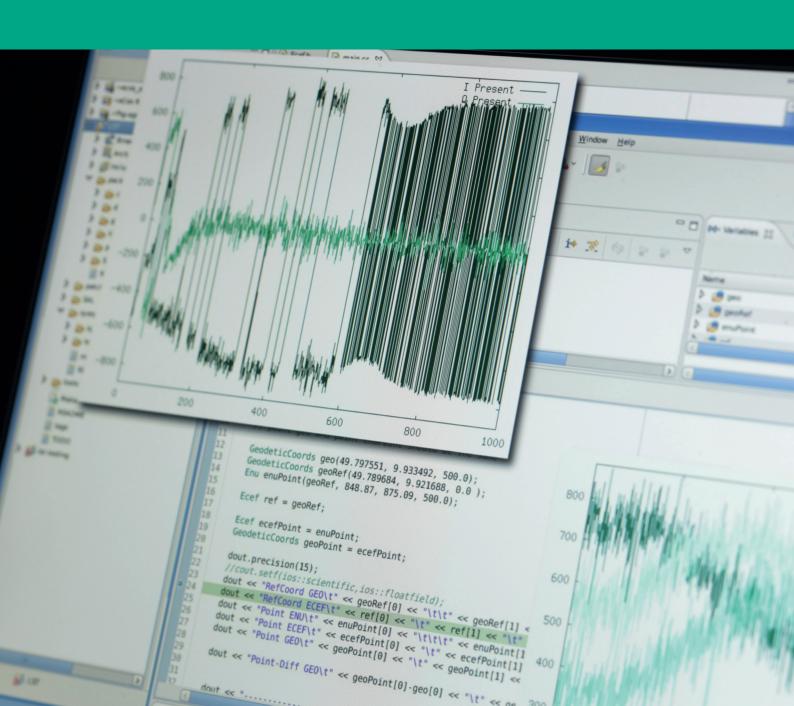**Fraunhofer**

IIS

FRAUNHOFER INSTITUTE FOR INTEGRATED CIRCUITS IIS

ADAPTIVE SYSTEM SOFTWARE

ADAPTIVE SYSTEM SOFTWARE

The Fraunhofer Institute for Integrated Circuits is your reliable partner for positioning and navigation. In our Nuremberg site, more than 30 scientists and engineers develop innovative technologies and system solutions. A key area of our work is software development for embedded and highly integrated systems.

WHAT WE OFFER

- Fully configurable positioning systems for development projects and products, especially in the area of satellite navigation
- Selection and adaptation of real-time operating systems
- Expertise in system design, implementation and integration
- Support from the initial concept stage to the production of functional prototypes
- Time and cost savings by component-based system development

OUR EXPERTISE

- System software for embedded systems
- Integration of embedded software with existing system designs
- Automotive applications
- System software for power and battery management
- Algorithms for navigation and positioning systems
- Software infrastructure for component-based systems and integration of software modules for navigation and positioning systems
- Positioning solutions for robots and small satellites
- Visualization solutions

APPLICATIONS

System software for embedded systems

Throughout the life cycle of a product, embedded systems can require hardware modifications, which in turn tend to necessitate costly adaptations of existing software. However, with our system software we are able to derive new applications from existing ones quickly and cost-effectively.

Algorithms for navigation and positioning systems

We develop algorithms that are essential to the positioning performance and accuracy of satellite navigation receivers. We have broad experience in implementing tracking modules that enable high positioning accuracy even in changing environmental conditions (e.g. due to the dynamics of the receiver, multipath propagation or fading). Our multi-frequency or multi-constellation receivers have a positioning accuracy of better than one meter and support new signal structures such as those used by Galileo or modernized GPS.

From our portfolio of implemented receivers, we can select the receiver best suited to your applications. Our solutions range from highly integrated, low-cost, single-frequency receivers to high-performance multi-GNSS, multi-frequency systems.

Software infrastructure for component-based systems

Our modular system software helps save resources and reduces development costs.
It is highly portable, real-time capable and easily adaptable to application requirements. Optimal solutions for the specific system requirements may be created within a short time. An example for the modular approach is our fully configurable receiver for satellite navigation-related development projects and products.

APPLICATION AREAS

Mobility
– Battery management system for hybrid or electric vehicles
– Advanced driver assistance systems for collision avoidance and energy-efficient driving
– Vehicle steering and high-precision machine control in agriculture and construction

Security
– eCall emergency system
– Operation support
– Hazardous-cargo monitoring

Logistics
– Asset tracking
– Fleet management
– Construction site management

Information and Entertainment
– Point of interest services
– Location-based advertising
– Integration of social networking platforms with satellite positioning

Robotics
– Wide area monitoring
– Property surveillance

Your application is not listed? Do no hesitate to contact us – we can do more!

COLLABORATION

You have an idea, an unsolved problem or need technical advice? Please do let us know. We offer a wide range of collaboration opportunities with support from the initial concept stage to prototype production. Depending on your requirements, we can conduct feasibility studies, develop designs or realize complete projects.

Visit our department on the internet:
http://www.iis.fraunhofer.de/en/abt/los.html

For more information please visit:

WWW.IIS.FRAUNHOFER.DE