

Profile of the TOPTEC Research Centre.

The Institute of Plasma Physics - Centrum TOPTEC, is a leading institute in the development and manufacturing of ultraprecise optics in the Czech Republic. It has more than 40 years experience in conception, design and manufacturing of optical systems.

TOPTEC has a staff of 6 post-doctorates, 4 Ph.D. Students, 8 research engineers, technicians and administrative personnel. It is organized in six divisions: optics design, construction, fine mechanics, optical workshop, testing, and measurement.

History: TOPTEC was established in 1965 as a development laboratory for the Astronomical Institute ASCR (ASU AV ČR) which worked on the internal needs of the Academy and then mainly on Intercosmos Vega and Phobos projects. From 1991 it was an independent institution of the ASCR, and on the 1st January 2006 it became a part of the Institute of Plasma Physics.

Today: TOPTEC provides both research and development laboratories and laboratories where unique optics are developed and manufactured. Among other projects, TOPTEC specializes mainly in the development of atypical optics in the fields of: classical optics, astronomical optics, crystal optics, laser optics, and thin film layer and plastic optics. Other projects also focus on the production of highly precise components using optical methods and various types of measurement.

Owners: Institute of Plasma Physics (further "IPP") is a public research institution (v.v.i.) established through Law No. 341/2005 Coll. by the Academy of Sciences of CR (ASCR)

Number of Employees in TOPTEC: ~ 30

Main Fields of Expertise: the department is specialized in the research and development of precise optics in the fields of: classical optics, crystal optics, x-ray optics, thin film layer, and plastic optics.

International activities and co-operation: Currently, TOPTEC is mainly dealing with the following projects:

- a) The development of the conceptual design of a view-finder for the European Solar Telescope (EST) within the 7th EU framework program.
- b) The design and development of a narrow-bandwidth bi-refracting filter for solar chromospheres observation. The filter is being created for the needs of AIAS and will be placed in German telescope GREGOR located on the Canary Islands.
- c) The development of three special objective lenses for hot plasma observation in the COMPASS tokamak.
- d) Cooperation with Rigaku Innovative Technologies Europe s.r.o. in the development of special x-ray lenses for lithography and medical applications.
- e) Eureka infrasens – Infrared optics from GaP material

Space Experience:

METIS (2011 -) the design and manufacturing of mirrors

PROBA III (2011-) the design and manufacturing of the Relay optics assembly