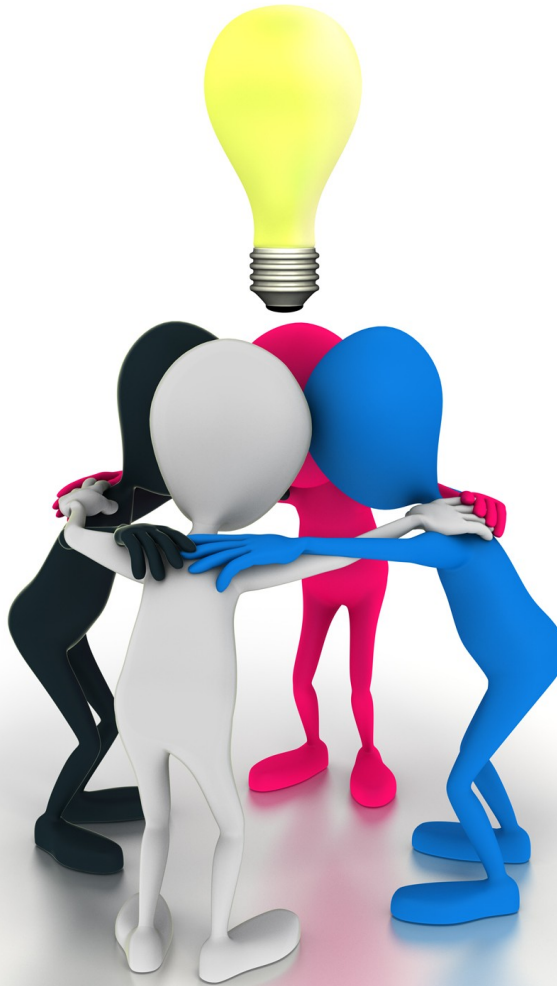


TANGO Roadmap

Brainstorming Session

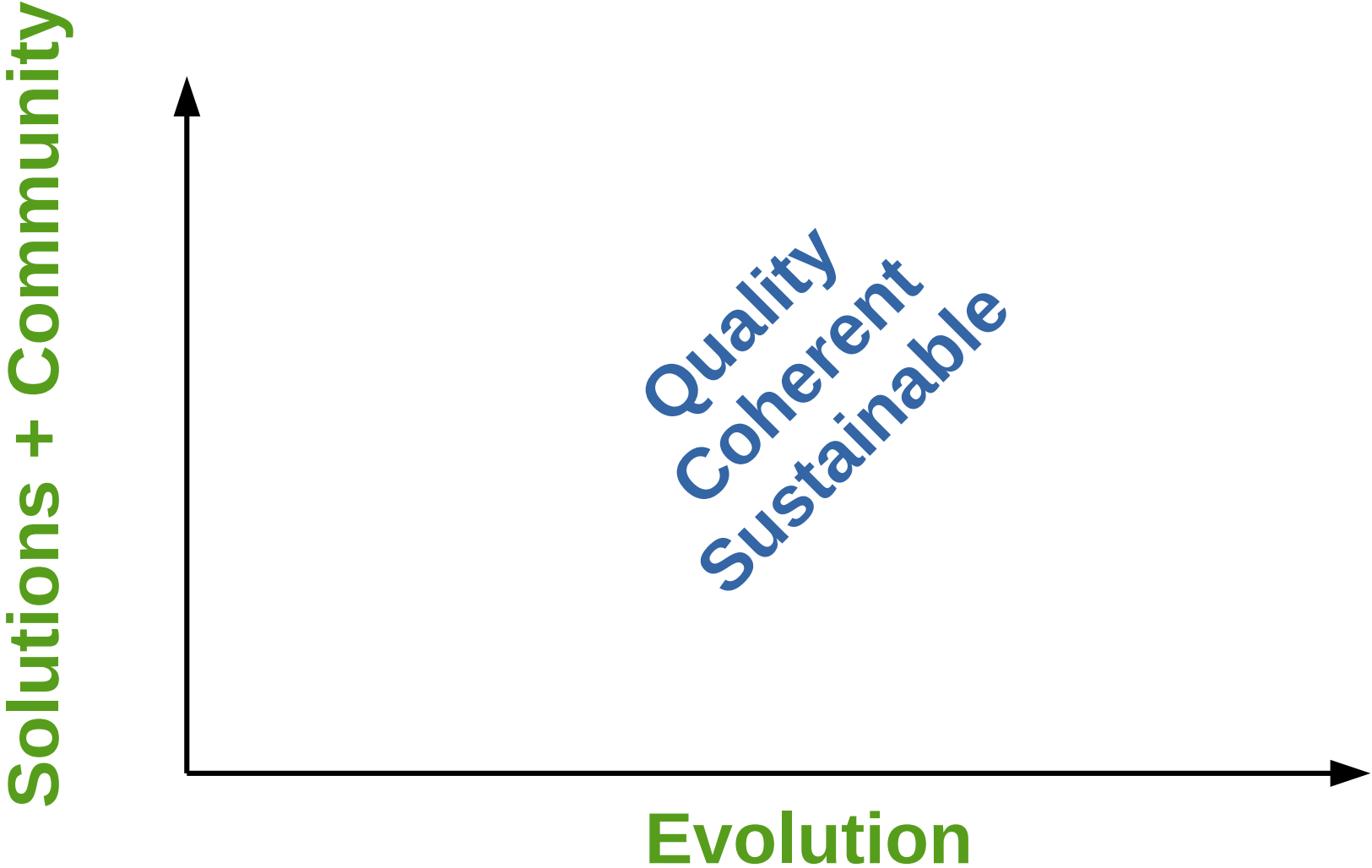




Mission Statement

- Develop and provide an open source toolkit for building high performance and quality distributed controls systems for small and large installations. Work together with the community to ensure the toolkit stays modern, sustainable and serves the needs of large physics installations for at least the next 20 years. The long term goal is to become a de facto industrial standard

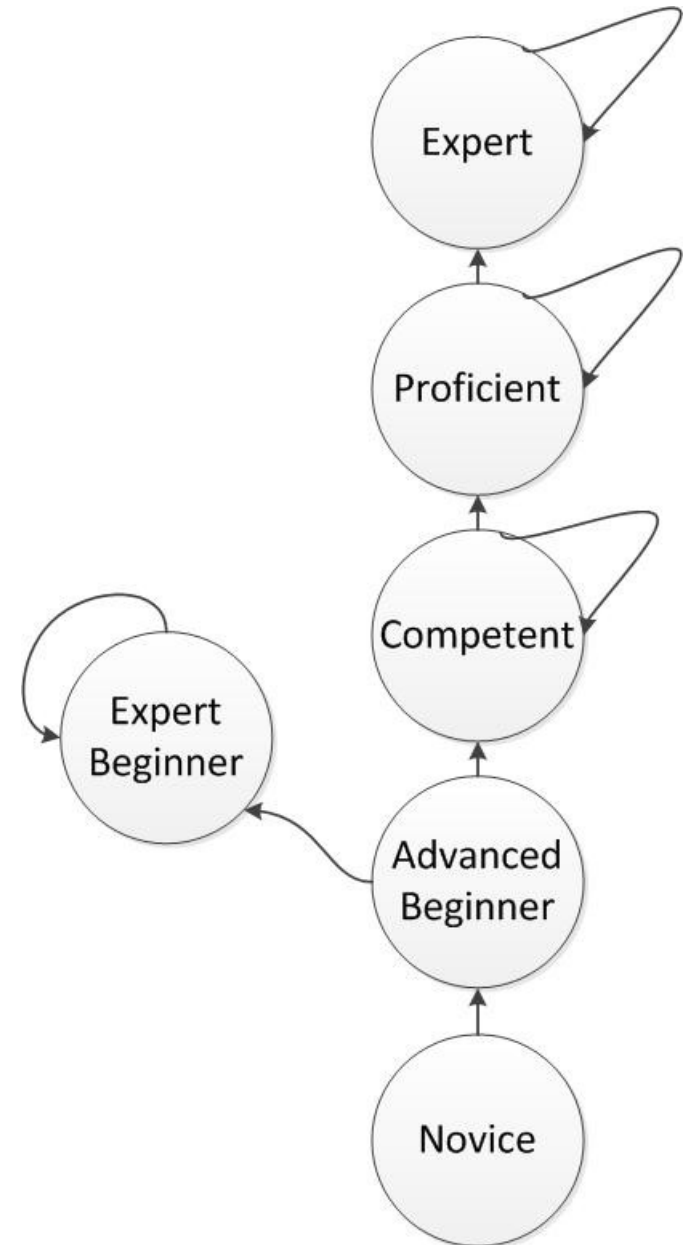
Guiding Principles



Why we need a Roadmap

The Expert Beginner

by Erik Dietrich



Input to Roadmap

- RFC to mailing list :
 - 39 emails in 24 hours, thank you!
- H2020 project proposal from 2014
- Discussions with community
- Long term vision

RFC on mailing list

- Lajos :
 - "the most important objectives for TANGO should be to increase the number of members of the community, and to go in the same direction as much as we can. To reach these things, I think we shouldn't start with coding new features; instead, we could improve the current things first. So, I think the three points below would really accelerate the things: ***refactoring documentation, packaging + automated installation, fixing bugs and improving code quality***"
- Thanks also to :
 - Benoit, Lorenzo, Frederic, Philippe, Wolfgang, Cristina, Igor, Jens, Sergi, Carlos, Zibi, ... and you !

Most requested features ?



Most requested features

- Improve existing
 - Documentation
 - Code quality
 - Code sharing
- Move to GIT
- Replace CORBA

Feature Request # 1

- **Title** = Documentation
- **Description** = Improve the documentation, make it easier to navigate, read, more tutorials, control system designs
- **Motivation** = Make TANGO easier to learn for newbies, share knowledge about advanced features, design patterns
- **Cost** = constant effort of months to years
- **Implementors** = ELI-ALPS, ESRF, ...

RTFM? WABFM!

Write a better manual



Feature Request # 2

- **Title** = Move repository to git
- **Description** = Move the source code repository from SVN to git on SourceForge and GitHub
- **Motivation** = Enable better sharing and more contributors
- **Cost** = 3 - 6 months
- **Implementers** = ALBA, FRMII, ESRF, ...



Feature Request # 3

- **Title** = Replace CORBA
- **Description** = Replace CORBA as synchronous communications protocol and remove all dependencies on CORBA (i.e. serialisation library, data types etc) with a pluggable protocol layer, use ZMQ as first implementation
- **Motivation** = Improve code base by refactoring, remove dependency on old protocol like CORBA which is not developed any more
- **Cost** = At least 2 years of development
- **Implementors** = Geoff Mant, Igor Khokhriakov, [ESRF, SOLEIL]

CORBA is not the problem



Ceci n'est pas une pipe.

Feature Request # 4

- **Title** = Grow the Community
- **Description** = Continue to grow the community by expanding into new areas, introducing and accepting new members, publicising
- **Motivation** = Increase the resources and lifetime of TANGO
- **Cost** = constant effort of days and months
- **Implementors** = ALL

Feature Request # 5

- **Title** = TANGO REST API
- **Description** = Define and implement a REST-API for TANGO for web applications
- **Motivation** = provide a simple way to access devices from the web and/or other clients
- **Cost** = 6 – 12 months
- **Implementors** = Igor Khokhriakov, MaxIV, ESRF, ...

Feature Request # 6

- **Title** = TANGO Web application
- **Description** = Provide a generic web application for browsing and monitoring TANGO devices
- **Motivation** = Web is the ubiquitous user interface
- **Cost** = 6 – 12 months
- **Implementors** = Alessio Bogani, Igor Khokhriakov, ...

Feature Request # 7

- **Title** = Security by encryption
- **Description** = Provide a secure way of accessing TANGO devices using a secure encrypted protocol
- **Motivation** = Secure access over public networks, protection from viruses on local area networks
- **Cost** = 6 – 12 months
- **Implementors** = ALBA, ELETTRA, Benoit Donnette, ...

Feature Request # 8

- **Title** = Improve database schema
- **Description** = Change the database schema to fix the performance issues related to memorised attributes and other related problems.
- **Motivation** = Improve performance
- **Cost** = 3 - 6 months
- **Implementors** = SOLEIL, ELETTRA, ...

Feature Request # 9

- **Title** = Improve device server sharing
- **Description** = Increase sharing of device servers
- **Motivation** = Improve quality
- **Cost** = 3 - 6 months
- **Implementers** = ESRF, ANKA, ELI-ALPS, ...

Device server catalogue e.g. Eclipse Marketplace :



MY MARKETPLACE

ADD CONTENT

MORE ▾

HOME / MARKETPLACE / NEW AND UPDATED SOLUTIONS

MARKETS ▾

Eclipse Project (4)

Tools (1748) »

RCP Applications (194)

Training & Consulting (81)

Long Term Support (10)

TOP MPC DOWNLOADS ▾

Subversive - SVN Team Provider 37427

Eclipse Color Theme 24856

Subclipse 22318

JBoss Tools (Luna) 15191

Spring Tool Suite (STS) for Eclipse Luna (4.4) 13061

Eclipse Moonrise UI Theme 11443

14,031,757 solutions installed directly from Eclipse!

1899 Solutions and counting.



All Solutions Categories ▾

All Markets ▾

SEARCH

ADVANCED SEARCH »

SPOTLIGHT



☆15 2

Install

Optimizer for Eclipse

Your Eclipse is slow. Optimizer for Eclipse speeds up your IDE by finding and fixing common configuration issues in your Eclipse installa...



☆4 0

Install

Reactive Blocks

Reactive Blocks lets you combine Java programming and visual development to build robust and concurrent IoT gateway applications. The too...

Device server catalogue e.g. IntelliJ plugin repository :



IntelliJ IDEA Plugins

+ Add new plugin

Plugins home

IntelliJ IDEA

RubyMine

WebStorm

PhpStorm

PyCharm

AppCode

MPS

Android Studio

0xDBE

CLion

Wishlist

RSS

Ultimate Edition

Community Edition

Search:

Go

Categories

All plugins (1339)

- + Build (55)
- + Code Editing (73)
- + Code tools (122)
- + Custom Languages (138)
- + CVS (3)
- + Database (14)
- + Editor (101)
- + Folder (4)
- + Formatting (21)
- + Framework integration (89)
- + Fun Stuff (33)
- + Graphics (8)
- + Inspection (27)
- + Intention (8)
- + J2ee (18)

Welcome to IntelliJ IDEA Plugin Repository

IntelliJ IDEA has inspired many Java developers to write plug-ins, from J2EE to code editing tools to games. Now it has a robust plugin ecosystem with [1339 available plugins](#) and new ones appearing nearly every week. We truly appreciate the efforts of our community members and others who have made our smart and intelligent IDE even more intelligent and smart through their plug-ins.

If you are going to write your own plug-in for IntelliJ IDEA (or already have done the deed), we warmly welcome you to add your tools into this repository. If you encounter problems or just want some more information about IntelliJ IDEA's Open API, read [Information for Plugin Developers](#).

If you think IntelliJ IDEA is missing a plugin with a framework support or a feature, don't hesitate to submit a request to our plugin [wishlist](#). Make sure your request does not duplicate an existing one. If you find a request that matches your idea, vote for it and post a comment if you like.

For more assistance, please write to [plugins-admin at jetbrains.com](mailto:plugins-admin@jetbrains.com) ✉

10 New or Updated

1. [Camelcade](#)
2. [jimu Mirror](#)
3. [Gradle Killer](#)
4. [JRebel Plugin](#)

10 Top Downloads

1. [Scala](#) (2890631)
2. [.ignore](#) (1700995)
3. [Markdown](#) (1402758)
4. [BashSupport](#) (1264392)

10 Top Rated

1. [Shifter](#) (5.0)
2. [BrowseWordAtCaret](#) (5.0)
3. [WakaTime](#) (5.0)
4. [.ignore](#) (5.0)

Feature Request # 10

- **Title** = Long Term Support
- **Description** = Maintain an LTS version of TANGO which will be have bug fixes and patches for new major releases
- **Motivation** = Install new features without doing a major upgrade
- **Cost** = constant effort
- **Implementers** = ALBA, ...



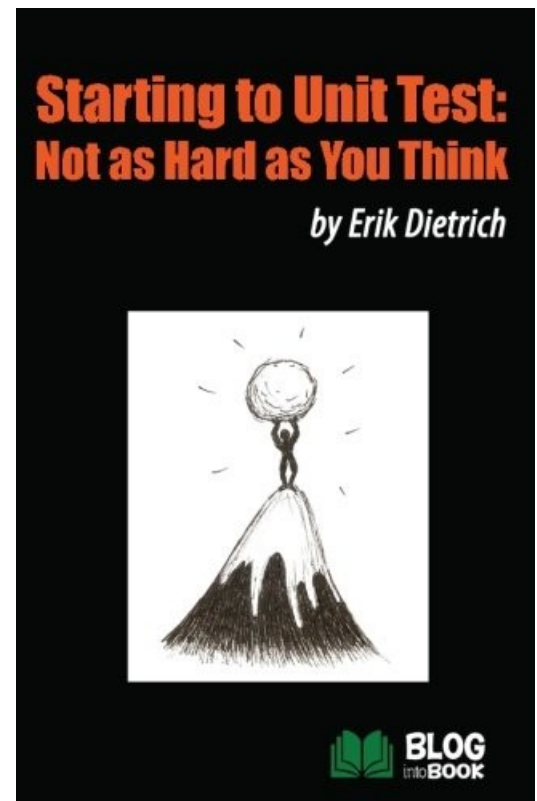
Feature Request # 11

- **Title** = Update Tango Virtual Box
- **Description** = Maintain and update the Tango Virtual Box to the have the latest version of Tango and all its tools
- **Motivation** = Provide an easy way to try out Tango
- **Cost** = constant effort
- **Implementers** = Raphael Ponsard, ESRF, ...



Feature Request # 12

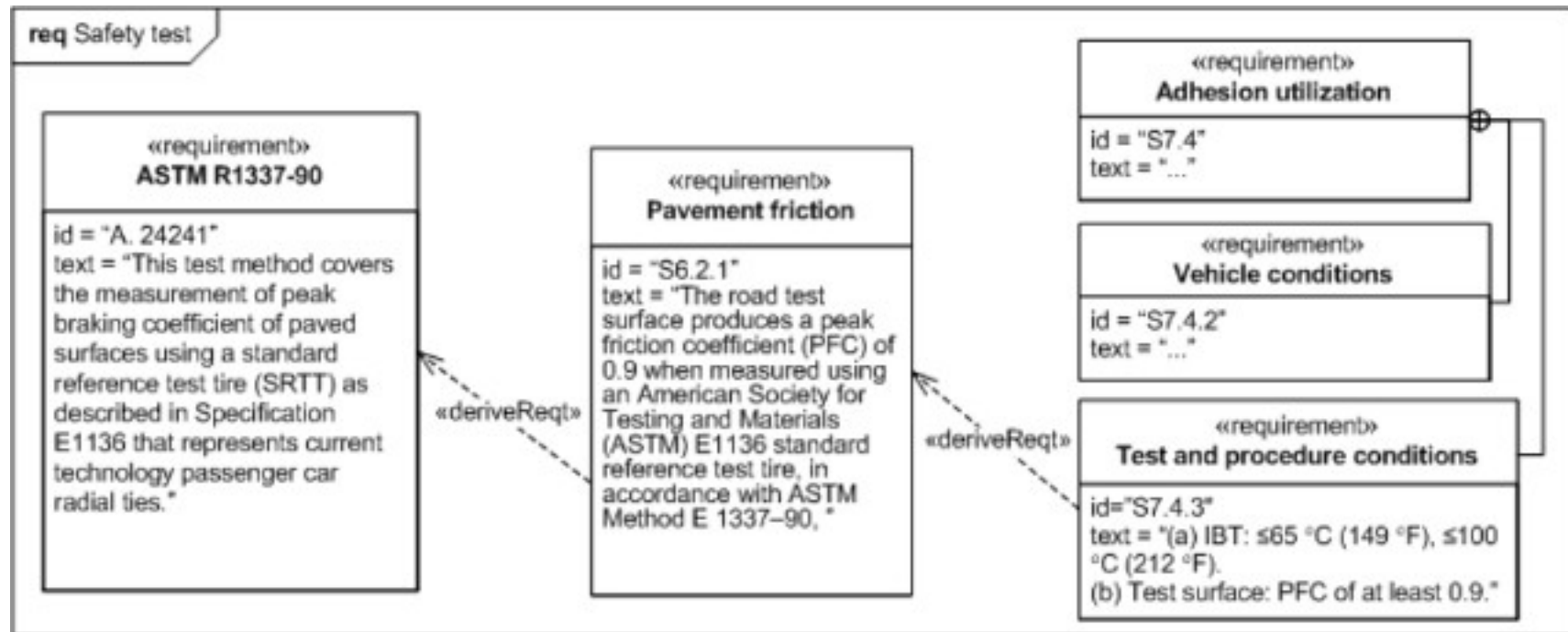
- **Title** = Generate Unit Tests automatically
- **Description** = Pogo to Generate Unit Test for Device Servers in Python, C++ and Java
- **Motivation** = Improve code quality with TDD
- **Cost** = 6 months
- **Implementers** = MaxIV, Nexeya, ESRF, ...



Feature Request # 13

- **Title** = Interface SysML tools
- **Description** = Interface SysML to TANGO so that it can be used a language for specifying device servers
- **Motivation** = Improved specification of device interfaces
- **Cost** = 12 months
- **Implementers** = INAF, SKA, ...

SysML Requirements Specification



<http://formalmind.com/en/blog/requirements-uml-sysml>

Feature Request # 14

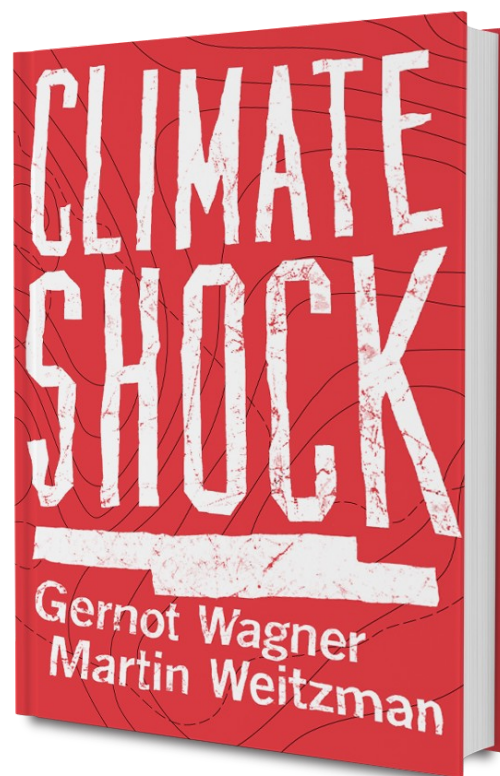
- **Title** = Remove Boost.Python from PyTango
- **Description** = Replace Boost as the interoperable layer between PyTango and the C++ Tango kernel
- **Motivation** = fix some old bugs, make PyTango easier to maintain, Boost not actively developed any more
- **Cost** = 6 – 12 months
- **Implementors** = ESRF, ...

Where to find resources?

- First and foremost – the community !
- Collaboration Contract (< 100 k€ / year)
- Google Summer of Code
- EU H2020 projects



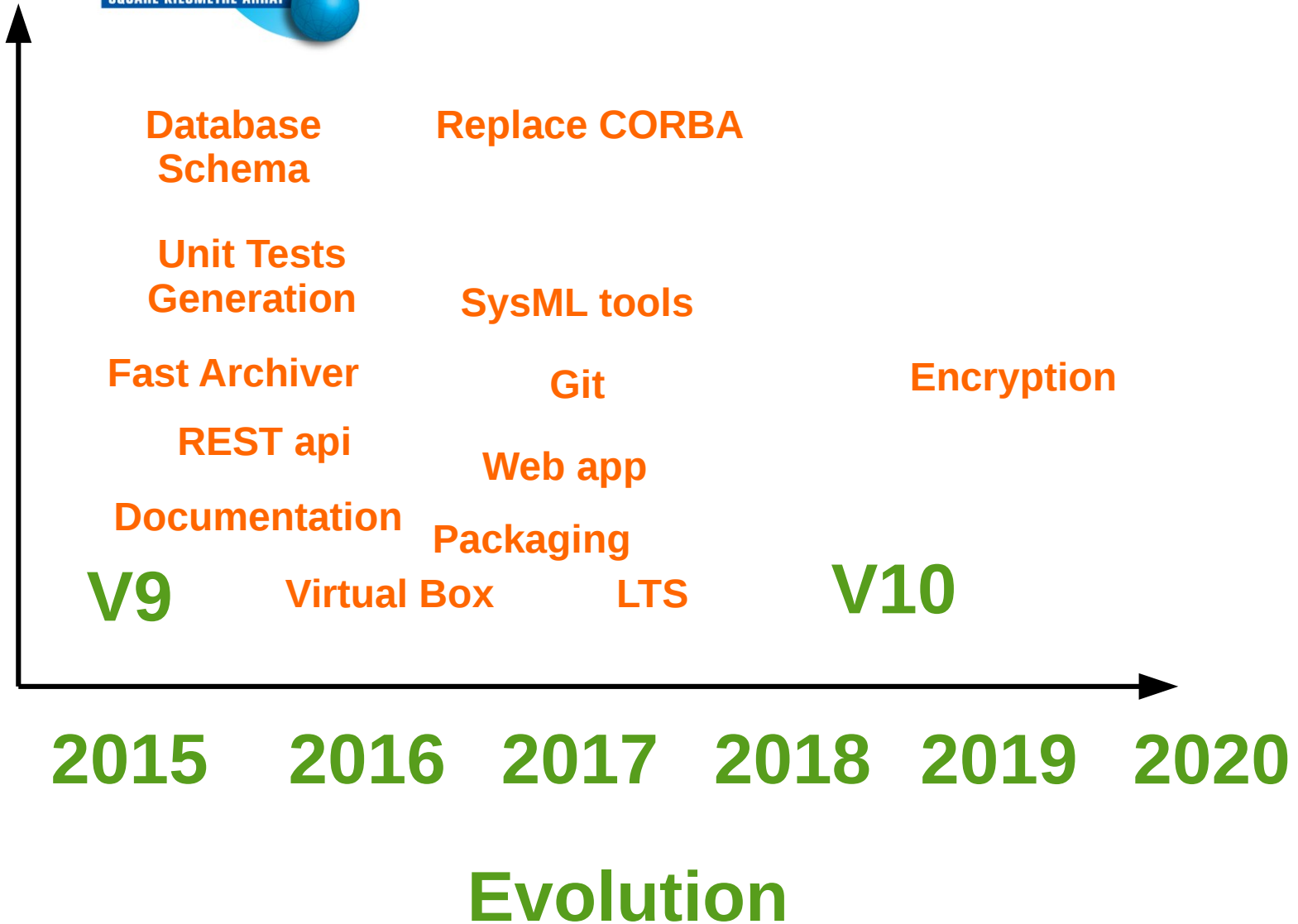
Do not free ride !



Proposal for Roadmap



Solutions + Community



Conclusion

- Roadmap converges
- Next steps :
 - 1) Publish roadmap
 - 2) Community feedback
 - 3) Submit to Executive Committee
 - 4) Find resources – community, collaboration contract, ...
 - 5) Plan Who will implement What When

Dziękuję Solaris!

Thank you Piotr

+

the team !