



ROSATOM

STATE ATOMIC ENERGY CORPORATION

State Atomic Energy Corporation “Rosatom”

Russian Radiation Technologies: opportunities to success

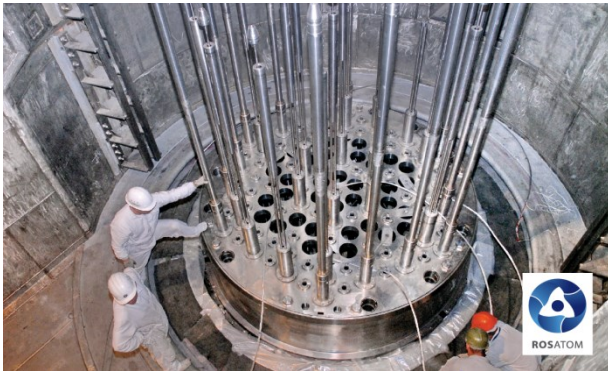
M.Batkov,

Director

Radiation Technologies Program

15.04.2013

Rosatom is the largest hi-tech manufacturer in Russia



79,3%

High-tech products
share in revenue

\$15,5 bln*

Revenue



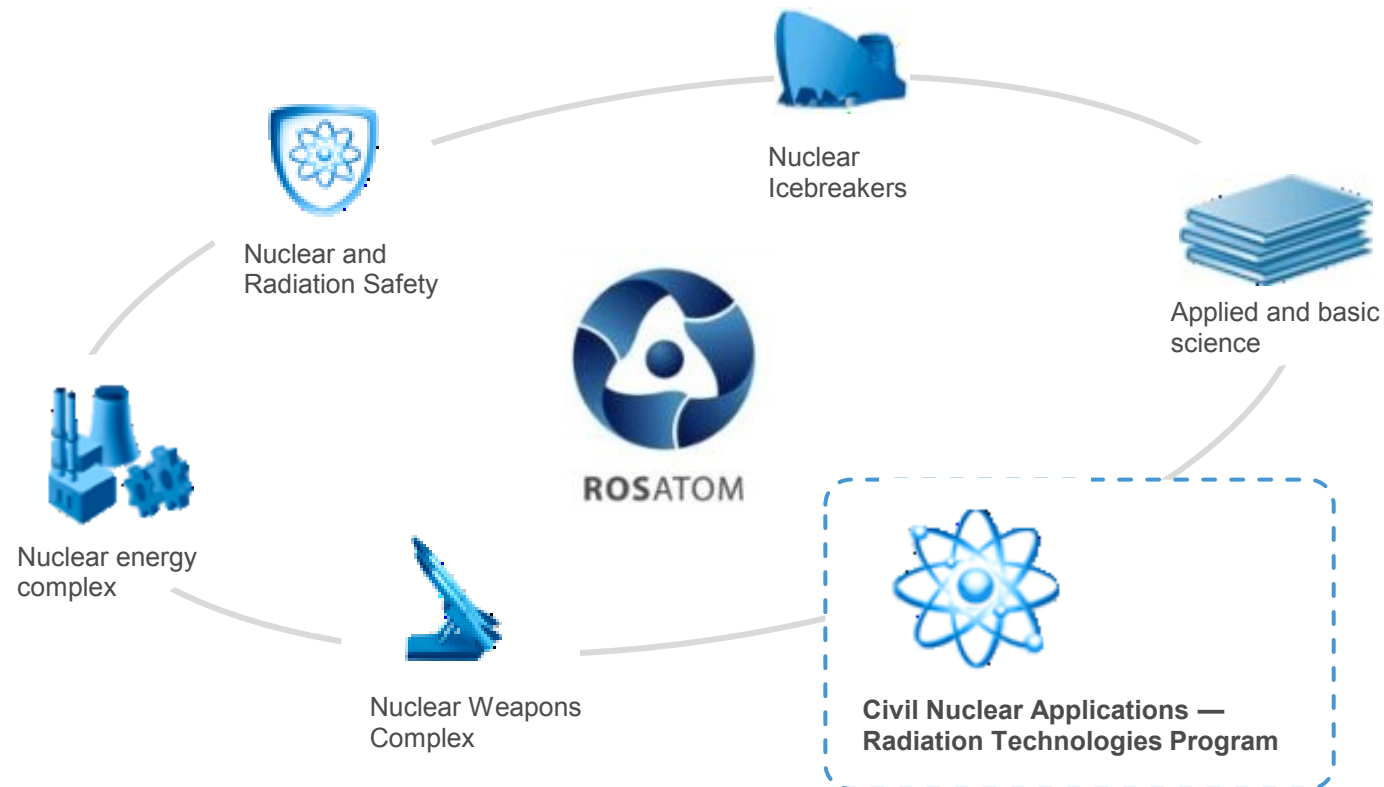
\$700 mln

R&D investment

\$5,2 bln*

EBITDA

Rosatom overview



- ROSATOM is the largest utility in Russia which produces more than 40 % of electricity in the country;
- ROSATOM holds leading positions in the world market of nuclear technologies;
- 1-st in the world simultaneous nuclear build abroad;
- 2-nd in uranium reserves and 5-th in uranium mining;
- 4-th in nuclear electricity generation,
- Providing 40% of the world uranium enrichment services and 17% of the world nuclear fuel market
- Global operations in more than 40 countries

«Radiation Technologies» Program Subsidiaries



Business activities

- Nuclear medicine
- Irradiation centers
- Waste management



- Sales of isotope products
- Sales of equipment
- Service



Sales of isotope products on foreign markets (subsidiary company of JSC “Isotope”)

Key projects of Radiation Technologies Program

A number of interrelated innovative projects in the nuclear medicine field

- Origination and execution of investment projects in fields of medical isotopes and equipment
- Medical equipment sales and servicing
- R&D management



Irradiation centers



3D project of the most effective center for cold sterilization and modification of materials in the world

- Contract irradiation
- Equipment production, engineering and maintenance
- Production of radiation modified materials

Waste management



First complex system of medical waste neutralization in Russia



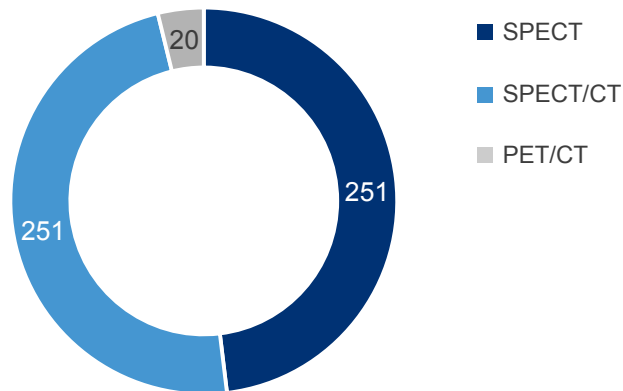
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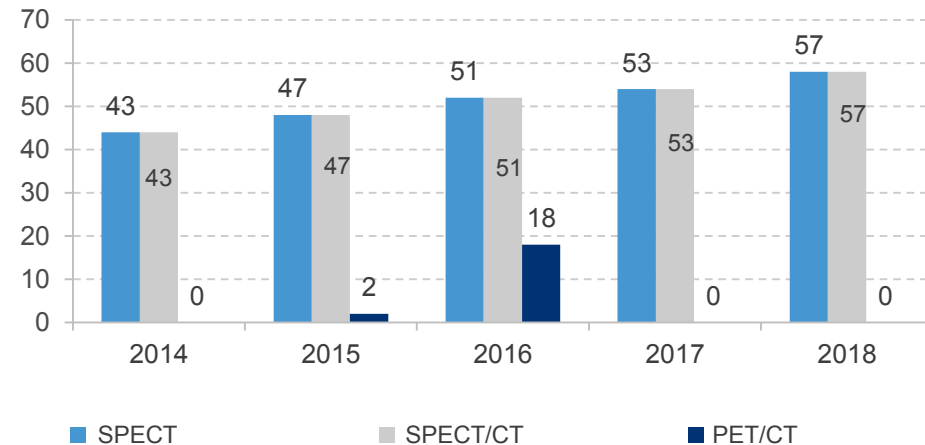
Nuclear medicine

Russia has a lot of potential to develop.

1. Nowadays Russia have lack of nuclear medicine equipment in comparison with other countries. For example, there are only 1 SPECT and 0,1 PET/CT for 1 million people in Russia.
2. According to the "The development of healthcare in Russia" program the 251 units of SPECT, 251 units of SPECT/CT and 20 units of PET/CT equipment will be purchased during the period 2014 -2018 .



The purchasing of nuclear medicine equipment according to the program "The development of healthcare in Russia" from 2014 to 2018..



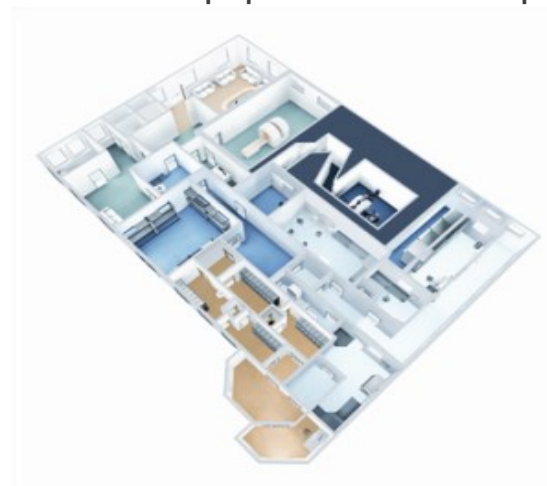
3. Ministry of Economic Development of the Russian Federation has introduced a 15% preference for medical equipment produced in Russia which will be purchased by government .
4. According to "The development of pharmaceutical and medical industries in Russia till 2020 and beyond" the federal program, Ministry of Industry and Trade of Russia will introduce the protection measures for the equipment manufactured domestically.

In the Nuclear medicine field we perform the following functions

1. Investment projects execution in the fields of medical isotopes, equipment production, etc.



2. Sales of medical equipment and complex solution.



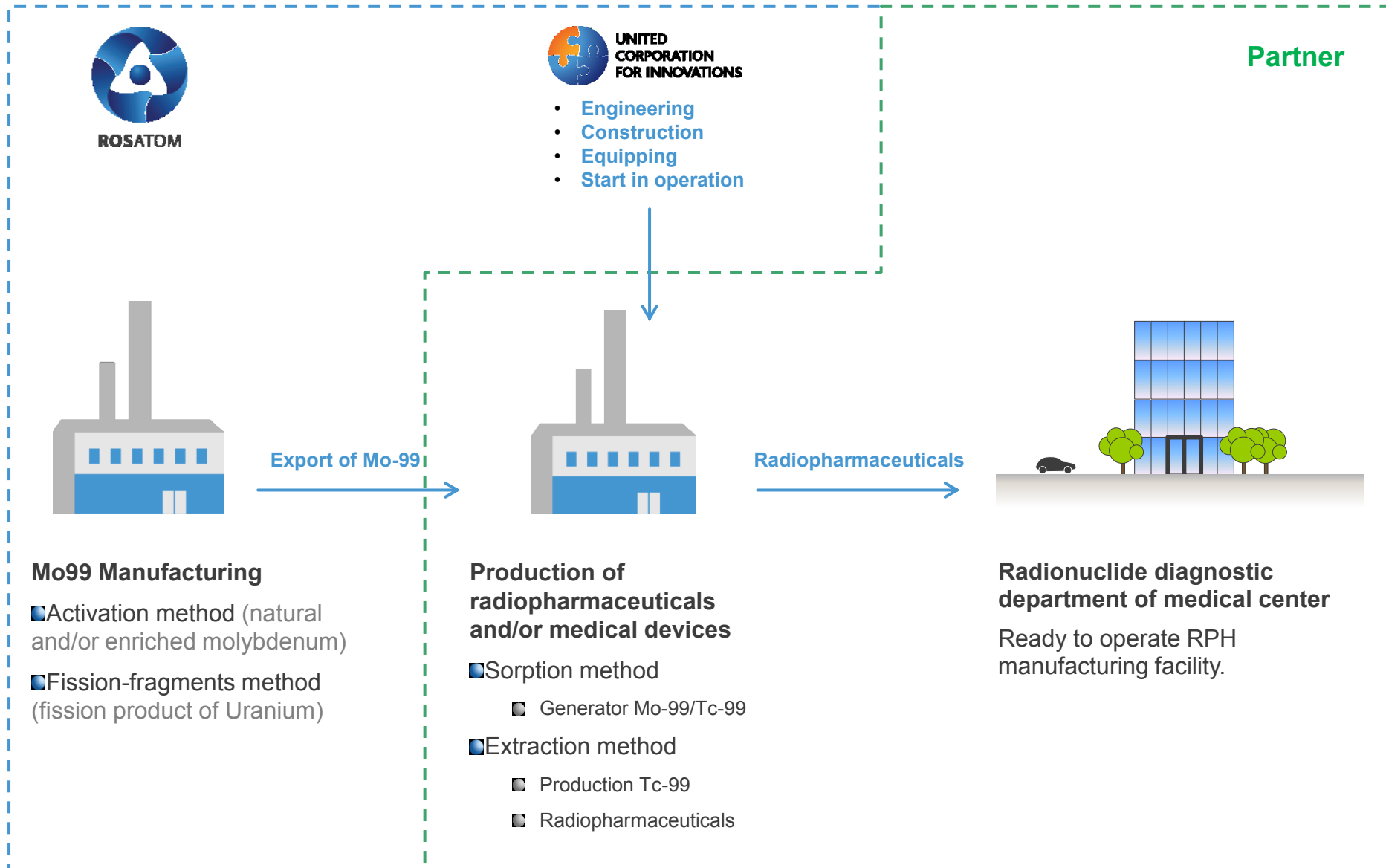
3. R&D management in nuclear medicine.



4. Collaboration with Russian state and international organizations on the nuclear medicine issues.



Processing factories producing radiopharmaceuticals



Nuclear medicine. Diagnostics and therapy.

In 2014 ROSATOM becomes the
 manufacturer of most
 advanced equipment for
 nuclear medicine
 with a leading position in CIS markets!

In 2014 ROSATOM constructs
 the first national chain of
 PET-centers!

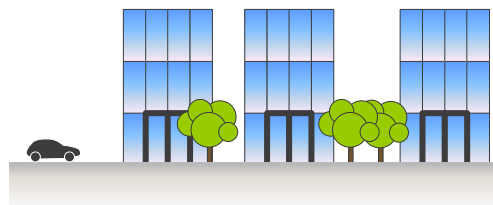
In 2015 ROSATOM constructs the
 best in CIS center for
 nuclear medicine and
 cancer treatment.

Manufacturing projects

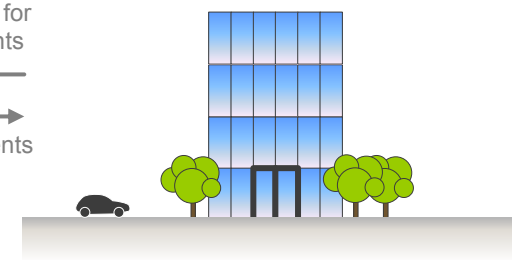
U.I. Corp.	SPECT, PET, PET/CT	Manufacturing
JSC Isotope	Compact cyclotrons	Manufacturing
JSC Isotope	Ge/Ga	
JSC Isotope	Proton therapy center	

Demand on
 equipment
 ←
 →
 Equipment
 delivery

Project «Construction of chain of diagnostic centers»



Project «Center for cancer treatment»



←
 Remuneration for
 referral of clients
 →
 Referral of clients
 for treatment

Mo99 Project results

- The project was set up in the shortest possible time – 2.5 years.
- Hot testing on the first line has been conducted.
- Warm testing on the second line has been carried out.



«Hot» cameras with manipulators



Solvent installation

Result: production facilities on 2000 Ki/week have been established.

RP and medical isotopes, 2012: Re-188 therapy centers

188Re-Lipiodol

- Promising radiopharmaceutical for the diagnosis of liver cancer and radiotherapy;
- Stable disease in 56% of cases;
- Partial response in 22% of cases;
- The absence of side effects (minimal effects in 93% of cases)



Lipiodol

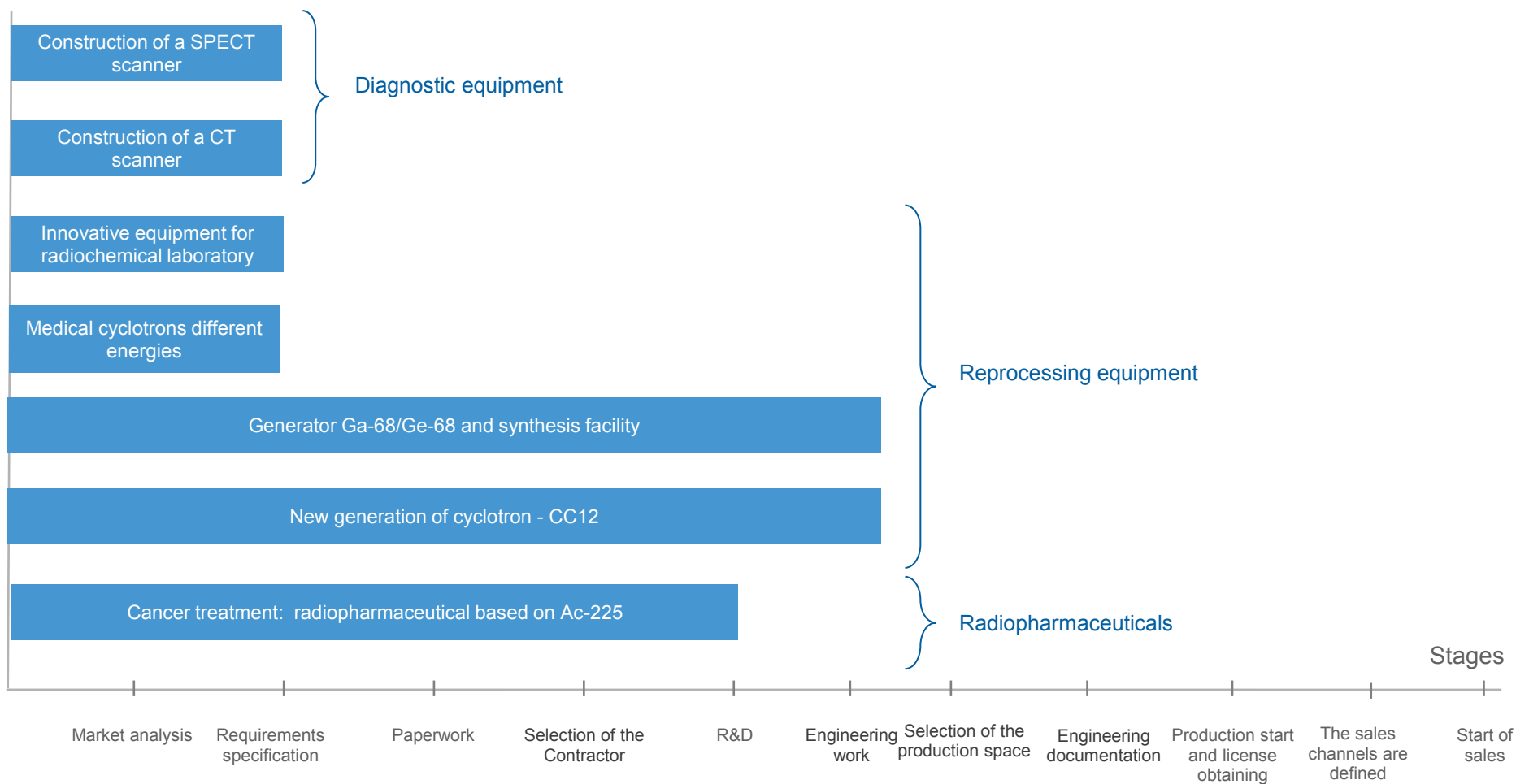
Participants:

- The State Corporation “ROSATOM”
- WARMTH
- Seoul University



Generator Re-188

R&D: the future comes today





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JSC Isotope

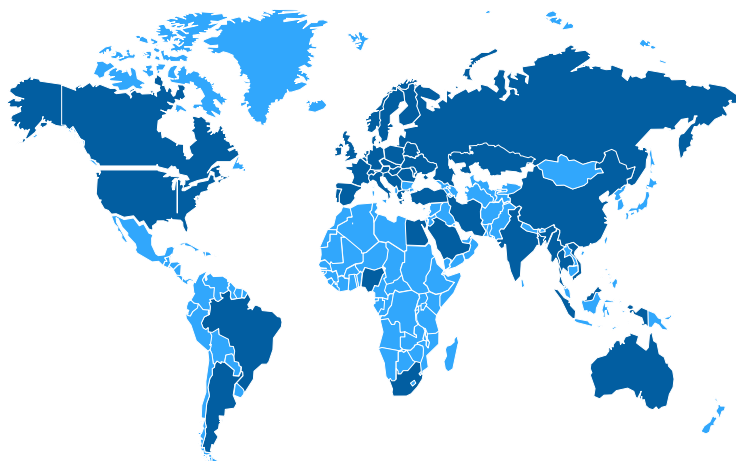
Global supplier for isotope products and solutions



Global Distribution: 100 customers from over 30 countries

Officially represents 12 Facilities

Fission, Cyclotron, EM, GC
Production capability



50 years of experience

360° product portfolio incl. Mo-99, Tc-99m, Co-60 and stable isotopes

Global logistics and nuclear safety expertise: over 1000 shipments per year

Medical isotopes



Our product portfolio includes key medical isotopes including:

- Mo-99 (Molybdenum-99)
- Tc-99m (Technetium-99m)
- I-125, 131 (Iodine- 125, 131)
- Lu-177 (Luecium-177)
- Gd-153 (Gadolinium-153)
- Ru-106 (Ruthenium-106)
- Pd-103 (Paladium-103)
- Ga-67 (Gallium-67)
- In-111 (Indium-111)
- Re-188

Applications:

- Diagnostics and therapy
- Cardiology
- Neurology
- Oncology

Producers:



Range of medical equipment

Equipment for diagnostic and therapeutic centers:

- PET/CT and SPECT/CT tomography scanners for nuclear medicine;
- Cyclotron complexes for radiopharmaceutical production;
- Laboratory complexes for Ga-68 radiopharmaceutical production for PET diagnostics;
- Radiographic equipment;
- Roentgenotherapeutic equipment;
- Linear accelerators;
- Gamma-therapy systems for distant and contact therapy.





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Marketing

1IBCI Conference overview (1/2)

Moscow, Russia 2012

The 1st International Business Conference for Suppliers, Producers and Consumers of Isotope Products (IBCI)



39 workshops

Over 40 publications about the event

Over 400 participants

Over 80% isotope supplying countries were represented

1IBCI. Conference overview (2/2)



UPCOMING MEETING

September 30 — October 1, 2013

The 2nd International Business Conference for Suppliers, Producers
and Consumers of Isotope Products (IBCI)

Looking forward to future cooperation!

“Radiation Technologies” Program

Tel. +7 (499) 949-41-49

E-mail: MABatkov@rosatom.ru