



ROSATOM



Rosatom Nuclear Power State Corporation

New approaches to NPP Units designing

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May 25, 2016

Build-up of international market share

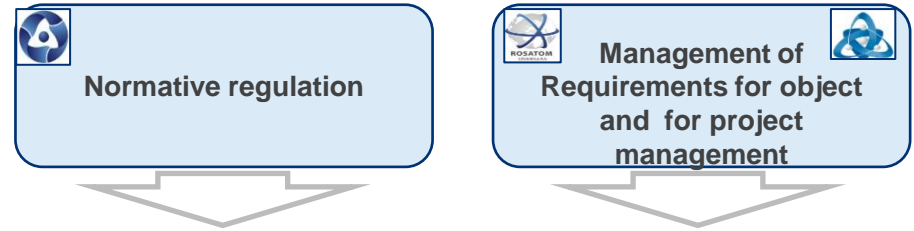
New products for Russian and international markets

Reduction of production costs and process terms

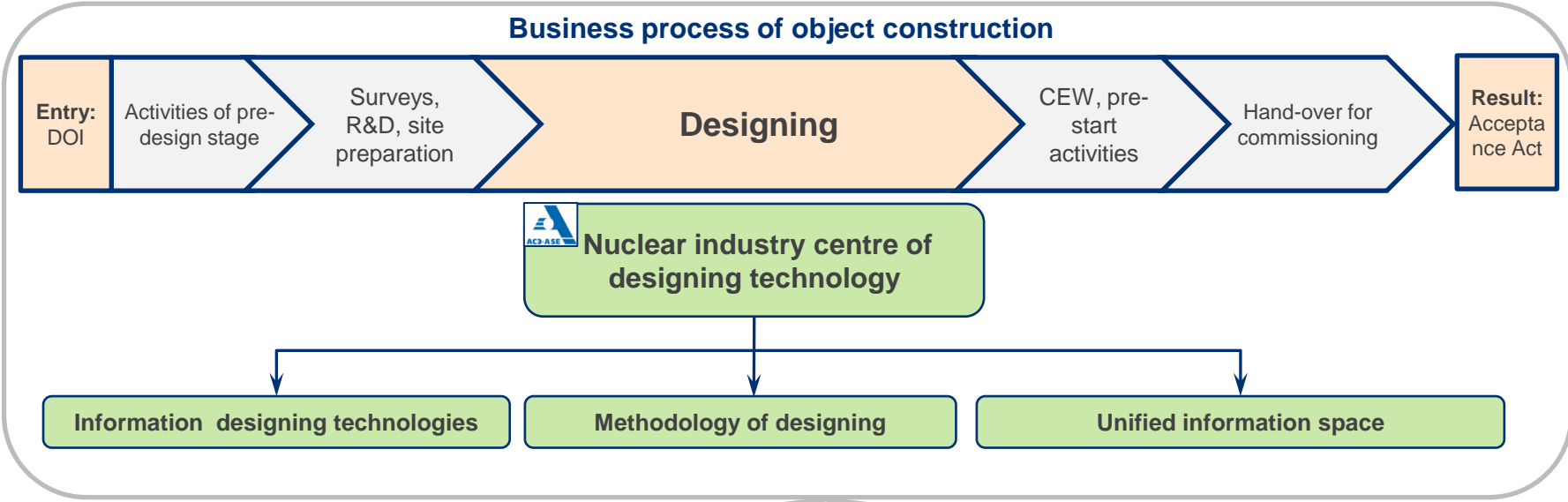
Program of efficiency improvement of the nuclear industry designing system



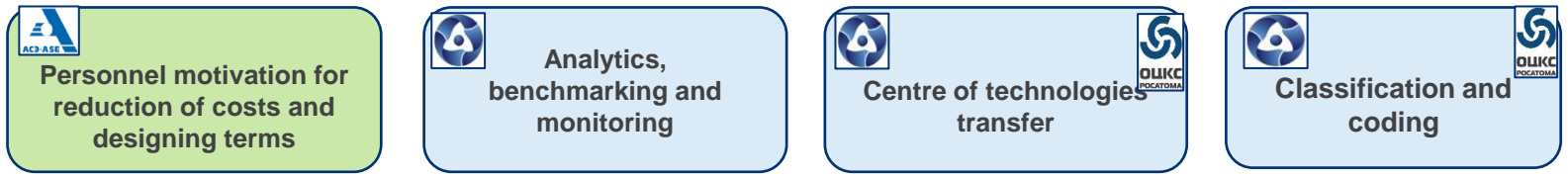
Guiding subsystems



Basic subsystem



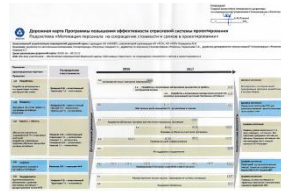
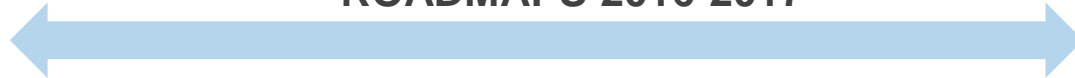
Supporting subsystems



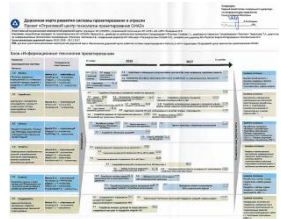
Program of efficiency improvement of the nuclear industry designing system



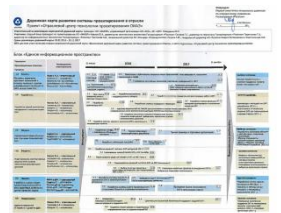
ROADMAPS 2016-2017



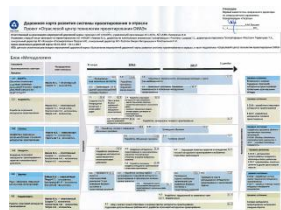
Methodology of designing



Unified information space



Information designing technologies



Personnel motivation for reduction of costs and designing terms

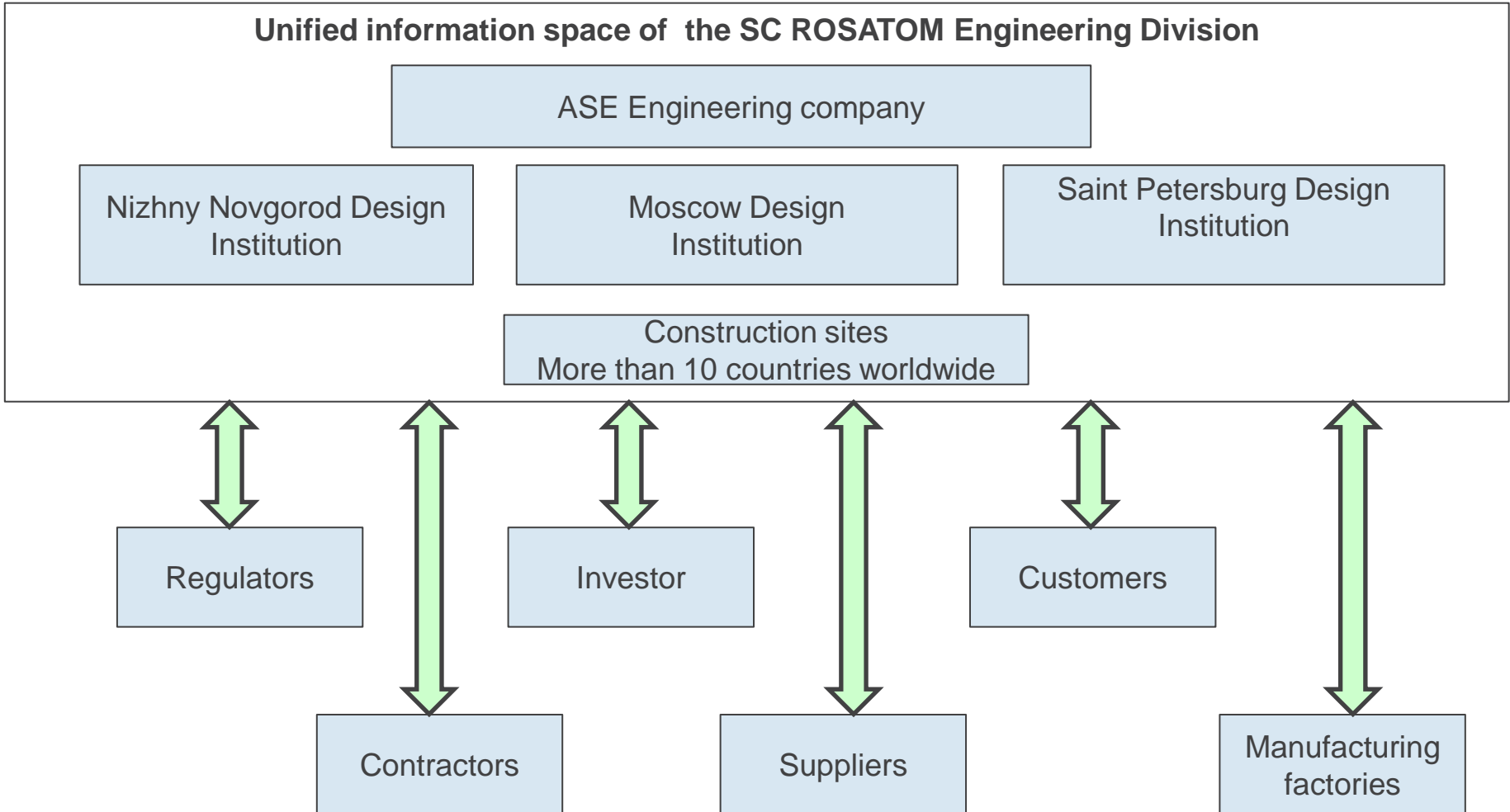
Harmonization in designing institutions of the Division



2016

Pilot projects in designing institutions of Rosatom

2017





Investor(Department of Capital Investments and Nuclear Industry Centre of Capital Construction of SC Rosatom) — **3 systems**

- United schedule
- Acts of executed works
- Automated system of cost management

Customer* — **42 systems**

- Rostov NPP — 10
- Novovoronezh NPP-2 — 14
- Kursk NPP-2 — 7
- Leningrad NPP-2 — 1
- Belorussian NPP — 10

By the end of 2016 it is planned to connect the Investor to the system

- Business analytics



By the end of 2016 it is planned to connect the Customer to 11 systems :

- Kursk NPP-2 — 6
- Leningrad NPP-2 — 1
- Belorussian NPP — 4

The main tools of Unified information space

Functions

M

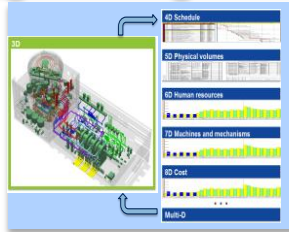
Cost management



Project management



Multi-D engineering

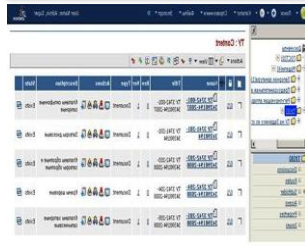


Field Engineering

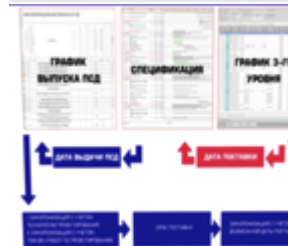


C

Catalogue

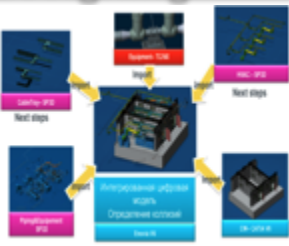
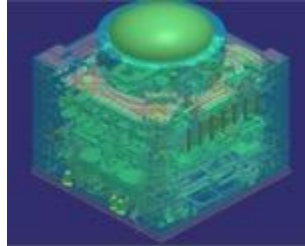


Procurement

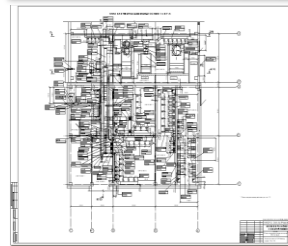


P

3D smart designing



Detailed Engineering



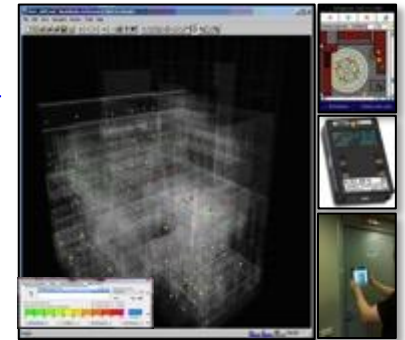
E

Design

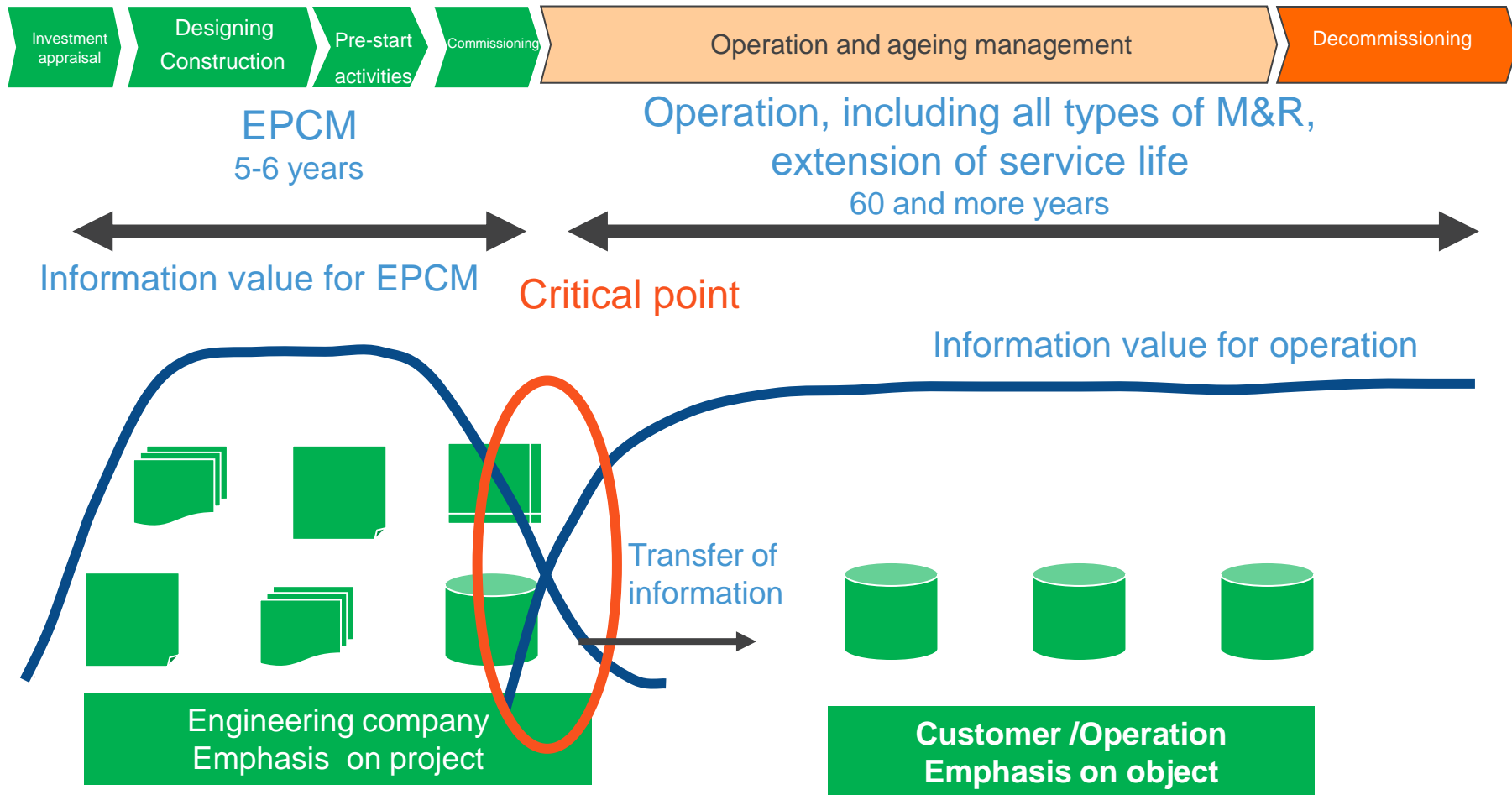
Construction

Life Cycle

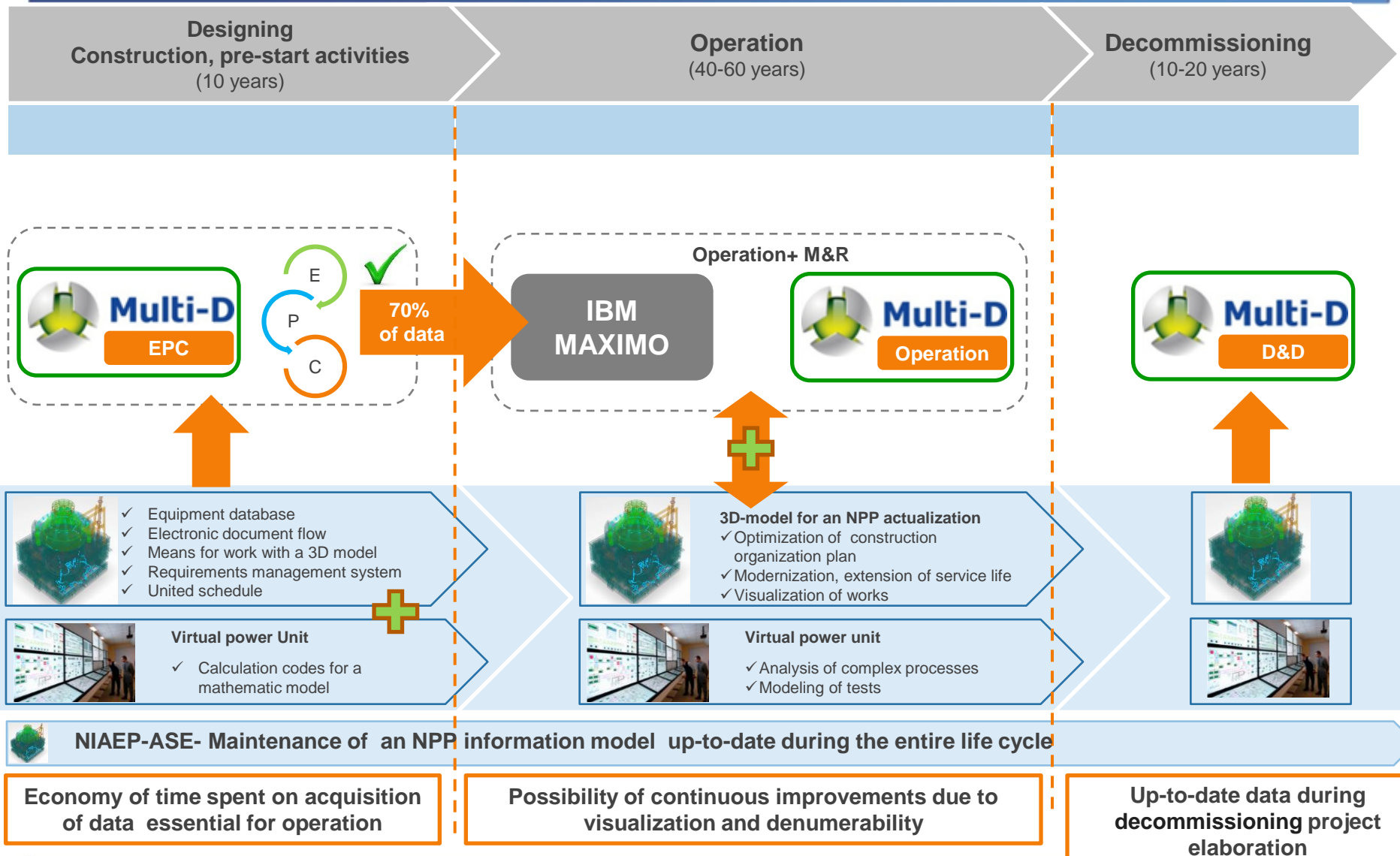
Operation/
Decommissioning



Information and knowledge management during life cycle of a nuclear facility



Elaboration of operation management system on the basis of Multi-D – a base for information and knowledge storage and transfer



Basic directions

- Standardization of the following:
 - Project preparation for nuclear facility capital construction (pre-design stage, design stage);
 - Works at the detailed design stage;
 - Interactions with purchases and supplies, RPS;
 - Exchange of in-house assignments;
 - etc
- Scheduling and normalization
- Lean production in designing
- Typical designing
- Knowledge base of designing processes
- Unified glossary
- Technical translation

**Standardized approaches
and tools in designing
institutions of the Division**



1. Visual management



2. Detection and elimination of losses



3. Proposals for improvement and RPS-projects



4. Standardization and replication



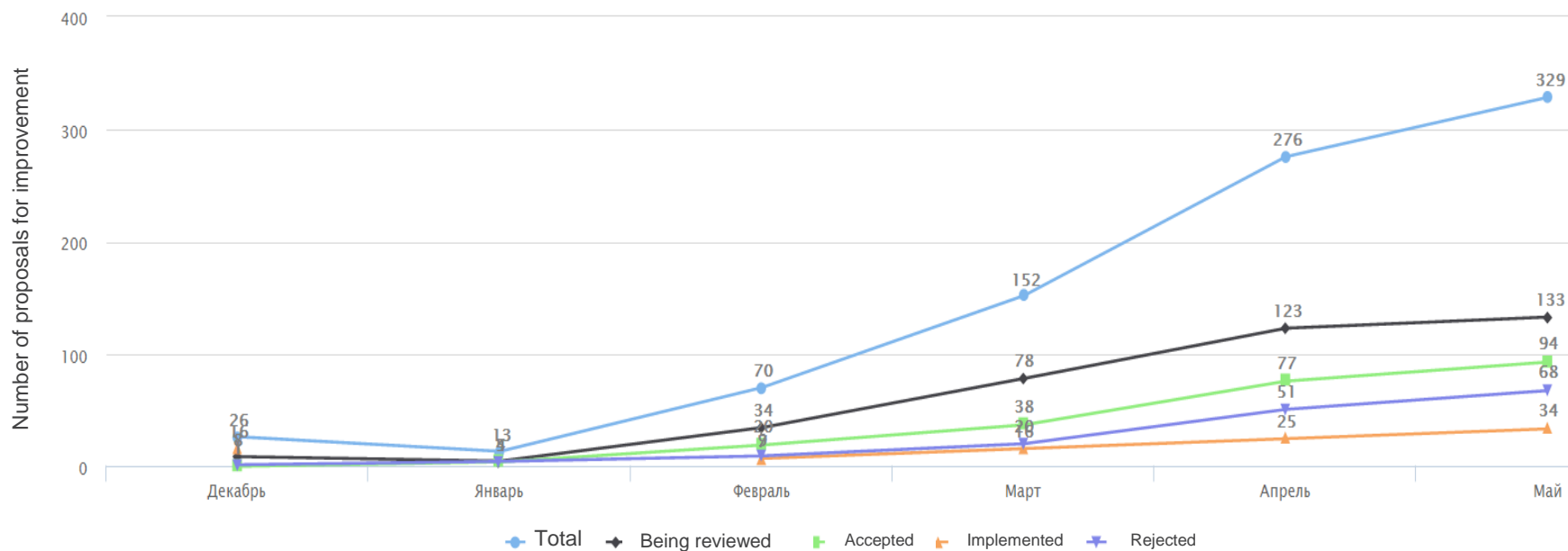
Index	Measurement unit	Project on start	Year 2015	
			plan	fact
Time spent by engineer for value-adding actions	%	35	41	43,3
Detailed design documentation corrections reduction by 30 %*	%	35	31	5,74
Reduction of mean delays in documentation issuing for all production documentation packages by 30 %*	day	22	20	20
Labour productivity increase by the Designing Department own forces by 30 %	RUR, mil/year	4,06	4,4	4,42

* for pilot projects

RPS-projects

31 RPS-projects proposed by different level managers of the Designing Institutions were successfully launched in 2016.

Proposals for improvement *



Statistical data from system “Ideas Factory”

**Reviewed by Advisory
Committee ***,
Number of proposals

> 20

**Sum of the prospective
economic effect ****,
RUR

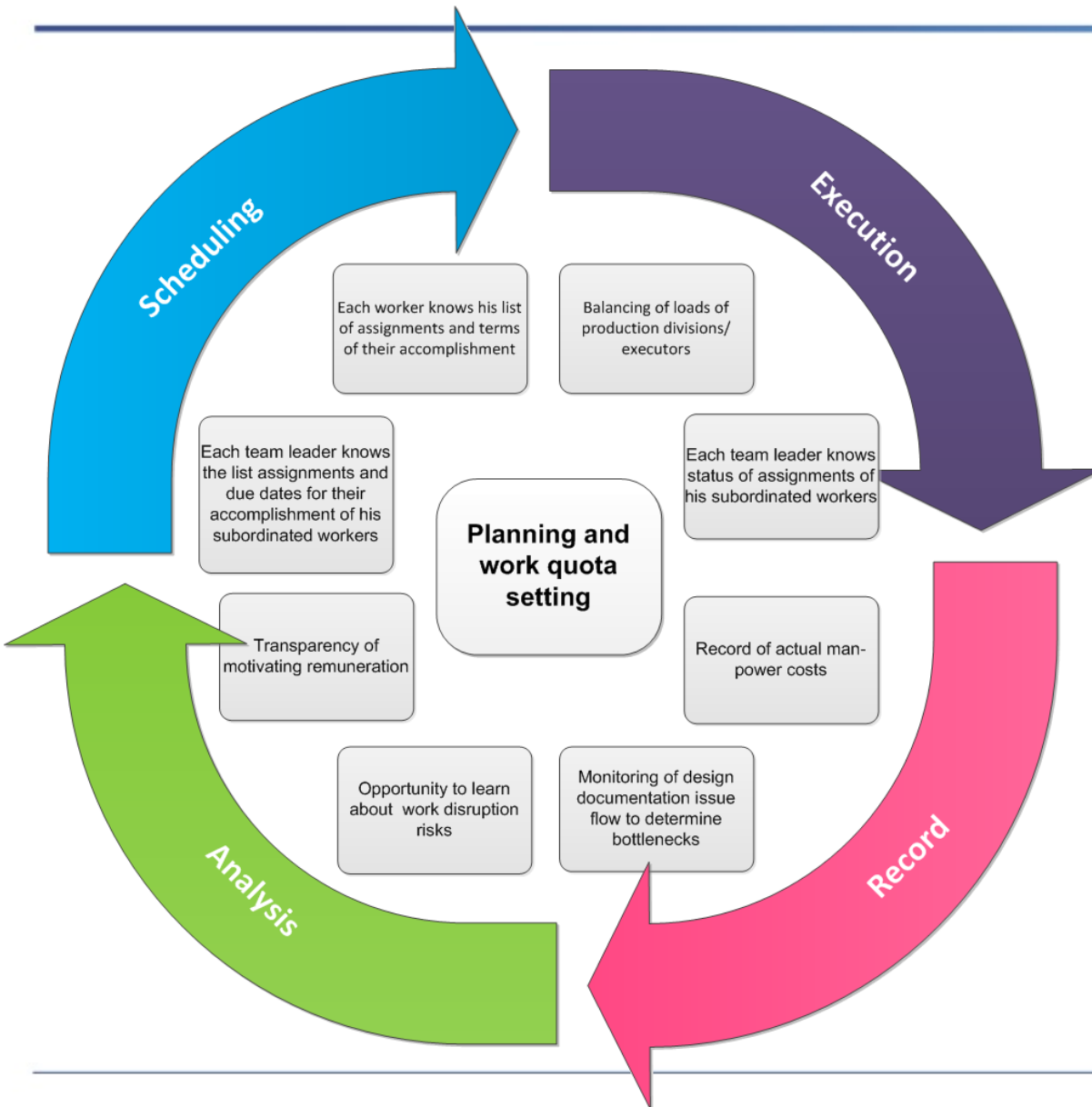
> 275 000 000

**Rewards paid to the ideas'
originators/co-originators**
RUR

> 1 400 000

* - since December 2015

** - sum calculated without account of replication



Introduction in the Division
Design Institutions



In 2016

ASE

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THANK YOU!