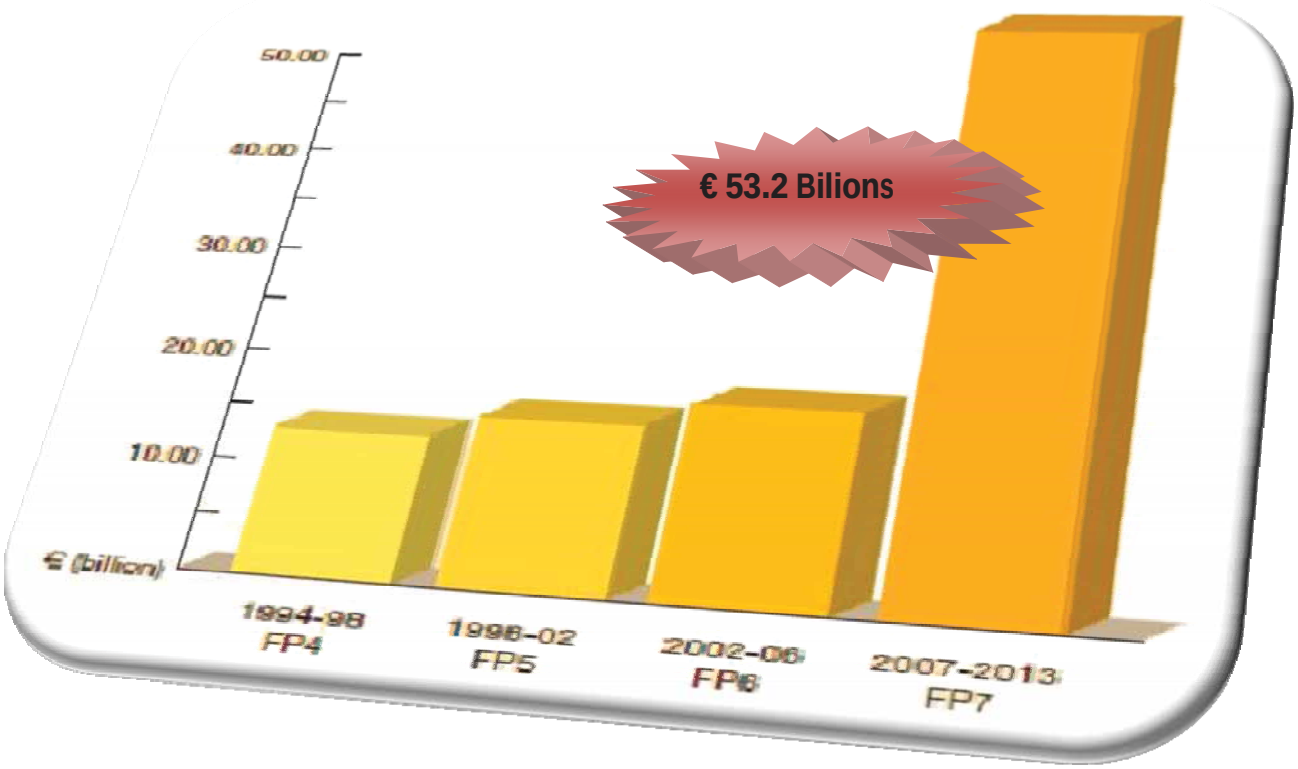
EU AERONAUTICS RESEARCH OPPORTUNITIES OPEN TO UKRAINE

European funding opportunities under the FP7

The Seventh Framework Programme for research and technological development (FP7) is the European Union's main instrument for funding research in European member states and the other associated countries.

Since their launch in 1984, the Framework Programmes have played a ***leading*** role in multidisciplinary research and cooperative activities in Europe and beyond.

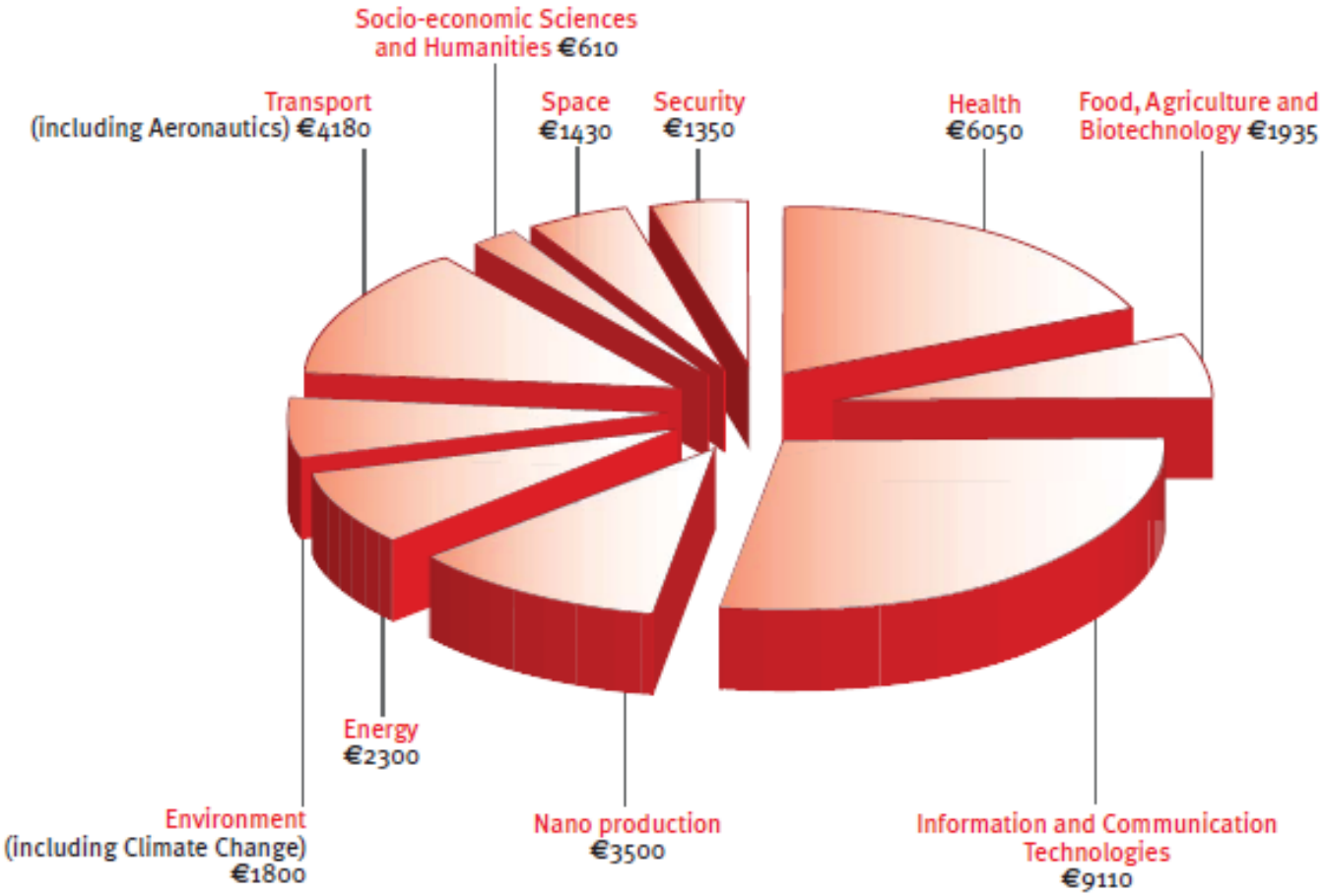


FP7 runs from 2007 to 2013 with a budget of 53.2 billion Euros over its lifespan and is the largest European funding programme yet.

The overall FP7 budget represents a 63% increase from FP6 at current prices.

FP7 aeronautics research funding

The research activities in the field of aeronautics are funded under the **Cooperation** programme, which aims to support collaborative research among European partners. The EU budget allocated for this programme is up to € 32 365 M and spread into the different topics shown in the graph below.



The programme supports research activities in different priority areas of EU interest. Among these topics, the most relevant for the Aeronautics sector is the "**Transport"** topic, which is divided in three priority themes:

- Sustainable Surface Transport (SST).
- Support to EU Navigation Satellite system (Galileo & EGNOS).
- Aeronautics & Air Transport (AAT).

The FP7-AAT programme

Air transport is one of Europe's strengths responsible for 2.6% of European GDP and over 3.1 million jobs.

The main objective of the AAT research programme is to develop safer, greener and smarter European air transport systems that will benefit all citizens; respect the environment; and increase the competitiveness of European industries in the global Aeronautics market.

Europe's key priorities for Aeronautics & Air Transport fall under the following 6 research activities:

- ✓ ***The greening of air transport*** (gas emission, engine & alternative fuel)
- ✓ ***Increasing time efficiency*** (air traffic management ATM)
- ✓ ***Ensuring customer satisfaction and safety***
- ✓ ***Improving cost efficiency***
- ✓ ***Protection of aircraft and passengers*** (injury, loss, damage or disruption)
- ✓ ***Pioneering the air transport of the future*** (radical, revolutionary, environmentally efficient and innovative technologies).

EU research “funding schemes”

Small or medium-scale focused research action

This scheme finances 1-2 years projects which target a specific and defined objective and implement technological R&D, demonstration and project management activities.

Large-scale integrating project

This scheme finances 3-5 years larger scale actions including a coherent integrated set of activities which are: R&D activities, demonstration, protection and dissemination of knowledge, project management and setting-up.

Coordination and support action

This scheme supports the coordination of research activities and policies through the implementation of specific measures (networking, exchanges, transnational access to research infrastructures, studies, conferences, etc).

Networks of Excellence (NoE)

NoE are designed for research organizations willing to combine and functionally integrate a substantial part of their activities and capacities in a given field, in order to create a European “virtual research centre” in this field.

ECATS

Joint Technology Initiatives (JTI)

JTIs enable the realization of long-term public-private partnerships in relevant industrial R&D fields. Network partners (industry, national governments, European community) will finance significant European research programmes for a 5-10 year period.

SESAR Joint Undertaking

CLEANSKY

Technology Platforms

Technology Platforms focus on strategic issues where achieving Europe’s future growth, competitiveness and sustainability depend upon major technological advances.

ACARE

Relative size of grant funding

Depending on the EU research thematic priority and the project funding scheme, organizations involved in a research project consortium receive a grant from the European Commission to support their R&D and other project related activities.

The percentage size of grant provided to each consortium partner varies between 50-100% according to the partner's organizational form:

- ✓ Small and Medium Enterprise's (less than 250 employees).
- ✓ Large company.
- ✓ University.
- ✓ Research Centre or Institute.
- ✓ Public or Governmental organization.

Examples of grant funding

Activities	EC's upper funding limit
Research and Technological Development activities. *Exception*: Public bodies, secondary and higher educational establishments, research organizations and SMEs	**50%** **75%**
Demonstration activities	**50%**
Other: support and coordination actions, training, career development of researchers	**100%**
Management and audit certificates	**100%**

EU Aeronautics Research Cooperation
for Ukraine

What the Ukrainian aeronautics sector has to offer:

Lengthy experience in aircraft research, design and manufacture

Broad network of aerospace R&D and manufacturing organisations

Wide portfolio of aircraft and aircraft components

Unique aerospace know-how (e.g. super-cargo planes)

Highly educated engineering work force

Presence in many aircraft technology and geographical markets

How to find research topics eligible for funding?

The specific plans for implementing research priorities are announced by the European Commission in annual "**Work Programmes**".

According to the research priorities identified in a Work Programme, the European Commission issues "**Calls for proposals**" at various intervals. They are generally open for a fixed period varying from 4 months to more than a year.

It is absolutely mandatory to respond to a call in order to apply for an FP7 grant.

When you find an interesting call for your organization, you should create a partnership consortium with other European research organizations (at least 3 organizations from 3 European countries) and write the application form for the FP7 Grant.

How to find partners for a consortium?

Among the key evaluation criteria for project proposal submissions are the quality of the partnership consortium and the ability of each partner to perform its project activity. Consequently, identifying good consortium partners is a vital activity in the project proposal preparation process. There are several places to look for potential partners:

✓ **The CORDIS database**

- *Advanced search*: to identify past and current FP6 & FP7 project partners.

(http://cordis.europa.eu/search/index.cfm?fuseaction=part.advSearch).

✓ *CORDIS Partners Service*: to identify potential partners interested in applying for FP7 grants. (http://cordis.europa.eu/partners-service).

✓ **European Networks of Excellence & Technology Platforms**

✓ **Organization networks**

- Suppliers/Customers.
- Subcontractors/Industrial partners.

Other running projects

Other running projects aim to support the co-operation and the match-marking for proposals. Then we could mentioned:

- *AeroPortal* (http://www.aeroportal.eu/)

AeroPortal is a European funded Project, aiming at providing information and helping project proposal set up for small enterprises working in the Aeronautics Industry

- *CEARES* (http://www.ceares.eu/)

The concept of the CEARES project is to establish a well coordinated network among the research organisations of the Central European states for sharing the know-how, the latest research results and to be able to find the contact more easily with the European aeronautical industry.

- *AirTN* (http://www.airtn.eu/)

The objective of AirTN is to step up the cooperation and coordination of research activities in aeronautics carried out at a national level through the networking of research activities at EU level

- *EASN* (http://www.easn.net/)

The long-term goal of establishing EASN was to built up an open, unique European platform in order to structure, support and upgrade the research activities of the European Aeronautics Universities, as well as to facilitate them to respond to their key role within the European Aeronautical research Community in incubating new knowledge and breakthrough technologies.

How to find a call?

New calls of the actual framework programme (now the 7th) are published regularly and depending on the programme/topic. You can find the actual open calls on the CORDIS homepage of the European Commission: http://cordis.europa.eu/fp7/dc/index.cfm

CORDIS

Ukrainian involvement in the FP6 SENARIO Project – Case Study n°1

Ukrainian organizations are already active in FP6 (and FP7) aeronautics research projects. For example, the National Aerospace University "KhAI" is a research partner in the FP6 SENARIO project. This project is developing a revolutionary sensing system - linked to intelligent process control equipment and reliable methodologies – for aero-structure component maintenance.

Basic Details:

- *Start date*: January 2007.
- *End date*: December 2009.
- *Duration*: 36 months.
- *Budget*: € 2.92 M.
- *EC Funding*: € 1.98 M (68%)
- *Funding Scheme*: Specific Targeted Research Project

National Aerospace University "KhAI":

KhAI's extensive composites know-how means that their researchers are supporting several project activities: adhesive curing processes research, optimal curing conditions development, curing control software development, and final bonding repair testing.

Expected Impacts:

Developing the advanced application of bonded repairs on aerospace components - with reliability, controlled quality and certification potential - will significantly help to produce **more efficient, safer and environmentally friendly** air transport, as well as **reduce aircraft development and operation costs.**

Ukrainian involvement in the FP6 CESAR Project – Case Study n°2

SE Ivchenko-Progress is a major Ukrainian aero engine designer involved as a research partner in the FP6 CESAR project.

The overall objective of CESAR is to construct a new development concept for small-sized commercial aircraft that incorporates improved component technologies. The technologies will enable a significant reduction of time-to-market; lowering of development, operation and maintenance costs; improvement of passenger safety and comfort; and decrease in environmental impact.

Project Details:

- *Start date*: September 2006.
- *End date*: February 2010.
- *Duration*: 36 +6 months.
- *Budget*: €33.52 M.
- *EC funding*: €18.1M (54%).
- *Funding Scheme*: Integrated Project.
- *Website*: www.cesar-project.eu

SE Ivchenko-Progress' Role:

SE Ivchenko-Progress' design responsibilities include: optimisation of the thermodynamic cycle and digital engine design, small centrifugal compressor, dynamics of high speed turbomachinery, cooled small turbine, and advanced transmission (reduction gear).

Also, SE Ivchenko-Progress is involved in the development of the complex power-plant control system and integrated diagnostic and on-condition maintenance systems.

Expected Impacts:

- Reduced weight and overall dimensions of the power-plant;
- Reduced fuel consumption;
- Extended engine service life;
- Reduced maintenance costs;
- Improved engine system reliability and flight safety;
- Improved competitiveness of consortium partners in the aeronautics market.

EU Aeronautics Research Cooperation for Ukraine

FP7 AERO-Ukraine project

The AERO-UKRAINE project aims to support the participation of Ukrainian aeronautics organizations in EU aeronautics research. The project runs from April 2009 until March 2011.

Project Objectives:

- Facilitate EU-Ukraine aeronautics research cooperation.
- Map and report on Ukrainian aeronautics capabilities.
- Organise FP7 aeronautics events in Ukraine.
- Support Ukrainian participation in FP7-AAT programme.
- Support preparations for a FP7 Aeronautics National Contact Point in Ukraine.

Project Partners:

- **SLOT Consulting** (www.slotconsulting.hu).
- **Intelligentsia Consultants** (www.intelligentsia-consultants.com).
- **University of Patras** - Laboratory of Technology and Strength of Materials (www.mead.upatras.gr).
- **National Aerospace University** (www.khai.edu).
- **Institute for Problems of Material Science** (www.materials.kiev.ua).
- **SE Ivchenko-Progress** (www.ivchenko-progress.com).
- **Antonov ASTC** (www.antonov.com).

Project website: www.aero-ukraine.eu