IAEA
International Atomic Energy Agency

European Union

IAEA–EU JOINT ACTION

PARTNERSHIP IN IMPROVING NUCLEAR SECURITY

CONTENTS

With EU support, in **8** years (2005–2012), about **€26** million was spent on strengthening nuclear security in **82** States with over **360+** nuclear security tasks being successfully implemented.

This label is visible on all equipment provided under this programme.

BACKGROUND

Nuclear and other radioactive material is on the move and in demand. Used in peaceful applications, such as energy, medicine, research and industry, it improves the daily lives of individuals worldwide.

Nonetheless, the risk posed by it falling into the wrong hands is a real and growing concern of the international community and one that demands improved nuclear security. Steps to bolster nuclear security and mitigate this risk include accounting for and securing nuclear and radioactive material as well as their related facilities, and helping to prevent theft, sabotage and use with malicious intent. Strong legislative, regulatory and enforcement frameworks, enhanced national capacity, and increased international cooperation in protecting against, and preparing for, any scenario strengthens these measures further.

As a result, the Board of Governors of the International Atomic Energy Agency (IAEA) approved its first four-year plan of activities in 2002 to improve nuclear security worldwide. In 2003, the Council of the European Union (EU) adopted its Strategy against Proliferation of Weapons of Mass Destruction. Since then, five Contribution Agreements between the European Commission (EC) and the IAEA have been signed to provide financial support from the EU's Common Foreign and Security Budget to IAEA activities in the areas of nuclear security and verification. These 'Joint Actions' assist States in strengthening their nuclear security infrastructure and underscore both the EU's and the IAEA's commitment to effective cooperation.

States must be equipped to detect radiation at their borders to keep them safe.

IAEA–EU JOINT ACTION

The IAEA works to improve and strengthen national nuclear security programmes worldwide. EU support helps to advance the IAEA's efforts by raising awareness and improving understanding of nuclear security and its many component parts.

Priority is given to those States that need to determine what radioactive and nuclear material they have, how to control it and how to reduce the risk it poses. Efforts focus on three main areas, strengthening:

(i) States' legislative and regulatory infrastructure related to nuclear and other radioactive material to enable the country to fulfil its national and international obligations;
(ii) Nuclear security measures for nuclear and other radioactive material in use, storage and transport and their related facilities;
(iii) States' capabilities for dealing with nuclear and radioactive material out of control of national regulatory control.

The programme — with a combined budget for the first four EU Joint Actions of about €22 million (implementation period January 2005–June 2012) — covers 88 potential beneficiary States and includes both Member States and non-Member States of the IAEA. These funds have been appropriated in response to a growing need for tighter control of nuclear and radioactive material and a better understanding of how to implement policies and procedures to ensure that effective nuclear security measures are in place.

An additional region was added to each Action, with Central Asia, South-eastern Europe, Africa, the Middle East and South-east Asia being covered by EU Joint Action IV in 2008.

A Contribution Agreement for EU Council Decision V* was signed in November 2010 under which the EU contributed nearly €10 million to the Nuclear Security Fund (NSF). EU Council Division V expands the reach of the programme to States in the Gulf, South America, the Caribbean and Middle America regions, with 126 States eligible for support worldwide. The implementation of EU Council Decision V is still in progress and will be completed by end of 2013.

* After the adoption of the Lisbon Treaty by all EU members in 2009, the term 'Joint Action' was replaced by 'Council Decision'.

The completed EU Joint Actions I, II, III and IV had an implementation rate of almost **99%** and the reach of the work grew from **17** States being eligible to receive support in 2005 to **82** States in 2009.

Contribution Agreements between the IAEA and the EC on Nuclear Security

Sources of Funds	*Original Budget (in Euro)*	*Implementation Rate (%)*	**Beneficiary regions** *No. of States eligible to receive support No. of selected States for support No. of States in which activities were implemented*	*Implementation Period*
EU-JA I	3 329 000	99.6	South-eastern Europe, Central Asia, Caucasus / 17-11-12	2005–2007
EU-JA II	3 914 000	99.3	South-eastern Europe, Central Asia, Caucasus, Northern Africa, Middle East / 26-21-17	2006–2008
EU-JA III	6 995 000	98.3	South-eastern Europe, Central Asia, Caucasus, Middle East, Africa / 73 -36 -32	2007–2008
EU-JA IV	7 703 000	97.9	South-eastern Europe, Central Asia, Caucasus, Middle East, Africa, South-east Asia / 84-39-44	2009–2012
EU-CD V	9 966 000	78.2 in progress	South-eastern Europe, Central Asia, Caucasus, Middle East, Africa, South-east Asia, Gulf, South America, Caribbean & Central America / 126-48 — implementation in progress	2011–2013
Subtotal	31 907 000		82 countries received support under EU-JA I-IV	2005–2013

JOINT ACTIONS I, II, III AND IV (2005–2012)

AREAS OF WORK		
Legislative and regulatory infrastructure	**Nuclear security measures for nuclear and other radioactive material in use, storage and transport**	**States' capabilities for dealing with nuclear and other radioactive material out of national regulatory control**
TASKS		
Providing support to strengthen: • National regulatory infrastructure in line with international instruments (conventions, Security Council Resolutions) • National legislative framework for the implementation of Safeguards Agreements and Additional Protocols • National regulatory infrastructures for radiation safety and security of radioactive sources • Code of Conduct on the Safety and Security of Radioactive Sources and Supplementary Guidance on the Import and Export of Radioactive Sources	**Providing support to strengthen:** • Physical protection of nuclear facilities and of nuclear and other radioactive material • Control and physical protection of radioactive material in non-nuclear applications • State Systems of Accounting for and Control of Nuclear Material (SSACs) for the implementation of Safeguards Agreements and Additional Protocols	**Providing support to strengthen:** • States' capabilities to detect illegal movements of nuclear and other radioactive material • States' capabilities to respond to incidents involving illicit trafficking in nuclear or other radioactive material

OUTPUT IN NARRATIVE (2005–2012)

Output from Joint Actions I, II, III and IV show that considerable progress was made in **82** States in efforts to strengthen nuclear security through key areas of work.

AREAS OF WORK		
Legislative and regulatory infrastructure	**Nuclear security measures for nuclear and other radioactive material in use, storage and transport**	**States' capabilities for dealing with nuclear and other radioactive material out of national regulatory control**
RESULTS		
• Adoption of national legislation necessary to enable States to comply with their international obligations • Installation of regulatory systems for safety and security of radioactive sources established with assistance from experts • Provision of training of staff on establishing regulatory systems • Provision of basic inspection tools and other equipment to be used in regulatory control activities delivered	• Physical protection upgrades of selected facilities and priority locations completed • National regulatory infrastructure for physical protection improved • Staff training provided • National regulatory infrastructure for the safety and security of radioactive material improved • Vulnerable sources protected, dismantled or disposed • State Systems of Accounting for and Control of Nuclear Material (SSACs) in place	• Enhanced information on illicit trafficking collected and evaluated • National frameworks established to combat illicit trafficking and to improve coordination of control of cross-border movements of radioactive material • Sensitive nuclear equipment and technology and border monitoring equipment upgraded • Training for law enforcement officials on response methodology and detection and response to illicit trafficking undertaken • Support for development of national response plans provided

OUTPUT IN NUMBERS (2005–2012)

82 out of **87** States have benefited from work undertaken in Joint Actions I, II, III and IV.

All 11 eligible States in South-eastern Europe
All 5 States from the Central Asia region
All 3 States from the Caucasus region
3 out of 4 eligible States from the Middle East region
49 out of 53 eligible States in Africa
All 11 eligible States in South-east Asia

Human Resource Development

Around 2000 participants from eligible States were trained in different areas of nuclear security:

EU–JA I **12** training courses with **311** participants
EU–JA II **14** training courses with **238** participants
EU–JA III **21** training courses with **464** participants
EU–JA IV **41** training courses with **839** participants

Nuclear Security Risk Reduction

18 States: Recovery and removal of vulnerable radioactive sources
12 States: Physical protection upgrades at nuclear facilities

Detection and Monitoring

25 States: Capacity for detection of illicit nuclear trafficking

Regulatory Infrastructure

37 States: Improvement of legislative and regulatory infrastructure for radiation safety and nuclear security

Essential Nuclear Security Equipment

466 personal radiation detectors
139 radionuclide identification devices
44 radiation portal monitors
36 mobile expert support team equipment sets
42 neutron search detectors
21 radiological emergency response kits

JOINT ACTION I (EU–JA I)

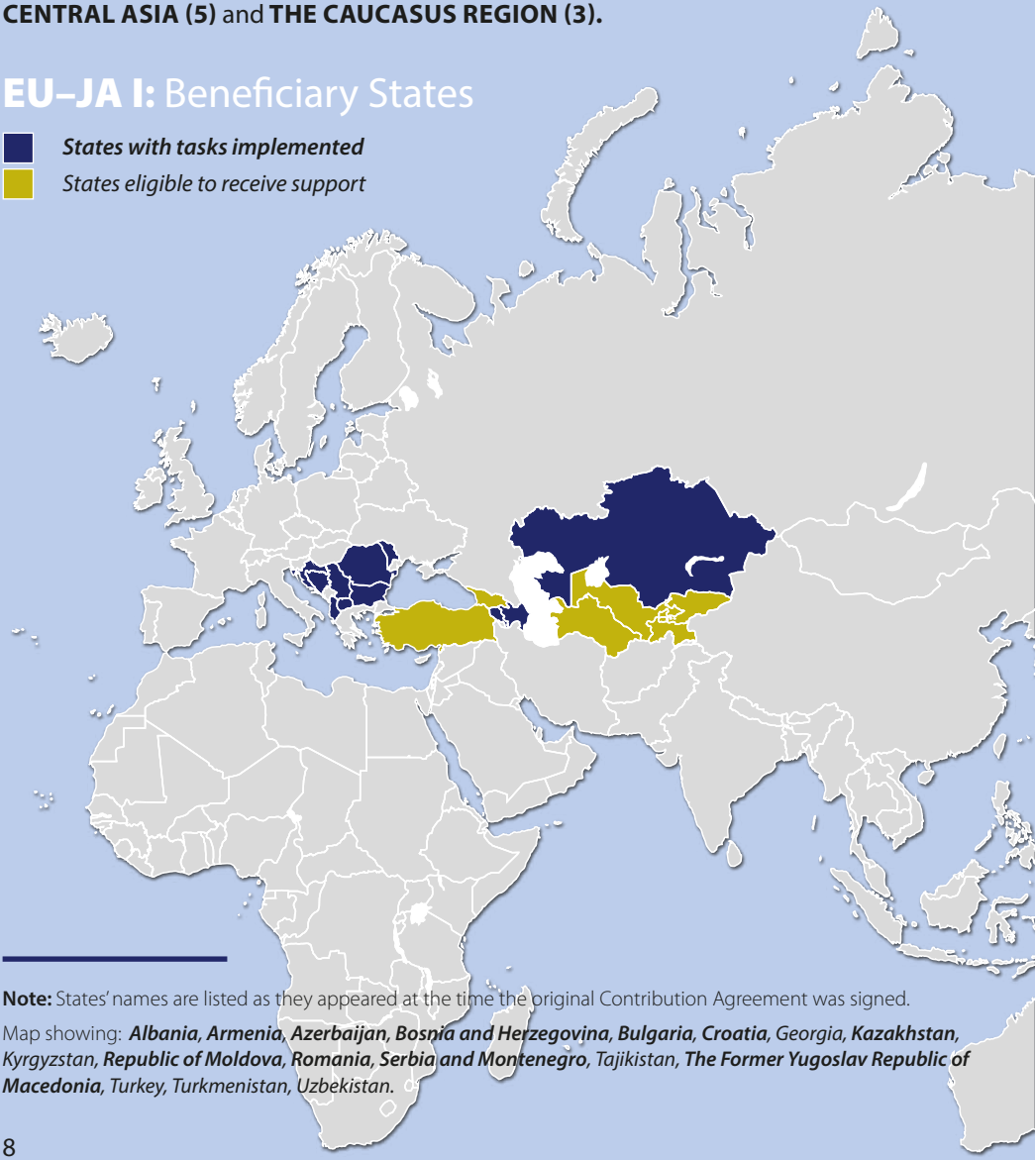
IMPLEMENTATION PERIOD: January 2005–August 2007

Budget **€3 329 000 /** Implementation rate: **99,6%**

17 States eligible for support, tasks implemented in **12** States

EU–JA I focused primarily on States in **SOUTH-EASTERN EUROPE (9), CENTRAL ASIA (5)** and **THE CAUCASUS REGION (3).**

EU–JA I: Beneficiary States



Note: States' names are listed as they appeared at the time the original Contribution Agreement was signed.

Map showing: ***Albania***, ***Armenia***, ***Azerbaijan***, ***Bosnia and Herzegovina***, ***Bulgaria***, ***Croatia***, *Georgia*, ***Kazakhstan***, *Kyrgyzstan*, ***Republic of Moldova***, ***Romania***, ***Serbia and Montenegro***, *Tajikistan*, ***The Former Yugoslav Republic of Macedonia***, *Turkey*, *Turkmenistan*, *Uzbekistan*.

JOINT ACTION II (EU–JA II)

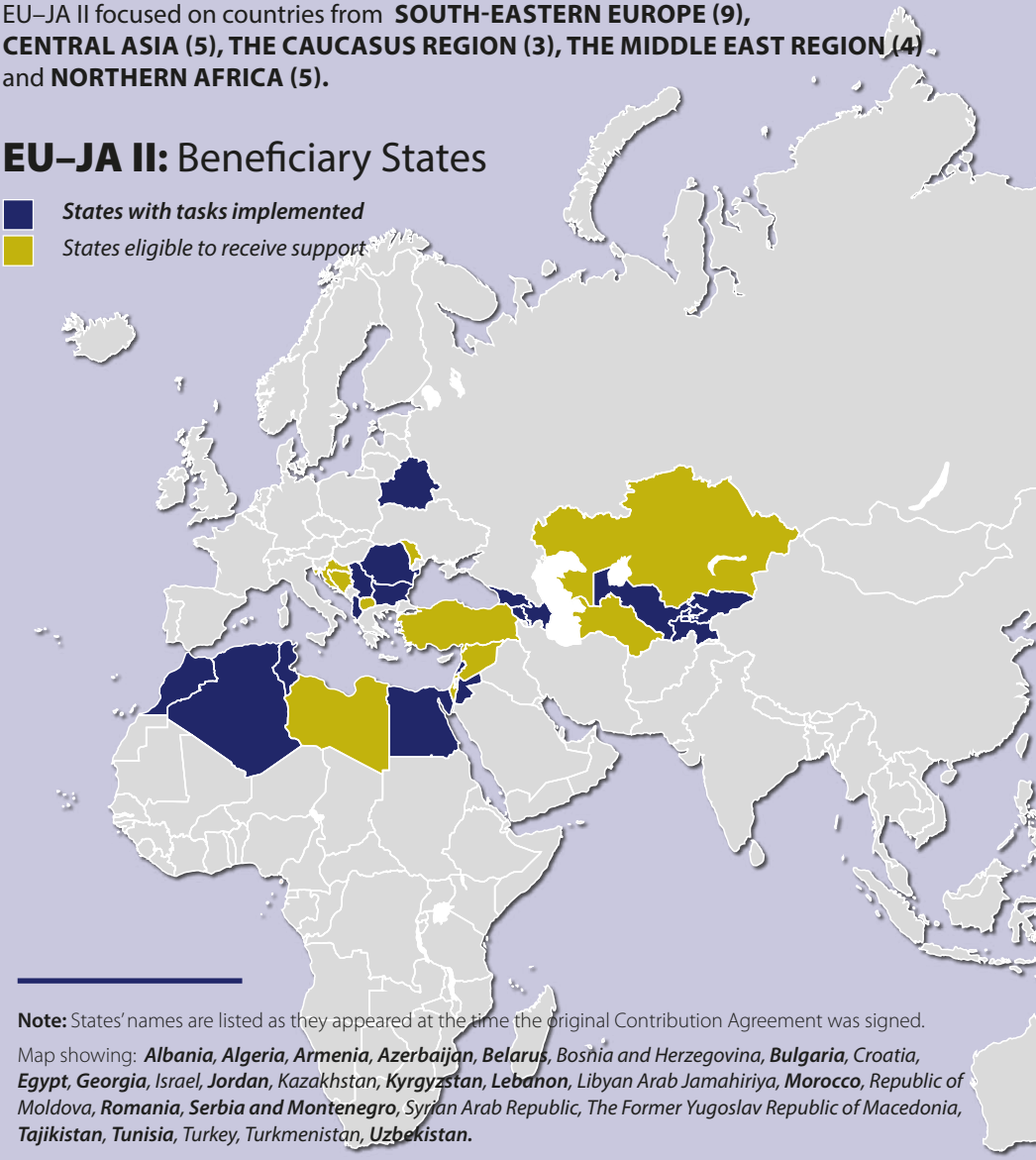
IMPLEMENTATION PERIOD: February 2006–September 2008

Budget **€3 914 000 /** Implementation rate: **99,3%**

26 States eligible for support, tasks implemented in **17** States

EU–JA II focused on countries from **SOUTH-EASTERN EUROPE (9), CENTRAL ASIA (5), THE CAUCASUS REGION (3), THE MIDDLE EAST REGION (4)** and **NORTHERN AFRICA (5).**

EU–JA II: Beneficiary States



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Map showing: ***Albania***, ***Algeria***, ***Armenia***, ***Azerbaijan***, ***Belarus***, *Bosnia and Herzegovina*, ***Bulgaria***, *Croatia*, ***Egypt***, ***Georgia***, *Israel*, ***Jordan***, *Kazakhstan*, ***Kyrgyzstan***, ***Lebanon***, *Libyan Arab Jamahiriya*, ***Morocco***, *Republic of Moldova*, ***Romania***, ***Serbia and Montenegro***, *Syrian Arab Republic, The Former Yugoslav Republic of Macedonia*, ***Tajikistan***, ***Tunisia***, *Turkey, Turkmenistan*, ***Uzbekistan.***

JOINT ACTION III (EU–JA III)

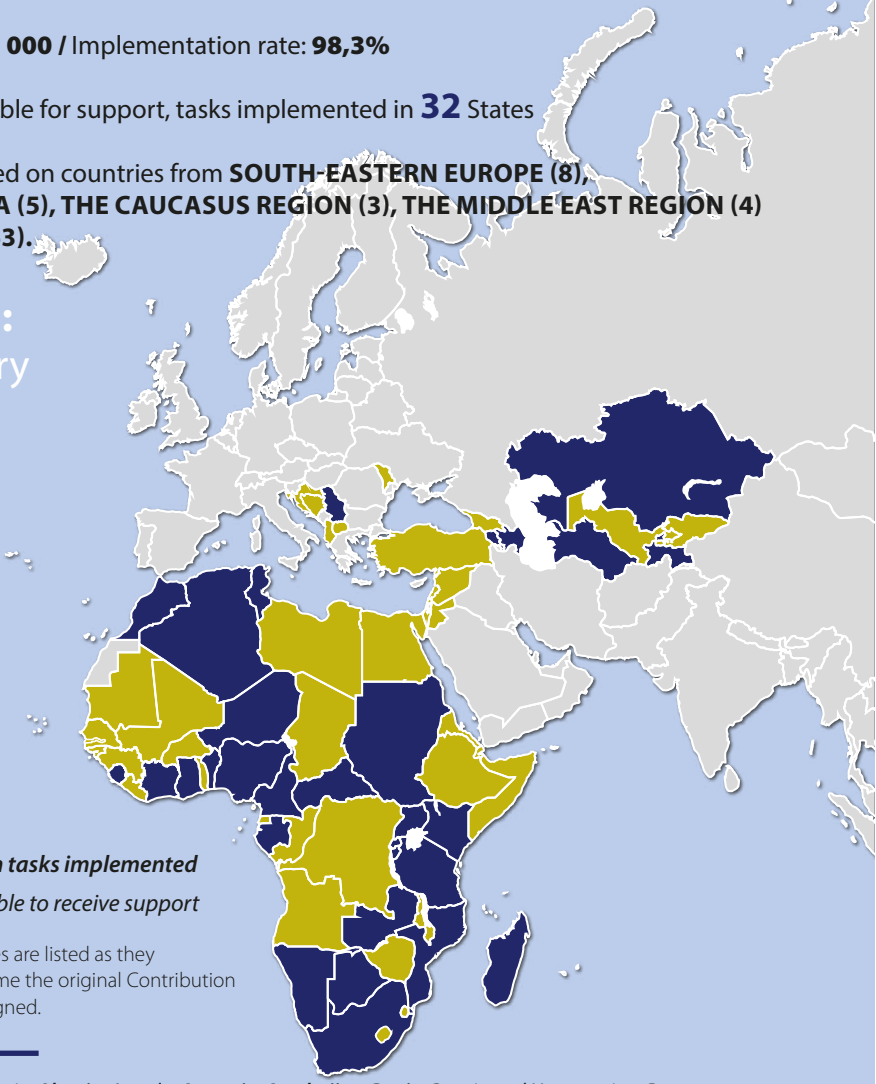
IMPLEMENTATION PERIOD: February 2007–December 2008

Budget **€6 995 000 /** Implementation rate: **98,3%**

73 States eligible for support, tasks implemented in **32** States

EU–JA III focused on countries from **SOUTH-EASTERN EUROPE (8), CENTRAL ASIA (5), THE CAUCASUS REGION (3), THE MIDDLE EAST REGION (4)** and **AFRICA (53).**

EU–JA III: Beneficiary States



States with tasks implemented

States eligible to receive support

Note: States' names are listed as they appeared at the time the original Contribution Agreement was signed.

Map showing: *Albania, **Algeria**, Angola, **Armenia**, **Azerbaijan**, **Benin,** Bosnia and Herzegovina, **Botswana,** Burkina Faso, **Burundi**, **Cameroon**, **Cape Verde**, **Central African Republic,** Chad, Comoros, Congo (Brazzaville), **Côte d'Ivoire**, Croatia, Djibouti, Democratic Republic of the Congo, Egypt, Equatorial Guinea, Eritrea, Ethiopia, **Gabon**, Gambia, Georgia, **Ghana**, Guinea, Guinea-Bissau, Israel, Jordan, **Kazakhstan**, **Kenya,** Kyrgyzstan, Lebanon, Lesotho, Liberia, Libya, **Madagascar**, Malawi, Mali, Mauritania, **Mauritius**, Montenegro, **Morocco**, **Mozambique**, **Namibia**, **Niger**, **Nigeria,** Republic of Moldova, **Rwanda**, Sao Tome and Principe, Senegal, **Serbia**, Seychelles, **Sierra Leone,** Somalia, **South Africa**, **Sudan,** Swaziland, Syrian Arab Republic, **Tajikistan**, **United Republic of Tanzania,** Togo, **Tunisia,** Turkey, **Turkmenistan**, **Uganda,** Uzbekistan, The Former Yugoslav Republic of Macedonia, **Zambia,** Zimbabwe.*

JOINT ACTION IV (EU–JA IV)

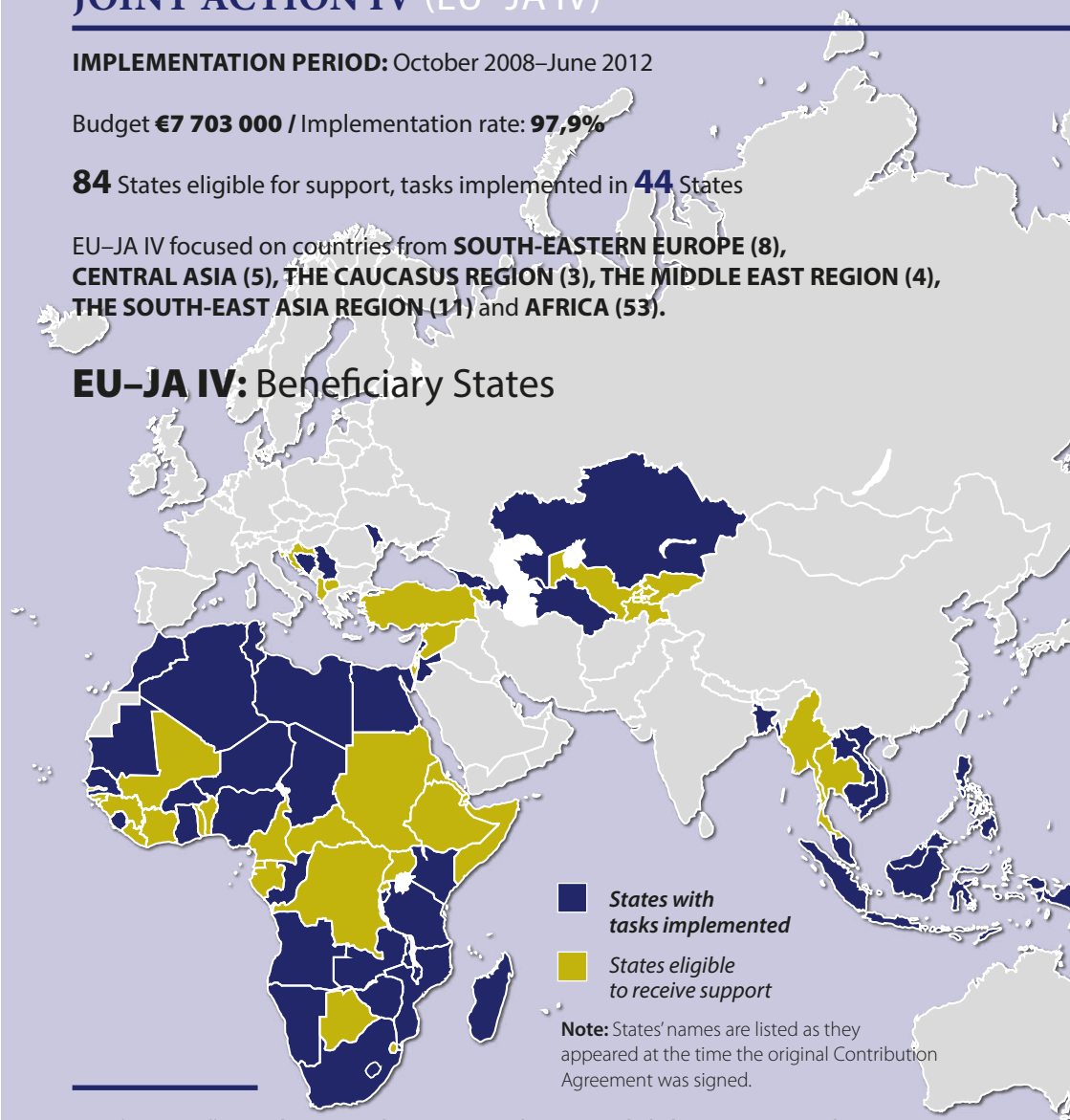
IMPLEMENTATION PERIOD: October 2008–June 2012

Budget **€7 703 000 /** Implementation rate: **97,9%**

84 States eligible for support, tasks implemented in **44** States

EU–JA IV focused on countries from **SOUTH-EASTERN EUROPE (8), CENTRAL ASIA (5), THE CAUCASUS REGION (3), THE MIDDLE EAST REGION (4), THE SOUTH-EAST ASIA REGION (11)** and **AFRICA (53).**

EU–JA IV: Beneficiary States



Note: States' names are listed as they appeared at the time the original Contribution Agreement was signed.

Map showing: *Albania*, ***Algeria***, ***Angola***, *Armenia*, ***Azerbaijan***, ***Bangladesh***, *Benin*, ***Bosnia and Herzegovina***, *Botswana*, ***Brunei***, ***Burkina Faso***, ***Burundi***, ***Cambodia***, *Cameroon, Cape Verde, Central African Republic*, ***Chad***, *Comoros, Congo (Brazzaville), Côte d'Ivoire, Croatia, Djibouti*, ***Democratic Republic of the Congo***, ***Egypt***, *Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia*, ***Georgia***, ***Ghana***, *Guinea, Guinea-Bissau*, ***Indonesia***, *Israel*, ***Jordan***, ***Kazakhstan***, ***Kenya***, *Kyrgyzstan*, ***Laos***, ***Lebanon***, ***Lesotho***, *Liberia*, ***Libya***, ***Madagascar***, ***Malawi***, ***Malaysia***, *Mali*, ***Mauritania***, *Mauritius, Montenegro*, ***Morocco***, ***Mozambique***, *Myanmar*, ***Namibia***, ***Niger***, ***Nigeria***, ***Philippines***, ***Republic of Moldova***, *Rwanda, Sao Tome and Principe*, ***Senegal***, ***Serbia***, ***Seychelles***, ***Sierra Leone***, ***Singapore***, *Somalia*, ***South Africa***, *Sudan, Swaziland, Syrian Arab Republic, Tajikistan*, ***United Republic of Tanzania***, *Togo*, ***Tunisia***, *Turkey*, ***Turkmenistan***, *Uganda, Uzbekistan, The Former Yugoslav Republic of Macedonia*, ***Vietnam***, ***Zambia***, ***Zimbabwe.***

COUNCIL DECISION V

IMPLEMENTATION PERIOD: January 2011–December 2012 (implementation in process)

Budget **€9 966 000**

126 States eligible for support, **48** States selected to receive support

EU–CD V focused on countries from **SOUTH-EASTERN EUROPE (3), CENTRAL ASIA (3), THE CAUCASUS REGION (1), THE MIDDLE EAST REGION (2), THE SOUTH-EAST ASIA REGION (3), AFRICA (17), THE GULF (5), SOUTH AMERICA (6)** and **THE CARIBBEAN AND CENTRAL AMERICA REGION (8).**

States selected to receive support : *Albania, **Algeria**, Angola, **Antigua and Barbuda**, Argentina, **Armenia**, Azerbaijan, Bahamas, **Bahrain**, **Bangladesh**, Barbados, Belize, Benin, **Bolivia**, Bosnia and Herzegovina, Botswana, Brazil, Brunei, Burkina Faso, Burundi, Cambodia, Cameroon, **Cape Verde**, Central African Republic, Chad, **Chile**, Colombia, Comoros, **Congo (Brazzaville), Costa Rica**, Côte d'Ivoire, Croatia, **Cuba**, **Djibouti**, The Democratic Republic of the Congo, Dominica, Dominican Republic, Egypt, Equatorial Guinea, Ecuador, El Salvador, Eritrea, Ethiopia, Gabon, **Gambia**, Georgia, **Ghana**, Grenada, Guatemala, **Guinea**, Guinea-Bissau, **Guyana**, Haiti, **Honduras**, **Indonesia**, Iran, Iraq, Israel, **Jamaica**, **Jordan**, **Kazakhstan**, Kenya, **Kuwait**, Kyrgyzstan, Laos, **Lebanon**, Lesotho, **Liberia**, Libyan Arab Jamahiriya, Madagascar, **Malawi**, Malaysia, Mali, Mauritania, Mauritius, **Mexico**, **Montenegro**, **Morocco**, Mozambique, Myanmar, Namibia, Nicaragua, Niger, **Nigeria**, **Oman**, **Panama**, Paraguay, Peru, **Philippines**, Qatar, Republic of Moldova, **Rwanda**, St. Kitts Nevis, St. Lucia, St. Vincent and the Grenadines, Sao Tome and Principe, **Saudi Arabia**, Senegal, **Serbia**, **Seychelles**, Sierra Leone, Singapore, Somalia, **South Africa**, Sudan, **Suriname**, **Swaziland**, Syrian Arab Republic, The Republic of Tajikistan, The United Republic of Tanzania, Thailand, **Togo**, **Trinidad and Tobago**, Tunisia, **Turkey**, **Turkmenistan**, Uganda, **United Arab Emirates**, **Uruguay**, **Uzbekistan**, Yemen, The Former Yugoslav Republic of Macedonia, **Venezuela**, Vietnam, **Zambia**, Zimbabwe.*

Note: States' names are listed as they appeared at the time the original Contribution Agreement was signed.

CASE STUDIES

Human Resource Development: **TRAINING**

Training is an important part of capacity building for any State working towards improved nuclear security. In particular, a State needs skilled staff to oversee regulation, which is an integral part of national radiation safety and security infrastructure. With EU support, the IAEA has been active in helping States to improve their ability to control radiation sources, and bring lost, missing or stolen sources back under institutional control, by training staff from regulatory bodies and law enforcement organizations, on how to provide adequate control of the use of sources in all types of activity from medicine to industry.

National, regional and interregional training course topics include:

- Needs Assessment, Information Collation and Analysis
- Prevention, Detection and Response
- Establishment of a Global Nuclear Security Framework
- Nuclear Security Series
- Risk Reduction and Security Improvement
- Activities Supporting Nuclear Security.

Almost €3.6 million has been spent on training. Around 2000 participants were trained from 2005–2012.

Risk Reduction:
RADIOACTIVE SOURCE RECOVERY

The safety and security of radioactive sources remains a priority for all States. Source recovery has spanned all four EU Joint Actions, underscoring the continued need for improving adequate control and regulatory measures. Since 2005, source recovery projects have been implemented in 18 States with a wide variety of facilities and sources. These highly radioactive sources were transported either to a national safe and secure storage facility or repatriated to their countries of origin.

In 2008 alone, 1527 sources were secured.

An unused Cs-137 source was transferred from a Caesa Gammatron Irradiator back to the country of origin.

401 radium sources were extracted from a wall safe in the basement of an oncology clinic, sealed into capsules, packaged and transported to safe and secure national storage.

Risk Reduction:
PHYSICAL PROTECTION UPGRADES

Strengthening the physical protection of nuclear and other radioactive material in use, storage and transport and its associated facilities is a key component of nuclear security. Material used or stored at locations such as nuclear fuel cycle facilities, as well as medical and industrial facilities, must be adequately controlled, accounted for and protected in order to prevent theft or sabotage. Upgrading the physical protection of installations, such as better access control and alarm systems, helps to ensure that material is kept safe and secure. Important physical protection upgrades of installations and facilities were implemented under all Joint Actions.

Detection and Monitoring:
BORDER CROSSINGS

Crude nuclear explosive devices or radiological dispersal devices cannot be made without material having been acquired as a result of criminal or unauthorized activities involving nuclear or other radioactive material. Cross-border movement could be a necessary component of delivering such material to its destination. With many incidents of trafficked material being recorded, States must be equipped to detect radiation at their borders to ensure that radioactive material does not end up in the wrong hands. Detection equipment at borders supported with appropriate training, provided under all Joint Actions, has helped many States to make their nuclear security measures more robust.

Physical installation upgrades, such as improved fencing around facilities, are an important component of prevention.

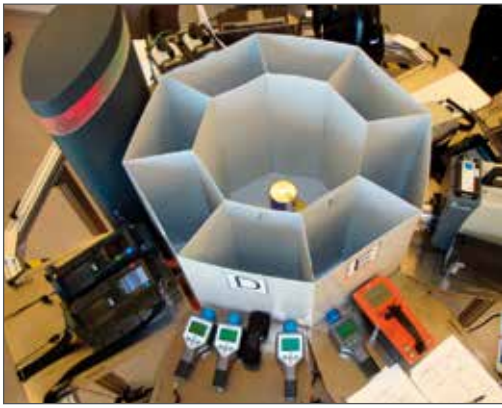
Radiation portal monitoring systems are installed and hand-held detection equipment provided to strengthen nuclear security at border crossings.

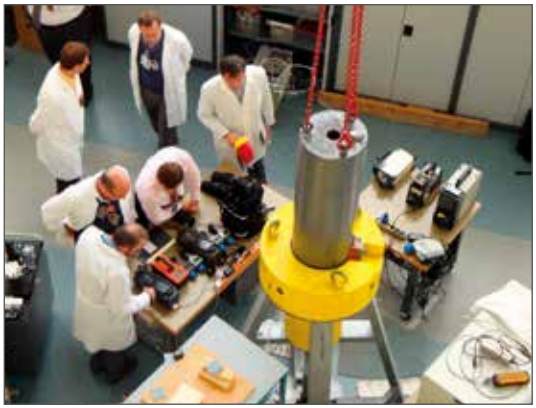
Regulatory Infrastructure:
ASSISTANCE ON STATE SYSTEMS OF ACCOUNTING FOR AND CONTROL OF NUCLEAR MATERIAL (SSACs)

Reliable SSACs, along with proper administrative, legislative and regulatory systems, are fundamental in helping States to fulfil their nuclear non-proliferation obligations and control nuclear activities on their territories.

They play an important role in maintaining the effectiveness and efficiency of safeguards activities, both for Member States and for the IAEA. Training courses on SSACs as part of Joint Action outreach are designed to assist Member States in establishing and maintaining regulatory infrastructures along sound lines at State and facility levels and making them adaptive and responsive to any future development.

Training in the use of hand held-radiation monitoring equipment.





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