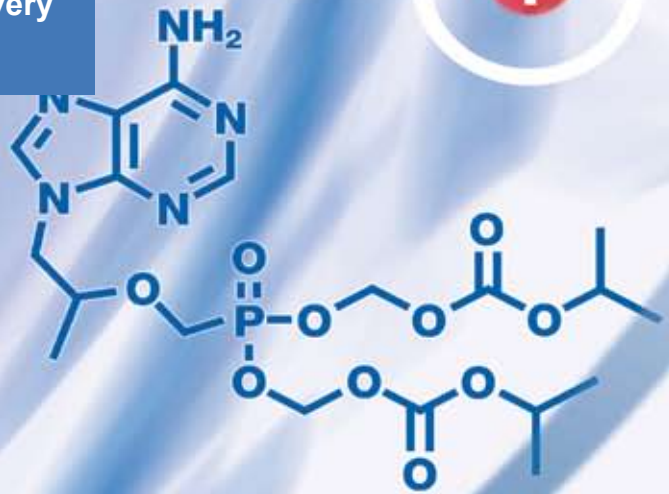
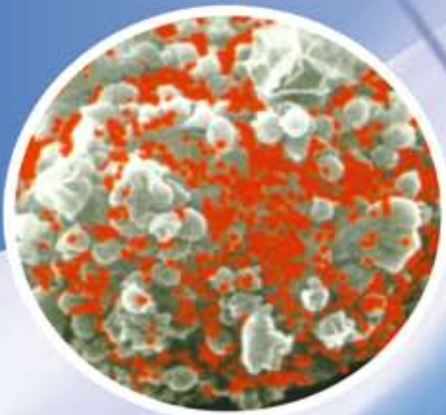


# Life Sciences

Just one example of the state-of-the-art research facilities in the Czech Republic is Prof. Antonín Holý's excellent laboratory at the Institute of Organic Chemistry and Biochemistry that synthesizes potent antiviral compounds derived from nucleotides and nucleosides. Three of the compounds are produced by the U.S. pharmaceutical company Gilead Sciences for treatment of AIDS (Tenofovir, Viread), cytomegalic retinitis (Cidofovir, Vistide) and hepatitis B (Adenovor, Hepsera) and are commercially very successful.



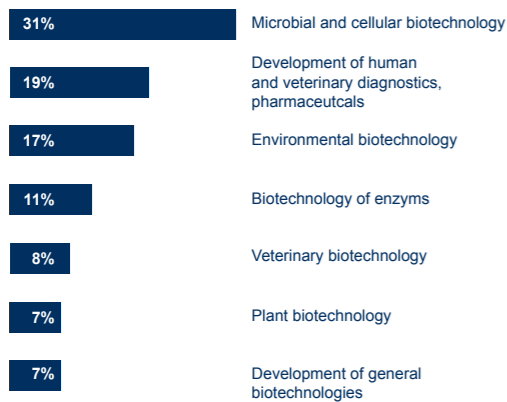
## REASONS TO INVEST IN THE CZECH REPUBLIC

- Extensive network of life-science clusters and professional services
- World-class academic and institutional framework with considerable results in basic and applied research
- Highly skilled graduates and laboratory workforce at reasonable cost
- Close links between industry, universities and the public healthcare system
- Regulatory and patent environment harmonious with the EU
- One of the largest and most well-developed drug markets in the CEE region
- Strong presence of large international pharmaceutical companies
- Significant cost advantages and potential to establish a gateway to growing pharmaceutical markets in the region

## BASIC FACTS

The Czech Republic is a great place for contract R&D and manufacturing with a relatively non-restrictive genetic-engineering R&D climate, good patent protection and adoption of GMP, GLP and GCP standards. Examples of global companies conducting business, R&D and/or manufacturing in the Czech Republic include TEVA Pharmaceuticals, Baxter International, Lonza Biotec, Otsuka Pharmaceuticals, Sanofi-Aventis, Beckman Coulter, Zentiva, IVAX Pharmaceuticals etc.

### Distribution of Czech biotech companies' activities by sub-sector



Source: PWC study, Biotechnology in the Czech Republic, 2008

## IF R&D IS WHAT YOU NEED

The Czech Republic is home to a number of noteworthy research institutes and universities that have achieved state-of-the-art results in the areas of immunology, rheumatology and pharmaceutical chemistry and have mastered high-quality research in neurosciences, oncology, diabetes and metabolic diseases. Based on the Government Decree of 2005, the country set molecular genetics and biotechnologies among the priority areas in the long-term, fundamental direction of research.

## PRODUCTION FACILITIES

Czech companies and research institutions specialize in the following:

- Monoclonal and polyclonal antibodies
- Antibody-based diagnostic kits
- Immunodiagnostic reagents
- Plant genomics
- Immunoanalytical tools
- ELISA diagnostic kits
- Bioinformatics
- Recombinant proteins
- Environmental-protection services (waste management, land and water sanitation)

**“Lonza Kouřim is the leading technology and manufacturing service provider for biopharmaceuticals in Eastern Europe.”**

*Stephan Borgas, CEO of Lonza*



**International Clinical Research Center Brno**  
[www.fnusa.cz/icrcen.php](http://www.fnusa.cz/icrcen.php)

**“The Czech Republic has a strong tradition in standard biotechnologies such as production of beer, alcohol, antibiotics, amino acids, vitamins and other products requiring special fermentation processes. Thanks to the rising quality of basic biological research and construction of new research centres with funding provided by the European structural funds, the development of the sector of top biotechnology companies focused on diagnostics and therapeutic media for human medicine can be expected.”**

*Peter Šebo, Institute of Biotechnology, Academy of Sciences of the Czech Republic*

## INVESTMENT CASE STUDY

**Lonza Biotec Czech Republic**, a subsidiary of the Swiss company Lonza provides process-development services and established a facility in the Czech Republic in 1993.

- Total site area: 6.7 ha
- Employees: 395, 20% of whom are university graduates
- Production lines ranging from 15m<sup>3</sup> to 75 m<sup>3</sup> (total reactor volume: 475 m<sup>3</sup>)
- Most of the production output is exported (EU, US, Japan)
- FDA approved, cGMP, HACCP, FAMI-QS and other standards
- Own R&D department

## R&D CASE STUDY

**Czech company Contipro** has a leading position in the production of hyaluronan of all purity levels, including the top-quality variant designed for sterile injection preparations. The company exports 99% of its total output to 40 countries around the world. At present, it controls 60% of the European and 30% of the world market in hyaluronan. It conducts research and development in its own laboratories.

## CZECHINVEST'S SERVICES

- Full information assistance
- Tailor-made visits
- Maximisation of networking capacity
- Handling of investment incentives
- Access to EU structural funds
- Business properties identification
- Business infrastructure development
- Supplier /JV/ acquisition partner identification

## EDUCATION SYSTEM

The Czech Life Science sector benefits from an extensive pool of educated and skilled labour supplied by a network of universities and the Czech Republic ranks at the top among countries with the largest numbers of science and engineering graduates. Approximately 57,000 students were enrolled in life-sciences universities with the corresponding annual output of 7,400 graduates.

**Czech biotech portal**  
[www.gate2biotech.com](http://www.gate2biotech.com)

**Academy of Sciences**  
[www.cas.cz](http://www.cas.cz)

**Association of Innovative Pharmaceutical Industry**  
[www.aifp.cz](http://www.aifp.cz)

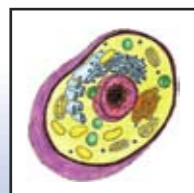
**State Institute for Drug Control**  
[www.sukl.cz](http://www.sukl.cz)

**Clusters**  
[www.czechbio.org](http://www.czechbio.org)  
[www.medchembio.org](http://www.medchembio.org)  
[www.nanomedic.cz](http://www.nanomedic.cz)  
[www.ceitec-cluster.cz](http://www.ceitec-cluster.cz)

### OECD countries survey: Dispositions of students towards natural-sciences

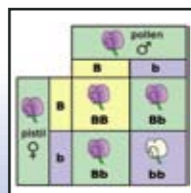
COUNTRY	RANK
Finland	1
Hong Kong	2
Canada	3
<b>Czech Republic</b>	<b>15</b>
Hungary	21
Poland	23
Slovakia	30
Bulgaria	42
Romania	47

Source: Pisa Study, OECD 2006 (latest version available)



1837

Jan Evangelista Purkyně formulates the cell theory



1866

Johan Gregor Mendel discovers the principal laws of heredity



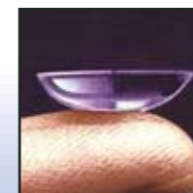
1907

Jan Janský discovers the fourth blood type



1959

Jaroslav Heyrovský wins the Nobel Prize for polarography



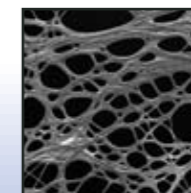
1961

Otto Wichterle produces the first soft gel contact lenses



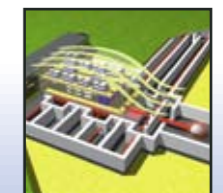
2002

FDA approves the anti-AIDS and hepatitis B drugs developed by Antonín Holý



2006

Czech Scientists exploit nanoelements to treat cancer patients



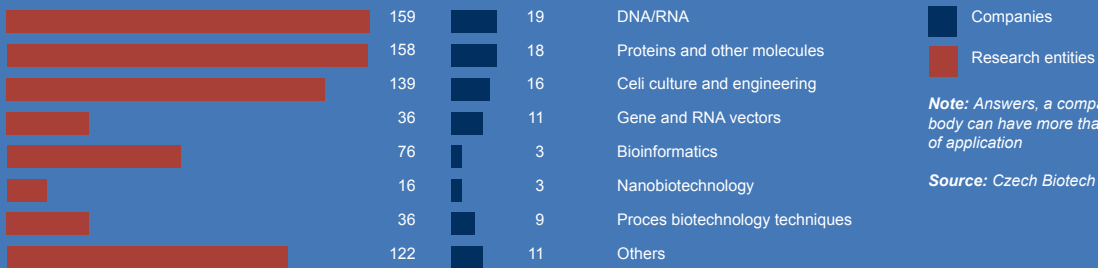
2010

The Extreme Light Infrastructure European hi-tech laser project in the Czech Republic

COMPANIES MAP- PHARMA AND BIOTECH



BIOTECHNOLOGY TECHNIQUES USED



OUTSTANDING QUALITY OF LIFE

The Czech Republic boasts extraordinary quality of life.

The IMD World Competitiveness Yearbook's Quality of Life Index ranks the country twentieth in the world and first in the CEE region. But one must experience the local cultural heritage, sport facilities and natural beauty to fully grasp the joys of living in the Czech Republic.

The country offers a full range of services that are required by expatriates and their families, including multilingual international schools covering all levels from kindergarten to MBA studies, attractive housing, shopping malls and first-class recreational facilities including over 80 golf courses and 12 UNESCO heritage sites.



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