EC DG DEVCO ACTIVITIES PROMOTING NUCLEAR AND RADIATION SAFETY WORLDWIDE

REGULATORY SUPPORT ACTIVITIES INVOLVING MAJOR CONTRIBUTIONS FROM THE EUROPEAN TSOs

P. DAURES. H. PAUWELS (EC DG DEVCO)
M. HULSMANS, Y. STOCKMANN, J. VÉGH (EC JRC)

IAEA Conference on the Challenges Faced by TSOs
15-18 October 2018, Brussels, Belgium

The views expressed here are purely those of the authors and may not in any circumstances be regarded as stating an official position of the European Commission

CONTENT

- **Instrument for Nuclear Safety Cooperation**
- **The operation of INSC**
- **Regulatory support projects**
  - ❖ Project types, main areas of regulatory support
  - ❖ Involvement of the European TSOs in support projects
- **Training & Tutoring activities**
  - ❖ Main areas of T&T
  - ❖ Involvement of the European TSOs in T&T projects
- **Conclusions**

Instrument for Nuclear Safety Cooperation

The INSC is a financial instrument maintained and operated by the EC to finance projects

- Promoting a **high level of nuclear safety** and radiation protection, including the safe management of radioactive waste and remediation of contaminated legacy sites
- Promoting **efficient safeguards** of nuclear materials
- Providing **training & tutoring services** in a wide variety of topical areas related to nuclear and radiation safety

INSC geographical coverage

- INSC support is open to any eligible country
- It focuses on EU candidate and neighbourhood countries

History of INSC

TACIS programme (1991 – 2006)

- Provision of assistance to former Soviet states + Mongolia
- Basic aim was to improve safety of civil nuclear facilities

INSC-I instrument (2007 – 2013)

- Global tool to provide NS assistance outside the EU
- Promotion of a high level of nuclear safety, radiation protection and effective safeguards in third countries

INSC-II instrument (2014-2020)

- Promotion of nuclear safety culture (**50% of budget**)
- Management of spent nuclear fuel and RAW (**35%**)
- Nuclear safeguards (**10%**)
- Support activities (**5%**)

Operation of INSC

Programme operator

- INSC is operated by the DG for International Development and Cooperation (**DEVCO**)
- Joint Research Centre (**JRC**) provides scientific & technical support during all stages of project implementation

Multiannual and annual programming

- **Strategy paper** defining EU strategy for NS cooperation
- **Multiannual Indicative Programme** (MIP): defining planned activities for the coming 2-4 years
- **Annual Action Programme** (AAP): annual breakdown of objectives, activities, expected results and funds allocated
- AAPs are approved by the **INSC Committee** (**EU MS**)

Operation of INSC

Contracting

- Projects are awarded within **open tendering** procedures
- Two contract types: a) **service**; b) equipment **supply**
- Tendering is managed by DEVCO, JRC assists in project specification and tender evaluation

Project implementation

- Project activities start with the **inception** (kick-off) phase
- Regular **reporting & meetings** during project realisation
- Project closure: **final meeting + final report**
- Individual tasks: technical reports **+ final task report**
- JRC participates at meetings and **reviews deliverables**

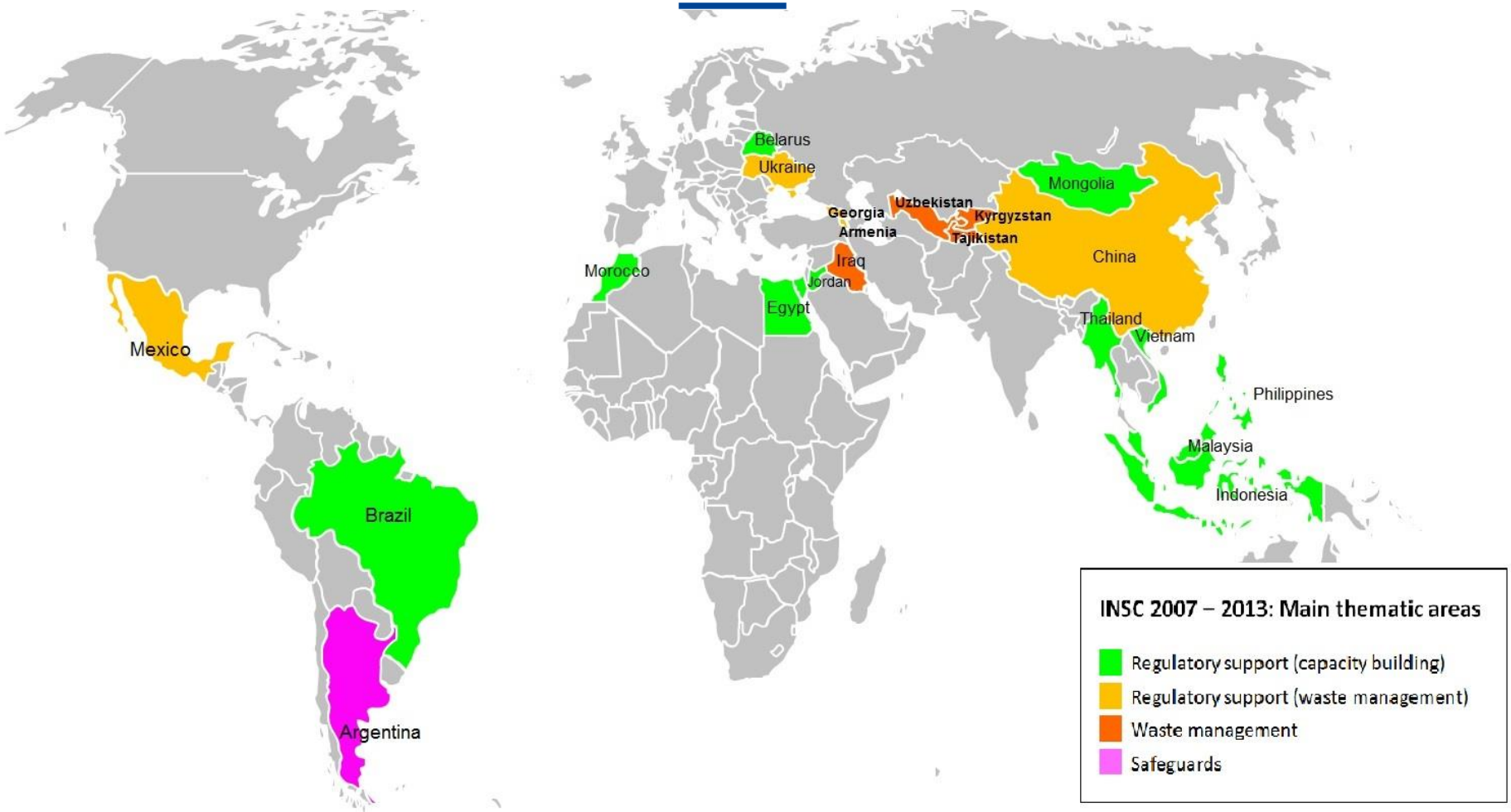
TACIS and INSC budgets

EC Instrument	Status	Total budget [m EUR]
TACIS 1991 – 2006	Completed	1260
INSC-I 2007 – 2013	Ongoing	534
INSC-II 2014 – 2020	Ongoing	325

1991 ⇒ 2006: 50% of the INSC budget was spent in Ukraine

On-site assistance to NPP operators was gradually phased-out

New areas: - remediation of contaminated and legacy sites
- emergency preparedness and response
- safeguards training


Belarus
Ukraine
Mongolia
Uzbekistan
Kyrgyzstan
Georgia
Armenia
Tajikistan
China
Iraq
Morocco
Jordan
Egypt
Thailand
Vietnam
Philippines
Malaysia
Indonesia
Mexico
Brazil
Argentina
INSC 2007 – 2013: Main thematic areas
Regulatory support (capacity building)
Regulatory support (waste management)
Waste management
Safeguards

Current projects with TSO involvement

Regulatory capacity building

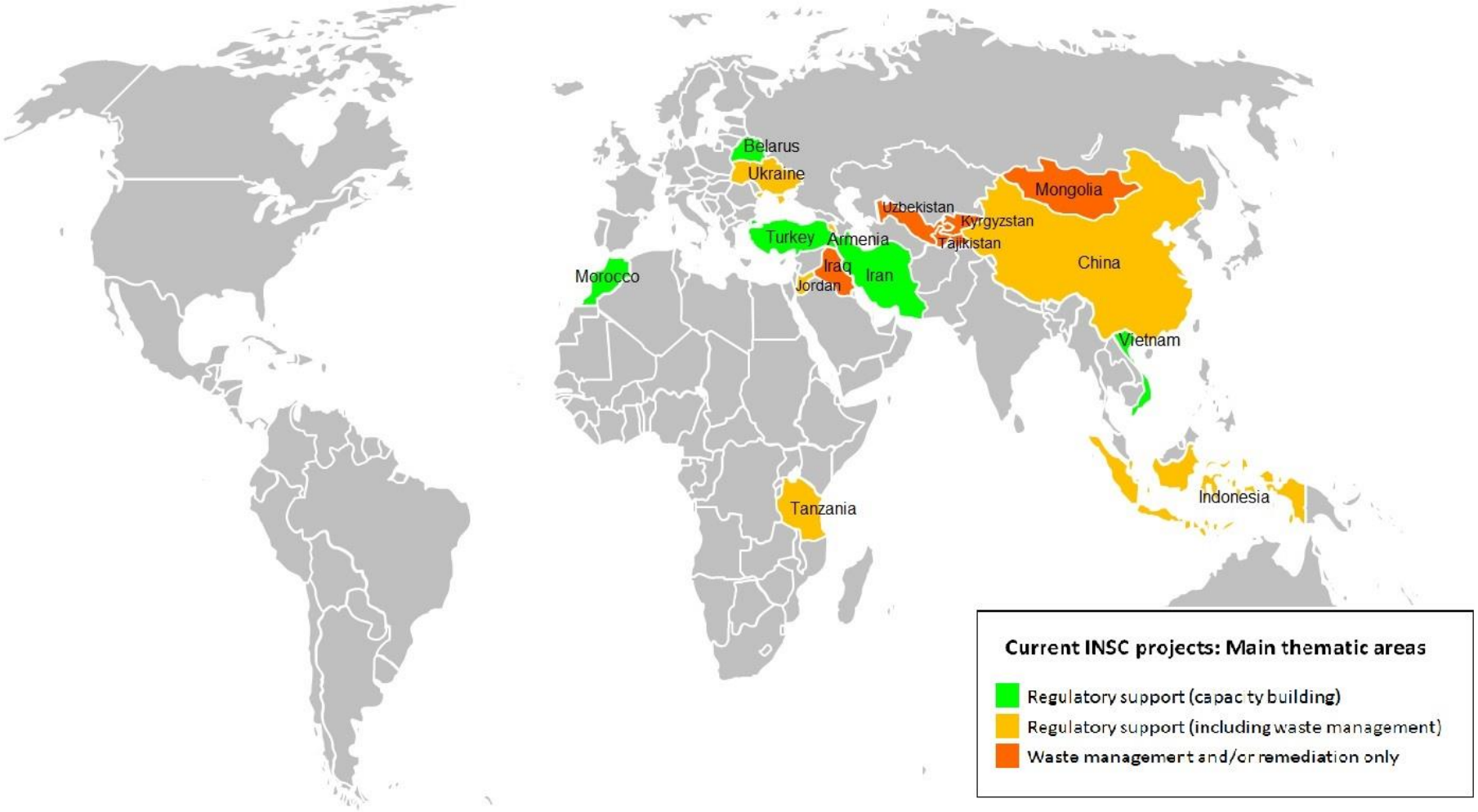
- Provision of support to enhance the capabilities of the regulator and its TSO in various areas (e.g. **licensing**)
- The involvement of EU TSOs is the **largest** in this field

Safe management of radioactive waste

- Assistance to create an appropriate **national framework** for the safe management of radioactive wastes

Remediation of contaminated legacy sites

- Supporting the remediation of contaminated **legacy sites**
- Focus on **Central Asia** (Uzbekistan, Kyrgyzstan, Tajikistan, Mongolia), but there is also a project in **Ukraine**


Belarus
Ukraine
Mongolia
Uzbekistan
Kyrgyzstan
Tajikistan
Turkey
Armenia
China
Iraq
Iran
Morocco
Jordan
Vietnam
Tanzania
Indonesia
Current INSC projects: Main thematic areas
Regulatory support (capac ty building)
Regulatory support (including waste management)
Waste managemert and/or remediation only

Role of EU TSOs in INSC regulatory assistance

Main areas of regulatory knowledge transfer

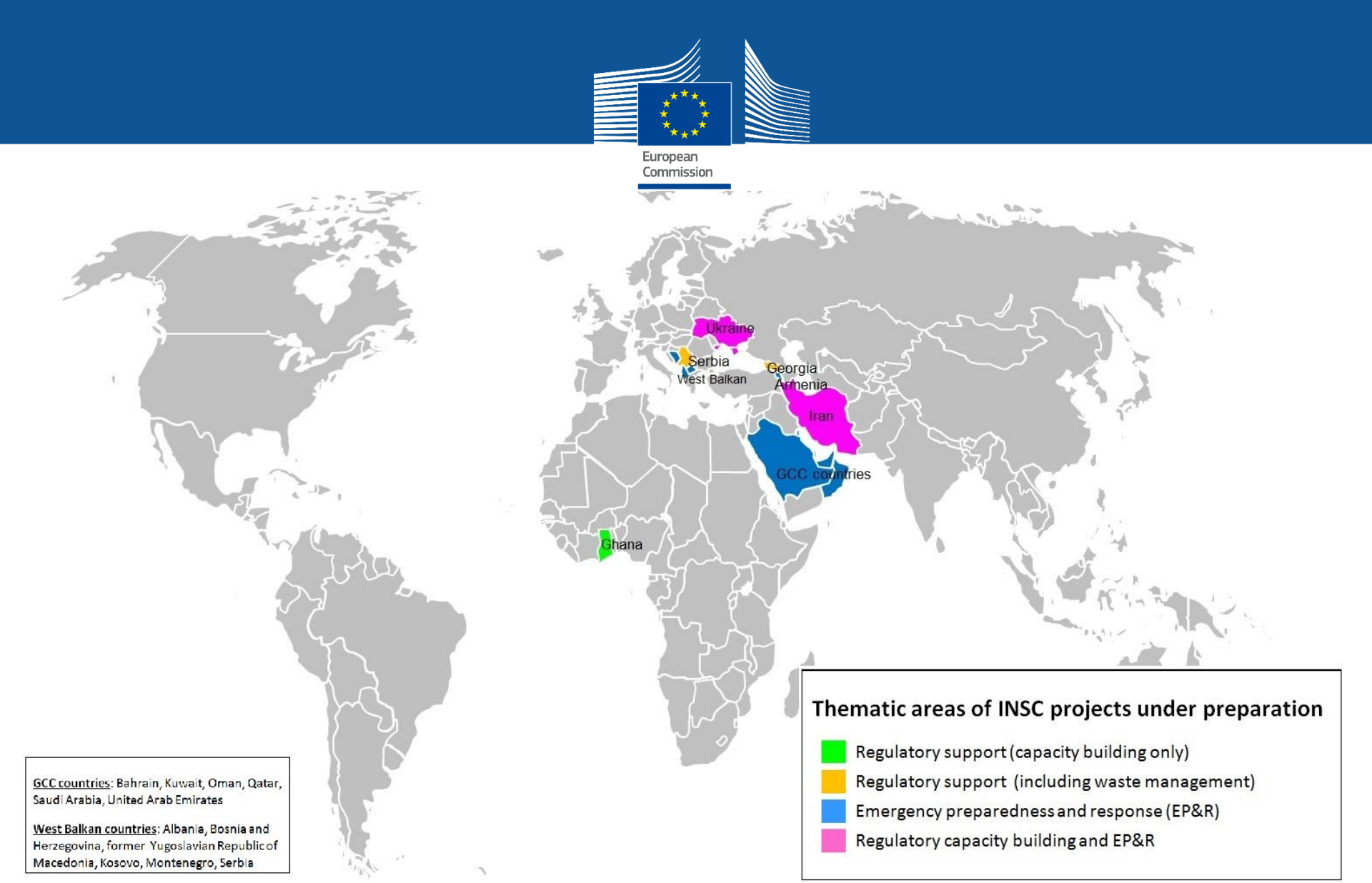
- Safety assessment & licensing of nuclear facilities
- Modelling and analysis of severe accidents
- Neutron physics and thermal-hydraulics calculations
- Feedback of operating experience, inspection methods
- Risk-based regulatory approaches

Partner countries in current projects

- Armenia, Belarus, China, Indonesia, Iran, Turkey, Ukraine, Vietnam

Most active EU TSOs

- **IRSN** (F), **GRS** (D), **Bel V** (B), **ENCO** (A), **LEI** (LT), **SSTC** (UA), **ÚJV** (CZ), **VÚJE** (SK), **VTT** (FI)


European Commission
Ukraine
Serbia
West Balkan
Georgia
Armenia
Iran
GCC countries
Ghana
Thematic areas of INSC projects under preparation
Regulatory support (capacity building only)
Regulatory support (including waste management)
Emergency preparedness and response (EP&R)
Regulatory capacity building and EP&R
GCC countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, United Arab Emirates
West Balkan countries: Albania, Bosnia and Herzegovina, former Yugoslavian Republic of Macedonia, Kosovo, Montenegro, Serbia

Training and Tutoring Initiative

Continuous need for regulatory T&T

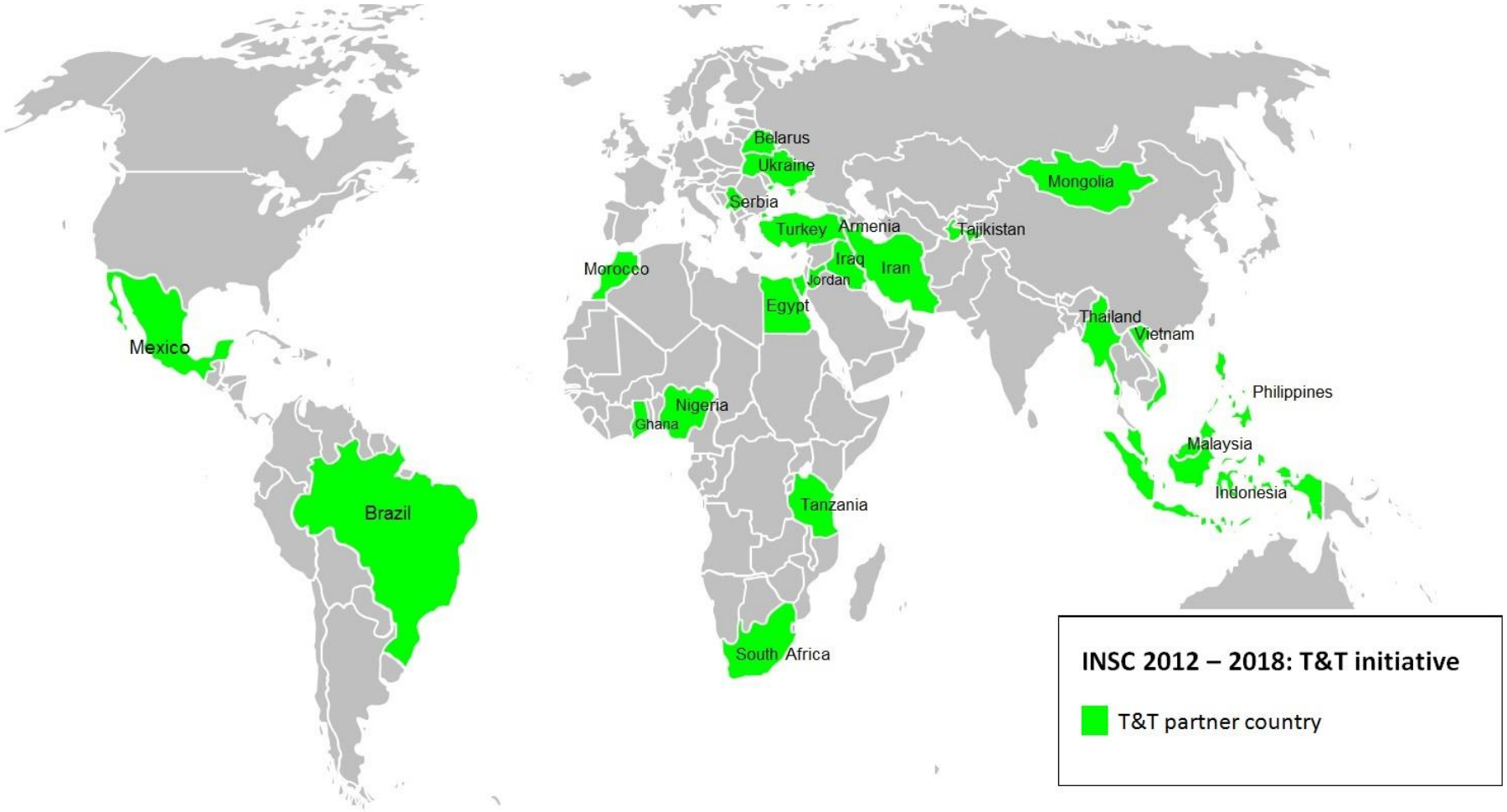
- **Obligation** to establish, maintain and develop regulatory competences related to the national regulatory practice
- Regulators of **embarking** countries face a demanding task to build-up and maintain the required regulatory capacities

Main regulatory competences required

- Site and facility licensing, safety assessment, inspections, review of commissioning tests, assessment of procedures

INSC T&T initiative

- The T&T initiative had been launched by the INSC in **2012**
- **Goals**: ensure consistent **quality** + increase **efficiency**


Belarus
Ukraine
Mongolia
Serbia
Turkey
Armenia
Tajikistan
Morocco
Iraq
Iran
Jordan
Egypt
Thailand
Vietnam
Philippines
Mexico
Nigeria
Ghana
Malaysia
Indonesia
Brazil
Tanzania
South Africa
INSC 2012 – 2018: T&T initiative
T&T partner country

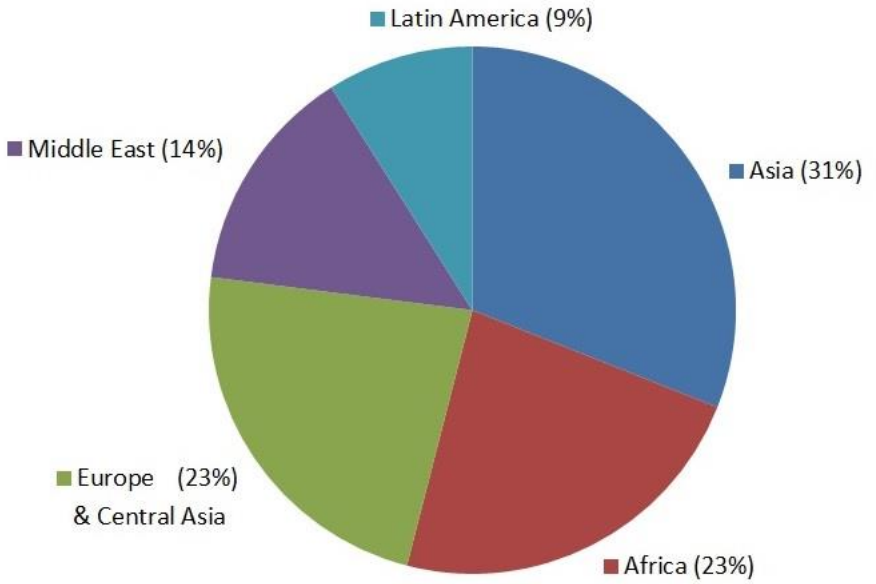
Role of EU TSOs in INSC T&T activities

Practical implementation of INSC T&T

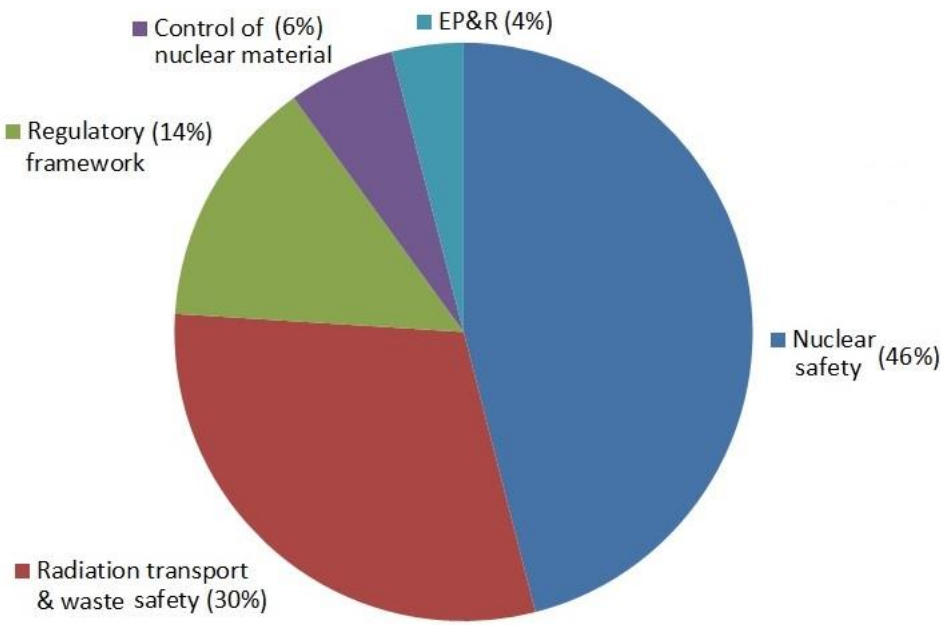
- T&T is implemented through contracts with service providers
- Two main T&T providers: **ENSTTI** (F) and **ITER-Consult** (I)
- These consortia provide knowledge transfer services by using the expertise of several **EU regulators** and **TSOs**

T&T results (January 2012 – July 2018)

- A total of **EUR 15 million** funding had been provided
- Altogether **1872** trainees (71% men, 29% women) received **13 400 days** of training and **3 200 days** of tutoring
- **730** senior expert trainers from 36 organisations in 14 EU MS
- **73%** of the trainers are from EU TSOs; **25%** from regulators



Distribution of T&T participants by region



Most important T&T topical areas

Conclusions

DEVCO: 25+ year experience in NS cooperation

- **TACIS**, **INSC-I** and **INSC-II** instruments: managing a large number of various NS cooperation projects **successfully**
- These projects effectively contributed to **increase** the level of nuclear and radiation safety in many countries worldwide
- Before 2007 the focus was on Russia and Ukraine, after that the INSC became available **all over the world**

Involvement of EU TSOs

- In the last 10 years the number of EU TSOs contributing to INSC and T&T projects gradually increased; this resulted a widened project resource pool and **better quality**

EC proposes to continue the INSC after 2020!

Additional information on the net

EU International Cooperation and Development:

- https://ec.europa.eu/europeaid/

Instrument for Nuclear Safety Cooperation:

- https://ec.europa.eu/europeaid/sectors/energy/nuclear-safety_en

TACIS, INSC, PHARE, IPA - completed projects:

- https://nuclear.jrc.ec.europa.eu/tipins/

Training and Tutoring:

- https://nuclear.jrc.ec.europa.eu/europeaid-safety-training

THANK YOU FOR YOUR ATTENTION!