

## Investigation of Laser Based Processes for MEMS Assembly and Packaging

### Objectives

- Experimental investigation of feasibility of a MEMS encapsulation process using localised laser heating effect and polymer intermediate bonding layer
- Identification and evaluation of laser joining processes for MEMS packaging and encapsulation

### Partners involved

- Heriot Watt University
- IMEC
- Lancaster University

### Summary of results

- Successful demonstration of laser assisted polymer bonding for MEMS/microsystem packaging
- Rapid bonding process (seconds)
- Glass-silicon microcavities produced using laser bonding
- Leak tests showing excellent sealing
- Filing of a UK patent, GB0510873.3

### Offer to industry

- A rapid, low thermal damage bonding method for MEMS packaging
- Licensing opportunity
- Technology consulting in MEMS packaging

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### Project status

Laser bonding and review completed, reliability testing in progress

