



SMARTFIBER

Miniaturized structural monitoring system with autonomous readout micro-technology and fibre sensor network

Collaborative Project

ICT – Information and Communication Technologies

D4.1 Intermediary assessment of design and processing of PIC, PDA and ROIC in view of first review meeting

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1 Abstract and public summary

This deliverable reports on the development of the photonic integrated chip (PIC) spectrometer and the correspondent electronics, to enable a miniature planar fibre Bragg Grating Sensor (FBGs) interrogator.

In the following, after briefly reviewing the target specifications of the interrogator, the proposed architecture will be presented and the various building blocks will be discussed in detail (taking into account fabrication, temperature and polarization issues).

Subsequently the processing for the PIC, the PDA, and the flip-chip of the detectors will be addressed.

Afterward the designed structures submitted for fabrication will be presented.

Finally preliminary measurements of the early fabricated structures will be discussed.