



The Global Nuclear Safety and Security Network (GNSSN)

Nuclear Safety and Security Programme



IAEA

International Atomic Energy Agency
Atoms for Peace and Development



The GNSSN is the largest network in nuclear safety and security and is a key in building global safety and security infrastructure and fostering a new generation of experts.

Rafael Mariano Grossi

IAEA Director General



The network is a platform for the sharing of information among experts in order to achieve a high level of safety and security at nuclear facilities around the world. It is instrumental in spreading best practices and ensuring continuous improvements in nuclear safety and security.

Lydie Evrard

IAEA Deputy Director General and Head of the Department of Nuclear Safety and Security

Background

As a worldwide gateway, the IAEA Global Nuclear Safety and Security Network (GNSSN) assists countries in building capacity in nuclear safety and security via international, regional and national networks and portals.

The GNSSN supports collaboration and cooperation in the area of nuclear safety and security on a global scale among national authorities, specialists, international organizations, forums and working groups.

The network contributes to enhancing international cooperation and dialogue in the field of nuclear safety and security and increasing harmony in national approaches to knowledge management for nuclear safety and security. The GNSSN is composed of several thematic and regional networks, forums and working groups.

Keeping up with emerging trends, new information, lessons learned and best practices in nuclear safety and security is vital for virtually every professional from every sector in the nuclear community. But, keeping up with it all is becoming more challenging and complex as huge amounts of information arrive every day from multiple, diverse sources.



The GNSSN provides its partners with many developmental opportunities from facilitating workshops, to information sharing and knowledge networking (capacity building).



The GNSSN provides its partners with an efficient, collaborative, state-of-the-art web platform for managing and sharing up-to-date nuclear safety and security information and lessons learned for the benefit of all participating Member States.



The GNSSN platform is specifically designed to facilitate strategic partnerships and linkages among all stakeholders for government, regulators, operators and other nuclear safety and security related organizations.

Global Nuclear Safety and Security Framework

The GNSSN supports the Global Nuclear Safety and Security Framework, which aims to achieve and maintain a high level of safety and security at nuclear facilities and during activities around the world. Through the GNSSN, the IAEA works to assist Member States in:

- Meeting international obligations and national responsibilities in relation to the international legal instruments;
- Applying the IAEA safety standards and nuclear security guidance, upon request;
- Utilizing IAEA peer review and advisory services, upon request.

Capacity building

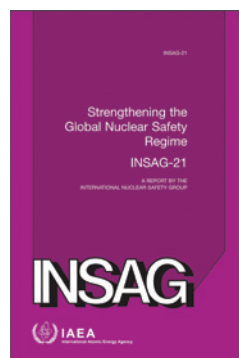
In its 2006 report on Strengthening the Global Nuclear Safety Regime, the International Nuclear Safety Group (INSAG) advocates and urges Member States and international organizations to adopt this type of networking:

“The Global Nuclear Safety Regime is the framework for achieving the worldwide implementation of a high level of safety at nuclear installations. Its core is the activities undertaken by each country to ensure the safety and security of the nuclear installations within its jurisdiction. But national efforts are and should be augmented by the activities of a variety of international enterprises that facilitate nuclear safety—intergovernmental organizations, multinational networks among operators, multinational networks among regulators, the international nuclear industry, multinational networks among scientists, international standards setting organizations and other stakeholders such as the public, news media and non-governmental organizations (NGOs) that are engaged in nuclear safety. All of these efforts should be harnessed to enhance the achievement of safety.”



What is INSAG?

The International Nuclear Safety Advisory Group (INSAG) is a group of experts with high professional competence in the field of nuclear and radiation safety and experience of working in regulatory organizations, the nuclear industry, technical support organizations, and research or academic institutions. INSAG is convened by the IAEA with the objective of providing the Director General of the IAEA with authoritative advice and recommendations on current and emerging issues in nuclear and radiation safety approaches, policies and principles. INSAG addresses fundamental safety issues as well as current and emerging matters of importance relevant to the nuclear and radiation safety of all facilities and activities, including nuclear security issues insofar as they relate to nuclear and radiation safety.



Evolution

INSAG's recommendation in 2006 on setting up a collaborative network to strengthen nuclear safety and security led to the launch of Global Nuclear Safety and Security Network (GNSSN) in 2007. The GNSSN was developed to address the connection, collaboration, capacity building and information needs of the global community. It has proven beneficial to Member States that need to develop new nuclear and radiation protection safety and security infrastructure, as well as to Members States seeking to strengthen and improve existing infrastructure.

Since then, the GNSSN has evolved into a strong virtual community that comprises over 20 networks including global, regional and national safety and security networks, forums and portals. The GNSSN is a worldwide gateway for Member States to share nuclear safety and security knowledge, expertise, lessons learned, training and services to facilitate capacity building. The GNSSN also assists in harmonizing and implementing activities from global initiatives at the regional and national level. Members are encouraged to take ownership of the processes needed to grow the network.



International Nuclear Safety Group (INSAG) meeting, 1–5 September 1986. (Photo: S. Katholitzky)

The Advisory Group on Nuclear Security (AdSec)

The Advisory Group on Nuclear Security (AdSec) is composed of experts with high professional competence in the field of nuclear security and experience of working in regulatory organizations, the nuclear industry, technical support organizations, research or academic institutions. AdSec is convened by the IAEA with the objective of providing the Director General of the IAEA with authoritative advice and recommendations on current and emerging nuclear security issues, as well as on nuclear security approaches, policies and principles. AdSec addresses fundamental nuclear security issues as well as current and emerging matters of importance relevant to the prevention of, detection of and response to criminal and intentional unauthorized acts involving or directed at nuclear material, other radioactive material, associated facilities or associated activities, including nuclear and radiation safety issues insofar as they relate to nuclear security.

GNSSN connects Member States to strengthen nuclear safety and security

To assist the IAEA in strengthening nuclear safety and security in Member States, the GNSSN connects Member States to each other and to the communities of practice at large. Member States can use the GNSSN platform to access online resources and communicate with nuclear experts worldwide. The GNSSN aims to enhance and maintain the quality of its national and regional safety and security networks and its global expertise by highlighting valuable information and providing a consistent and integrated online presence to meet the evolving needs of its users.



Rafael Mariano Grossi, IAEA Director General delivers his opening remarks at the Tenth Plenary Meeting of the Global Nuclear Safety and Security Network (GNSSN) at the IAEA 67th General Conference held at the Agency headquarters in Vienna, Austria, 27 September 2023. (Photo: D. Calma)

Coordination mechanisms also exist at the regional level such as that between the IAEA and key regional network partners, including: the Asian Nuclear Safety Network, the Arab Network of Nuclear Regulators, the Forum of Nuclear Regulatory Bodies in Africa, the Ibero-American Forum of Radiological and Nuclear Regulatory Agencies and the European and Central Asian Safety Network.

GNSSN building partnerships with Member States

Partnerships with Member States are at the heart of the IAEA's activities. Close collaboration between the IAEA, United Nations organizations and other organizations helps to maximize the impact of the IAEA's support towards the achievement of Member States' development priorities. To ensure that the IAEA's assistance is tailored to the specific needs and priorities of its beneficiaries, and is sustainable in the long term, programmes are developed through a consultative process. The Country Programme frameworks help Member States identify areas for technical cooperation with the IAEA in support of their national development objectives.

In addition, the IAEA supports countries in their efforts to reach the 17 Sustainable Development Goals (SDGs) set out in the United Nations 2030 Agenda for Sustainable Development. Many countries use nuclear science and technology to contribute to and meet their development objectives in areas including energy, human health, food production, water management and environmental protection. The use of these techniques contributes directly to 9 of the 17 SDGs.



Working toward the goal

The GNSSN is considered as the means to sustain the implementation of the international legal framework and focuses on assisting Member States to meet their national responsibilities as well as their international obligations.

The GNSSN's threefold mission helps Member States to:

1

Connect: to exchange, pool and share nuclear safety and security information, building strategic partnerships among governments, educational institutions, technical support organizations, regulators, operators, nuclear experts and specialists worldwide.

2

Communicate: to effectively share nuclear safety and security knowledge, good practices, lessons learned and expertise, avoiding knowledge decay and obsolescence through providing access to up-to-date nuclear safety and security scientific and technical literature.

3

Collaborate: to build capacity to strengthen the global nuclear safety and security framework. The GNSSN provides Member States with access to resources such as workshops, IAEA safety standards and nuclear security guidance, and safety peer review and advisory services to assist in building competences.

Performance monitoring

The Agency periodically evaluates the GNSSN networks to ensure that the networks are performing satisfactorily, by conducting surveys and by monitoring the use, effectiveness and results achieved by the networks.

The GNSSN team is eager to hear feedback from users to increase the quality and value of the GNSSN user experience. The GNSSN's effectiveness depends on the organization and accessibility of its information resources.

Building capacity, sustaining results

Capacity building is more than training: it is a conceptual approach to strengthen competences and skills of nuclear professionals. This effort includes human resource development, knowledge management and sharing, and focused education and training programmes to achieve sustainable results.

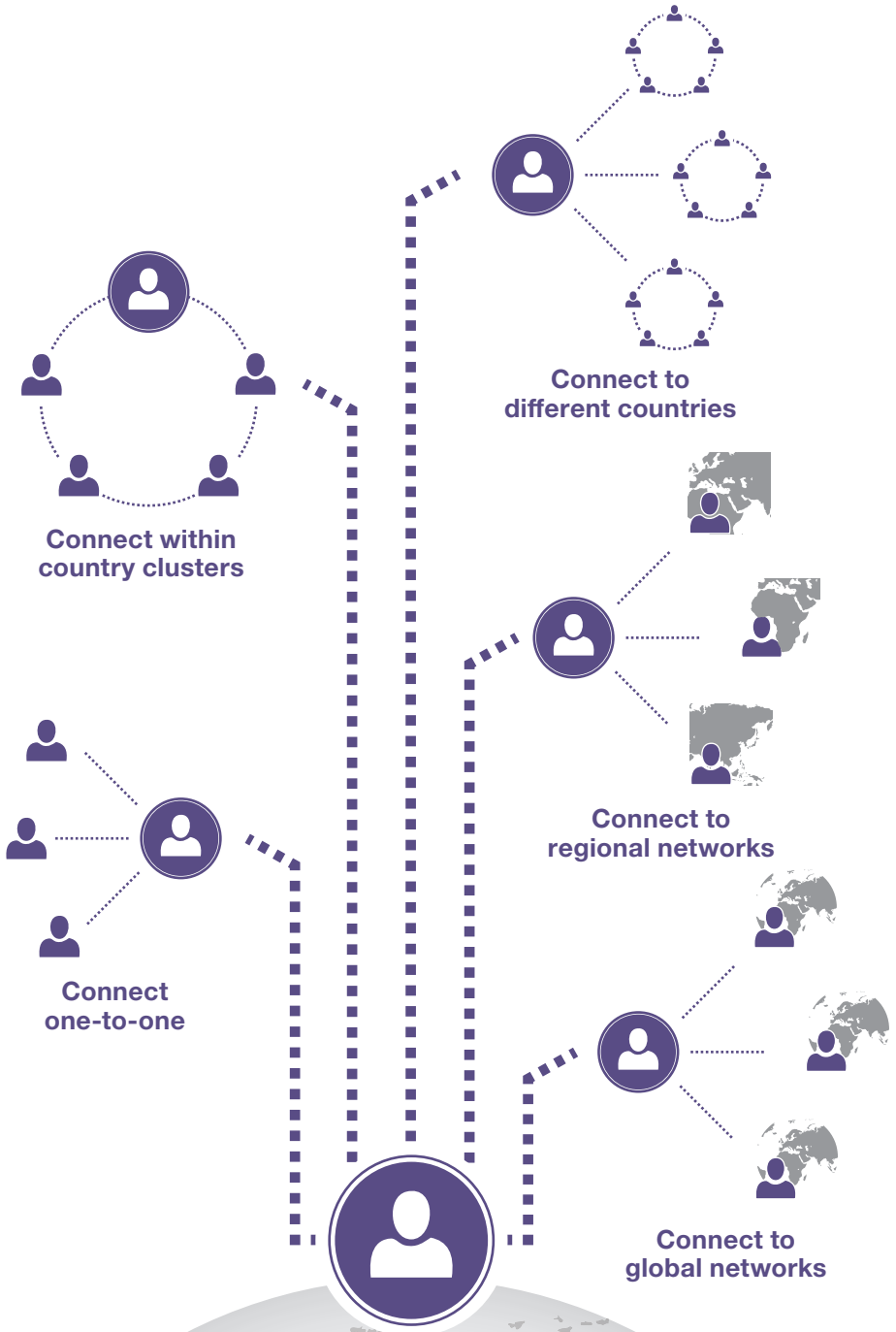
The GNSSN platform enables Member States to share information that supports capacity building. Member States can interact through the GNSSN nationally, regionally and globally to share expertise and strengthen their nuclear safety and security infrastructures.



1. Enhance the coordination of regional and inter-regional efforts for the sharing of knowledge, experience and lessons learned on safety and security.
2. Identify and facilitate capacity building opportunities in Member States.
3. Encourage Member States to benefit from the Agency's technical support, services, standards and guidance related to nuclear safety and security.
4. Implement, maintain and improve the GNSSN IT platform for efficient collaboration among stakeholders.

How the GNSSN works

People who cultivate connections and relationships in a wider variety of networking contexts have greater opportunities to learn more, grow professionally and have a bigger impact on safety and security in their own countries.



GNSSN members

The GNSSN Steering Committee is represented by the following IAEA Member States, as well as organizations like EC, OECD-NEA, UNSCEAR, WINS and representatives from regional and thematic networks:

Argentina	Germany	Korea, Republic of
Belgium	Jamaica	Spain
Brazil	Japan	Türkiye
China	Morocco	United Kingdom
Egypt	Norway	United States of America
Estonia	Pakistan	
France	Russian Federation	

The GNSSN network comprises several IAEA-supported networks. These include global topical networks, such as the International Regulatory Network (RegNet); regional networks developed in cooperation with the IAEA, such as the Asian Nuclear Safety Network, the Forum of Nuclear Regulatory Bodies of Africa, the Arab Network of Nuclear Regulators, and, the European and Central Asian Safety Network. Member States also provide access to their own national networks via their National Nuclear Regulatory Portals. Additionally, the GNSSN provides information about and links to other safety networks such as the Western European Nuclear Regulators' Association, the European Nuclear Safety Regulators Group and the European Technical Safety Organization Group.

Association networks

Member State networks

- National Nuclear Regulatory Portal
- National web based knowledge platforms

Regional safety networks

- Arab Network of Nuclear Regulators (ANNuR)
- Asian Nuclear Safety Network (ANSN)
- European and Central Asian Safety Network (EuCAS)
- Forum of Nuclear Regulatory Bodies in Africa (FNRBA)
- Caribbean Radiation Safety and Security Network (CRSSN) — *upcoming*

Liaison to other regional networks and associations

- European Nuclear Security Regulators Association
- Ibero-American Forum of Radiological and Nuclear Regulatory Agencies (FORO)
- Western European Nuclear Regulators Association (WENRA)

Global safety and security networks

International regulatory collaboration /achievements

- Forum for Embarking Countries (RegNet)
 - Regulatory Cooperation Forum (RCF)
 - WWER Regulators' Forum
 - Forum for Senior Regulators of CANDU Reactors
 - Regulatory Infrastructure Development Projects (RIDP)
 - Small Modular Reactors Regulators' Forum (SMR RF)
- Technical and Scientific Support Organization Forum
 - Occupational Radiation Protection Networks (ORPNET)
 - Safety and Security Culture Network – upcoming
 - Emergency Preparedness and Response Network (EPR)
 - Nuclear Security Information Portal (NUSEC)
 - Platform for Operators in the Area of Nuclear Safety (PIANOS)
 - Control of Sources Network (CSN)
 - Forum for Safety and Security of Small Medium Reactors
 - Global Nuclear Safety and Security Communication Network (GNSSCOM)
 - Capacity Building Forum – upcoming
- Global Safety Assessment Network (GSAN)
 - Network in Nuclear Waste and Radiation Safety

GNSSN outreach efforts

- The GNSSN uses the latest technologies and makes other outreach efforts to support its work.
- The GNSSN shares relevant information from regional and thematic networks of the GNSSN within the public interface of the GNSSN website (upcoming events, news, technical reports and publications, annual reports, etc.)
- The GNSSN serves as a platform for various other technical areas pertinent to nuclear safety and security; some of the major ones are outlined below:

- RegNet: International Regulatory Network IT platform
- IRRS: Integrated Regulatory Review Services IT platform
- ARTEMIS: IT platform for the Integrated Review Service for Radioactive Waste and Spent Fuel Management, Decommissioning and Remediation
- iNET-EPR: International Network for Education and Training in EPR
- RIDP: Regulatory Infrastructure Development Projects
- Virtual School of Drafting Regulations
- REGSUN: Regulatory Forum for Safety of Uranium Production and NORM
- Regulatory Capacity Building and Knowledge Management platform (RCM)
- PRASC: Peer Review and Advisory Services Committee IT platform
- EESS Hub: External Events Safety Hub

International School on Nuclear and Radiological Leadership for Safety

The International School on Nuclear and Radiological Leadership for Safety is a training course that supports governments in their work to foster leadership for safety and safety culture by helping early- to mid-career professionals to develop their safety leadership potential. It does this through improving their understanding of what leadership means in practice in nuclear and radiological working environments with their inherent complexities and often competing considerations.

The school has become an integral part of the GNSSN, contributing to global nuclear and radiological safety by strengthening capacity building efforts.



IAEA School on Nuclear and Radiological Leadership for Safety and Nuclear Security held in Vienna, 15–26 May 2023 (Photo: M. Melin)



Participants of the IAEA School on Nuclear and Radiological Leadership for Safety held in Nice in June 2023 during their visit to ITER (Photo: M. Moracho)

Top 10 reasons to join and connect with the GNSSN



1

Help to build the capacity and competences of GNSSN members



2

Collaborate with other experts



3

Develop partnerships



4

Benefit from workshops and trainings



5

Help to build the capacity and competences of other GNSSN networks



6

Improve knowledge of radiation protection



7

Join communities of practice



8

Share information about national safety and security infrastructure



9

Share knowledge, experience and expertise



10

Strengthen global nuclear safety and security

How to register

Parts of the GNSSN can be accessed by registered users only. Please register here:

<http://gnssn.iaea.org/Pages/UserRegistration.aspx>



The GNSSN webpage

Find out more about the GNSSN and its related networks

www.iaea.org/services/networks/global-nuclear-safety-and-security-network



The GNSSN newsletter

Sign up for the GNSSN newsletter to receive news and updates on events and conferences related the nuclear safety and security!



The screenshot shows a webpage with the IAEA logo and GNSSN (Global Nuclear Safety and Security Network) branding. It features a world map graphic with the text "GNSSN NEWS" and a button that says "GNSSN News | Sign up here". Below this is a section titled "UPCOMING EVENTS | GNSSN and its NETWORKS" for the month of February. Two events are listed: 1) "FNABA | Coordination Meeting of the Thematic Working Group Coordinators of the Forum of Nuclear Regulatory Bodies in Africa | Vienna, Austria | 14-16 February 2024", with a description of the event's purpose. 2) "TSOF | Explanatory Meeting on the Methodology for Self-Assessment | Vienna, Austria | 19-21 February 2024", also with a description of the event's purpose. Logos for ENRBA and TSOF are also visible.



INTERNATIONAL ATOMIC ENERGY AGENCY
Global Nuclear Safety and Security Network
Department of Nuclear Safety and Security

Vienna International Centre, PO Box 100, 1400 Vienna, Austria

www.iaea.org/ns | Official.Mail@iaea.org