



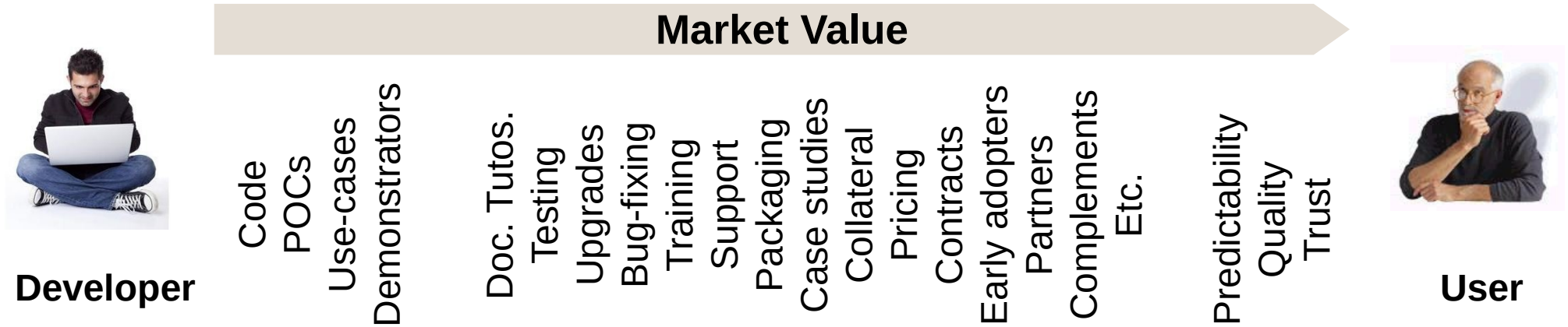
The OW2 Market Readiness Levels

Improving Productivity and Market Readiness of OW2 projects

September 2021

OW2 Market Readiness Levels help align OSS projects with market expectations

- ▶ Users do not want just code: *Product attributes* create value for OSS projects
- ▶ Market Readiness Levels (MRL) assessment helps create market value for OW2 projects

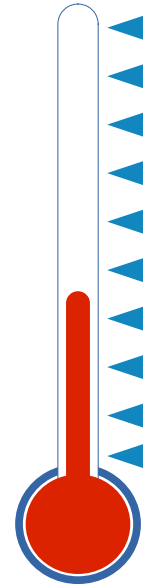
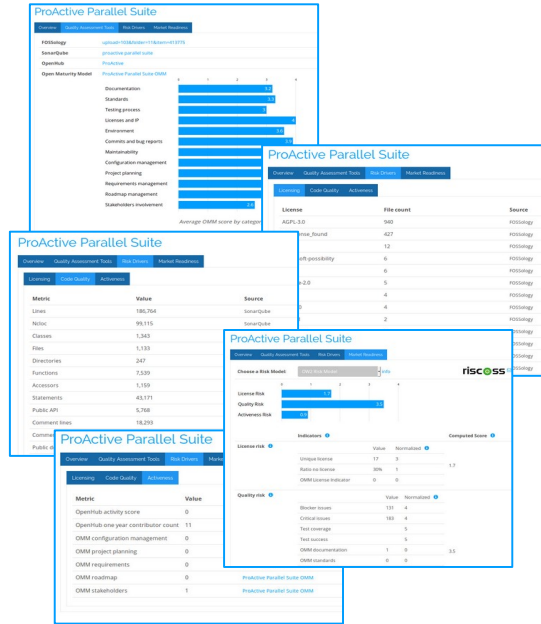


Helping decision making with the MRL single composite indicator

- ▶ Too much data creates confusion.
- ▶ From detailed data to Market Readiness Levels.



Developer



*Fully Supported Product
(useful)*

*Rough Code
(useless)*



User

OW2 Market Readiness Levels (MRLs) inspired by the NASA TRLs

MRL 9 – Market Leader

Significant market share and global customer base. Properly financed and organized business support. Global active community.

“flight proven”

MRL 8 – Established Outsider

Customer base of mainstream users. Appropriate financing. Active community support and contributions. Recognized software

“flight qualified”

MRL 7 – Established Business

Established product. Customer base of early and mainstream users. Stable financing. Open to community support and contributions.

“prototype in space”

MRL 6 – Sizable Adoption

Proven product. Customer base of early users. Project fit for third party contributions. Implicit community governance

“proven demo”

MRL 5 – Fair Adoption

Some customers, recent market opening, Core team of developers, untested open source governance

“relevant envt validation”

MRL 4 – Usefulness Verified

Several users, project leadership well established

“lab validation”

MRL 3 – Fledgling Usefulness

MVP stage One declared user (can be company internal) with declared project leader

“proof of concept”

MRL 2 – Product Development

POC stage. Basic R&D code developed with one demonstrated use case, some documentation

“application formulation”

MRL 1 – Basic Early Stage

Basic R&D code developed

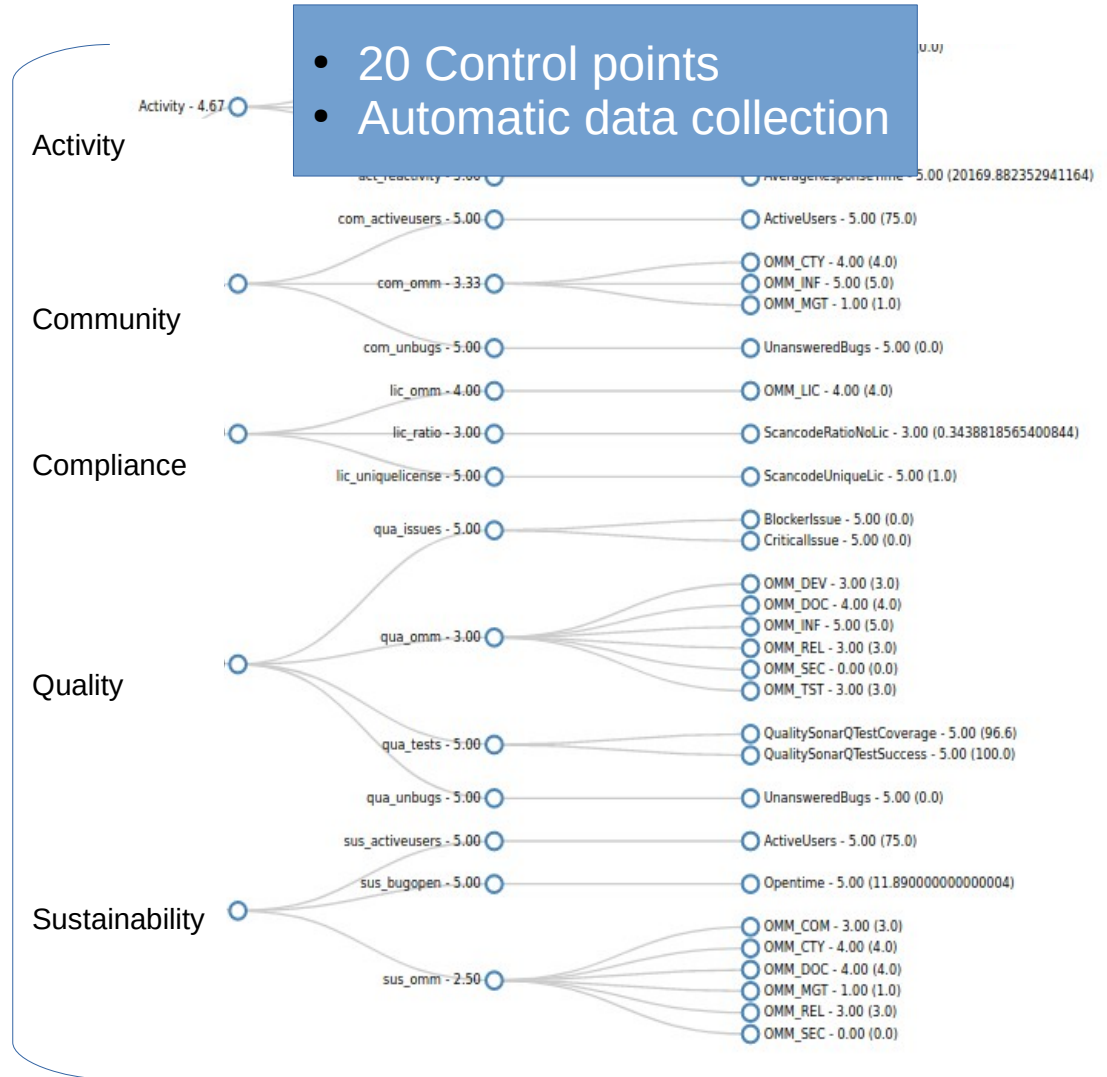
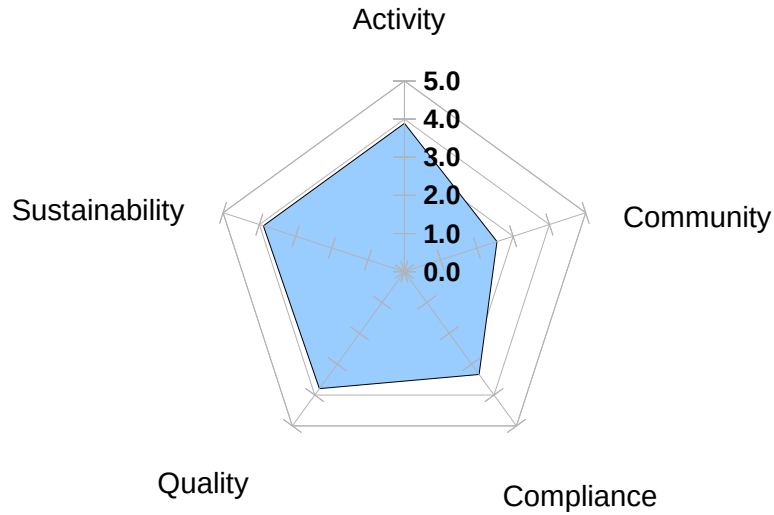
“basic principles”

Stage 1: Best Practices Mapping

- 50 Control points
- Verified self-declared form

Project Communication	Willingness and ability of the project to communicate, to be easy to deal with.
Project Community	Status of the community and mechanisms that support third party contributions.
Project Documentation	Documentation facilitating usage of the project and contribution to it.
Development Environment	Provisioning of development resources and facilitation of bug reports and commits contribution.
Project Organisation and Mgt	Management of requirements and planning and estimates of project activities.
Project Licenses	Open source licenses and copyright handling by the project.
Development Process	Development practices that help improve code quality.
Testing Process	Implementation, quality and maintenance of the testing process.
Release Management	Enablement and maintenance of the integrity of the product and its releases.
Security and Vulnerability Mgt	Attention to security vulnerabilities, mechanisms and resources to deal with them.

Stage 2: Data Collection and Attribute Modeling



Stage 3: Market Capabilities Assessment

- 42 Market-oriented situations
- Expert interview

	0	1	2	3	4	5
Product	No-user, R&D, POC	Beta, Packaged, Documentation	Full Q&A, Doc etc.	UI, APIs and Interoperability	Product Range	Platform Sub-Project Generation
Contributors	Research partners	Declared OSS	Active OSS project leader	Occasional third party contrib.	Regular third party contributors	Broad active project community
Support	No support	Help contact identified	Community best effort	Committed bug fixing	Direct commercial support	Direct and partner support
Customers	No customers nor users	Early users, not customers	First customers	Early customer base	Growing customer base	Established customer base
Sales	No sales	Random sales by founders	Fledgeling sales by sales organisation	Sales from new customers	Repeat business from customer base	Sales from customer base and partners
Finances	R&D subsidies	Founders, Friends and Family	Sponsor or professional early stage	Early stage plus customer money	Appropriate financing	Positive cash flow
Recognition	No market recognition	Basic identity, website	Developing marketing	Active marketing	Market recognition	Leadership recognition

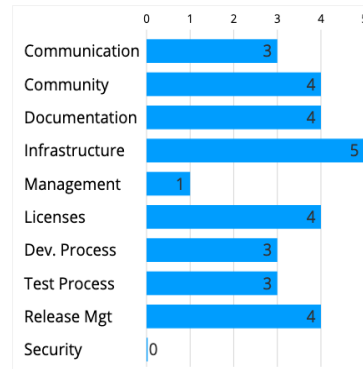
Computing the Score

	Stage 1	Stage 2	Stage 3
OSS best practices via self-declared form	X	X	
Project metrics from development platform		X	X
Market capabilities via expert interview			X

Best Practices Implementation

Project Profile

Market Readiness Level



ASM

Overview Market readiness Model

Market Readiness Synthesis

Created by Eric Bruneton in 2000, during his PhD at Inria, ASM is one of the most popular projects in the OW2 code base. The project is well recognized and broadly used by the Java programmer community. The code is super stable and super proven and needs to evolve only as to remain aligned with the evolutions of the Java standard. A true community project, ASM is not promoted by professional sales nor supported by commercial support plans. However the community of users is sufficiently large so as to provide answers to any question on its mailing list.

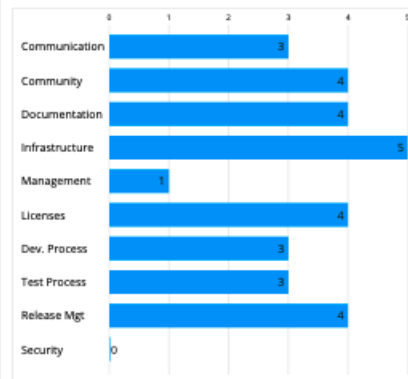
Market Readiness Level

- MRL 9 - Market Leader
- MRL 8 - Established Outsider
- MRL 7 - Established Business
- MRL 6 - Sizeable Adoption or Market
- MRL 5 - Fair Adoption or Market
- MRL 4 - Usefulness Verified
- MRL 3 - Fledgling Usefulness
- MRL 2 - Development
- MRL 1 - Research

Project **Market Readiness Level** computed by OW2.

More on the definition and computation of Market Readiness Levels [here](#)st.

Best Practices Implementation



Coverage of **best practices** in open source software development implemented by the project.

More on best practices and how they are collected [here](#)st.

Project Profile



Computation of the project's **profile** through five key attributes defined by OW2.

More on how project attributes are computed [here](#)st.

MRL Is Applied to 22 Projects in the OW2 Code Base

ASM
Authzforce
CLIF
DocDokuPLM
FusionDirectory
Imixs-Workflow
Joram
Knowage
LemonLDAP::NG
Lutece
OCS-Inventory
Proactive Scheduler
Rocket.Chat
Sat4j
SeedStack
Spoon
Sympa
Telosys
Waarp
WebLab
XWiki
ZenRoom

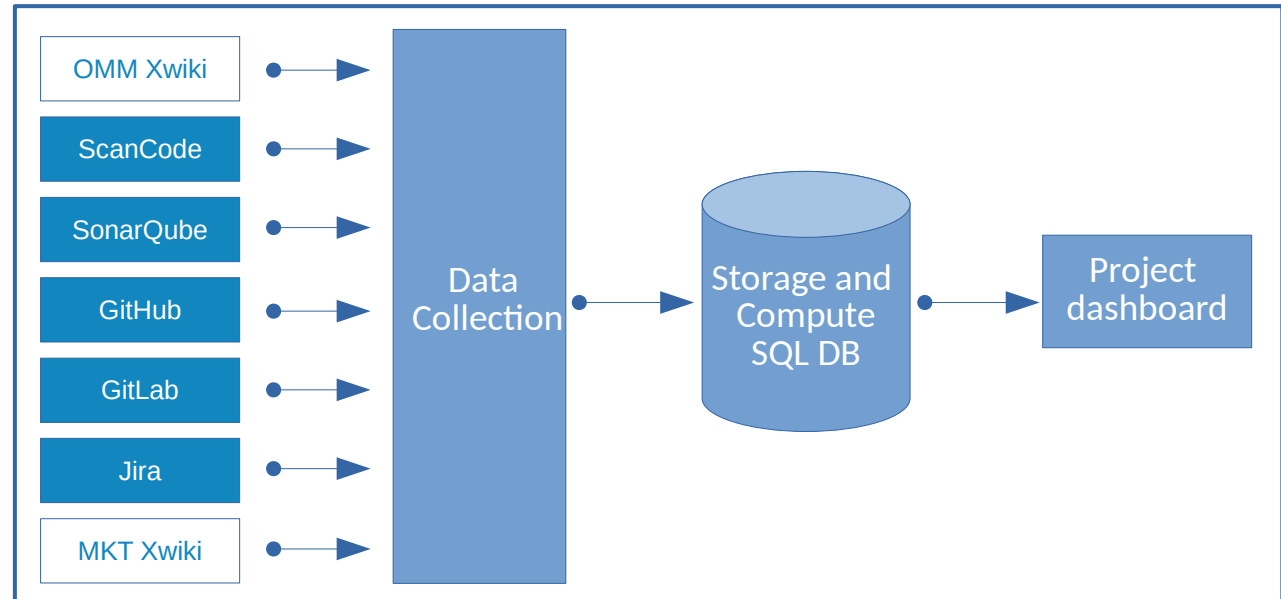
A Dedicated Infrastructure

► Simplified and fully maintained by OW2

Best practices
(project lead form)

Metrics (automatic
data collection)

Market capabilities
(expert interview)



Timeline

2018-2019

2020

2021

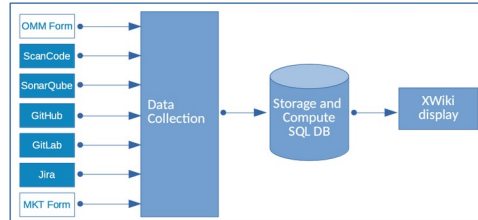
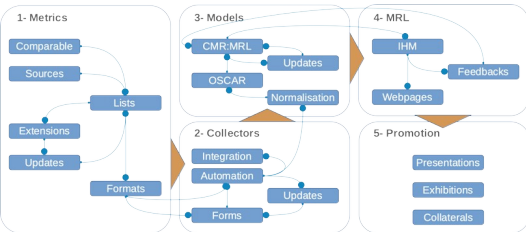
2022

Concept & Methodology
Acceptability verification

Tools development
Feasibility testing

Code base deployment
OW2 Mature projects

MRL 2.0
Beyond OW2



A world map with numerous small blue stars scattered across the continents, primarily concentrated in North America, Europe, and Asia. A large blue circle is overlaid on the map, framing the central text.

Thank You

And now let's talk
Q&A
Disagreements
Complements
Feedback
etc.



OW2 at **FOSDEM'21**

Example: ASM

🏠 ▾ / projects ▾ / ASM ▾

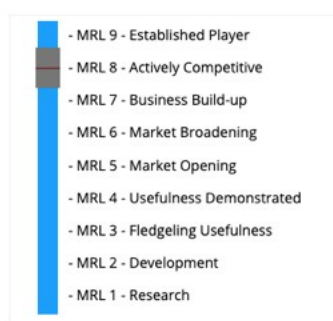
ASM

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Market Readiness Level



...this project reaches the above **Market Readiness Level**.

More on the definition and computation of Market Readiness Levels [here](#).

Best Practices Implementation



With the extent to which the project implements **best practices** in open source software development...

More on best practices and how they are collected [here](#).

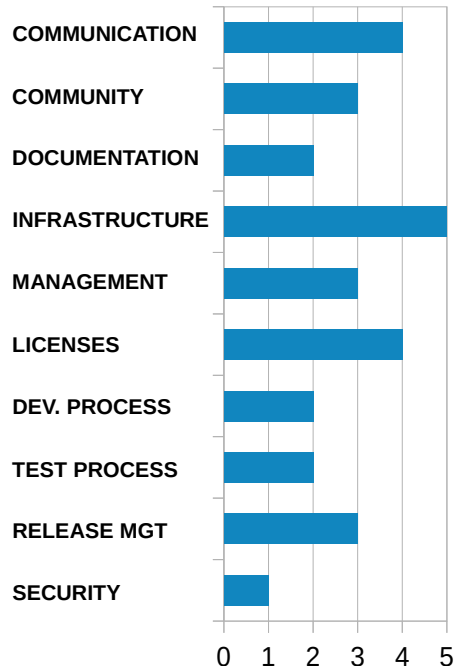
Project Profile



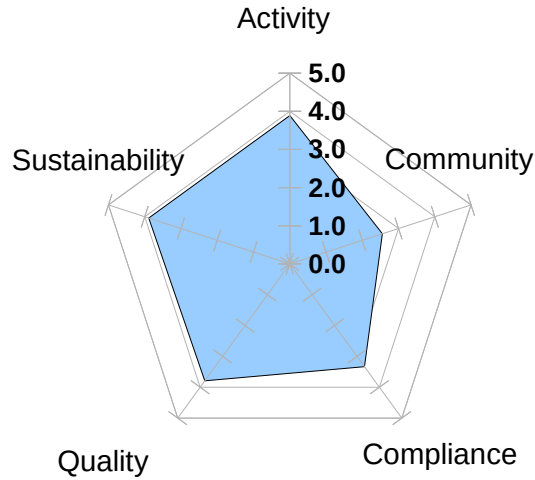
...and the **profile** it reveals based on our five key attributes...

More on how project attributes are computed [here](#).

Graphic publication of OW2 MRL Three-Stage Assessment Result



Best Practices Implementation



Project Profile



Market Readiness Level