ResiStand

INCREASING DISASTER RESILIENCE BY ESTABLISHING A SUSTAINABLE PROCESS TO SUPPORT STANDARDISATION OF TECHNOLOGIES AND SERVICES

EU-VRi

The ResiStand Project

IMPROVER / ERNCIP 2nd Joint Operators Workshop
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P. Woitsch

Geowise, Finland

The Speaker: Pertti Woitsch

- *Senior Advisor at Geowise Oy, Finland*

- *Coordinator of ResiStand project*

- *40 years of work experience serving the industry in various positions in Finland and abroad*

- *Several EU-funded and national projects in the security domain*

- *Participation in EU and international standardisation since 2002*

- *Physics, Computer Science (University of Helsinki)*

Contents

- *ResiStand project*

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The ResiStand Project

The Project

- *Call:* H2020 Secure Societies 2015
- *Topic / Type:* DRS-6 / CSA
- *Full name:* Increasing disaster resilience by establishing a sustainable process to support standardisation of technologies and services
- *Duration:* 24 months (May 2106 – April 2018)
- *Effort:* 185,5 person months
- *Funding:* 1,96 million €
- *Coordinator:* Geowise Oy, Finland
- *Partners:* 14

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The Partners

No	Participant organization name	Short Name	Country
1.	Geowise Oy	GEO	Finland
2.	European Virtual Institute for Integrated Risk Management	EU-VRi	Germany
3.	Netherlands Standardisation Institute	NEN	Netherlands
4.	DIN German Institute for Standardisation	DIN	Germany
5.	Finnish Standards Association	SFS	Finland
6.	Netherlands Organisation for Applied Scientific Research	TNO	Netherlands
7.	Fraunhofer Gesellschaft zur Förderung der angewandten Forschung	FhG-INT	Germany
8.	VTT Technical Research Centre of Finland Ltd	VTT	Finland
9.	Norwegian Defence Research Establishment	FFI	Norway
10.	Atos Spain, S.A.	ATOS	Spain
11.	D'Appolonia S.p.a.	DAPP	Italy
12.	Steinbeis Advanced Risk Technologies GmbH	R-Tech	Germany
13.	Trilateral Research & Consulting LLP	TRI	UK
14.	Treelogic S. L.	TREE	Spain

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Standardisation in a Nutshell

What is a Standard?

- *In essence, a standard is an agreed way of doing something – it is all about reaching consensus.*

- *It could be about making a product, managing a process, delivering a service or supplying materials – standards can cover a huge range of activities undertaken by organizations and used by their customers.*

- *Standards are the distilled wisdom of people with expertise in their subject matter and who know the needs of the organizations they represent – people such as manufacturers, sellers, buyers, customers, trade associations, users or regulators.*

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Types of Standards

Type of standard	Definition
Basic standard	Wide-ranging coverage or contains general provisions for one particular field
Terminology standard	Concerned with terms, accompanied by their definitions etc.
Testing standard	Concerned with test methods, sometimes supplement with other provisions related to testing
Product standard	Specifies requirements to be fulfilled by product or group of products, to establish its fitness of purpose
Process standard	Specifies requirements to be fulfilled by a process, to establish its fitness of purpose
Service standard	Specifies requirements to be fulfilled by a service, to establish its fitness of purpose

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Levels of Standardisation

- International Standards

- European Standards

- National Standards

- Industry Standards

Committees and Working Groups

ISO/PC 283	Occupational health and safety management systems
ISO/TC 285	Clean cookst...
ISO/PC 286	Collaborative...
ISO/PC 28	
ISO/PC 28	
ISO/TC 289	
ISO/TC 290	
ISO/TC 291	
ISO/TC 292	
ISO/TC 293	
ISO/PC 294	
ISO/PC 295	
ISO/TC 296	
ISO/TC 297	

Secretariat: SIS
Secretary: Ms Susanna Björk
Chairperson: Ms Åsa Kyrk Gere until end 2020

Subcommittee/Working Group	Title
ISO/TC 292/UNCG	UN Cooperation Group *The convener can be reached through the secretariat*
ISO/TC 292/DCCG	Developing Countries Cooperation Group *The convener can be reached through the secretariat*
ISO/TC 292/CG	Communication group *The convener can be reached through the secretariat*
ISO/TC 292/WG 1	Terminology *The convener can be reached through the secretariat*
ISO/TC 292/WG 2	Continuity and organizational resilience *The convener can be reached through the secretariat*
ISO/TC 292/WG 3	Emergency management *The convener can be reached through the secretariat*
ISO/TC 292/WG 4	Authenticity, integrity and trust for products and documents *The convener can be reached through the secretariat*
ISO/TC 292/WG 5	Community resilience *The convener can be reached through the secretariat*
ISO/TC 292/WG 6	Protective security *The convener can be reached through the secretariat*

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Standardisation of Disaster Resilience – Int'l Level

Standards Developing Organisation	TC No	TC title
ISO	224	Service activities relating to drinking water supply systems and wastewater systems - Quality criteria of the service and performance indicators
ISO	262	Risk management
ISO	292	Security and resilience
ISO/IEC	JTC 1/SC 27	IT Security techniques

More information: www.iso.org;   www.iec.ch;   www.itu.int

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Standardisation of Disaster Resilience – European Level

Standards Developing Organisation	TC No	TC title
CEN	72	Fire detection and fire alarm systems
CEN	164	Water Supply
CEN	278	Intelligent transport systems
CEN	391	Societal and Citizen Security
CEN	439	Private security services
CEN-CENELEC	4	Services for fire safety and security systems
CEN-CENELEC	JWG 8	Privacy management in products and services
CENELEC	79	Alarm systems
ETSI	ETSI CYBER	Cyber Security

More information: www.cen.eu;   www.cenelec.eu;   www.etsi.org
www.resistand.eu - see deliverable D2.1 Overview of standardisation
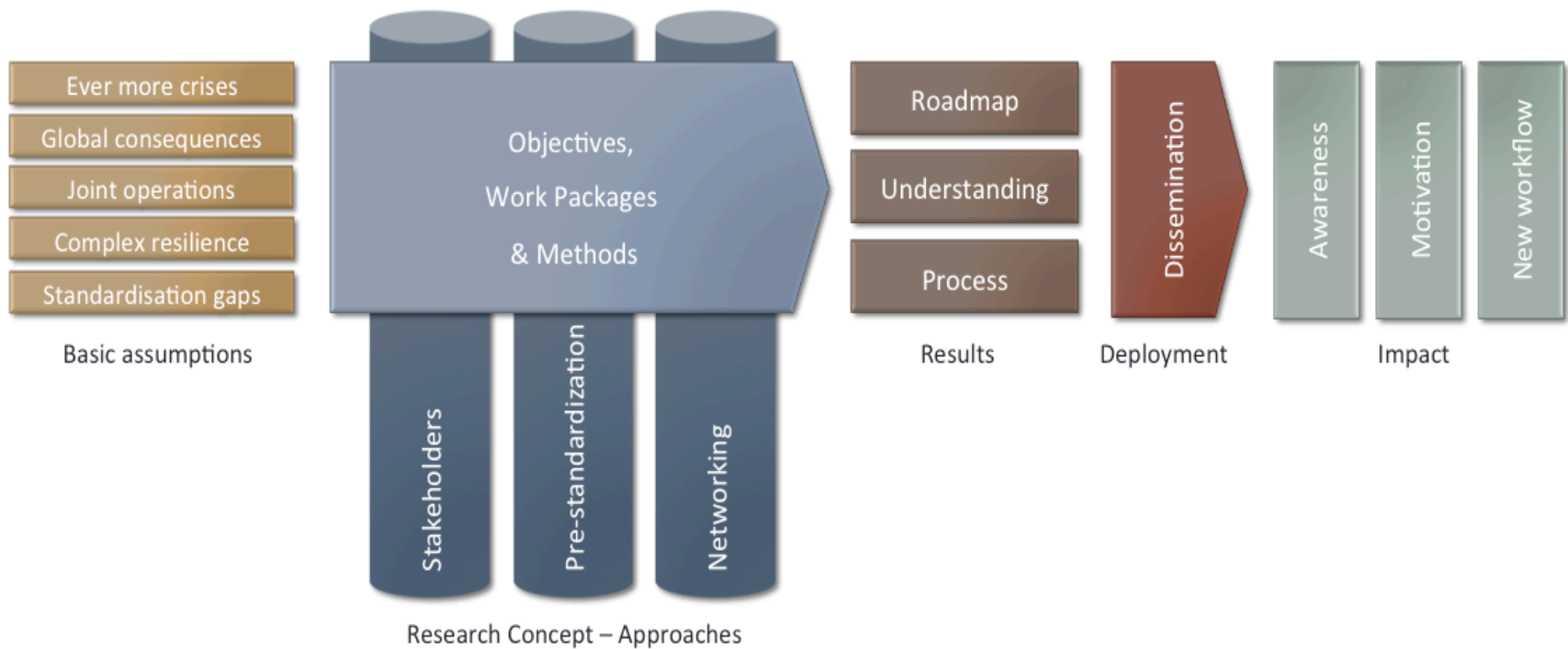
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EU Security Standardisation Landscape – Issues

- *Very few EN standards developed*

- *Mainly ISO EN standard*

- *Inadequate participation of stakeholders*

- *No clear path from research projects to standards*

- *Redundancy of work between levels of standardisation*

- *Coordination of work between committees*

- *Slow progress of working groups*

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Project Objective and Approach

Project Objectives

Project Structure

The Stakeholder Approach – ResiStand Communities

STANDARDS ADVISORY GROUP

- European & International Standardisation committees and working groups
- Provide information on existing standards and forthcoming new work items
- Benefit from increased efficiency in standard development as well as from definition of standardisation needs and opportunities

STANDARDS ADVISORY GROUP

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END-USER COMMUNITY

SUPPLIER COMMUNITY

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The Stakeholder Approach – ResiStand Communities

END-USER COMMUNITY

- Organizations using standards in their work (first responders, law enforcement agencies, non-governmental organizations)
- Identify current and future standardisation needs based on their work experience
- Receive up-to-date information on existing and future standards
- Benefit through increased interoperability and compatibility between systems and services

STANDARDS ADVISORY GROUP

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END-USER COMMUNITY

SUPPLIER COMMUNITY

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The Stakeholder Approach – ResiStand Communities

SUPPLIER COMMUNITY

- Industry, including SMEs and the research community (universities, RTOs)
- Provide understanding of the expectations, drivers and restraints of the community
- Identify potential new technologies, solutions, procedures and practices that can be used as basis for future standardisation
- Benefit from increased efficiency in product development and clear view on standards
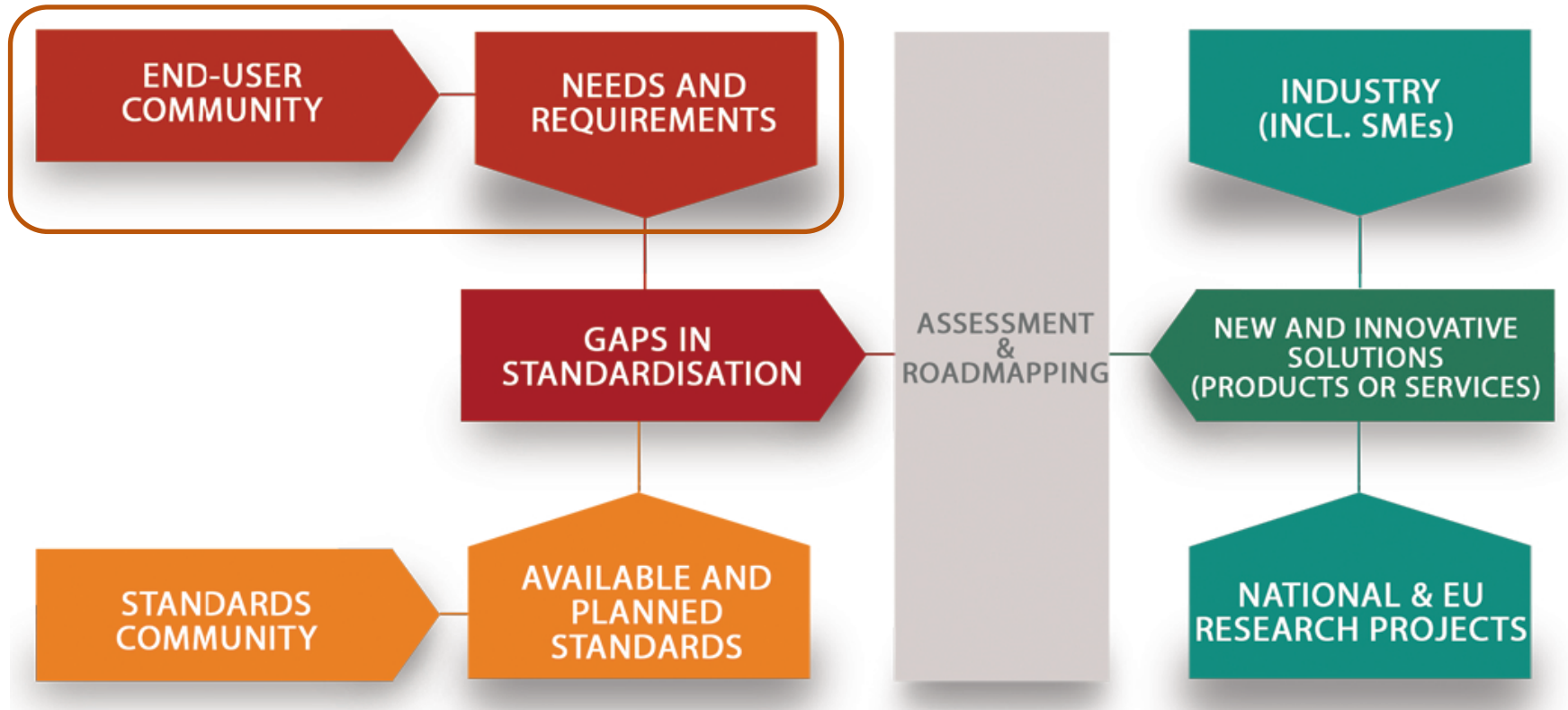
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END-USER COMMUNITY

SUPPLIER COMMUNITY

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The Pre-standardisation Approach

The Pre-standardisation Approach

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Project Outcome and Expected Impact

The Outcome

1. A **roadmap** *for future standardisation activities*
   - *critical evaluation of the potential of standards*
   - *identification of gaps in the standardisation funnel*
   - *prioritization of standardisation needs*
   - *standardisation roadmap for improved disaster resilience*

2. *A sustainable* **process** *to improve future standardisation*
   - *mapping of demand and supply*
   - *assessment of standardisation*
   - *successful application of standardisation deliverables*
   - *will be tested during the project with a work item*
   - *exploitation strategy and implementation plan*

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The Impact

- *Better assessment of feasibility and impact of standards and matching of end-user needs with opportunities*

- *Establishment of a standardisation roadmap at European (CEN/CENELEC/ETSI) and international (ISO/IEC/ITU) levels, leading to new standards*

- *Improved coordination of activities at EU and international levels and cross-fertilisation among different sectors*

- *Improved contribution to disaster resilience of populations, crisis and disaster management, civil protection and CBRNE systems, tools and services through new standards*

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End-User Needs

What's been done during the 1st year?

- *An End-User Community (E-UC) has been created*
    - *surveys, workshops, analyses, reports*
    - *to identify the end users' standardisation needs*
    - *to understand the end users' view of the standardisation process*
    - *to understand the drivers and restraints affecting the end users' participation in standardisation*
- *End user related data has been collected and analysed*
- *An Assessment Framework has been developed to assess the feasibility and impact of proposed standards*
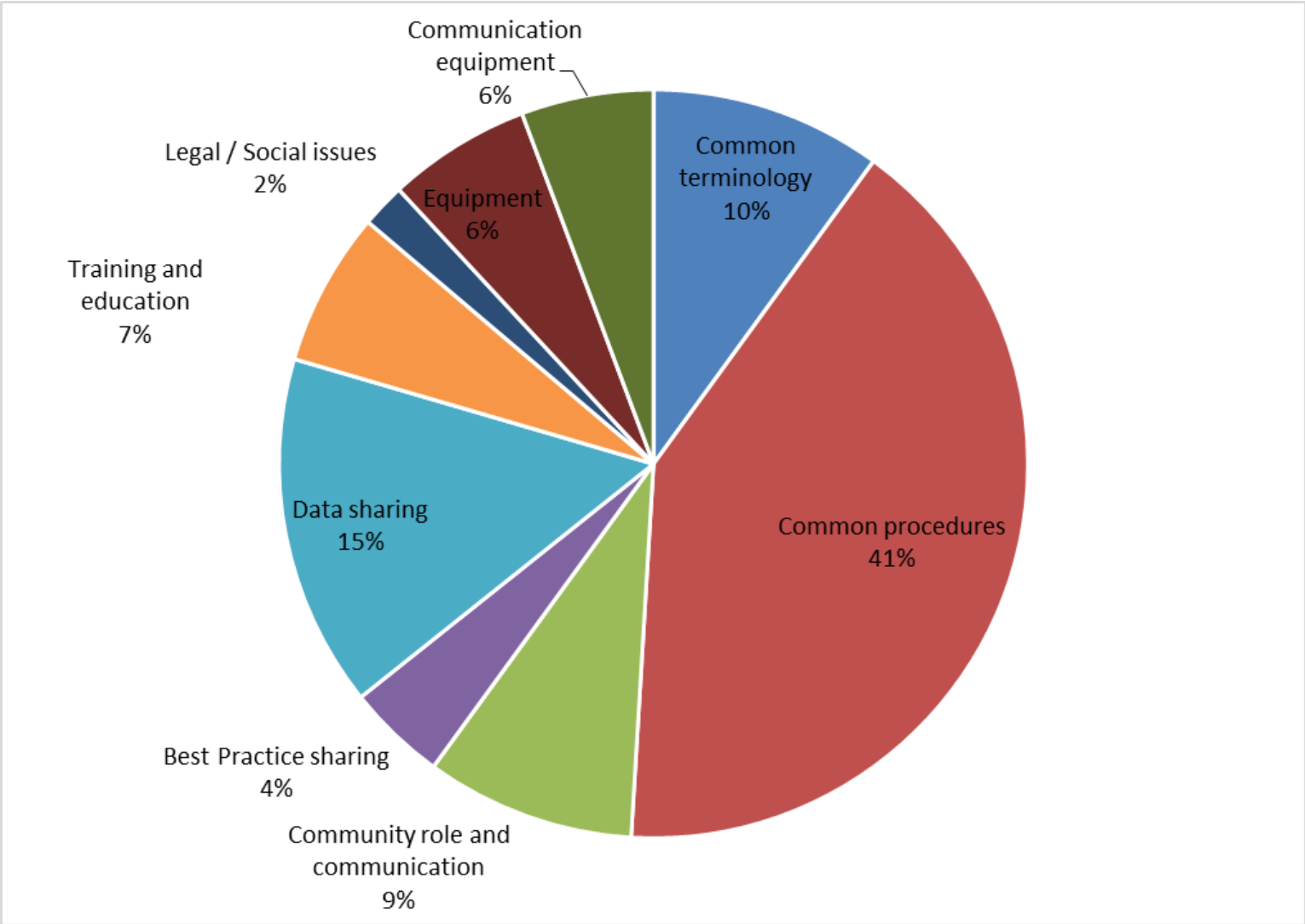- *Same actions also for the SUC and SAG Communities*

ResiStand End-User Community (E-UC)

- *Invitations sent to potential members (partners' own networks, EU-funded projects, other networks such as CoU, TIEMS etc.)*

- *A total of 83 experts have registered as E-UC members*

- *Representing governmental organisations (fire, search & rescue, police, healthcare, ministries etc.) and NGOs*

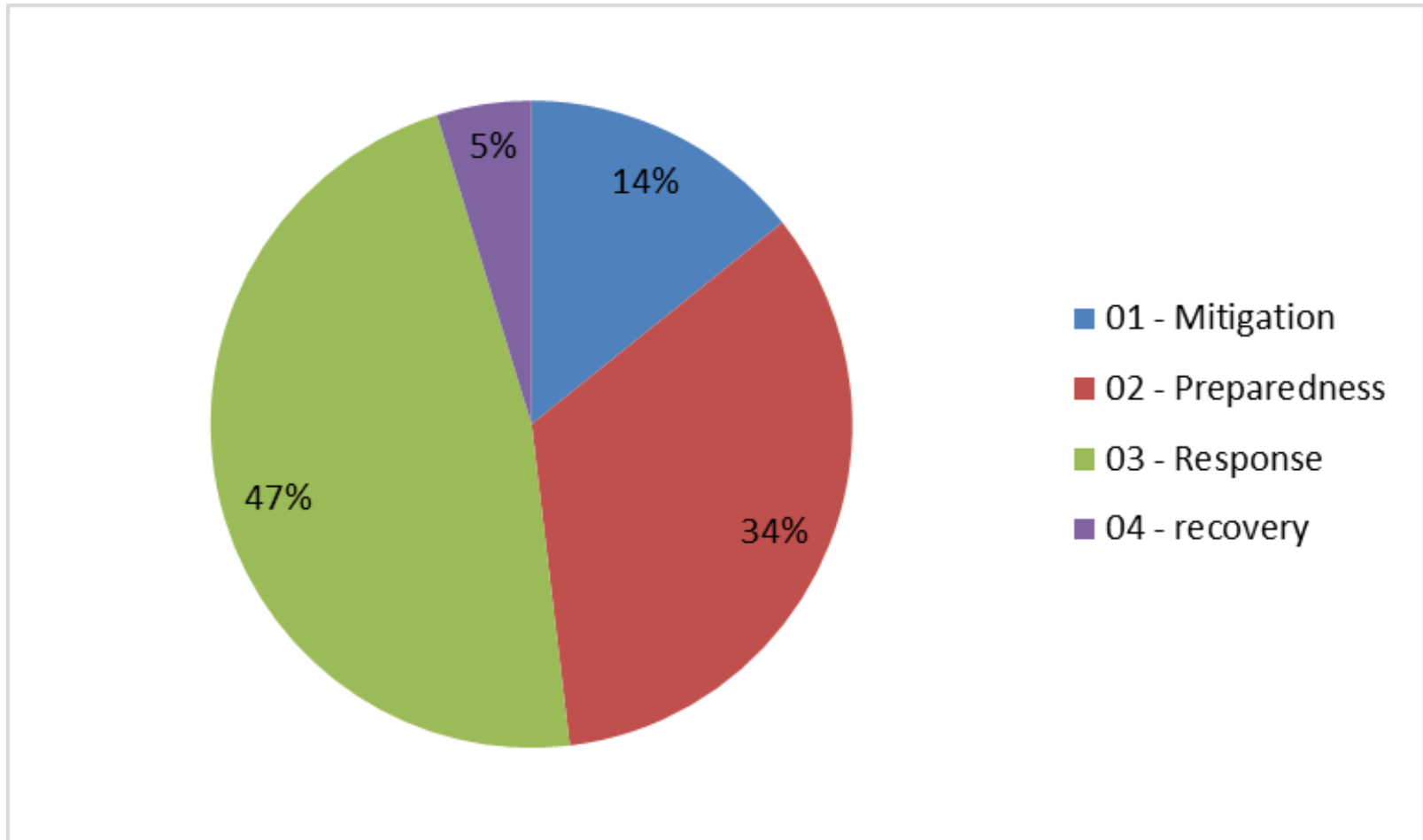- *From 17 EU MS and 4 non-EU countries*

End-User Needs

- *The E-UC needs were addressed through*

    - *Web Questionnaire (35/188 answers)*

    - *Four Workshops (37 participants)*

    - *Desktop Research (EU-funded projects)*

- *A total of 210 end-user standardisation needs identified*

End-User needs according to Thematic Areas

Pie chart of End-User needs by Thematic Area:
- Common procedures 41%
- Data sharing 15%
- Common terminology 10%
- Community role and communication 9%
- Training and education 7%
- Communication equipment 6%
- Equipment 6%
- Best Practice sharing 4%
- Legal / Social issues 2%

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End-User needs according to disaster mgmt phases

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Examples of end user needs 1

Asset management:

1. *"Tested and reliable first responder work-suits that provide sufficient protection to escape the contaminated area, and that are standardized to the greatest extent possible (to simplify cross-sector and cross-border efforts"*

2. *"Lack of standards on experimental setup (includes scenario design, data analysis and assessment, logistical experiment design procedures, data collection, societal and ethical aspects) to practice CM and to test new CM solutions"*

3. *"Harmonisation in capacity building and mapping: A standard way of assessing capacity is essential in order to build trust and understanding among organisations, which is the first step towards cooperation, sharing resources and jointly plan capacity."*

Monitoring/detection:

1. *"common technical and interoperability standards for identity and borders systems, as well as standards for biometric identifier"*

2. *"Air, water and ground sampling kits, accompanied by set guidelines and EU-standards for content, application and approaches for use. - Strategies for safe and efficient sampling while keeping an adequate "chain of custody",*

3. *"Need for a standardised approach to perform a fast analysis at incident response."*

Examples of end user needs 2

Warning/crisis communication:

1. *"Warning (alert and notification) dissemination understanding. Develop alert libraries that are applicable in all European countries. Define common European messages schemes for fire and evacuation systems. Capitalize on existing ISO/DIS 22322 on public warning process and ISO/DIS 22324 on colour coded alert."*

2. *"Develop a common language for warning (alert and notification): Develop alert libraries that are applicable in all European countries (going beyond ISO/DIS 22324 on colour coded alert and ISO/DIS 22322 on public warning systems)."*

3. *"Develop a common language for warning (alert and notification): Develop a communication protocol that allows lightweight transmission of alert messages and supports light encoding of the alert libraries; with possible use of wireless media (suggest more specific use of the Common Alerting Protocol (CAP), based on alert libraries, to allow interoperability)."*

4. *"How to communicate with the public in transnational emergencies?"*

5. *"Develop a common and standardized procedure in order to let citizens actively bring in their resources into the relieve effort (e.g. a „resource ticket" available on mobile phones and the web)."*

6. *"Standardisation for providing dynamic information during an emergency (i.e. evacuation information in real time, location, infrastructure availability, exit routes availability)."*

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ResiStand Assessment Framework

ResiStand Assessment Framework (RAF)
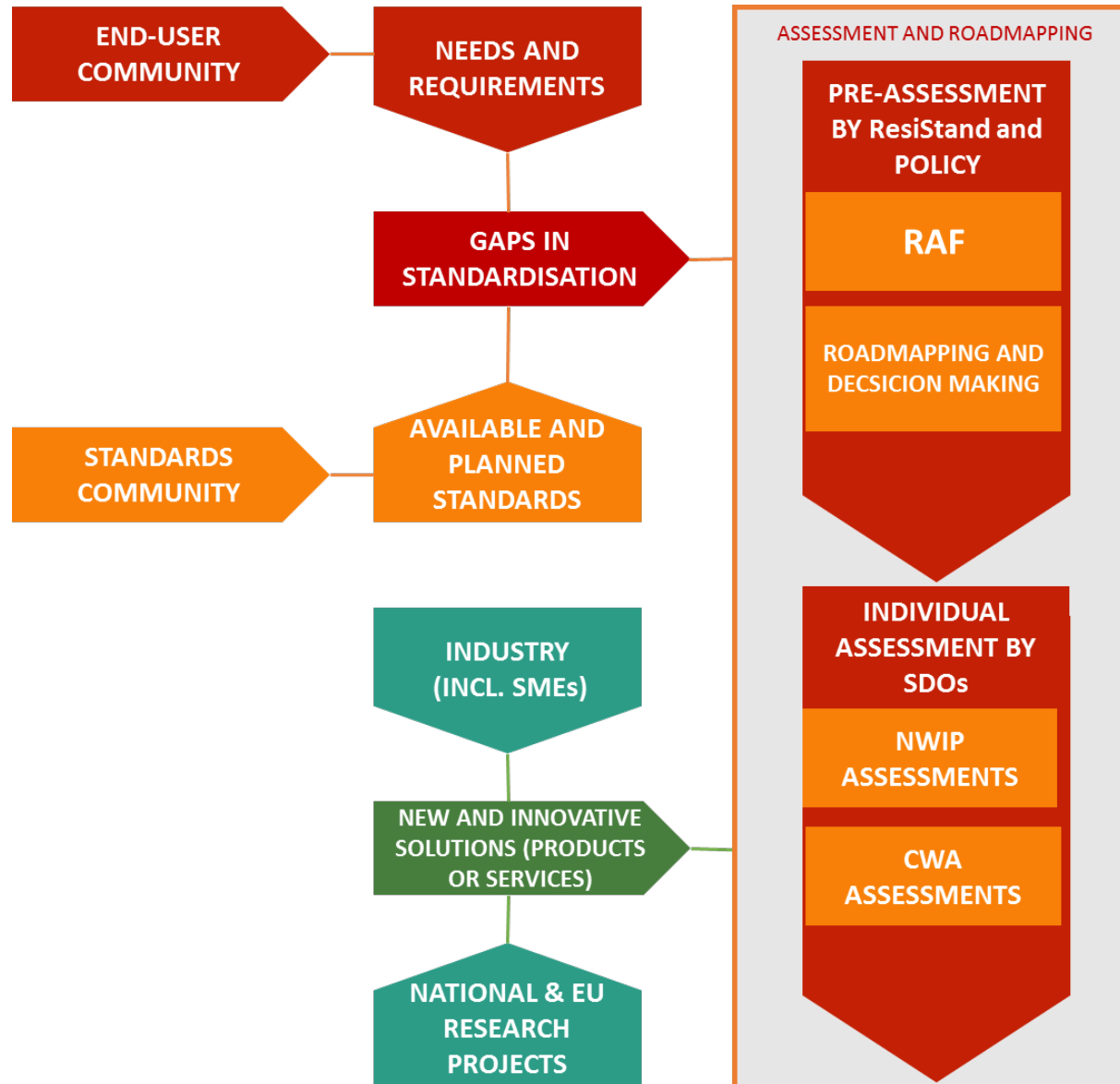
ResiStand Assessment Framework (RAF)
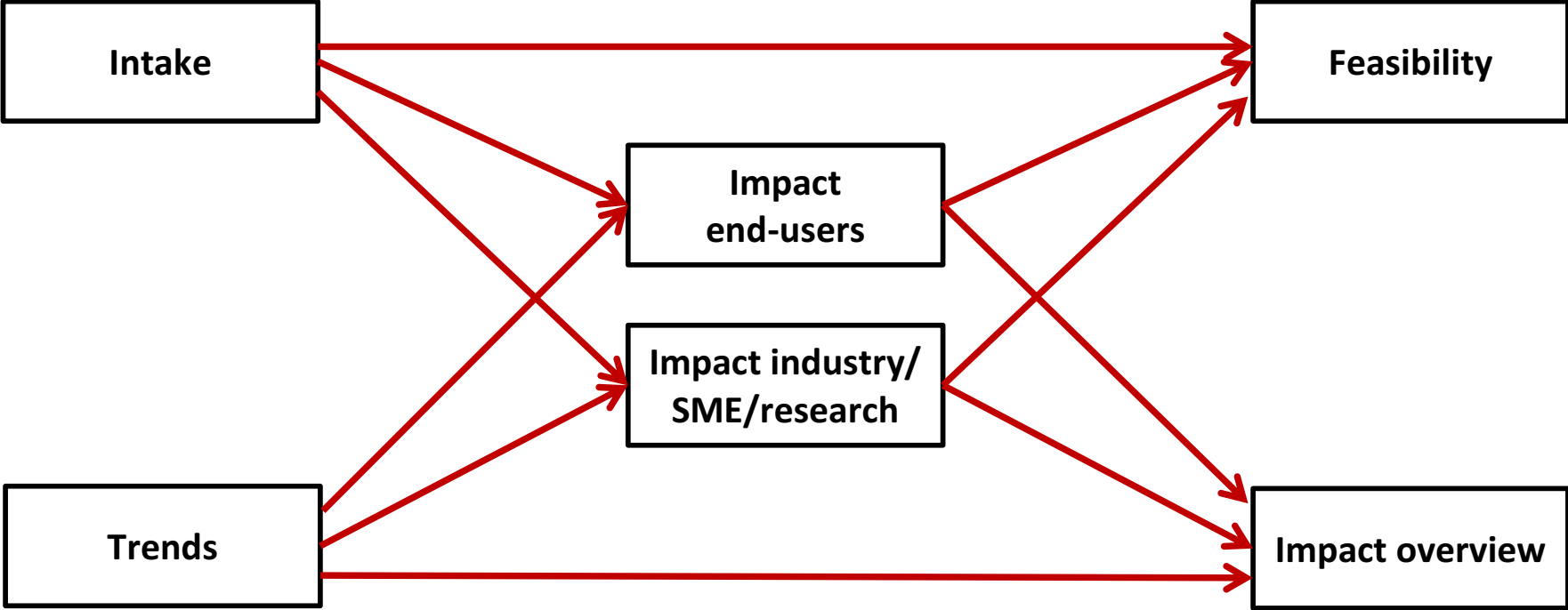
RAF – Example

Feasibility

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Foundation	Y/N/?	Explanation
All relevant categories of stakeholders involved in developing the standard	Yes	But still some additional practitionors would be beneficial.
Sufficient SDOs involved in developing the standard	Yes	DIN, NEN and SFS are …
Clear scope of the standard among all stakeholders	Yes	All partners signed a pre-proposal text that sounds very promising
Consensus on the output (what should be achieved)	No	Still some minor discussions.
Responding the needs in the disaster resilience domain	Yes	It fully responds to the need expressed by … in their manifest … (2016)
Awareness among all stakeholders about (quantified) benefits	No	Not yet.
Governmental / Top level commitment	Yes	Quite some letters of intent have been signed.
Duration of development less or equal then 1.5 year	Unknown	Planning process is on-going.
Costs of development	Medium	…

**low:** it is possible to start the project but funding is desirable for delivering results in short time.
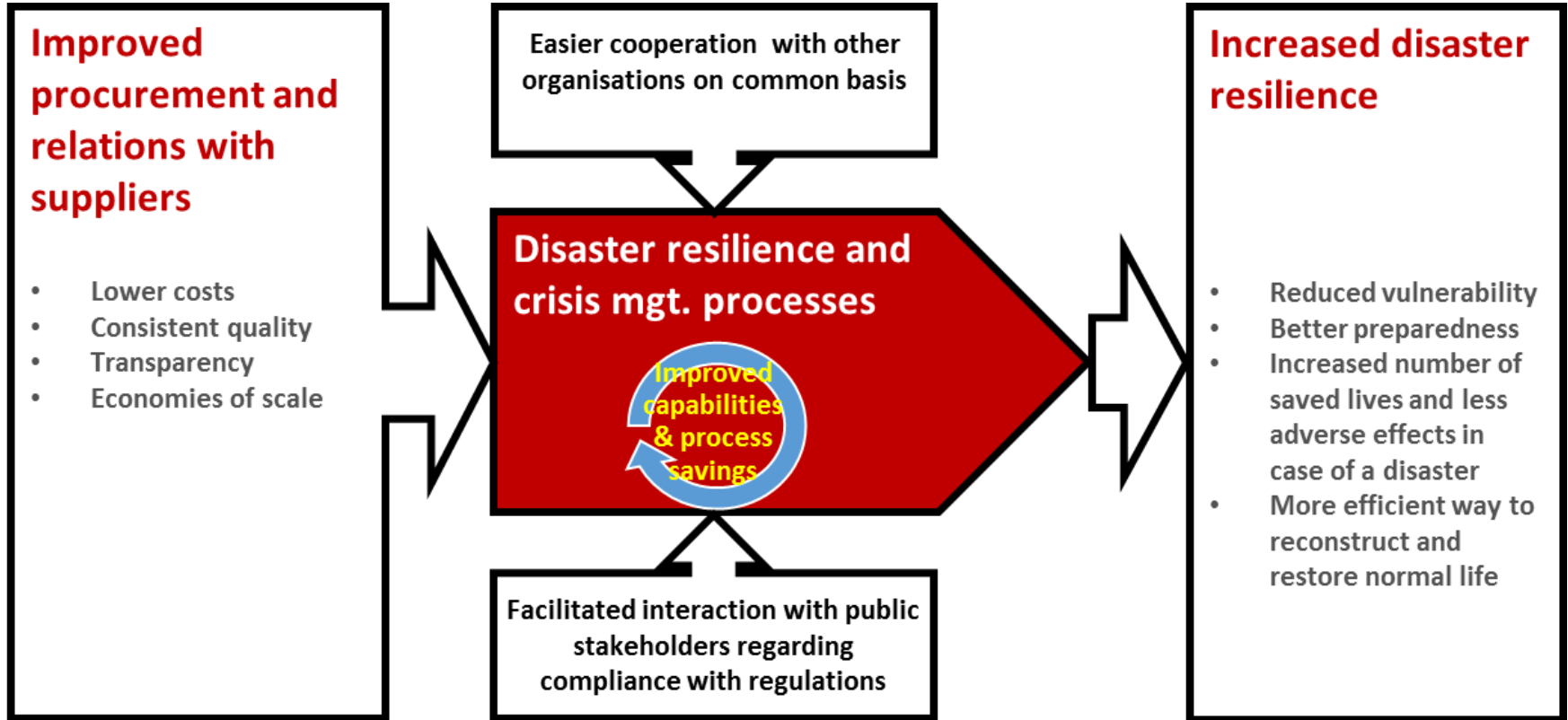_**medium:** funding is needed as (1) results may not be obtained without funding and/or will take substantially longer (e.g. arranging inter-laboratory testing) and (2) the number of available experts will be limited._
**high** : Funding is essential as without funding the project will not go through because results cannot be obtained (e.g. financing of inter-laboratory testing) or number of available experts will be too limited.

Development perspectives	Y/N/?	Explanation
Clear time-frame	No	Planning process is on-going.
Sufficient funding for development	No	Not clear yet.
Availability of a critical mass of experts within development team	Yes	Sufficient partners are familiar with standardisation development and …
Develoment team well balanced	Yes	However some additional practitioners from 1 or 2 other countries would be …
Background support by practitioners	Yes	The ResiStand End-User Community supports the proposed standard …
Background support by relevant industry / research	No	Negotiations are on-going.

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Benefits and Challenges of Standards to End Users

Benefits of standards to end users

Improved procurement and relations with suppliers

- Lower costs
- Consistent quality
- Transparency
- Economies of scale

Easier cooperation with other organisations on common basis

Disaster resilience and crisis mgt. processes

Improved capabilities & process savings

Facilitated interaction with public stakeholders regarding compliance with regulations

Increased disaster resilience

- Reduced vulnerability
- Better preparedness
- Increased number of saved lives and less adverse effects in case of a disaster
- More efficient way to reconstruct and restore normal life

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Benefits driving standardisation

- *Improved compatibility and interoperability.*

- *Improved collaboration with other stakeholders*

- *Building institutional resilience and best practices*

- *Bottom up influence through participation*

- *Increased efficiency, readiness and operability*

- *Speed up crisis management process*

- *Exploitation of research results as standards*

Challenges in standardisation

- *High standardisation costs*

- *Lack of mandate and resources*

- *Lack of understanding the benefits*

- *Long standardisation projects*

- *Complex standardisation procedures*

- *Standards lacking user-friendliness*

- *Competition instead of collaboration*

- *Conflict between the Industry and End-Users*

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Next Steps

Next steps

- *Critical evaluation of standards as a tool for improving disaster resilience*

- *Identification of standardisation gaps and drafting of a roadmap for the next years*

- *Development of a sustainable pre-standardisation process and an implementation plan*

- *Plans for continuation of the ResiStand communities and tools after the project has ended (05/2017->)*

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Further development of the E-UC

- *Communication with the E-UC*

  - *Surveys, events, newsletters*

- *Further development of the E-UC*

  - *Invitation of new members*

  - *Development of discussion groups etc.*

- *Strategy for time after ResiStand*

  - *Finding a party to take care of the community*

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Next events

- *Workshop on 11 September, 2017 in Brussels, 2017 (CoU)*

  - *Validation of identified Standardisation Gaps*

  - *Discussion on the potential of standards*

- *Final conference on 22 March, 2018 Berlin (DIN)*

  - *Presentation of Standardisation Roadmap*

  - *Introduction of the ResiStand Process*

Questions & Answers

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