

Project presentation

# BIORAN

Moscow, 2013



# JSC «RPC BIORAN»

On the initiative of the Russian academy of sciences,  
and with the assistance of the local authorities of Moscow oblast and  
the chamber of commerce and industry of Russia

BIORAN launches the construction project of a state-of-  
the art biopharmaceutical complex for production of  
transgenic therapeutics



**Bioran**

- **Name:**
- Joint stock company «Research-And-Production Corporation BIORAN»
- ОАО «НПК БИОРАН»
- JSC «RPC BIORAN»
  
- **Location:**
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## **The idea of the project**

Large-scale implementation of technological achievements by domestic academic institutions.

## **The goals of the project**

To meet public needs for modern home-made transgenic therapeutics. to expand opportunities for realization of innovative potential of academic institutes engaged in the field of life sciences. It will be implemented through the establishment of experimental and production basis according to the 6<sup>th</sup> technological wave.

To change the position of RF on the world biotechnological market as inappropriate for intellectual, personnel, economic resources of the country.

## **The main element of the project**

The state-of-the art and versatile biopharmaceutical complex with strong experimental and production backgrounds.



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The biopharmaceutical complex «BIORAN» represents the complete large-scale production cycle of modern efficient therapeutics.

The complex is equipped with the very latest, multi-purpose and hi-tech tools, which allows for the manufacture of a wide range of transgenic medicines.

The implementation of the project is very important for promoting research in academic institutes in the field of unique innovative therapeutic products. Currently, there is no place for them in Russia because no technological expertise is available to start pilot and large-scale production.

The facility is designed environmentally friendly with a high level of recycling of secondary energy resources.



# The complex is located in the Science town of the Russian Federation Puschino of Moscow oblast

Puschino research center of the Russian academy of sciences is the leading center in the field of biochemistry and biotechnologies in Russia.

The complex investment project is aimed at forming an innovation cluster in the field of biopharmaceutics, biomedicine, and biononotechnologies

Training of scientific manpower and other specialists in the field of life sciences and biotechnology: Puschino state university and the branch of Moscow state university

The best Russian Center for pre-clinical trials certified in compliance with GLP: the biological testing laboratory and Animal breeding facility internationally accredited and also accredited by AAALAC International.



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The construction of the biopharmaceutical complex of the 6<sup>th</sup> technological level in the Science town Pushchino will address challenging tasks of personnel recruitment to implement the project and establish an innovative business model of the complex activities.



- The proposed investment costs of JSC «RPC BIORAN» to develop innovative therapeutics are estimated at around 1 billion rubles.

- Puschino research center of RAS:
- Research and development are carried out by 2200 specialists;
- over 1200 researchers, over 700 have academic degrees.



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## Puschino city of Moscow oblast

*In his speech, the president stressed that despite a number of positive changes on the domestic pharmaceutical market the pharmaceutical industry of the country is not producing highly efficient and modern therapeutics and in general is not ready for strong competition with foreign manufacturers. The president posed the problem to remove obstacles that impede progress in this field as well as through the establishment of centers capable of a technological breakthrough.*

*« ... we spoke about the need to tackle our pharmacological industry for real. One of the priorities is to arrange the line of strategically important therapeutics that we must manufacture on our own and meet our medical needs, becoming independent from foreign manufacturers»*

*Russian President, D.A. Medvedev,  
March 5, 2009*





# Puschino research center of the Russian academy of Sciences



The institute for theoretical and experimental physics RAS



G.K. Skryabin Institute of Biochemistry and Physiology of Microorganisms



Institute of Cell Biophysics RAS



Institute of Protein Research RAS



Institute of Mathematical Problems of Biology RAS



Institute of Fundamental Problems of Biology RAS



Institute for Biological Instrumentation RAS

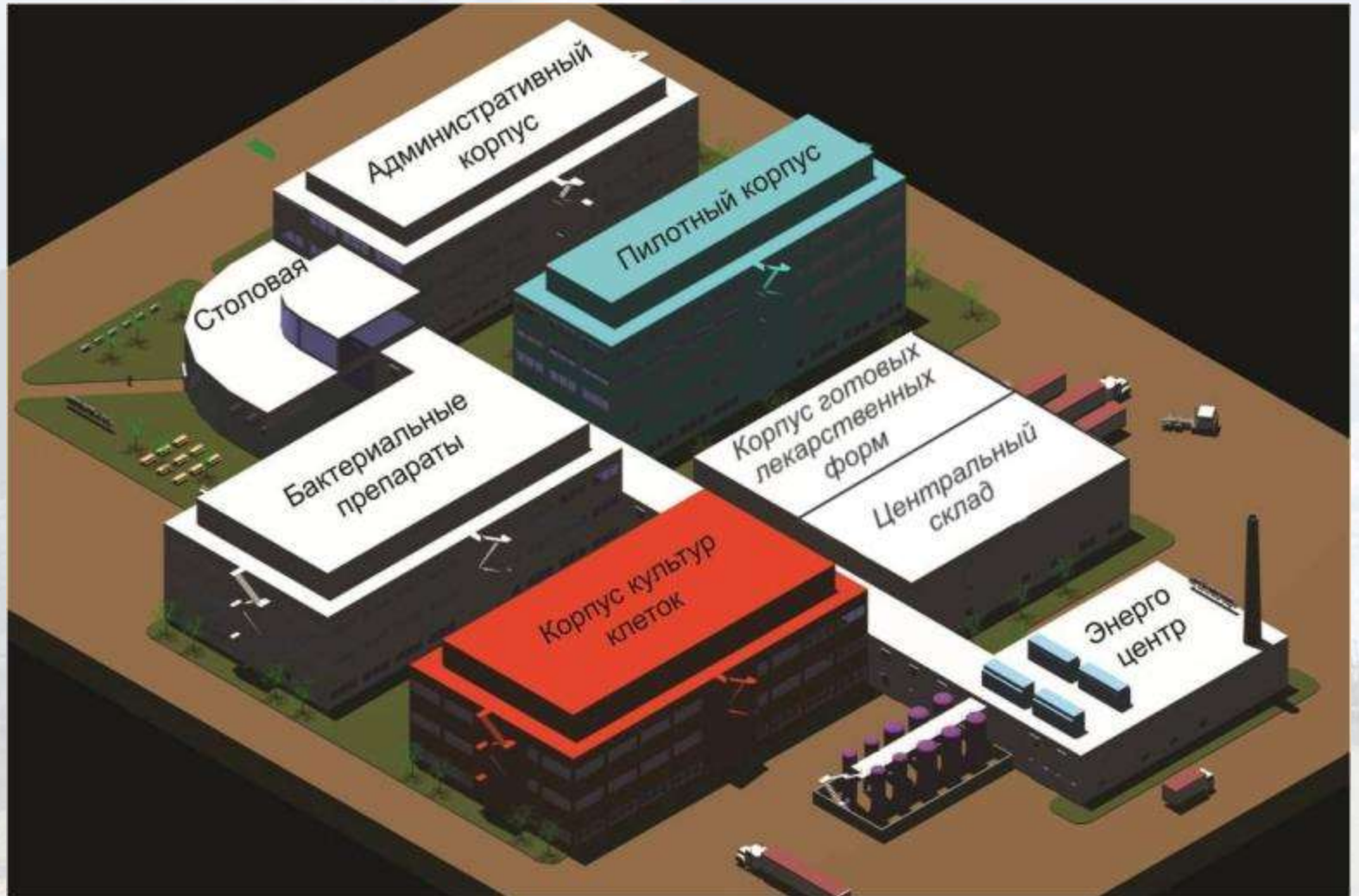


Institute of bioorganic chemistry RAS



Institute of Physicochemical and Biological Problems of Soil Science RAS

# The design of the biopharmaceutical complex “BIORAN”



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The complex «BIORAN» will enable production of most needed biopharmaceutical agents.

The flexibility of equipment will allow rapid changeover to production of new drugs and its cost-efficiency.



# Project «BIORAN»

Manufacture of substance and bulk products

Endocrine  
drugs

human insulin /  
insulin analogs /  
somatotropin

Recombinant  
proteins

erythropoietin /

Monoclonal antibodies

rithucsimabe



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## Project management

The arrangement of design and construction work 2012-2015.



## Techno-economic indicators of Project «BIORAN»

The annual planned output - 515 kg of active pharmaceutical substances,  
42 million packages of bulk products

The estimated investment costs - about 14 billion rubles

The number of workplaces - 600

The construction of the complex on a turnkey basis - 36 months

The payback period after start-up - 72 months

The annual commercial output - 9 billion rubles



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## The financial support the project

**The project coasts are estimated at 300 million.euro**

Volume of financing 85% of the contract value of project shall provide «Vnesheconombank» at the expense of investment credit «Dresdner Bank» («Commerzbank AG») provision with Insurance agency byexportations «HERMES AG» (Германия)

The shareholders shall provide financing 15% of the contract value of the project.

## The accomplished step of the project

A total of 300 million rubles have been invested

Preliminary project work has been performed by the world leaders in design and engineering «BIDECO» (Switzerland) and «Linde» (Germany)

All initial permit documentation has been obtained

Initial data and project requirements have been developed for the basis design phase

The design and construction of off-site utilities to the project site have been accomplished:

-Water supply piping ,

-Industrial waste water drainage system,

-Telecommunications media,

-Motorway

The conditions for the energy and natural gas supply have been agree upon

Environment protection-related issues were addressed. «VNIIVodgeo» offered recommendations on the establishment of rainwater and local industrial waste water treatment facilities

Currently, the German company «LINDE-KCA-Dresden GmbH» with the assistance of Swiss company «BIDECO» is implementing the concept of the project



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The land property of JSC «RPC BIORAN»

The land property of 6 ha is leased to JSC «RPC BIORAN» for 49 years

This land property has the following utility services:

- motorway
- water supply
- drainage system
- telecommunication

The total area of the land allocated by Moscow oblast to construct the biotechnological complex is about 66 ha; i.e., this area can accommodate 5 or 6 complexes of this kind.

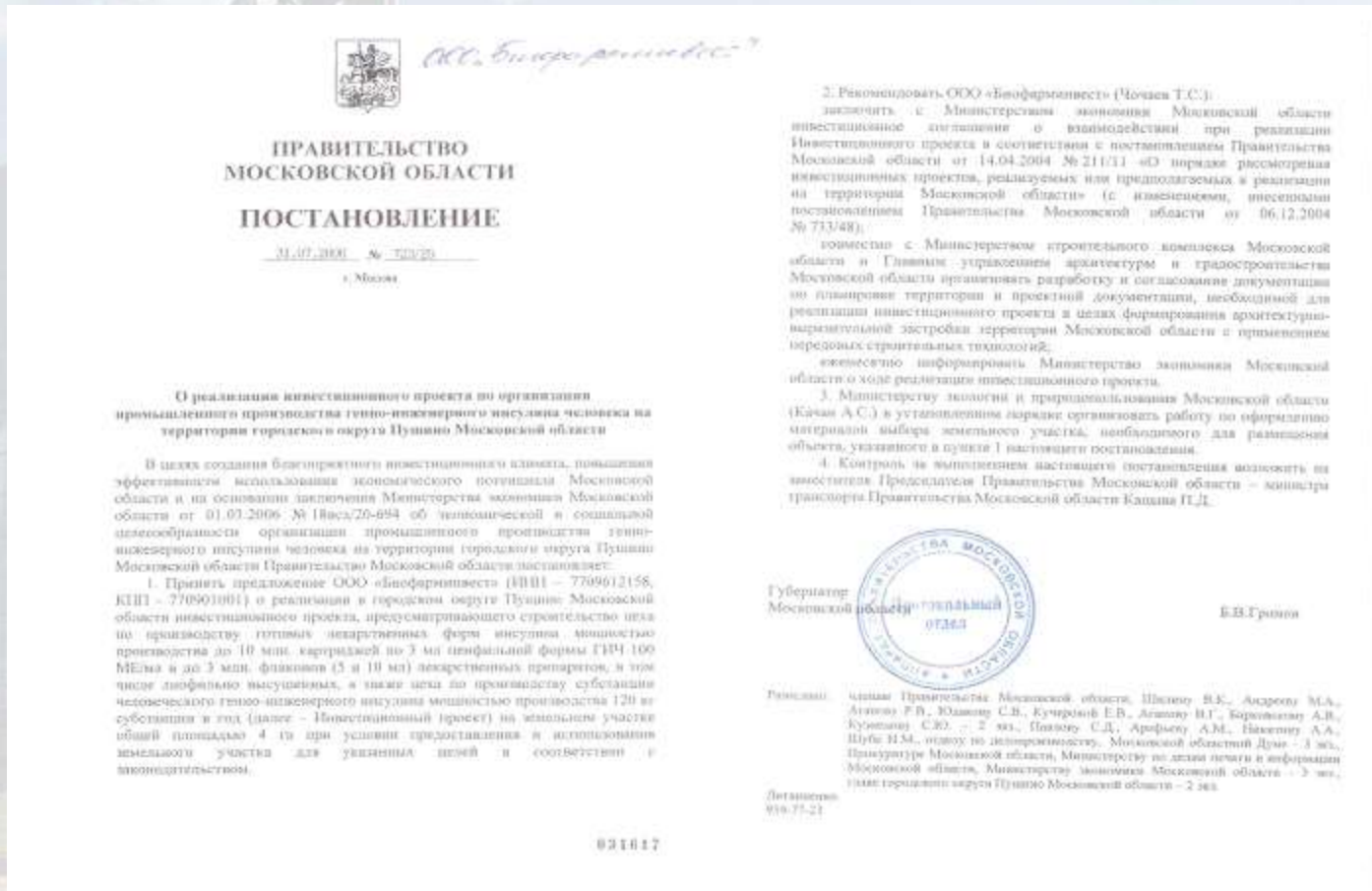
# The decree of the presidium of the Russian academy of science to establish an industrial facility for production of transgenic therapeutics



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# The RESOLUTION of Moscow oblast authorities

to implement the investment project on the establishment of an industrial  
production of transgenic human insulin in the urban district of Puschino of Moscow  
oblast»



# AGREEMENT

## on collaboration and scientific and technological administration of the project on the construction of an industrial facility for manufacturing transgenic human insulin between the institute of bioorganic chemistry (IBC RAS) and JSC "RPC BIORAN"

