kromek

KROMEK

Detect : Image : Identify

Ian Radley
Chief Technology Officer

Profile

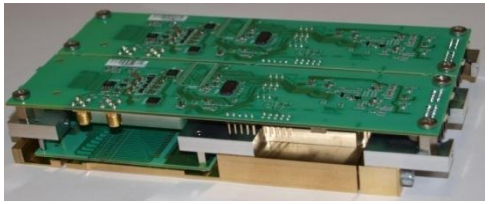
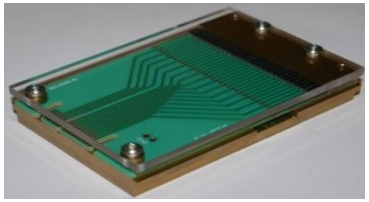
- **Research, development and production of energy discriminating detectors and systems for x ray and gamma ray applications**
- **Research, development and production of ASICs for photon counting, timing and energy discriminating applications**
  - Founded in 2003 as spin out from University of Durham, UK
  - Based in North East England, UK and California, USA
  - Privately funded – investments over $27m in last 5 years
  - Employs over 55 people in US and UK
  - ISO 9001 accreditation for all internal design and manufacturing processes

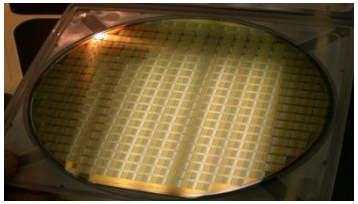
What do we do

Business Model :

- Provide end user products for niche applications
  - E.g. Bottle scanner

- Supply technology solutions to key OEM's in strategic markets
  - E.g. Detectors for security, industrial, medical and physics applications



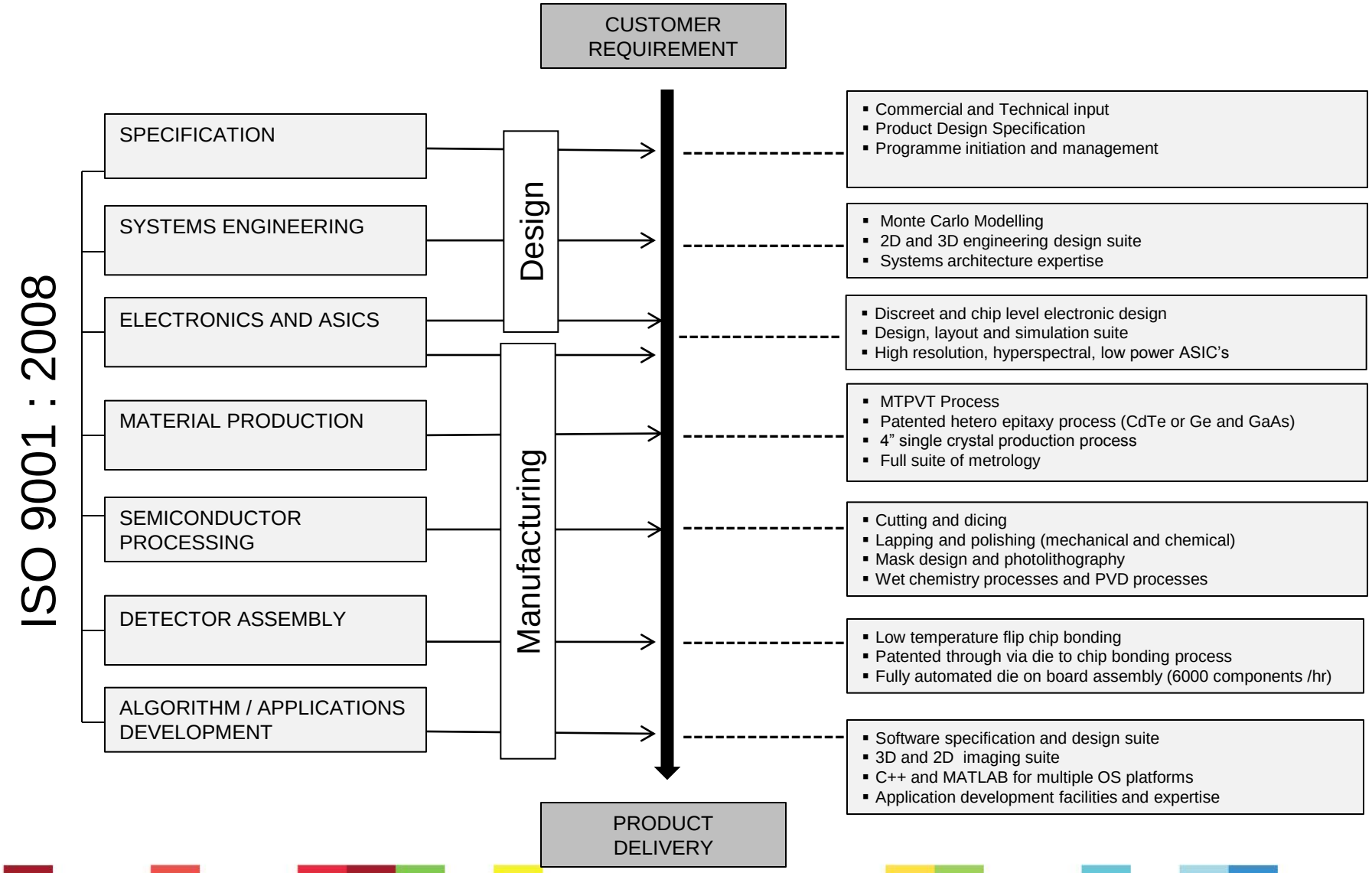
What do we do

- Many of our technologies have been developed in partnership with universities and national laboratories. Our aim is to find relationships where all parties can gain through partnership.

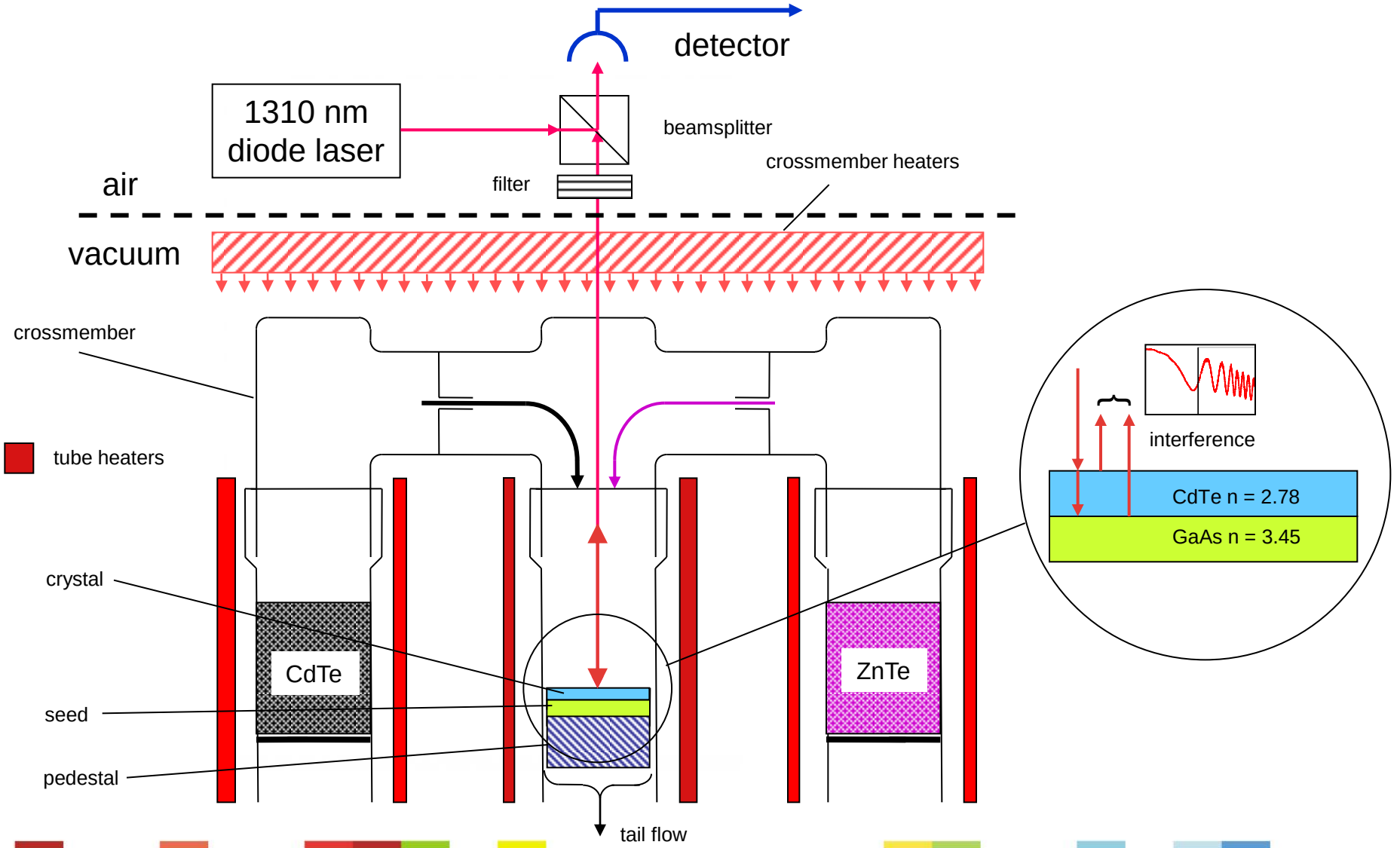
- ESA
- Institute of Cancer Research
- National Institutes of Health
- UK government
- US government

- University of Glasgow
- University of Surrey
- University of Liverpool
- University of Massachusetts

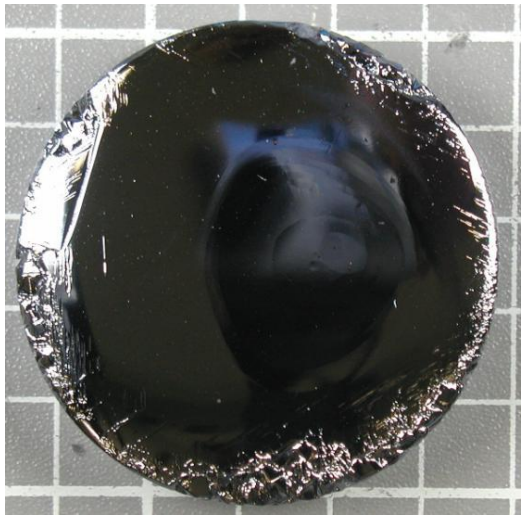
Kromek's Core Capability Offering

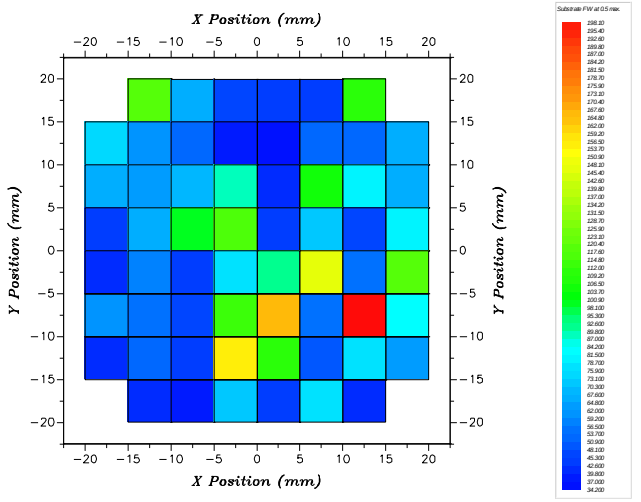


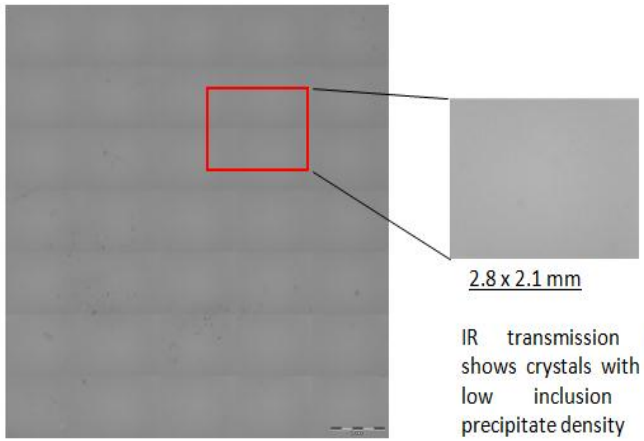
Multi-tube physical vapour transport



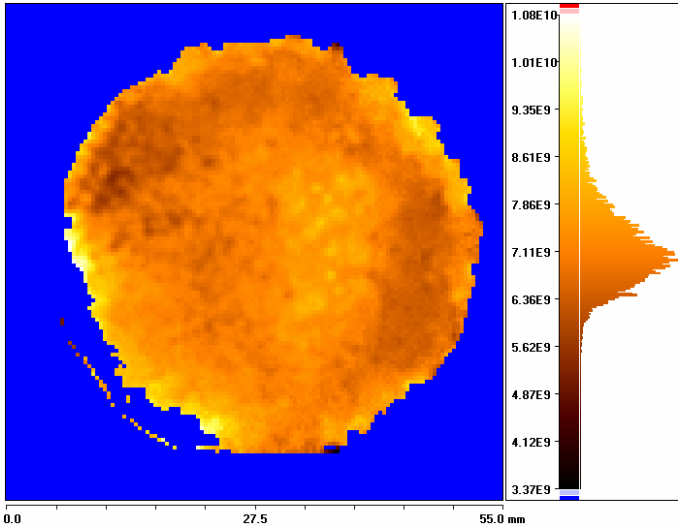
Wafer Scale Properties



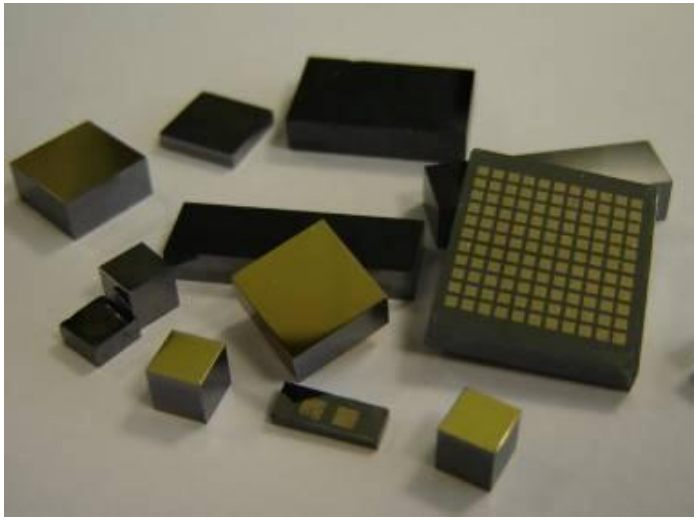




IR transmission map shows crystals with very low inclusion and precipitate density



Detector Capabilities



- Complete back end processing and detector fabrication capability
- Proprietary interconnect technologies for robust and stable die to chip bonding
- Robotics for array manufacturing - 32 channel detector assembly in under 1 minute

Nova R&D Inc

Nova specialises in the design, development and manufacture of:

- ASICs, imaging detectors, sensors and systems for medical, security, industrial and physics
- Advanced digital and analogue circuits, read-out, timing and data management technologies and systems, software and firmware
- Custom detectors, instruments and electronics

Nova R&D Inc

- Extensive track record developing custom integrated mixed-signal readout ASICs and associated support electronics for multi-pixel radiation detectors.
- Detector types covered include solid-state detectors, APDs, PMTs (single- and multi-anode), and microchannel plates.
- Detector pixel count spans the range from eight to several thousand per ASIC; detectors with more than ~100 pixels are flip-chip bonded directly to the ASIC.
- Applications have included photon/particle pulse counting (with or without energy binning), high-resolution spectroscopy, and current-integrating detector readout.
- Input signal sizes range from less than 1 fC to tens of pC – SiPM applications typically align well with this range .