



# services & capabilities

**Optocap has an extensive design, assembly and reliability testing capability, supporting all areas of electronics and optical packaging. Engineering staff have been recruited for their opto- and micro-electronics expertise and have considerable industrial experience in product/package development.**

## Services

- Design consultancy
- Environmental testing to Telcordia, JEDEC, IPC standards
- Prototype assembly (small volume)
- Volume manufacturing design process
- Final test and device characterisation
- Failure analysis and corrective action support
- Product and process review
- Process control implementation and training

## Technical Capabilities

### Design

- Package – 3D modelling
- Multi layer substrate - BGA, PCB, flex
- Optical
- Design for manufacturing

### Analysis

- Mechanical stress FEA
- Thermal modelling

### Design verification

- Telcordia
- JEDEC
- IPC

### Environmental test

- Damp heat (biased 85/85)
- Mechanical shock and vibration
- Temperature cycle, thermal shock
- High and low temperature storage
- Autoclave
- E.S.D. (HB, MM, CDM) and latch up

## Assembly

- Device singulation : Dice/scribe and cleave
- Pick and place : Die sort, wafer to tray etc
- Die attach : Adhesive, solder, die shear
- Flip chip : Device bumping/placement
- Wire bond : Aluminium wedge and gold ball, wire pull and ball shear
- Encapsulation : Glob top, transfer mould
- Hermetic seal : Resistance weld
- Fine and gross leak
- Fibre align : Semi-auto fibre align
- UV cure, Laser weld
- Surface mount : Screen print, IR reflow
- BGA : Ball placement and device attach
- Marking : Pad marking

## Optical test

## Characterisation

## Failure Analysis

- Micro-focus X-ray
- Section and polishing
- Metallurgical microscope

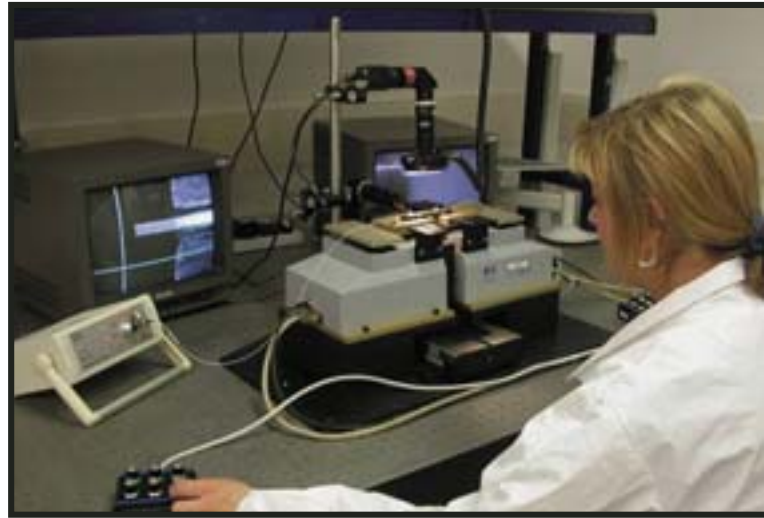
## Key Equipment

Optocap has a comprehensive assembly capability with the following key equipment:

- Palomar 3500 II component assembly station, fitted with eutectic die attach and flip chip capability



- Physik Instruments semi auto fibre align station to nanometric precision



- Optical test - tuneable laser sources, analysis (OSA, power meter, integrating sphere, polarization analyser)
- Micro-focus X-ray (<math>5\mu</math> resolution)

## About Optocap

Optocap Limited develops advanced device packaging solutions for the communications, consumer, industrial, medical and automotive markets worldwide. Working on optoelectronic, MEMS and biotech devices, microdisplays and sensors, Optocap's expertise in packaging solutions spans the development process: from design consultancy through prototyping, qualification (including full Telcordia), failure analysis, and transfer to low-cost volume manufacture.

Established in June 2003 by Scottish Enterprise to provide a critical link in commercialising university-generated IP and creating/sustaining high-growth potential start-ups, Optocap is jointly funded by Scottish Enterprise and the European Regional Development Fund for three years, after which it will be spun-out as a commercially independent organisation.

Optocap is located in Livingston, Scotland. For more information, please contact us at +44 (0) 1506 403550, by email [info@optocap.com](mailto:info@optocap.com) or at [www.optocap.com](http://www.optocap.com).

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