The new ISO 18974 – ISO 5230 as a stepping stone?

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Your speaker

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Agenda

1 Success Story ISO 5230

2 Introduction to ISO 18974*

3 Synergies of strategic ISO implementation

* “ISO 18974” is used in this presentation for the ISO/IEC DIS 18974 which will be released as an ISO soon. It is known as the OpenChain Security Assurance Specification 1.1., a de-facto industry standard.

1

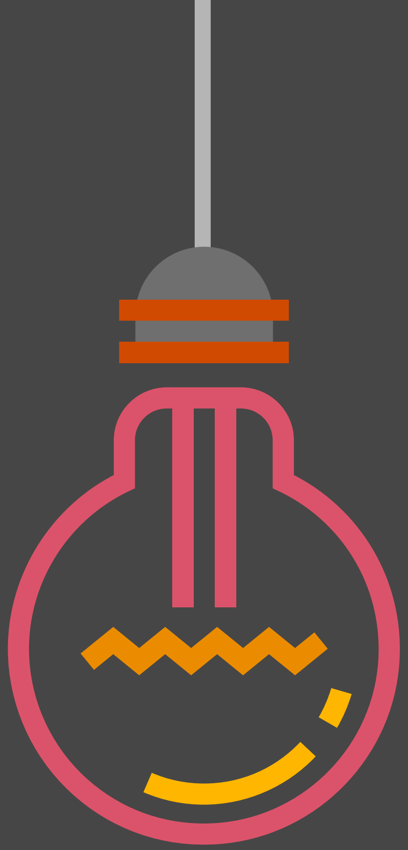
Success Story ISO 5230

→ just another compliance overhead?

Success story OpenChain ISO 5230

International standards increase transparency and build trust

- **International standard** for OSS license compliance (ISO 5230:2020)
- Offers established **best practices** and allows for flexible adoption
- **Increasing adoption** of ISO 5230 worldwide facilitating business operations
- **Risk mitigation** through increased transparency and control
- Streamlines OSS compliance and builds **trust in the software supply chain**



Success story OpenChain ISO 5230

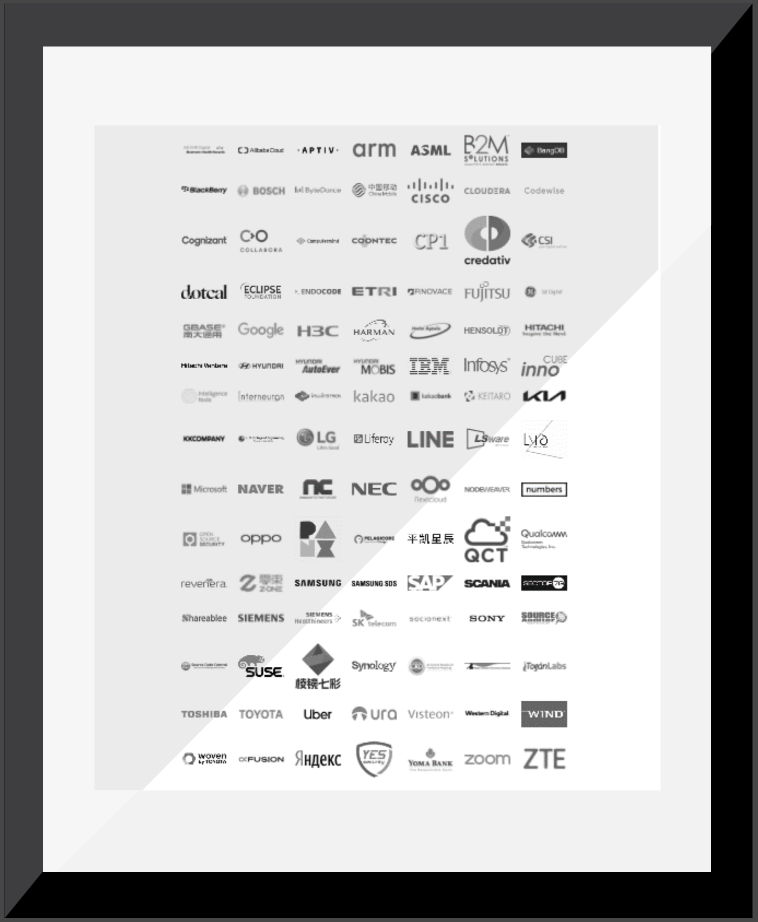
International standards increase transparency and build trust

Facts and figures

Since the ISO 5230 has been released, the share of companies in Germany with OSS policies increased from 17% to **32%.**

41% of companies in Germany have established OSS compliance processes.

More than **100** conformance programs worldwide announced within the OpenChain Community.



Source: Bitkom e. V. Open Source Monitor 2023 (sneak preview results)

The ISO 5230 offers more than just license compliance

ISO 5230 adds value to the OSS ecosystem

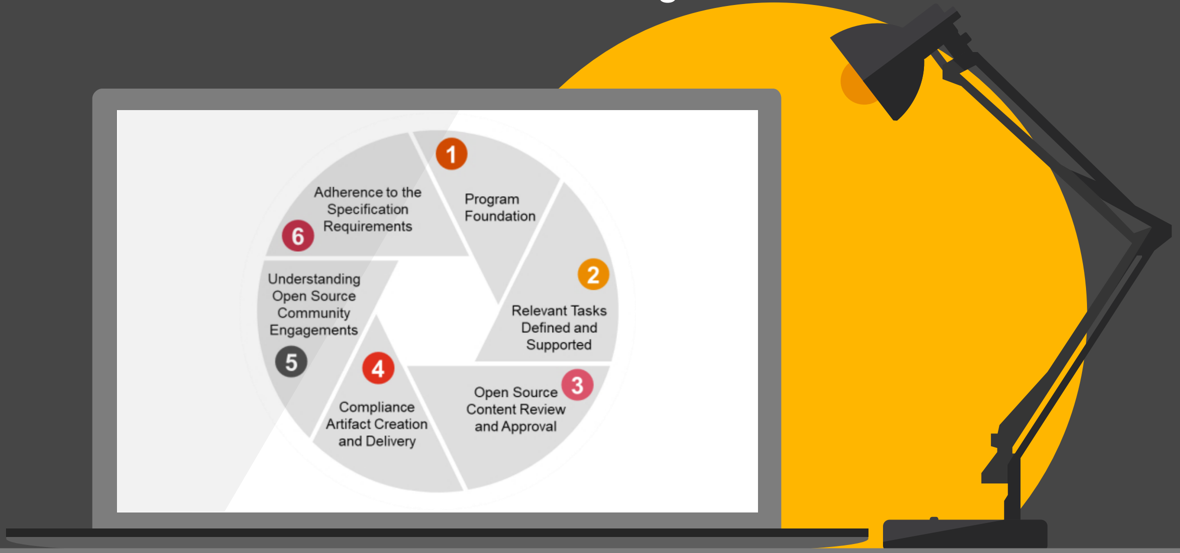
- **Guidance** for implementation of OSPOs
- **Orientation** for active OSS practitioners
- **Proof of conformance** for mature OSS organisations

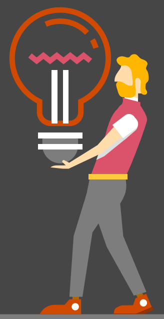
ISO 5230 enables…

… development of **individual OSS strategy** and measures

… realisation of **OSS advantages**

… OSS license compliance to be thought of **in broader terms** and extended to the security environment


1
Program Foundation
2
Relevant Tasks Defined and Supported
3
Open Source Content Review and Approval
4
Compliance Artifact Creation and Delivery
5
Understanding Open Source Community Engagements
6
Adherence to the Specification Requirements



2

Introduction to ISO/IEC DIS 18974

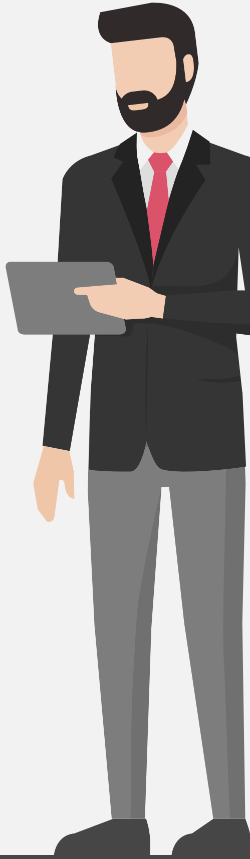
→ starting from square one?

CVE- & SBOM-Management is state-of-the-art

Increasing number of security incidents demands adequate OSS Management

Sushi Swap	Attacker with repository access pushed a malicious commit redirecting cryptocurrency to himself.
Log4j	Many OSS users missed Log4J’s wake-up-call for OSS Security as still a significant share of the downloads of Log4J are vulnerable versions.
Solar Winds	The attacker breached the build platform and embedded code that introduced harmful actions with every build.
event-stream	Attacker added an innocent dependency and then later updated the dependency to add malicious behaviour.

> “We don’t consider OSS to be less secure than Closed Source! Actually most Closed Source has OSS included anyway.
>
> \- Marcel Scholze, Head of OSS Services at PwC Germany



OSS Management is State of the Art

Governments and the private sector demand OSS security

“A **SBOM** describes the software components used as building blocks (…). These lists increase visibility into the product and enable (…) to **check for known vulnerabilities and validate the device** from a security standpoint, helping to reduce the vulnerability gaps (…)”

ENISA, Guidelines for Securing IoT (Nov. 2020)

DORA

“The digital operational resilience testing programme (…) shall provide (…) execution of appropriate tests, such as vulnerability assessments and scans**, open source analyses** (…) scanning software solutions, source code reviews where feasible (…)”

Digital Operational Resilience Act (Jan. 2023)

CONGRESS.GOV

“Due to both the unique strengths of open source software and inconsistent historical investment in open source software security, there **exist unique challenges in securing open source software** (…) and the Federal Government should play a supporting role in ensuring the long-term security of open source software (…)”

Securing Open Source Software Act (Sept. 2022)

“Manufacturers shall, upon identifying a vulnerability in a component, including in an **open source component**, which is integrated in the product with digital elements, **report the vulnerability to the person or entity maintaining the component**.(…)”

Cyber Resilience Act (Draft, Sept. 2022)

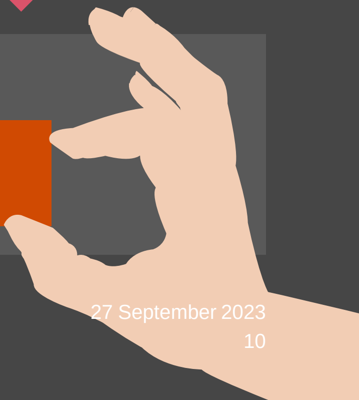
More Security in Software Supply Chains is dependent on:

... more **transparency** in software use

... more **standardization** of OSS Management **Practices**

... more **standardization of information bases**

ISO 18974 conformance

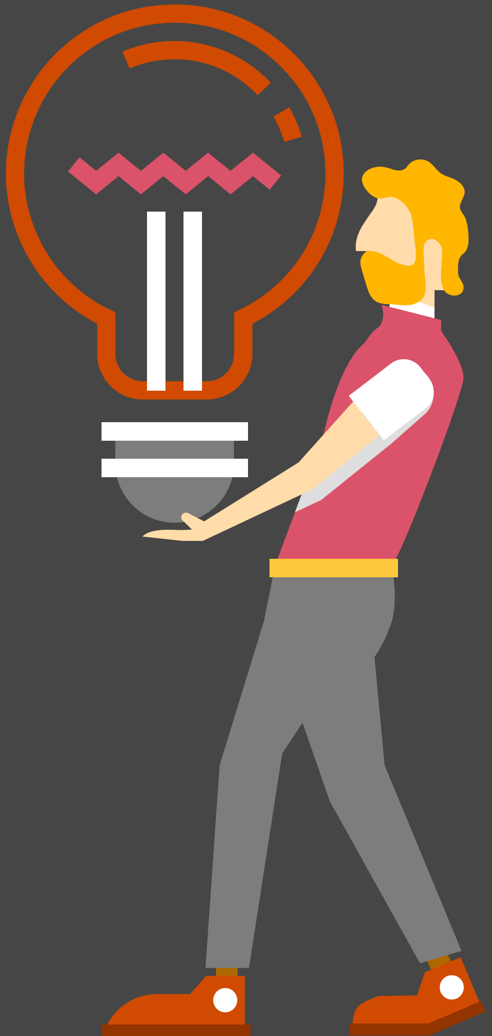


Introduction to ISO/IEC DIS 18974

What the new ISO for Open Source Security looks like

Background and focus

- **Following OpenChain ISO 5230:2020**
- Transfers **ISO 5230 into the security** domain
- Serves as the official **guide for OSS Security Assurance** programs
- Describes **“what” and “why”** aspects of Security Assurance, allowing for flexibility in implementation



ISO 18974– Implementation Areas (1/2)

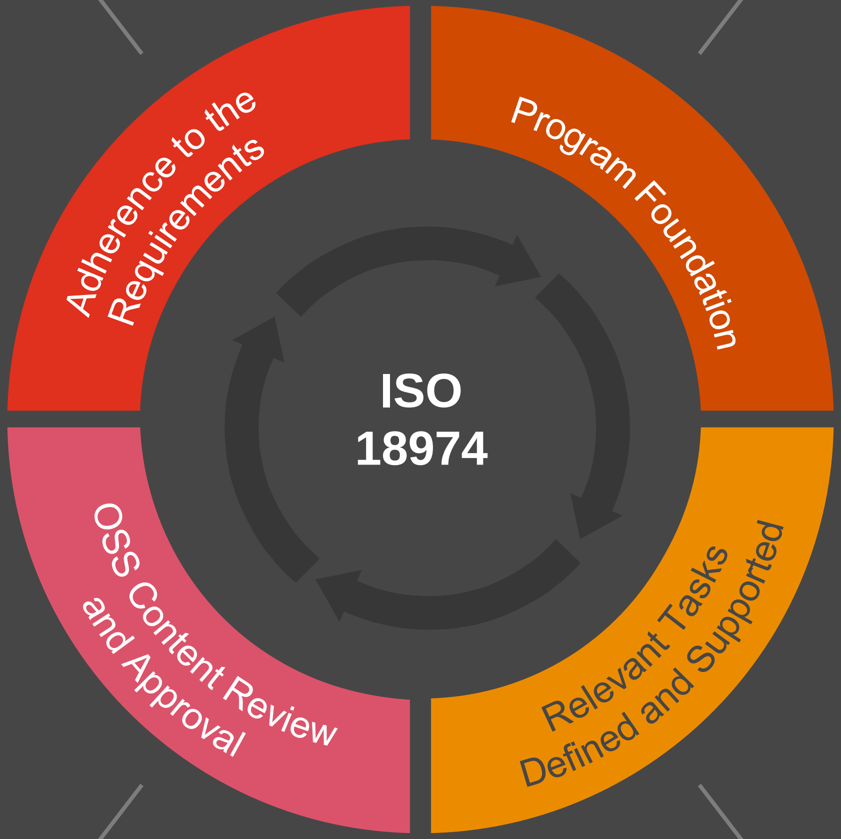
Requirements on Open Source Security for Supplied Software

Adherence to the Guidelines Requirements

- Completeness
- Conformance
- Duration

Open Source Content Review and Approval

- Software Bill of Materials (SBOM)
- Security Assurance


Adherence to the Requirements
Program Foundation
ISO 18974
OSS Content Review and Approval
Relevant Tasks Defined and Supported

Program Foundation

- Policy
- Competence
- Awareness
- Program Scope
- Standard Practice Implementation

Relevant Tasks Defined and Supported

- Access
- Effectively Resourced

ISO 18974– Implementation Areas (2/2)

Requirements on Open Source Security for Supplied Software

Adherence to the Guidelines Requirements

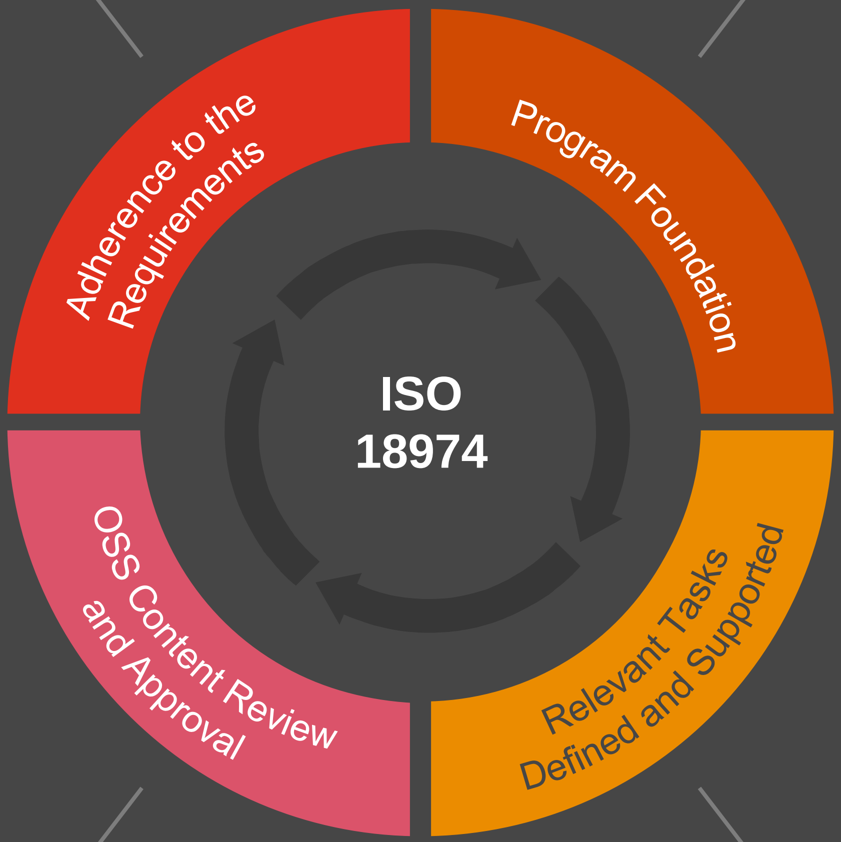
Excerpt of exemplary deliverables:

- **documented** evidence affirming the Program **satisfies all the requirements**
- …

Open Source Content Review and Approval

Excerpt of exemplary deliverables:

- **documented procedure** for creating and maintaining SBOMs for Supplied Software
- **documented procedure** for **handling detection and resolution of Known Vulnerabilities** of the Supplied Software
- …


Adherence to the Requirements
Program Foundation
ISO 18974
OSS Content Review and Approval
Relevant Tasks Defined and Supported

Program Foundation

Excerpt of exemplary deliverables:

- **written policy** for OSS Security Assurance
- **documented list of roles** with corresponding responsibilities and competencies
- …

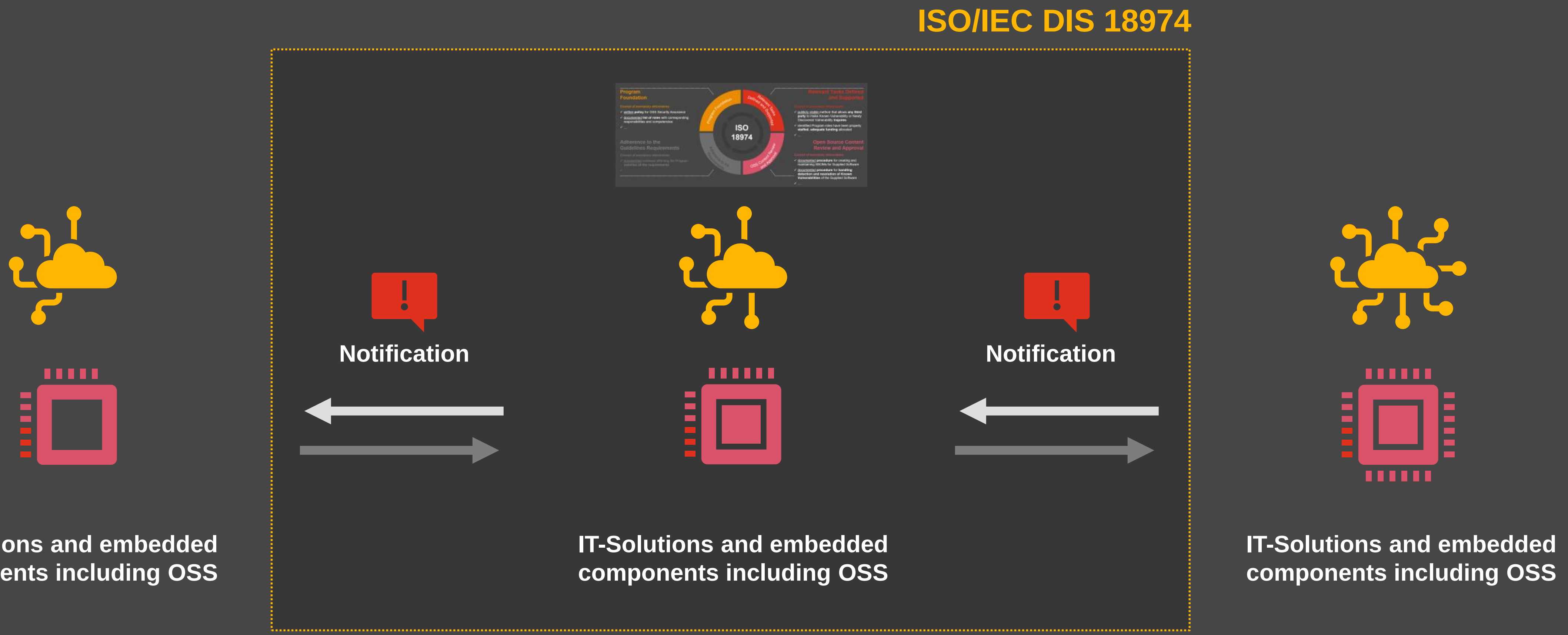
Relevant Tasks Defined and Supported

Excerpt of exemplary deliverables:

- **publicly visible** method that allows **any third party** to make Known Vulnerability or Newly Discovered Vulnerability **inquires**
- identified Program roles have been properly **staffed**, **adequate funding** allocated
- …

The core of ISO 18974 is supply chain security

Conformance builds trust in the supply chain



ISO/IEC DIS 18974

Program Foundation

Example of exemplary deliverables

✓ written policy for OSS Security Assurance

✓ documented list of roles with corresponding responsibilities and competencies

✓ ...

Adherence to the Guidelines Requirements

Example of exemplary deliverables

✓ documented evidence affirming the Program satisfies all the requirements

✓ ...

ISO 18974

Relevant Tasks Defined and Supported

Example of exemplary deliverables

✓ publicly visible method that allows any third party to make Known Vulnerability or Newly Discovered Vulnerability inquiries

✓ identified Program roles have been properly staffed, adequate funding allocated

✓ ...

Open Source Content Review and Approval

Example of exemplary deliverables

✓ documented procedure for creating and maintaining SBOMs for Supplied Software

✓ documented procedure for handling detection and resolution of Known Vulnerabilities of the Supplied Software

✓ ...

Program Foundation
Relevant Tasks Defined and Supported
OSS Content Review and Approval
Adherence to the Guidelines Requirements

Notification

Notification

IT-Solutions and embedded components including OSS

IT-Solutions and embedded components including OSS

IT-Solutions and embedded components including OSS

3

Synergies of strategic ISO implementation

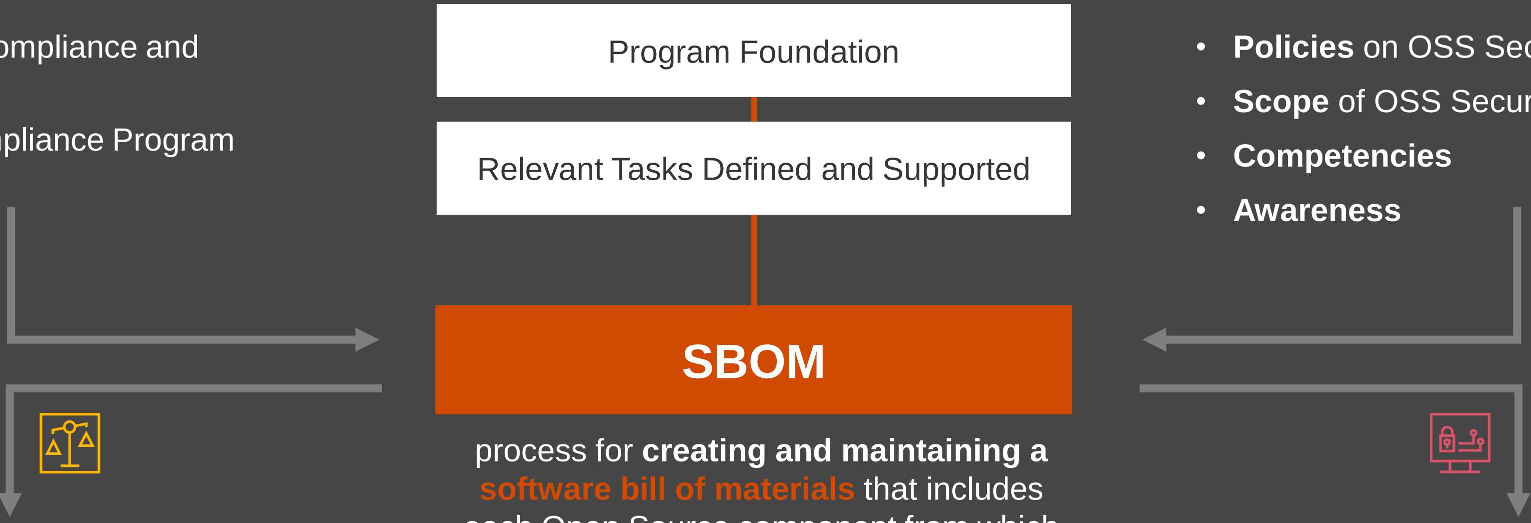
→ ISO 5230 as a stepping stone for OSS security

Synergies of ISO 5230 and ISO/IEC DIS 18974

Comparison of compliance and security related requirements

ISO 5230 areas

- **Policies** on OSS License Compliance and Community Engagement
- **Scope** of OSS License Compliance Program
- **Competencies**
- **Awareness**



Program Foundation

Relevant Tasks Defined and Supported

SBOM

process for **creating and maintaining a software bill of materials** that includes each Open Source component from which the Supplied Software is comprised

License Compliance Measures:

- Handling of OSS license use cases
- Compliance Artifact Creation and Delivery

ISO 18974 areas

- **Policies** on OSS Security
- **Scope** of OSS Security Program
- **Competencies**
- **Awareness**

Security Assurance Measures:

- Detection and resolution of Known Vulnerabilities
- Maintenance of records
- Information of clients of supplied SW

ISO 5230 as a stepping stone towards OSS Security?

SBOMs are a crucial element in both ISO standards

- Both ISO standards require **robust Program Foundation (Policies, Scoping, Awareness, Trainings)**
- The introduction of ISO 5230 and 18974 should be oriented **towards existing frameworks**
- Procedures of **SBOM Creation and Maintenance** are a crucial element in both ISO standards and should be properly harmonized

Advantageous synergies during implementation can be realized **regardless of the implementation scenario**:

- one of the two ISO standards is already implemented
- implemented one after the other
- implementation in parallel

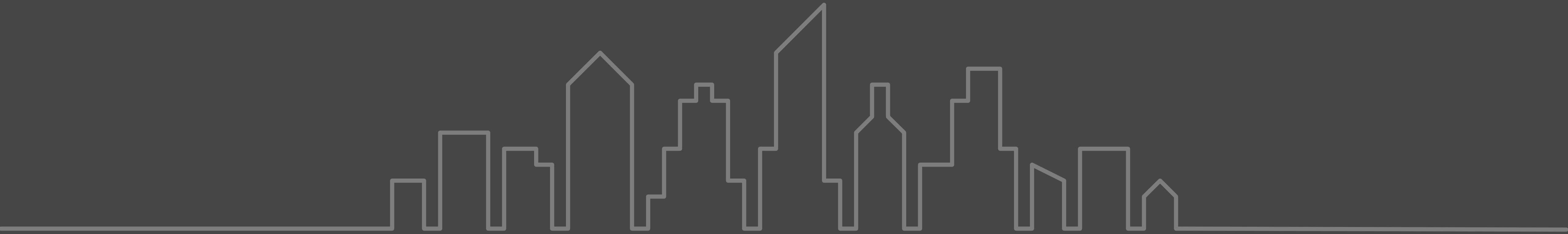
ISO 18974 as an important milestone to OSS Security

Resilient IT systems require OSS security

ISO 5230 can be a stepping stone

Supply Chain security is a joint effort

Contribution to OSS ecosystem



Please ask your questions or get in touch:

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