

GRANT AGREEMENT NUMBER 266587

*ERAIHM*

EUROPEAN COMMISSION  
RESEARCH DIRECTORATE-GENERAL

SP-4Capacities

Coordination and support action  
Support actions  
FP7-INCO-2010-6

Advancing research and Cooperation Capacities  
of IHM NASU towards ERA

# PARTNERS OF IHM NASU

- KUNGLIGA TEKNISKA HOESKOLAN, STOCKHOLM, SWEDEN

- TECHNISHE UNIUIVERSITEIT DELFT, NETHERLANDS

# INSTITUTE OF HYDROMECHANICS NATIONAL ACADEMY OF SCIENCES OF UKRAINE

- Institute was founded in 1926 as a institute of hydrotechnics
- Research work in different branches of hydromechanics started in 1965
- The scientific personnel include 26 doctors of sciences and more than 60 PhD

# AREAS OF SCIENTIFIC ACTIVITY

- Boundary layers control
- Waves of different types in liquid
- High speed body motion in liquid
- Thermodynamics of flow. Renewable energetics
- Hydrodynamics of ground waters
- Hydrodynamics of rivers and natural water bodies
- .....

# COLLABORATION WITH UNIVERSITIES

- KIEV NATIONAL UNIVERSITY
- NATIONAL TECHNICAL UNIVERSITY KPI
- NATIONAL UNIVERSITY OF WATER SECTOR
- NATIONAL TECHNICAL UNIVERSITY OF ARCHITECTURE AND CONSTRUCTIONS
- .....

# INTERNATIONAL ACTIVITY OF IHM

- The first international grants were received under the program of support for scientists of the former Soviet Union by the Soros Foundation. ADONIS project should be mentioned because it aimed at creating infrastructure in Ukraine to ensure the participation of Ukrainian programmers in European projects. The project was funded by the European Union.
- Currently, the Institute is contracted to conduct research with research centers in the U.S. (Cortana CORPORATION, University of Illinois at Urbana-Champaign, Washington University in St. Louis), Sweden (Royal Institute of Technology, Royal Academy of Sciences), The Netherland ([Eindhoven University of Technology](#)), France (Toulon University, Systems Navals Complexes Laboratory), Germany (DLR, Gottingen), China (China Ship Scientific Research Center, Wuxi city; Technical University, Harbin city) etc.

# IHM SWOT Analysis Summary

## **Strengths**

- Highly qualified team of scientists capable of carrying out theoretical and experimental research on current problems of hydrodynamics
- Excellent experimental facilities and infrastructure
- Close cooperation in education and research with leading technical universities in Ukraine
- Experience in international cooperation
- The coordinating role of the IHM in its scientific areas in Ukraine
- Support for research projects and the infrastructure of the Institute by the Ukrainian government
- Access to main scientific information resources and high quality reliable Internet access

# IHM SWOT Analysis Summary

## *Opportunities*

- Improving visibility of IHM and enlarging of international cooperation
- The possibility of creation of new areas of scientific research focused on the application of the results in the development of renewable energy
- Using the experience of European partners in the creation of new training courses for engineers to meet the challenges of sustainable development
- Possibility of exchange programs for young scientists for more effective exploitation of the latest achievements of colleagues from European research centers
- Gaining experience of participation in major European programs
- More intensive participation in European RTD projects and in Fp7 will support the high level of scientific research, attract young scientists as well as prevent the brain drain



# IHM SWOT Analysis Summary

## Weaknesses

- Absence of well-structured English web platform
- Lack of experience of participation in Fp7
- Limited experience of multilateral international cooperation in scientific research.  
Main emphasis was placed on bilateral cooperation
- Limited engagement of stakeholders in joint research
- Lack of developed strategy in order to increase our scope in regional coverage and to improve responses to the socio-economic needs of Ukraine
- Insufficient modern measurement equipments

# IHM SWOT Analysis Summary

## Threats

- Insufficient financial support of scientific investigations and experimental tools from government, industrial companies and other stakeholders.
- Brain drain due to insufficient financial support.
- Lack of well organized innovation support system in Ukraine.
- Lack of the legislation system for knowledge's commercialization and technology transfer.