2nd Annual review
Florence 14th November 2013

WP7 - SHIELD applications

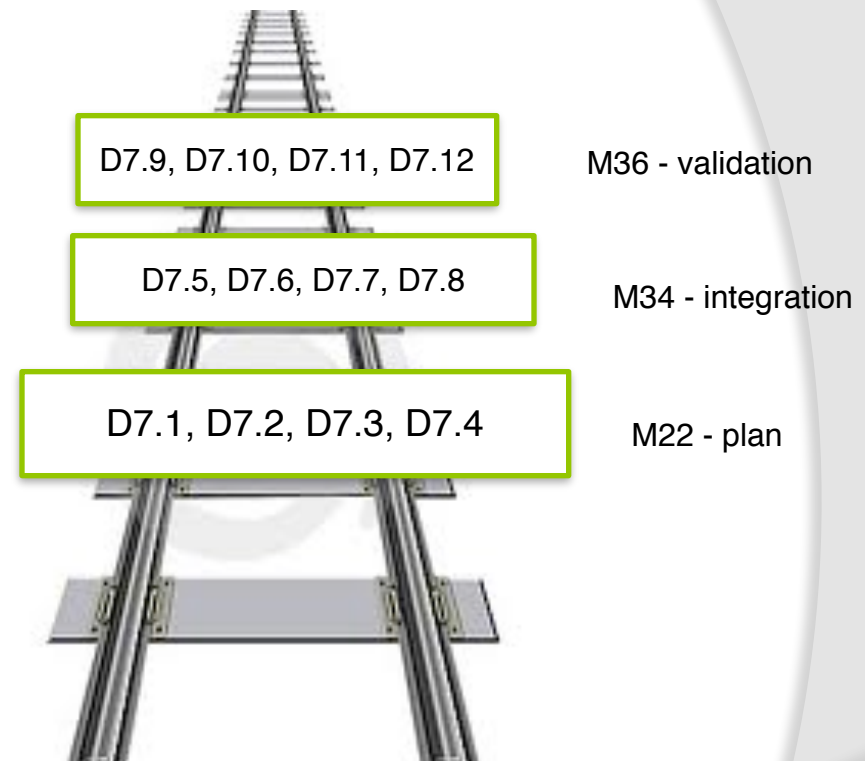nSHIELD

September 1st 2012 – August 31st 2013
Josef Noll, Movation

ARTEMIS

WP7 objectives

- Application scenarios
  - Railway security
  - Voice/Facial recognition
  - Integrated Modular Avionic (IMA) platform
  - Social mobility, Smart phone integration, Eco-design on future infrastructure
- Proof of concept for a wide range of applications
- Heterogeneous infrastructures with diverging objectives
- Common: SPD enhanced functionalities integrating business and social worlds.

The scope is to validate the nSHIELD platform on real application demonstrators

D7.9, D7.10, D7.11, D7.12   M36 - validation

D7.5, D7.6, D7.7, D7.8   M34 - integration

D7.1, D7.2, D7.3, D7.4   M22 - plan

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WP7 tasks and deliverables

- T7.1 (Lead partner ASTS Partner THYIA TELC S-LAB Movation ISD HAI SES AT)
- T7.2 (Lead partner ETH Partner UNIGE TUC S-LAB ISD TECNALIA)
- T7.3 (Lead partner SES Partner Alfatroll UNIGE SESM S-LAB HAI SES)
- T7.4 (Lead partner Movation Partner THYIA TUC SknFnd S-LAB ISD HAI SES)

- 3 sets of deliverables: Plan (x1…4), Integration (x5…8), Validation (x9…12)

⧉	Title ⧉	Due month ▲	Lead partner ⧉	Dissemination level ⧉
D7.1	Railways security demonstrator - integration and validation plan	M22	ASTS	Restricted
D7.2	Voice/Facial Recognition demonstrator - integration and validation plan	M22	ETH	Restricted
D7.3	Dependable Avionic System demonstrator - integration and validation plan	M22	SES	Restricted
D7.4	Social Mobility and Networking demonstrator - integration and validation plan	M22	Movation	Restricted
D7.5	Railways Security - integration Report	M34	ASTS	Public
D7.6	Voice Facial recognition - integration Report	M34	ETH	Public
D7.7	Dependable Avionic System demonstrator - integration report	M34	SES	Public
D7.8	Social Mobility and Networking demonstrator - integration report	M34	Movation	Public
D7.10	Voice/Facial Recognition demonstrator - Validation and Verification Report	M36	ETH	Public
D7.11	Dependable Avionic System demonstrator - Validation and Verification Report	M36	SES	Public
D7.12	Social Mobility and Networking demonstrator - Validation and Verification Report	M36	Movation	Public
D7.9	Railways Security - Validation and Verification Report	M36	ASTS	Public

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WP7 objectives

- Validate nSHIELD platform on real application demonstrators, including
  - Railway security
  - Voice/Facial recognition
  - Integrated Modular Avionic (IMA) platform
  - Social mobility, Smart phone integration, Eco-design on future infrastructure
- Proof of concept for a wide range of applications
- Heterogeneous infrastructures with diverging objectives
- **Common**: SPD enhanced functionalities integrating business and social worlds.

WP7 Status

- Railway security
  - on track, excellent applicability of SHIELD approach
- Voice/Facial recognition
  - excellent product, "measurable security" (identification)
  - capability to become standard
- Integrated Modular Avionic (IMA) platform
  - on track, system oriented
  - has potential for break-through in certification
- Social mobility, Smart phone integration, Eco-design on future infrastructure
  - Social Mobility with Smart phone integration remains as focus
  - Novel partner (SknFnd): secure integrated platform
  - focus on secure product prototype with feasibility of SHIELD

delayed

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WP7 Outlook - Impact in Industry

- Intensified discussion of "applicability" with industry
  - ABB - representative of supply industry for process automation
  - Security industry: ARM Ltd, Ericsson Research
  - Norwegian Oil and Gas - Industrial Association of
  - IFEA - The Association for Electrotechnics and Automation in Industry (Statoil, ABB, Siemens, Aker, Krohne,...)
  - Internet of Things Network(.no)
- SHIELD is 4-10(!) years ahead of time as compared to state of (process) industry
- Focus on introduction of security (and the cloud)
  - "security is a differentiator", "we need to have security in place"
- Thereafter: measurable security
- Thereafter: Composable SHIELD security

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Concluding remarks

- 3 of the 4 use cases are on track, excellent novel solutions
- major challenges in T7.4 due to change of project partners & duties
- Recovery through new partner Seek and Find
- Expect that T7.4
- SHIELD is 4-5 years ahead of time as compared to state of (process) industry
  - Focus on introduction of security (and the cloud)
  - Thereafter: measurable security
  - Thereafter: Composable SHIELD security
- ready for validation in three use-cases, assessment in 4th use case

Background information WP7

ADDITIONAL SLIDES
- OIL AND GASS
- SOCIAL MOBILITY

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Norwegian Oil and Gass (GIM - ISO 15926): Integrated Lifecycle Assets Planning (ILAP) standard

Transfer and integration of plan data
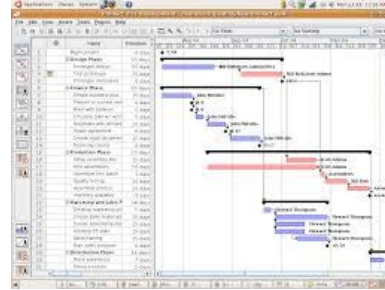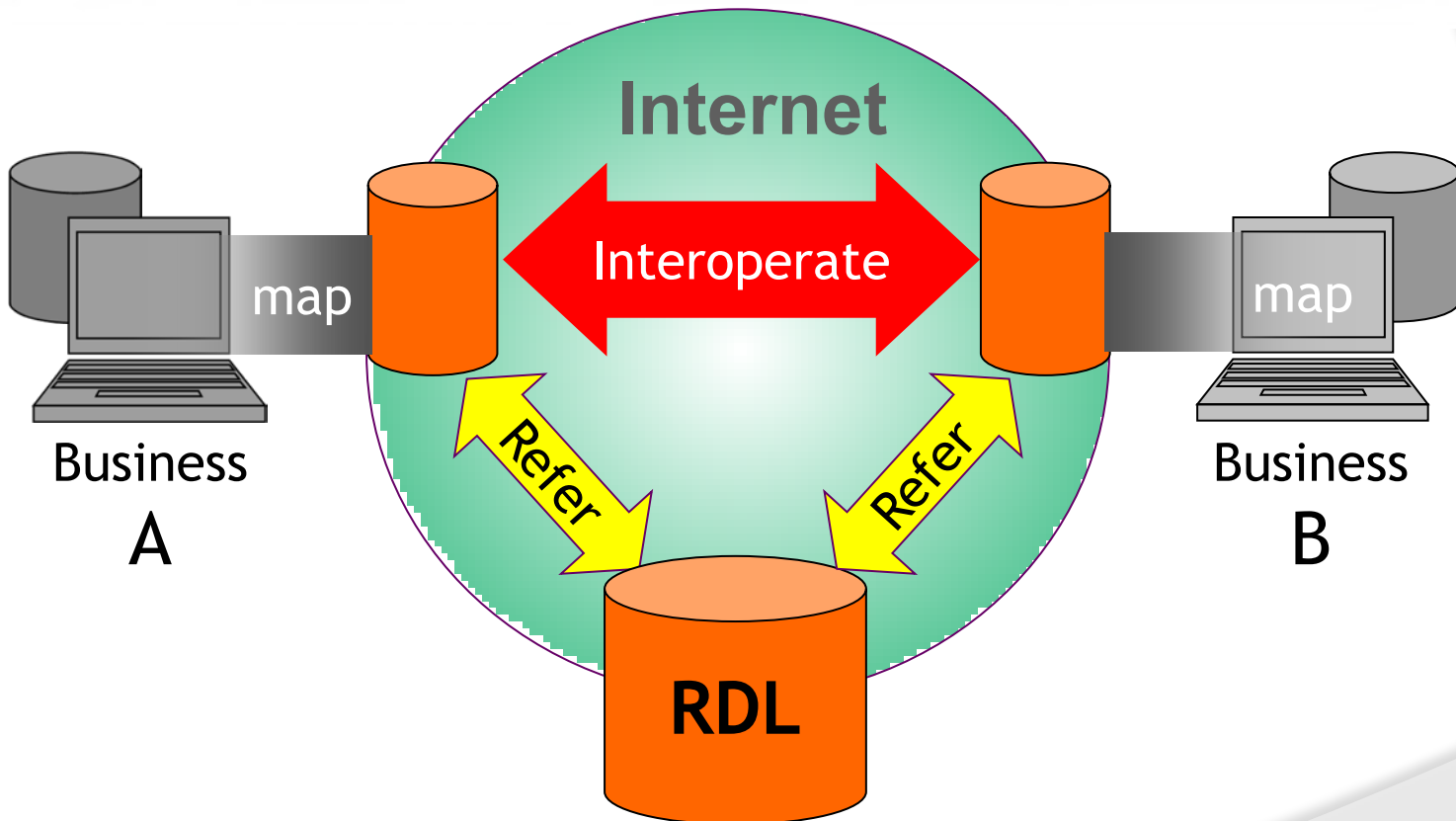

Planning efficiency

25%

Transfer of experience

Planning effectiveness

NOK 5 billion per year

[source: Thor Langeland, 2013]

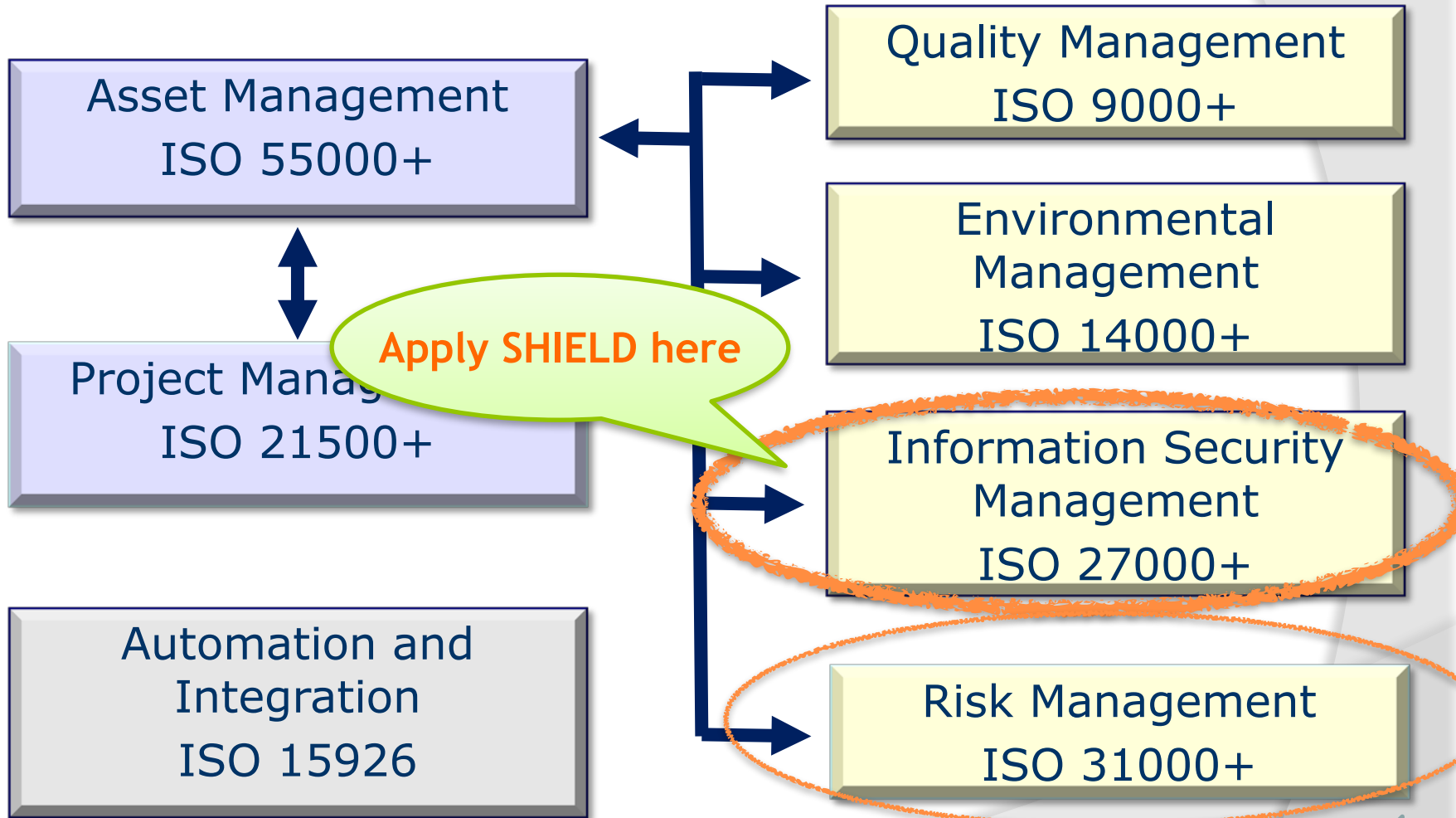# GIM interoperability at its simplest

Using *standard shared references* & sharing references used, reduces business ambiguity & reduces mapping overheads.

Makes interoperability easier and reduces risk & cost

[source: Thor Langeland, 2013]

Asset Management in ISO

[source: Thor Langeland, 2013]

Objective of Social Mobility

- Socialtainment
  – Entertainment -> Infotainment -> Socialtainment
- Smart phone integration
  – devices as sensors and comm. devices
- Eco-design on future infrastructure
  – ~~partners?~~

Status

- Prototypical implementation done

Expected outcome

- Proof of concept
- Heterogeneous infrastructures with diverging objectives
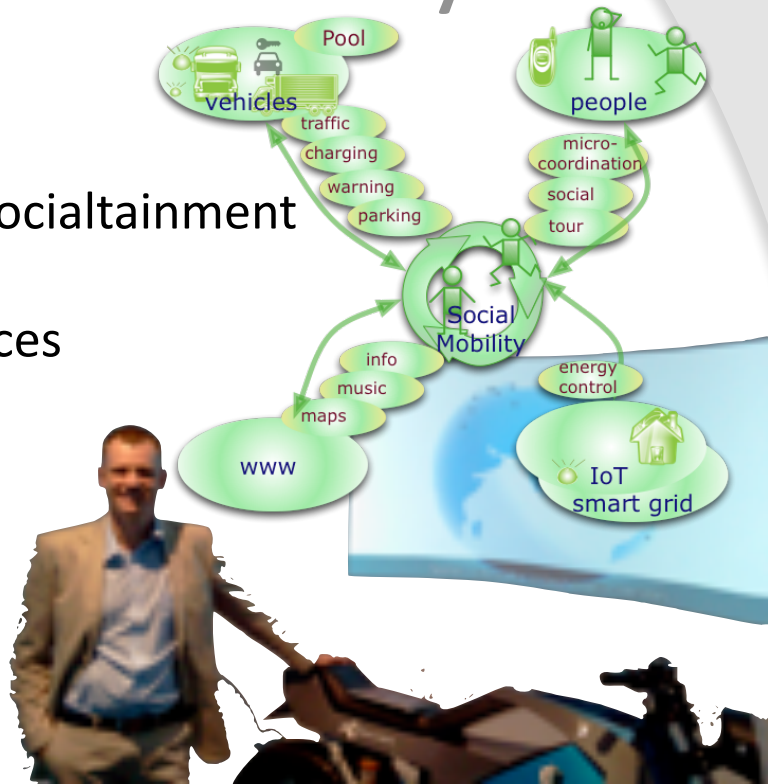
- **Common:** SPD enhanced functionalities integrating business and social worlds.

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Requirements & nSHIELD relevance

- Privacy
  - Preserve privacy while commuting
  - Merging physical and social networks

- Dependability
  - Situation (context-) aware

- Embedded systems (ES) driven
  - context-awareness from ES
  - automated processes

people

micro-coordination

social

tour

Social Mobility

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Ongoing developments

- Ontology development for **privacy** enhanced user profiles

- Dependability: content- and **context-aware**

- Rules inferring security tokens
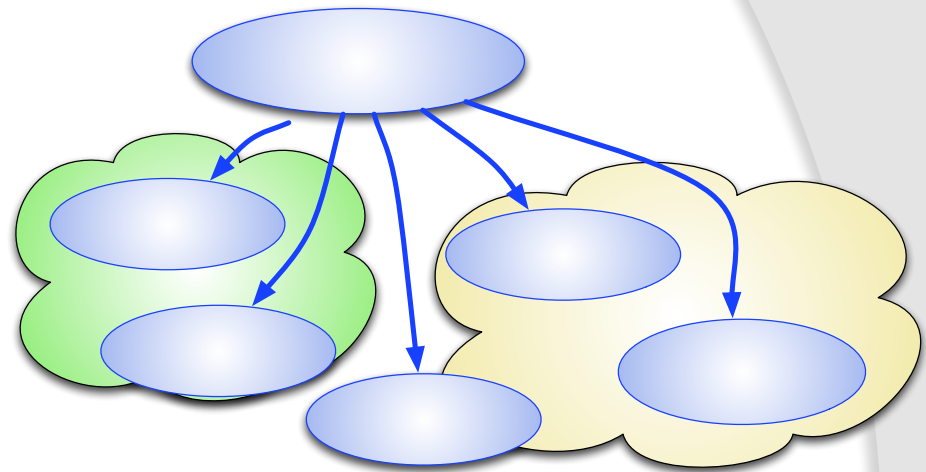
Attributes: roles, access, device, reputation, behaviour, ...

canOwn(?person,?attributes) ∩ withHold(?token,?attributes) ∩ (Person(?
SecurityTokenIssueTo(?token, ?person)

[token]	principal
◆ BasicToken_1	◆ Carol
◆ BasicToken_2	◆ Alice

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