

2nd Annual review
Florence 14th November 2013

nSHIELD Run through



September 1st 2012 – August 31st 2013
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nSHIELD - Run Through Use case Exercise

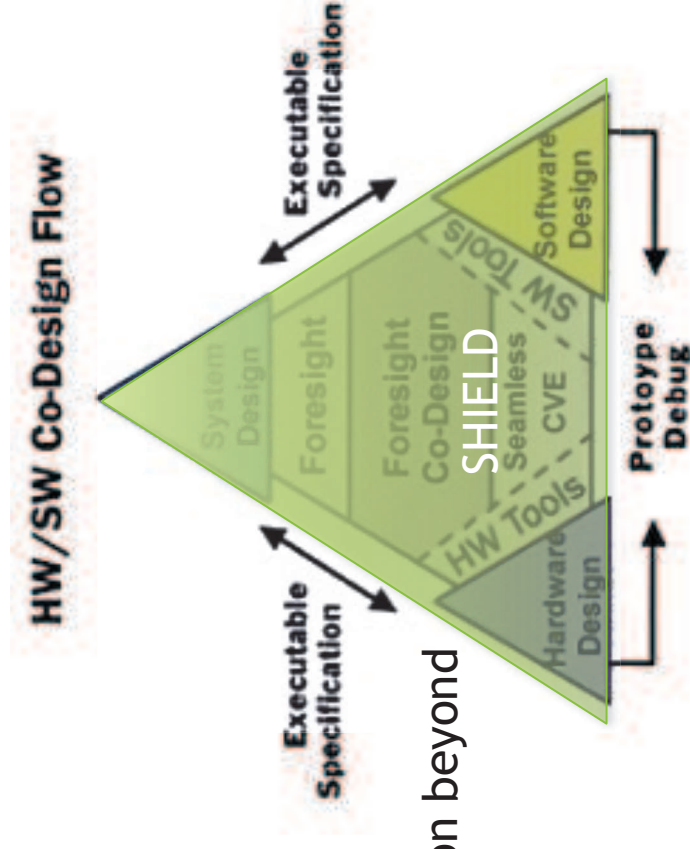
Recall Review #1
- adapted

SHIELD Methodology to create SPD Devices

SHIELD Methodology =

- pSHIELD (Security requirements)
- nSHIELD (Metrics-based analysis)
- nSHIELD (Ontology descriptions)
- > SHIELD (security assessment/
composability)

Integrated industrial implementation beyond
nSHIELD



nSHIELD Design Flow first year focus

STEP	INPUT	OUTCOME
Environment and threats identification		Awareness
SPD Assessment	Application case *	SPD Guidelines
Metrics Implementation	SPD Guidelines and Tools*	Metrics (security measure)
Ontology Definition	Application case *, Tools*	Ontology (OWL)
Technological Injection	Software Module*, IP *, Template*, Trusted run time environment *	Software/Firmware customized modules (SPD SF Module)
Integration	SPD SF Modules + Design files	E.S. physical Implementation
Validation/Verification	SPD Validation tools*	Validation Report
Deployment	Market impact?	E.S physical Implementation + end user application note

* From nSHIELD



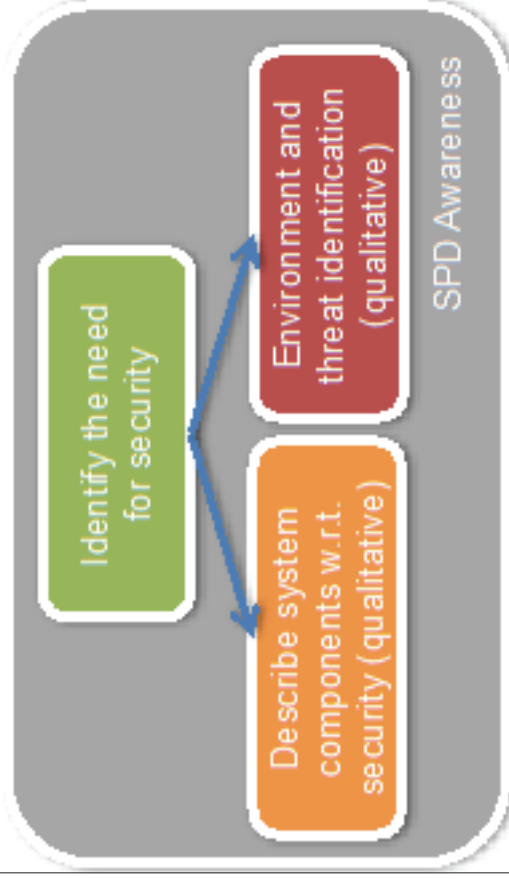
nSHIELD Design Flow **2nd** year focus

STEP	INPUT	OUTCOME
Environment and threats identification		Awareness
SPD Assessment	Application case	SPD Guidelines
Metrics Implementation	SPD Guidelines and Tools	Metrics (security measure)
Ontology Definition	Application case, Tools	Ontology (OWL)
Technological Injection	Software Module, IP, Template, run time environment	Software/Firmware customized modules (SPD SF Module)
Integration	SPD SF Modules + Design files	E.S. physical Implementation
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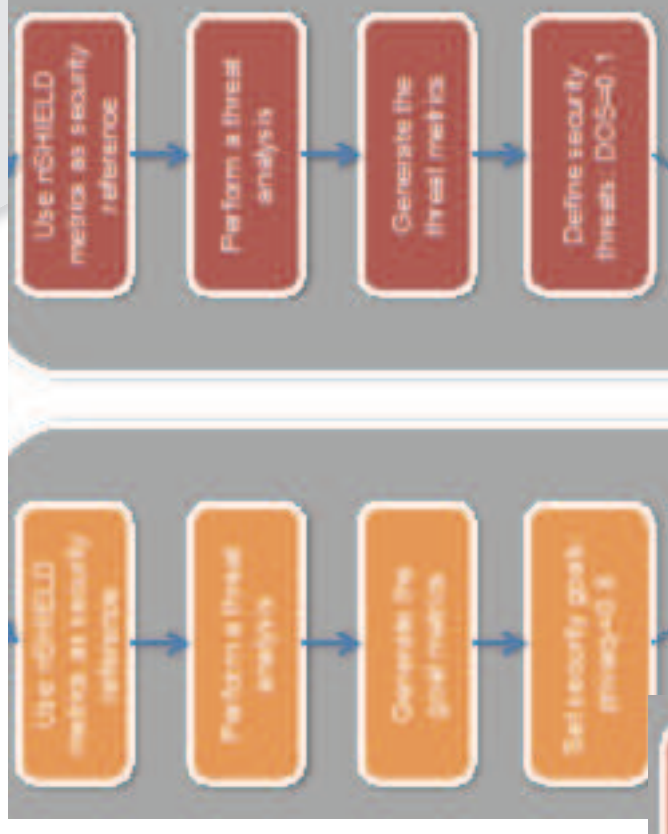
* From nSHIELD



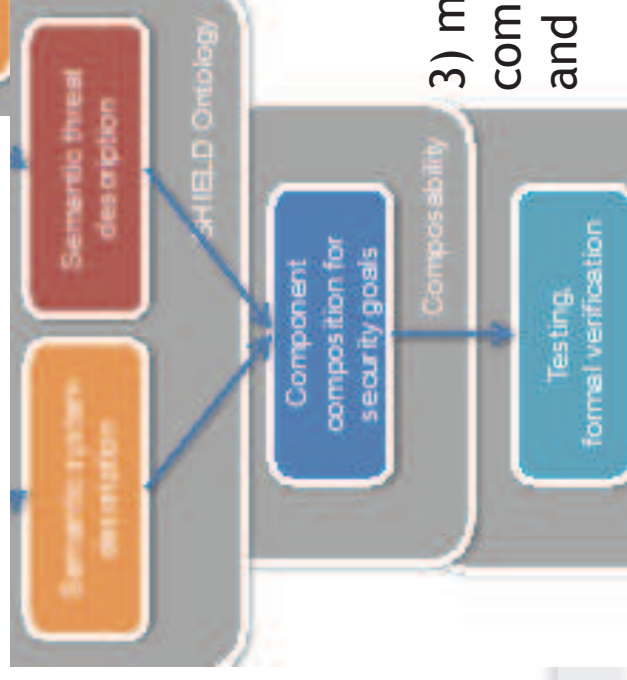
The SHIELD run-through blocks



1) Identification and description



2) Metrics based assessment



3) measures/
composition
and verification

SHIELD - Market Impact

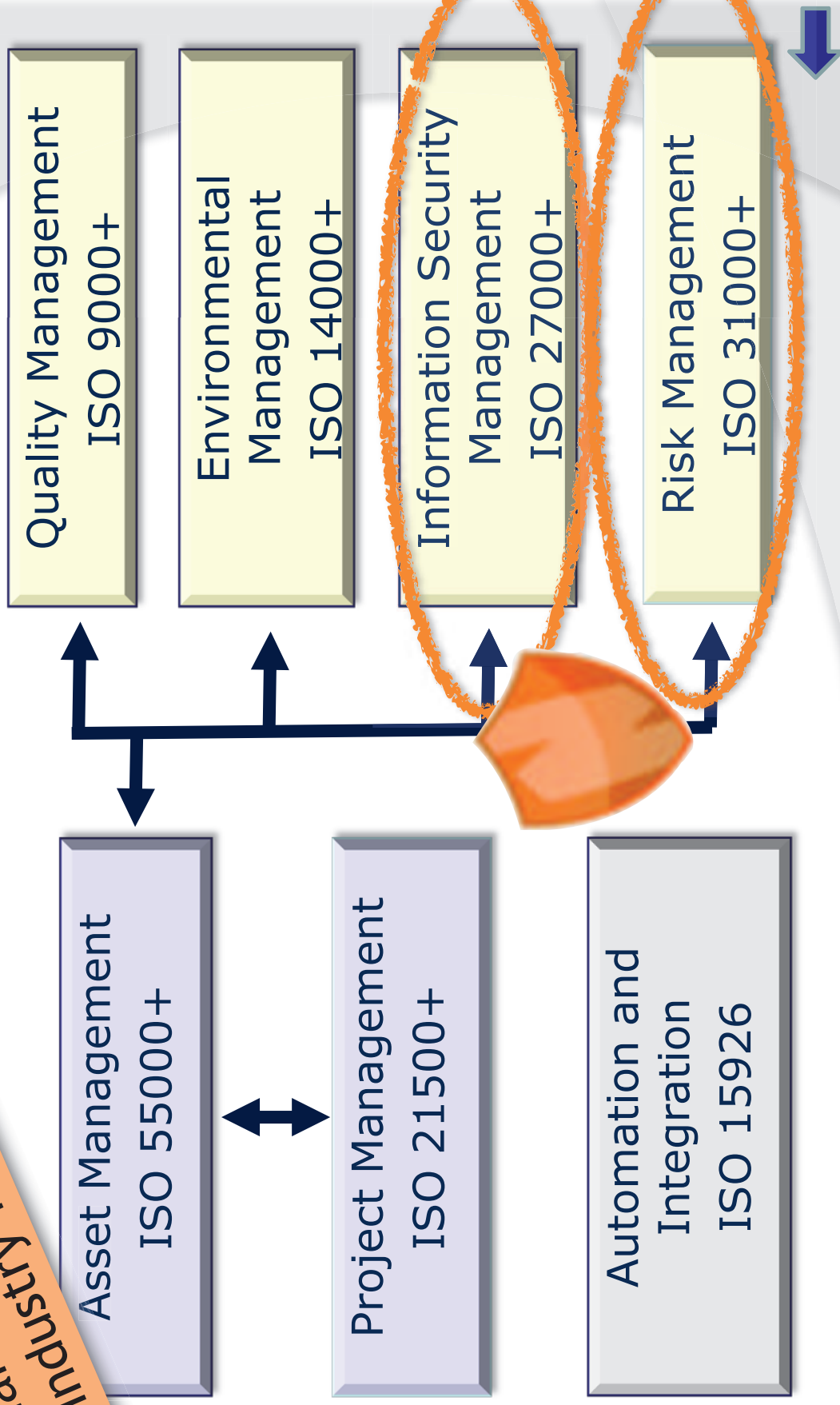
- Measurable security is not a issue in the actual market
 - IFEA (ABB, GE, ...): “how to add security”
 - oil industry: “reliability”, “software is new for oil industry (adoption)”
- SPD value not intuitive

Market Impact for Process automation

- Focus on oil and gas
 - security framework
 - clearly identified business values
- Challenges
 - separation of logic, on- versus offshore
 - delay <4 ms for energy processes, <10 ms for compressor adjustments
 - lifetime of components > 10 years
- add-on security
 - old components (replace, modular design?)
 - variety of HW, SW and OS
 - critical to extra delays

Standards in Oil and Gas industry in Norway

Management in ISO



[source: Thor Langeland, 2013]

Concluding remark



SHIELD methodology, consisting of

- metrics assessment,
- security ontology descriptions, and
- measured / composed security

Ready for validation in three use-cases,
assessment in 4th use case