



# Czech Space Alliance in ESA

SME4SPACE

## Space Opportunities in the Czech Republic



ERS satellite & the Czech flag over ESTEC



# Czech Space Alliance in ESA

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Czech Space Alliance [www.czechspace.eu](http://www.czechspace.eu)

- ▶ Trade association of Czech aerospace SMEs
- ▶ 2006 - founded as export alliance under Czechtrade, the export promotion agency of the Ministry of Industry
- ▶ 2007 – co-founder of pan-European association of European space alliances SME4space, supported by the ESA SME Unit and ESA DG
- ▶ 2008 – formally registered as association of legal entities
- ▶ 2008 – co-operation agreement with the Association of Aircraft Manufactures ([www.alv-cr.cz](http://www.alv-cr.cz)) and the Association for Transport Telematics ([www.sdt.cz](http://www.sdt.cz))

## Aims, to share resources and combine strengths:

- ▶ To build on long & successful track record of Czechoslovakia in space science & technology
- ▶ To formulate & promote space industry interests
- ▶ To share experience & information
- ▶ To market Czech space skills in ESA states & worldwide
- ▶ To establish relationship with international industrial & other space entities



Czech satellite Mimosa



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## Membership base background 1

- ▶ the member companies and staff amass **270+ man years** of space experience
- ▶ Several companies - **decades of successful track record** in space R&D prior to ESA membership
- ▶ **broad international business** portfolios and reputation in their core business
- ▶ Network of international business partners
- ▶ Experience in negotiating and carrying out their business in the ESA language, **English**
- ▶ **Active in ESA PECS since 2004**



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## Membership base background 2

- ▶ The founding members BBT, CSRC and Iguassu participate **since the year 2001 in the Czech Board for ESA / Space Activities**
- ▶ ESA commissioned NODAL to survey the Czech industry – identified good technology standards and **existing space experience & know-how in 2002**
- ▶ NODAL highlighted as success **two international space projects – both executed by CSA members**
- ▶ One veteran has 34 years experience in space industry, of which 12 as **ESA staff member**



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CSA is one of the founding members of SME4space

- ▶ **SME4space** is a pan-European association of national space association
- ▶ It was founded in 2007 and a co-operation agreement was signed by ESA DG at the Paris airshow
- ▶ Currently 8 national members
- ▶ Currently presided by the Italian AIPAS

## CSA members with **space experience**

- ▶ **ANF Data** – control systems software design
- ▶ **BBT** – R&D, crystal science, furnace flew on the MIR
- ▶ **CSRC** – clean room, space qualified hardware
- ▶ **Evolvsys** – flight s/w for payloads & data processing
- ▶ **Frentech** – precision tooled parts for satellites
- ▶ **Iguassu Software Systems** – satellite navigation, EO processing, studies
- ▶ **LK Engineering** - engineering consulting, advanced computational technologies
- ▶ **RITE** – R&D, precise X-ray optics and cameras

## CSA members in **transition from aircraft to space**

- ▶ **Chipinvest** - diagnostics & microsystems
- ▶ **CompoTech Plus** – structural composite tubes
- ▶ **FIMES** – quality metal substructures manufacture
- ▶ **Inter-Informatics Group** - engineering services and information systems
- ▶ **TL elektronik** – digital instruments & equipment
- ▶ **Unites Systems** - development and production of dedicated test and measurement systems
- ▶ **5M** – special bonding materials

## Recently Completed CSA Projects directly for ESA

- ▶ Satellite Navigation EGNOS SISNeT
- ▶ GRID technology in EO/SAR
- ▶ Set up & operation of an EGNOS monitoring station
- ▶ SISNeT Server and mobile navigation applications
- ▶ Image Information Mining in Time Series – EO

**won in an ESA competitive tender**  
with ACS (Italy) as prime contractor

## Recently completed CSA Non ESA work

- ▶ **Galileo** search & rescue, Indra consortium for GJU
- ▶ **Galileo** ALGINT subsystem development for UK contractor
- ▶ Supplies of precision manufactured metal components
- ▶ Ground segment data processing software for the Russian CORONAS mission

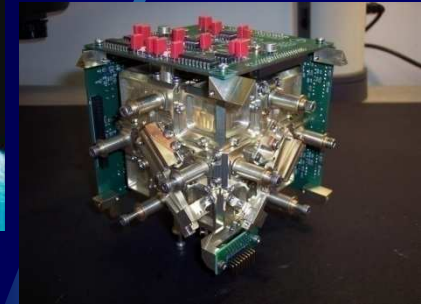
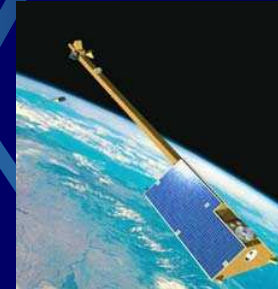
## CSA Projects in progress directly for ESA

- ▶ Development of novel X-ray optics for XEUS mission
- ▶ Navigation Educational Tools for ESA GNSS



## Non-PECS work in progress

- ▶ SWARM micro-accelerometer **electronics** for VZLU for Astrium
- ▶ SWARM micro-accelerometer experiment **flight software** for VZLU for Astrium
- ▶ ESA **study** of space SME needs in PECS countries



Engineering model for SWARM



100,000 clean room

- ▶ Following series of CSA meetings in 2007-2008 in Japan
- ▶ JAXA meets CSA alliance and the Czech Space Community



## Recent talks with the Canadian space industry



- **May '09 - Montreal** mission led by deputy minister of industry – present. for Aerospace Industries Assoc. of Canada, Association Québécoise de l'Aérospatiale), CAE
- **June '09 – Le Bourget** – talks with the Canadian Space Agency
- **July '09 – Montreal** – further talks with the Canadian Space Agency



Deputy minister of industry Hovorka

## International agreements in progress

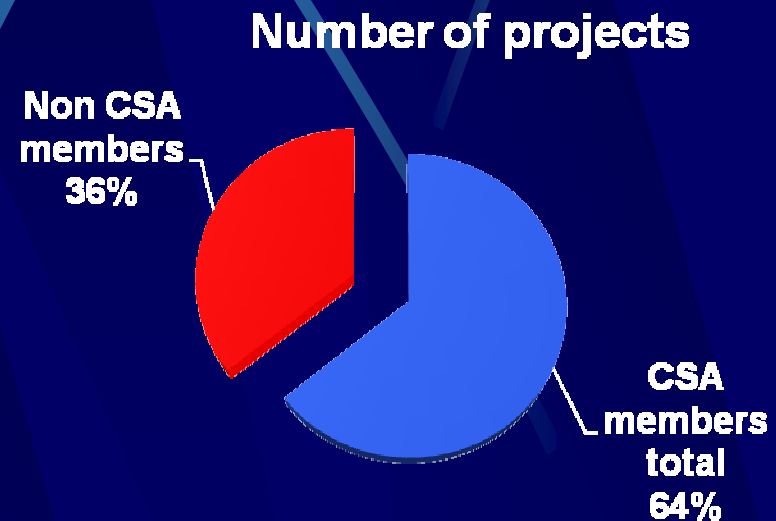
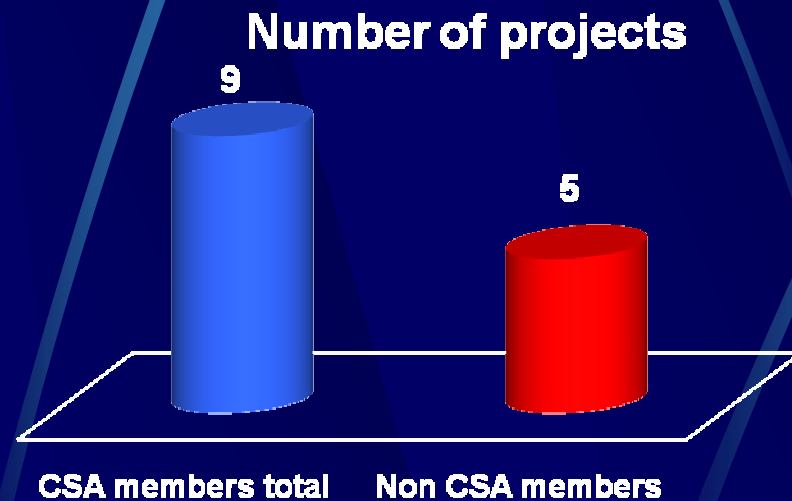
- ▶ Space co-operation  
“Letter of intent” with the  
Brazilian Space Agency –  
advanced negotiations



- ▶ Discussion of Co-operation  
agreement initiated



## Results of CSA members in the PECS programme



Source [www.czechspace.cz](http://www.czechspace.cz)

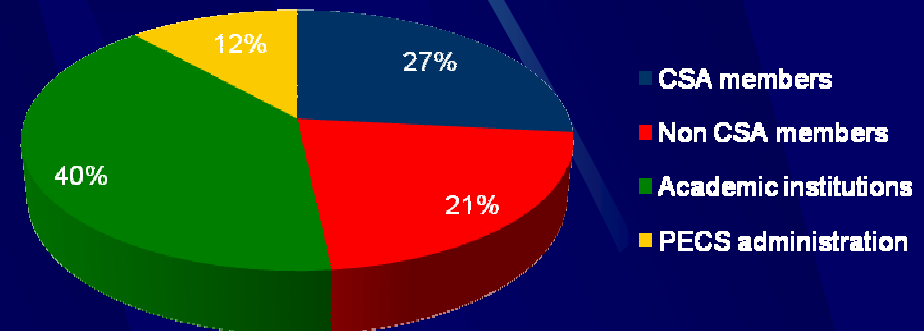
## Results of CSA members in the PECS programme

Number of projects by companies



CSA - 9 out of 14 projects

Budget distribution



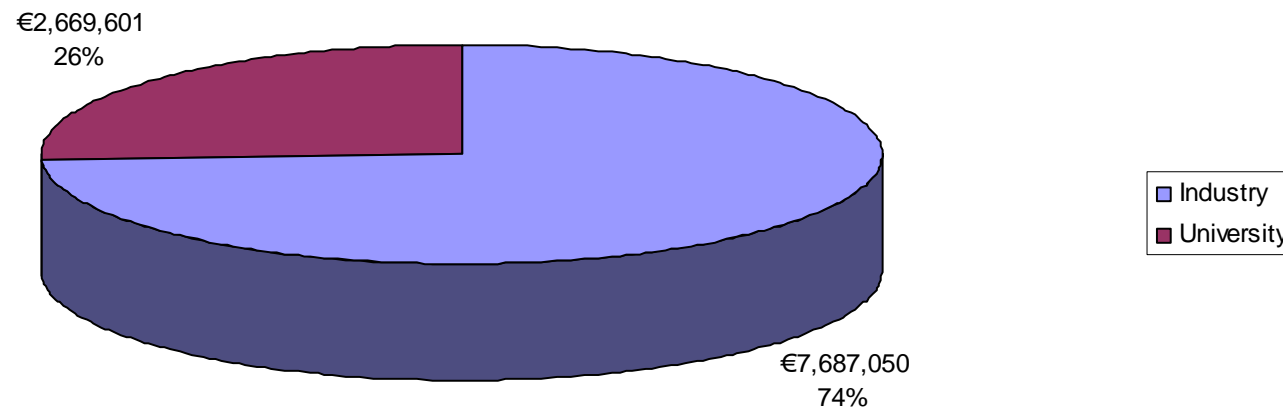
Source : Czech Space Office  
website [www.czechspace.cz](http://www.czechspace.cz)

## ESA Announcement of Opportunity AO6052

- Open in March and restricted to the Czech Republic
- Budget 2.3 M Eur
- Three types of proposals admitted – H/W, R&D, study
- Maximum budget 1M €, 200K €, 100K € respectively
- Addressing the mandatory + 13 optional programs
- Closing date 15<sup>th</sup> May 2009
- 54 bids submitted by industry and research institutes
- In September, the ESA evaluation was reviewed by the ESA/CR Task Force
- Results start coming in at this time

## AO6052 – 54 proposals submitted

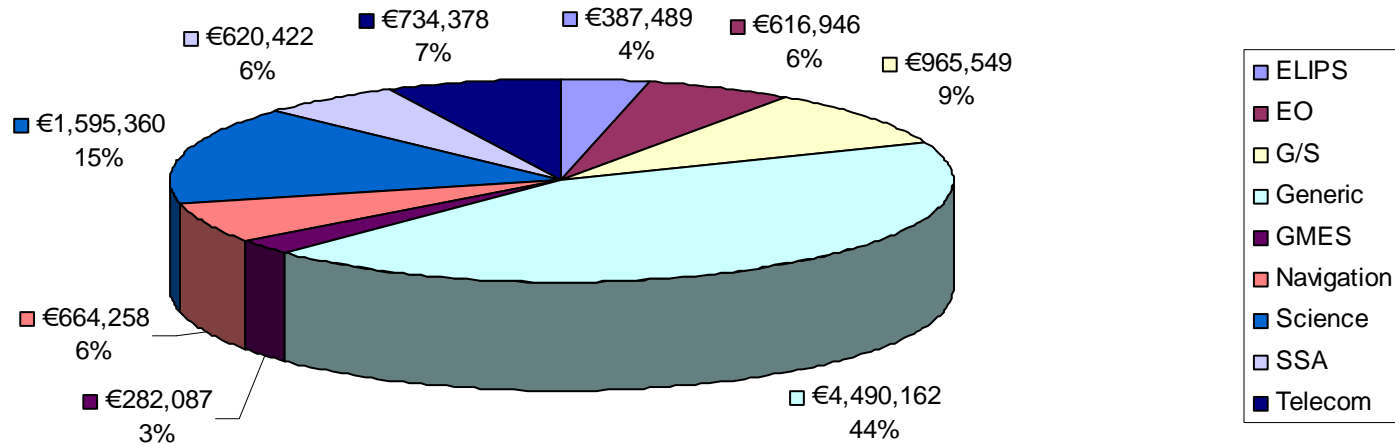
1st Czech AO  
Submitted Proposals by Submitter Classification



**Most proposals from industry – radical change from PECS**

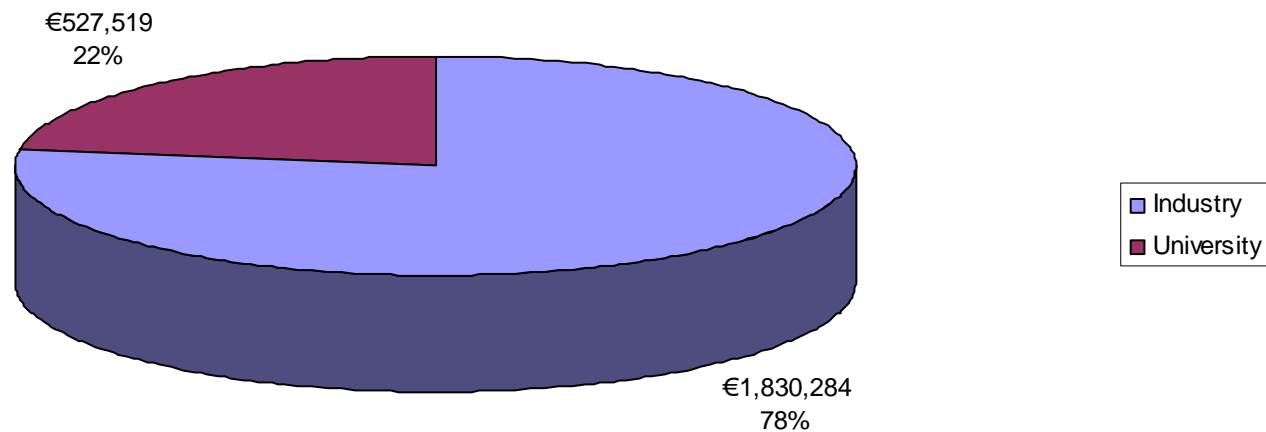
## AO6052 – 54 proposals submitted

**1st Czech AO**  
All submitted proposals by Application Area



## AO6052 – Preliminary results (subject to contract negotiations)

1st Czech AO  
Recommended Proposals by Submitter Classification



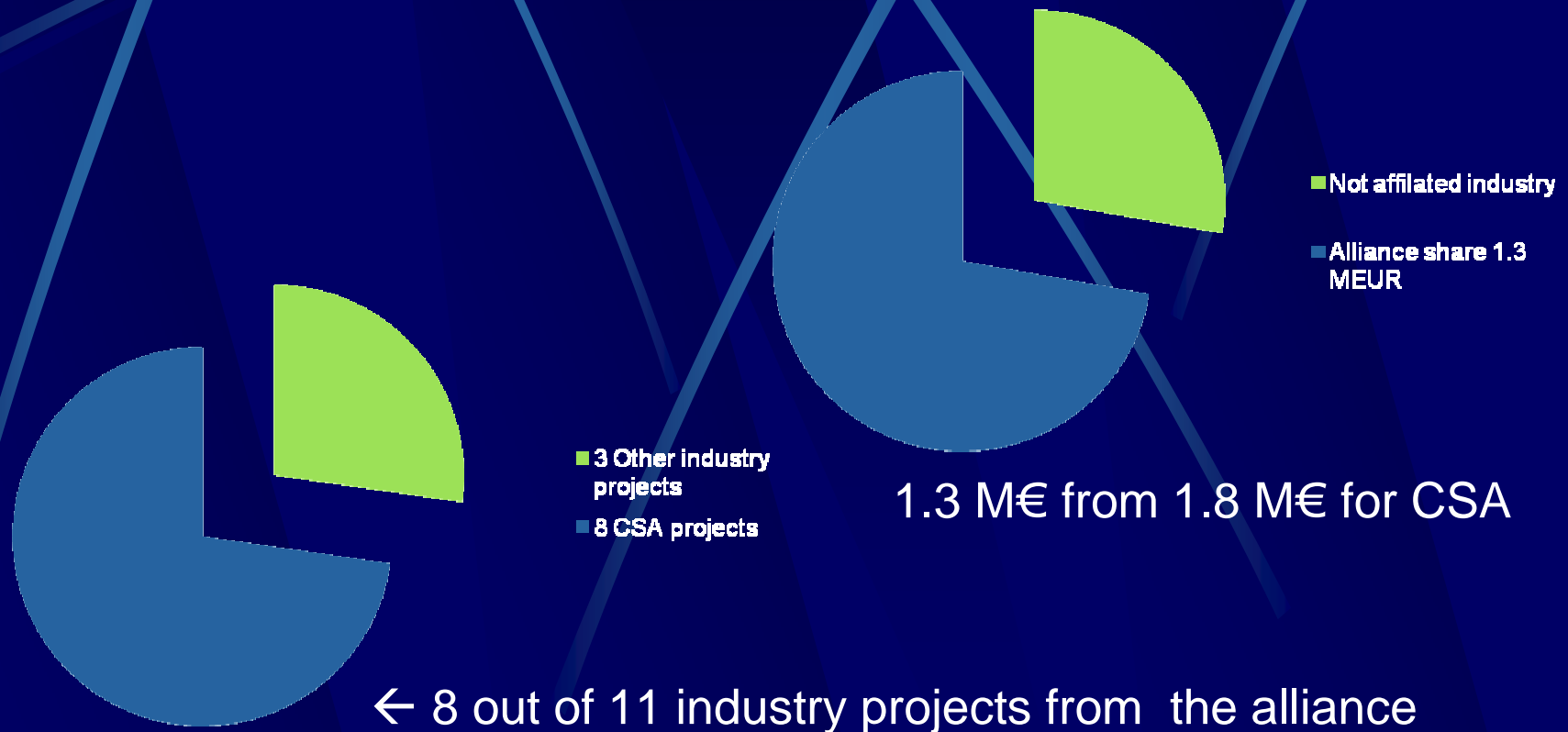
**Industry projects have a clear lead –change from PECS**

## AO6052 – results for the alliance

The following members invited to contract negotiations

- ANF Data (software)
- BBT (advanced materials)
- CSRC (electronics)
- Evolving Systems (software)
- Frentech (precision tooling of materials)
- Iguassu Software Systems (software)
- L.K.Engineering (computation)

## AO6052 – preliminary estimate for the alliance



Subject to successful contract negotiations



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Thank you

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Czech PM with ESA DG in HQ 8/11/07