

## ■ Czech Space Alliance under the Auspices of CzechTrade

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CzechTrade, the export promotion agency of the Czech Ministry of Industry and Trade (MIT), encourages groups of companies from various industry sectors to form export alliances. Members of such alliances complement each other's range of skills and join forces and resources in common marketing activities. Among further advantages, alliances allow small companies to present themselves at international events as part of a larger, more significant, entity. Being under the auspices of the Czech MIT further enhances their image.

The latest addition to the growing number of CzechTrade export alliances is the Czech Space Alliance (CSA), established in 2006. Iguassu Software Systems ([www.iguassu.cz](http://www.iguassu.cz)), one of the

charter members of the already very active ICT alliance, is the leader of the new space alliance and specialises in the design and development of high technology solutions, from aerospace applications to embedded control systems for automotive industry. The other founding members of the CSA are the Czech Space Research Centre (CSRC) ([www.csrc.cz](http://www.csrc.cz)) and BBT Materials (<http://bbt.mysteria.cz>). CSRC is an expert in design and development of high reliability electronics and a supplier of European space industry. BBT Materials' skills in the development of advanced materials and crystals have even landed their equipment on board the Russian MIR spaceship. Most recent addition is TL elektronik ([www.tl-elektronic.com](http://www.tl-elektronic.com)), specialising in aerospace instruments and equipment.

Within the CSA, Iguassu Software Systems represents the IT sector. Its success in space projects is proof of the high skill of Czech software engineers and demonstrates that even small Czech companies can win access to prestigious international space projects. This is particularly admirable given the fact that over the last 15 years there has been very little scope to gain any experience in this sector.

### Promotion of Space Opportunities at Home

Iguassu strives to use the position it has built up not only for its own goals, but also to encourage other Czech small and medium enterprises (SMEs) which may be intimidated by what might look like "rocket science" but much of which is simply industrial technology development, albeit of very high quality standards. As

a member of the Czech Board for Space Activities, an advisory body to the Czech Government on space-related matters, and in co-operation with CzechTrade, Iguassu will lead the CSA to contribute to organising events and providing practical information for the broadest spectrum of Czech companies. These need to become aware of the opportunities that may exist for them in the space industry, which they might not instinctively consider. These opportunities have augmented significantly since the Czech Republic joined the European Space Agency's (ESA) "Plan for European Co-operating States" (PECS).

### Promotion of Czech Space Know-how Abroad

Czech space skills are being presented by Iguassu since some years, from as far as Rio de Janeiro, at the annual International Astronautical Congress, to as near as Prague, in a keynote speech at the international conference about IT technologies in space DASIA 2003. Iguassu was invited to inaugurate the latter by the Canadian Space Agency and the association of European space industry, Eurospace, following a previous visit to the Canadian agency headquarters and a presentation of Czech space achievements by Iguassu. Here it should be noted that the Canadian Space Agency being an associate member of ESA, underlines the fact that ESA is not an organ of, or formally linked to, the European Union.

Iguassu also participated in the recent official mission by President V. Klaus to India, where it made a presentation about Czech space experience, interests and plans on behalf of the Czech Space Office and Czechinvest, to the director of the international relations of the Indian Space Research Agency and his senior colleagues.

### Where has Czech Software already Contributed to Space Projects?

The CSA charter members started



*ESA's XMM-Newton – the most sensitive X-ray telescope to have ever been built*

gathering experience well before Czech entry into ESA. During the negotiations with the Czech Republic, ESA commissioned a review of Czech technological readiness for the exigencies of space projects. This review, conducted by the French NODAL Consultants, assessed the general level of skills in this country as very high. The final report highlighted two projects as best examples of very successful contribution to international space projects. One was MSG Test Tools from Iguassu Software Systems, the other Demetrius from another CSA charter member, CSRC. MSG Test Tools was a fixed price development of a test environment to

check out the multi-million USD ground control system for Eumetsat's Meteosat Second Generation (MSG) satellite, which was being developed in parallel in the UK. This project, carried in Iguassu's office in Prague, was on critical path of the MSG project and was delivered on time, to budget, and the required high quality standards.

When the Czech Republic joined ESA PECS programme, Iguassu Software was the most successful industry participant, though overall PECS budget limitations meant that it could finally be awarded "only" two of the approved projects in the initial phase. One of these was to design software for new technologies in satellite navigation for SISNeT (Signal in Space through Internet) EGNOS (European Geostationary Navigation Overlay System), the first European step towards GALILEO. The other project investigates the application of GRID technologies to processing high volumes of satellite remote sensing data, and then port identified processes to GRID. The first project has already been completed to full satisfaction of ESA and the Czech Space Office. The high level of satisfaction with the quality and cost-effectiveness of this Czech software led ESA to propose and CSO to approve



*The XMM satellite of the European Space Agency is the most powerful exploration device for astronomers*

a substantially larger second phase to this development, which will include development of SISNeT navigation server and other real-time elements of the navigation system.

Whilst the GRID PECS project progresses well in ESA's ESRIN establishment near Rome, another space project has been added to the portfolio. Iguassu is a member of a European consortium, lead by Spanish INDRA, and including Thales, Cap-Gemini, Alcatel Space, CNES, and others. This consortium has won the bid to the Galileo Joint Undertaking for the GALILEO search & rescue system. Thus Iguassu currently has staff co-located in international teams in Spain and Italy. Past projects have been carried out on sites in the UK, Germany, Austria, the USA, and even as far as the Argentina.

Iguassu not only provides IT services but also offers marketing support to European companies aiming at the Latin American aerospace IT market. This is based on successful track record of an Iguassu consultant, including the win for the British company Anite Systems of a 2.4 million USD satellite data station for the Argentine Space Agency CONAE (Comisión Nacional de Actividades Espaciales).

### Concluding Remarks

The last few years have demonstrated that despite the toll of the transition from the past economical system, the standard of Czech software knowledge and skill compares very well to that of all highly developed economies, even in one of the most technologically demanding areas – the space industry. CzechTrade, with its numerous offices around the world, provides important and effective help to make broader international audiences aware of this know-how. It also continuously contributes to the excellent relationship between the international ESA agency and the Czech Republic. This includes the visit of the deputy minister of industry and trade Mr Martin Tlapa to ESTEC, ESA research and technology centre in the Netherlands.

The Czech Space Alliance will work with CzechTrade the non-profit company Czech Space Office, Czechinvest and others, not only to advance their business goals, but also to contribute to the reputation of the Czech Republic as a valued partner in high-tech projects and programmes.