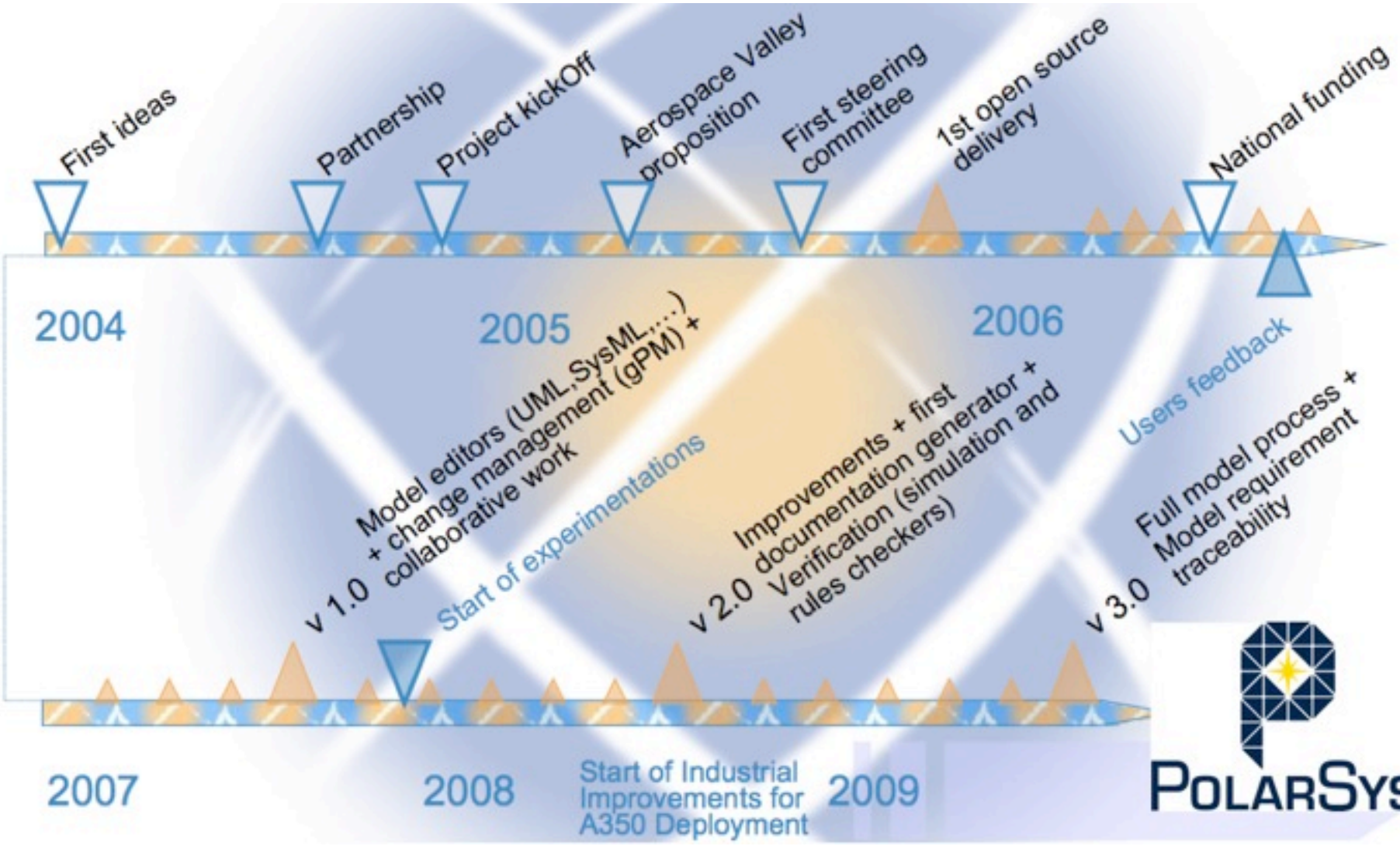
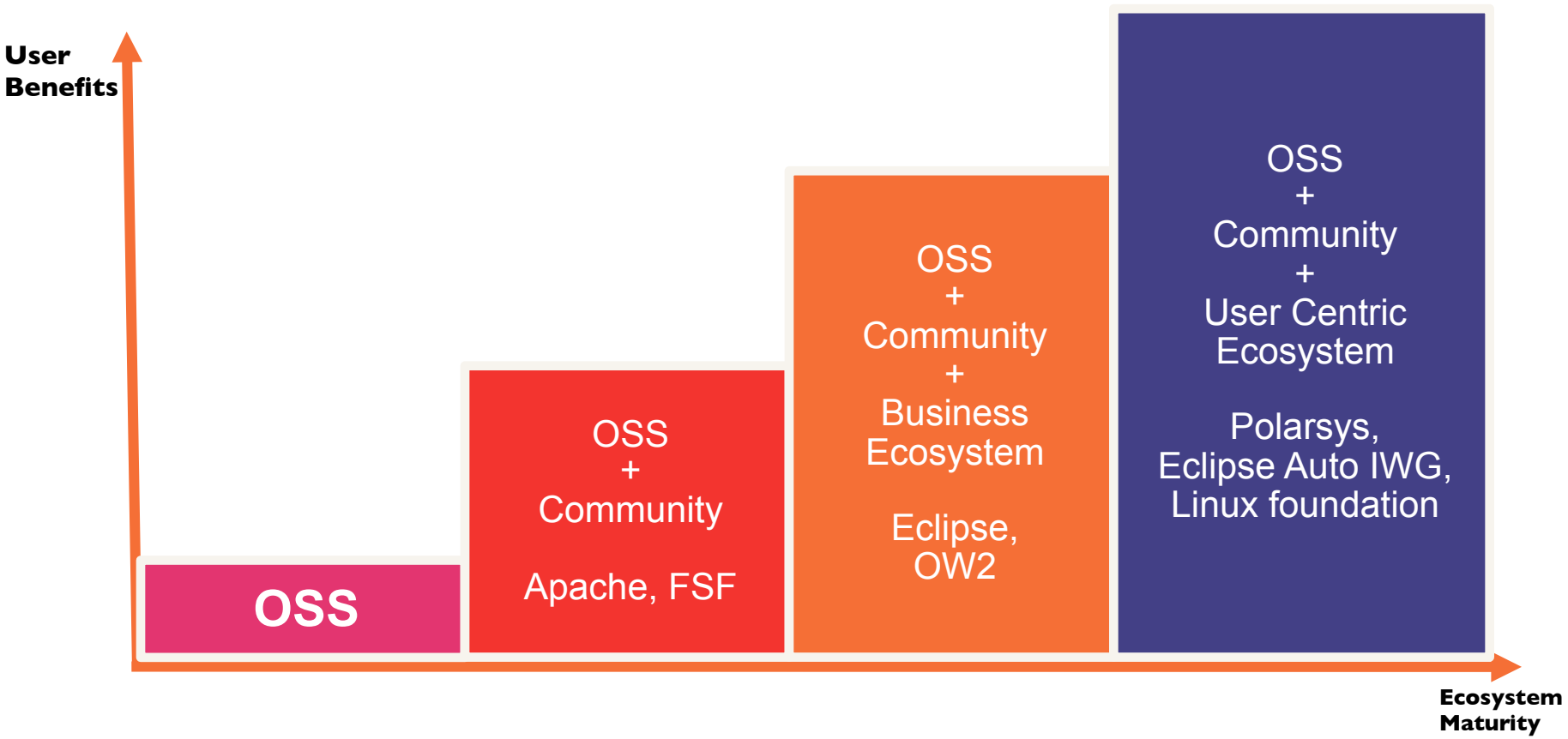
Open source tools for the development of embedded systems

Maturity and innovation for open source tools for the engineering of embedded systems

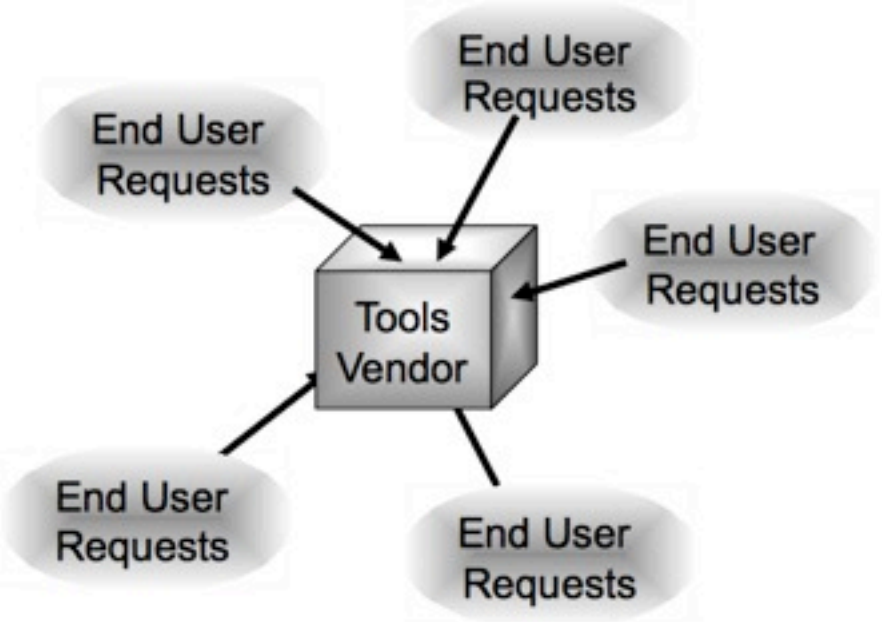
A Bit of History



Super Communities

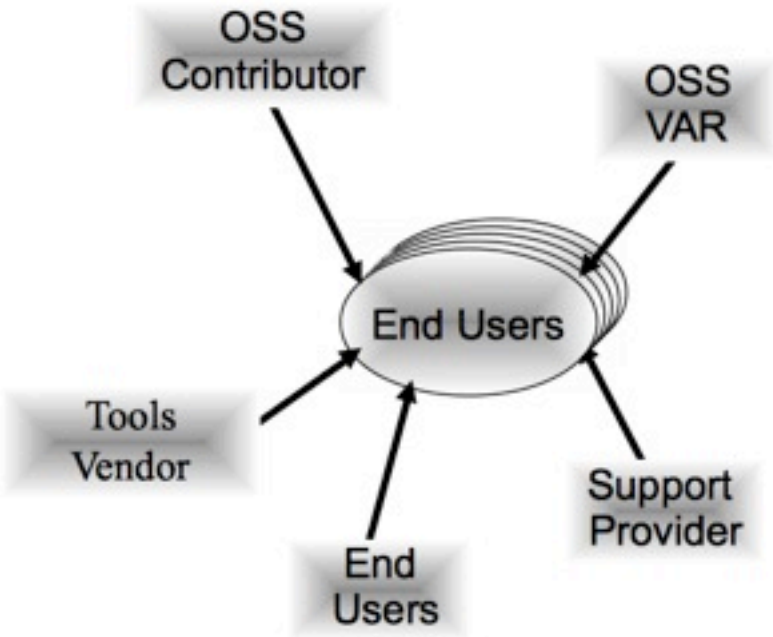


Switching to an Industrial User Strategy



Users need to adapt to the tools
Typically less than 20% Features Requests accepted

Usual Tools Vendor ecosystem



Users get the right tools for their needs
At least **80%** Features Requests implemented as generic features
20% implemented as user extensions

Polarsys Target ecosystem

PolarSys

Open Source tools for the development of embedded systems

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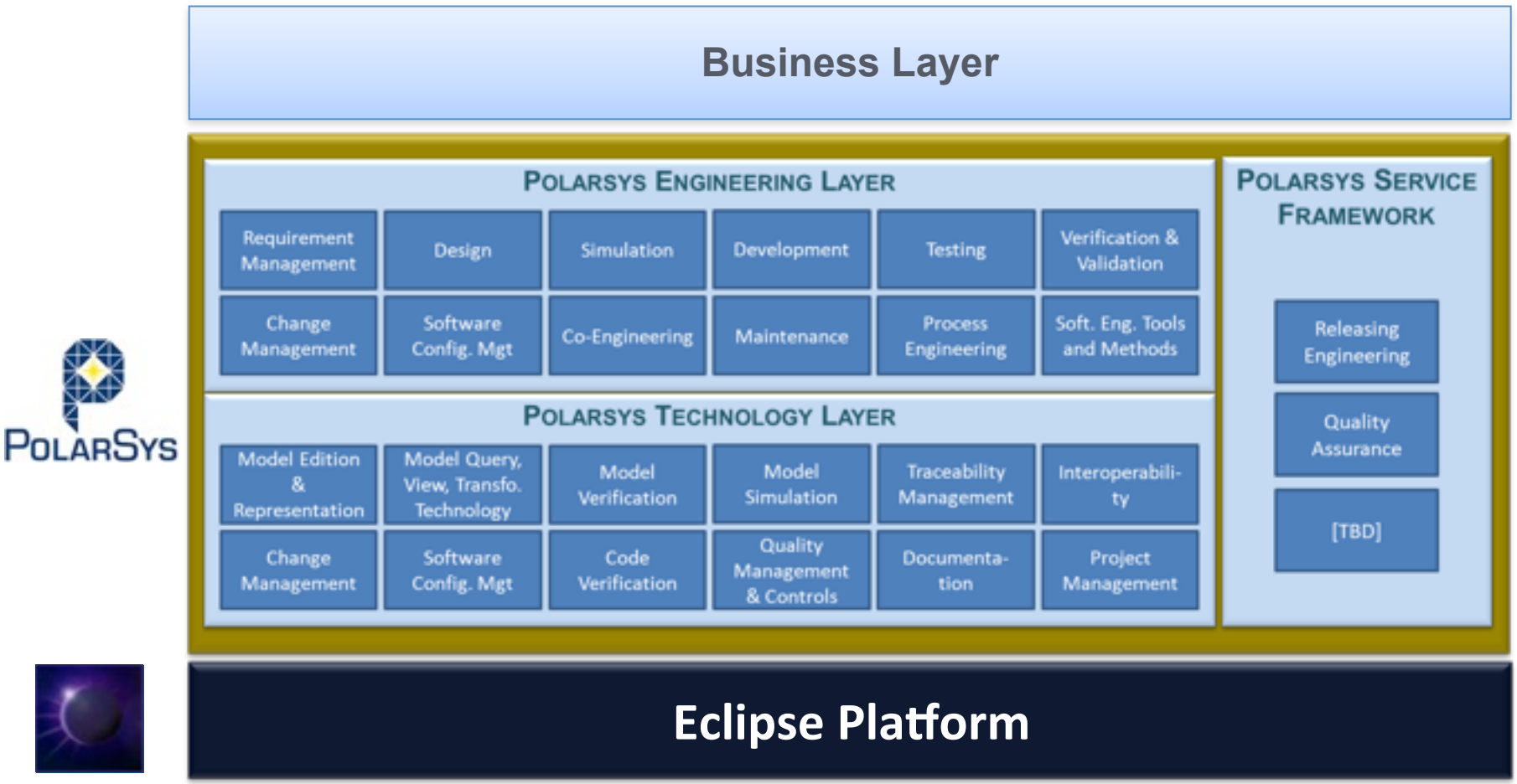
An Industry Working Group focusing on Open Source tools for the development of Embedded Systems

- Open Innovation to create better methods and tools
- Computer Assistance and Automation
- Qualification toolkits to ease tools use in various certification contexts
- Very Long Term Support – up to 10 and 75 years
- Interoperability based on Open Standards

Polarsys Domains – Big Picture

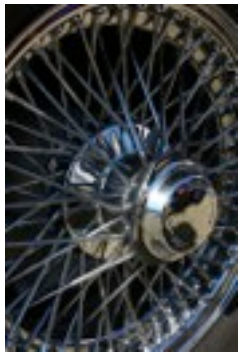


Leveraging the Eclipse Foundation Services

- *Forge/Collaboration environment*
- *IP Management*
  - *EPL*
  - *LGPL*
  - *BSD like*
- **Branding process***
  - Company commitment
- Users drive **Project Planning Commitees***
  - Complements PMC
- **Maturity Assessment***
- **Long Term Support***
  - Vendor neutral approach
- *Common CBI with LTS WG*
- Extend up to **VLTS***
- **Share qualification kits***

* Denotes Polarsys specific services. Other services are Eclipse standard services

Polarsys Projects



- **We won't reinvent the wheel**
  - Eclipse Modeling
  - CDT / Linux Tools
  - Links to non Eclipse projects like GCC
- **But we need also special wheels like**
  - Project qualification kits
  - Code generators for Embedded C
- **Under potentially different OSS licenses**
  - Apache/BSD/MIT/…
  - LGPL

Project Planning Committees

- Collaboration between Project committers
  - **PMC**
- And **Users**
  - Collaboration between users
  - State requirements and needs
  - Priorities
- First PPC being established for Polarsys IDE 1.0

Polarsys and R&D

- Polarsys also promotes innovation
  - Work with R&D projects as a privileged dissemination channel
  - Help match innovations with user needs and service providers that industrialize research prototypes
  - A good mean to openly innovate in Open Source with a focus on System Engineering

R&D projects and Polarsys

- See http://polarsys.org/research-projects
- Example projects include:
  - CHESS
  - NextGenRE
  - FoReVer
  - Project P

Continuous Innovation

- See http://polarsys.org/innovations-improvements
- In 2013, the following projects are sponsored or developed by PolarSys members:
  - Improvements to EMF Compare including better merge UI, better integration with Papyrus and better integration with Git.
  - Improvements to the CDT and Debugging including Debugging multiple processes within one debug session in collaboration with the tools infrastructure working group of the multicore association.
  - Improvements to Papyrus to enable Real-Time application Design and Implementation.
  - Improvements to Arcon and migration of the project to Eclipse.org

Polarsys Members

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Thank you!