



## evolving systems consulting s.r.o.

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### General information

- Evolvsys.cz is a software producer.
- Provides innovative technologies and comprehensive know-how to benefit customers in several countries (Germany, Austria, Czech Republic, Poland, Russia).
- Company is active in the areas of Information, Communications, Control and Automation.

### Products and activities

#### Flight software programming for various satellite on-board instruments:

Flight software (Startup SW & Application SW) for ESA's SWARM Microaccelerometer MAC-04.

We are working on the Flight software (Startup SW & Application SW) and GSE software (Test Equipment SW) for an Microaccelerometer Instrument MAC-04 for the Earth's Magnetic field and environment Explorer SWARM. We deliver the complete software packet in all phases (Requirements and architecture design phase, Detailed design and implementation phase, Delivery and acceptance phase).

The ESA mission will provide the best ever survey of the geomagnetic field and its temporal evolution, in order to gain new insights into the Earth System by improving our understanding of the Earth's interior and physical climate and the launch is mentioned for 2010.

#### GSE (Ground Segment Equipment) software programming:

Ground Segment Equipment (Test Equipment) software for the MAC-04.

#### Data Processing software:

We are developing Data Processing Ground Segment software for SphinX - a fast Soft X-ray Spectrophotometer for the Russian CORONAS Solar Mission ([http://www.astro.mephi.ru/english/e\\_photon.htm](http://www.astro.mephi.ru/english/e_photon.htm)) in cooperation with Astronomical Institute, Academy of Sciences of the CR, v. v. i. The end customer is Space Research Center of the Polish Academy of Sciences.

The purpose of software is to analyze and process incoming data dumps, downloaded from the Spacecraft operational center. The inputs for the processing are SphinX spectrometer science (X-ray) data and auxiliary data - housekeeping/ technological data and S/C position/orientation data. Processed data will be accessible locally using the interactive visualization tool and remotely using Web server (data catalogue and visualization). The launch is planned for mid-2008.

#### Non Space:

- Integration and Process Automation of large IT Systems: Integration of the Security Management System (SMS) - Concept and execution of the merger between the Savings banks in the KSV System.
- Architecture of Web Applications, connected with Databases, running on Mainframe: Internet Banking Architecture - a multi-channel platform for connecting of various distribution channels (HBCI, Web), connecting of cooperation partners (TxB, LBS) and provision of their services over the Internet, S-Internet banking architecture (Savings banks' Internet banking).
- ASMM digital TV: The Web 2.0 Application Yam!TV plays back music and enables to control the counting rate of clips through interactive voting.
- RWE Rhein-Ruhr: Implementation of the system Optimization of Energy Flows for the RWE collection centre in Ruhr Area.
- RWE Graphic modeling of the network of gauging points of the energy flows and their statistic evaluation; integration of customers and trade partners through the Internet.
- Test & Configuration Management of large scaled IT Systems.

# Solar photonometer in X-rays




**1** CORONAS (Complex ORbital Observations Near-Earth of Activity of the Sun) – Russian program for study of the Sun and solar-terrestrial connections physics by series of spacecrafts, which provides launching of three solar-oriented satellites onto the near-Earth orbit. “CORONAS-PHOTON” is the third satellite in this series. Two previous missions of the project are “CORONAS-I” (launched on March 2, 1994) and “CORONAS-F” (launched on July 31, 2001). Launching date of “CORONAS-PHOTON” spacecraft is 2008

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**2** “SphinX” is a Fast Soft X-ray Spectrophotometer for the CORONAS-PHOTON Solar Mission

**3** The Swarm concept consists of a constellation of three satellites in three different polar orbits between 400 and 550 km altitude. High-precision and high-resolution measurements of the strength and direction of the magnetic field will be provided by each satellite. Each Swarm satellite will be eight metres long © ESA

**4** Logo of ESA’s magnetic field mission Swarm

## Technical know-how

We have in our team qualified software engineers, who have made several flight software kits as well as ground segment software for several satellites. They are fit in real-time and embedded systems programming.

Besides of that we have Software Architects, Database Engineers and good Test & Configuration Engineers.

Our German sister company is focused on Consultancy services in Banking and Energy Supplier segments of industry.

Our “Space” Engineers are familiar with ECSS-E-40B (Space Engineering – Software, Part 1B & Part 2B), our management also with ECSS-Q-20B (Quality Assurance), ECSS-Q-80B (SW Product Assurance) and ECSS-M-40B (Space Engineering – Configuration management), and other ECSS standards.

## Field of specialization

- Embedded software & Real-time software & Control systems & Navigation
- Software Architecture & Design & Consultancy & Development & Programming
- NASA’s SolarSoft & Research SW in ASM/C for ARM/ATMEL processors to control devices/sensors

## Software quality

We apply the ECSS standards:

- ECSS-E-40B Space Engineering – Software, Part 1B & Part 2B
- ECSS-E-70A Ground systems and operations - Part 1A & Part 2A
- ECSS-E-70-41A Space Engineering – Ground systems and operations — Telemetry and telecommand packet utilization
- ECSS-M-00-03A Risk management
- ECSS-M-40B Space Engineering – Configuration management
- ECSS-Q-20B Quality Assurance
- ECSS-Q-80B SW Product Assurance

## “Space” objectives for next years

Evolvsys.cz would like to be one of the best players on field of software development for

- scientific
- commercial
- military

satellite on-board systems in Central Europe, and for all possible

- embedded &
- real-time systems.

We are also very interested in ESA projects in

- Downstream Services
- Telecommunications
- Ground Segment Data Processing software
- Earth Observation and
- Satellite Navigation

We want to succeed in crossfire of ESA ITTs.

