

# Press Release



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microelectronics

## Optical Gyroscope-on-Chip for Space Applications EU-FP7-SPACE-Project MERMIG successfully launched

**Frankfurt (Oder), March 20<sup>th</sup>, 2013:** IHP announces the successful launch of EU-FP7-SPACE-Project MERMIG. The project underlines the strategic importance IHP perceives in space applications to support regional and European industry. MERMIG extends existing research and development activities for space applications to space-qualified opto-electronic technologies. Therefore, IHP and 6 European partners initiated a 3 year initiative financially supported by the European Program FP7-SPACE, with the objective to develop a silicon integrated optical “gyroscope-on-a-chip”.

Space system vendors seek for solutions to deliver small size and cost-effective sensor systems to “de-congest” satellite payloads, drastically reduce the equipment cost and open the possibility for new generation of micro-payload systems. MERMIG aims to provide this technology replacing current expensive, bulky, heavy and power-consuming fiber optic gyroscopes (FOGs). To address these key challenges, MERMIG invests in the right mix of silicon photonic CMOS-compatible component fabrication and nano-imprint lithography laser fabrication. Both technologies are being adopted by the terrestrial telecom market and MERMIG will develop them for bringing their unique advantages into space sensor systems.

IHP shall contribute to the success of MERMIG its Silicon photonics OE-waveguide platform for nonlinear applications. The technology relies on IHP’s 200mm BiCMOS pilot line fabrication facilities, which enables cost-effective photonic-electronic integration for high-performance Silicon photonics applications.

### Participants:

- Constelex Technology Enablers Ltd. (UK)
- Politecnico di Bari (I)
- IHP - innovations for high performance microelectronics/ Leibniz Institut für innovative Mikroelektronik (D)
- Modulight Oy (FIN)
- Astrium SAS (FR)
- DAS Photonics SL (E)
- Universitat Politècnica de Valencia (coordinator) (E)

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### About IHP:

The IHP is an institute of the Leibniz Association and conducts research and development of silicon-based systems and ultra high-frequency circuits and technologies including new materials. It develops innovative solutions for application areas such as wireless and broadband communication, aerospace, biotechnology and medicine, automotive industry, security technology and industrial automation. The IHP employs approximately 300 people. It operates a pilot line for technological developments and the preparation of high-speed circuits with 0.13/0.25  $\mu\text{m}$  BiCMOS technologies, located in a 1000 m<sup>2</sup> class 1 cleanroom.