



Italian National Agency for New Technologies,
Energy and Sustainable Economic Development



FASTNET

Benefits for countries without nuclear power plants

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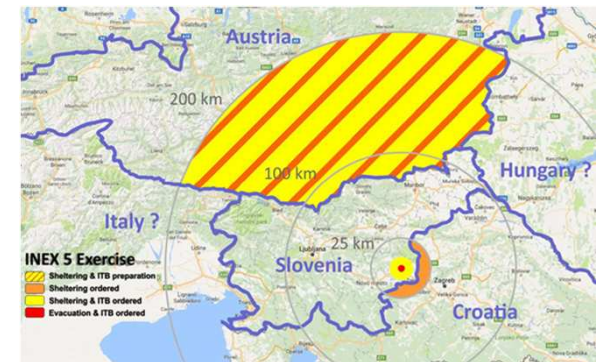


Needs – reference to Europe



Strong need to **enhance the coherence** in EP&R, because Europe is:

- very dense in population;
 - very dense in nuclear power installations;
 - very diversified as far as the nuclear technologies;
 - very heterogeneous as far as the national legal frameworks;
 - very complex as far as orography.
- Transboundary cases
- A nuclear accident in a given country will always involve, at different levels, other countries in the region

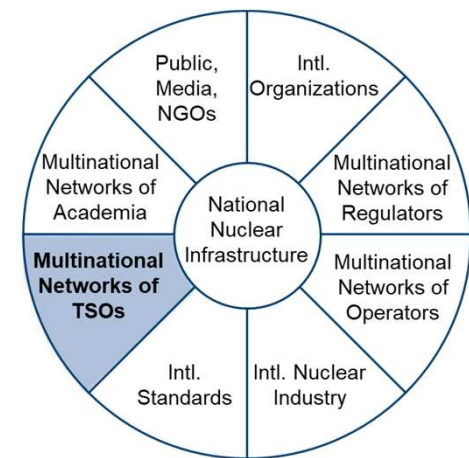


INEX-5 (OECD/NEA No. 7379, 2018)

Needs – General



- Each country, with its own capabilities and with or without NPPs, is asked to contribute responsibly to the **Global Safety Regime**;
- The **HERCA-WENRA Approach** to transboundary cases doesn't exclude each country's responsibility to assess an accident and make **independent judgements on the progression and consequences**;
- Nonetheless, lack of cooperation and lack of common and shared bases among countries can produce serious problems.



Adapted from IAEA INSAG-21 (2006)

Assessment Goals

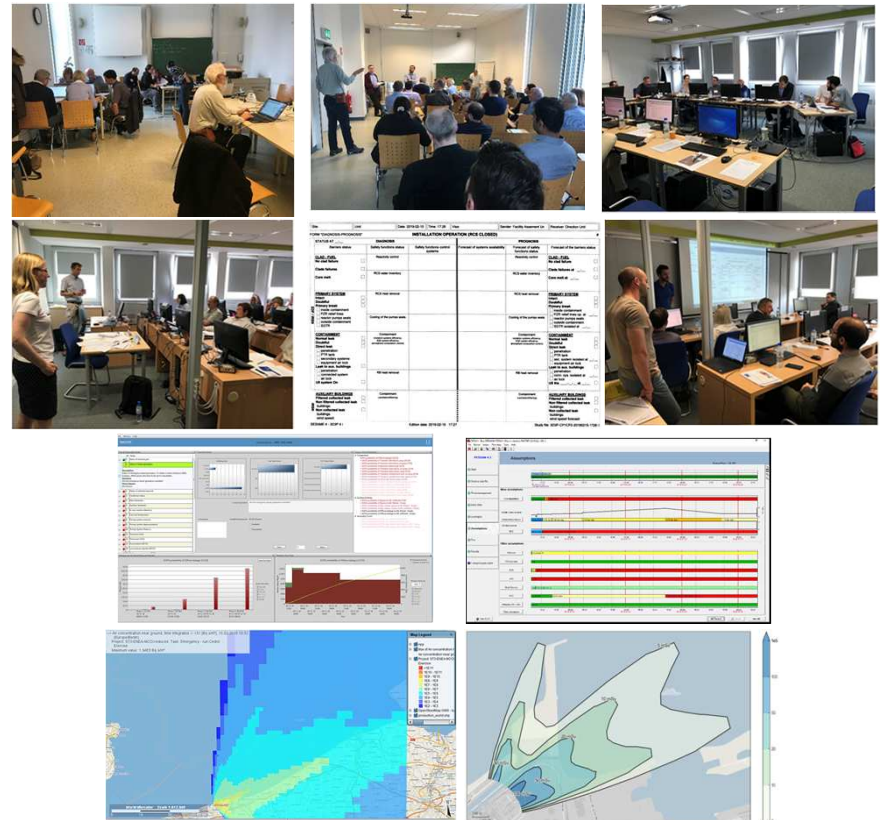


- For EP&R, two main goals need to be achieved to correctly predict consequences:
 - «good enough» Source Term ← **FASTNET**
 - «good enough» Atmospheric Transport Modeling
- « Good enough » means such that the countermeasures are efficient to protect the population but not too conservative to produce more harm than good.

Benefits



- **From the Project itself:**
 - Joint exercising
 - Networking
 - Cooperation
 - Mutual trust and confidence
- **From Project results:**
 - Shared approach and methodology
 - Reliable, fast and efficient tools
 - Database, as starting point



FASTNET Side Event, 63rd IAEA General Conference, 18 September 2019

Benefits



- Non-NPP countries within FASTNET (about 1:3 ratio):
 - Italy
 - Austria
 - Norway
 - Denmark
- NPP countries have already in place strong EP&R infrastructures, at least for homeland protection;
- Non-NPP countries may have not a large and extended experience in the evaluation of STs for different reactor designs;
- However, with **proper and adequate training**, they may be able to use effectively and efficiently the fast-running tools developed within FASTNET, as demonstrated by the two exercises carried out during the project;

Benefits



- Choice between two different approaches: deterministic and probabilistic;
- Fully exploit the **anticipation capabilities** for STs of the two tools;
- Both tools, PERSAN and RASTEP, can be **easily implemented** in Emergency Centers;
- Methods and tools are **coherent** in approach to those by IAEA (IAEA's IEC Assessment and Prognosis Tools);

For the future...



- Keep the momentum up!
- Diffuse the tools and the necessary knowledge;
- Further operational trainings, based on every technology and taking stock of the feedback and experience gained from the FASTNET exercises;
- More joint, real-time exercises, targeting the protection of population and with a higher level of reality (table-top or full-scale formats, scenarios based on every technology and provided by different partners...).



Thank you for your attention



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