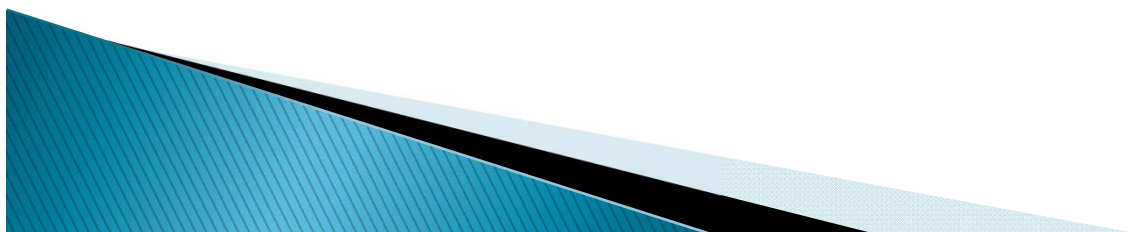


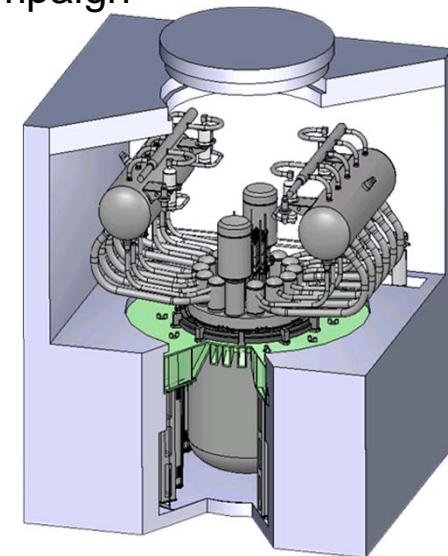
# SVBR reactor modules



# SVBR reactor modules: key design principles



- **Inherent safety and high proliferation resistance**, resulting from Lead-Bismuth Fast Reactor technology and integral design of reactor module
- **Transportation and Construction Simplicity**: factory-made ready-for-installation reactor module transportable by train, ship or motor transport
- **Fuel universality**: reactor core can be loaded with almost all types of nuclear fuel (UO<sub>2</sub>, MOX, UN, U met)
- **Economical efficiency**, based on construction simplicity, long fuel campaign and 60 years design lifetime for reactor vessel and structures
- **Proven technology**: 70 reactor-years operational experience of the Pb-Bi cooled reactors for Russian submarines
- **Compliance with an existing regulatory framework**

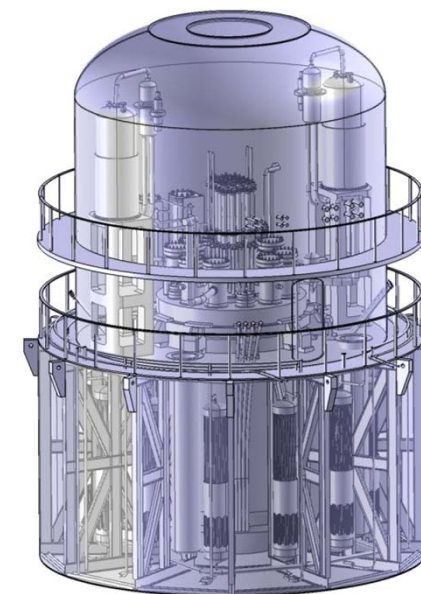


# SVBR-10 reactor module



Key technical characteristics	
Reactor thermal output	43 MW(th)
Power plant output:	
Electricity	12 MW(e)
Desalinated water*	max. 30 000 tons/day
Load factor	90%
Refuelling interval (UO <sub>2</sub> fuel with 18,4% of U235)	17-20 years
Reactor module weight	310 ton
Reactor module dimensions	8,0 / 11,2 meters (diameter/height)

\* - if water-desalinating equipment installed



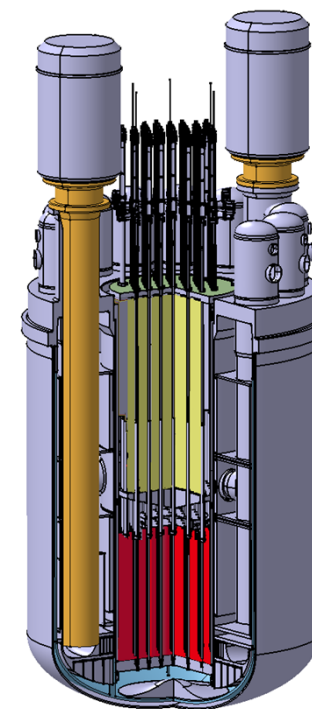
**Current status and plans:**  
R&D and design process is under way,  
a demonstration plant could be commissioned by 2015

# SVBR-100 reactor module



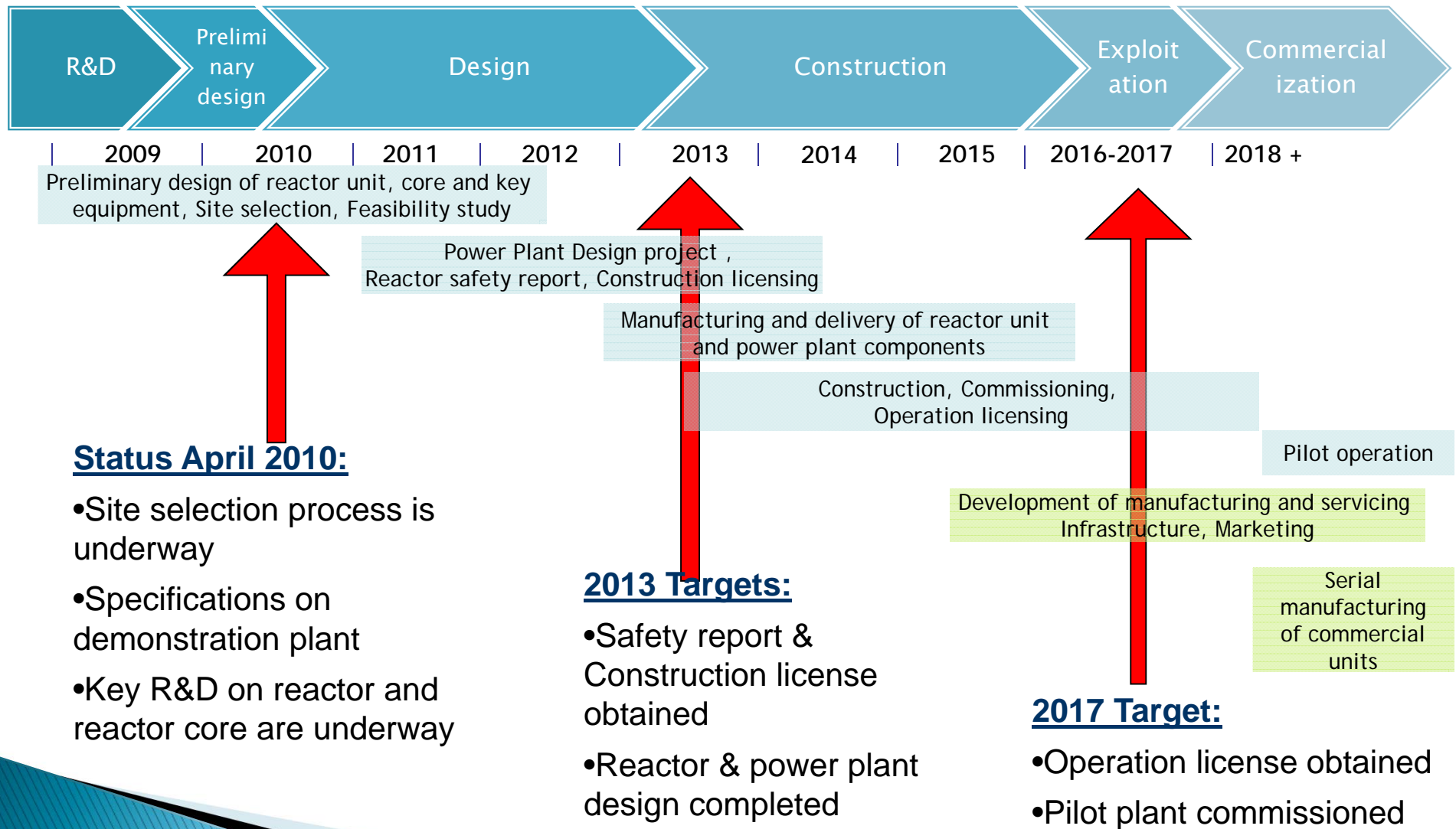
Key technical characteristics	
Reactor thermal output	280 MW(th)
Power plant output:	
Electricity	101 MW(e)
Desalinated water*	max. 200 000 tons/day
Power plant efficiency	36%
Load factor	90%
Fuel campaign length (UO <sub>2</sub> fuel with 16% of U235)	7-8 years
Reactor module weight	270 ton
Reactor module dimensions	4,67 / 7,86 meters (diameter/height)

\* - if water-desalinating equipment installed



**Current status and plans:**  
R&D and design process is under way,  
**a demonstration plant will be commissioned by 2018**

# SVBR-100 Demonstration plant: Project Schedule & Milestones



## Status April 2010:

- Site selection process is underway
- Specifications on demonstration plant
- Key R&D on reactor and reactor core are underway

## 2013 Targets:

- Safety report & Construction license obtained
- Reactor & power plant design completed

## 2017 Target:

- Operation license obtained
- Pilot plant commissioned

# JSC (OAO) AKME-engineering



SVBR-100 project is managed by JSC AKME-engineering – a 50/50 joint venture formed by Russian State Atomic Corporation Rosatom and EuroSibEnergo (En+ Group), aimed to commercialize lead-bismuth nuclear reactor technology.

The company established in December 2009

## The JV's targets:

- Completion of the R&D for reactor unit/fuel safety report
- Detailed design of the reactor unit and principal equipment
- Reactor and power plant licensing
- Commissioning of the SVBR demonstration plant by 2018
- Development of manufacturing and servicing infrastructure, marketing for commercial serial production

