

THE COMMON INFORMATION SPACE

A New Concept for Information Sharing for Public Safety

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FREQUENTIS

→ Why a Common Information Space?

Why?

→ A typical Crisis Room (August 2013)



<http://www.thw-dortmund.de/aktuelles/aktuelle-meldungen/artikel/thw-fachberater-uebt-mit-mofuest-arnsberg/>

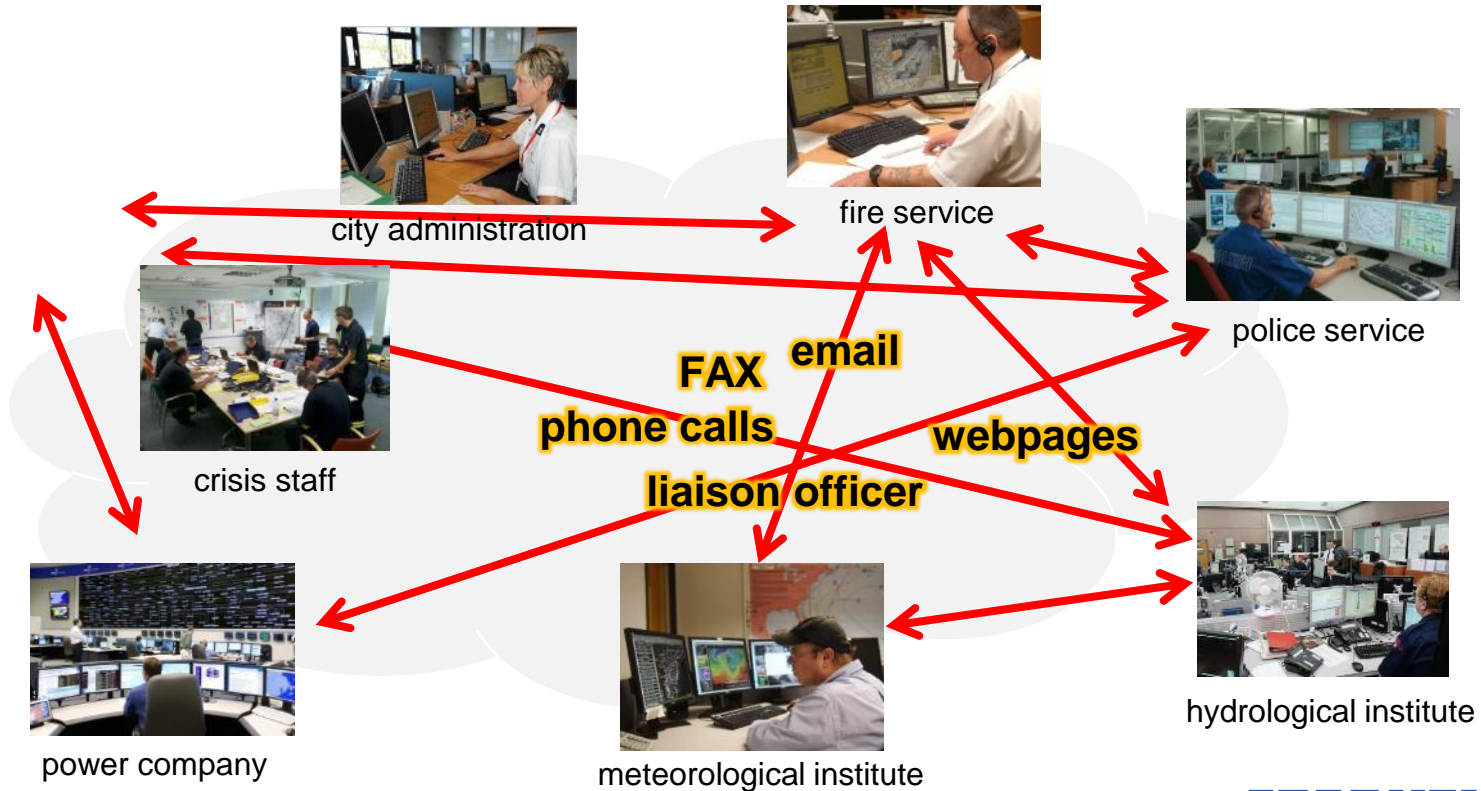
- **Paper Maps**
- **Whiteboards**
(incidents, tasks, resources)
- **Communication Technology**
(phone, mobile, PMR)
- **Emergency Plans**
(mostly paper)
- **Situation Reports**
(paper, fax, email)
- **Notebook Computer**
(office applications)

→ The Next Level of Complexity



Cross-organisational Collaboration

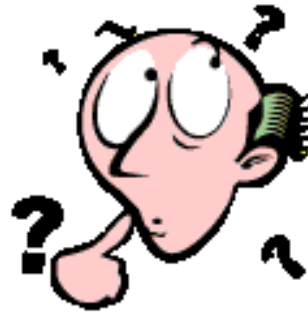
→ The Next Level of Complexity



→ The Challenge of a Common Operating Picture COP

How information is shared today:

„Push a piece of information on intention“



Is my picture

... Complete???

... Relevant ???

... Up to date ???

COP = „Common Operating Puzzle“ ???

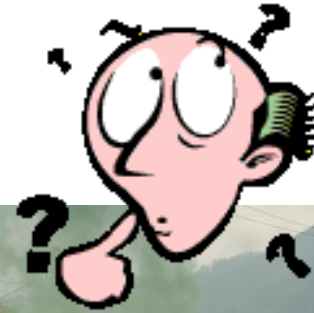
→ The Goal of Crisis- and Emergency Management

**To get the power
to act proactively!**

→ Usage of social media (Taranis2014.eu)

Collaboration and Shared Situation Awareness:

- crisis center
- emergency management organisations



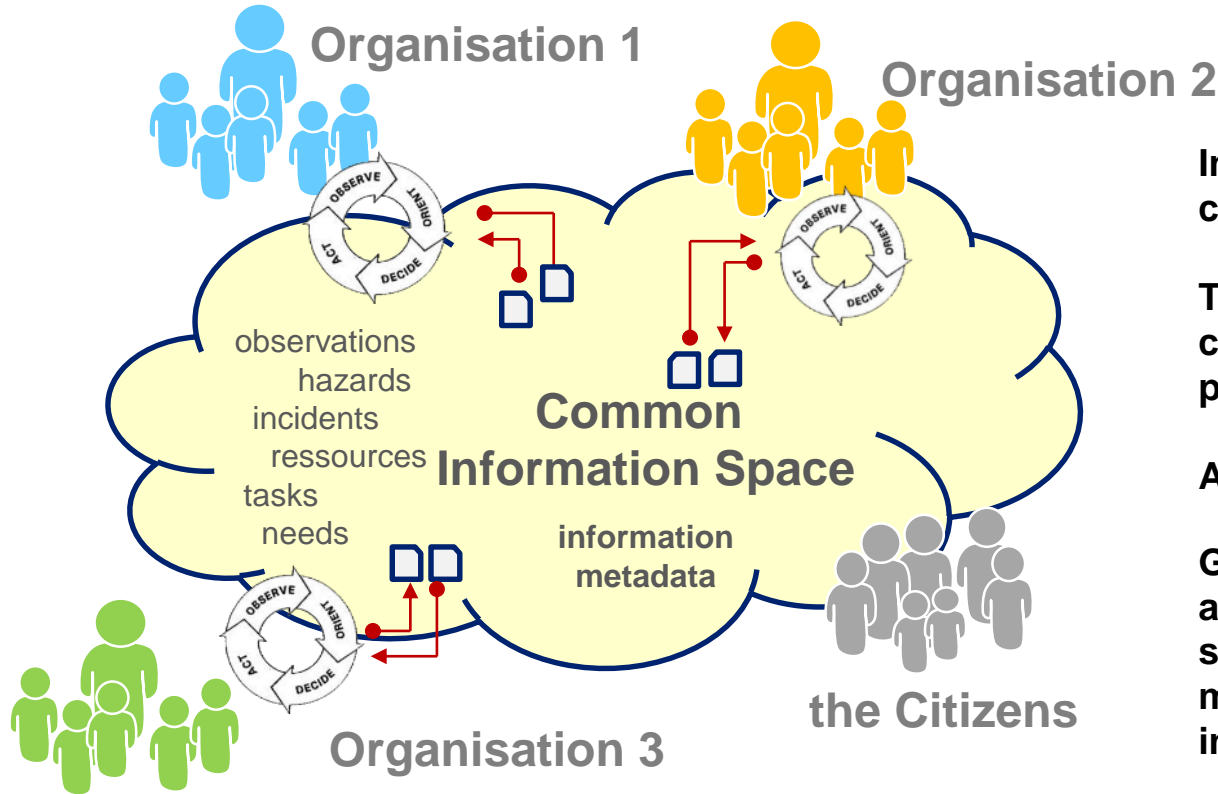
... complete ???
... up to date ???
... relevant
for me ???
... geographical
assignable ?



Quelle:



→ The Future: Common Information Space CIF



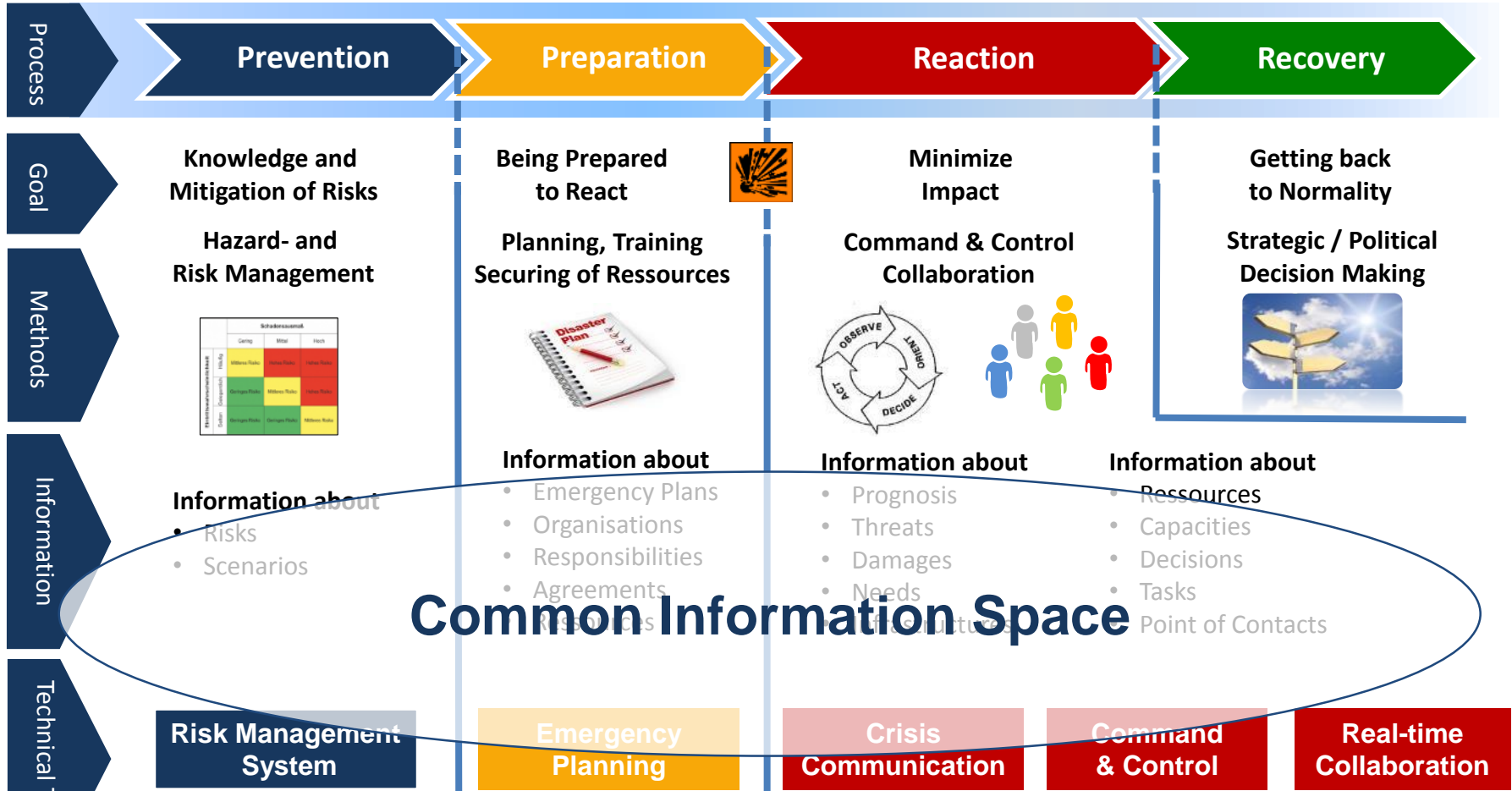
Information is shared within a common information space

This is done (semi-)automatically, controlled by information sharing policies

All decision processes benefit

Geo- and timereferences as well as standards for semantics, syntax and distribution allow machine processing of information.

**Which information
will be shared?**



Common Information Space

Who would participate?

→ Collaboration and Information Exchange

→ Civil Protection

- Crisis management departments on regional and national level
- Mol, Department of Health, Department of Infrastructures

→ First Responders

- Police
- Fire
- Ambulance
- Armed Forces

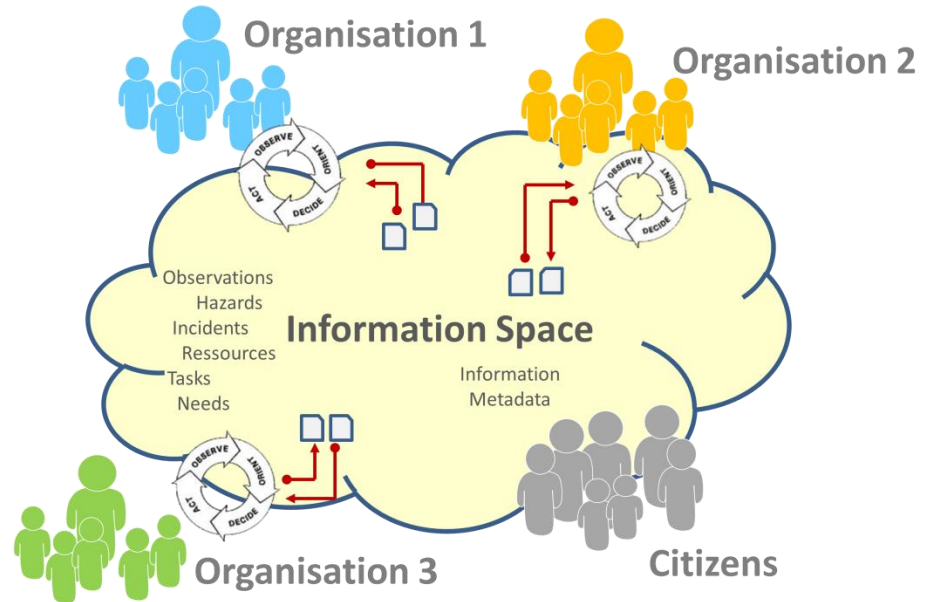
→ Critical Infrastructures

- Highway Agency, Railway
- Power Companies
- Telecom Providers

→ Specialised Institutes

- Geodynamics
- Weather

→ The Citizens



International Development

→ USA 2004 - 2013

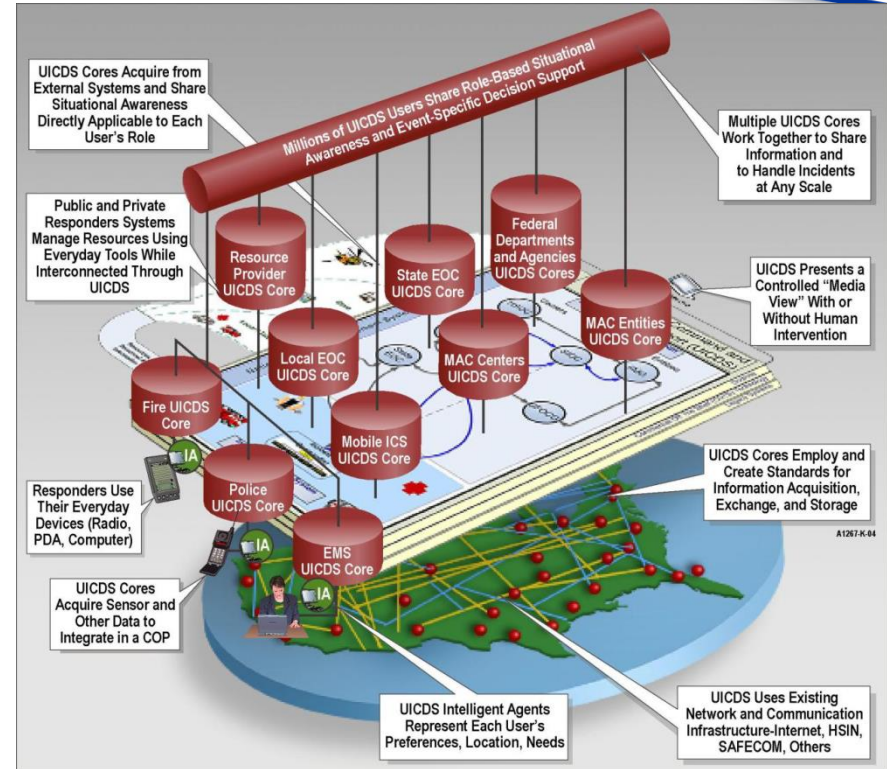
→ From the vision towards pilots

→ “UICDS”

Unified Incident Command and Decision Support (UICDS)

A Department of Homeland Security Initiative for Information Sharing Among Commercial, Government, Academic, and Volunteer Technology Providers to Support the National Incident Management System

UICDS Overview for Government



→ USA 2014 - today

- Rollout and Implementation!
- “XChangeCore”
- <http://www.xchangecore.org/>

XchangeCore

Two applications don't talk? Data sitting in one system needed in another?
Hundreds of web services waiting to be discovered? Looking from one
screen and wondering where on your map the data goes?
Web Service Data Orchestration. Now. Finally. Real Interoperability.



The diagram illustrates the XchangeCore architecture. At the center is a red double-headed arrow labeled "XchangeCore". To its left is a green double-headed arrow labeled "XchangeCore Code". To its right is a blue semi-circle divided into three segments: "Emergency Management and Public Safety" (Federal, State, Local, Tribal Governments), "DOD" (NORTHCOM, National Guard, DTRA, COCOMS), and "Private Sector" (Nonprofit, NGOs, Business & Industry, Critical Infrastructure). Below the semi-circle is a green base with "EMPOWERING OPERATIONAL COLLABORATION" on the left and "EMPOWERING GEOSPATIAL VISUALIZATION" on the right. Surrounding the central elements are four circular icons: "XchangeCore Cloud" (a cloud), "XchangeCore Community" (a group of people), "XchangeCore Geospatial Repository" (a globe), and "XchangeCore Code" (a green arrow).

→ Europe

→ Pilots within FP7 and Horizon 2020

DRIVER

37 partners from 13 European states driving innovation in crisis management for European resilience

REDIRNET

Emergency Responder Data Interoperability Network

SecInCoRe

Secure Dynamic Cloud for Information, Communication and Resource Interoperability

EPISECC

Common information space for collaborating control centres

SECTOR

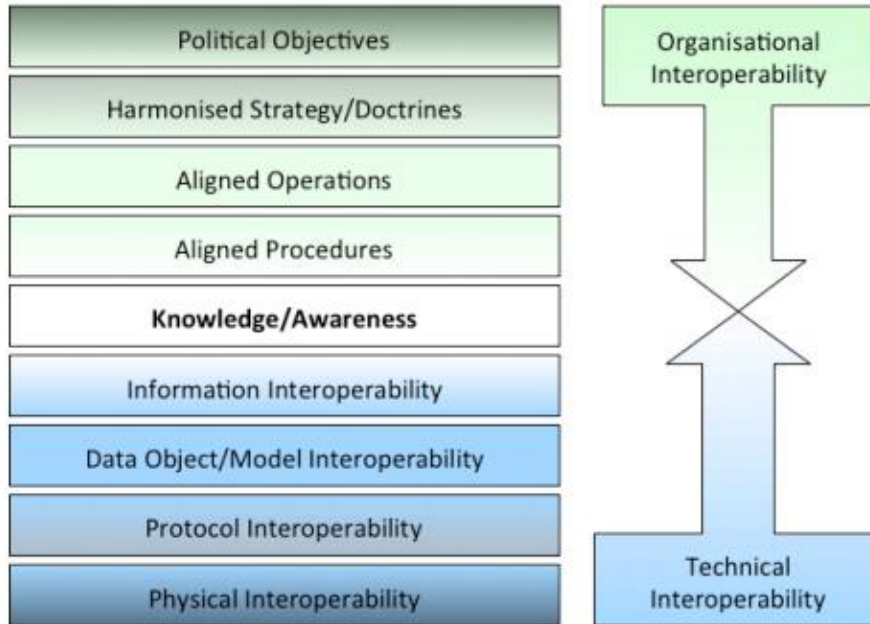
Secure European Common Information Space for the Interoperability of First Responders and Police Authorities

C2SENSE

Interoperability Profiles for Command/Control Systems and Sensor Systems in Emergency Management



→ All These Projects Have to Solve Similar Problems



Layers of Interoperability

Project ESENET (FP7) <http://www.esenet.org/project/what-is-esenet/>

→ Towards a Best Practise for Europe

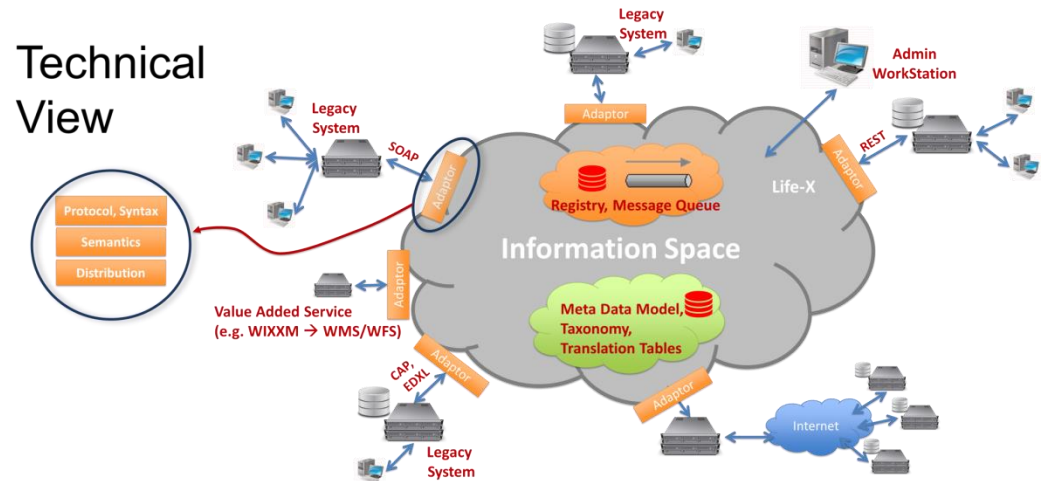
Well Established Standards

- Web Services and SOA Standards
SOAP, REST, ATOM Feeds, RSS
- OGC Standards
wms, wfs, sos
- OASIS Standards
CAP, EDXL

Semantic Challenge

- ~~JC3/EDM~~
- TSO
- Domain-specific best practises:
... relief items catalogue of the IFRC
... dangerous goods labeling

Similar Technical Approaches



Graz 2015:
Starting Point
for
**a new Capability of Information Sharing
throughout Europe!**

(I assume, we could achieve this, if we harmonize our approaches)



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