



Design House

**consortium for MST Take up action
MST SYSTEMS IST-2001-33393**



COORDINATOR

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PARTICIPANTS

- European Technology for Business Ltd (ETB), Codicote, UK
- KBI Commercial Ltd (KBIC), Dorking, UK
- Interuniversity Micro-Electronics Center IMEC, Leuven, Belgium
- Plasma Antennas Ltd (PAL), Yarnton, UK
- Institute of Electron Technology (IET), Warsaw, Poland
- Institute for R&D in Microtechnologies (IMT), Bucharest, Romania

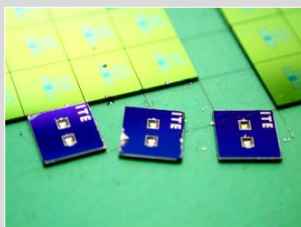
OUR ROLE IN THE PROJECT

Within the frame of the MST SYSTEM we assist customer on the entire road from initial concept, through behavioural description, simulation and system analysis, up to prototyping and small scale production.

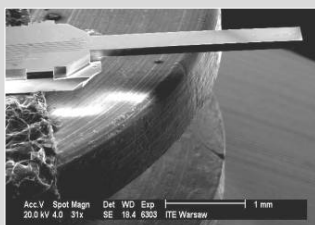
Basing on an available expertise IET exploits its main strength, which is combined expertise in different, silicon based technologies. IET focuses on physical sensors (pressure, force, temperature etc.) as well as on photodetectors and integrated circuits, however the main stress is put on integrated solutions. Our goal is to provide industrial as well university customers, with access to solutions based on advanced silicon micro-technology. Our specificity lays in flexibility, broad range of available technologies and openness to undertake non-standard endeavours. Thus, we develop customised, non-standard solutions in the field of silicon microsystem technology, solutions which are not available on the market.

RESULTS

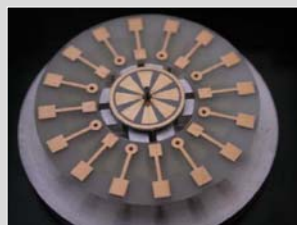
Institute team, working in the MST System project has participated series of Europractice meetings. Following examples learned from partners it has elaborated and presented to customers offer of services. As the result, IET has initiated and won a number of R&D projects, financed from national as well as from industrial sources, among them a biggest industrial project ever won up to now. Furthermore, installing a new MEMS modelling and simulation package IET has improved it's design capabilities. The package has been adopted also to fast development of concepts, to present them to customers during a contract negotiation phase.



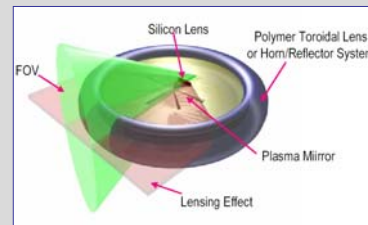
ISFET's (IET)



Force sensor (IET)



Gyroscope (ETB)



Electronically Sterable Antenna (PA)

PROJECT DESCRIPTION

MST SYSTEMS is a project organised on EUROPRACTICE platform, focused on Microsystems.

EUROPRACTICE is an European organization which helps users to take their ideas from concepts, through studies and design to manufacturable, tested and packaged products by opening access to Design House and Competence Centres, and Manufacturers.

A microsystem is a miniaturised system comprising several functions such as sensing, signal processing and actuating. Microsystems can make existing products smaller, cheaper, better and more reliable but also facilitate the creation of entirely new products. In particular, MEMS (Micro Electro- Mechanical Systems) combine Electronic and Mechanical functions in one microsystem while in MOEMS the Optical functions are added.

MST Systems is a partnership between complementary Design Organisations across Europe. Our collective aim is to increase the number of commercially available systems using microsystem technology. We will achieve this by offering a total systems approach to our Customer. It is our job to understand his requirements and offer a suitable solution, recognizing that he neither want to, nor need to become an expert in our technology. Our focus is on the Medical and Communication Sectors, whilst also addressing other areas such as Sensors and Instrumentation.

Collectively we have a range of products and processes that we can apply to your application. Summarizing, we offer: Physical sensors, including acceleration, pressure, flow, angular rate, chemical sensors (ISFET's), biosensors, micro-structures, Piezo-electric actuators, valve systems, mask design and fabrication, model device and prototype development, pilot production and whole project management.

We already have some prototype designs available developed for specific applications, most of which are in the medical sector. Some examples are: piezo-electric gyroscope, 3 axis accelerometer, intelligent microvalve for urology applications, implant for Dropped Foot, Back Side Contacted ISFET's. All listed devices are clear examples of how research is being exploited into commercial MST products.

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