



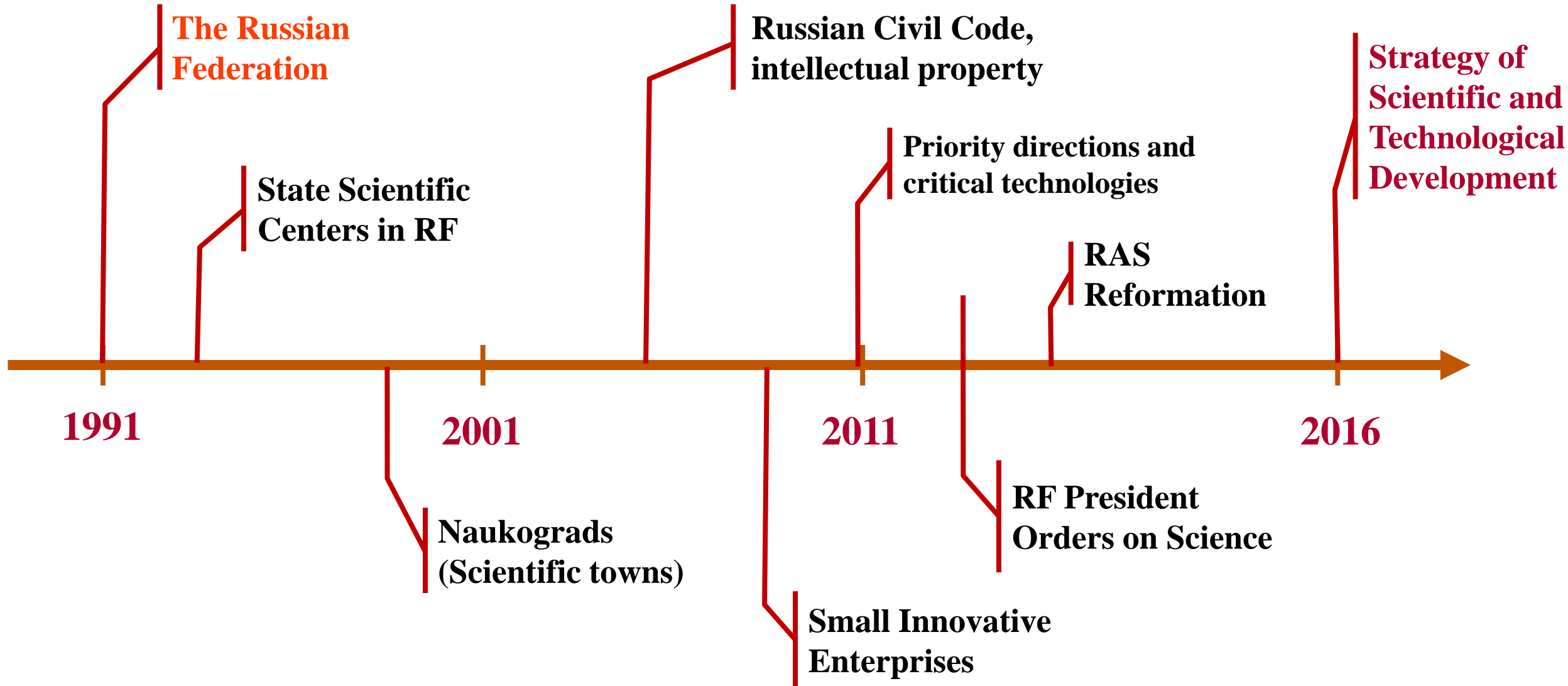
## **GERMAN-RUSSIAN PARTNERING IN LIFE SCIENCE**

**Magomed Mintsae**

The Ministry of Education and Science  
of the Russian Federation

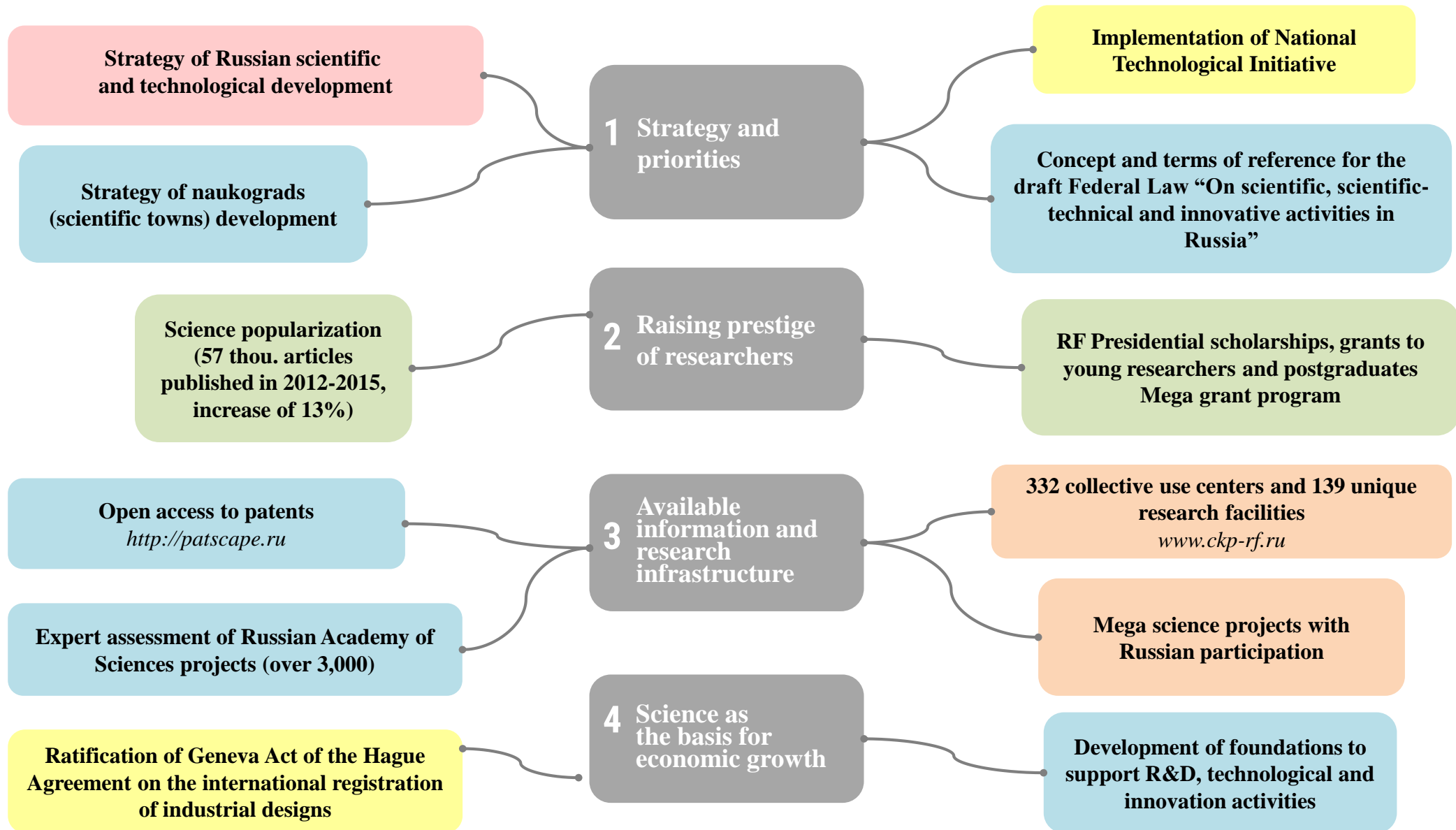
# EVOLUTION OF THE RUSSIAN STATE POLICY

in the field of science, technology and innovation



# STATE POLICY OF THE RUSSIAN FEDERATION

## in the field of science, technology and innovation

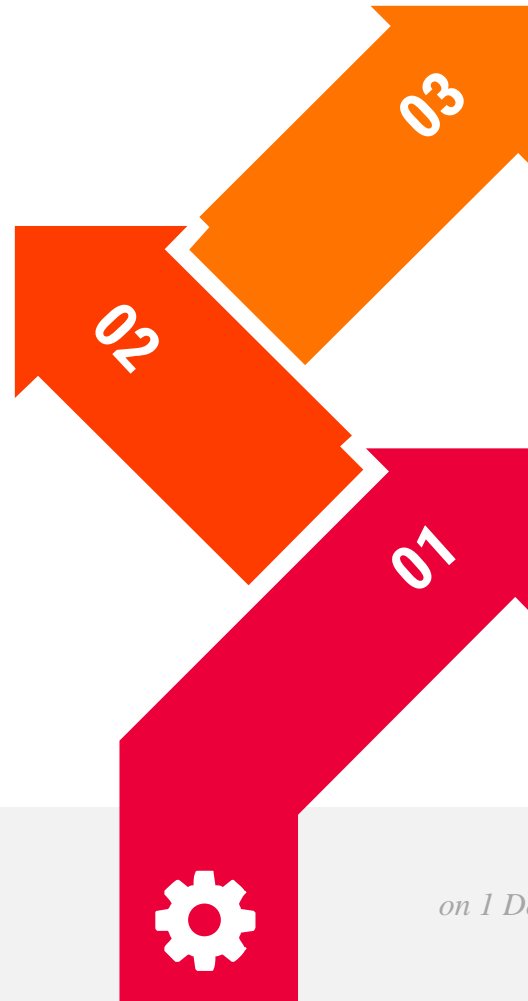


# THE STRATEGY OF RUSSIAN SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

from the "isolated sector" to the "core" of development



**Society order at the result:**  
priorities of scientific and technological  
development



**R&D Management:**  
modern, «digital», competitive

**Reaction to  
«grand challenges»**

*The executive Order by the President of the Russian Federation  
on 1 December 2016 No. 642 «On the Scientific and Technological Development  
Strategy of the Russian Federation»*

# THE STRATEGY OF RUSSIAN SCIENTIFIC AND TECHNOLOGICAL DEVELOPMENT

## “Grand challenges”



Exhaustion of Russia's economic growth opportunities based on extensive exploitation of raw materials, against the backdrop of the development of the digital economy and the emergence of a limited group of the leading countries with new production technologies, which drive towards the use of renewable resources.

Demographic transition caused by an increase in human life expectancy, changes in the life-styles and related ageing of population, which, taken together, results in new social and medical problems, including the growth of global pandemic threats, higher risks of new infections, and the return of currently extinct infections.

Health and life hazards resulted from an inefficient use of natural resources and an increase in anthropogenic pressure on the environment to the extent that it poses a threat to the renewal of natural resources.

A need to ensure food security and independence of Russia, competitive strength of domestic products in the global food markets, and reduction of technological risks in the agro-industrial sector.

Qualitative changes in the global and local energy systems, a growing importance of the economy's power supply capacity and stepped-up generation of power, its conservation, transmission and use.

New external security threats (including military threats, threats of losing national and cultural identity of Russian citizens), brought about by the growth of international competition and proneness to conflict, global and regional instability and their growing interconnection with internal threats to national security

A need for the efficient development of the space, eliminating disproportions in the social and economic development of the national territory, consolidating Russia's positions in the economic, scientific, and military development of outer and air space, the World ocean, the Arctic and the Antarctic Regions

# The leading scientific centers of the Russian-German cooperation in the life sciences



Saint-Petersburg

Moscow

Rostov-on-Don

# Russian-German partnering in Life Science



## The completed projects

**The project - «New systems for heterological express for a highly productive heterological expression of bacterial exoenzymes, demanded by industrial biotechnology»**

Responsible organizations: Federal Research Centre «Fundamentals of Biotechnology» RAS (RF) - Technische Universität München (BMBF)

Timeline: 2014-2016

Funding: 44,0 mln. rubles

**The project - «Combination of synchrotron radiators with Free Electron Laser for for structurally functional studying of objects of molecular medicine as the example of creation of essentially new cross-disciplinary synergies»**

Responsible organizations: M. M. Shemyakin and Yu. A. Ovchinnikov Institute of Bioorganic Chemistry RAS (RF) - The European Molecular Biology Laboratory (BMBF)

Timeline: 2014-2017

Funding: 100,0 mln. rubles

**The project - «Elaboration of methods and the equipment of a superfast tomography and stroboscopy for time-resolving branding using the synchrotron and laboratory sources»**

Responsible organizations: Federal research center «Crystallography and Photonics» RAS (RF) - Albert-Ludwigs-Universität, Freiburger Materialforschungszentrum, Karlsruher Institut fuer Technologie, Institute for Nuclear and Energy Technologies, Ruprecht-Karls-University Heidelberg (BMBF)

Timeline: 2014-2017

Funding: 100,0 mln. rubles

**The project - «X-ray and electronic spectroscopy with the permission on time using the Free Electron Laser»**

Responsible organizations: Southern Federal University (RF) – University of Hamburg (BMBF)

Timeline: 2014-2017

Funding: 96,0 mln. rubles

# Russian-German partnering in Life Science



## The existing projects

### **The project - «Elaboration and implementation of innovative biotechnologies for treatment of microalgae *Chlorella sorokiniana* and duckweed *Lemna minor*»**

Responsible organizations: Peter the Great St.Petersburg Polytechnic University (RF) - University of Hamburg (BMBF)

Timeline : 2017-2019

Funding: 90,0 mln. rubles

### **The project - «Elaboration of the modified enzymatic medicines for effective biodegradation of the cellulose-containing materials»**

Responsible organizations: Federal Research Centre «Fundamentals of Biotechnology» RAS (RF) - RWTH Aachen University (BMBF)

Timeline: 2017-2019

Funding: 90,0 mln. rubles

### **The project - «Elaboration of scientific and technical bases of hybrid biotechnology for conversion of waste in biofertilizers with use of microseaweed»**

Responsible organizations: Lomonosov Moscow State University (RF) - Институт Био- и земледедения. Завод наук (IBG-2) (BMBF)

Timeline: 2017-2019

Funding: 89,7 mln. rubles

### **The project - «A microphysiological model of the human placental barrier»**

Responsible organizations: STC Bioklinikum (RF) – Technical University of Berlin (BMBF)

Timeline: 2017-2019

Funding: 90,0 mln. rubles





# Technological platforms in the field of biotechnology

State coordination program for the Development  
of Biotechnology in the Russian Federation until 2020  
«BIO 2020»

