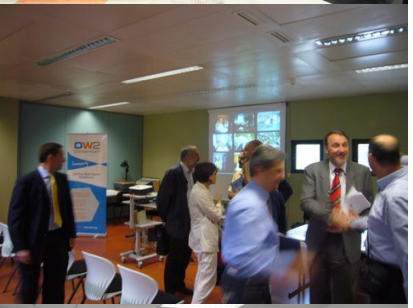

OSS Projects Market Readiness Assessment

Open Project and (Kind of) Request For Comments

Cedric Thomas, OW2

FOSS Backstage

Berlin, 13-14 June, 2018

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Developer

User

Cedric Thomas

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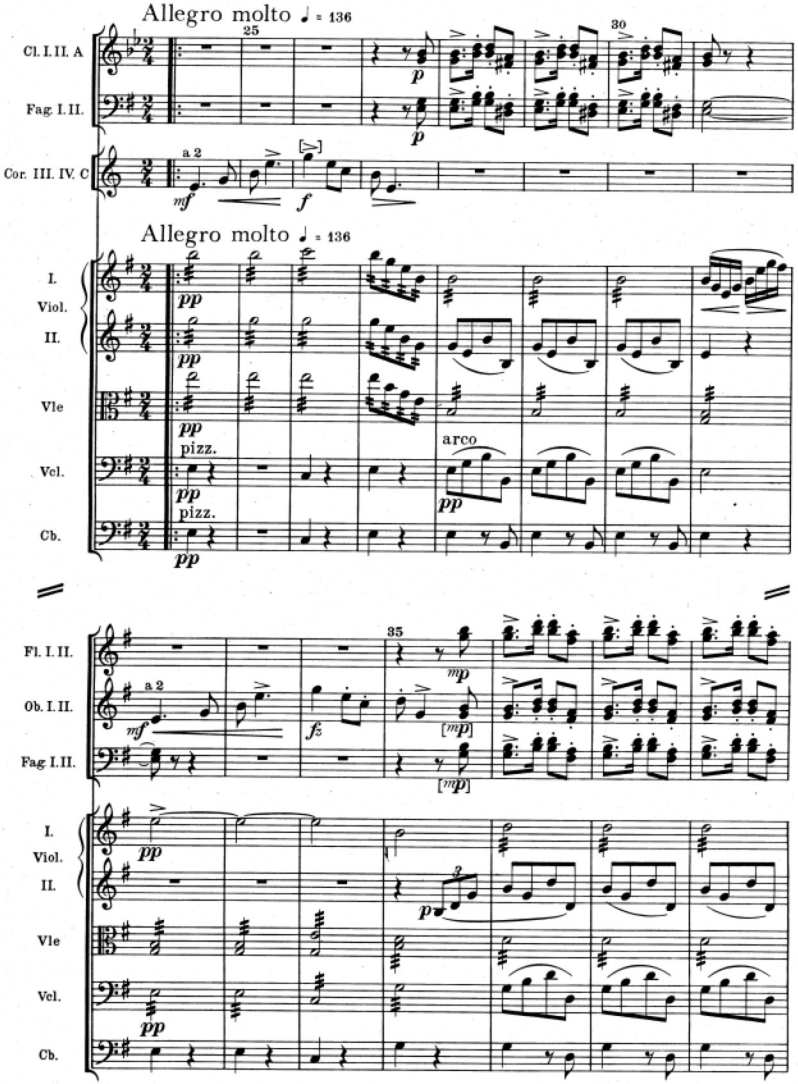
Allegro molto ♩ = 136
Cl. I. II. A
Fag. I. II.
Cor. III. IV. C
a 2
Allegro molto ♩ = 136
I. Viol.
II.
Vle
Vcl.
Cb.
pizz.
arco
Fl. I. II.
Ob. I. II.
Fag. I. II.
a 2

Programmers Write *Code*

```
def goTo(anActorReference, aPointToGoTo, aSpe
    actorPosition = scenaric.GetPosition(anAc
    if (type(aPointToGoTo).__name__ == 'strin
        mark = scenaric.GetData(aPointToGoTo)
        if (mark[0] == 1):
            succeed = goToMark(anActorReferen
        elif (mark[0] == 2):
            succeed = goToPath(anActorReferen
    elif (type(aPointToGoTo).__n
        succeed = goToVertex(anA
    else:
        succeed = 0
    return succeed


def goToMark(anActorReference, a
    markPos = getMarkPosition(aM
    succeed = goToVertex(anActor
    return succeed


def goToPath(anActorReference, a
    for coord in aPathToFollow:
        astarPath = getAstarPath
        if (len(astarPath) > 0):
            for pos in astarPath:
                succeed = goToVertex(anActorR
```

```
@@ -34,8 +34,7 @@ buildscript {
34  34  apply plugin: "info.solidsoft.pitest"
35  35
36  36  pitest {
37      -  targetClasses = ['myWorld*']
38      -//  mutationEngine = "descartes"
    37  +  mutationEngine = "descartes"
39  38  }
40  39
41  40  // In this section you declare the dependencies for y
```

```
tingStarted.chorarch
.0' encoding='UTF-8'
up>
 xmlns:xsi="http://w
type="existingServic
e>PaymentSystem</name
e>Payment System</rol
>http://localhost:909
e>
 xmlns:xsi="http://w
type="existingServic
e>Invoicer</name>
e>Invoicer</role>
>http://localhost:909
e>
 xmlns:xsi="http://w
pe="existingServic
Scheduler</name>
Scheduler</role>
ttp://localhost:909

mlns:xsi="http://w
pe="existingServic
Carrier</name>
Carrier</role>
ttp://localhost:909

mlns:xsi="http://w
pe="deployableServi
cdCustomer</name>
Customer</role>
dency>
<serviceSpecName>cdOr
<serviceSpecRole>Orde
```

Customers Want *Products*

Developer

Market Value

Code
POCs
Use-cases
Demonstrators

Doc. Tutos.
Testing
Upgrades
Bug-fixing
Training
Support
Packaging
Case studies
Collateral
Pricing
Contracts
Early adopters
Partners
Complements
Etc.

Predictability
Quality
Trust

Research & Development

Delivery Challenge

OSS

Customer

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The Ecosystem Generates *Value*

Developer

Market Value

Code
POCs
Use-cases
Demonstrators
Doc. Tutos.
Testing
Upgrades
Bug-fixing
Training
Support
Packaging
Case studies
Collateral
Pricing
Contracts
Early adopters
Partners
Complements
Etc.
Predictability
Quality
Trust

Customer

Systems Integrators
Open Source Orgs.
Contributors
Distrib. Vendors
Fiduciary Services
Users

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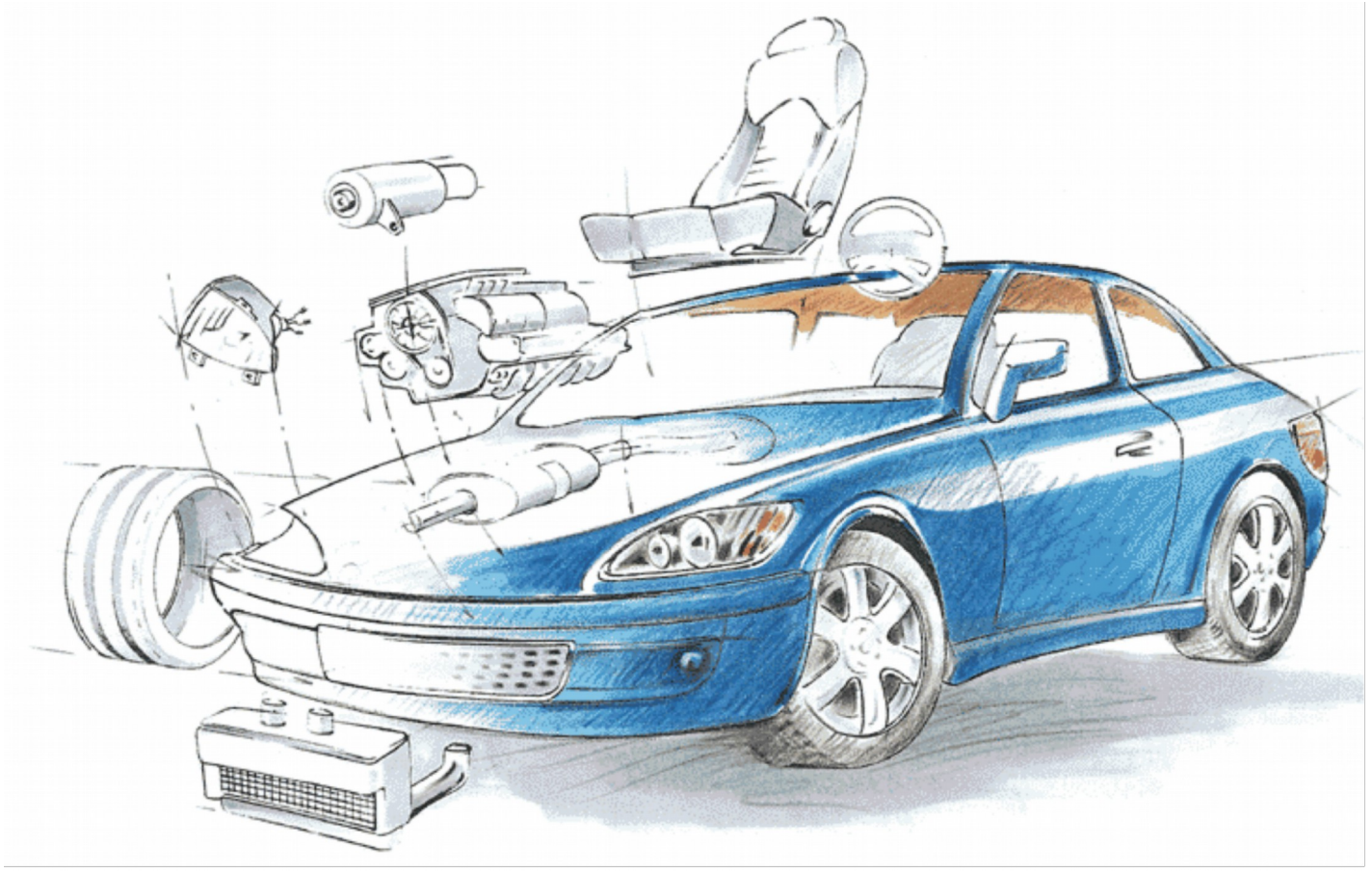

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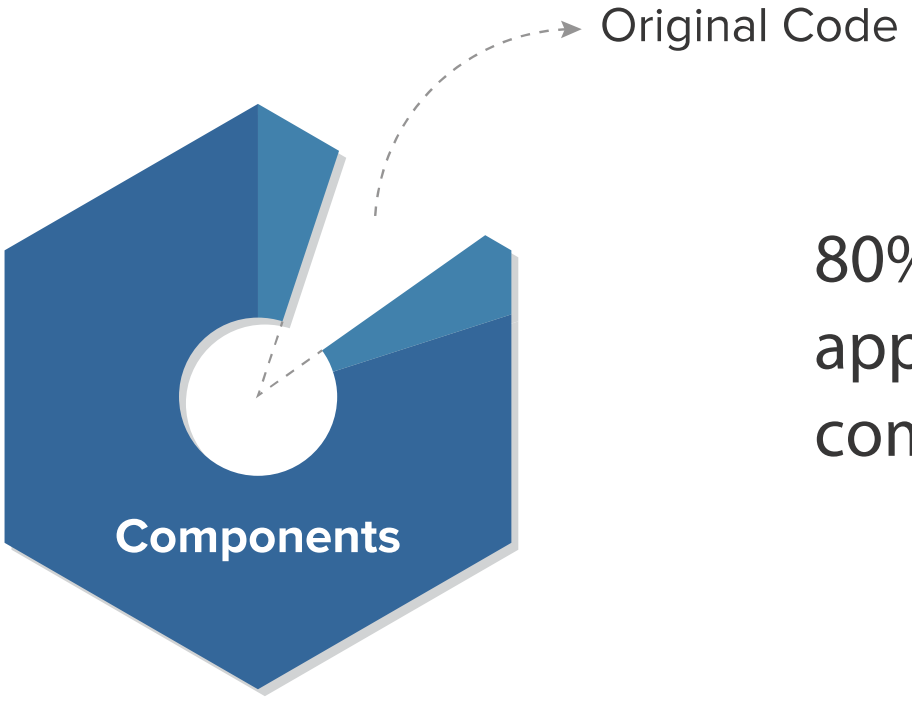
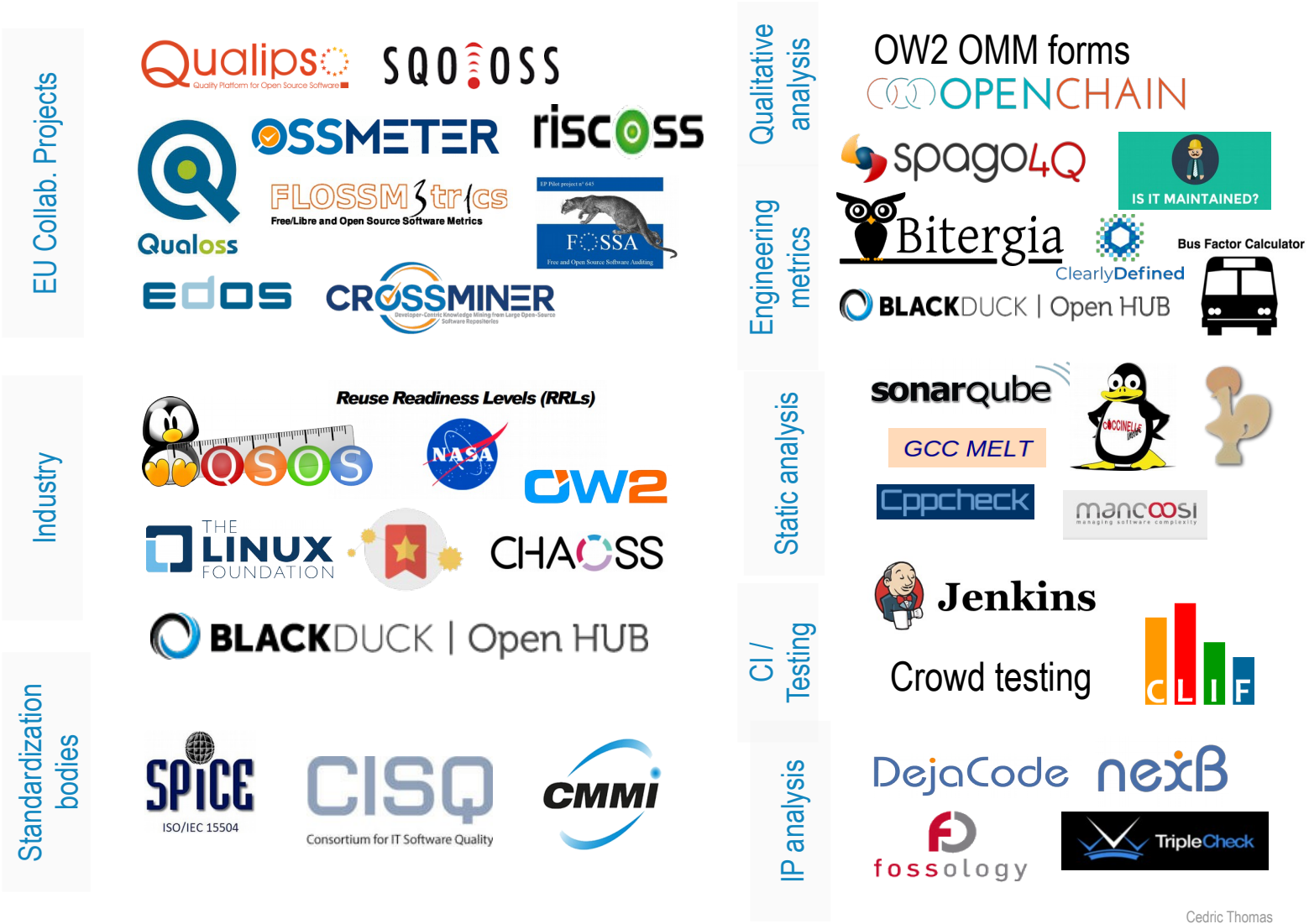


80% to 90% of a typical application is composed of components.

Source: Sonatype, DevSecOps Comunity Survey, 2018

Cedric Thomas

The Busy Landscape of OSS Metrics



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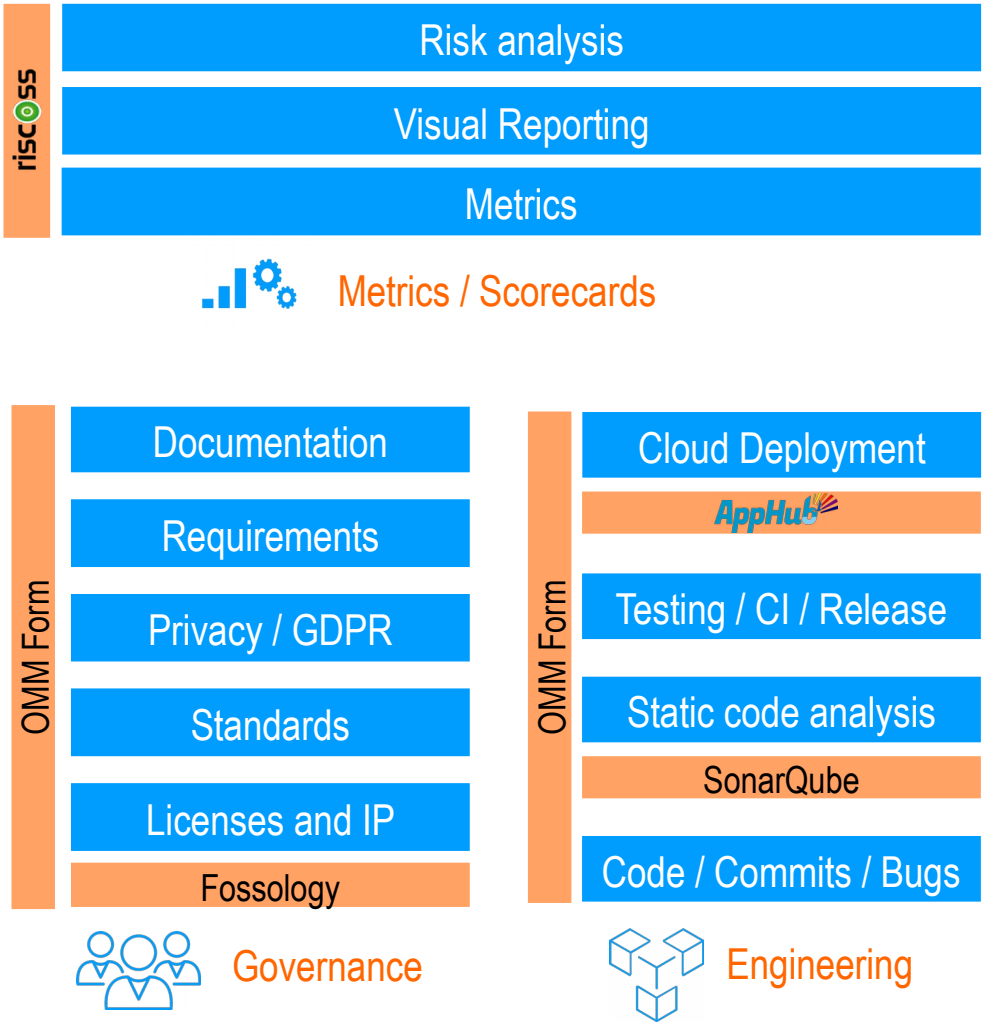
OW2 OSCAR

- A methodology and a platform
- Quality assessment tools
- Raw data + risk assessment models
- Transparent information on projects
- Check-list of best practices to reach market maturity



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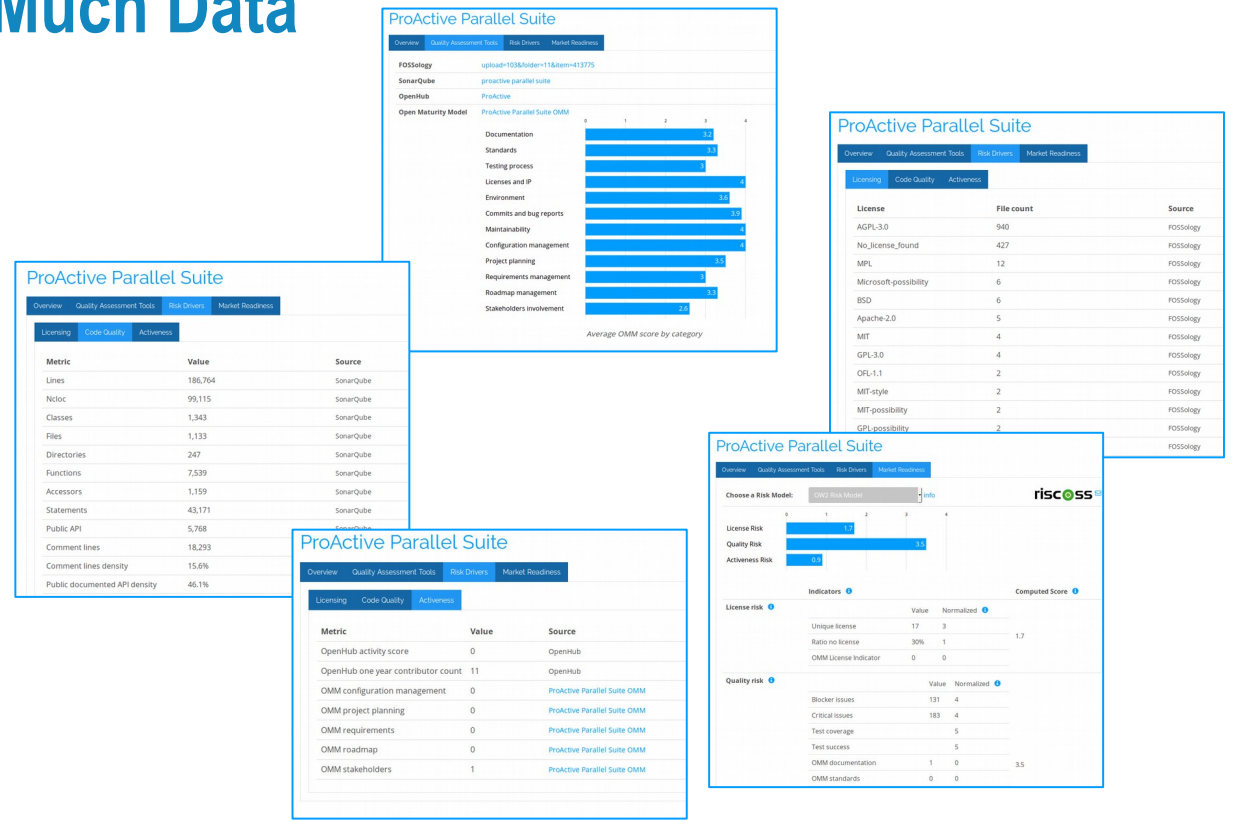
When a Lot of Data Can Be Too Much Data



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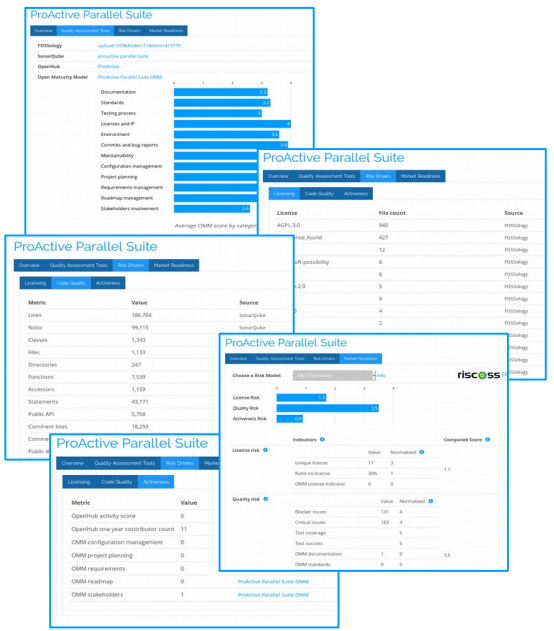
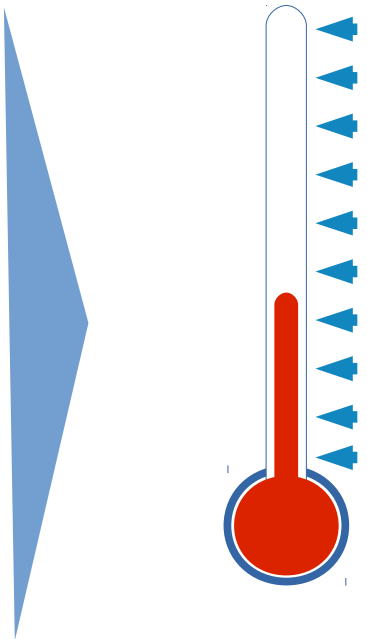
Toward a Synthetic Indicator





Established Product (useful)

Rough Code (useless)

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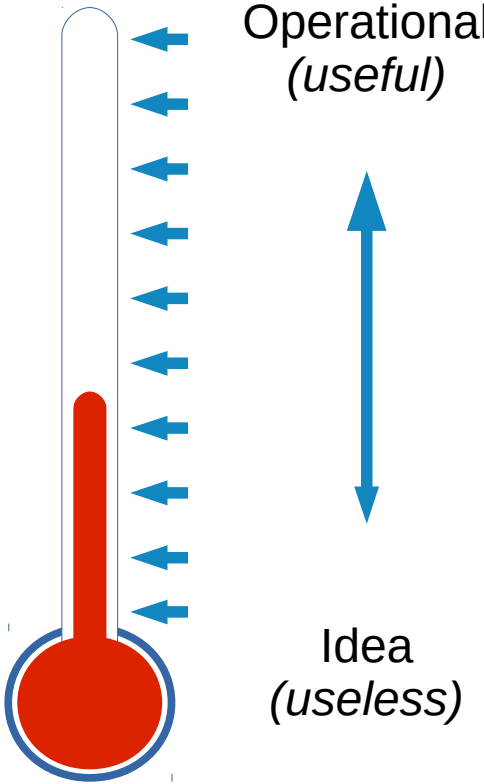
NASA's Technology Readiness Levels



- A type of measurement system used to estimate the maturity level of a particular technology
  - In technology, there are usually nine readiness levels. TRL 1 is the lowest and TRL 9 is the highest.
- A TRL number is obtained once the description has been achieved.
  - For example, successfully achieving TRL 4 does not move the technology to TRL 5.
- Pioneered by NASA in the 80's.
  - Adopted by the DOE and DOD for procurement and management of complex systems.

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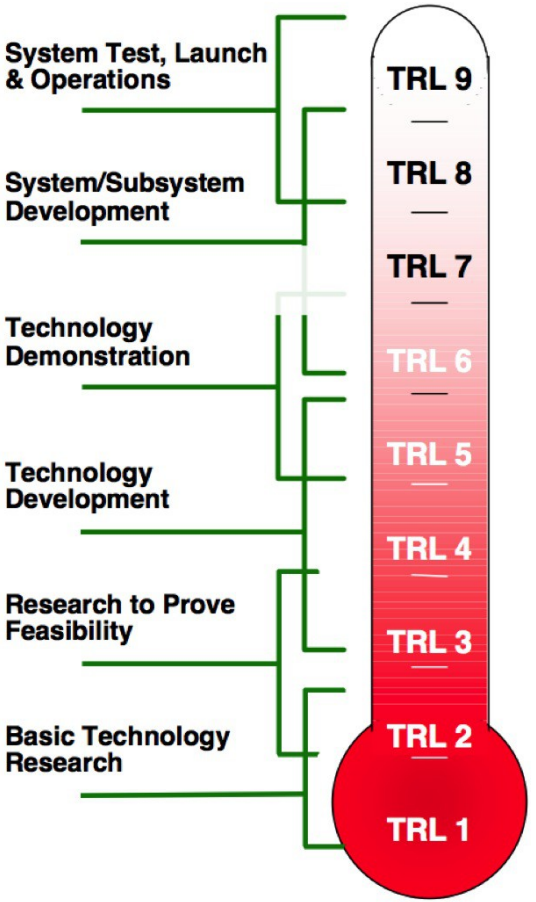
NASA/DOD Technology Readiness Level



TRL 9 — Actual system "flight proven" through successful mission operations

TRL 8 — Actual system completed and "flight qualified" through test and demonstration (Ground or Flight)

TRL 7 — System prototype demonstration in a space environment

TRL 6 — System/subsystem model or prototype demonstration in a relevant environment (Ground or Space)

TRL 5 — Component and/or breadboard validation in relevant environment

TRL 4 — Component and/or breadboard validation in laboratory environment

TRL 3 — Analytical and experimental critical function and/or characteristic proof-of-concept

TRL 2 — Technology concept and/or application formulated

TRL 1 — Basic principles observed and reported

Image source https://www.cheatography.com/davidpol/cheat-sheets/dod-technology-readiness-levels/
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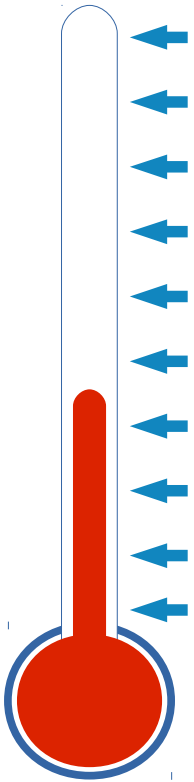
OW2 OSS Market Readiness Template



"flight proven"	***Established player***	Established product with properly financed and organized Business support Customer base, Repeat sales and Market recognition
"flight qualified"	***Actively competitive***	Early customer base, appropriate financing or active community support, recognized software
"prototype in space"	***Business build-up***	Early customer base and fledgeling financing or active community support
"proven demo"	***Broadening market***	Proven product recent, market opening, untested governance
"relevant envt validation"	***Opening market***	Some customers recent, market opening, un-proven governance
"Lab validation"	***Usefulness verified***	Several users, project leadership well established
"proof of concept"	***Fledgling usefulness***	One declared user (can be internal) with declared project leader
"application formulation"	***Product development***	Basic R&D code developed with one demonstrated use case, some documentation
"Basic principles"	***Basic early stage***	Basic R&D code developed

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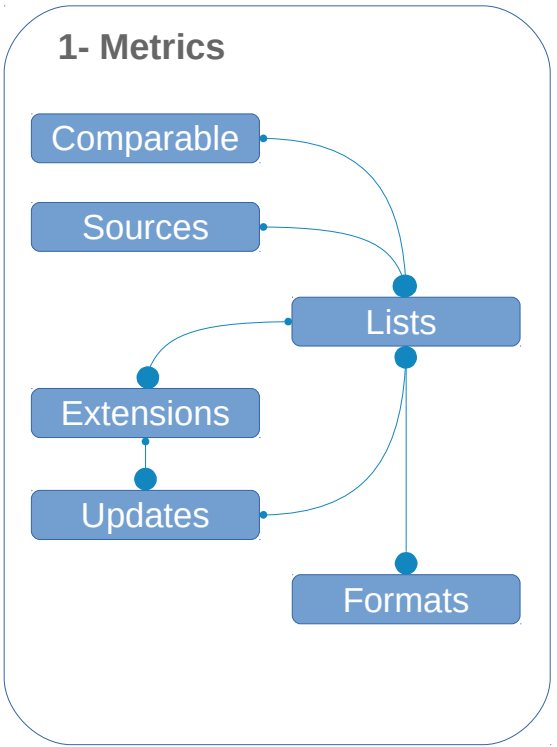
Defining Metrics



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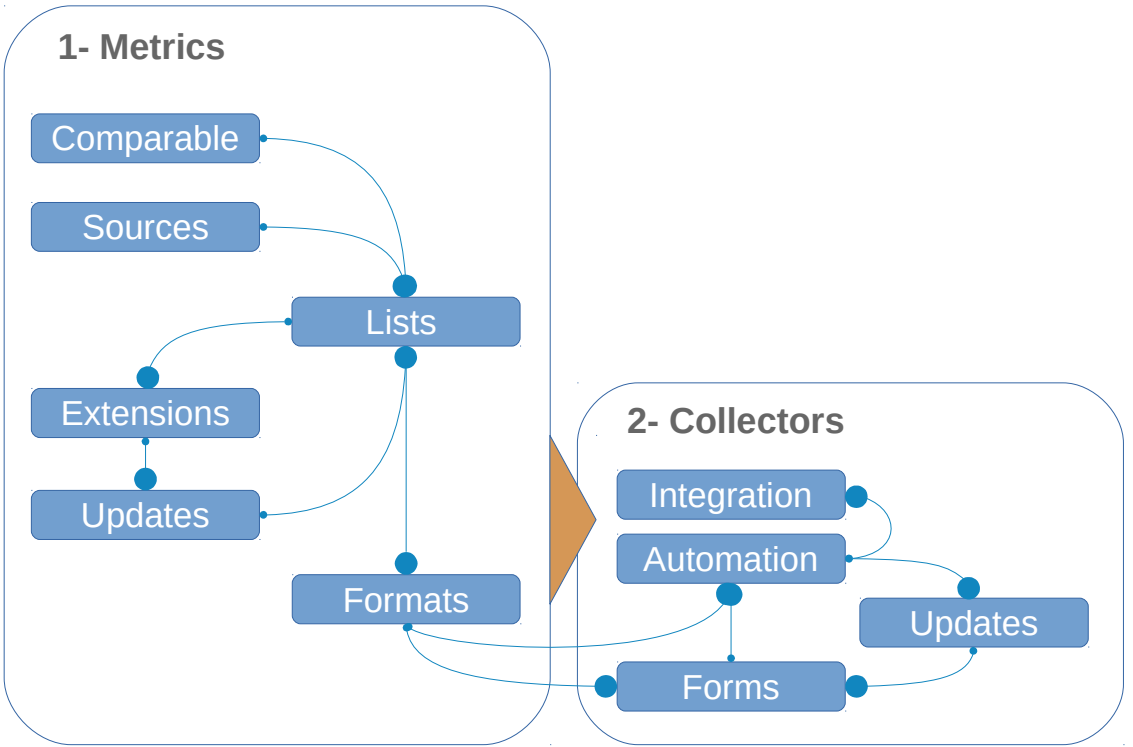
Collecting Data



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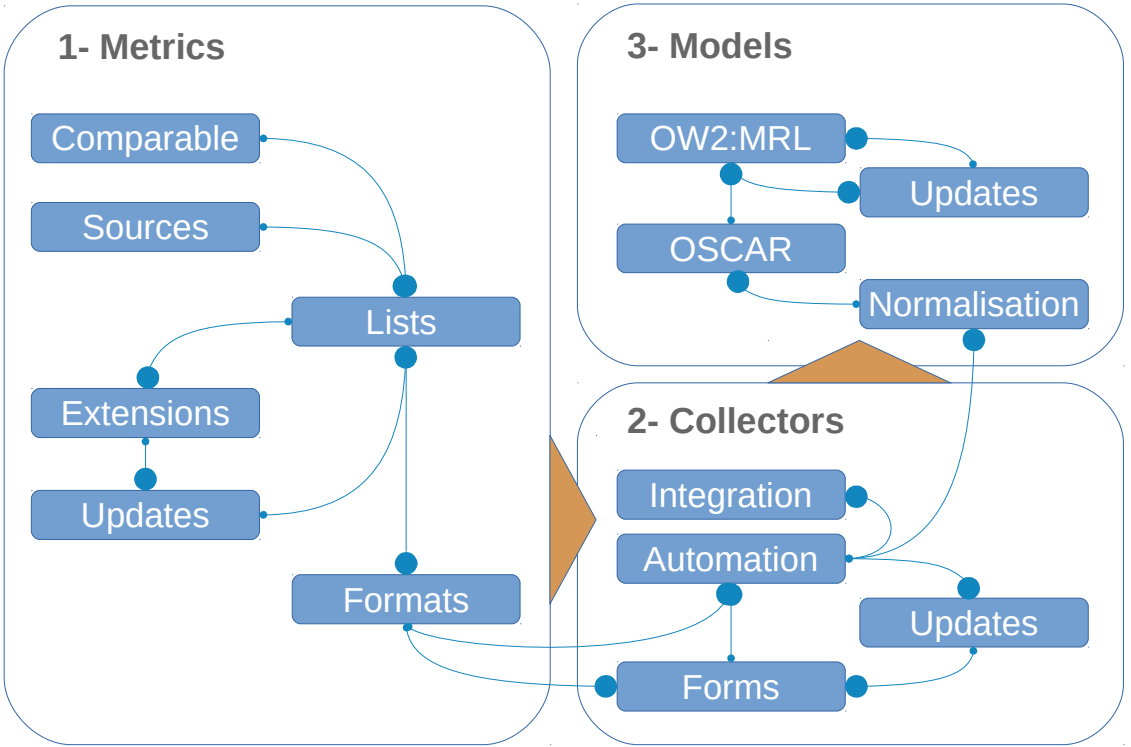
Processing Data



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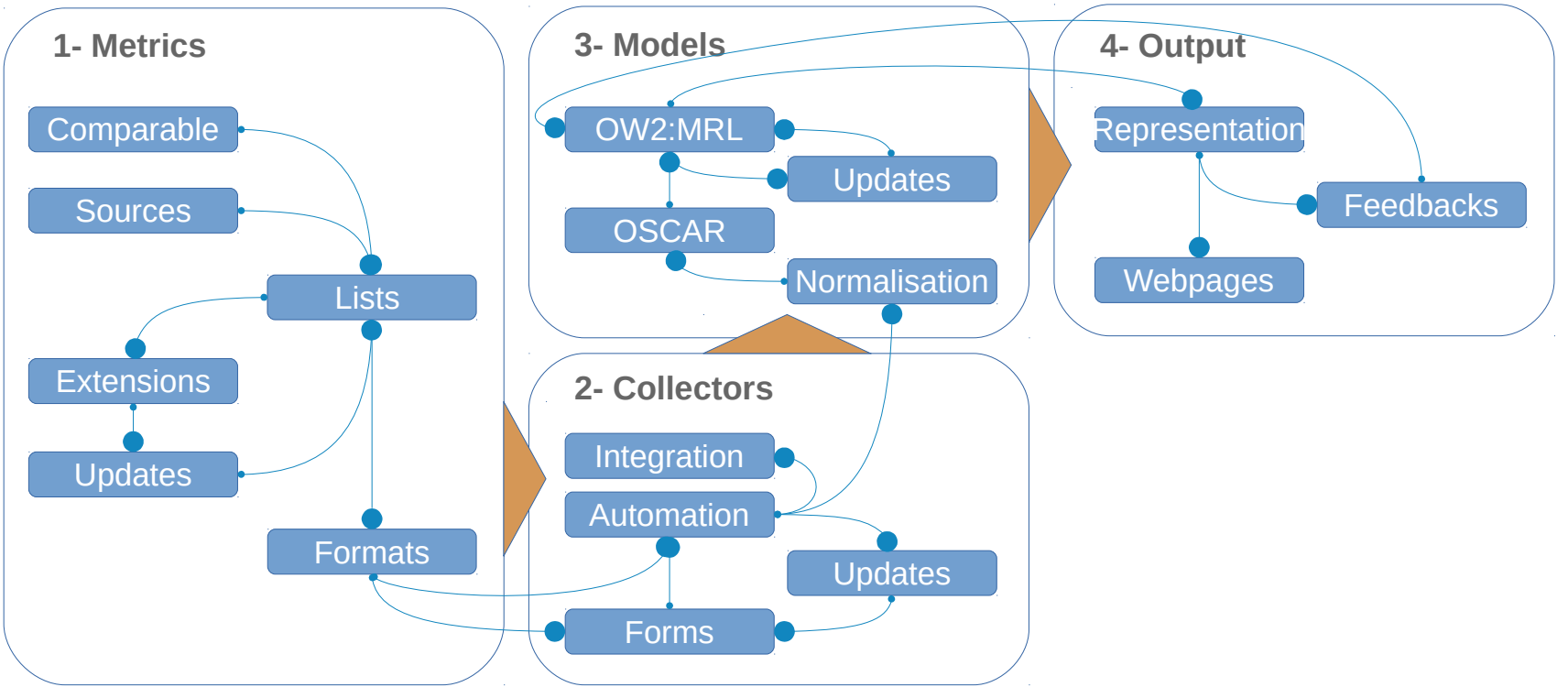
Publishing Results



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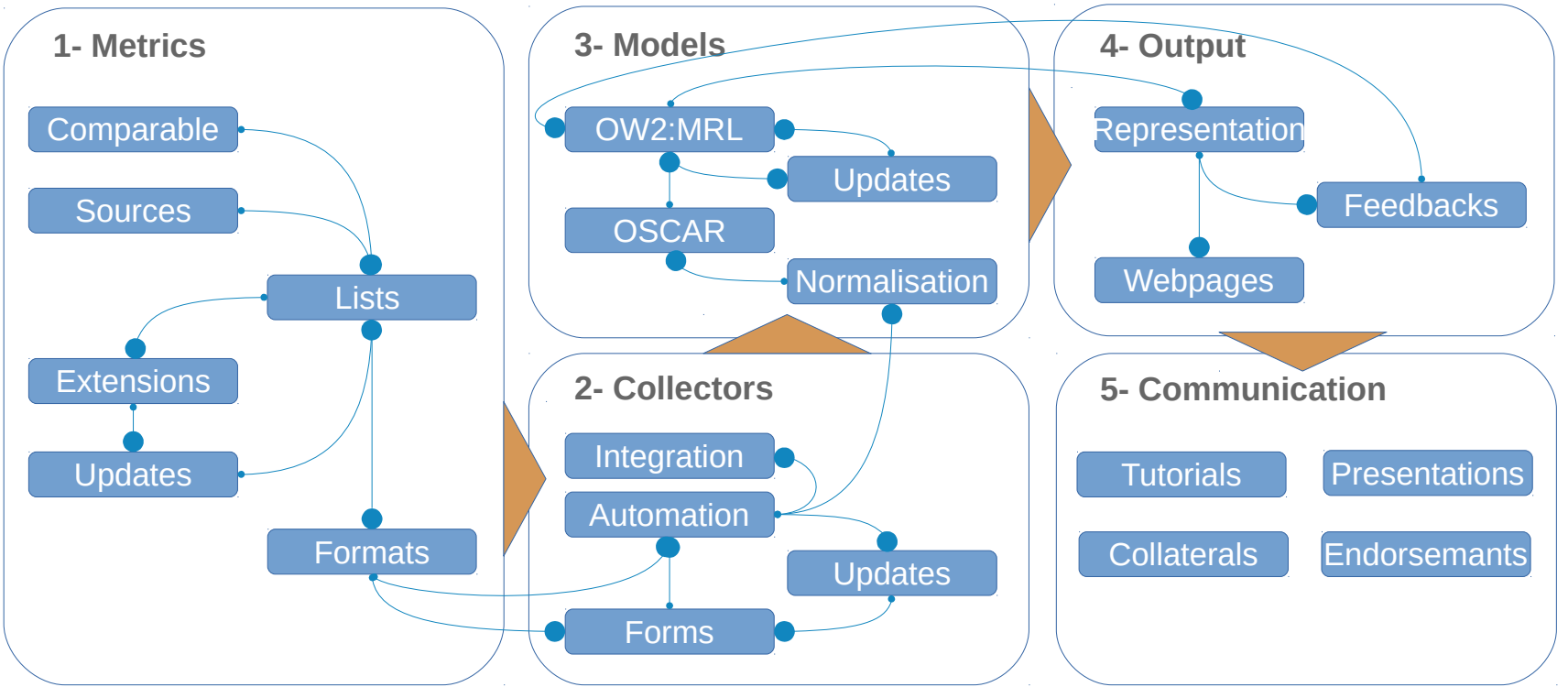
Reaching Out



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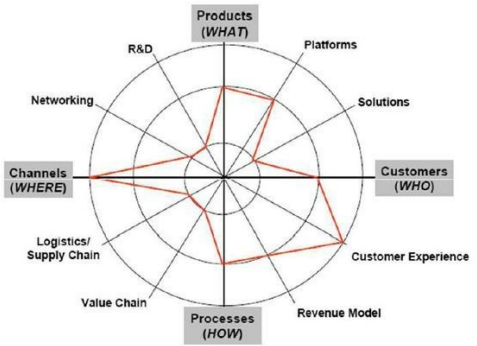
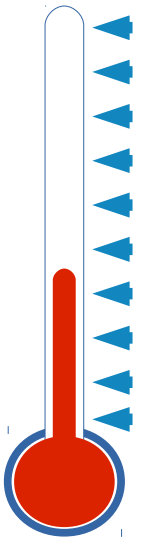
Questions, Challenges and Pitfalls





- **Metrics**: Possible vs Workable
  - Criteria list must be manageable
- **Project support**: Community vs For-Profit
  - One rationale fits all?
- **Perspective**: Engineering vs Business
  - End-user angle is the new thing
- **Context**: Scientific vs Enterprise
  - Different worlds evaluated differently?
- **Process**: Data collectors vs Forms
  - Some of it will be manual
- **Rationale**: Measurement vs Evaluation
  - Measurable facts vs Opinions
- **Data**: Snapshot vs Updates
  - Static or dynamic assessment
- **Representation**: Levels vs Radar Vs Status
  - Avoid hierarchies

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Collaboration Outlook

- Infrastructure
  - https://oscar.ow2.org/view/MRL/
  - Wiki, web pages
  - Mailing list
- Research
  - References
  - Dashboard representation
- Stakeholders
  - Involve actual users and project leaders
  - Set-up advisory board
    (Developers, VCs, Academics, Users)

Cedric Thomas

Thank You

And now let's talk

- **Q&A**
- **Disagreements**
- **Complements**
- **Feedback**
- **etc.**

www.ow2.org