



ROSATOM

Rosatom State Atomic Energy Corporation

Rusatom Service Portfolio



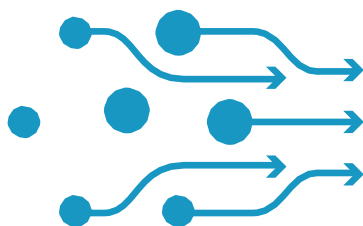
RUSATOMSERVICE

Mikhail Poznyakov

Budapest, Hungary

01.12.2015





Suppliers



Service Package



Clients

Rusatom Service was created in 2011 by a board decision of Rosatom State Corporation in order to centralize service delivery for foreign nuclear power plants by Russian nuclear companies and to coordinate the activities of Russian contractors as part of Rosatom's long-term international activities strategy. The company serves as a single point of contact integrating the service offer of all Rosatom companies.



Rosenergoatom
Electric power division

Operational and technological engineering in the sphere of repair and modernization, personnel training



Atomenergomash
Machine building division

Warranty and post warranty service of the equipment throughout its life cycle



RUSATOMSERVICE



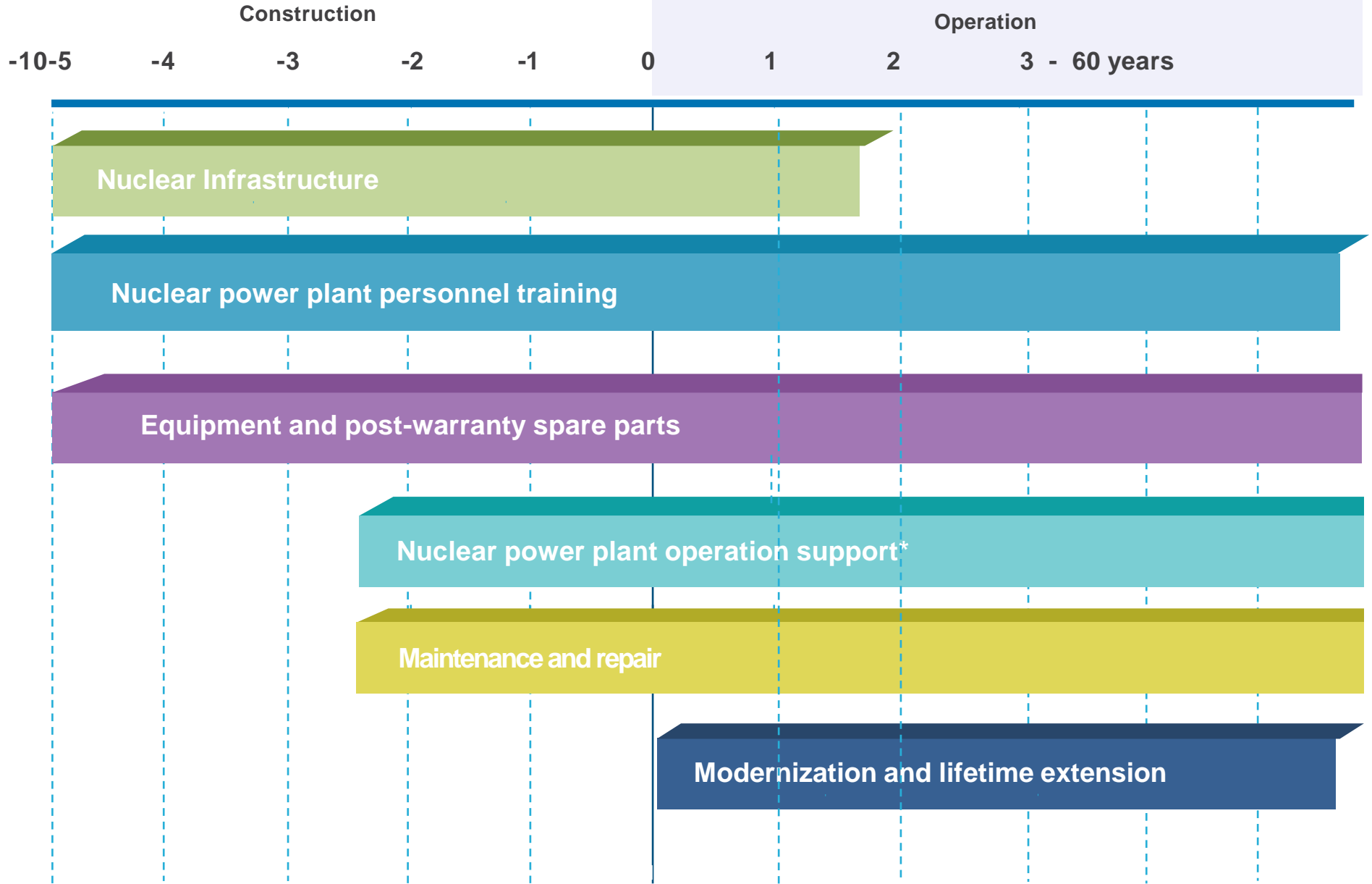
Gidropress

R&D, modernization and optimization of power units



Atomtechenergo

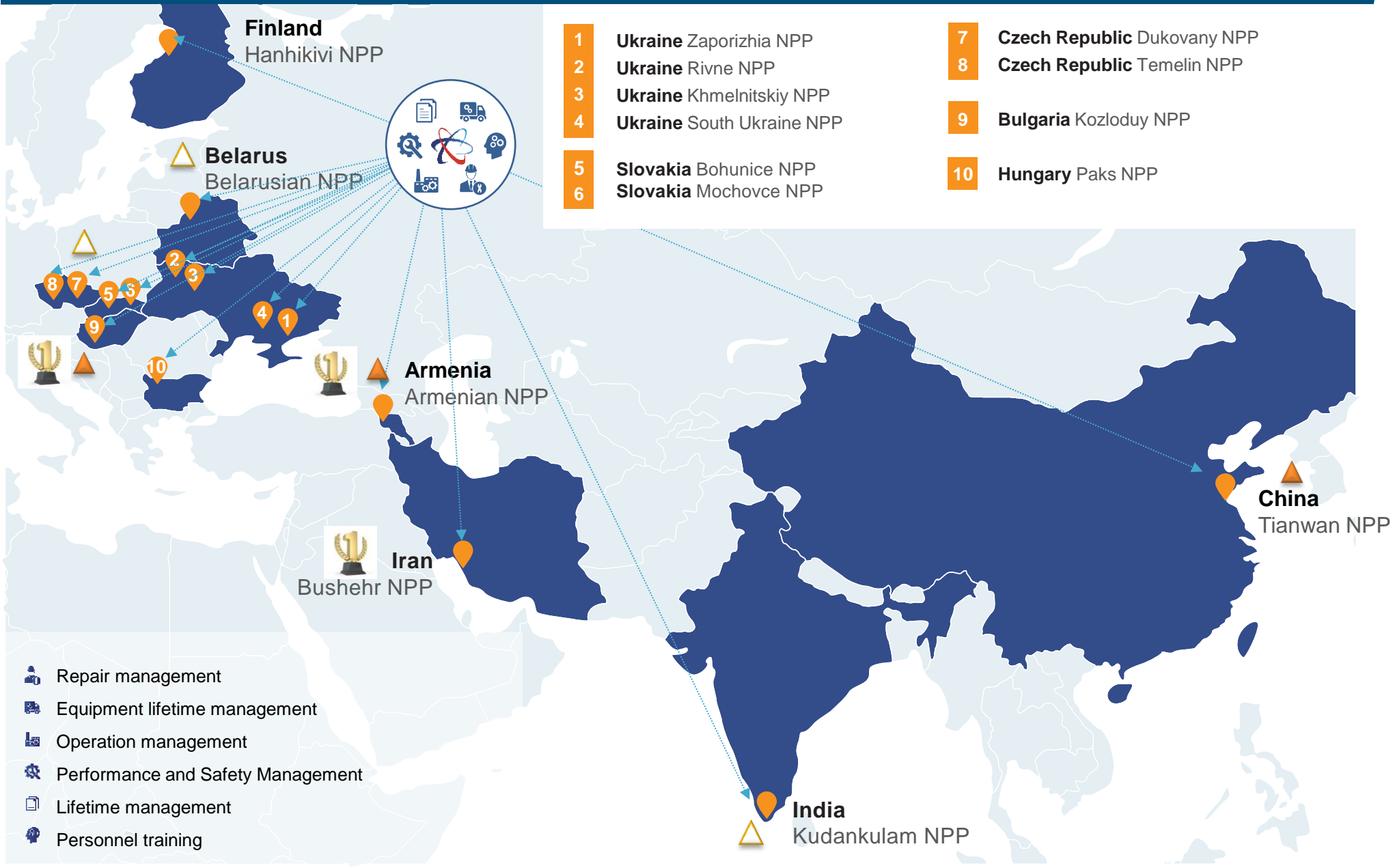
Commissioning operations, personnel training, developing documentation



* ATEX - RS subsidiary

Provisional acceptance of the power unit

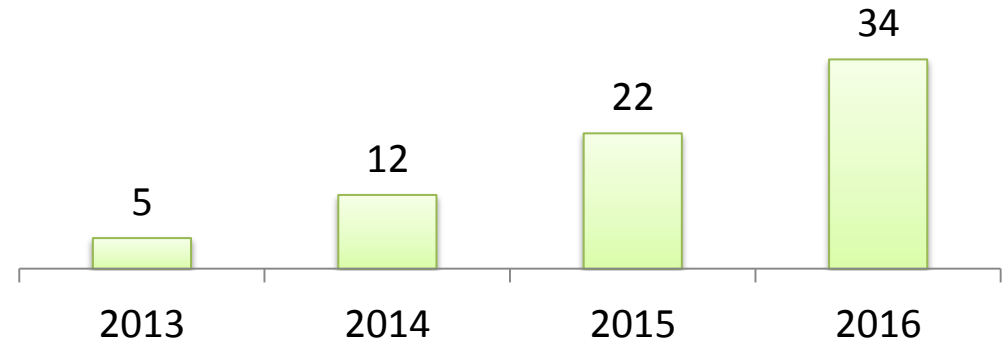
Final acceptance of the power unit



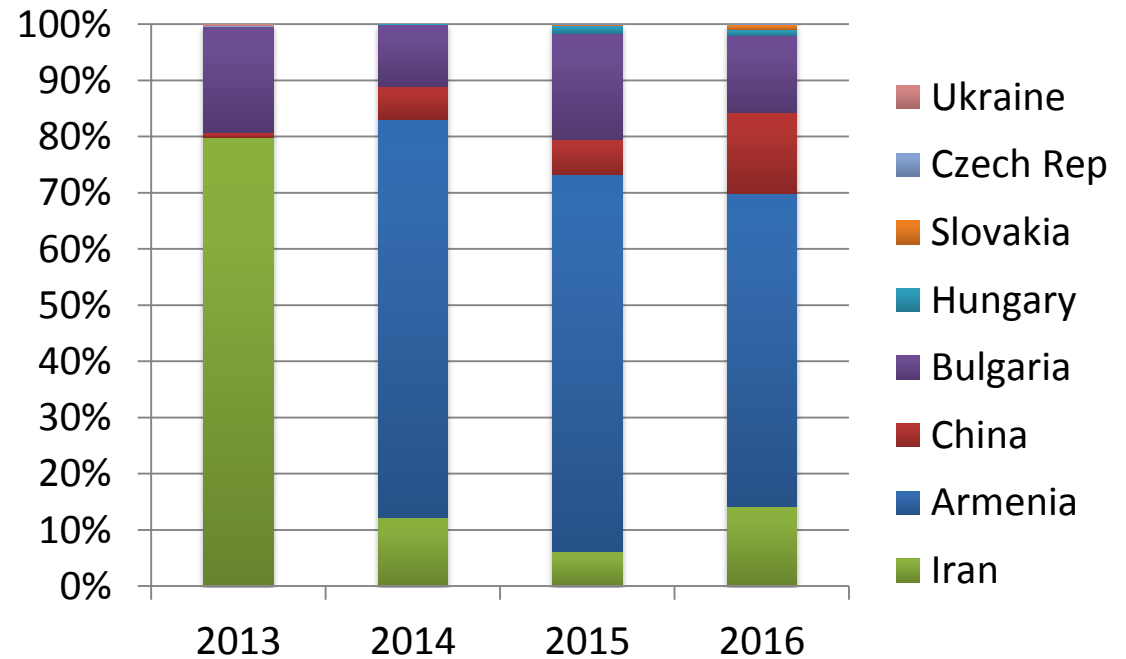
2012 2013 2014 2015 2016

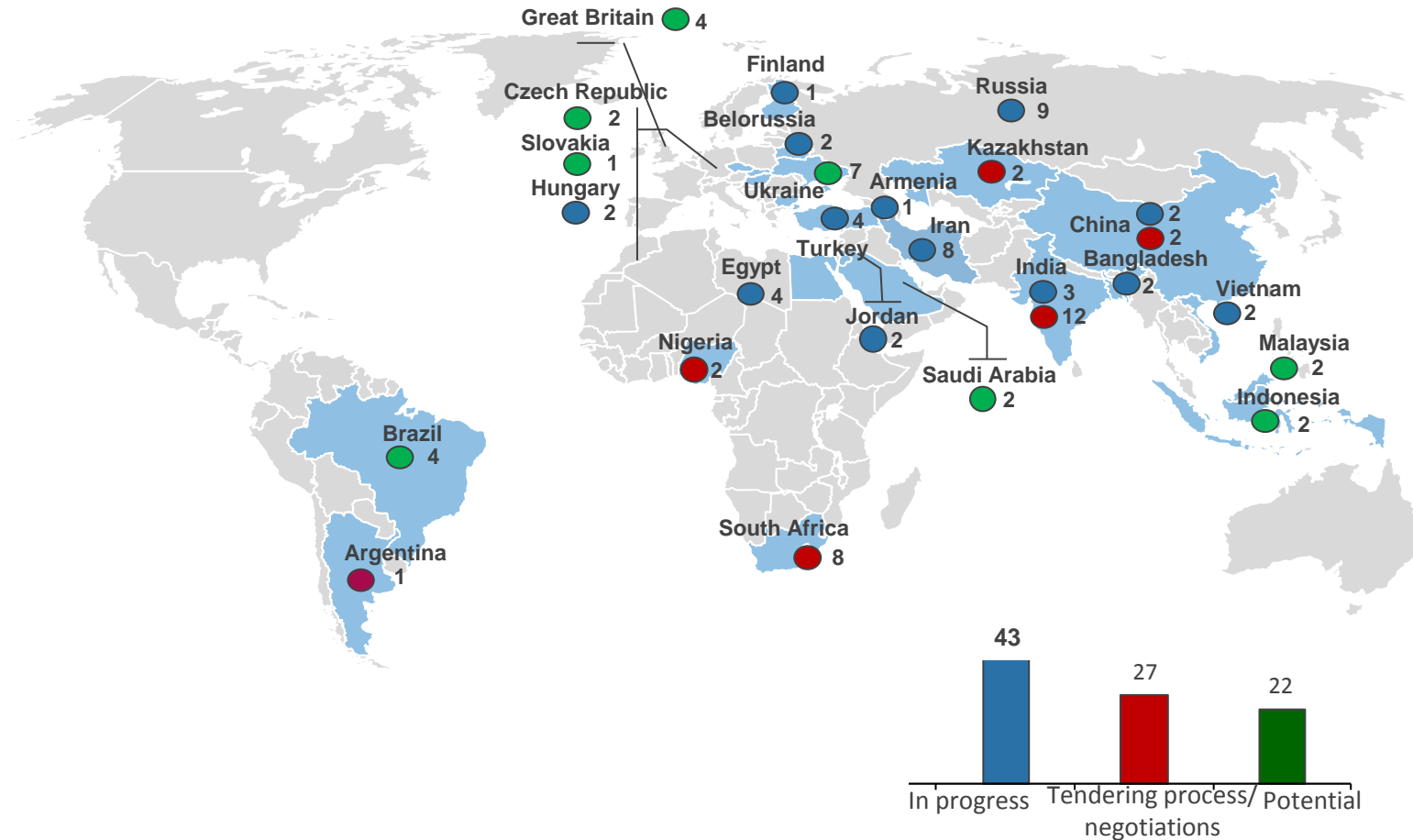
		2012	2013	2014	2015	2016
Armenia	2					
Bangladesh	1					
	2					
Belarus	1					
	2					
Bulgaria	Kozloduy-5					
	Kozloduy-6					
Hungary	Paks-1					
	Paks-2					
	Paks-3					
	Paks-4					
	Paks -5					
	Paks -6					
Egypt	1					
	2					
India	Kudankulam -1					
	Kudankulam -2					
Jordan	1					
	2					
Iran	Бушер-1					
China	TNPP -1					
	TNPP -2					
	TNPP -3					
	TNPP -4					
Slovakia	EBO-3					
	EBO-4					
	EMO-1				1	
	EMO-2				1	
	EMO -3					
	EMO-4					
Czech Rep	Dukovany -1					
	Dukovany -2					
	Dukovany -3					
	Dukovany -4					
	Temelin -1					
	Temelin-2					

UNITS IN SERVICE

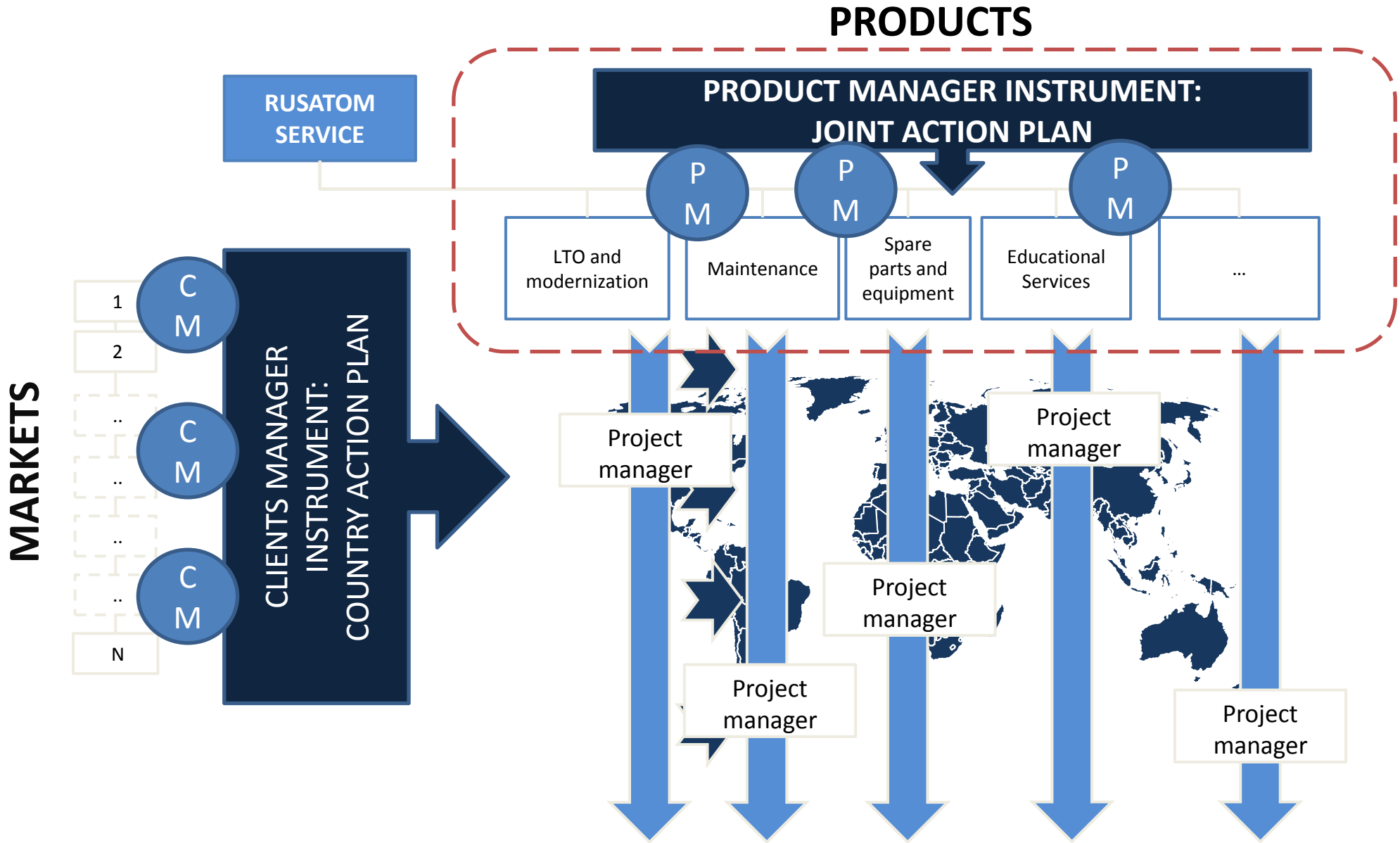


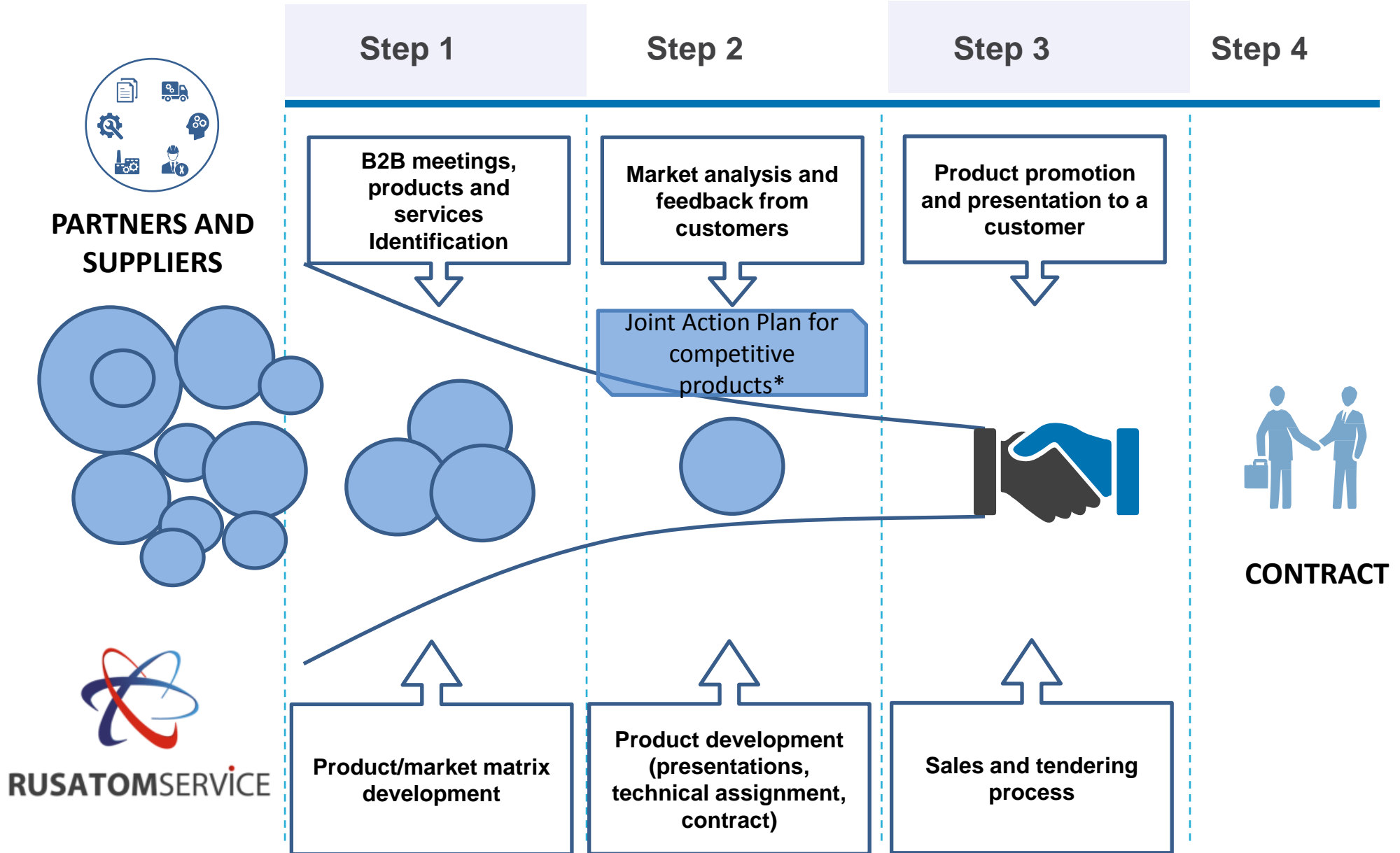
PORTFOLIO GEOGRAPHY





Rosatom NPP construction perspective backlog – more than 90 units





* JOINT STATUS REPORTS ON A REGULAR BASIS

Projects examples

I. Preparation and realization PPM of BUSHEHR NPP



The contract for 2 middle and 1 overhaul repair is concluded.

- The total scope of work of JSC "Rusatom Service" in 2014 amounted to 1 500 man/months

- 3509 units of equipment were inspected and maintained including:

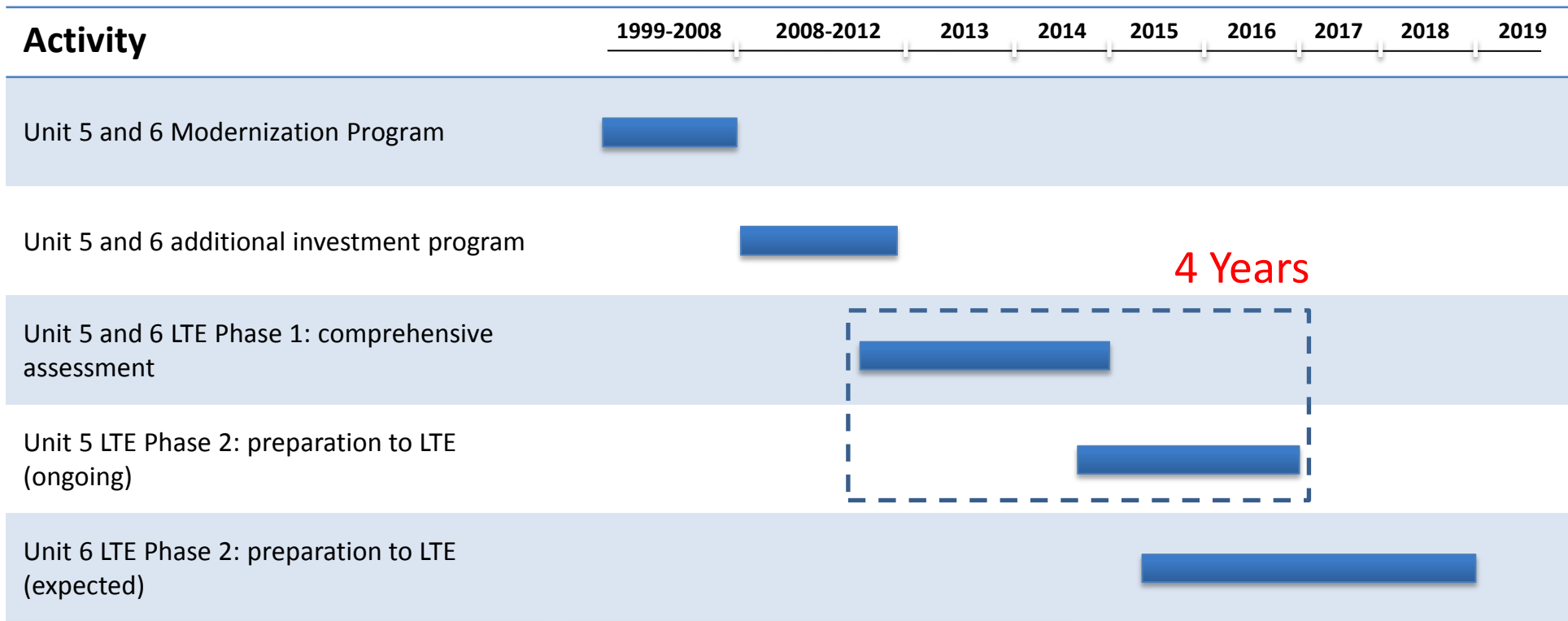
- nuclear island equipment ;
- turbine plant equipment;
- safety channels equipment;
- I&C equipment.



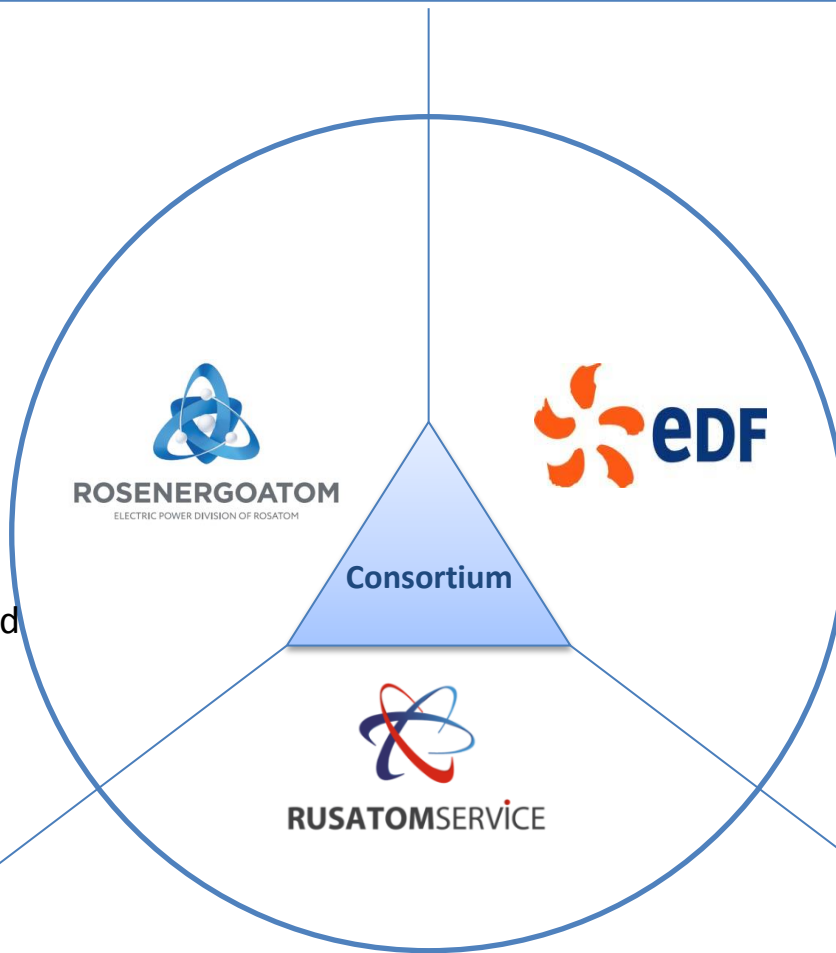
During the PPM on a tight schedule JSC "Rusatom Service" has assigned more than 500 maintenance personnel from 12 engineering contractors to Bushehr NPP.

II. LIFETIME EXTENSION FOR KOZLODUY NPP UNITS 5,6





- Great expertise in operation and LTE of NPP (34 units in operation, 21 units with extended life time)
- Great expertise in VVER technology
- Developer and owner of Russian technical documentation concerning LTE
- Reference base for all Russian LTE methodologies, methodics, technologies and solutions



- Great expertise in operation and LTE of NPP (58 PWR units in France)
- 30000 staff (25000 operation, 5000 engineering, 1000 R&D)
- Major player in the international development of Nuclear Power
- Great expertise in EU regulatory requirements concerning LTE (EU safety directives, WENRA recommendations)

Integration of services, technologies and competences of all leading VVER R&D, designers, material science and production organizations



CMIR
 RUSSIAN RESEARCH CENTRE
 KURCHATOV INSTITUTE

OKB «GIDROPRESS»

CRISM
«Prometey»

ROSENERGOATOM
 ELECTRIC POWER DIVISION OF ROSATOM

CKBA

ОАО «ЦКБМ»
CKBM

Atomtechenergo

RUSATOMSERVICE

OKBM
AFRIKANTOV
 A SC «ROSATOM» COMPANY

RISK
 engineering

EDF

РЕСУРС
RESOURCE

НПО CKTI

VNIIAES

АТОММАШЭКСПОРТ
Atommasheport



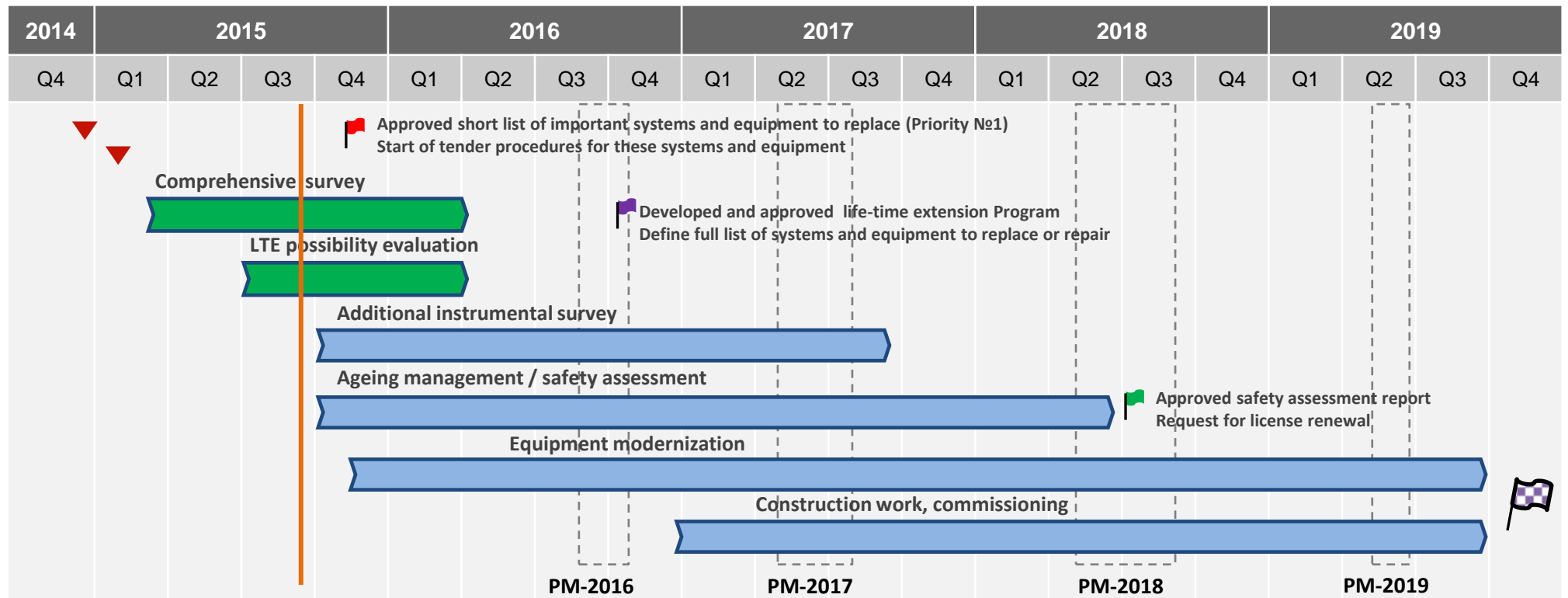
III. LIFETIME EXTENSION FOR METSAMOR NPP UNIT 2





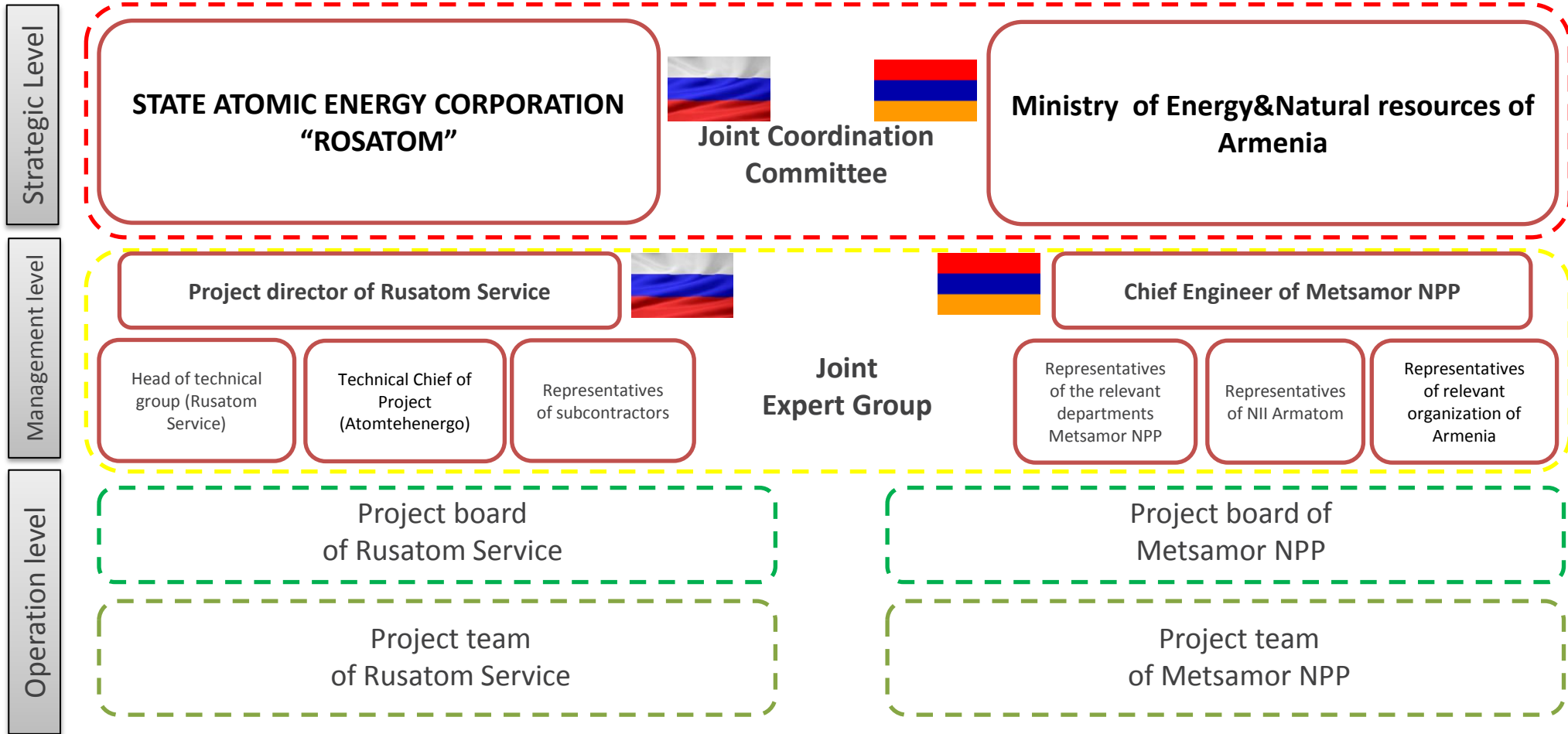
General information:

Project goal: complex of operations aimed to extend life-time of ANPP.
General contractor : Rosatom subsidiary -- JSC «Rusatom Service».
Specific terms: tight time limits in comparison with LTE projects in Russia
Power: 1 x VVER-440
Reactor type: B-270
Operation since: 05.01.1980
Project period: 2015-2019



Project based on 2 governmental agreements between Russian and Armenia:

1. Agreement on cooperation in LTE of unit 2 ANPP
2. Credit Agreement on financing LTE of unit 2 ANPP



- STATE FINANCING OF THE PROJECT
- MANAGEMENT WITH THE PARTICIPATION OF THE MINISTRY OF ENERGY & NATURAL RESOURCES OF ARMENIA

- Emergency repair of stator of generator №4 TVV-220 type and replacement of defective rod
- Implementation of automated ultrasonic testing and evaluation of the technical condition of the pipes (welding №23) Du1100 PGV-440 steam generators
- Supply of Augur 5.2 systems for automated ultrasonic testing and equipment for pipe Du110 metal heating
- Repair the two pipes (welding №23) Du1100 PGV-440 steam generators with the assistance of Russian NPP personnel and technical support of JSC OKB "Gidropress", JSC NPO "TSNIITMASH" and JSC " Concern Rosenergoatom ".



IV. PROJECTS IN CHINA





- Supply of equipment required for upgrading exciters, installation and commissioning supervision at Units 1,2;
- Supply of modernized Pitch Position Indicators (PPI) for Units 1,2;
- Supply of spare parts for RCP-1391;
- Supply of spare parts for turbine and generator;
- Provision of technical support and engineering services during Scheduled Planned Maintenance T108/T208;
- Supply of turbine blades for TNPS Unit 1;
- Supply of RCP Cover Plates for a period of 2015-2018;
- Training of MCR operators for Units 3,4;
- Protective Tube Unit Position Adjustment after transition to TVS-2M assemblies.



- Modernization of I&C systems & equipment: ALMS, HLMS, LPMS, VNDS, ICMS, ARMS etc.;
- Provision of technical support and engineering services during Planned Preventative Maintenance and operation of TNPS within 2016-2018;
- Modernization of stand-by exciter for Units 1, 2;
- Modification of Electrical Equipment of Reactor Control and Protection Systems (CPS);
- Supply of turbine and generator spare parts for 5-year operation period for Units 1, 2;
- Reactor Plant Power increase to 104%.



ROSATOM



CONTACTS

Thank you for your attention and looking forward for B2B meetings!

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