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TANGO Ecosystem

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What is an ecosystem ?

"***The whole system,… including not only the organism-complex, but also the whole complex of physical factors forming what we call the environment***" (Arthur Tansley)

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LAKE ECOSYSTEM

Printed by the Department of Natural Resources,
Wildlife Resources Division, Aquatic Education Program.

Guys & Dolls Couples Tournaments

SPORT FISH RESTORATION

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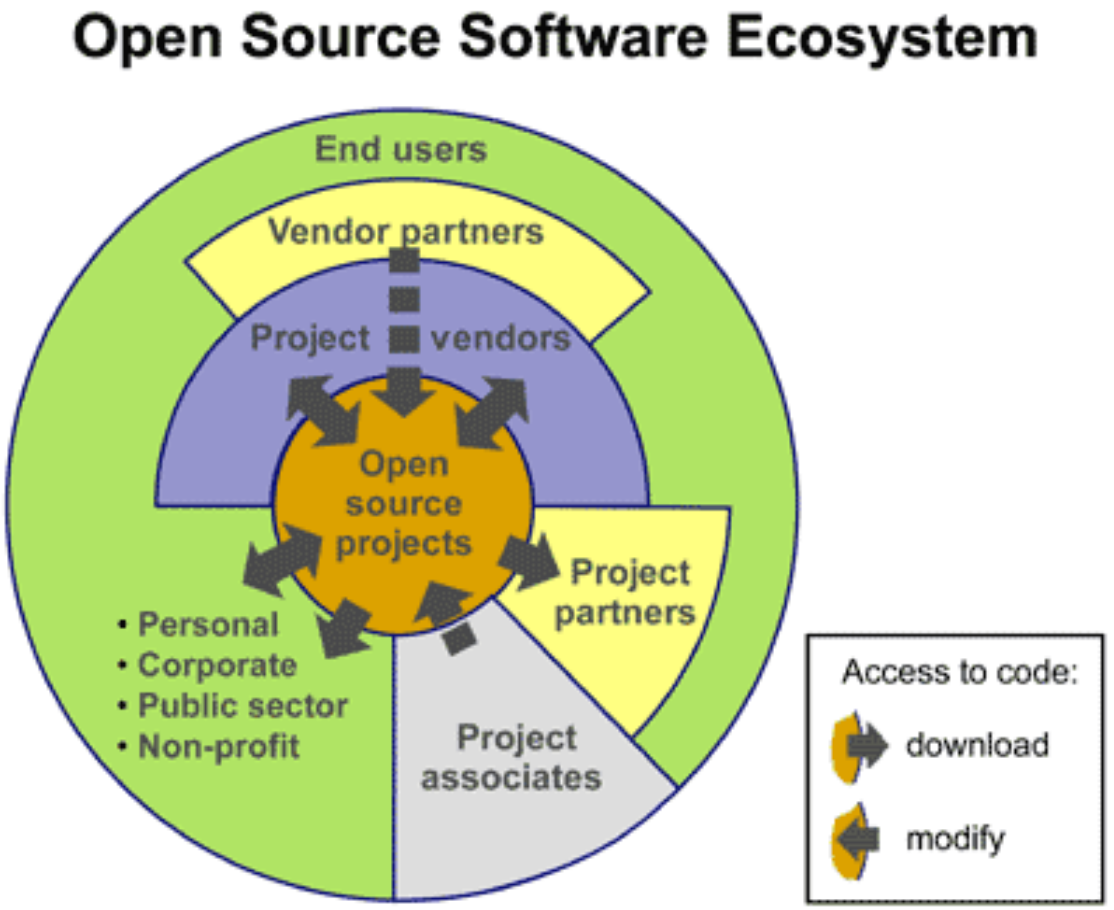
in an ecosystem …

The **SUM** is **greater** than the **PARTS**

Software Ecosystems



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TANGO Parts

- **Developers**
- Core
- Tools
- GUIs
- Bindings
- Archive database
- Web
- Mobile
- Device Servers
- Repositories
- Documentation
- Service providers
- Consortium
- Users

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Core

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Core

- **Definition**: the TANGO core is made up of libraries, tools and applications which allow device servers and clients to be written in C++, Java or Python and deployed and tested
- **Goals**: provide a high performance, network layer hidden, database support, control system, packaged for Debian, Redhat + Windows
- **Latest developments**: Java servers, and Python lightweight objects, V9, pipes for mixed data,
- **In the future**: replace CORBA with ZMQ completely

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Tools

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Tools

- **List**: Code generator, testing, monitoring, deployment, ipython console, database browser and archiver tools
- **Goals**: Make developing device servers and testing them easy, provide common control system services
- **Latest developments**: Major version of code generator (pogo), new data archiver
- **In the future**: generic web client

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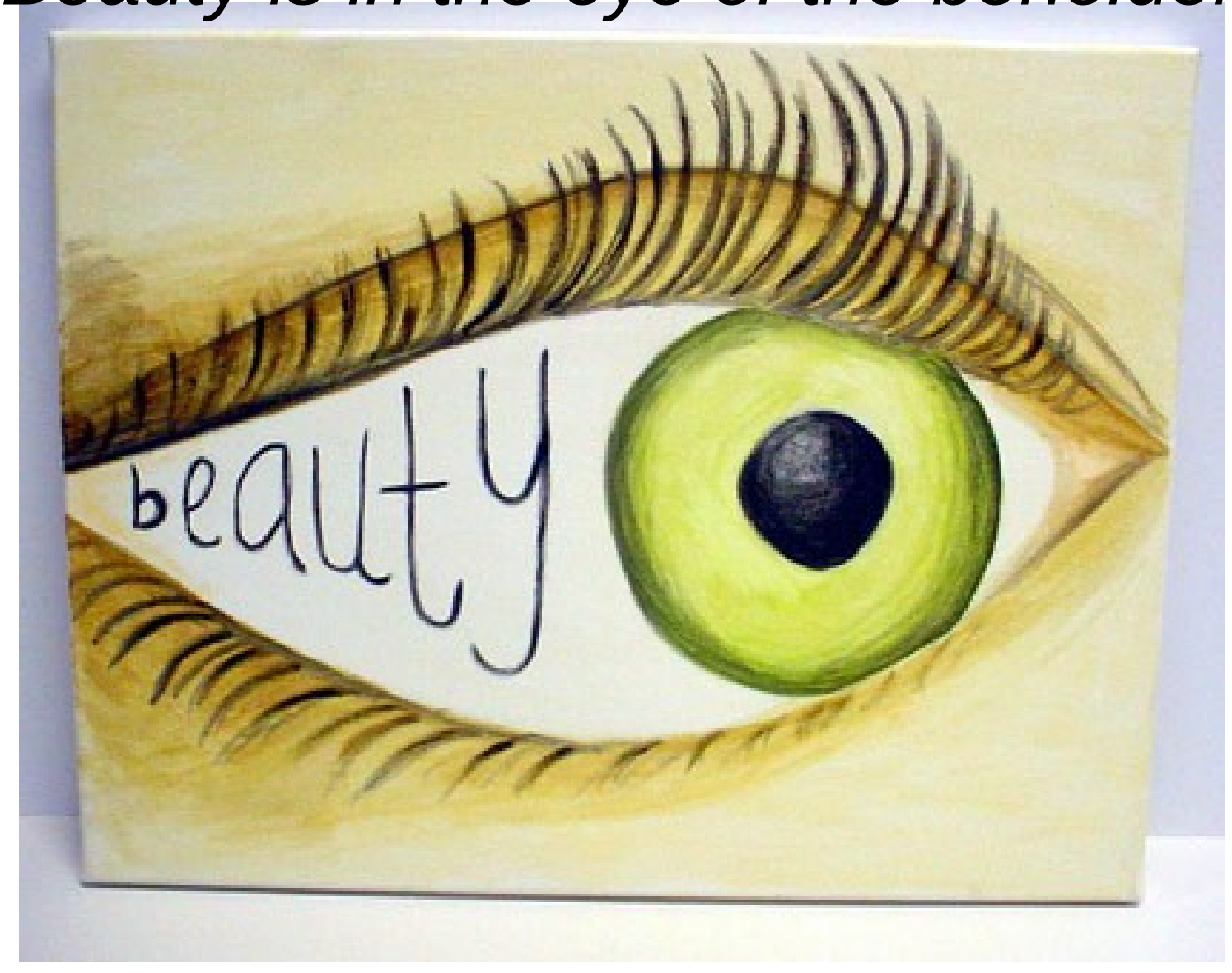
GUIs

Beauty is in the eye of the beholder



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Desktop GUIs

- **List**: ATK (Java Swing), Taurus (PyQt+PySide), Qtango (C++ Qt), Mango
- **Goals**: Provide users with a GUI toolkit(s) which manage TANGO devices
- **Latest developments**: ATK support for pipes, QTango port to Qt5, Taurus support for PySide
- **In the future**: ATK port to Java FX, Taurus port to Qt5

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Bindings

Bindings

- **List**: Matlab, Labview, IgorPro, Scilab
- **Goals**: Enable users to use their favourite tools and environment with Tango
- **Latest developments**: Scilab binding
- **In the future**: NI to help maintain Labview TANGO binding

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Archive Database

Archive Database

- **Implementation**: HDB with Oracle or Mysql
- **Goals**: Provide an Archiver for all data from a Tango control system
- **Latest developments**: HDB++ in C++
- **In the future**: NoSQL database (Cassandra)

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Documentation

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Documentation

- **What exists**: TANGO book (400 pages), man pages, HowTo's, web, videos, readthedocs
- **Goals**: Provide a complete set of uptodate documentation
- **Latest developments**: redesign of website
- **In the future**: new website, replace book with smaller documents, upload to readthedocs

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The movie

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New website

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Organisation

- **Current**: MOU, distributed maintenance
- **Goals**: Setup a sustainable organisation and distribute the load and cost
- **Latest developments**: Consortium proposal
- **In the future**: ESRF to host TANGO Consortium, all members to contribute and/or finance

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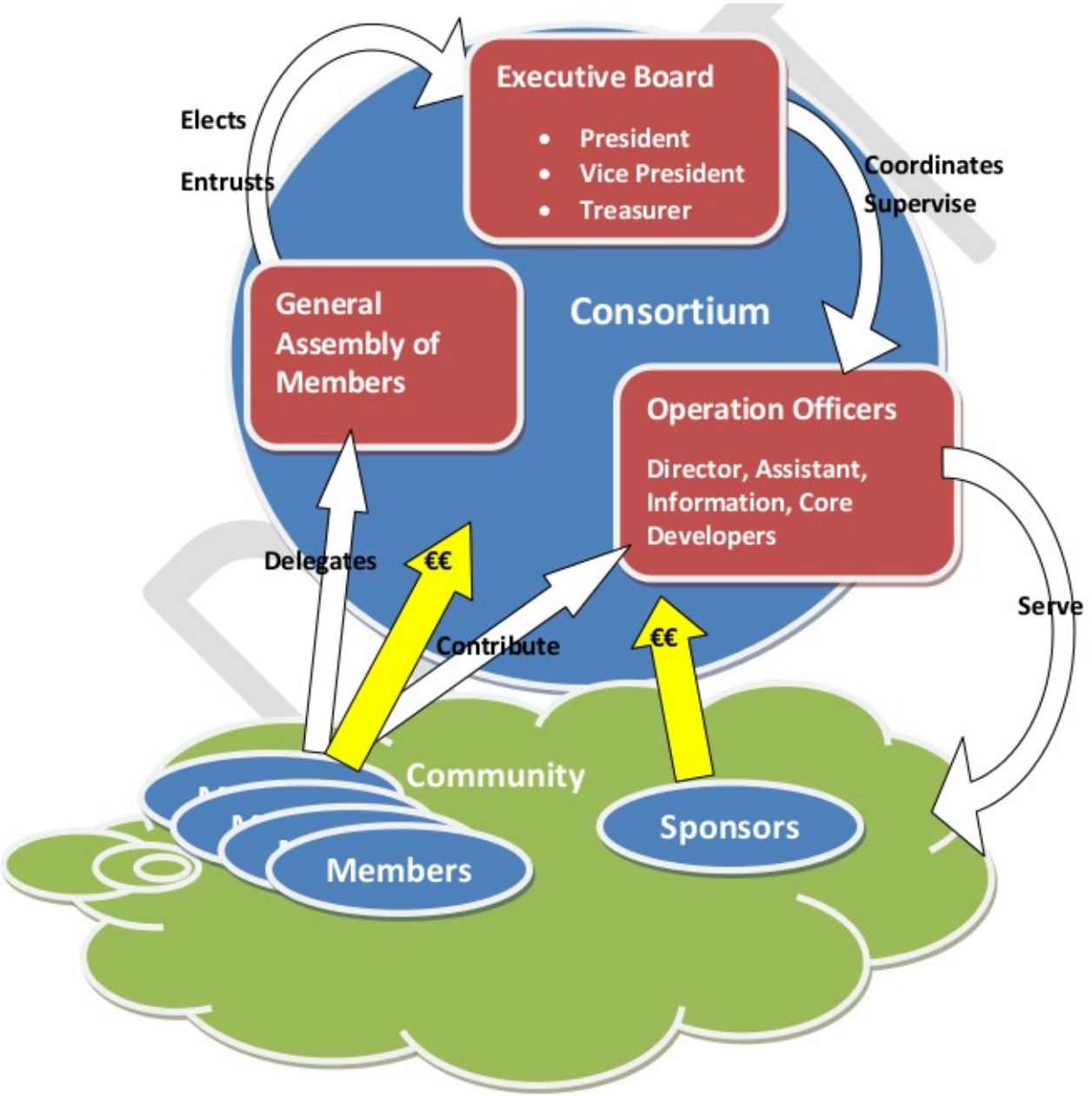
Organisation



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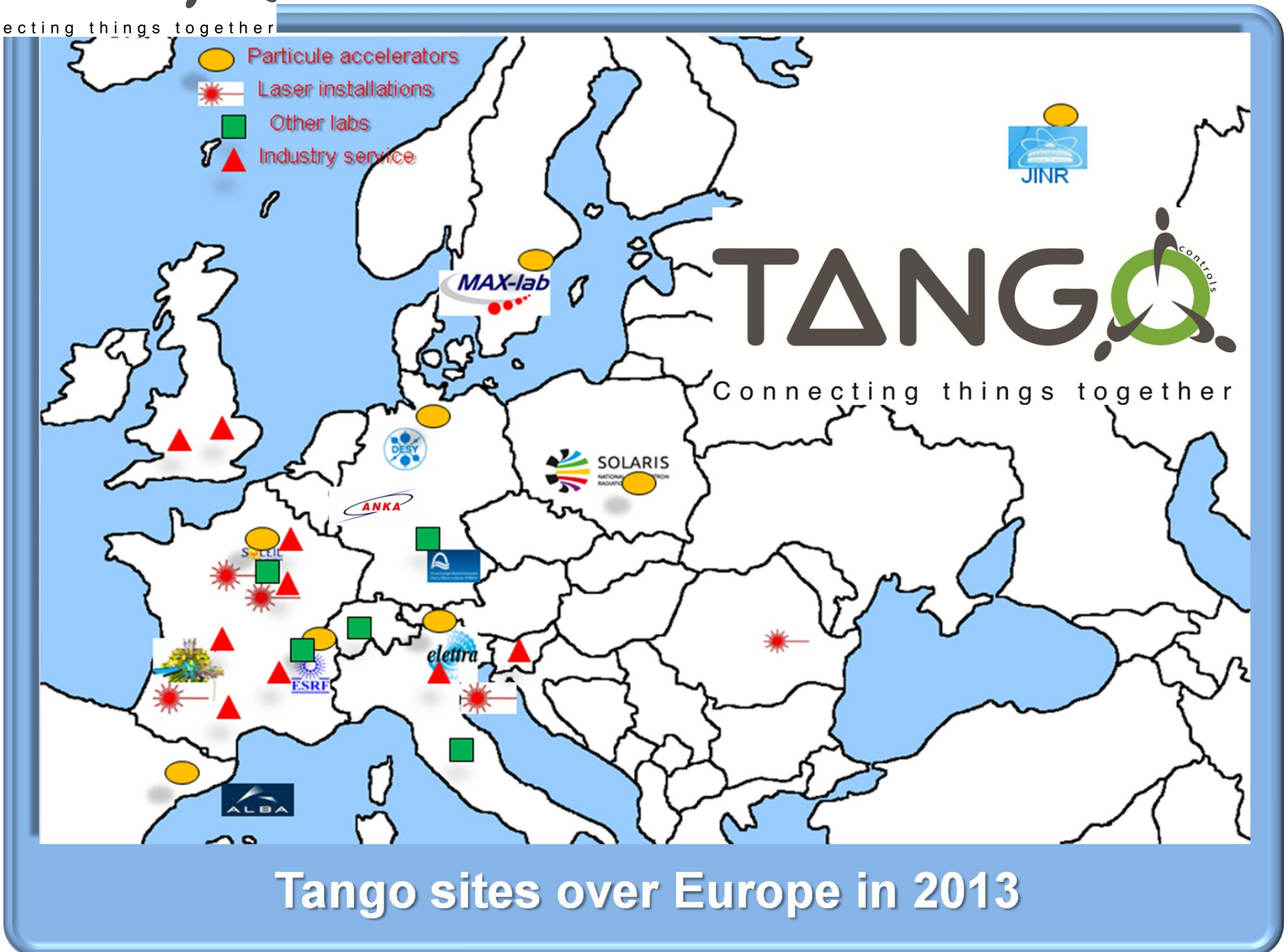
Open Source Software is not free

“I tried to change the world, but I couldn't find the source code”

Users



Tango sites over Europe in 2013

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Newcomers

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Web

- **Today**: Tango WebStart, Canone, TaurusWeb, JavaScript gateway
- **Goals**: Provide a solution for Tango web clients, a generic web client tool *a la* Jive
- **Latest developments**: TaurusWeb, WebClientJS
- **In the future**: finish TaurusWeb, continue WebClient

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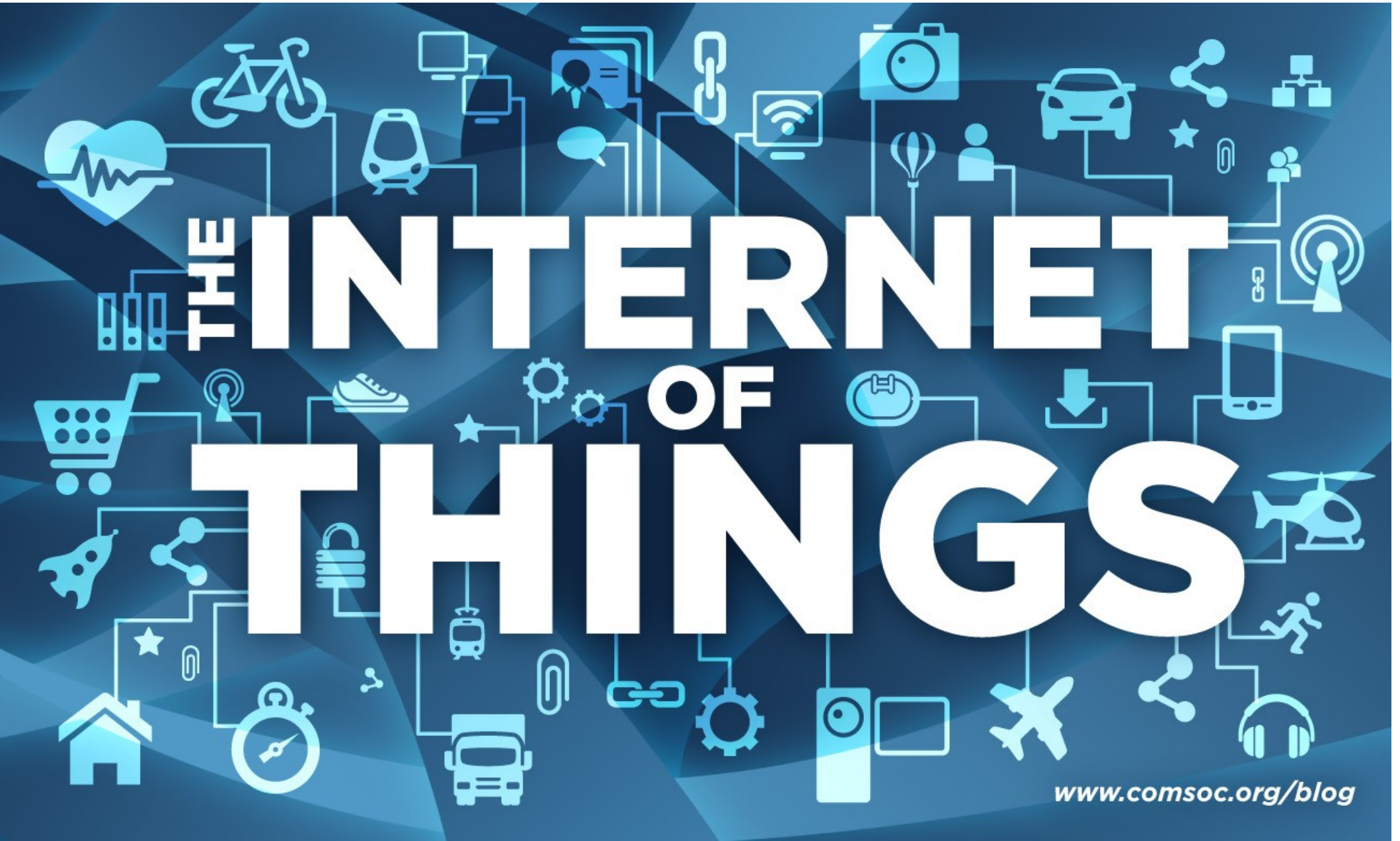
What about ?



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Mobile

- **Current**: TangoORB ported to Android, Web clients
- **Goals**: Provide a platform for developing clients on mobile platforms
- **Latest developments**: status quo in 2014
- **In the future**: Find users for mobile platforms

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Device Classes

- **Current**: 500+@SourceForge, 171@ESRF, 100@Soleil, 50+@Elettra, 100s @ other sites
- **Goals**: share device classes as much as possible
- **Latest developments**: vendors supply device classes, setup a database on the new website
- **In the future**: upload all class descriptions to a common place i.e. website, quality assurance of device servers, Debian packages

Community

- **Current**: 1 meeting / year, theme workshops
- **Goals**: Help the Community to share code and knowledge

- **Last events** : Annual Meeting @ ESRF (Grenoble), Astronomy @ INAF (Trieste), JavaFX @ ESRF, ...
- **Next events**: Annual meeting @ Solaris (Krakow), Laser Meeting @ ELI (Szeged),

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Repositories

- **Current**: **SVN** on SourceForge, many local repositories (git and svn)
- **Goals**: Provide an easy way to browse and access source code of all collaborators
- **Latest developments**: Git workshop @ FRM2
- **In the future**: Move to GIT

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Service Providers

Conclusion

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more to TANGO than meets the eye ...