Brief Information about the National Academy of Sciences of Ukraine

The National Academy of Sciences of Ukraine was founded on 27 November 1918 in Kyiv

In compliance with the Law of Ukraine 'On scientific and S&T activities',

the National Academy of Sciences of Ukraine:

is the top self-governing scientific organization of Ukraine;

organizes and conducts basic and applied scientific research in the major areas of natural, engineering, social sciences and humanities.

The self-governance of the National Academy of Sciences consists in :

1) independent determination of the topics and forms of basic and applied research and R&D (experimental) works, defining its structure, dealing with research-management, economic and staffing issues, maintaining international scientific ties.

2) NAS governing bodies being elected and collegiate, and NAS General Meeting performing the functions of the top administrative body.

STATUTES OF THE NATIONAL ACADEMY OF SCIENSES OF UKRAINE

APPROVED by the General Meeting of the National Academy of Sciences of Ukraine on 14 April 2016

The objective of NAS activities shall be to obtain new and generalize the existing knowledge about nature, the man and society, develop scientific fundamentals of the scientific, technological, socio-economic and cultural progress of the nation, provide comprehensive support to the practical application of scientific research results, train highly qualified research personnel, form science-based view of the world in the society.

The primary tasks of the NAS of Ukraine shall be:

- To obtain new and reinforce the existing fundamental knowledge in natural, mathematical engineering, social sciences and humanities, prepare proposals for its application.
- To take part in forming the state policies in all spheres of social life, provide scientific support to those, work out prognoses of Ukraine's development.
- To provide scientific support for the upgrading and innovative progress of the Ukrainian economy.
- To integrate the scientific potentials of the NAS of Ukraine and higher education institutions.
- To find talented researchers and retain them in science, help in their professional development, train highly qualified research personnel
- To ensure sustained participation of NAS institutions in the international scientific and S&T collaboration.
- To popularize science and scientific achievements of Ukrainian scholars both inside the country and abroad for enhancing the social prestige of scientific work in the society, forming science-based outlook.
- To protect the rights and interests of the workers of research institutions (organizations, enterprises) that are under NAS jurisdiction, and of NAS members.

NATIONAL ACADEMY OF SCIENSES OF UKRAINE

NAS General Meeting

NAS Presidium

Section of Physical, Technological and Mathematical Scienses

- Department of Mathematics
- Department of Informatics
- Department of Mechanics
- Department of Physics and Astronomy
- Department of Earth Sciences
- Department of Physical and Technical Problems of Materials Science
- Department of Physical and Technical Problems of Power Engineering
- Department of Nuclear Physics and Power Engineering

Section of Chemical and Biological Sciences

- Department of Chemistry
- Department of Physiology and Molecular Biology
- Department of General Biology

Section of Social Sciences and Humanities

- Department of Economics
- Department of History, Philosophy and Law
- Department of Literature, Language and Art Studies

Regional Science Centers of NAS and MES of Ukraine

- Donetsk
- Western
- Southern
- North-East
- Prydniprovsky

Matrix of the SWOT-Analysis of NAS Activities

Strengths

1. The largest scientific organization conducting basic and applied scientific research in Ukraine.
2. Conducting research in a wide range of mathematical, natural, engineering, social sciences and humanities
3. A branched network of scientific institutions with a developed infrastructure, which allows a much shorter way from basic research to R&D and establishing the manufacturing of new products, as well as providing scientific support to dealing with regional issues
4. Significant outcomes and highly relevant results both in individual areas of basic research and in developing state-of-the-art technologies. Sizable experience of focusing inter-disciplinary research efforts in solving difficult integrated S&T and environmental problems of the national scope.
5. A large human potential of scientists who can conduct high-quality and high-qualification scientific research in various science areas.
6. Availability of unique experimental and testing facilities and centers for shared use of modern scientific equipment.
7. Long experience of interaction And collaboration with higher education institutions in conducting scientific research and training scientific personnel.
8. Active international collaboration.
9. Availability of substantial facilities for advertising and promotion of the results obtained.

Weaknesses

1. Insufficient flexibility in selectin and starting new research areas, forms and methods of their organization.
2. Lagging in research level (as compared to the international one) in some scientific areas.
3. Cumbersome infrastructure of many Academy institutions and the need for sig considerable funds to support it..
4. Lack of finance for preparing completed developments to deployment in various branches of the national economy.
5. Upset balance of scientific staff age towards researchers of senior age.
6. The insufficient level of innovative activity, patent work, the presence on the market of advanced technologies.
7. Low activity of institutions in ensuring the accessibility of their scientific results for the international scientific community.
8. Insufficient quantitative indicators of scientists' work in the worldwide context, which is mirrored in low citation indexes and integral indexes of the development status of Ukrainian science.
9. A low level of expenses per one scientist, which reduces Academy's competitiveness on the scientific labour market and gradually causes:

- the loss of promising scientific staff and their continued migration abroad and to other spheres of activities;
- quick ageing of research equipment and general degradation of science logistics.

Opportunities

1. Increase in the amount of finance allocated to basic research by the state.
2. Increased remuneration of scientific workers, resolving their social problems.
3. Broader collaboration with higher learning institutions in personnel training and implementing joint projects.
4. Providing modern logistic support to research, extending the network of centers for shared use of equipment.
5. Extending innovative activities for effective involvement of S&T research results in the Ukrainian economy.
6. Extending patent activities and license sales.
7. Forming innovative infrastructure due to increased demand for innovations on the world market.

Threats

1. Non-perfect legal framework, which causes numerous obstacles in the activities of the NAS of Ukraine.
2. Breach of legally established levels of scientific sphere funding.
3. Low innovative activity of production industries, low demand for the R&D results of Academy institutions..
4. The fragmented and undeveloped state of the national innovation system.
5. Absence of economic stimuli for Ukrainian businesses to carry out technological modernization through the deployment of novel S&T developments.
6. A low level of social support to scientists, the reduced prestige of scientific work in the society.
7. The lack of due state support for young scientists, which creates preconditions for their active outflow., in particular to foreign scientific institutions and universities.

CONCEPT OF DEVELOPMENT OF THE NATIONAL ACADEMY OF SCIENCES OF UKRAINE FOR 2014–2023

OBJECTIVE: **Qualitative increase in the contribution of Ukrainian scientists to the world science, to the scientific support for nation's modernization**

WAYS OF ACHIEVING

- ***Raising the level of basic and applied research, increasing the part of scientific results that meet the world level or determine this level***
- ***Updating and increasing the efficiency of scientific and S&T developments according to the needs of the innovative development of the real sector of economy and other spheres of social life, ensuring the defense capability of the state***
- ***Optimizing the network and structure of scientific institutions in accordance with new tasks, socio-economic conditions and indices of their activities***
- ***Retaining, efficient reproduction and upgrading the human resource potential of scientific institutions***
- ***Improving the legal framework of scientific activities***
- ***Further integration to international academic community, first and foremost, to the European scientific area***

Principal Measures Implemented:

- ✓ Relying on the European experience, the Procedure for assessing the efficiency of the activities of NAS research institutions has been developed and is being tested;
- ✓ The NAS Commission for European Integration has been set up, its principal tasks being ensuring organization and coordination support to the participation of NAS institutions in the projects of 'Horizon 2020' program;
- ✓ A joint decision of NAS and MES of Ukraine on setting up the Kyiv Academic University has been adopted;
- ✓ The General Agreement on S&T collaboration with the 'Energoatom' NJSEC and the Agreement on further promotion of collaboration in space exploration and use with the National Space Agency of Ukraine;
- ✓ Regulations for the procedure of forming target integrated programs of NAS scientific research have been drawn up and approved; it increases requirements to selecting the projects submitted to the competition and covers nearly all NAS target-program and competitive subjects;
- ✓ Commissioned has been the research nuclear facility 'Neutron Source', based on the subcritical assembly controlled by electron accelerator.

After achieving Ukraine's independence the improvement of the network of NAS institutions has been aimed at

Scientific Support to the Development of Ukraine as an Independent State:

Comprehensive re-orientation of research in socio-humanities has been made according to changes that have occurred in the state and political system of the Ukrainian society, and a self-sufficient for the sovereign state network of research institutions of the respective profile has been established. In particular, set up have been M.S. Hrushevsky Institute of Archeography and Source Studies (1991), I.F. Kuras Institute of Political and Ethno-National Studies (1991), Institute of the Ukrainian Language (1991), Institute of Economic and Legal Studies (1992), Institute of National Studies (1992), Institute of East European Studies (1992), I.Krypiakevych Institute of Ukrainian Studies (1993), Institute for Economics and Forecasting v(1997), V.Ptukha Institute for Demography and Social Studies (2002), Institute of Encyclopedic Studies (2004), Ivan Franko Institute (2011).

Development of Novel Scientific Areas

In accordance with development trends of new cutting-edge science areas, founded, in particular, have been the Institute of Electron Physics (1992), Institute of Food Biotechnology and Genomics (1992), Institute for Problems of Mathematical Machines and Systems (1992), Institute of Software Systems (1992), Institute for Applied Problems of Physics and Biophysics (1998), Institute of Biology of the Cell (2000), Institute for Scintillation Materials (2002), Institute of Evolution Ecology (2004).

Scientific–and-Technological Maintenance of Basic Branches of Economy

In accordance with country's needs for scientific provision of technological renovation, established, in particular, have been Institute of Transport Systems and Technologies (1995), Space Research Institute (1996), Institute of Coal Energy Technologies (1996), Institute of General Energy (1997), Institute of Telecommunications and Global Information Space (2001), Institute of Physics of Mining Processes (2002), Institute of Renewable Energy (2003), Institute for Problems of Safety of Nuclear Power Plants (2004. In 2004, the Department of Nuclear Physics and Power Engineering was organized in the Academy, its principal task being scientific maintenance of reliable and safe functioning of nuclear power complex of Ukraine. Over 15 NAS institutions and their separated subdivisions are under dual subordination with branch ministries and agencies and conduct applied research in space, metallurgy, energy, mining and other industries.

Development of Modern Innovation Infrastructure

Quite a number of self-financed R&D and scientific-and-production facilities in certain priority technological areas have been set up within NAS institutions. Numerous technology parks have been organized on the basis and with the participation of NAS institutions. Institutions promoting the transfer of technologies developed by the NAS of Ukraine, in particular, the Center for Intellectual Property and Technology Transfer (1996), Center for Innovations and Technological Development (2016).

Deeper Integration of Science and Education

This is facilitated by NAS institutions that are under dual subordination with the Ministry of Education and Science. Among them are Institute for Artificial Intellect Problems (1991), Institute of Magnetism (1995), Training-and Research Complex 'Institute for Applied Systems Analysis' (1997), Physical-and-Technological Training-and-Research Center (1996), International Research-and-Training Center of Information Technologies and Systems (1997). In 2016, a joint decision on establishing Kyiv Academic University of the NAS of Ukraine and MES of Ukraine has been adopted.

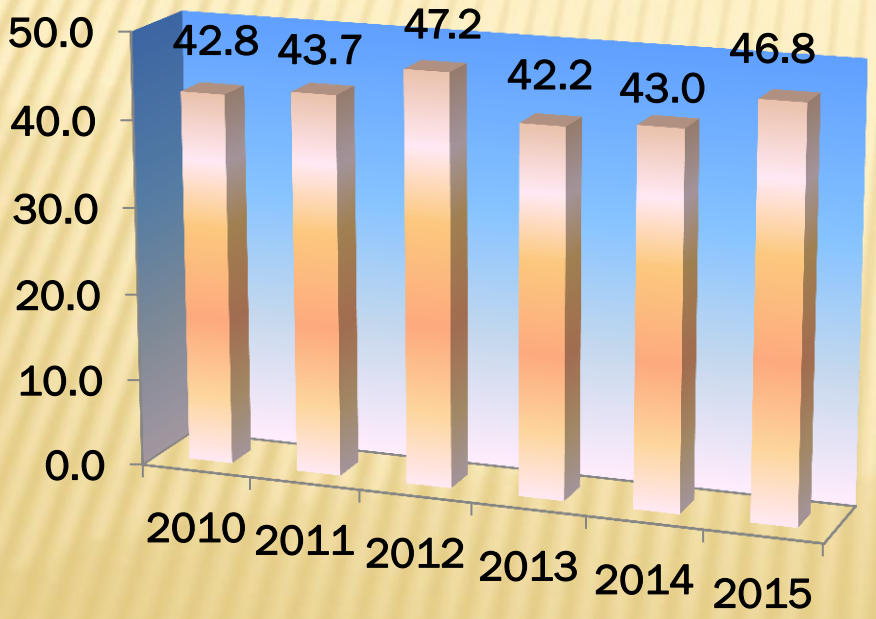
Scientific Provision of Solving Current Problems of Ukrainian Regions

In view of the increasing role of the regions in implementing economic and social transformations, NAS of Ukraine has given more focus to the regional aspects of its activities. In particular, created have been Institute of Ecology of the Carpathians (1991) and Institute of Regional Studies (1994). In 1997, NAS regional science centers were granted the status of dual subordination – to NAS and MES of Ukraine, which legally fixed the inter-agency nature of their activities and significantly strengthened their coordination potential.

The Amount of Scientific Research Works Conducted by NAS Institutions

- The number od basic studies financed by the general fund of the state budget in 2015 was 2046 (50.4% of the total number of basic works of country's scientific institutions), the number of applied studies – 935 (23.9% of the total number of applied works of country's research institutions.

Proportion of Competitive Research Subjects of NAS Institutions in the Total Number of Scientific Research Works



Competitive research subjects of the NAS of Ukraine in 2015 consisted of research works conducted under:

- ✓ state target S&T program;
- ✓ 7 target programs of basic research of the NAS of Ukraine;
- ✓ 15 target programs of applied research of the NAS of Ukraine;
- ✓ 15 target programs of NAS departments;
- ✓ 3 individual target projects;

and according to the results of:

- ✓ joint competitions with foreign and international organizations;
- ✓ competition of S&T (innovation) projects;
- ✓ competition of research projects in socio-humanities;
- ✓ competition of scientific research works of young scientists financed with NAS grants.

NAS Activities in the Sphere of Scientific Expertise

Scientific expertise conclusions (proposals, observations, comments etc.) to normative and legal acts and program documents, information and analytical materials (scientific assessments, prognoses, recommendations) on various issues of social development

In 2015 over 2070 scientific expertise conclusions, information and analytical documents were produced at the request of government authorities and through NAS own initiative

Expert assessments of basic research topics of Ukrainian scientific institutions

In 2015 over 1750 new topics of basic research were analyzed; on each of them a respective expect conclusion was given concerning the need of financing it from the state budget

Expert evaluation of the residual operation life and terms of safe exploitation of structures, buildings and machines, including general- and nuclear-energy facilities, pipelines, bridges, building and transport structures

The terms of safe exploitation of reactor shells of eight power units of the Zaporizska, Pivdenno-Ukrainska and Khmelnytska NPPs in the next 10 years were substantiated. The annual economic gain due to extended operation life of one power units amounts to nearly UAH 1.5 billion

Expert assessment of the quality of biological preparations and genetically modified organisms

- expert assessment of the quality and safety of medical immuno-biological drugs;
- The state standard and technological procedures for detecting and identifying GMOs were developed

S&T Maintenance of Economy Branches and High-Tech Industries

ENERGY

- NAS program ‘S&T foundations of energy collaboration between Ukraine and the European Union’ (2016-2018).
- Plan of measures for S&T maintenance of solving operational problems of state coal-mining enterprises
- NAS program ‘Fundamental aspects of renewable and hydrogen energy and fuel-cell technologies’ for 2016-2018.
- Regional programs of updating municipal heat-and-power systems

NUCLEAR ENERGY

- NAS program ‘Scientific support to the development of nuclear power industry and promising nuclear technologies’ for 2016-2018
- Agreement on S&T collaboration between the NAS of Ukraine and ‘Energoatom’ State Company
- Participation in the work of the S&T Council of the Ministry for Energy and Coal Mining and the Board of the State Agency for Nuclear Power Regulation

MEDICINE

- The Inter-Agency Coordination Council of the NAS, NAMS and the Ministry of Health for R&D in medicine and pharmacology
- NAS program ‘Sensor devices for medical, environmental, industrial and technological needs: metrological provision and testing’ for 2013-2017
- State target S&T program for developing cutting-edge technologies for producing domestic medical drugs to ensure human health protection and meet the needs of veterinary medicine

AEROSPACE INDUSTRY

- National target space S&T program of Ukraine for 2013-2017
- General agreement on S&T collaboration between the NAS of Ukraine and ‘Pivdenne’ State Design Office
- Collaboration agreement with ‘Antonov’ State Company

AGRIBUSINESS

- NAS Inter-Agency Scientific Council for Agribusiness
- Collaboration Agreement with ‘Agroecolohiya’ enterprise

INNOVATIVE INFRASTRUCTURE OF THE NAS OF UKRAINE

TECHNOLOGY RARKS INVOLVING NAS INSTITUTIONS

1999 – organizing technology parks in Ukraine (16 technology parks were set up)

2000-2005 – the annual amount of innovative products was UAH 1-2 billion

2005 – actual annulment of tax benefits

2005-2009 – innovative products were only manufactured by three technology parks:

- **'Semiconductor technologies and materials, optoelectronics end sensor devices'**
- **'E.O. Paton Electric Welding Institute'**
- **'Institute for Single Crystals'**

2010-2016 – implementation of the innovative projects of technology parks was suspended

COMPETITION OF NAS INNOVATIVE S&T PROJECTS

- **The mandatory requirement is to have a partner manufacturing facility**
- **651 projects for the total amount of UAH 262.873 mln. (2004-2016)**
- **The problem – investments in innovations are taxed on the general principles**

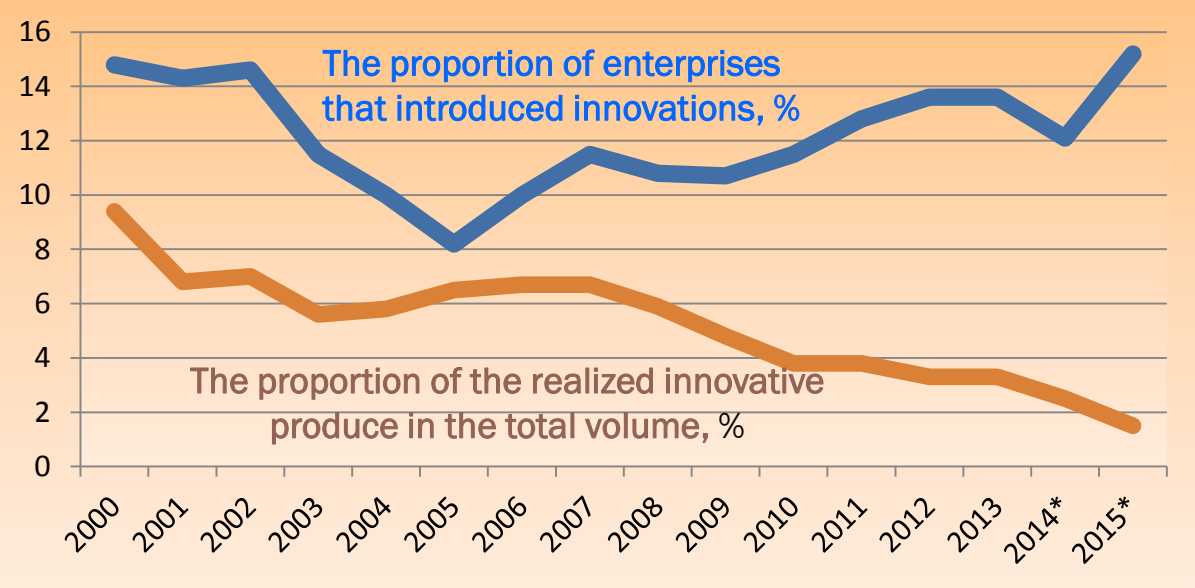
NETWORK OF INSTITUTIONS' DEPARTMENTS FOR TECHNOLOGY TRANSFER

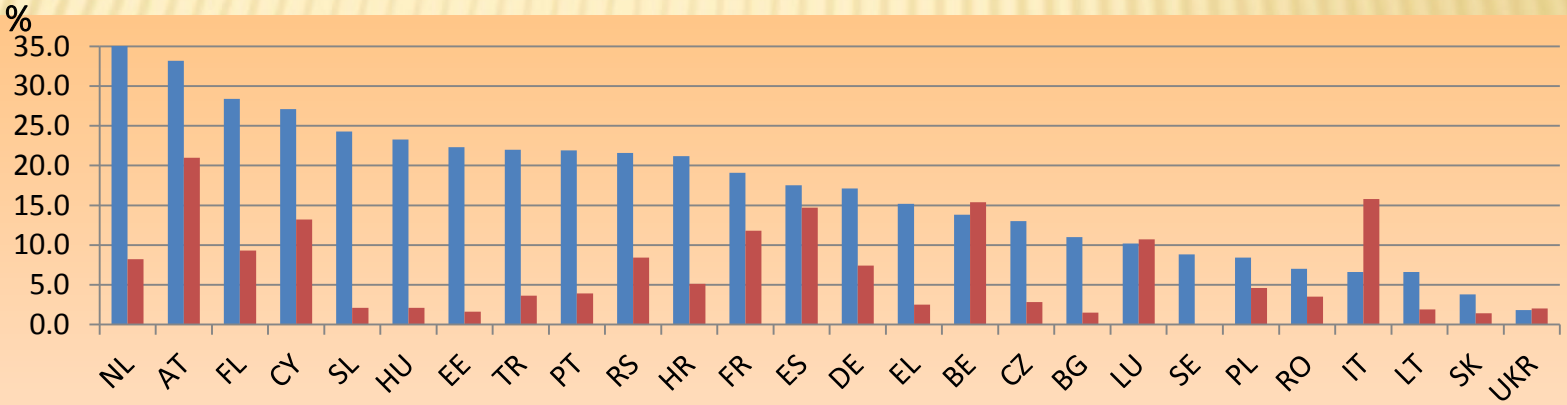
- **92 departments for technology transfer, innovative activities and intellectual property were set up (since 2008)**
- **Problem – lack of the system for training personnel**

Forming Innovative Policy in Ukraine

- The first stage (**1991–1998 pp.**) : approving the basic laws on S&T and innovative activities, introducing tax benefits for S&T and innovative activities.
- The second sage (**1999–2007**): annulment of the declared tax benefits, liquidation of the State Innovation Fund, departure from orientation towards programs for structural changes in industry, the main focus on foreign credit borrowings. Despite the adoption of the Law of Ukraine 'On innovative activities' (2002) and the Law of Ukraine 'On state regulation in the sphere of technology transfer' (2006), the norms of those laws concerning financial support to innovations and technology transfer were cancelled by further legal acts.
- The third stage (**since 2008):** In spite of approving a number of concepts and programs concerning the advancement of science and innovations, extensive discussions of innovative and S&T activities in the Parliament, the decisions adopted have not been implemented in introducing financial, credit, tax, customs mechanisms of promoting innovative activities; draft documents on financing, introducing tax benefits and providing loans for innovations have not been approved by fiscal authorities; S&T and innovation spheres are not considered as important by executive bodies.
- The implementation of the Laws of Ukraine 'On the national integrated program for science-intensive high technologies', 'On priority areas of innovative activities in Ukraine', 'On the special regime of innovative activities of technology parks' has been suspended, the implementation of the Laws of Ukraine 'On Science parks', 'On the state regulation of activities in the sphere of technology transfer' has been restrained.

Efficiency of State Innovation Policy





- Enterprises that received state financial support for their innovative activities from the central government

- Enterprises that received state financial support from local and regional authorities

Based on Eurostat and Derzhstat of Ukraine

Centers for the Shared Use of NAS Scientific Equipment

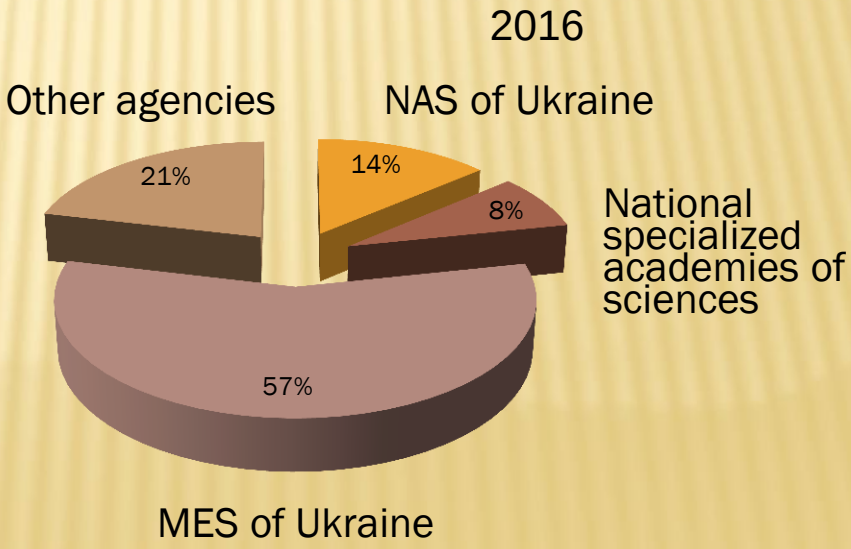
(set up relying on imported scientific equipment purchased in 2004-2009)

81 centers for the shared use of equipment function at 59 NAS institutions; 209 scientific instruments are placed there, in particular: 5 machines for mechanical testing; 7 transmission and 12 scanning electron microscopes; 5 atomic-force microscopes, 4 confocal and 4 fluorescent microscopes; 11 optical microscopes, 4 Fourier spectrometers, 2 EPR spectrometers and 2 NMR spectrometers; 22 mass-spectrometers and chromatographers; 10 optical spectrometers and 8 spectrophotometers; 6 X-ray diffractometers; 8 magnetometers; 4 gas analyzers; 23 PCR systems and equipment for biological and medical research. The centers employ over 660 highly qualified workers, 62.6 % of them being scientific researchers.

The total Number of Scientific Periodicals in Ukraine

(according to V.I. Vernadsky National Library of Ukraine
as of 20 April 2016)

Agency	Number		
	2012	2015	2016
NAS of Ukraine	167	339	343
National specialized academies of sciences of Ukraine	75	185	199
MES of Ukraine	459	1335	1418
Other agencies	217	493	532
In total	918	2352	2492



Poland (data for 2014)– about 1000 editions

NAS journals Re-Published by Foreign Publishers (20)

Springer

1. Український математичний журнал / Ukrainian Mathematical Journal
2. Кибернетика и системный анализ / Cybernetics and Systems Analysis
3. Прикладная механика / International Applied Mechanics
4. Проблемы прочности / Strength of Materials
5. Фізико-хімічна механіка матеріалів / Materials Science
6. Теоретическая и экспериментальная химия / Theoretical and Experimental Chemistry
7. Нейрофизиология / Neurophysiology

Pleiades Publishing, Inc.

1. Кинематика и физика небесных тел / Kinematics and Physics of Celestial Bodies
2. Сверхтвёрдые материалы / Journal of Superhard Materials
3. Химия и технология воды / Journal of Water Chemistry and Technology
4. Цитология и генетика / Cytology and Genetics

Begell House Inc. Publishers

1. Проблемы управления и информатики / Journal of Automation and Information Sciences
2. Радиофизика и радиоастрономия / Radio Physics and Radio Astronomy
3. Радіофізика і електроніка / Telecommunication and Radio Engineering
4. Альгология / International Journal on Algae
5. Гидробиологический журнал / Hydrobiological Journal

Electronic Editions in English

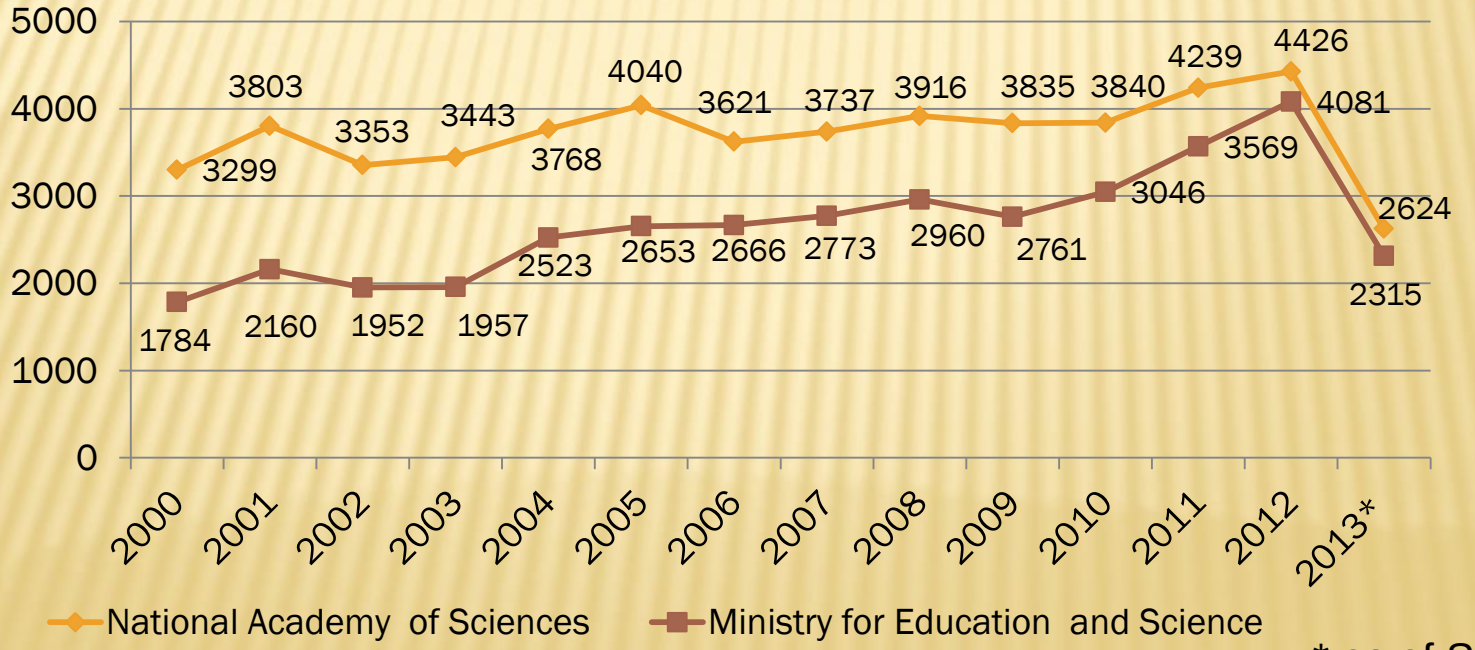
1. Bulletin of Zoology (VERSITA)
2. Ukrainian Journal of Biochemistry (Elsevier)

Other publishers

1. Физика низких температур / Journal of Low Temperature Physics (Американський інститут фізики)
2. Техническая диагностика и неразрушающий контроль / Technical Diagnostics and Non-Destructive Testing (Cambridge International Science Publishing)

Publication Dynamics* of *NAS scientific institutions and MES higher education institutions and scientific organizations represented in the 'Scopus' international database*

Year	National Academy of Sciences	Ministry for Education and Science	Year	National Academy of Sciences	Ministry for Education and Science
2000	3299	1784	2007	3737	2773
2001	3803	2160	2008	3916	2960
2002	3353	1952	2009	3835	2761
2003	3443	1957	2010	3840	3046
2004	3768	2523	2011	4239	3569
2005	4040	2653	2012	4426	4081
2006	3621	2666	2013*	2624	2315



* as of September 2013

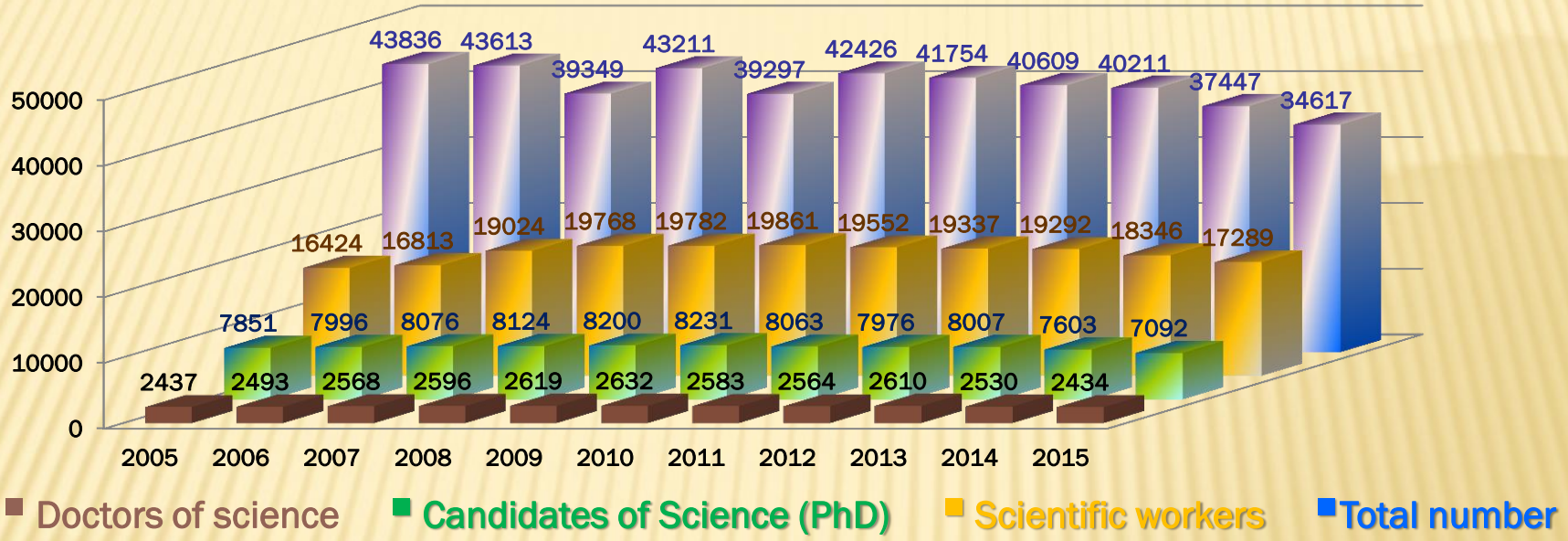
The first 15 scientific organizations and higher education institutions in the 'Scopus' international database as evidenced by the Hirsh index

Scientific organizations, higher education institutions	Number of publications	Number of citations	h-index
M.M. Bogolyubov Institute for Theoretical Physics	2766	33523	74
National Science Center 'Kharkiv Institute of Science and Technology'	4675	34959	73
Taras Shevchenko Kyiv National University	*12416*	*49991*	*70*
Institute of Physics	3634	29285	65
Bogomoletz Institute Інститут of Physiology	2344	20049	58
Institute for Nuclear Research	2263	18939	58
Institute of Molecular Biology and Genetics	1910	18812	58
B.Verkin Institute for Low Temperature physics	4446	31195	56
Institute of Bio-organic and Oil Chemistry	1152	12418	56
Main Astronomical Observatory	926	14384	55
V.N.Karazin Kharkiv National University	*7117*	*31308*	*54*
G.V. Kurdyumov Institute for Metal Physics	2741	19947	54
I.M. Frantsevich Institute for Materials Problems	6987	23469	53
Palladin Institute of Biochemistry	1891	12226	53
V.Lashkarev Institute of Semiconductor Physics	4088	22934	51

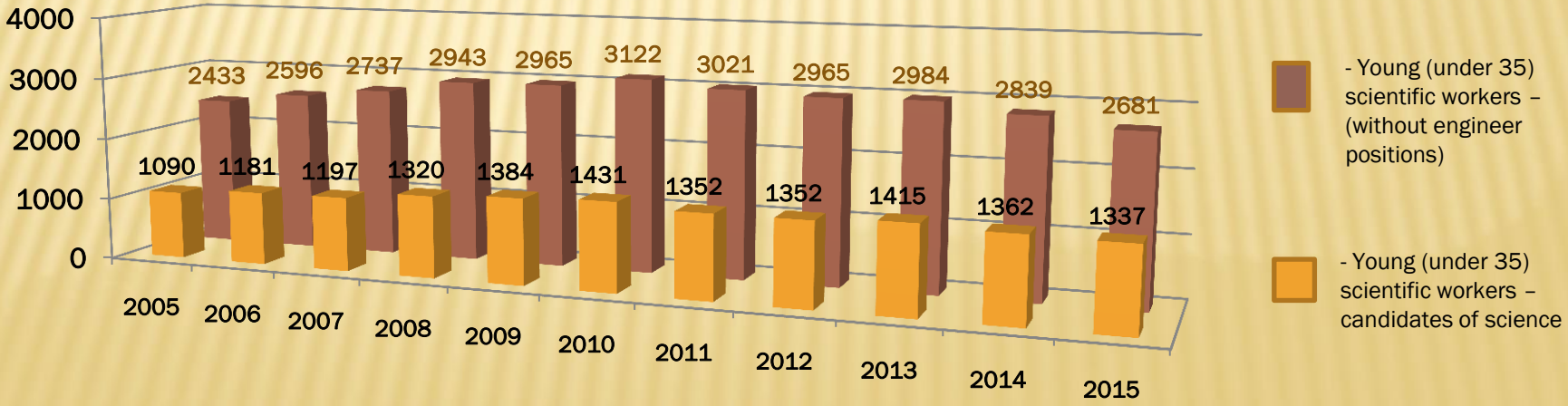
- NAS institutions

NAS Human Resource Potential

Dynamics of the Number of NAS Scientific Workers



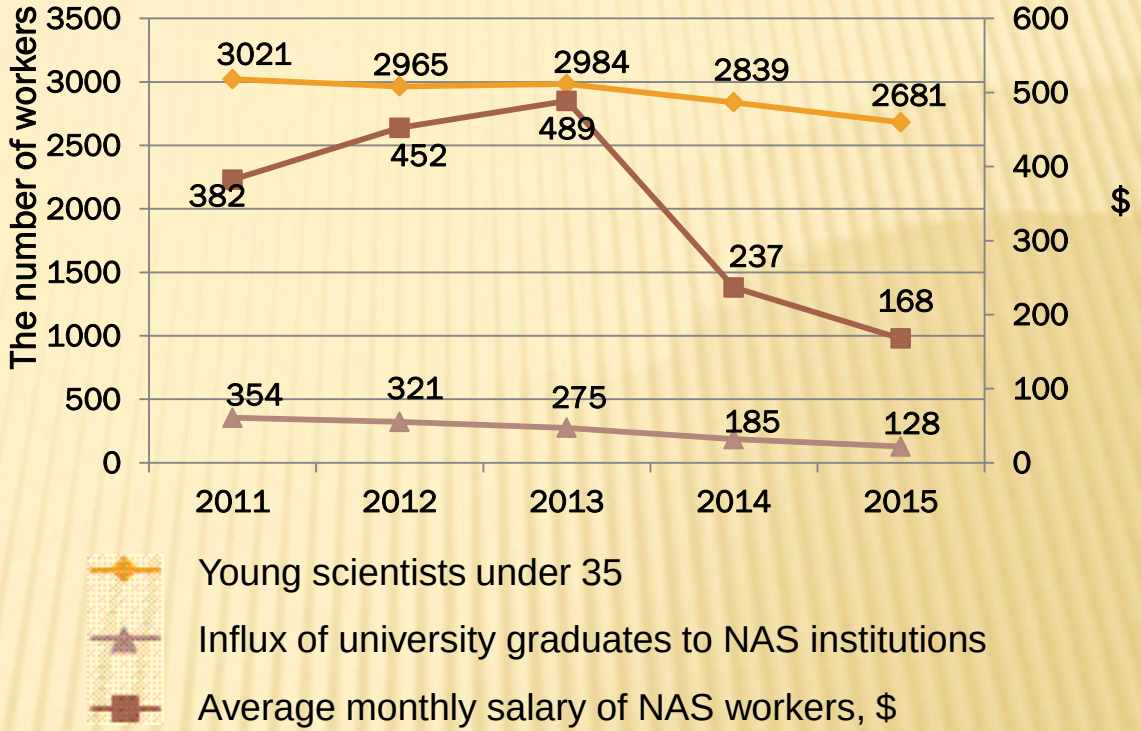
The Number of Young Scientific Workers of the NAS of Ukraine



Young Scientists of the NAS of Ukraine:

Individual indices

Ways to solve the problem of involving and retaining youth in the science sphere



- ✓ Providing researchers with modern equipment
- ✓ Solving social problems, in particular, the problem of providing housing for young scientists
- ✓ Enhancing the prestige of scientific work in the society
- ✓ Substantial increase of finance for internships in leading scientific centers of the world

NATIONAL ACADEMY OF SCIENCES OF UKRAINE
JUNIOR ACADEMY OF SCIENCES OF UKRAINE: TRAINING SCIENTIFIC SUCCESSORS IN SCIENCE

Educational system that ensures organization and coordination of schoolchildren's scientific research and provides conditions for their intellectual, spiritual development and professional self-determination

JAS PUPILS

250 000	children and youth involved in scientific search
130 000	high-school pupils who conduct their own scientific research
10%	pupils of JAS institutions in relation to all children attending out-of-school activities

JAS ALUMNI

99,8%	HEI students / **10%** students of foreign HEI
98%	students who get the highest marks in their first exams
14%	NAS scientists
5%	workers of governmental bodies

Winners of international contests, such as:

ICYS	Genius Olympiad	INFOMATRIX	Intel ISEF
EUCYS	NESPO GLOBE	Robotica	I-SWEEP

ORGANIZATIONAL STRUCTURE

63 / 12	JAS scientific sections / scientific departments
25	JAS territorial divisions
500	city and district JAS divisions
9 000	JAS circles
2 500	schoolchildren's scientific societies

MAIN SCIENTIFIC PROJECTS

- All-Ukrainian contest
- Specialized full-time ,remote and summer schools
- International science schools for schoolchildren and teachers
- Inter-subject laboratory complex MANLab
- Center for children's scientific work MANLAB.CAMP
- 'Taras Shevchenko' portal, Museum portal
- National rating of schoolchildren's educational achievements *and many other ones*

ПАРТНЕРИ

18 leading IHE of Ukraine

31 NAS research institutes

CERN, XLAB Göttinger, Argonne NATIONAL LABORATORY, CENTRUM NAUKI KOPERNIK, GOETHE INSTITUT, ECHA EUROPEAN COUNCIL FOR HIGH ABILITY, EAICY, World Council for Gifted & Talented Children

NAS Interaction with Education Sphere and its Prospects

The interaction covers the whole education process:from school to training holders of Master's degree and scientific personnel of the highest qualification

In recent years annually:

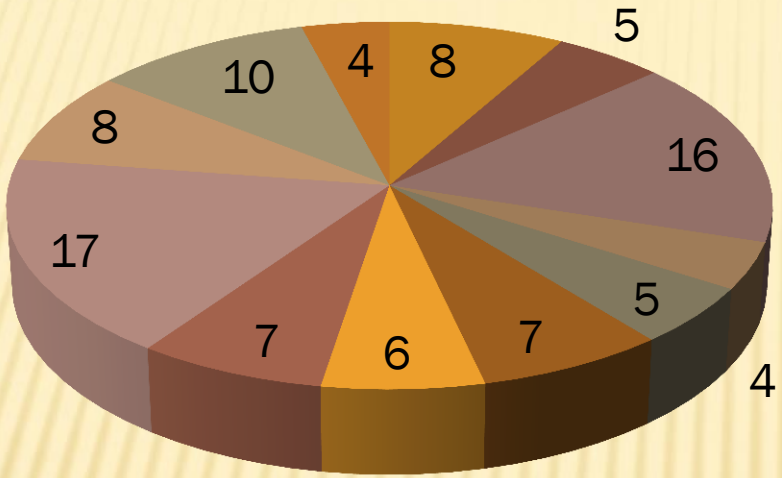
1300–1400	NAS scientists have delivered training courses, lecture cycles in areas of high scientific relevance
5 – 10	science-and-education structures have been set up jointly with educationalists for training highly qualified specialists
3500–4000	students have received practical training at NAS scientific institutions
30–35	young specialists who in their school years attended JAS circles have come to work at the NAS of Ukraine
≈ 200	joint scientific projects have been implemented
≈ 100	collaborative monographs of NAS scientists and educationalists have been published
≈ 100	collaborative textbooks and manuals have been published
270–290	educationalists have defended their doctor-of-science and candidate-of-science theses at NAS scientific institutions

At present NAS of Ukraine and MES of Ukraine are establishing **Kyiv Academic University.** It is to become a pilot project for introducing the European system Full Time Equivalent (FTE)

S&T Collaboration of the NAS of Ukraine with International Organizations

- NAS of Ukraine – EU programs
- NAS of Ukraine – NATO programs
- NAS of Ukraine – UNESO program 'The MAN and the Biosphere'
- European Organization for Nuclear Research (CERN)
- Joint Institute for Nuclear Research (JINR)
- International Institute for Applied Systems Analysis (IIASA)
- Ukrainian Science and Technology Center
- International Committee on Space Research (COSPAR)
- International Astronomical Union (IAU)
- International Organization for Geospace Studies (EISCAT)
- Committee on Data for Science and Technology (CODATA)
- International Laboratory of High Magnetic Fields and Low Temperatures

FP7: 97 PROJECTS INVOLVING 52 NAS ENTITIES, OVER EUR 7.4 MLN

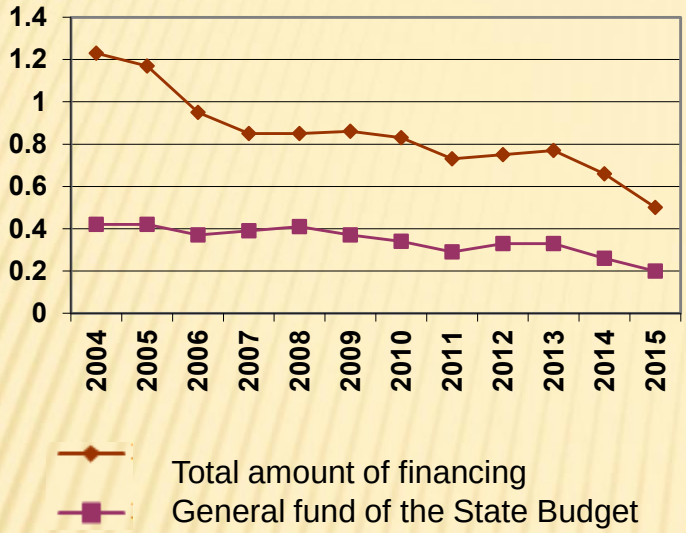


HORIZON 2020 (01.04.2016) : 15 projects

- MCSA – 7
- Societal Challenges - 4
- INCO – 3
- INDUSTRIAL LEADERSHIP - Space - 1
- EURATOM – 1
- ENVIRONMENT -1

Science-Intensity of GDP (Expenditures for Science in the Percentage of GDP)

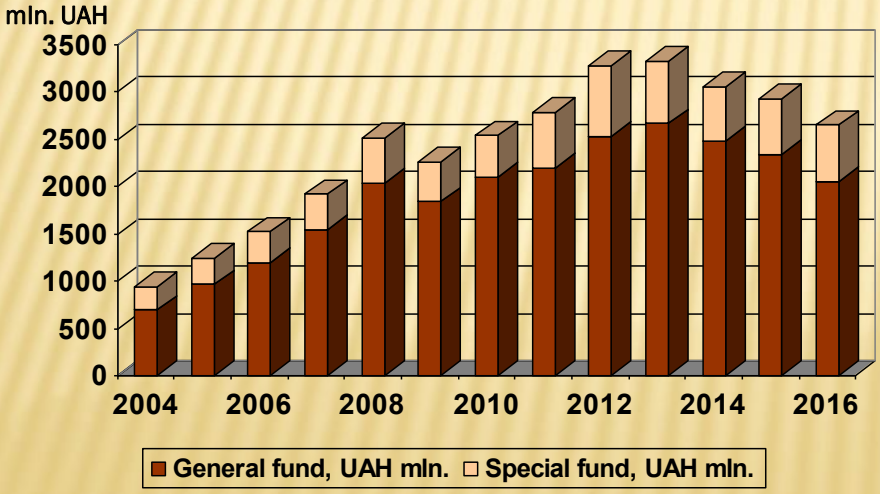
Ukraine

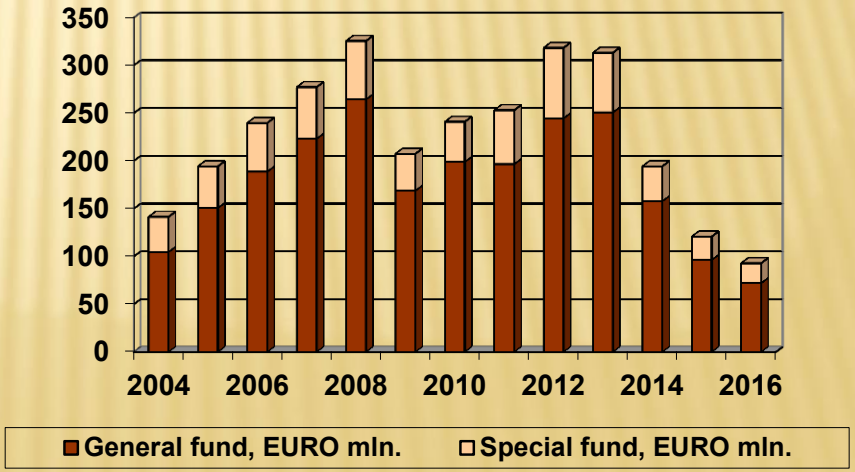


EU countries

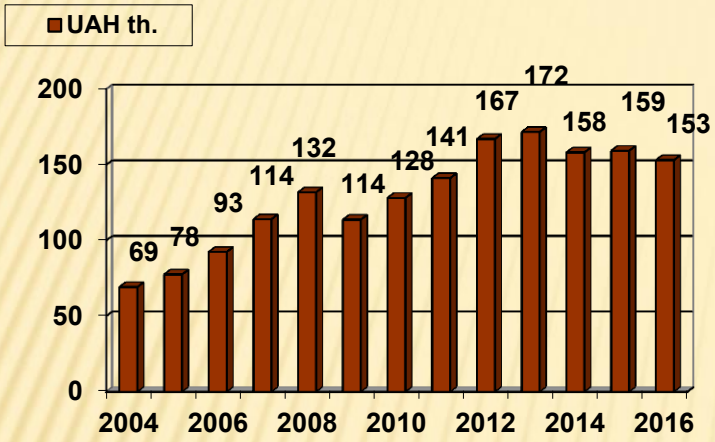
EU country	Science-Intensity of GDP (2013)
Finland	3,31
Sweden	3,30
Denmark	3,06
Austria	2,95
Germany	2,85
Slovenia	2,59
Belgium	2,28
France	2,23
Average in EU	2,01
Czechia	1,92
Estonia	1,74
Great Britain	1,63
Lithuania	0,95
Poland	0,87
Slovakia	0,83
Bulgaria	0,65
Latvia	0,60
Romania	0,39

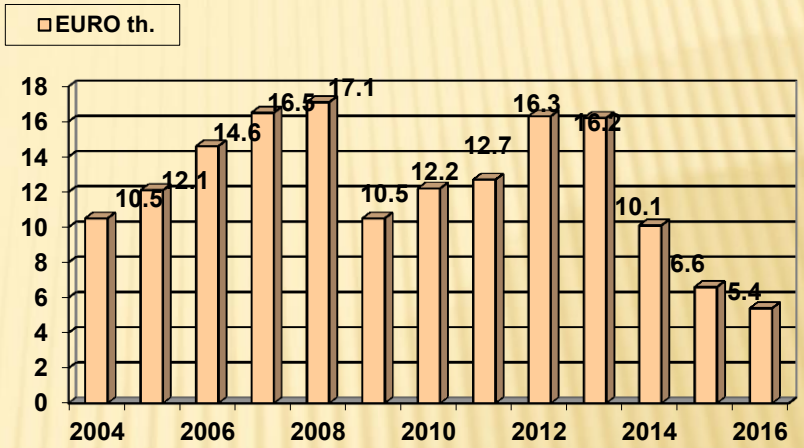
Total Amount of Financing of the NAS of Ukraine in 2004-2016





Total Amount of Financing of the NAS of Ukraine per 1 Scientific Worker in 2004-2016





Annual Monthly Salary of NAS Workers