



# **Built-in Security and Quality:** **Addressing #1 cloud concerns right from the start**

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# Transition to the Cloud is accelerating, new technologies are emerging

## Cloud transition accelerates

SAP accelerates customer transition into the cloud, laying the foundation for accelerated growth.

- Innovative business models
- Customer centricity
- Blurring industry boundaries
- Competing in ecosystems
- Changing workforce
- Fragile global supply chains

**COVID-19 as accelerator** for cloud transformation

## The need for Cybersecurity increases

**Digitalization and high performance computers** require highest quality footprint.

Geo political disruption increase the risk of cybercrime attacks. Highest security efforts are imperative to protect our customers.

## Cloud Quality Strategy

SAP accelerates Cloud Quality Strategy through:

- Embedded Compliance
- Quantum-ready Cybersecurity
- Market-leading Certification coverage
- Resilient Quality by Default

# Quality and Security are key to enable adoption & sustained product success

Companies rate **quality** as highly important when evaluating enterprise application vendors  
– IDC <sup>1</sup> –

#1 concern about Cloud: **Security**  
– IDC <sup>2</sup> –

“By 2025, 70% of CEOs will mandate a culture of organizational resilience to survive coincident threats from **cybercrime** [...]”  
– Gartner<sup>3</sup> –



# Cloud and emerging technologies raise criticality of Quality and Security

## Cloud & emerging Technologies

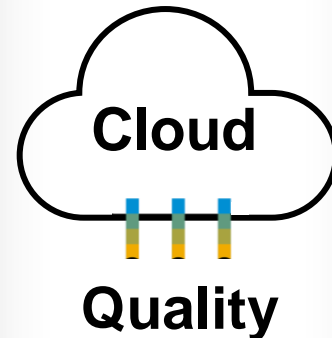
Ease of use and experience

Time to value

Flexibility, scalability

Instantly available updates

Innovate business models through emerging technologies



## Quality & Security

Excellent UX across products

Integrated across LoBs

System performance and resilience

Built-in, certified Security

Cybersecurity controls quantum threats

# Application Security – SAP’s Focus Topics

**OUR PURPOSE** *Uplift security & data privacy through targeted reinforcement of a security culture and secure by default approach* →

## OUR AMBITION

Ensure Secure by Construction in Product Engineering

Cloud-ready secure by Default and by Design

Protect the assets of our customers

Build a Security Culture & Awareness

Reinforce Trust based on Industry Standards & Compliance

## SECURITY CHALLENGES IN THE CLOUD

Security in the Cloud requires a change in processes, engineering & culture

- Increased risk of cybercrime attacks & events
- Cloud services require strict security & data privacy rules
- Increased compliance rules & certification requirements
- Fragmented Operations systems

## HOW DO WE GET THERE?

Building a strong security foundation through dedicated Programs

**NIST Cybersecurity Framework**

**Excellent Central Services**

**Certified Cloud Services**

**Data Protection & Regulatory Compliance**

## OUTCOME – How do we prove it?

- **SAP perceived as the trusted Cloud supplier**
- **Industry leading Certification strategy & coverage**
- **State of the art NIST maturity level**
- **Product Standards & Compliance adherence**

# Security in the Cloud requires a change in processes, engineering and culture

## DEVELOPER

Consider tons  
of security  
requirements

Secure by default  
and construction

## OPERATIONS

Dev and ops working  
in silos, SLAs  
are hardly met

Dev sec ops and  
best-in-class  
security response

## CULTURE

Security is a task  
for experts

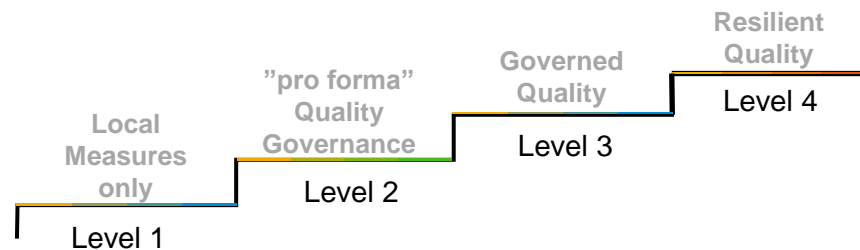
Thread modeling  
and response as part  
of agile development

# SAP's new approach towards superior cloud quality experience

Quality Management Transformation helps our customers to run with high quality

**OUR PURPOSE** *Enable superior cloud quality experience to drive adoption and sustained customer success*

**OUR AMBITION** Reach the next product quality maturity level



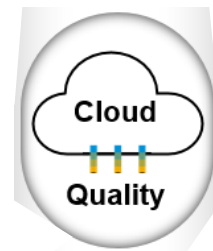
**HOW DO WE GET THERE?** Building a strong quality foundation based on five key pillars (enabled by SAP's QM Transformation Program)



## CRITICALITY OF QUALITY IN THE CLOUD

Customers and partners expect cloud-ready quality

- Excellent UX across products
- Complete and correct functionality
- Integrated across LoBs
- Built-in quality, certified security
- System performance and availability



## OUTCOME - SUPERIOR CLOUD QUALITY EXPERIENCE

- Enable adoption and renewals with superior cloud quality
- Release the full value of our portfolio through cloud qualities
- Uplift engineering efficiency through automated compliance

# SAP Quality Management System: Introduction

## Our quality management systems

We have a quality management system in place that defines standardized processes for our organizations Global Development, Digital Business Services, and IT. These globally applicable processes enable our employees to share and apply best practices to improve quality and customer satisfaction.



### SAP Global Development

SAP Global Development ensures that SAP solutions meet the highest possible standards. Our product quality standards are derived from ISO 25010 software quality model.



### SAP Digital Business Services

SAP Digital Business Services provides tailored services to maintain the quality of installed solutions.



### SAP IT

SAP IT ensures the quality and stability of SAP's internal IT infrastructure.

## Certificates



### ISO/IEC 9001 Quality Management System

Find the ISO/IEC 9001 certificates in the SAP Cloud Trust Center



### BS 10012:2009 Personal Information Management System

Find the BS10012:2009 certificate in the SAP Cloud Trust Center



### ISO22301 Business Continuity Management System

Find the ISO22301 certificates in the SAP Cloud Trust Center



### ISO/IEC 27001 Security Management System

Find the ISO/IEC 27001 certificate in the SAP Cloud Trust Center



### CSA STAR

Find the CSA STAR certificate in the SAP Cloud Trust Center

## Service Organization Control (SOC) Attestations

SAP is committed to third-party validations, standards, and certifications of the policies and procedures we use to maintain our customers' security, privacy, and data integrity. We maintain several certifications and accreditations to ensure we provide the highest standards of service and reliability to our customers.

SOC 1: Provides the auditor of a user entity's financial statements information about controls at a service organization that may be relevant to a user entity's internal control over financial reporting. A Type 2 SOC 1 report includes a detailed description of tests of controls performed by the CPA and results of the tests.

Note: SOC 1 (ISAE3402 / SSAE16) reports are only available for customers who had live, financially-relevant systems during the last audit period. Please contact your SAP sales representative to attain this report.

SOC 2: Provides management of a service organization, user entities, and others a report about controls at a service organization relevant to the security, availability, or processing integrity of the service organization's system, or the confidentiality and privacy of the data processed by that system. A Type 2 SOC 2 report includes a detailed description of tests of controls performed by the CPA and results of the tests.

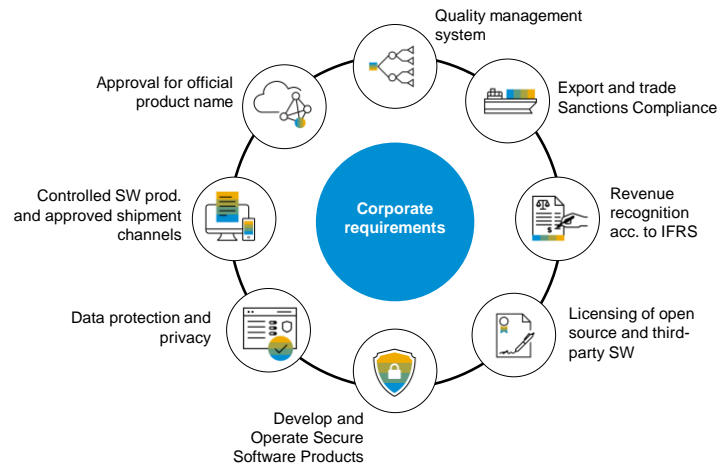
SOC 3: Provides users and interested parties a report about controls at the service organization related to security, availability, processing integrity, confidentiality or privacy. SOC 3 reports are a short-form report (i.e., no description of tests of controls and results) and may be used in a service organization's marketing efforts.

[Follow link](#) to get more details.

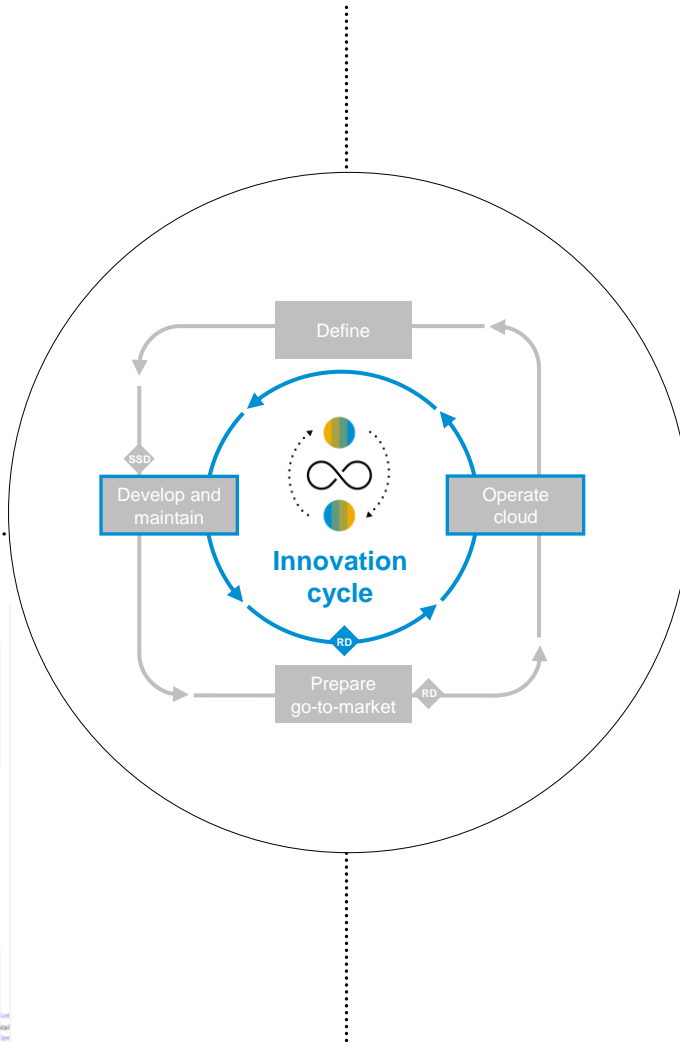
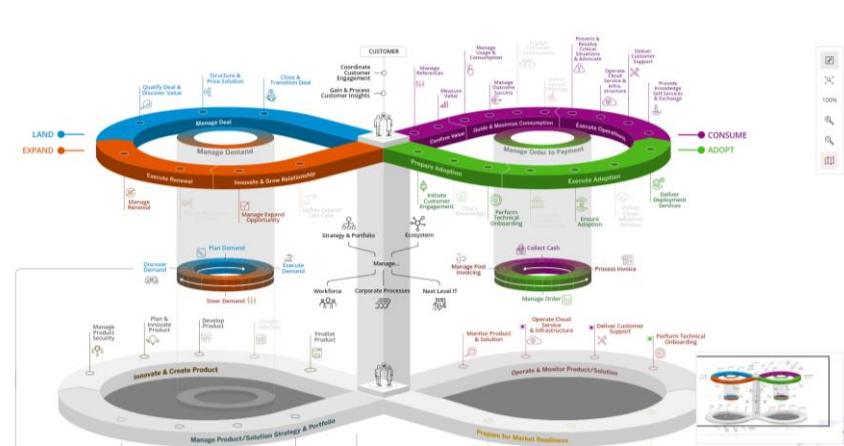


# SAP Quality Management System Framework: Overview

## Corporate requirements



## Process framework



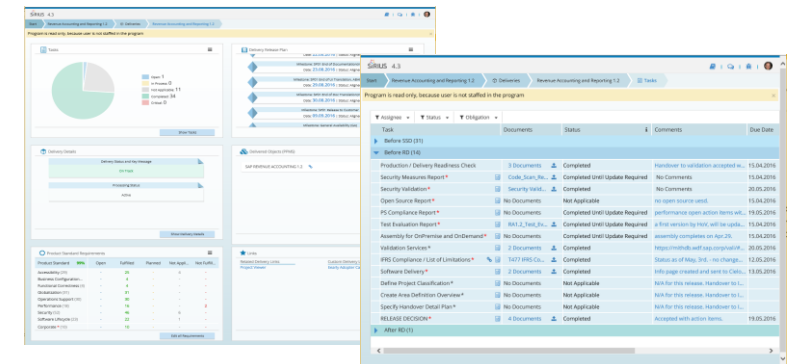
## Product standards

Derived from ISO 25010 software quality model

Product Standard	Rational
Accessibility	Software accessible to disabled persons
Business Configuration	Adaptability to customer-specific business processes
Functional Correctness	Completeness and correctness of functionality
Globalization	Multilingual capability and internationalization
Integration	SAP-to-SAP application integration
Licensing	Controlled use of commercial, open source, and other third-party software
Operations & Support & ILM	Business processes and system landscape operations and supportability, I
Performance	System performance, scalability, elasticity
Security & DPP	Secure Development & Operations. Security vulnerability prevention, and :
Software Lifecycle	Delivery / Shipment, installation, technical configuration, upgrade or updat
User Assistance	High quality UI text, embedded help, documentation on SAP Help Portal, a
UX Consistency	Consistent SAP Fiori user experience across products and technologies

## Program (project) management

Standard projects including mandatory deliverables and roles



# SAP Quality Management System implementation: Mandatory corporate requirements

Corporate Requirement	Rationale
Quality management system	Ensure all software is developed along internationally accepted, state of the art processes implemented in all SAP development locations
Approval for official product name	Ensure that all SAP software product versions are named and versioned in a consistent way
Export and Trade Sanctions Compliance	Comply with export control regulations
Controlled software production and approved shipment channels	Deliver software created by controlled and secure processes (source code management, code signing, automatic build)
Licensing of open source and third-party software	Comply with license contracts of third-party and open source software built-in SAP software products
<b>Develop and Operate Secure Software Products</b>	Deliver and operate secure software that customers can trust upon
Data protection and privacy compliance	Ensure that all software developed, delivered, or provided by SAP as part of a product or service is compliant with applicable data privacy legislation
Revenue recognition according IFRS	Adhere to revenue recognition according International Financial Reporting Standards (IFRS)

# SAP Quality Management System implementation: SAP product standards

- Quality attributes for product development
- Define concrete non-functional requirements to be covered by development teams

## Product Standard

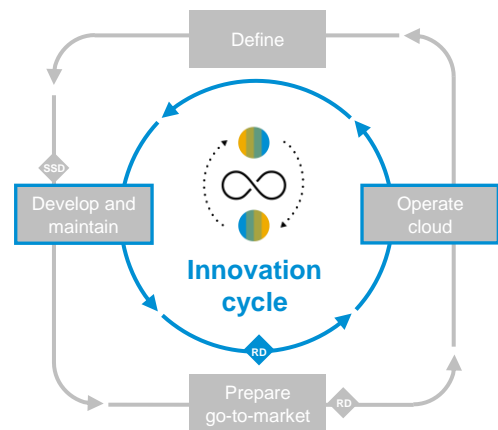
## Rational

<b>Accessibility</b>	Software accessible to disabled persons
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<b>Software Life-cycle</b>	Delivery / Shipment, installation, technical configuration, upgrade or update
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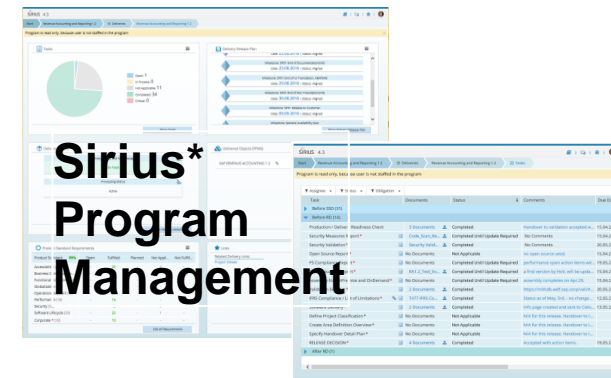
# SAP Quality Management System implementation: Development project management

## Mandatory tool to be used for managing development projects

- Translates processes defined in SAP's Innovation Cycle into concrete steps to be covered by all development projects
- Contains mandatory activities to ensure a secure development and operations approach is always applied to ensure SAP's products and services are secure



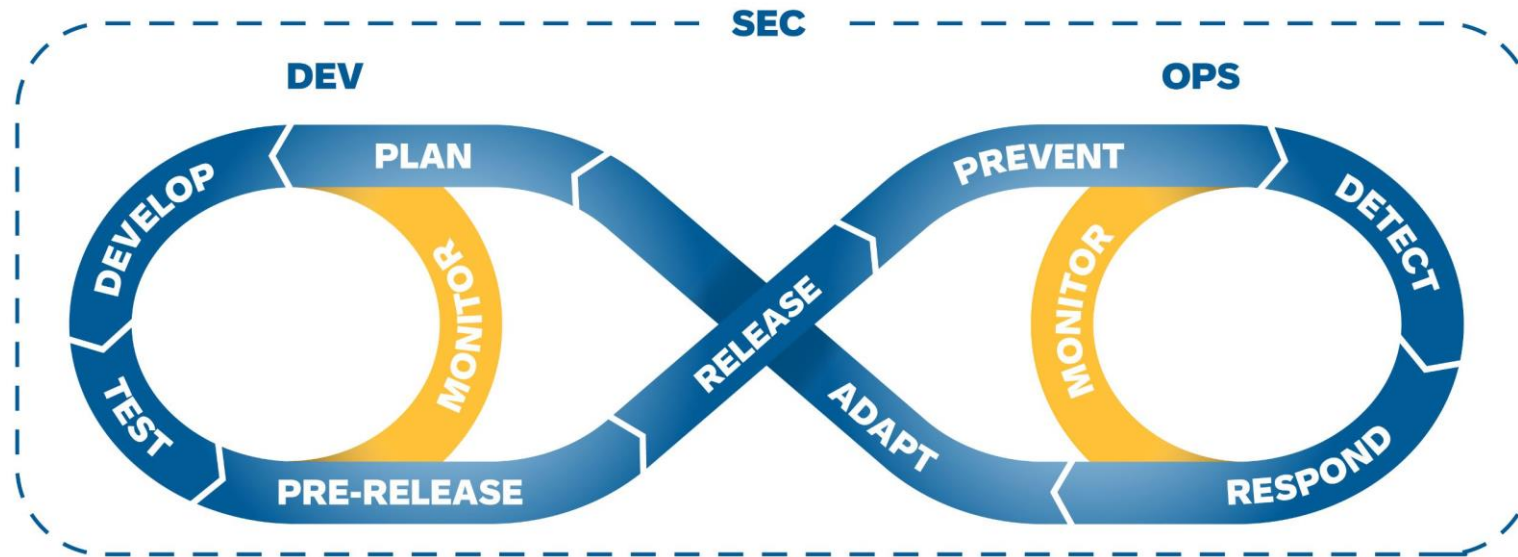
Tailored activities



**Process world** (processes, process variants, and interfaces)

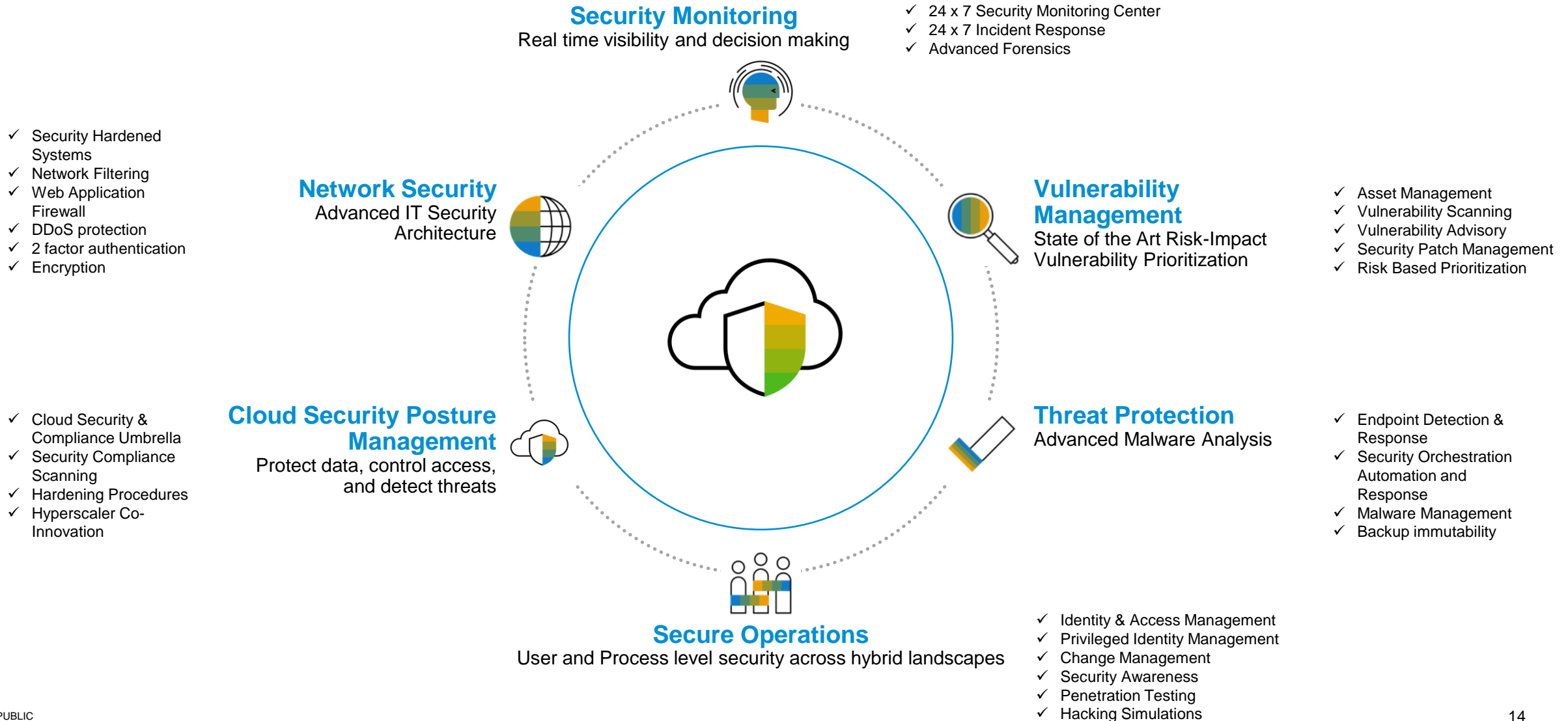
**Operational world** (product and service development coordinated by context-specific Sirius task list)

# Secure Development and Operations Life-cycle



- Secure development and operations life-cycle to be applied by all teams
- Security validation performed to monitor that all teams comply with defined processes and standards during development
- Positive release decision only taken in case of
  - Complete adherence to Secure Development and Operations Life-cycle
  - No issues identified during security validation
- Several measures in place to monitor security status for cloud operations (see next slide)

# Important ingredients of secure Cloud Operations



# Evolving Product Standards to Cloud Qualities

- SAP's development quality management system is continuously improved
- Intention to evolve existing product standards into cloud qualities that are defined from a customer perspective and can be measured

## Product Standard

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Accessibility

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Business Configuration

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Functional Correctness

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Globalization

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Integration

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Licensing

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Operations & Support & ILM

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Performance

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Security & DPP

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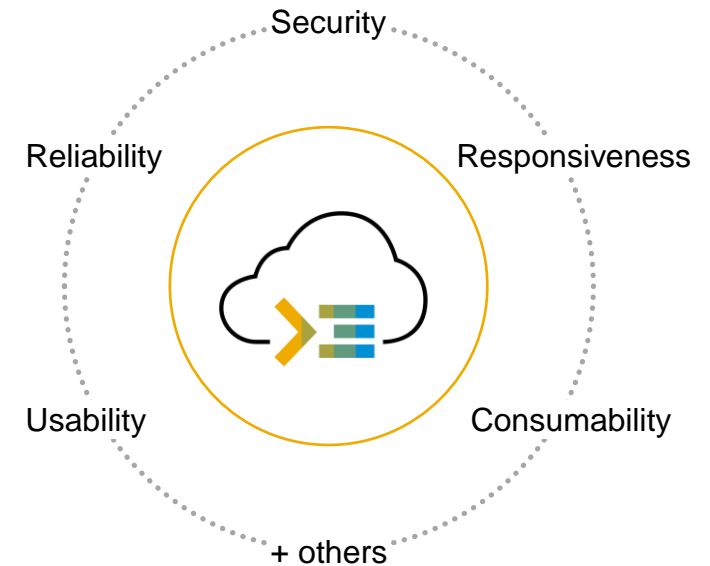
Software Life-cycle

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User Assistance

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UX Consistency



**We are looking for customers willing to provide feedback. If you can imagine to do so, please approach us.**

# Thank you.

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