

LEVERAGING OPEN SOURCE PROJECTS FOR OPEN SOURCE MANAGEMENT

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Open Source Management

Four business sectors

Mobility Solutions



Industrial Technology



Energy and Building Technology



Consumer Goods



Bosch founded 15. November 1886, Stuttgart, Germany

Researchers and developers across the globe



Open Source Management Spearheading the Internet of Things

Market presence

6.2m

connected devices using
Bosch IoT Suite



Know-how

800+

IoT experts around the world
(Germany, Bulgaria, Singapore, China,
Japan, USA)



Experience

250+

IoT international projects in the areas
of manufacturing, mobility, energy,
home & building, city, agriculture ...



Mobility

Solutions for
electromobilit
y, intermodal
transporta-
tion, and
connected
vehicles



Industry

Solutions for
connected
manufactur-
ing



Agriculture

Solutions to
support the
sustainable
intensification
of food
production



Energy

Solutions for
smart and
simple
energy
management



**Smart
Home &
Building**

Solutions for
connected
homes and
commercial
buildings



Smart City

Connected
solutions for
urbanites to
make life
easy and
efficient



Bosch IoT Suite

Open Source Management

Current members of Eclipse IoT Working Group



Source: <http://iot.eclipse.org/working-group/>

OPEN SOURCE MANAGEMENT

Open Source Management

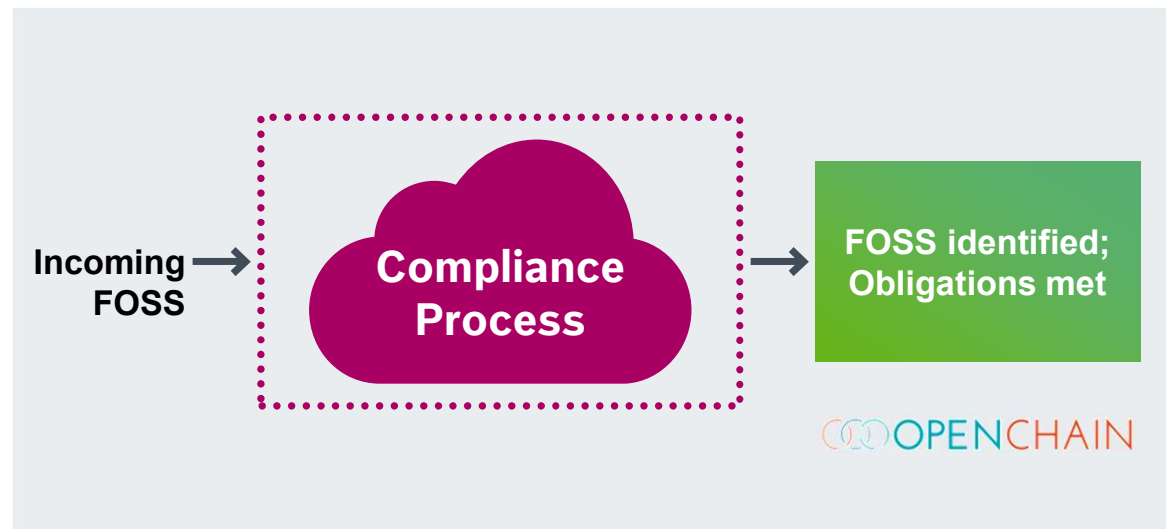
Introduction

Theory
What?

Compliance management is a set of actions that manages OSS components used in products. Companies may have similar processes in place for proprietary components. FOSS components are called "Supplied Software" in the OpenChain specification.

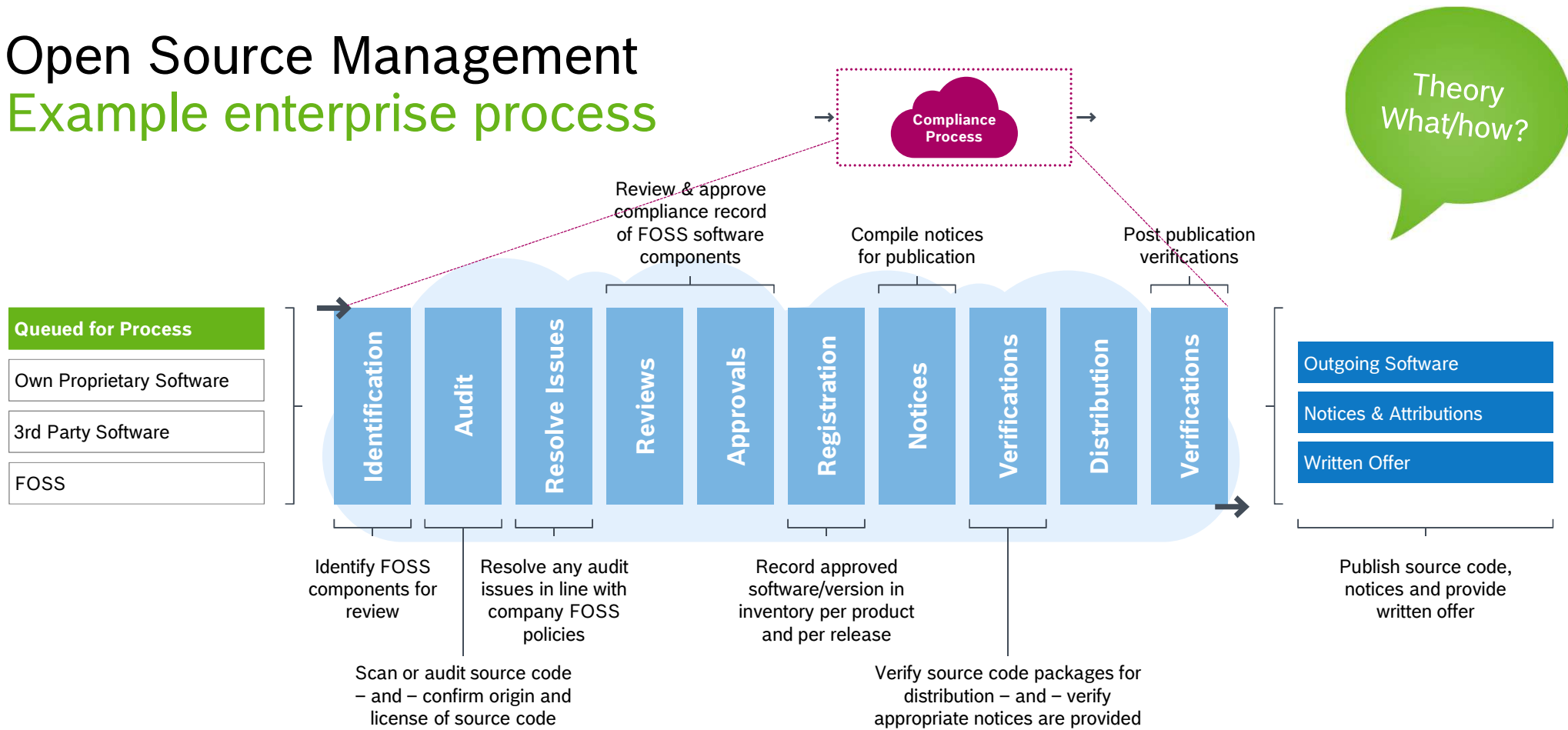
Such actions often include:

- ▶ Identifying all the FOSS components used in Supplied Software
- ▶ Identifying and tracking all obligations created by those components
- ▶ Confirming that all obligations have been or will be met
- ▶ Small companies may use a simple checklist and enterprises a detailed process.



Open Source Management

Example enterprise process



Example of Compliance Management End-to-End Process

Source: <https://www.openchainproject.org/>

Open Source Management Tooling landscape?

Practice
How? With
what tools?

CI/CD needs a high degree of automation, thus the automated tooling is inevitable.

In 2017: some Open Source Tooling Projects available, but no central overview and nearly no harmonization in between the projects

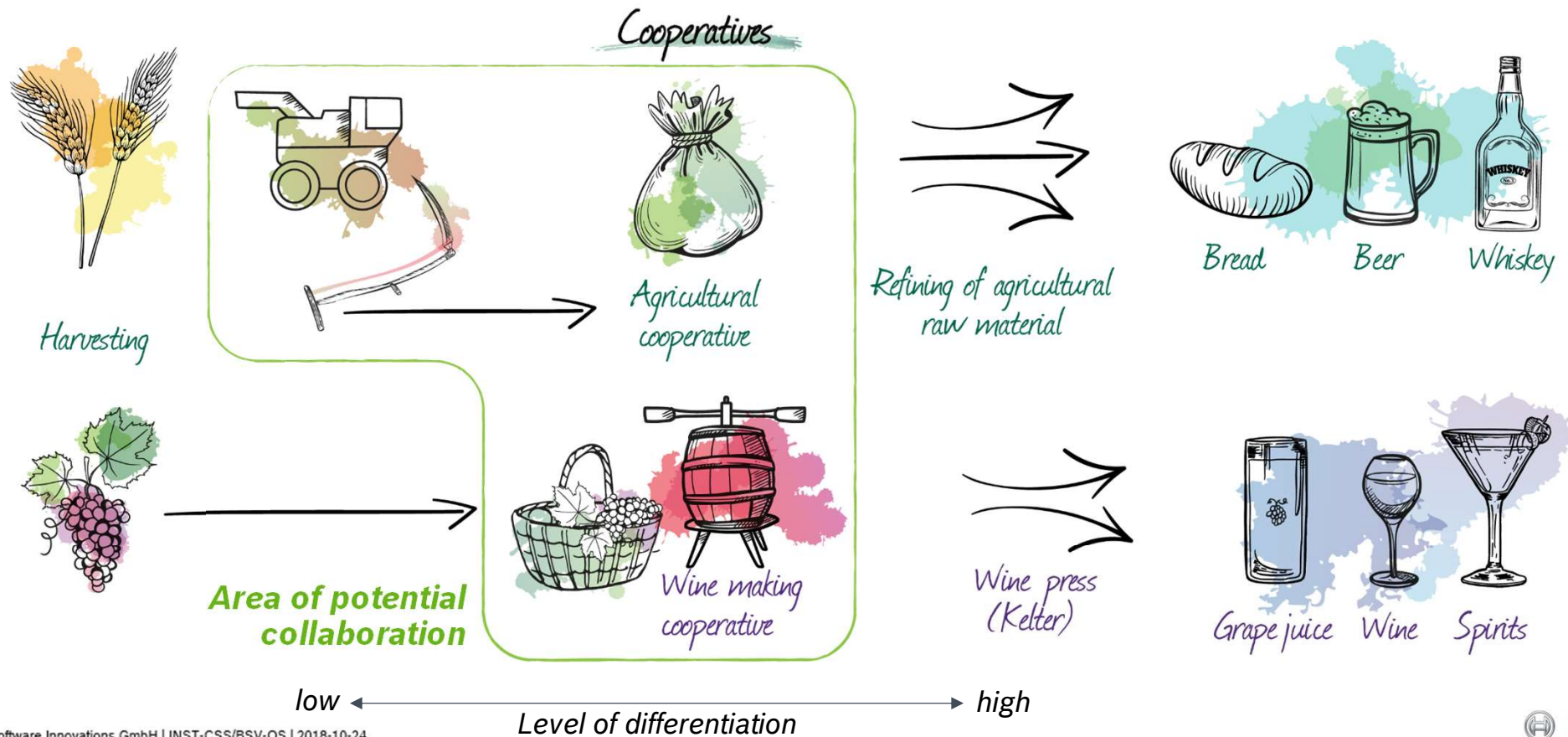


This presentation is an update of last year's talk from Prague/Ludwigsburg:

<http://sched.co/Bylj> ; <https://youtu.be/z19ifXKAkgE> ;

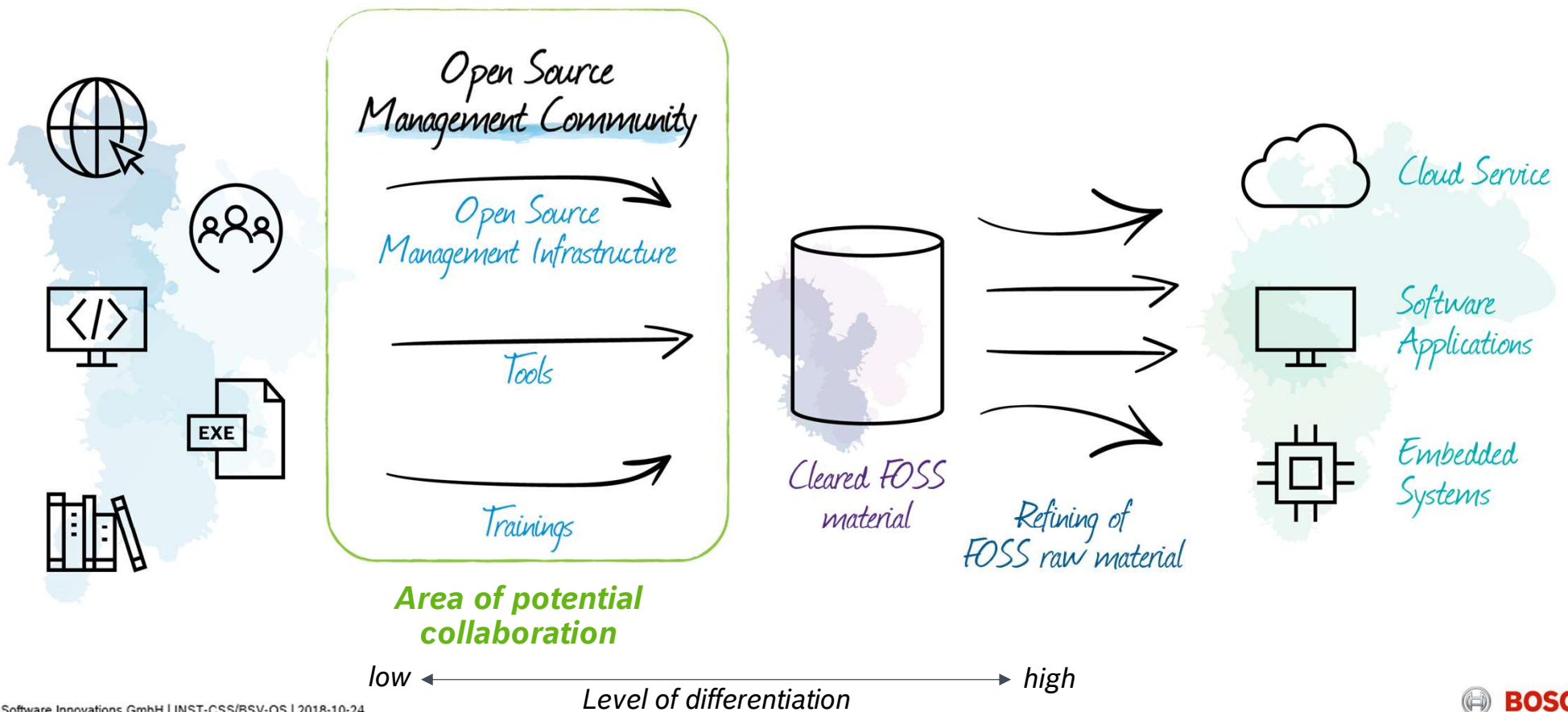
Open Source Management

Examples for Cooperation



Open Source Management

Collaboration in Open Source Management



Open Source Management

Precondition for collaboration



Release-based Open
Source Management

Component-based Open
Source Management

Open Source Management

What is necessary to make a community run?

1. People need to know about each other!

2. People need to get together

3. People need to find out the “commons” and the common problems to motivate the further cooperation

4. Harmonize the wording – get on the same page

5. Make it transparent and visible!

6. Invite other for networking

Establish and
maintain
the ecosystem!

Open Source Management

Retrospective – the journey of the last months “Tooling landscape”

1. People need to know about each other!

Talks at LinuxCon 2017 and EclipseCon 2017 in 10/2017

2. People need to get together

First common meeting in 02/2018

3. People need to find out the “commons” and the common problems to motivate the further cooperation

first collection and visualization of problem space in the first meetings

4. Harmonize the wording – get on the same page

Glossary was established and is continuously maintained

5. Make it transparent and visible!

Meeting results were shared in Github and collaboratively improved

6. Invite other for networking

BoF Meeting at this Linux OSSEU 2018

Establish and maintain the ecosystem!

Open Source Management

Parameters that influence your OSM system setup

License constraints

- ▶ E.g. only permissive licenses vs. strict copyleft licenses

Used technologies

- ▶ E.g. JAVA and Maven vs. C-Code on real-time systems

Development approach

- ▶ E.g. platform development vs. customer specific project development

+ the company legacy systems have a strong influence on your OSM system

Open Source Management

Key elements

- ▶ Artifact repository
- ▶ Source code repository
- ▶ Component metadata database
- ▶ License database
 - ▶ Obligation catalogue
 - ▶ Obligation fulfillment guidelines
- ▶ Open source code archive
- ▶ Thesis: those key elements exist (at least virtually) in every OSM system independently from
 - ▶ License constraints
 - ▶ SW technology
 - ▶ Development approach
- ▶ Those building blocks are not differentiating (only the managed content and the integration maybe)

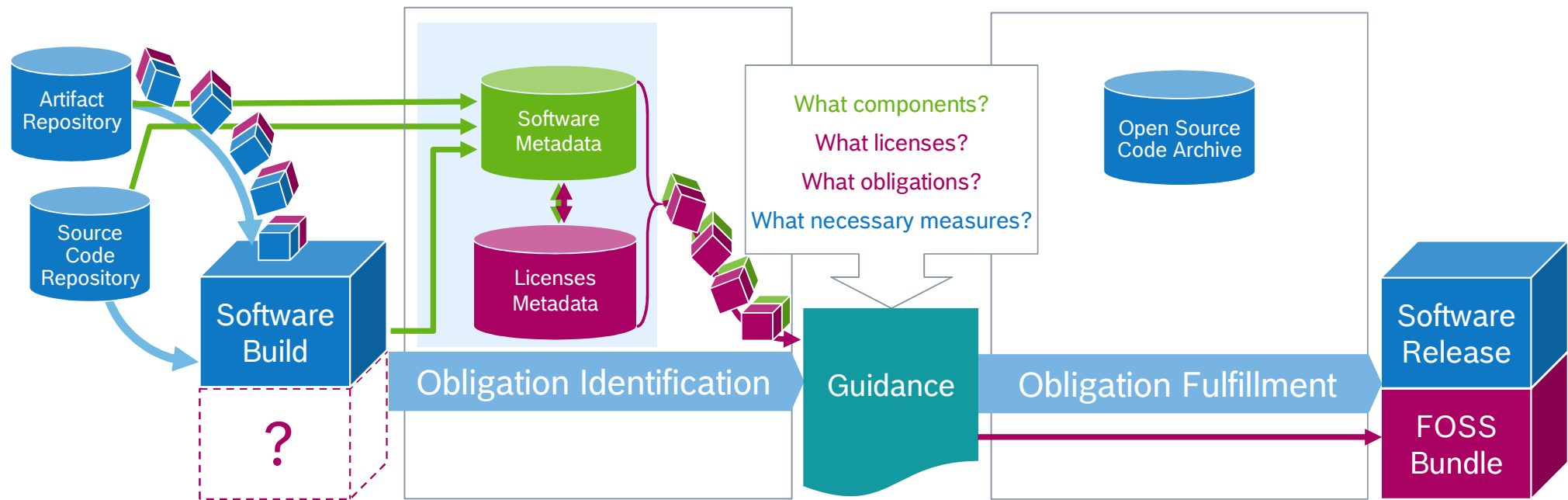
Update

Most elements confirmed, but naming adapted!
A glossary of terms was started!

<https://github.com/Open-Source-Compliance/Sharing-creates-value/blob/master/Tooling-Landscape/Unanimous-Understanding/OSS-Tooling-Landscape-Glossary.md>

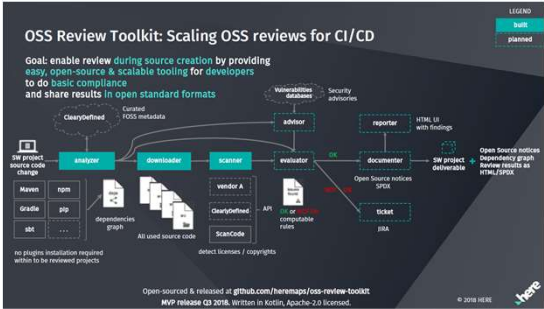
Open Source Management

Key elements

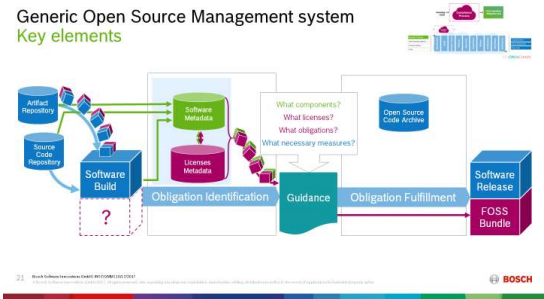


Open Source Management

Key elements

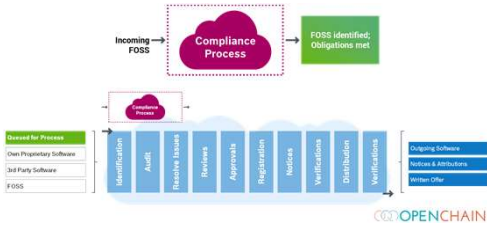


Source: https://sched.ws/hosted_files/osls18/b2/oss-review-toolkit-osls-2018-thomas-steenbergen.pdf



Source: <https://osseu17.sched.com/event/Bylj>

...



Update

Common abstract representation is currently worked out! (using plantuml)

https://github.com/Open-Source-Compliance/Tooling-Landscape/blob/master/Tooling-Landscape/Unanimous-Understanding/OSS_Tooling_Landscape_UMLComp.plantuml

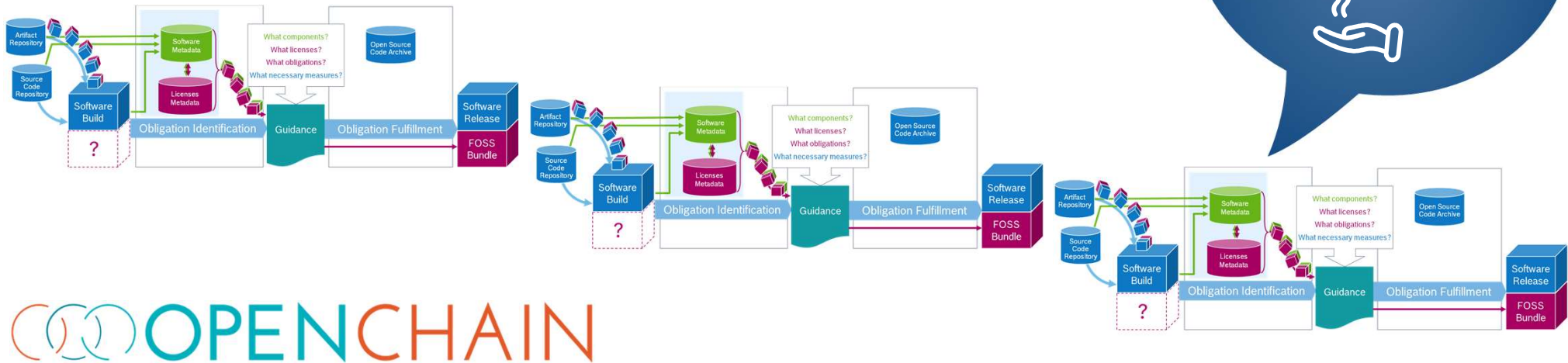
MOTIVATION

Open Source Management

Basic OSM-maturity through the supply chain

- ▶ Value the work of the open source communities by establishing and maintaining a professional Open Source Management
- ▶ Share good practices with suppliers and partners
- ▶ Spread the good practices to increase the overall OSM-maturity in the business
- ▶ Continuous delivery needs automated processes!

All parts of the supply chain need to keep the software clean.



OPENCHAIN

OPEN SOURCE PROJECTS FOR OPEN SOURCE MANAGEMENT

Open Source Management

Collaborative projects



Processes



Source Code



ClearlyDefined

Data



Standards



Tooling



Antenna

ORT

Development
Integration

Update

The tooling landscape community collects the list of Open Source OSM Tools and shares it via Github
→ See BoF-Session

Bosch participation currently under investigation

OUTLOOK

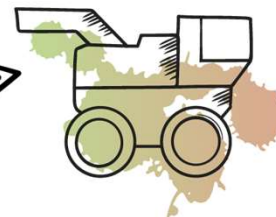
Open Source Management

Two aspects of Open Source Communities

Working together






Funding together



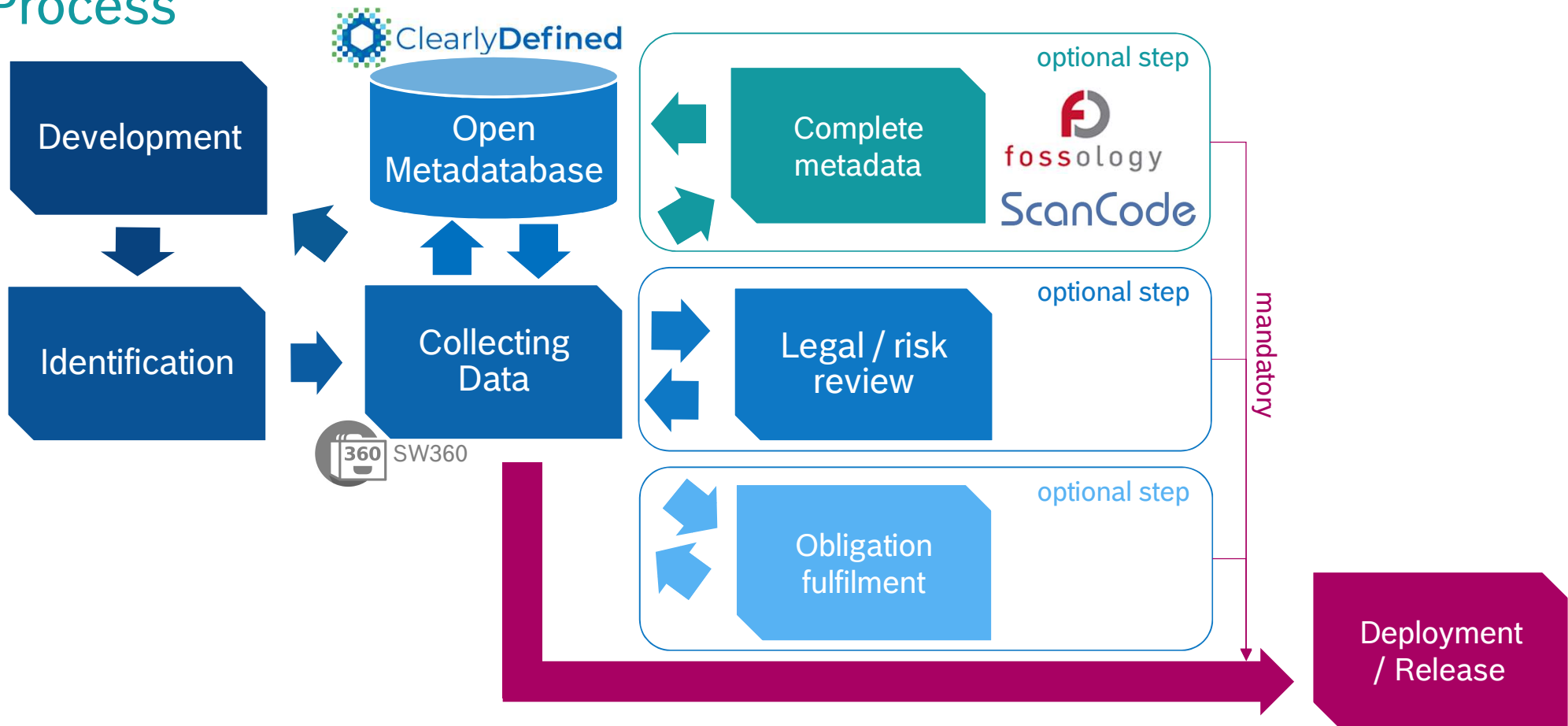
SUMMARY

Open Source Management

What do you need?

Need	Potential community to collaborate with
Open Source Strategy and Policy, Best Practices	TODO-Group, sharing-creates-value  TODO
Awareness and Trainings	Open Chain Curriculum 
Open Source Processes, Roles and Artifacts	Open Chain Specification 
Open Source Management Infrastructure consisting of	“Tooling Landscape”
▶ Open Source Development Monitoring Tools	see mapping in “Tooling Landscape”
▶ Open Source Clearing Tools and Services	see mapping in “Tooling Landscape”
▶ Open Source Obligation Fulfillment system	see mapping in “Tooling Landscape”
...	

Open Source Management Process



Open Source Management

The OSM Community

Let's enable
a professional Open
Source Management
for everyone!

If you need help,
ask!

You are
invited to
join the current
activities

<https://github.com/Open-Source-Compliance/Sharing-creates-value/tree/master/Tooling-Landscape>

THANK YOU

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