



Federal Ministry
for Economic Affairs
and Energy



JÜLICH
FORSCHUNGSZENTRUM

Nuclear Waste
Management **IEK-6**
Institute of Energy and Climate Research

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Session S08: Safeguards and Non-proliferation

Joint Research and Development — Member States Support Programmes (MSSPs) as a Vehicle for the Technical Development and Further Improvement of IAEA Safeguards

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Non-proliferation of Nuclear Weapons

Treaty on the Non-Proliferation of Nuclear Weapons (NPT), 1970

Non-proliferation
(Art. I & II)

Peaceful use of nuclear energy
(Art. IV & V)

Disarmament
(Art. VI)

The Treaty establishes a safeguards system under the responsibility of the IAEA (Art. III) to deter the proliferation of nuclear weapons through the early detection of potential misuse of peaceful nuclear programmes and to provide credible assurances of States' compliance with their commitments to use nuclear material and facilities solely for peaceful, non-explosive purposes.

[IAEA Long Term Strategic Plan 2012-2023]



Photo Credit: National Museum of Nuclear Science & History, ABQ



Statute of the IAEA

Art. III A 5:

The Agency is authorized to establish and administer safeguards designed to ensure that special fissionable and other materials, services, equipment, facilities, and information made available by the Agency or at its request or under its supervision or control are not used in such a way as to further any military purpose; and to apply safeguards, at the request of the parties, to any bilateral or multilateral arrangement, or at the request of a state, to any of that state's activities in the field of atomic energy.

NPT-Member States to cooperate with the IAEA in order to

- facilitate the application of safeguards and to
- enable the IAEA to apply state-of-the-art methods and techniques.

- 21 Member States Support Programmes (2015): ARG, AUL, BEL, BRZ, CAN, CPR, CZ, EC, ESP, FIN, FRA, GER, HUN, JPN, NET, ROK, RSA, RUS, SWE, UK, USA
- 353 active MSSPs tasks, 25 joint MSSP tasks, 52 MSSPs tasks on stand-by*

* SPRICS 2.0 as of Aug 19, 2015



Four Areas of Activities

Objectives

- To cooperate with the IAEA in developing safeguards methods and techniques,
- to assure the supply with the developed methods and techniques,
- to provide expert advice and consultancy,
- to inform the IAEA, as early as possible, about Germany's nuclear plans and projects.

- A Safeguards System Designs and Safeguards Approaches
- B Safeguards Data Collection, Treatment and Evaluation
- C Measurement Methods and Techniques
- D Containment and Surveillance

27 Active Taks
157 Completed Taks
405 Progress Reports



Scientific coordinator: Forschungszentrum Jülich (since 1985)



- 12 years IAEA Department of Safeguards Long-Term R&D Plan
- Biennial Development and Implementation Support Programme for Nuclear Verification
- Biennial Report on the Development and Implementation Support Programme for Nuclear Verification

- **SPRICS 2.0 Portal:** Safeguards Support Programme Information and Communication System

- (Semi-) Annual MSSP Review Meetings
- Biennial MSSP Coordinators Meetings

Some Lessons Learnt

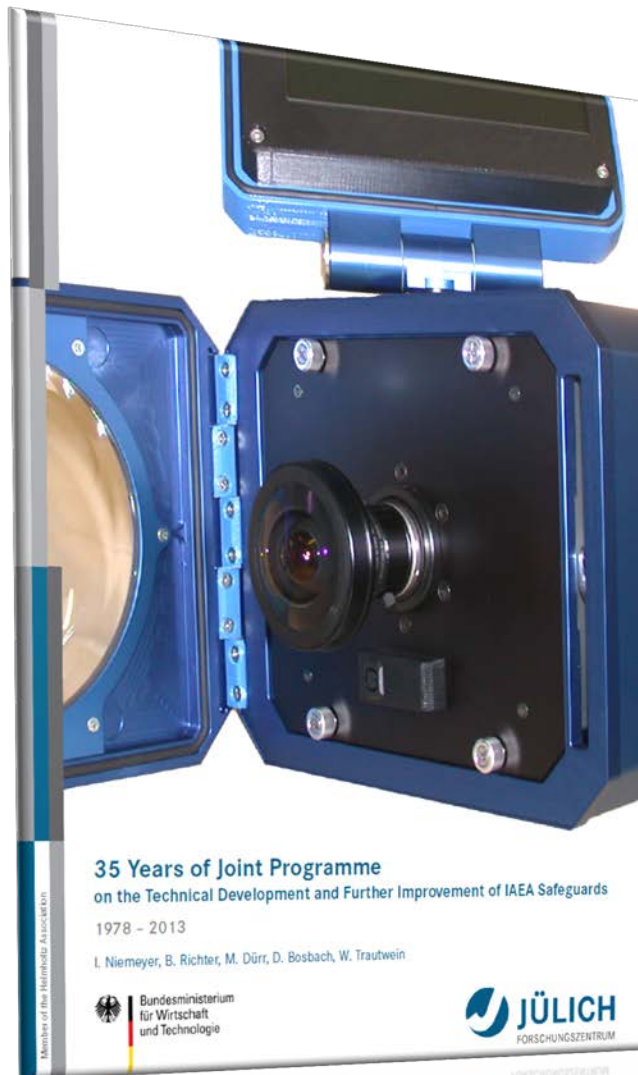
- Member Safeguards Support Programmes have proven to be a **powerful vehicle in safeguards implementation**.
- Safeguards R&D is **highly interdisciplinary**.
- **Close cooperation** between coordinators and contractors (research labs, nuclear industry, commercial developers), IAEA, regional/national safeguards authorities, and operators is essential.
- Customized safeguards equipment comes in **small series production**, often from small manufacturers committed to international safeguards.
- **Synergies with (nuclear) security, arms control and disarmament verification**.



MSSPs Coordinators at the
IAEA Safeguards Symposium 2014

Photo Credit: IAEA

Thank you for your attention.



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