



AGROBIOINSTITUTE

BULGARIAN CENTRE OF

EXCELLENCE

IN PLANT BIOTECHNOLOGY



<http://www.abi.bg>
Sofia, BULGARIA

MINISTRY OF AGRICULTURE AND FOOD



AGRICULTURAL ACADEMY



AGROBIOINSTITUTE

OUR MISSION

FUNDAMENTAL AND APPLIED RESEARCH IN THE FIELD OF PLANT BIOTECHNOLOGY FOR BETTER HEALTH AND LIFE

OUR VISION

- *IMPROVING THE METHODS AND SYSTEMS FOR INTENSIFYING THE BREEDING OF ECONOMICALLY IMPORTANT CROPS BY USING IN VITRO CULTIVATION AND MODERN TECHNOLOGIES FOR GENETIC ENGINEERING, GENOMICS AND BIOSAFETY.*
- *PARTICIPATING WITH ITS PERSONNEL AND SCIENTIFIC POTENTIAL IN THE DEVELOPMENT OF NATIONAL PROGRAMMES, CONCEPTS AND PLANS FOR SOCIAL AND ECONOMIC DEVELOPMENT OF THE COUNTRY.*
- *PARTICIPATING IN INTERNATIONAL COOPERATION VIA CREATION OF JOINT RESEARCH GROUPS AND CONCLUSION OF CONTRACTS IN THE FRAME OF THE EU, UNESCO, FAO, NATO, EUCARPIA, IAEA, ICGEB, UNIVERSITIES, PRIVATE COMPANIES AND OTHERS ON A BILATERAL AND MULTILATERAL BASIS.*



MILESTONES

**1985 Central Laboratory of Genetic Engineering
(CLGE)**

1988 Institute of Genetic Engineering (IGE)

2000 AGROBIOINSTITUTE (ABI)
Institute of Genetic Engineering - Kostinbrod
Institute of Floriculture – Negovan
Complex Experimental Station – Samokov

2005 AGROBIOINSTITUTE - Sofia



BULGARIAN CENTER OF EXCELLENCE IN PLANT BIOTECHNOLOGY

**Norman Borlaug Center
NB PSR-DMU**

**Sub Regional
GMO Center of UNEP**

**ICGEB
Global Consortium**

Foreign Universities
Research Institutes
International
Research Centers
> 50 agreements

**MINISTRY OF AGRICULTURE AND FORESTRY
AGRICULTURAL ACADEMY**
AgroBioInstitute
International Consultative Council

Breeding
Institutes

Joint
Projects

Contract
Research

Joint
Ventures

Bulgarian
Universities

International
Public Funding
EU, NATO
ICGEB, IAEA

RESEARCH AREAS
Genetic resources – in vitro gene bank
Functional Genetics
Biotic and abiotic stress
Ecology – GMP, biocontrol
Bioinformatics; Intellectual rights
*Accredited laboratories – genetic authenticity,
phytosanitary status, quality*

Public and
Governmental
Organizations

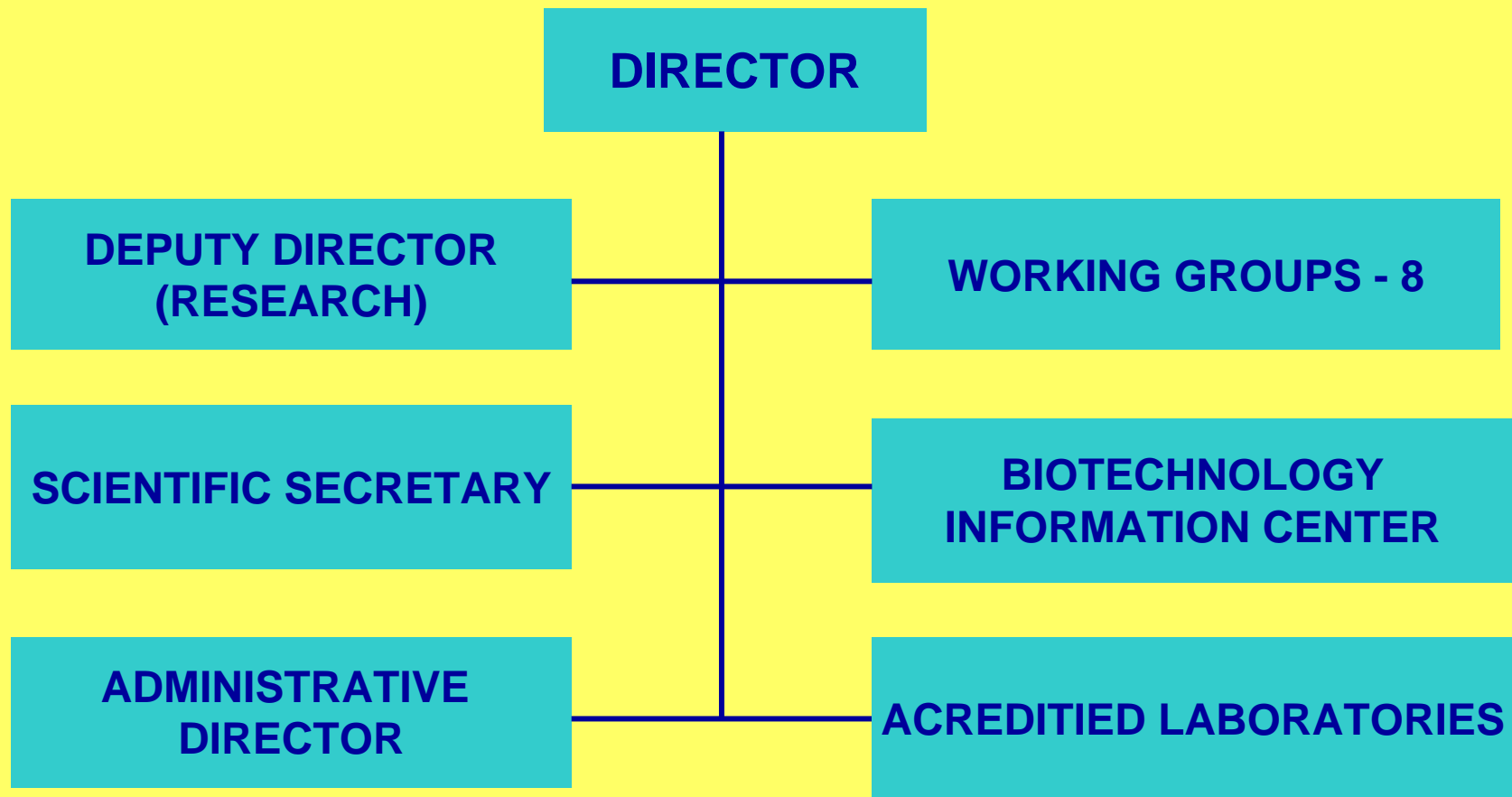
Private Business
Multinational companies
SME

AgroBioTech Park

Bulgarian
Private Business
SME

Join Genomic Center

STRUCTURE OF ABI



STAFF/2007

Total staff number	50
Research staff	27
Senior researchers	15
Researchers (PhD degree)	12
Experts	9
Technicians	5
Administration	9
PhD students (extra staff)	15
Undergraduate students	10

RESEARCH PROFILE/2007

- PLANT GENETIC RESOURCES
- PHYTOPATHOLOGY
- ECOPHYSIOLOGY AND ABIOTIC STRESS TOLERANCE
- MOLECULAR GENETICS
- FUNCTIONAL GENETICS IN LEGUMES
- FUNCTIONAL GENETICS IN CEREALS
- BIOINFORMATICS
- BG BIOTECHNOLOGY INFORMATION CENTER (BG BIC)



MOST ADVANCED R & D AREAS

- **Gene cloning & expression – plant promoters & signal peptides**
- **Genetic improvement :**
 1. Transformation protocols routinely applied in alfalfa, tomato, potato, tobacco, carnation, barley, corn, grapes, roses, apple, strawberry
 2. 30 lines of GMP from 5 species (tobacco, tomato, potato, alfalfa and grape) are in pre-commercial stage
- **Genetic markers: grapes, roses, wheat, barley, corn, sunflower, raspberry, strawberry**
- **Germplasm preservation, clonal micropropagation, evaluation and use of medical, essential oil & endemic plants**
- **Pathogens diagnostic with specific DNA markers for PPV, *Orobanche* spp. etc.**



ABI

INTERNATIONAL COOPERATION

1985 - 2006

EC JEP TEMPUS	1 Project
EC INCO-COPERNICUS	3 Projects
EC FP 5	6 Projects
EC FP 6	5 Projects
COST	9 Actions
INTERNATIONAL ORGANIZATIONS	19 Projects
INTERNATIONAL COOPERATIONS	137
Agreements with PRIVATE COMPANIES (national & international)	36 Contracts

MOST PRESTIGE PROJECT IN THE 5TH FP

Bulgarian Centre of Excellence in Plant Biotechnology

(Excellent Plant Biotech)

(Contract No ICA1-1999-70003)

- **Education & Training. Research management improvement.**
- **Development of modern gene bank.**
- **Biosafety legislation in the area of plant biotechnology.**



NATIONAL FUNDS 1985 - 2007

National Centre of Agricultural Sciences **49 Projects**

Ministry of Education & Science
(Agriculture, GENOMICS, Young scientists) **38 Projects**



AGROBIOTECH PARK Ltd.

Registered – 09.10.2001

Representatives:

- **AGROBIOINSTITUTE, NCAS**
- **FACULTY OF BIOLOGY, Sofia University “St. Kl. Ohridski”**

Subject: Development and application of biotech products in the agriculture and environment and consultations

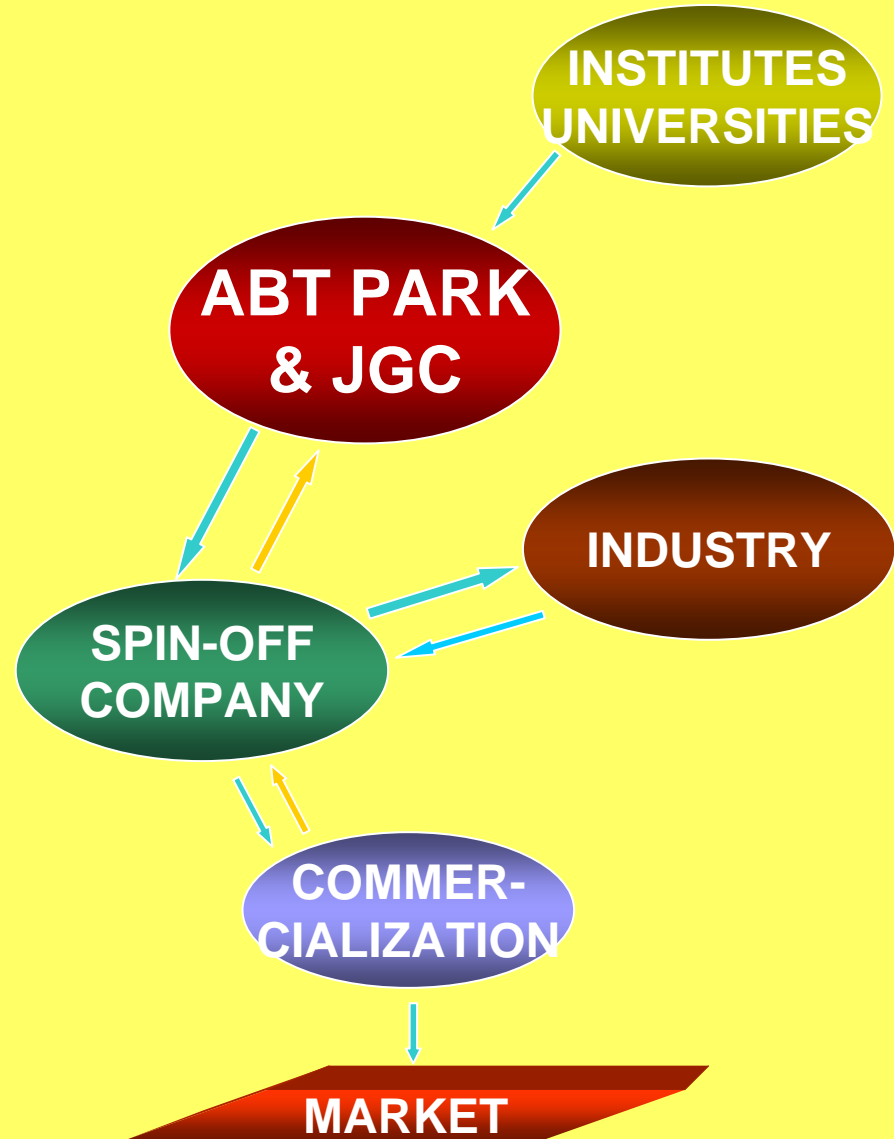
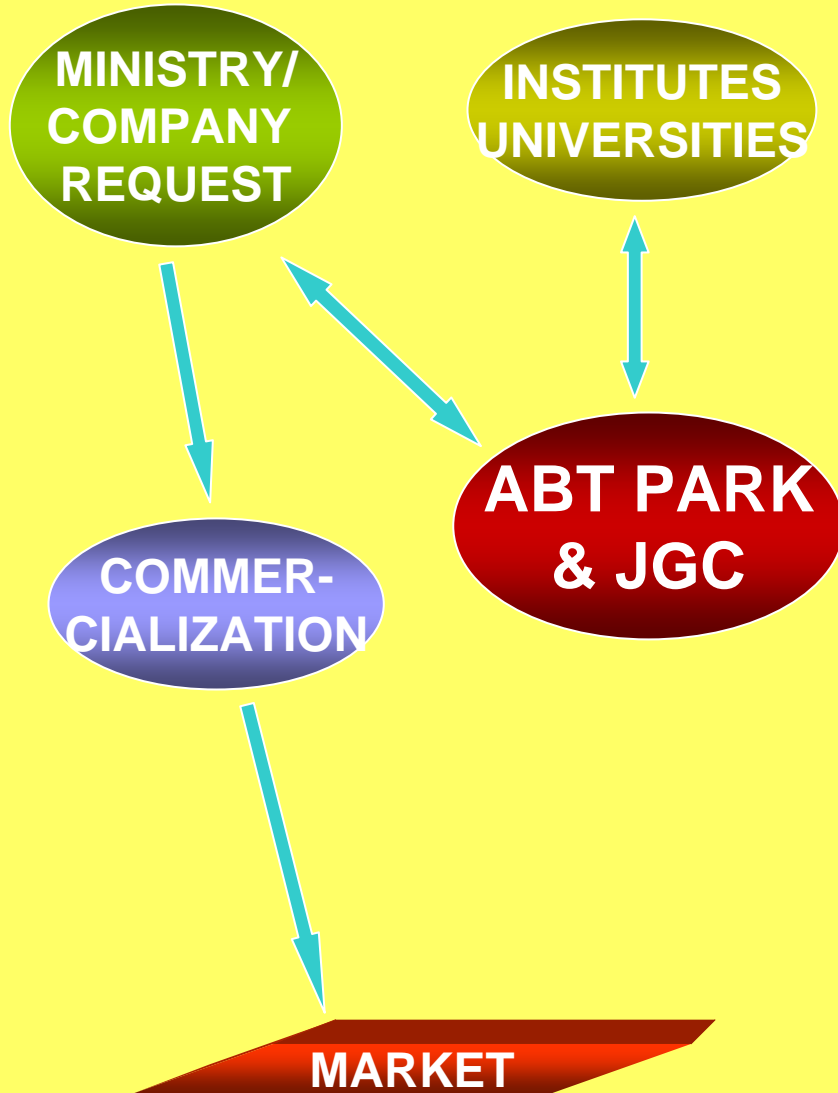


New initiative: JOINT GENOMIC CENTER between Agricultural Academy and Sofia University "St. Kl. Ohridski"

- **Directed to:**
- **Accumulation of critical mass of research capacity required**
- **for plant genomics research.**
- **Providing the proper technology transfer mechanism.**
- **Participation in international cooperation on plant genome research.**



CONSORTIA FUNCTIONING ABTP & JGC



SERVICES

TESTING DIAGNOSTIC GENETICS LABORATORY

Analyses:

- *Plant and plant material for the establishment of the presence/absence of viral, bacterial and fungal diseases*
- *Plant material for the establishment of genetic authenticity*
- *Plant materials and food products for detecting of Genetically Modified Organisms (GMO)*
- *Analyses of agricultural production and forages by crude protein, fat, fiber, ash and moisture*



BULGARIAN BIOTECHNOLOGY INFORMATION CENTER (BG BIC)

Pilot initiative within of ABTP – a platform for bioscience Communication, part of the Global Knowledge Center on Plant Biotechnology International Service for the Acquisition of Agri-biotech Applications (ISAAA).

MISSION: To serve as recognized and credible resource to the policy-makers, scientists, industry, media and the public and to support the efforts of the Government to utilize biotechnology as a tool for national development

**Hosted by: AgroBioTech Park Ltd.
Officially opened: 18.12.2003**



BLACK SEA BIOTECHNOLOGY ASSOCIATION (BSBA)

Non-governmental, non-profit organization of the countries of the Black sea Region. Established under UNIDO patronage – 10 - 11.12. 2003, Vienna, AUSTRIA. Legally registered: May 2004, Sofia, BULGARIA. Foundation Countries: BULGARIA, ROMANIA, TURKEY, RUSSIA, UKRAINE SERBIA and MONTENEGRO

Goals:

- **Network to increase the region's contribution**
- **To avoid regulatory and trade practices for Ag Biotech**
- **To build a system of mutual acceptance of regulatory & safety data**
- **To build regional human and organizational capacity to understand**
- **And responsibly employ Ag Biotech.**



ERA – NET PLANT GENOMICS

Network of 17 funding organizations from 14 EU countries plus Israel.

Bringing together national programmes in the area of Plant Genomics.

Building common transnational programmes to avoid fragmentation and duplication.

Allocating ear-marked national budgets.

Implementing joint calls.

Coordination costs are partly covered by the European Commission under FP6 (ERA-NET scheme).

BULGARIA is included as associate member in 2006



TOWARDS EC FP 7

- **ABI's activity concerning FP 7 for Call 1, 2A and 2B:**
- **23 Submitted Projects**
- **Funded - 5 Projects**



Prof. Atanas Atanassov

Full Member of Bulgarian Academy of Sciences

Member of Agricultural Academy of Ukraine

Member of Agricultural Academy of Russian Federation

Doctor Honoris Causa of Kluj-Napoka University,
Romania

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