ETSON | EUROPEAN TECHNICAL SAFETY ORGANISATIONS NETWORK
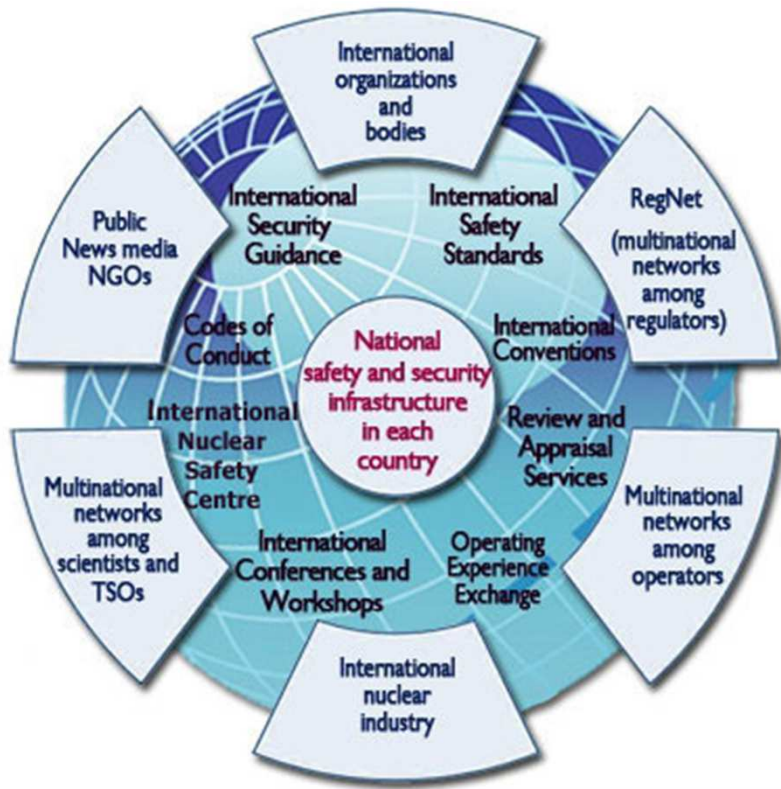
European TSO Network (ETSON) as Important Part of International Nuclear Safety Knowledge Networks

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Carla Eibl-Schwäger, (GRS, GERMANY)

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- Introduction
- About ETSON
- ETSON Safety Assessment Guide
- ETSON knowledge management and networking
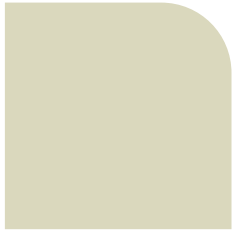- ETSON relation to TSOF and GNSSN
- Conclusion

Knowledge Networks as cornerstones for a high level of safety and security

Global Nuclear Safety and Security Network (GNSSN)

GNSSN is

- an important cornerstone of a global safety and security framework (GNSSF)
- supporting worldwide a high level of safety and security by sharing of information and knowledge among the international community
- a comprehensive concept that brings together, links and complements safety related knowledge networks and initiatives

→ *please refer to*
   http://gnssn.iaea.org and
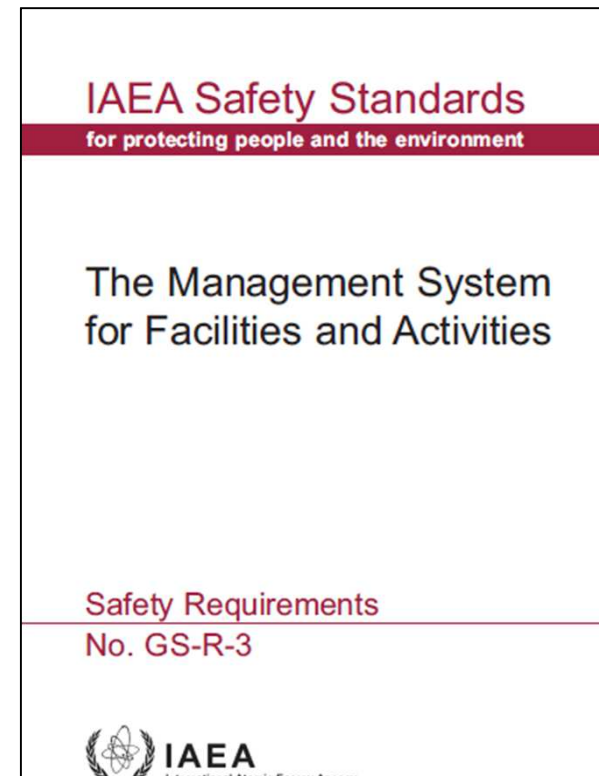   *http://gnssn.iaea.org/Pages/gnssf.aspx*

# Manage information and knowledge as a resource (GS-R-3)

Europe has

- a long tradition to develop, maintain and strengthen nuclear safety and security information and knowledge
  - locally,
  - nationally and
  - Internationally.
- For that purpose networking become an important tool!

➔ *please refer for European networks and fora to WENRA, HERCA, ENSREG, ETSON, Foratom, EUR organization ENEN and ENEF*

IAEA Safety Standards
for protecting people and the environment

The Management System
for Facilities and Activities

Safety Requirements
No. GS-R-3

IAEA
International Atomic Energy Agency

Overall objective and goal of safety networking

Regulatory Bodies, TSOs, operators and other stakeholder set-up human and IT-based networks with the Aim of ensuring that knowledge, experience, and lessons learned about nuclear safety and security are exchanged as broadly as they need to be.
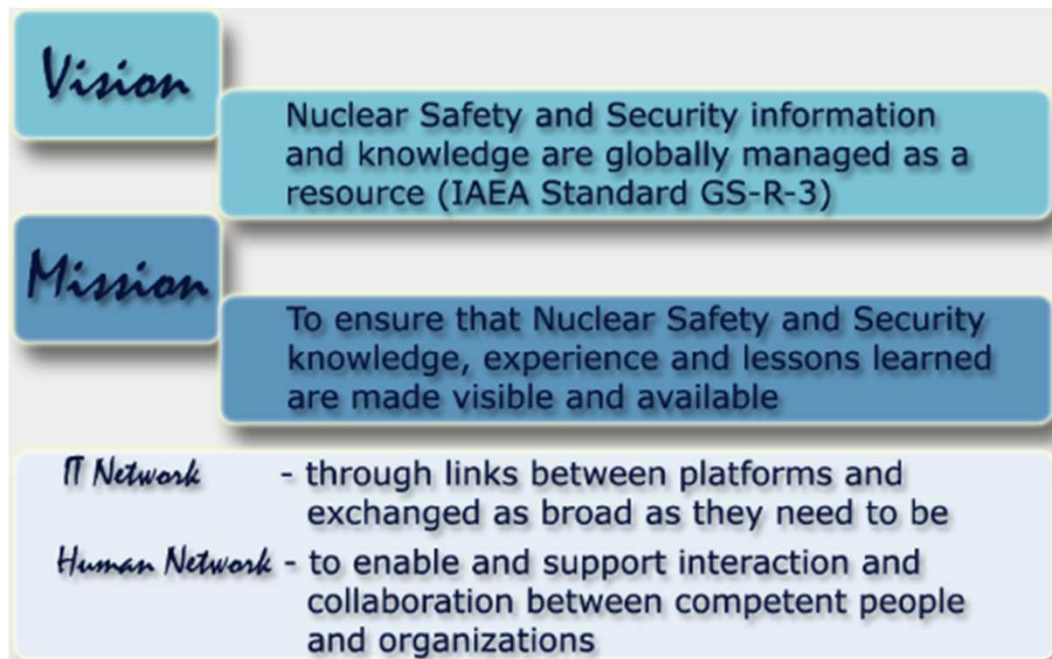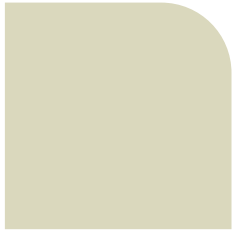
How Germany is contributing to knowledge networking

On national level

- a collaboration platform for nuclear safety information and knowledge was jointly created, developed and is used by the Regulator BMUB, GRS and their partners in cooperation

On regional European level

- Support is provided to establish and maintain several networks and fora, like ETSON, ENSTTI and ENSREG

On global level

- Jointly with IAEA and MS the development, enlargement and improvement of GNSSN, TSOF, GSAN and RegNet.
- Important are furthermore thematic and specific network platforms.

ETSON | EUROPEAN TECHNICAL SAFETY ORGANISATIONS NETWORK

Interconnection of national and international Information Resources
Internet ←→ Extranet: InfoServer/GNSSN ←→ Intranet
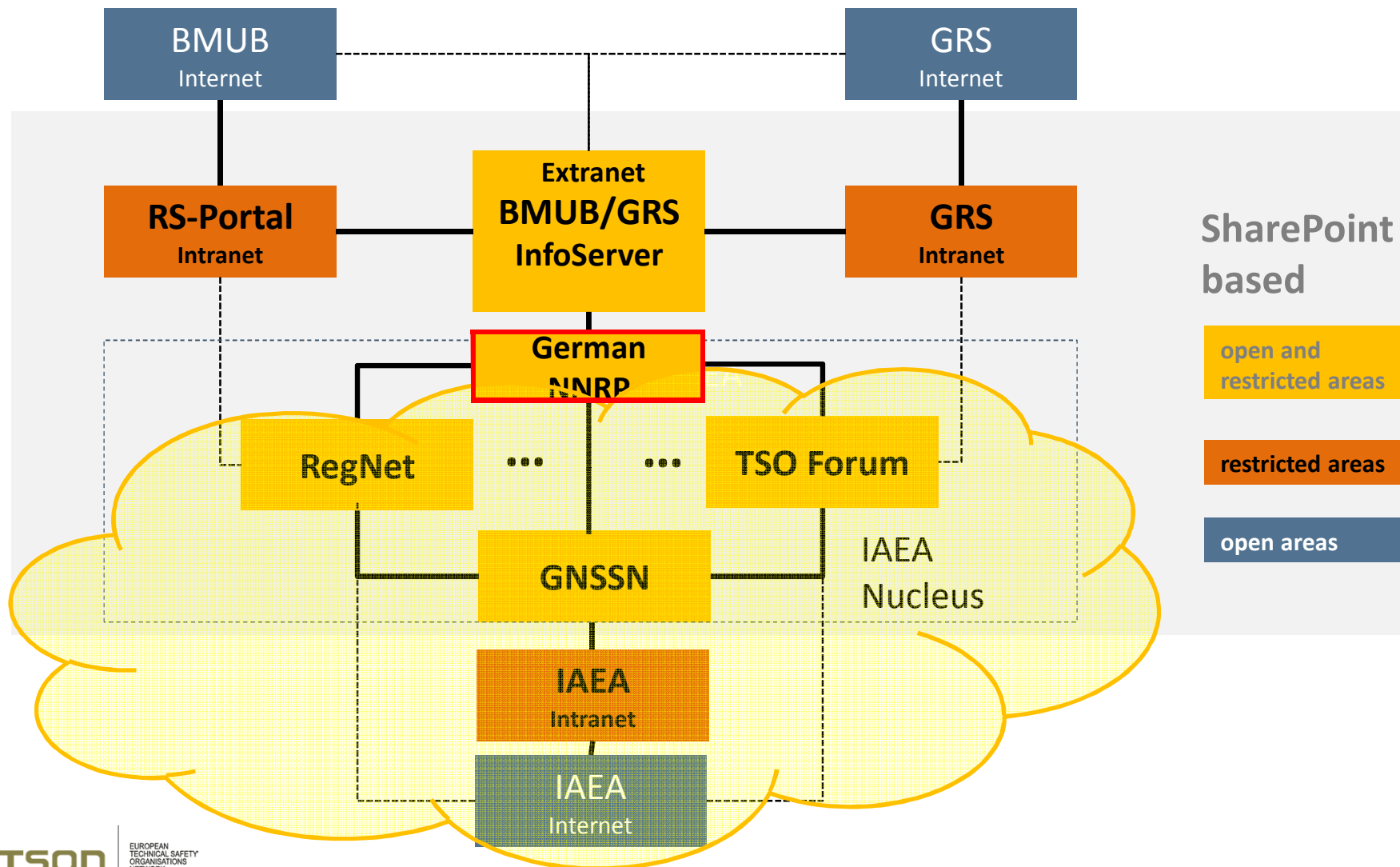
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About ETSON
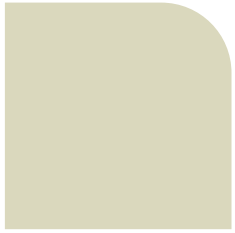
ETSON initiation and membership

- European TSO´s have decided to enter into a statutory Association in order to pursue shared goals.

- The development of ETSON was initiated 2006 by six TSOs and formally established in 2011

- Currently 10 TSOs are ETSON members:
  Bel V (Belgium), GRS (Germany), INRNE (Bulgaria), IRSN (France), JSI (Slovenia), LEI (Lithuania), PSI (Switzerland), UJV (Czech Republic), VTT (Finland), VUJE (Slovakia)

- Three TSOs are associated members: JNES (Japan), SEC-NRS (Russia), SSTC (Ukraine)
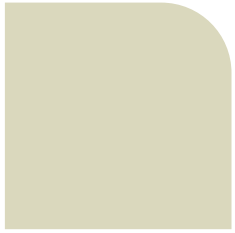
ETSON objectives

- voluntary exchanges on analyses and R&D in the field of nuclear safety,

- promote the convergence of technical nuclear safety practices,

- foster planning and implementation of nuclear safety research programs,

- Facilitate the European goals on nuclear safety,

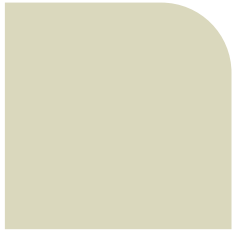- Cooperate in safety assessment and research activities.

ETSON general organization

ETSON – **GENERAL ASSEMBLY**

CHAIRPERSON – J. Repussard (IRSN)

ETSON – **BOARD**

PRESIDENT: J. Repussard (IRSN), **VICE-PRESIDENTS**: F.P. Weiss (GRS), G. Gromov (SSTC NRS)
SECRETARY: E. Uspuras (LEI), **TREASURER**: B. De Boeck (BEL V)

JSP	PING Group	Knowledge Management Group	Technical Board on Reactor Safety	RESEARCH Group
Young ETSON Experts	Lead: C. Eibl-Schwäger (GRS)	Lead: H. Teske (GRS)	Lead: P. De Gelder (BEL V)	Lead: JP. Van Dorsselaere (IRSN)

ETSON – **Expert Groups 1 - 14**

EG1: OEF, including Incident and Precursor Analysis (IRSN)
EG2: Mechanical Systems (GRS)
EG3: Electrical Systems
EG4: Severe Accidents (IRSN)
EG5: Environmental safety related qualification of components (Bel V)
EG6: Safety Fluid Systems, including auxiliary systems (IRSN)
EG7: Human and Organizational Factors (IRSN)
EG8: PSA

EG9: Lifetime-Management (Ageing Management)
EG10: Thermal Hydraulic Analyses (Transients, Accidents) (GRS)
EG11: Safety concepts, Defence-in-Depth (UJV)
EG12: Core behaviour (operational and accident conditions)
EG13: Emergency Preparedness and Response Group (GRS)
EG14: Waste and Decommissioning (IRSN)

Eurosafe Programm Committee (for promotion and consultation)

Joining ETSON means fulfilling specific criteria

- ETSON members share five <u>values</u> which underpin a code of conduct and ethics: independence, transparency, impartiality, pro-activeness and initiative.
- One of the <u>key pillar</u> of ETSON values belong to the holistic approach to safety expertise and the capability to perform safety assessments with a global vision, on a regular basis, and with a broad scope:
  - o Provide broad services to regulatory authorities on a regular basis,
  - o Maintain a high level of competence through training and knowledge management,
  - o Conduct R&D programs,
 - o Exchange information through networking.
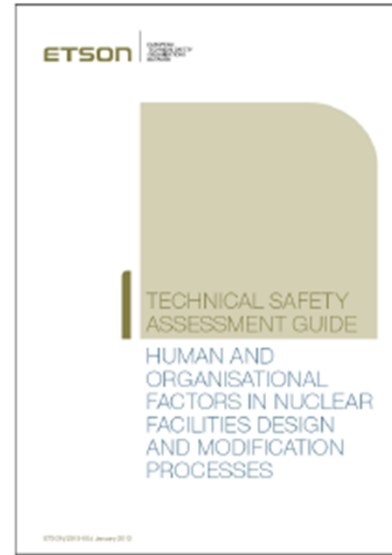
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ETSON Safety Assessment Guide

Activities of the Technical Board on Rector Safety and of 14 Expert Groups

- ETSON has developed a [Safety Assessment Guide (SAG)](#) with recommendations on reviewing and assessing the safety issues that are raised in nuclear activities.
- This main SAG is to be completed by several "Technical Safety Assessment Guides" (TSAG) specialized in different areas.
- Three of them are already published:
  - [TSAG Event review and precursor analysis](#),
  - [TSAG Deterministic severe accidents analysis](#),
  - [TSAG Human and organizational factors in nuclear facilities design and modification processes](#).
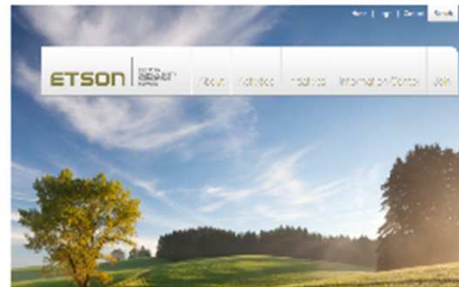- Two other TSAGs are well advanced. The development of other TSAGs is under way.
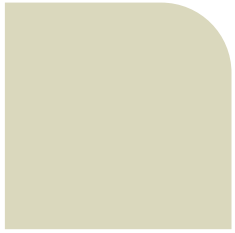
Technical Board on Rector Safety manage the guide production process

N°	Working Group	Publication
1	OEF, including Incident and Precursor Analysis	Published
2	Mechanical Systems	
3	Electrical Systems	
4	Severe Accidents	Published
5	Environmental safety related qualification of components	
6	Safety Fluid Systems, including auxiliary systems	
7	Human and Organizational Factors	Published
8	PSA	
9	Lifetime-Management (Ageing Management)	
10	Thermal Hydraulic Analyses (Transients, Accidents)	
11	Safety concepts, Defence-in-Depth	
12	Core behaviour (operational and accident conditions)	
13	Emergency Preparedness and response	
14	Waste and Decommissioning	

ETSON
EUROPEAN
TECHNICAL SAFETY
ORGANISATIONS
NETWORK

Intranet Portal

Intranet Portal
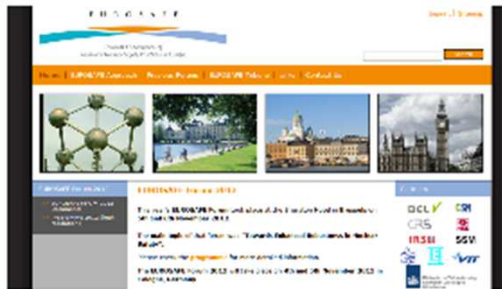
Official EUROSAFE Internet Website

Official ETSON Internet Webpage

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ETSON knowledge management and networking

ETSON Knowledge Management Group (KMG)

- Human networking as significant element is complemented by an effective IT platform, making available needed knowledge
- respective resources are accessible whether open for the public or password protected for dedicated teams
- The main tasks of the KMG are the creation, development and maintenance of ETSON and EUROSAFE Internet and Intranet
- the collaboration platform for ETSON is web-based and build on MS Sharepoint
- A common set of European scientific-based knowledge platforms (ETSON, EUROSAFE, RISKAUDIT, JSP and ENSTTI) was established and is in use.
- The further development of the common knowledge platform, including knowledge databases and collaboration teamsites, is a challenging task for ETSON

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ETSON relation to TSOF and GNSSN

European TSOs can confirm that networking is highly beneficial

- It is highly recommendable to establish links between international safety networks having different focus.
- In that respect ETSON as a whole and its member are:
  - active in the global TSO platform TSOF,
  - participating in activities of the global regulators cooperation platform RegNet,
  - involved in different regional and thematic nuclear safety networks, like ANSN, ANNuR, FNRBA, WENRA, WWER-Forum (see under GNSSN),
  - promoting the further develop-ment and the use of the GNSSN, including the National Nuclear Regulatory Portals (NNRP).

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Conclusion

Conclusion (1)

- Nuclear networks, including ETSON, are fulfilling their respective and defined specific aims

- Common are such objectives like

  o exchange of information,

  o transfer of knowledge,

  o support education and training,

  o collaborate effectively together,

  o promote coordination and

  o support harmonization

Conclusion (2)

- Further endeavor are needed to:

  o Make more significant efforts in promoting the opportunities of collaborative actions;

  o Use more active the existing features of the modern network tools.

  o Combine regional or global networks with national web-based knowledge resources by developing and maintaining further the National Nuclear Regulatory Portals.

- Nuclear safety and security networks are effectively contributing to build and sustain needed capacities and capabilities.

Thank You for Attention

International Legal Instruments, Conventions and Code of Conducts

IAEA Safety Standards

IAEA Security Guidelines

IAEA Safety Review Services

IAEA Security Missions

Global Knowledge Networks

Regulations Enforcement

National and Regional Safety and Security Infrastructure

Operations Use