s



Life Cycle is usually 30-40 years

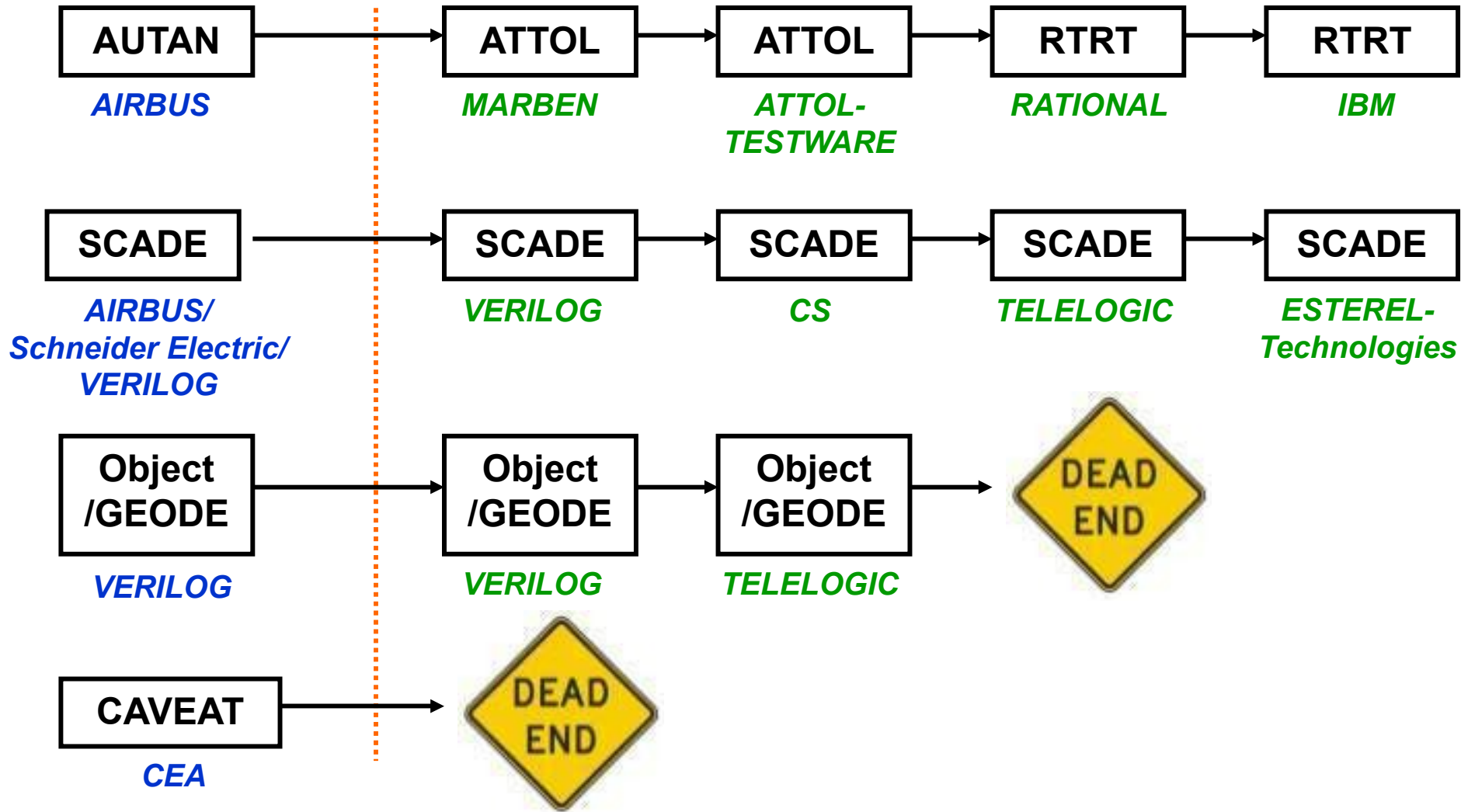


ERICSSON

# Long Term Availability for What?

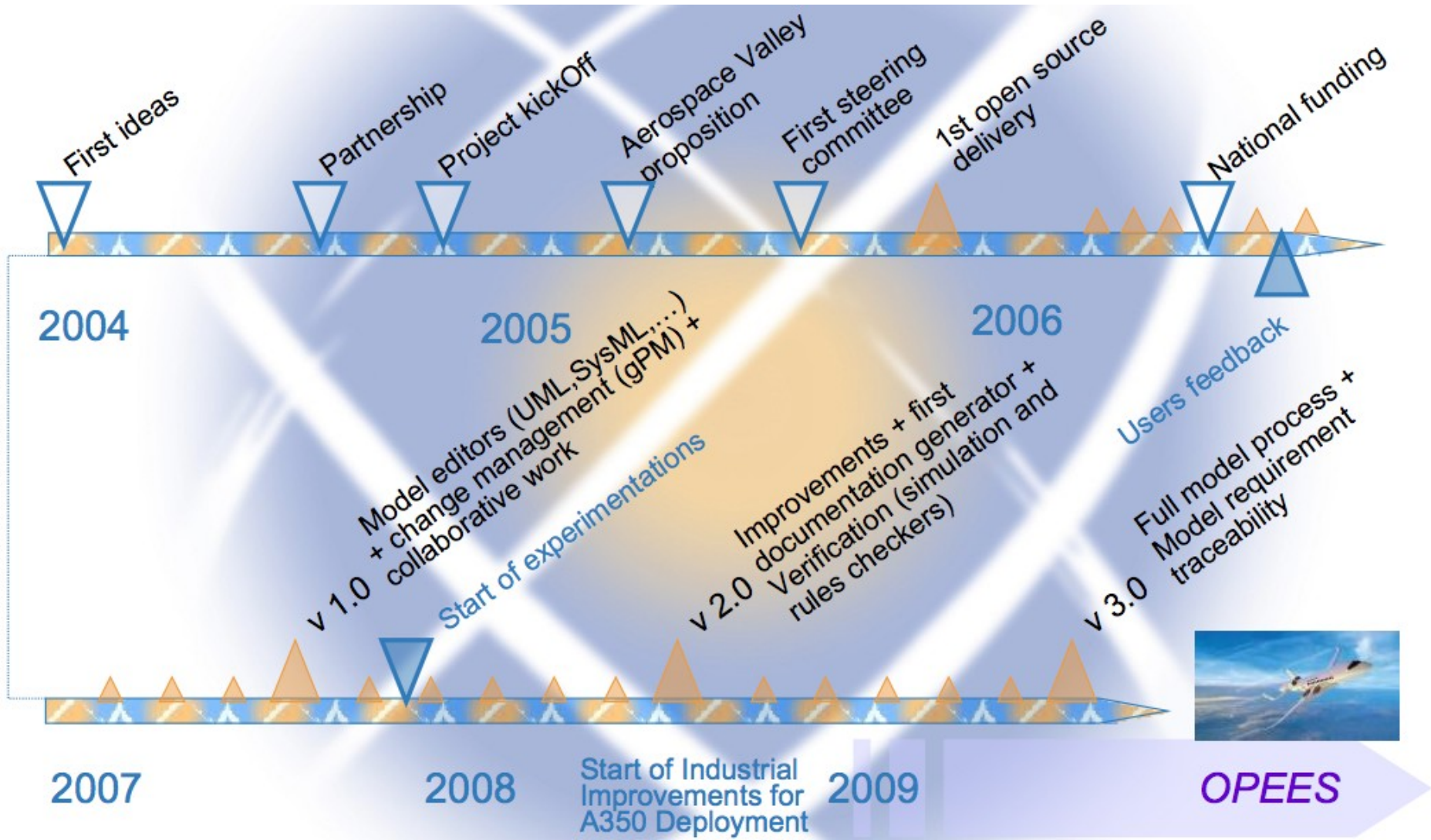
Industry /  
research centres

Commercial world



# Tooling for critical systems

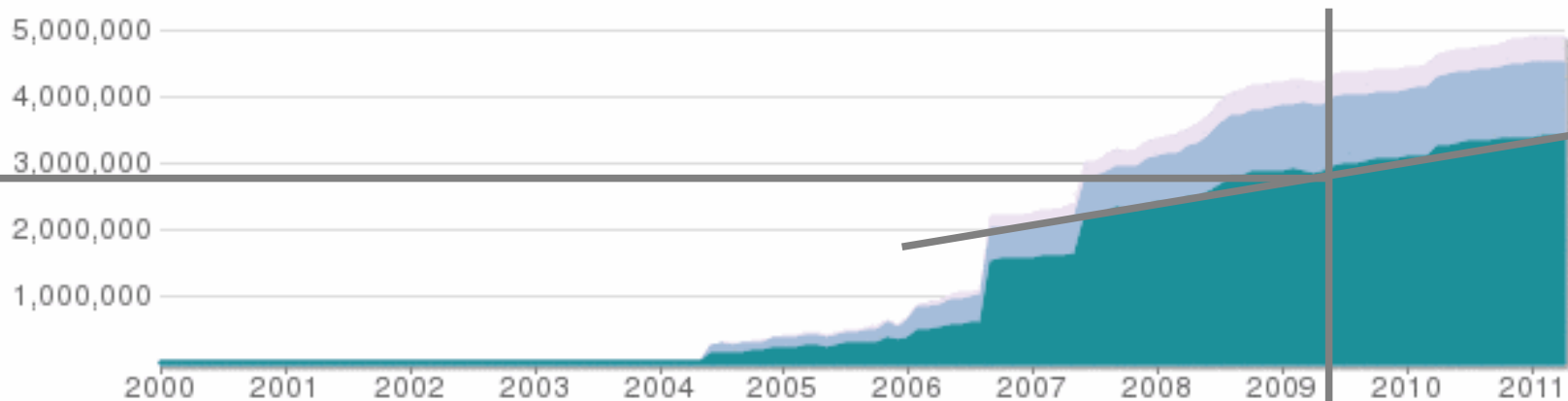
## The Topcased example



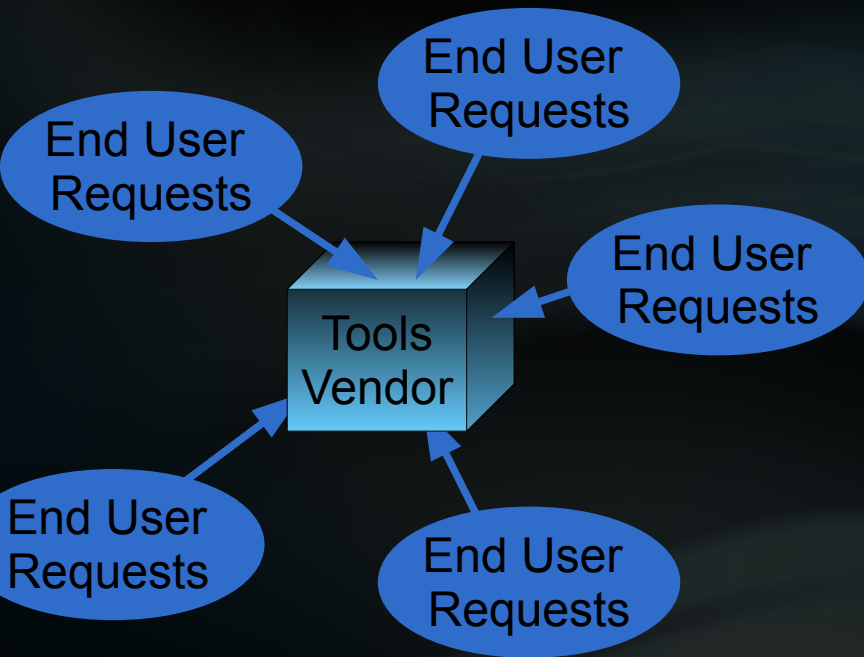
# Long Term Availability for Topcased

- After its acquisition in 2009, Anyware, the main contributor stopped its activities around Topcased
- Thanks to the Open Source approach
  - The code base has not been lost due to IP (nearly 3M LoC, line A)
  - The ecosystem was strong enough to find other skilled contributors (no change in the development rate, line B)

blanks      comments      code



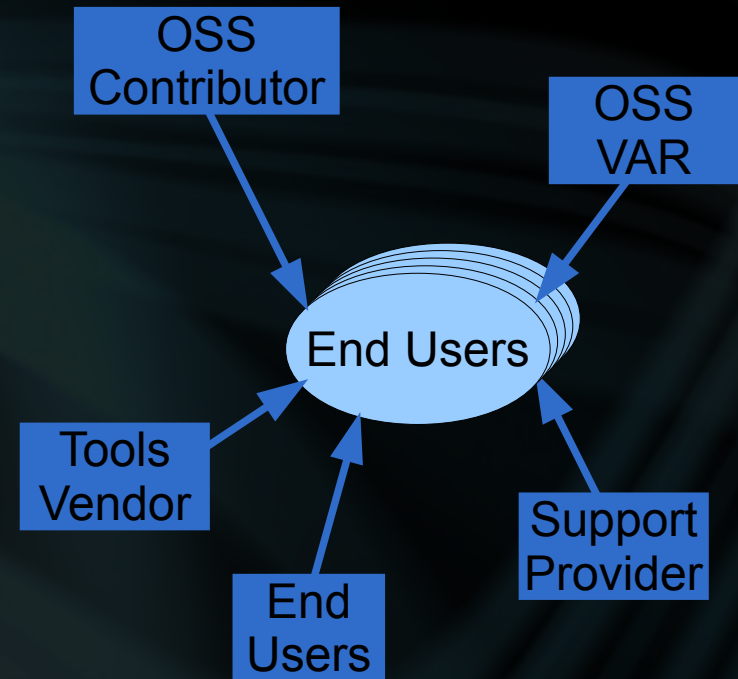
# Focus on Industrial User Strategy



**Users adapt their process to the tools**  
Less than 20% Features Requests accepted



Usual Tools Vendor ecosystem



Nearly 80% Features Requests implemented as generic features  
20% implemented as end user extensions



OPEES Target ecosystem

# OSS as an enabler

## OSS advantages

- Manage IP issues
- Open code and open formats enable
  - Migration
  - Interoperability
  - Extensibility
- Lowers vendor lock-in
- Share common platforms between tools vendors and industrial users

### *OSS Freedoms\**

#### *Freedom 0*

*to run the program, for any purpose*

#### *Freedom 1*

*to study how the program works, and change it to make it do what you wish*

#### *Freedom 2*

*to redistribute copies*

#### *Freedom 3*

*to distribute copies of your modified versions to others*

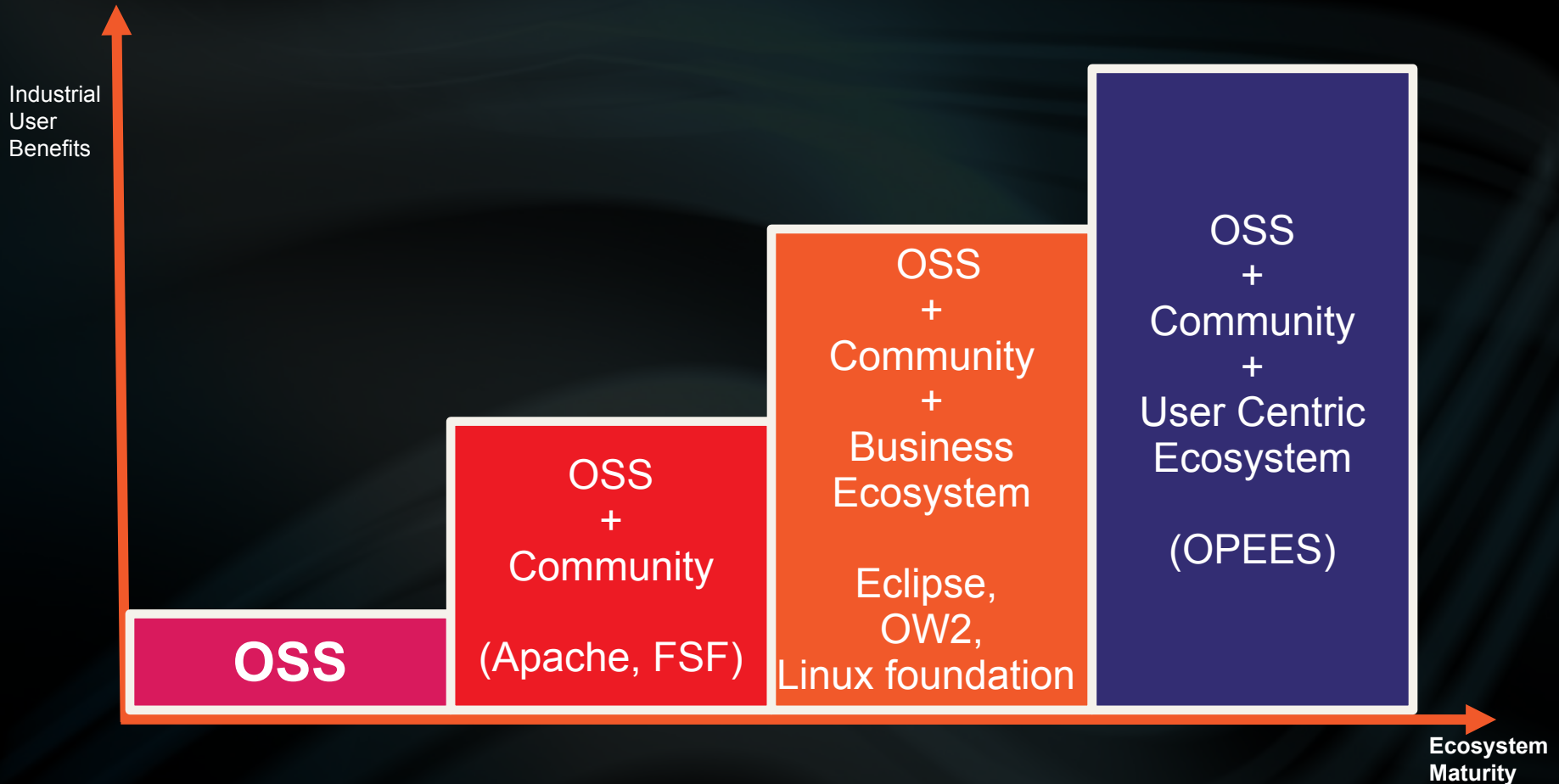
(\* ) As defined by the Free Software Foundation

# OSS is not enough!

## Additional needs

- Community management
- Ecosystem development
  - Industrial User centric
  - Access to skilled professionals
  - Training, Support, Maintenance
  - Processes to assess tool maturity
- Very Long Term Support

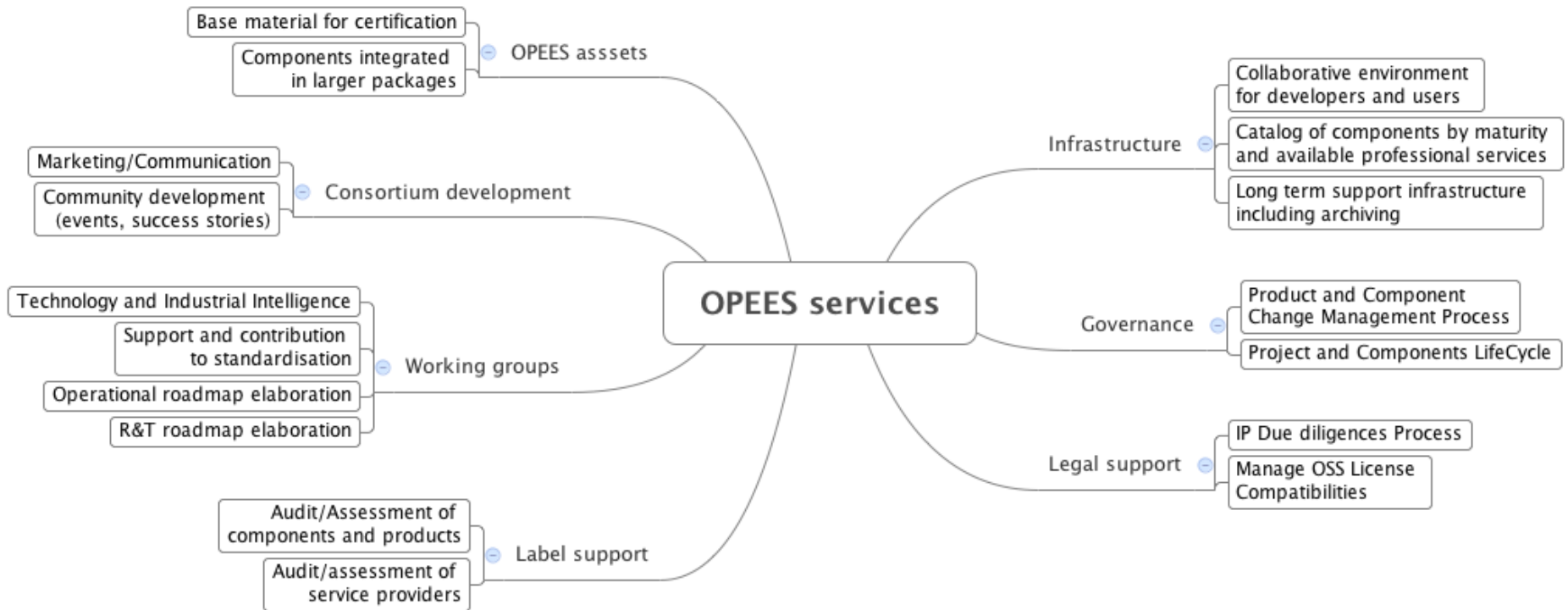
# Maturity of OSS ecosystems



# OPEES in a Nutshell

- Missions
  - Ensure long-term availability of critical / embedded systems engineering technologies
  - Secure industry competitiveness and development
- Towards a federation of Industrial Users and Service Providers
  - Build a sustainable ecosystem around OPEES technologies
  - Avoid the creation of one ecosystem per industrial user
- OPEES openly federates some services that were provided by Tools Vendor with lock-in

# OPEES added value



# Comparing Eclipse and OPEES

## Implemented in Eclipse

- OSS license
- OSS governance
- Development process
- Collaboration infrastructure
- Integrated releases
- Meritocracy
- Project Management Committees
- IP Management
- Long Term Support

## To be implemented in OPEES

- Maturity assessment
- Industry oriented governance
- Labels
  - regular assessment
  - and formal evaluation
- Certification Process Enablement
  - TopCased Quality Kit
  - Change Control Board
- Very Long Term Support

# OPEES ITEA project 2009-2012

## 35 members from 5 European countries

AdaCore  
The QVAT Pro Company

beo



INRIA

MBDA  
MISSILE SYSTEMS

cnes

AIRBUS

Technologies  
ALYOTECH

DASSAULT  
AVIATION

IRST  
Institut de Recherche en Informatique de Toulouse

EADS  
ASTRIUM

Atos  
Origin

LINAGORA

CS

THALES

Xipp  
innovation people and processes

KATHOLIEKE UNIVERSITEIT  
LEUVEN

BARCO  
Visibly yours

UNIVERSIDAD  
POLITECNICA  
DE VALENCIA

ONERA  
THE FRENCH AEROSPACE LAB

imovalia  
ASSOCIATION

indra

UNIVERSITY OF  
SKÖVDE

ceal list

COMBITECH

IKT NORGE

ESI  
European Software Institute  
tecnalia

SQS  
SOFTWARE QUALITY SYSTEMS

ERICSSON

spaceapplications

ITEA 2

# Next steps

- Implement the OPEES legal entity
  - Sustainable after the end of the ITEA project
- Grow the community
  - Approach applies to other domains like
    - Railway
    - Automotive
    - Nuclear

Join the initiative!

# Thank you

solutions  
**LiN**UX  
**O**pen **S**ource

