



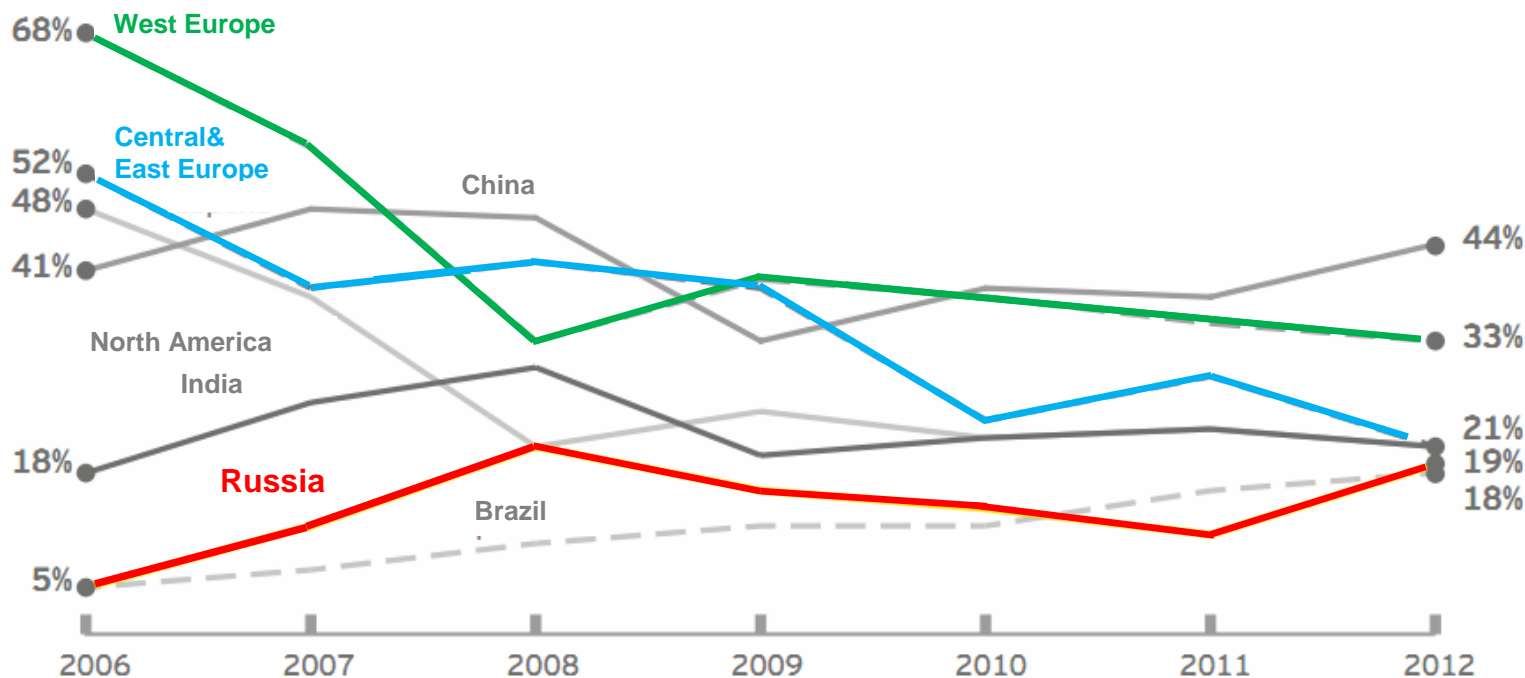
**RUSNANO**  
Open Joint Stock Company

# **Cross-region investment EU-RUSSIA: RUSNANO experience**

Prof. Sergey Kalyuzhnyi, Chief Scientist, Member of the Executive Board



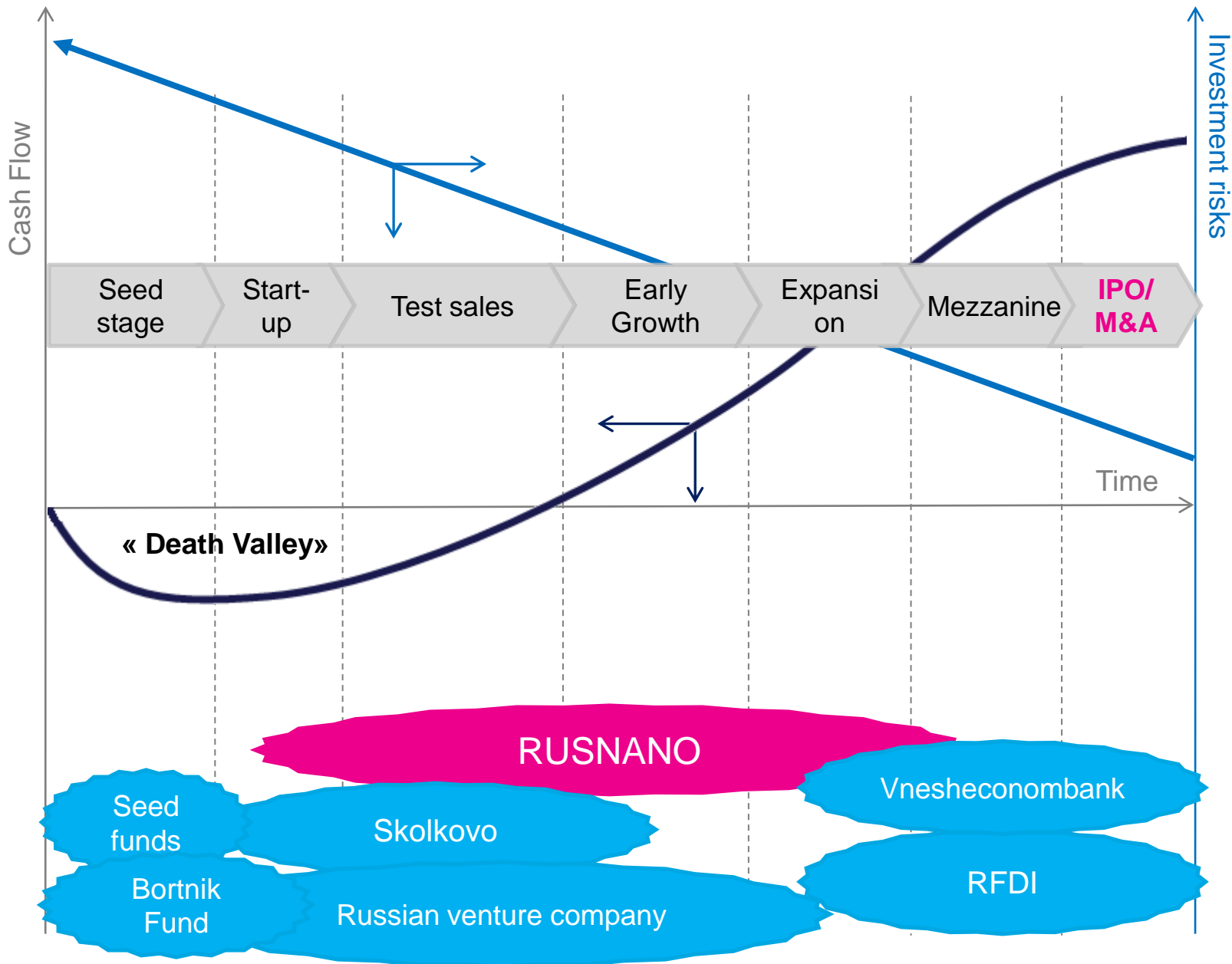
# Regions most attractive for investors in order to start business activity



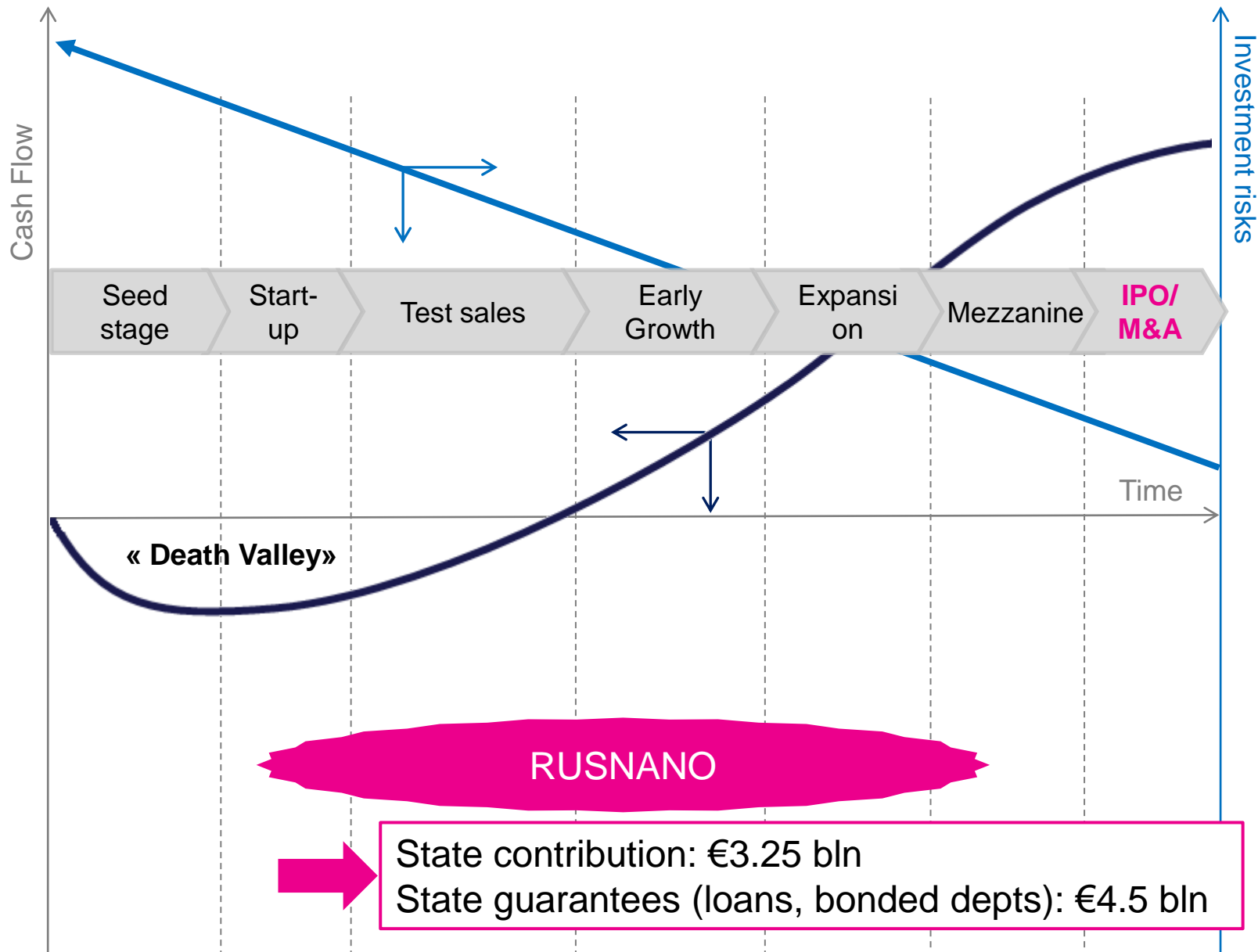
**Total foreign investments into Russia (2012) – €116 bln**

**Total Russian investments abroad (2012) – €112 bln**

# Russian Development Institutions Landscape



# Russian Development Institutions Landscape



# RUSNANO and Russian nanoindustry



- Institutes and universities



- Independent «nano-companies»

## RUSNANO Group of Companies

Project  
companies

Venture  
funds

Nano-  
centers &  
incubators

### RUSNANO holding

Stock  
Company  
RUSNANO

Non-profit  
foundations  
(educational  
programs,  
conferences,  
infrastructure)

### RUSNANO subsidiaries

Metrological  
Center

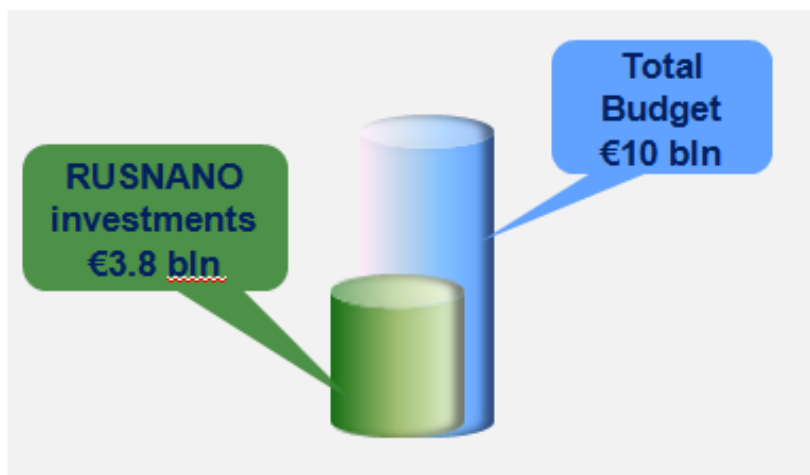
RUSNANO-  
Inform

RUSNANO USA, Inc.

RUSNANO Israel Ltd.

RUSNANO Capital AG

# RUSNANO's Project Portfolio\*



INVESTMENT PROJECTS BEING FINANCED

**90**

CONSOLIDATED REVENUE OF PORTFOLIO COMPANIES (forecast 2015)

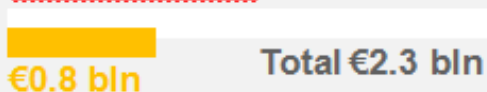
**€2.5 bln**

Investments by Technology Sectors (quantity of projects)

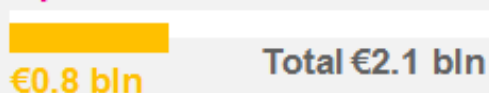
Total investment

RUSNANO investment

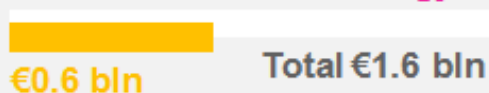
## Nanomaterials



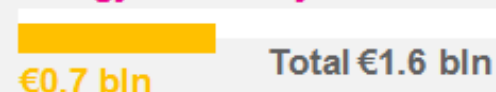
## Optics & Electronics



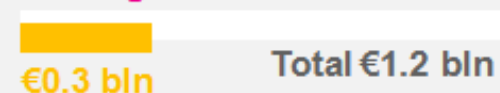
## Medicine & Pharmacology



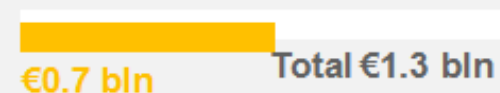
## Energy Efficiency & Clean Tech



## Coatings & Surface Modification



## Others



# RUSNANO Investment Strategy

**RECOMMENDED:**  
Sales of €6+ mln  
within 5 years  
from initiation



**manufacturing  
and/or R&D  
facilities in Russia**

**Co-investment**

**Relation to nano,  
technical feasibility &  
economical viability**

# RUSNANO financing options

## Financing options

### Investment in Owner's Equity

- RUSNANO's share couldn't exceed 50% -1 share (on the project's initial stage)

### Debt Finance

- Various forms of debt finance (loans, credit guarantees, and leasing operations)

## Co-Investors

- Companies (by any form of property)
- Private Persons
- Financial Institutions
- Private Equity & Venture Capital Funds

## Exit in 4-6 years

- Merger & Acquisition (M&A)
- Initial Public Offering (IPO)
- Management or co-investor buyout



## Advantages:

- big territory
- rich in energy sources & raw materials
- stable political situation
- low state debt & budget deficit

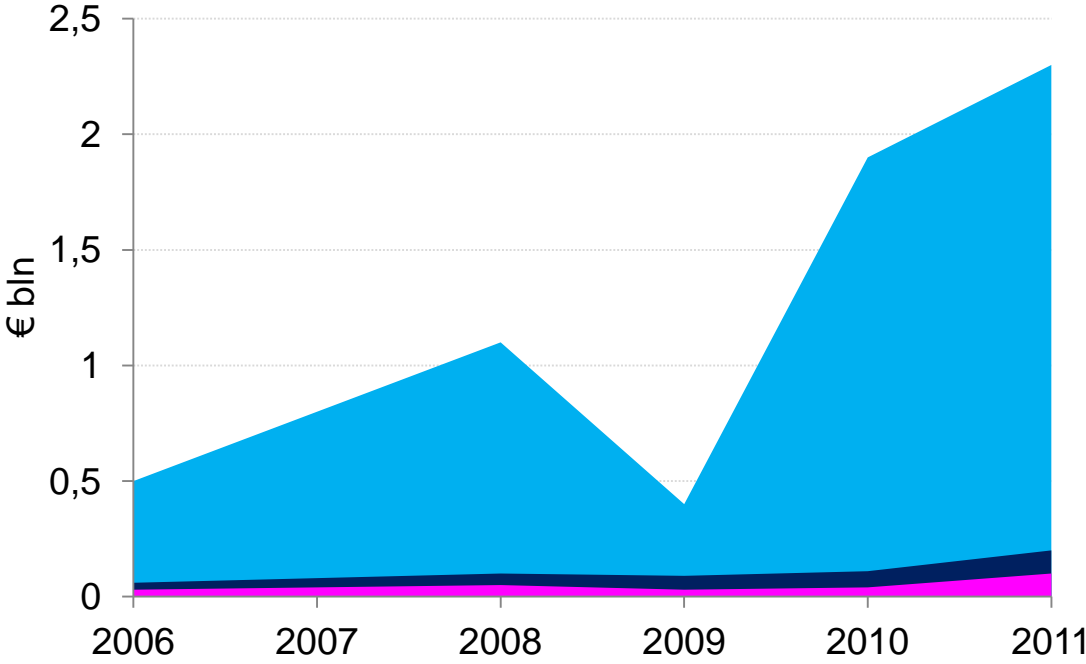


## Russian weak points:

- Unbalanced export > 70% for fuel & energy
- Unbalanced import ~ 45% for machinery & transportation facilities
- Relatively low expenses for R&D – 1.16% of GDP2010
- Relatively low impact into world knowledge bank
  - Publications – 1.5% of world total
  - Patent activity (per 10,000 population) ~ 2



# Structure of general RF investment by stage



- Expansion and later stages
- Early states
- Seed Investment



# RUSNANO investment trends

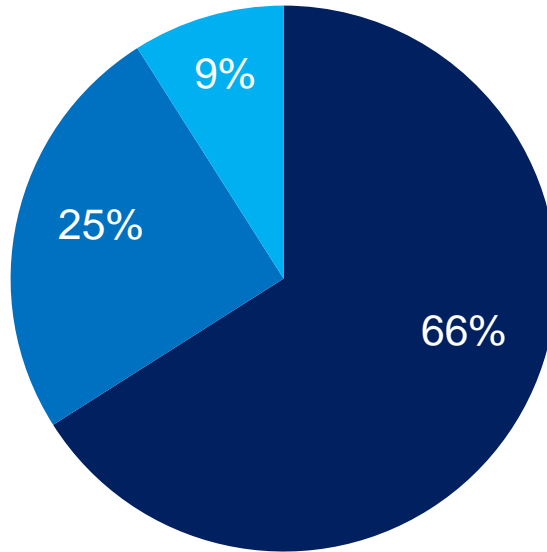


**Venture  
investment**



**Technology  
transfer**

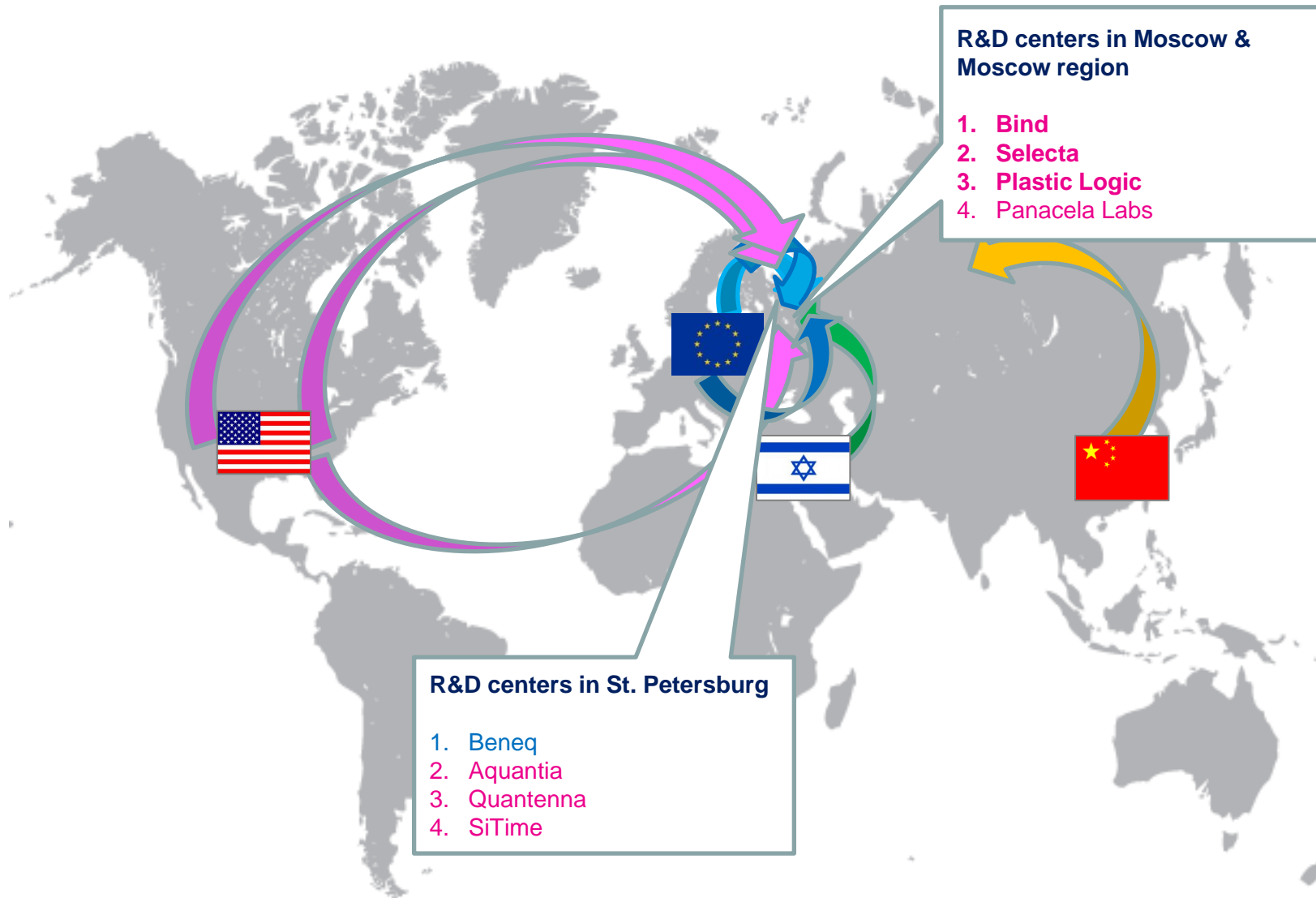
# Projects with foreign participation in RUSNANO portfolio



- Russian technology, Russian investment
- Technology transfer
- Russian technology, foreign co-investment



# Technologies from worldwide into Russia



# Examples of R&D centers (I)

## Project Company:

Beneq Oy



**Project Goal:** Development **atomic layer deposition (ALD)** and **aerosol thin film coating**, **nAERO®** and **nHALO®**, for high-end R&D and demanding industrial environments.

**Country of the technology origin:**  
**Finland**

**R&D center:** **St. Petersburg**

**RUSNANO Investment:** **€25 mln**



# Examples of R&D centers (II)

## Project Company:

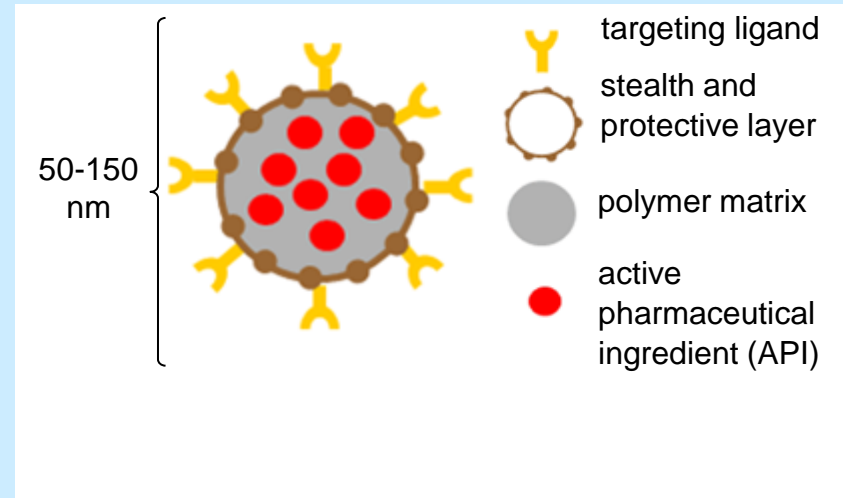
BIND Biosciences Inc.,



**Project Goal:** Development and commercialization of a new class of **highly selective targeted therapeutics** based on BIND Therapeutics's Accurins™ nanoplatform

**R&D center:** **Moscow**

**RUSNANO Investment:** **€19 mln**



# Examples of R&D centers (III)

## Project Company:

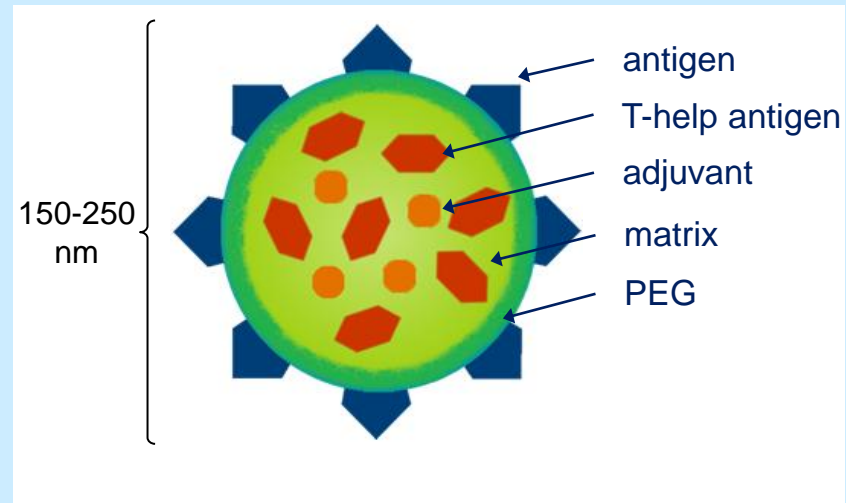
Selecta Biosciences Inc.



**Project Goal:** Development and commercialization of an entirely new class of **targeted vaccines** that induce antigen-specific immune activation or antigen-specific immune tolerance for therapeutic and prophylactic applications

**R&D center:** **Moscow**

**RUSNANO Investment:** **€19 mln**





# Plants in Russia with foreign participation



Total: 13 plants

# New production plants (I)

## Project Company:

Optogan



**Project Goal:** Production of ultrabright nanoheterostructured **LEDs and LED-based lighting systems**

**Country of the technology origin:**  
**Russia, Germany, Finland**

**Location:** **St. Petersburg**

**RUSNANO investment:** **€57 mln**



# New production plants (II)

## Project Company:

Pilkington Group Ltd.

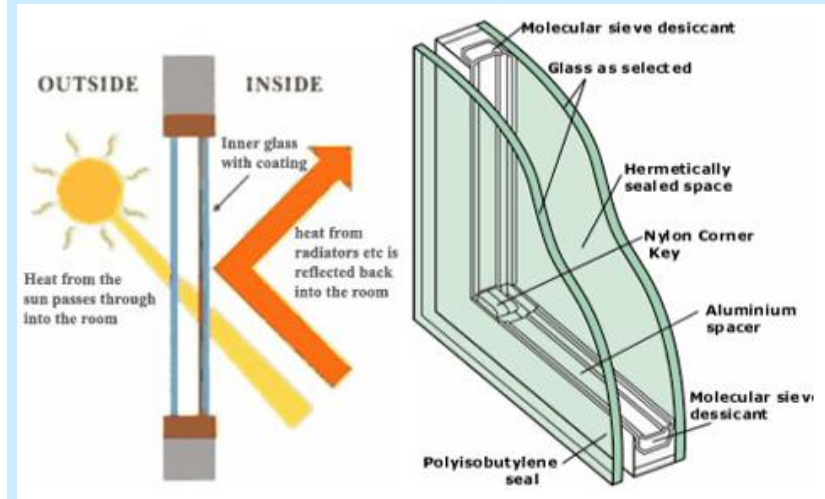


**Project Goal:** Technology of mass production of energy-efficient glass (low emissivity and solar control glass)

**Country of the technology origin:**  
UK

**Location:** Moscow region & Ulyanovsk

**RUSNANO investment:** €185 mln



# New production plants (III)

## Project Company:

MAPPER Lithography B.V. (Spin-off Delft University of Technology)

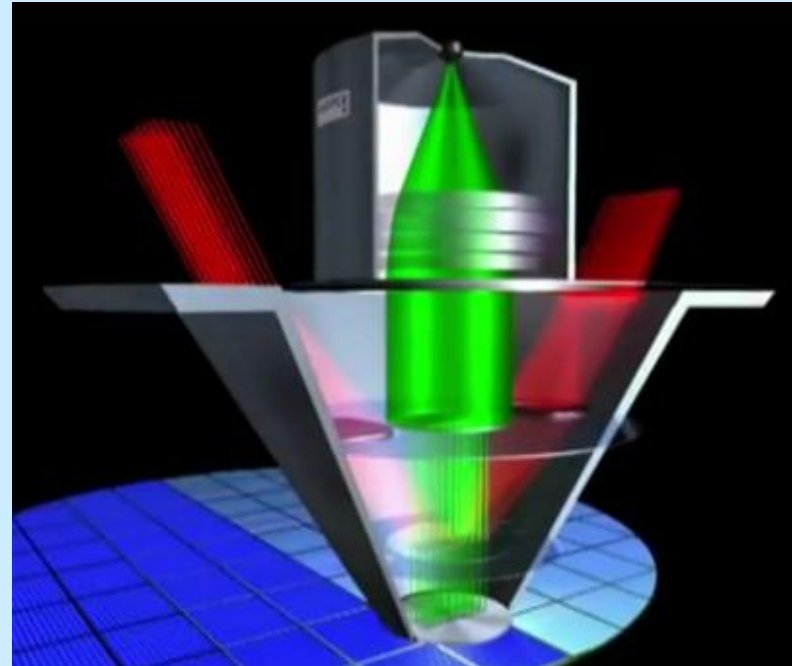


**Project Goal:** Development of **new generation lithography tools** (22 nm) based on principals of EB lithography for high-volume manufacturing

**Country of the technology origin:**  
**Netherlands**

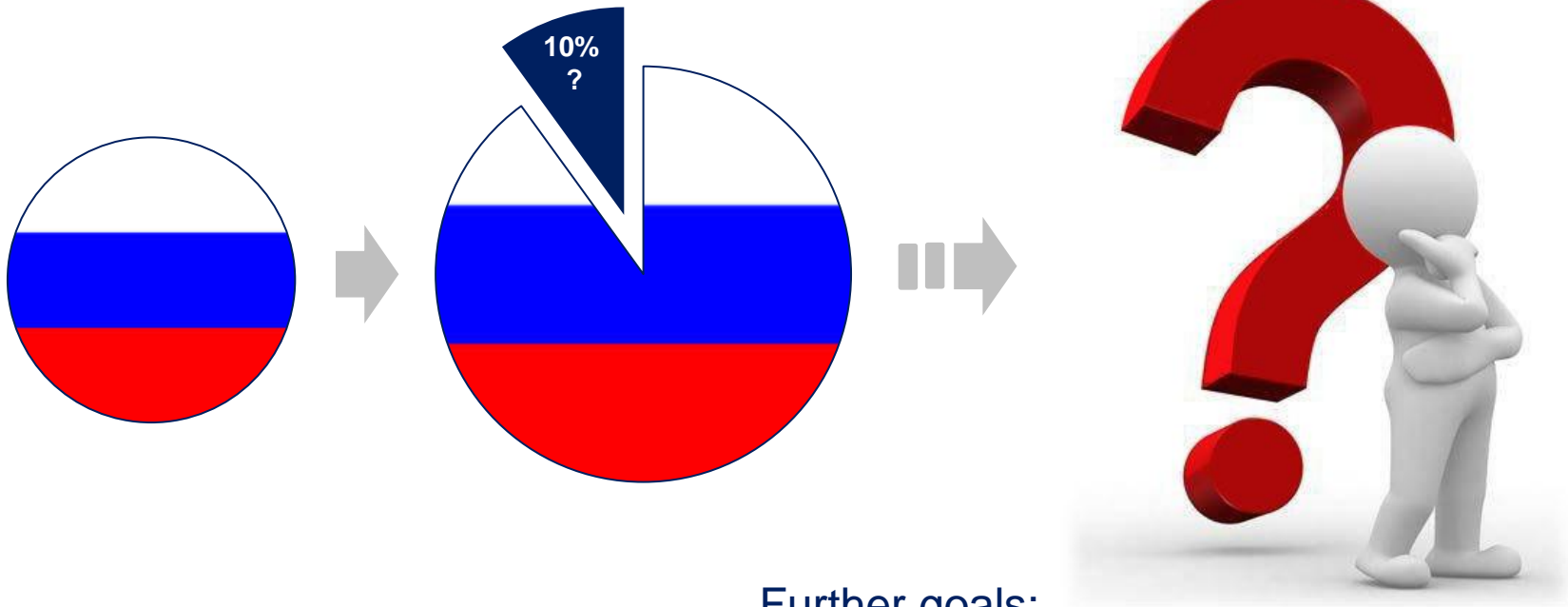
**Location:** **St. Petersburg**

**Rusnano Investment:** **€40 mln**



# RUSNANO on the way to the global technology investment fund


2013: Plans to sell 10% of RUSNANO by private placement



Further goals:

- ✓ international cooperation
- ✓ attracting private investments
- ✓ further transformation etc.



An aerial photograph of a long, winding road bridge spanning a deep blue fjord. The bridge consists of several stone arches and straight sections, connecting numerous small, rocky islands. In the background, there are large, rugged mountains under a clear blue sky. The water is a vibrant blue, and the overall scene is scenic and majestic.

**Thank you!**  
**We are open to cooperation!**

**Prof. Sergey V. Kalyuzhnyi,**  
**Chief Scientist,**  
**Member of the Board of Directors**  
**RUSNANO**

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