

Towards an Allied M&S as a Service Ecosystem

9. Workshop
„Perspektiven der Modellbildung und Simulation“

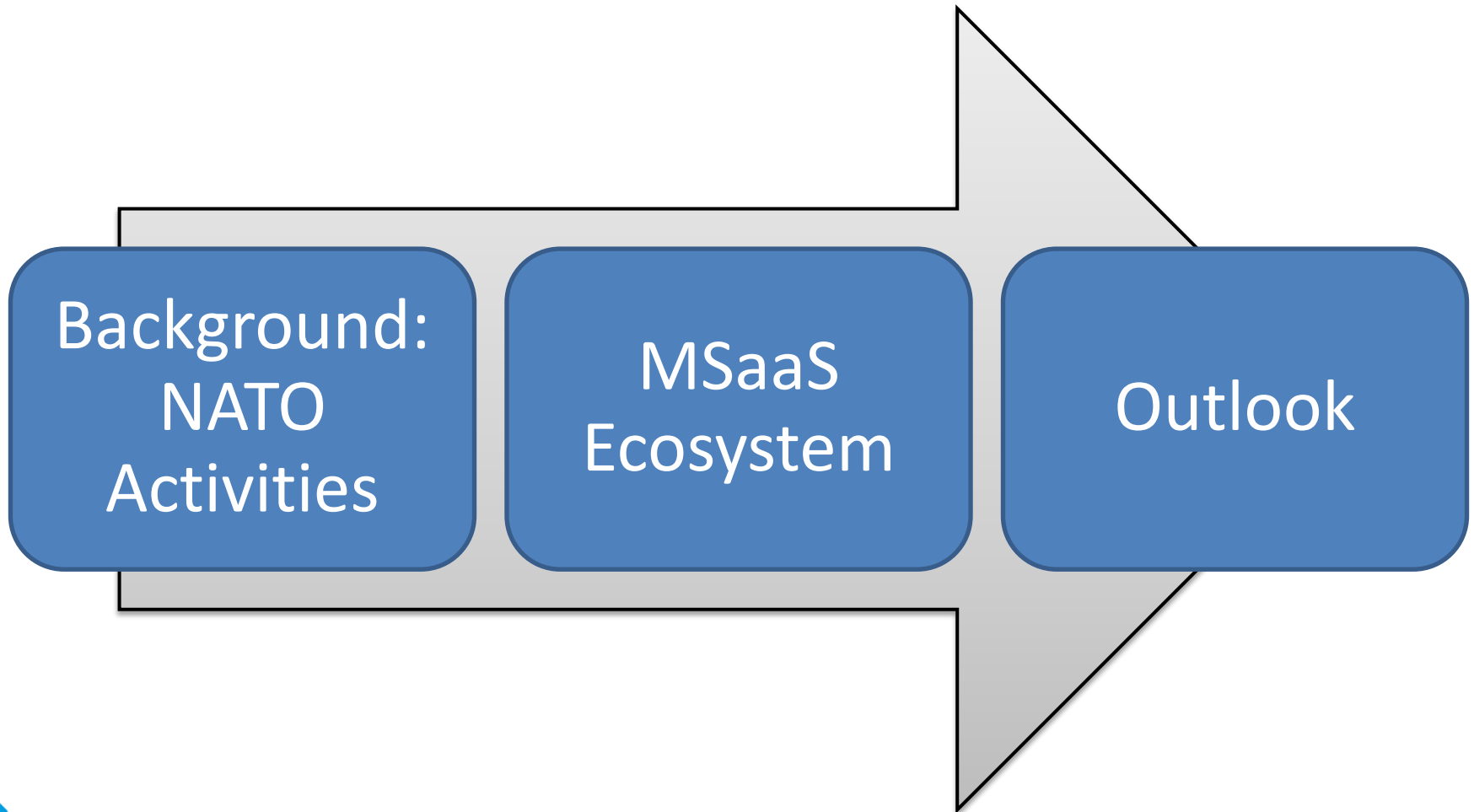


Dr. Robert Siegfried

Neubiberg, 18.01.2016

www.aditerna.de

Die nächsten 20 Minuten



NATO S&T Activities

Exploratory Team (ET)

Very short activity,
may be established adhoc

ET

Specialist Team (ST)

Usually 1-year activity,
only approval by CSO director required

ST

MSG-131

August 2013 – August 2014



Research Task Group (RTG)

Usually 3-year activity, allows more
substantial work.
Produces final report/draft standard/
reference architecture/...

RTG

MSG-136

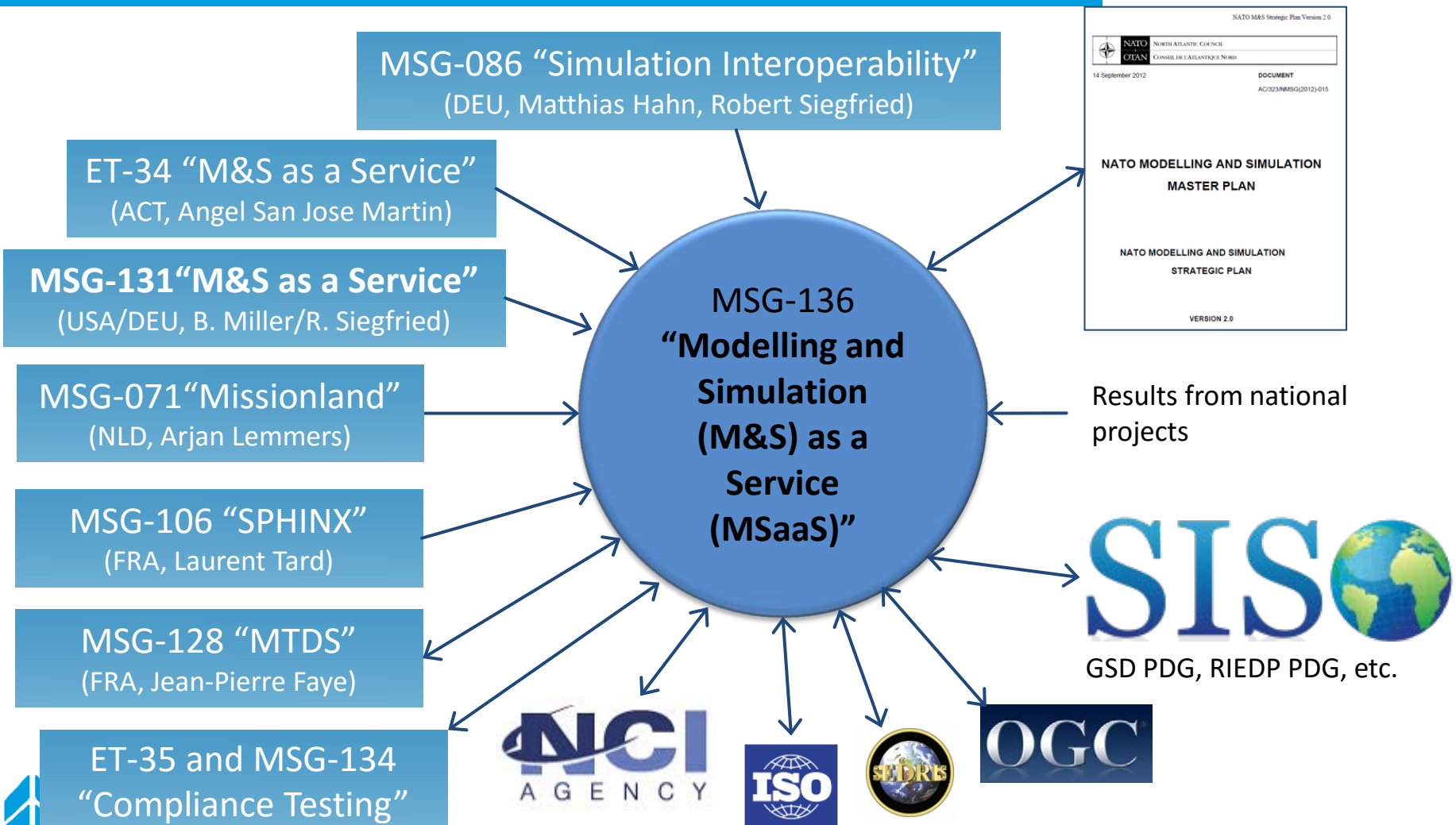
September 2014 – September 2017

MSG-136 (duration 2014-2017)

“Modelling and Simulation (M&S) as a Service (MSaaS)
– Rapid deployment of interoperable and credible
simulation environments”

- Focus on M&S domain services and necessary organizational aspects
 - M&S Services (e.g., domain services like Synthetic Environment Service (SES), Scenario Management Services, and others to be identified by MSG-136)
 - Organizational M&S Services Perspective

MSG-136 is focal activity for NATO's MSaaS efforts



Large community interest – “MSaaS is real”

- Nations



AUS



CAN



DEU



DNK



ESP



FRA



GBR



ITA



NLD



NOR



POL



PRT



ROU



SWE



TUR



USA

- NATO Organizations



ACT



JFTC



JWC



M&S
CoE



NCIA



JCBRN
CoE

NATO Policies

- “All NATO apportioned ICT capabilities shall be defined and provided as services”

[NATO Information and Communications Technology (ICT) Service Management Policy]

- “NATO Enterprise shall follow a cloud computing approach incorporating ICT Infrastructure as a Service (IaaS), Platform as a Service (PaaS) and Software as a Service (SaaS) service models with a view to reduce costs while achieving greater availability, flexibility, agility, security and mobility for the NATO Enterprise users.”

[NATO Cloud Computing Policy]

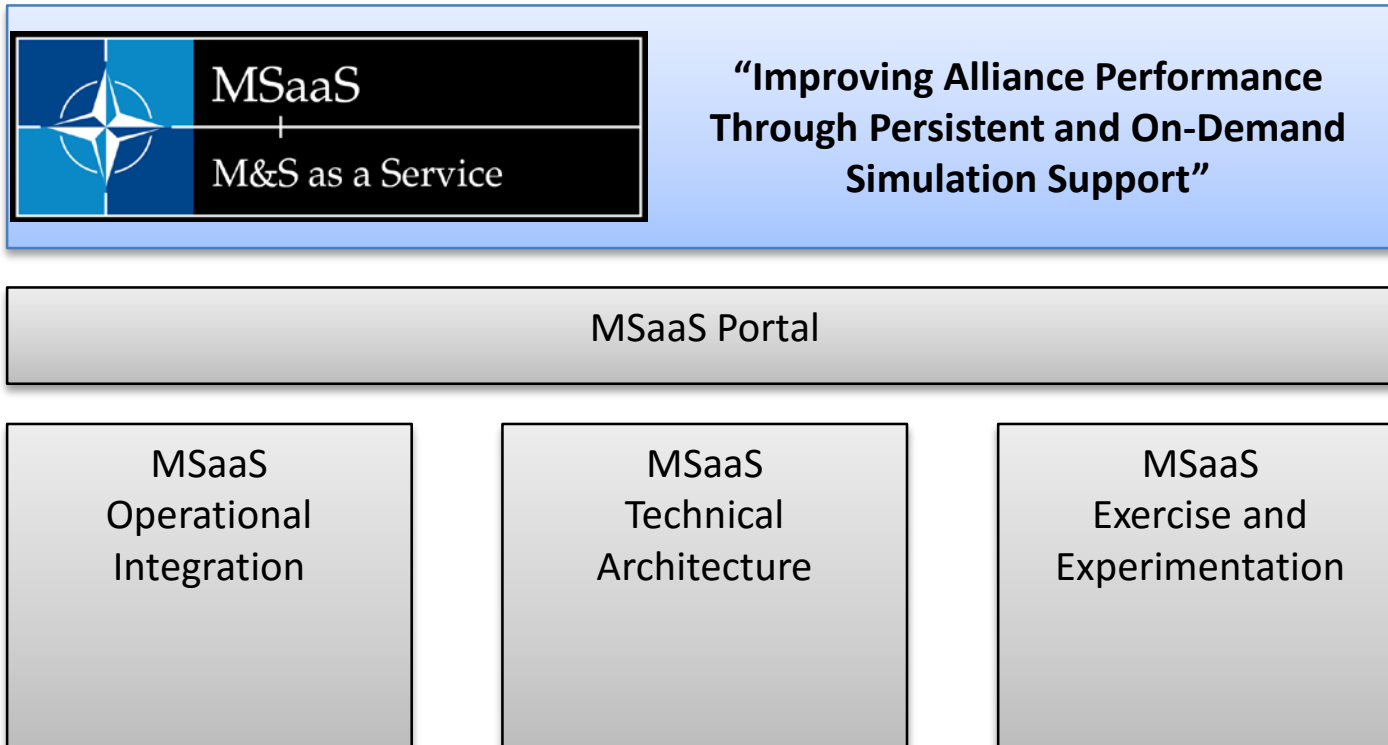


Definition

*“M&S as a Service (MSaaS)
is a means of delivering
modelling and simulation (M&S)
applications, capabilities and associated data
on demand by providers to consumers.”*

[MSG-131 & MSG-136]

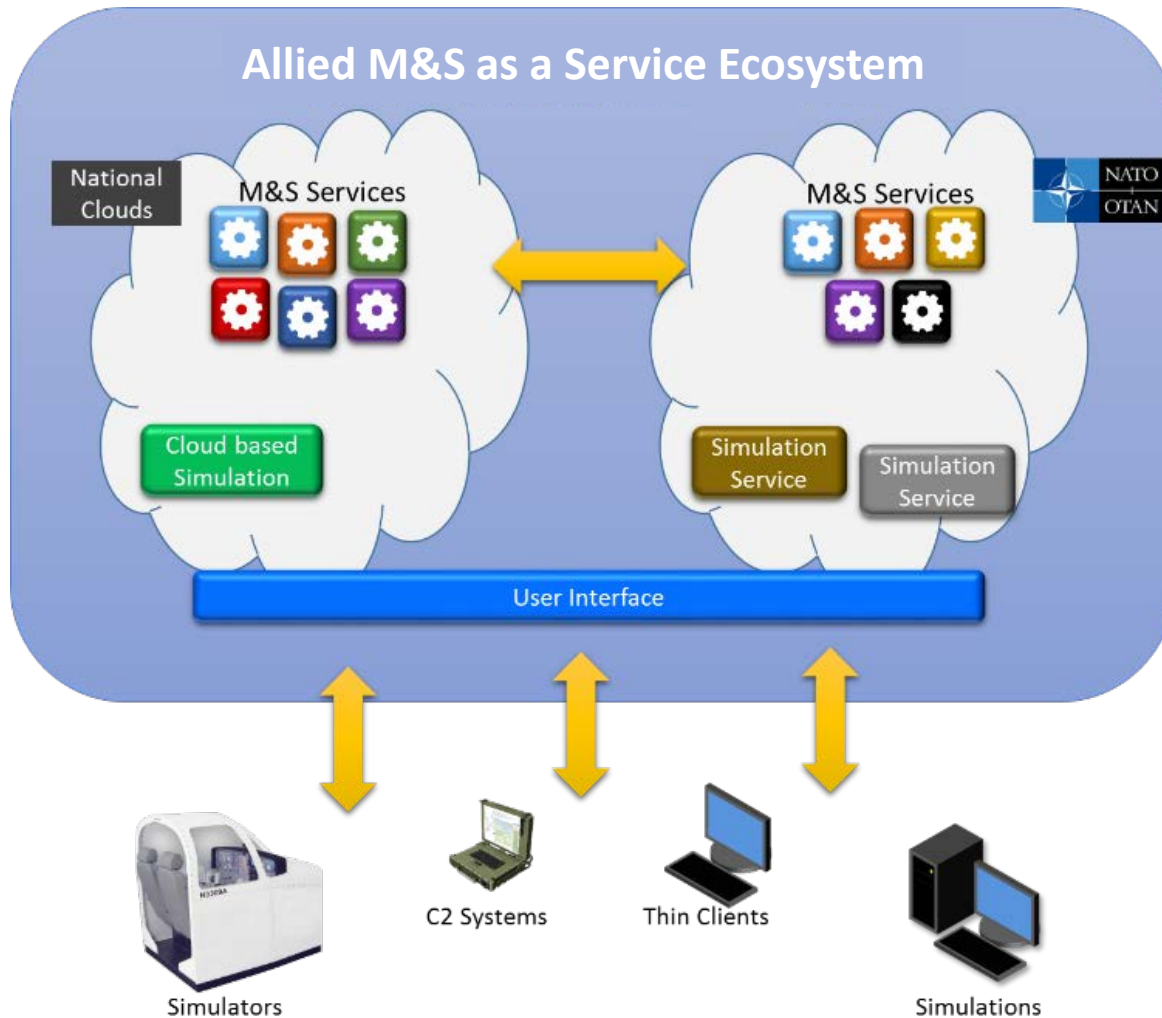
MSG-136 Vision Statement (NOV-1)



Vision Statement

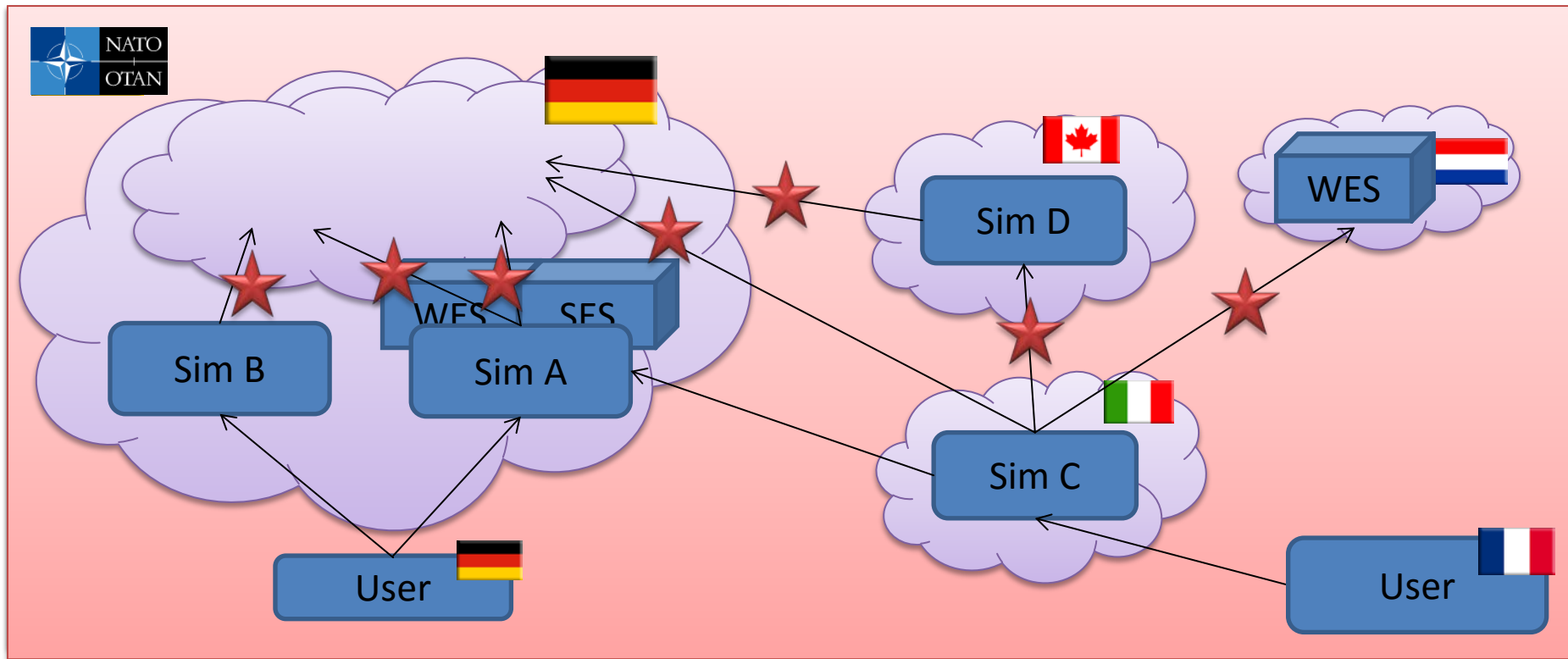
To ensure that M&S products, data and processes are conveniently, simultaneously and spontaneously accessible to a large number of users for their individual purposes as often as possible.

Allied M&S as a Service Ecosystem



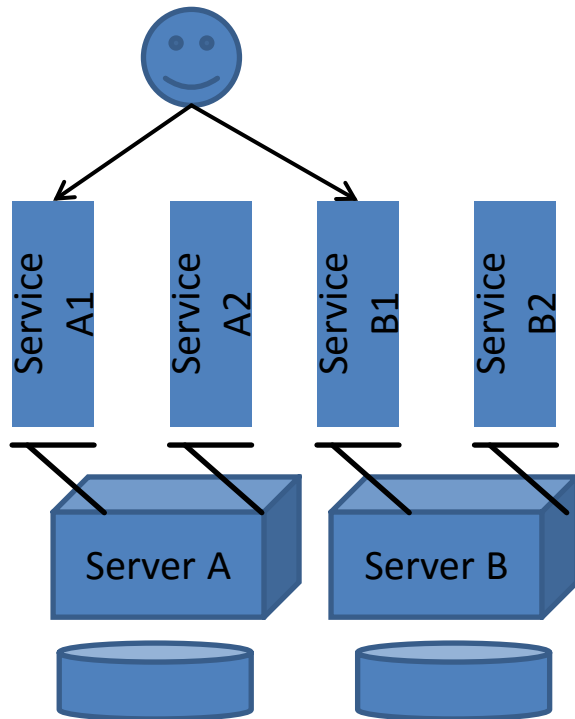
Allied M&S as a Service Ecosystem

Illustrative Example



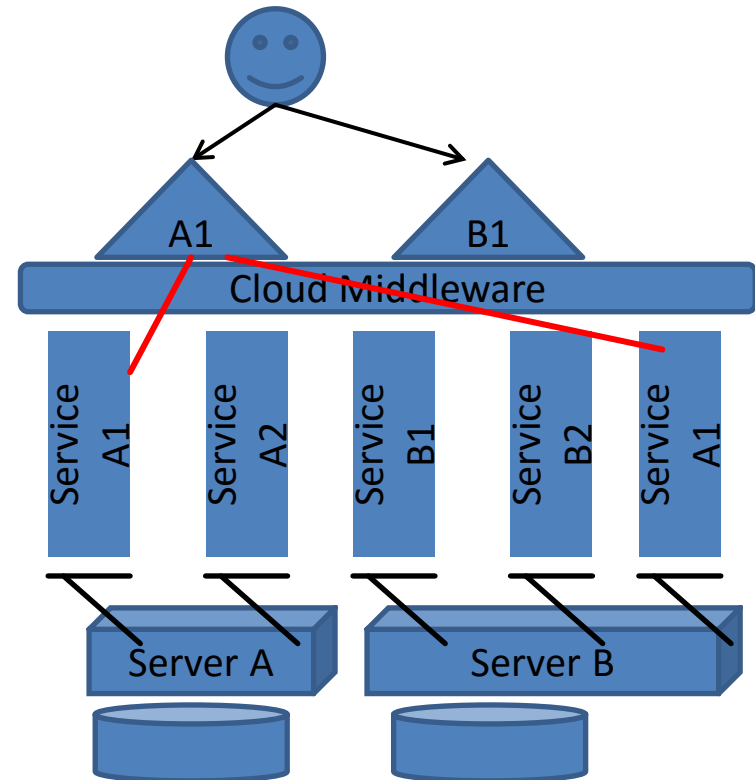
★ Service Contracts
(Interface specifications, ...)

“Pure Services” vs. “Cloud”



“Pure Services” Environment

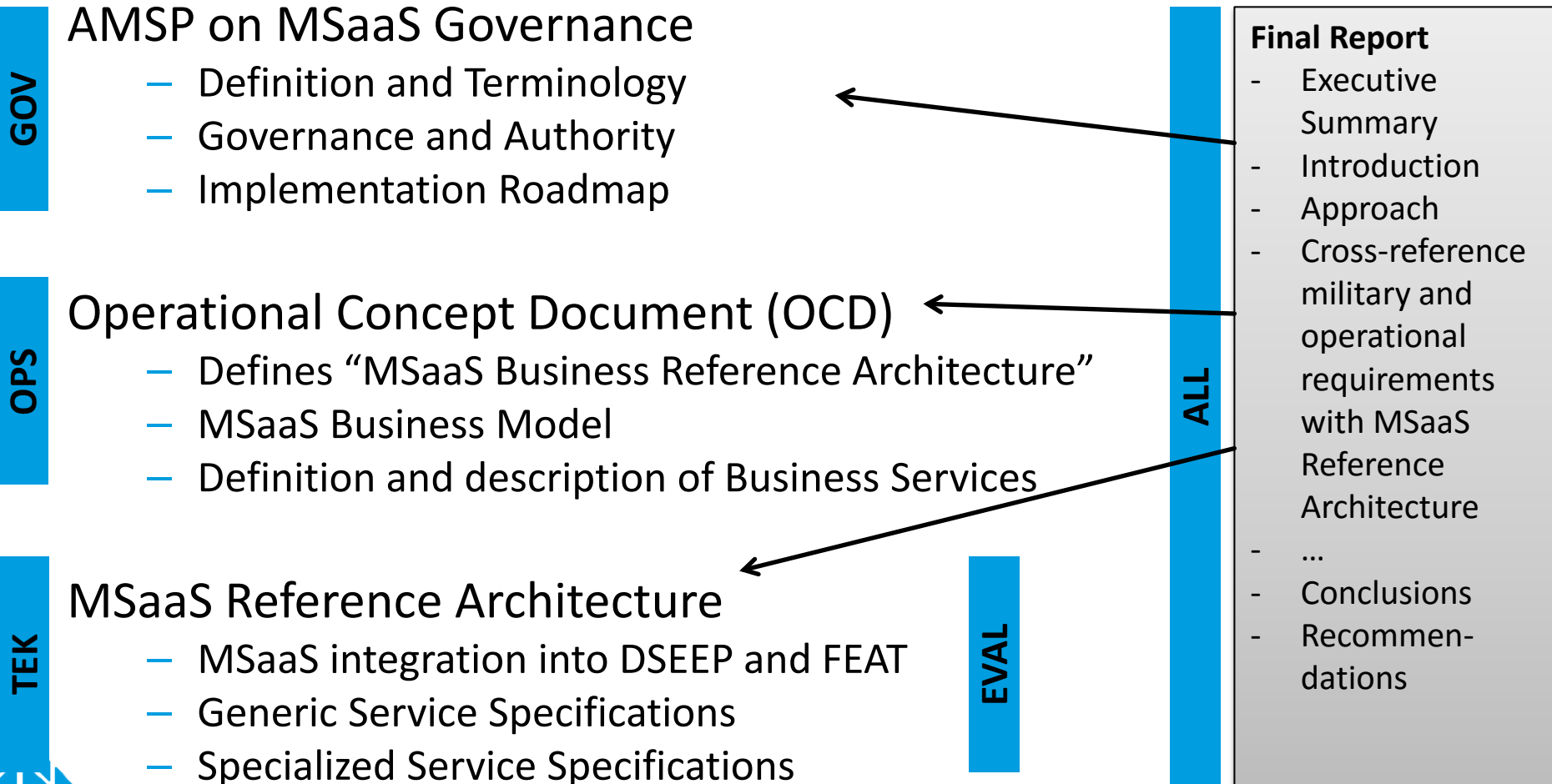
- User needs to know specific server instance that executes a service
- No transparent elasticity



Cloud Environment

- User does not know specific server instance that executes a service
- Transparent elasticity and scalability
- Additional service like measurement (pay-per-use), Identity & Access Management, etc.

Deliverables of MSG-136



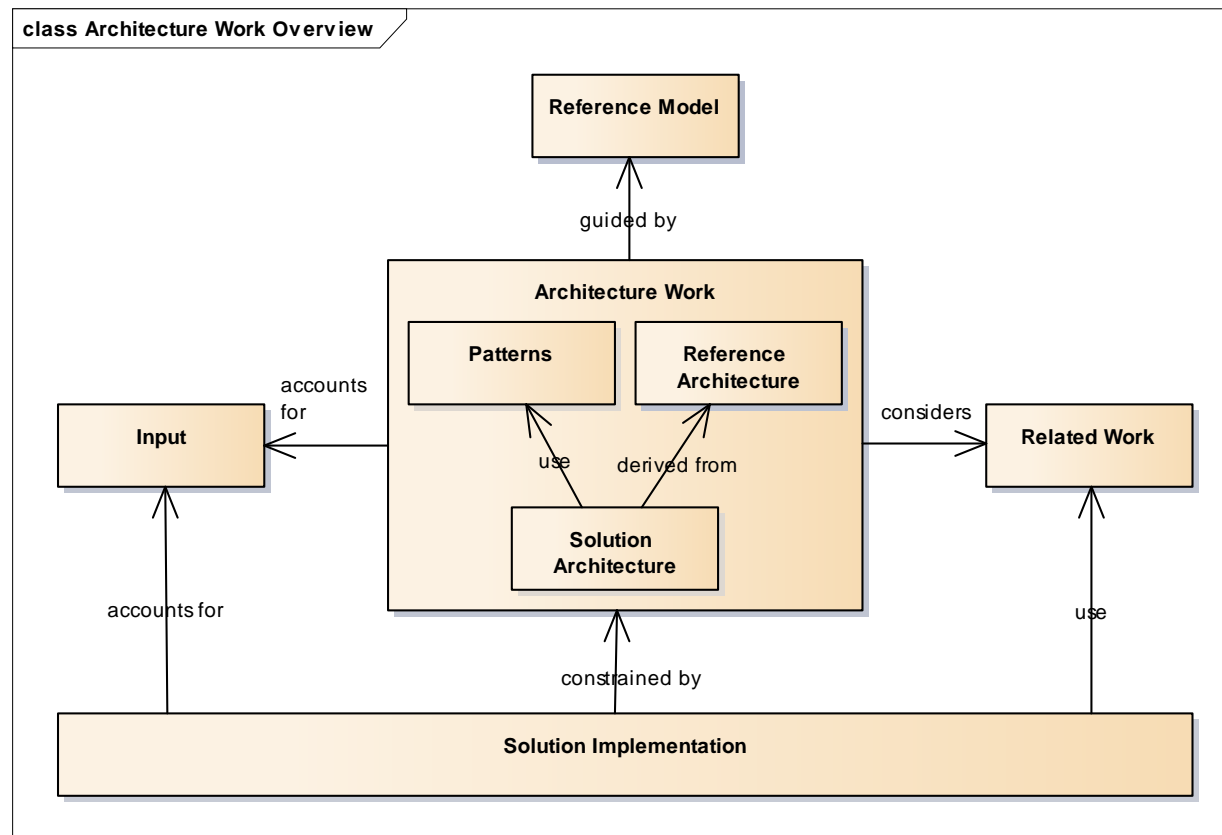
Operational Concept Document

- Operational Concept Document (OCD)
 - Vision Document for future Allied MSaaS Ecosystem
- Use Cases
 - Training & Education - Semi-Virtual Response Cell
 - Support to Operations Planning
 - Capability Development
 - Mission Rehearsal
 - Procurement/Acquisition
- Risk Analysis
- Cost-Benefit-Analysis



MSaaS Reference Architecture

- Follows NATO Architecture Framework (NAF)



MSaaS Specifications

- MSaaS integration into DSEEP and FEAT
 - Additional steps?
 - Additional/other documentation?
 - Feedback into SISO working groups
- Generic Service Specifications
 - Service Specification Template
- Specialized Service Specifications
 - Examples (Synthetic Environment Service, Route Planning Service)



Experimentation & Evaluation

Internal

External / Public

Experimentation

Dissemination/Demos

Incremental Development, Integration and Continuous Testing

Presentation
I/ITSEC

CWIX

OBW

???

ITEC

I/ITSEC

ITEC

I/ITSEC

NATO CAX Forum

NATO CAX Forum

2015

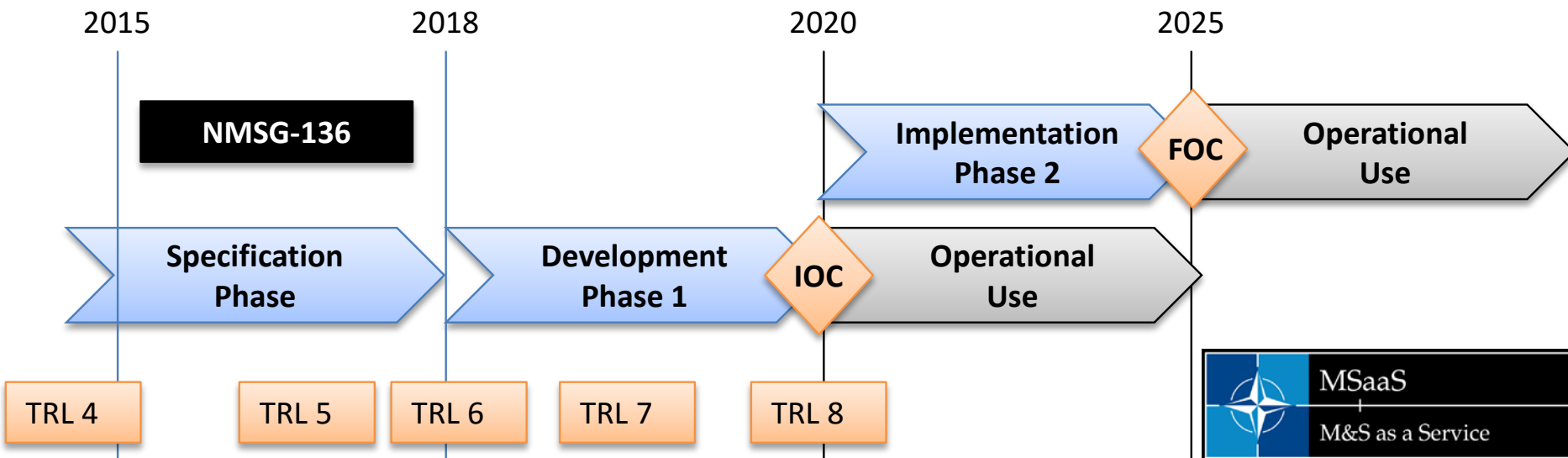
2016

2017

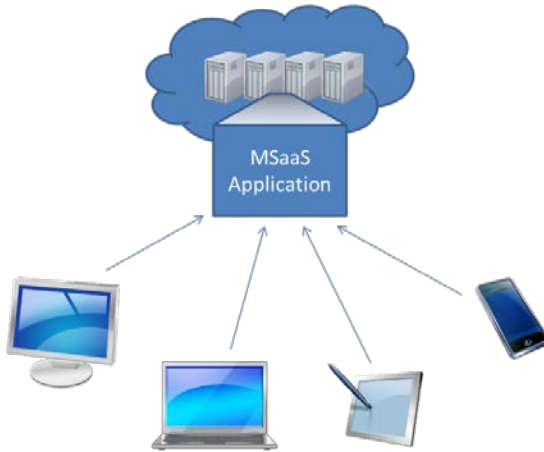
Governance Policies

- Allied M&S Publication (AMSP) on MSaaS Governance
 - Definition and Terminology
 - Governance and Authority
- General Policies
- Detailed Policies
 - Organizational Policies
 - Service Identification Policies/Guidelines
 - Service Level Agreement Policies
 - Service Documentation Policies
 - Technical Policies
 - Service Description Policies
 - Semantic Interoperability Policies
 - Canonical Model Usage Policies
 - Security Policies

Roadmap (in Entwicklung!)



Zusammenfassung

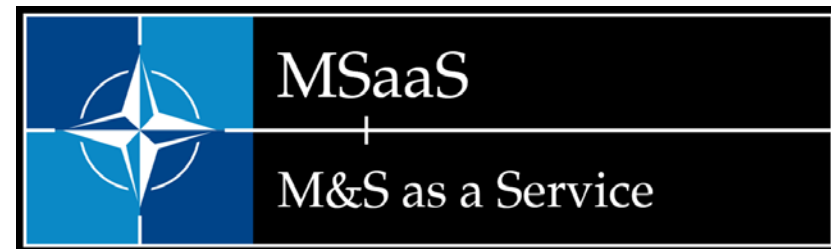


M&S as a Service (MSaaS) verspricht vielfältige Verbesserungen

- Effizientere Bereitstellung von M&S
- Einfachere Zugänglichkeit
- Höhere Qualität

MSG-136 erarbeitet bis Ende 2017 die Grundlagen für ein zukünftiges „Allied MSaaS Ecosystem“

- Operational Concept
- MSaaS Reference Architecture
- Governance Policies





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