Atomic Layer Deposition (ALD)

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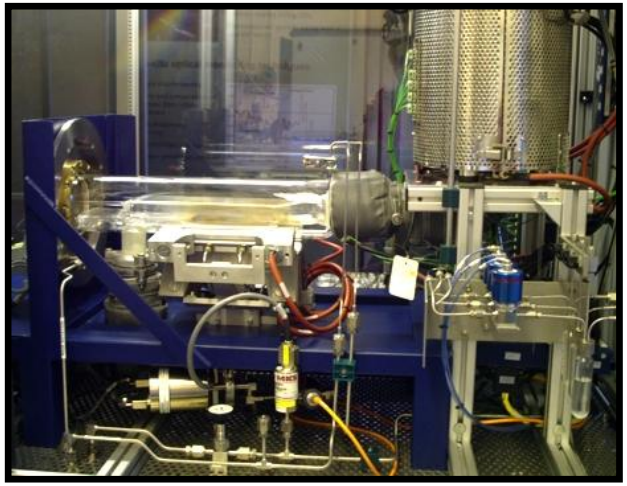
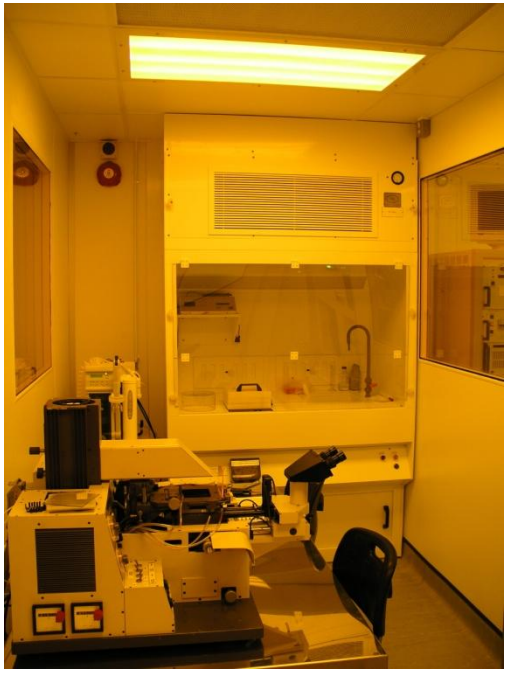
Nanostructured Films & Surfaces

- > £10M investment in research & facilities over last 10 years
- Research collaborations with > 20 companies across the value chain
  - Instrument manufactures, chemical suppliers and end users
- Key project areas include:
  - Semiconductors, Power Electronics
  - Sensors, Optics
  - Photovoltaics, displays
  - Biomaterials
  - Displays
- Key enabling technology that cuts across the high value manufacturing topic

Equipment and Facilities



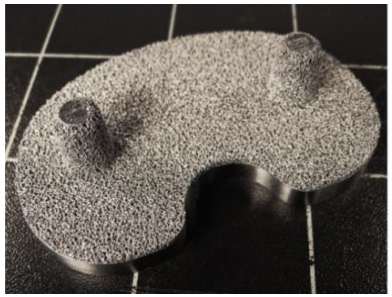


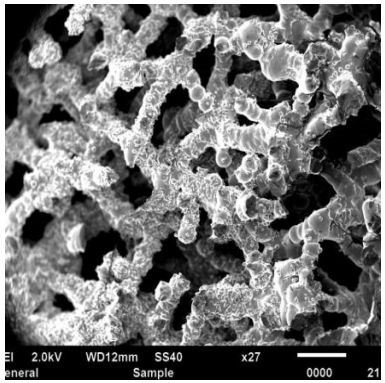
- ALD, Plasma ALD, CVD capabilities (5 reactors in total)
- Characterisation (*in situ* elipsometry, TEM, SEM...)
- Class 10000 clean room (1000 yellow room)
- Expertise in deposition of metals, oxides and nitrides as thin films, nanowires or nanoparticles
- 10 years active in ALD

KNOWLEDGE CENTRE
MATERIALS
CHEMISTRY

Applications

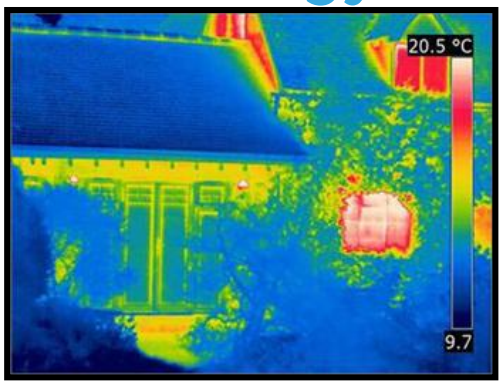
Healthcare





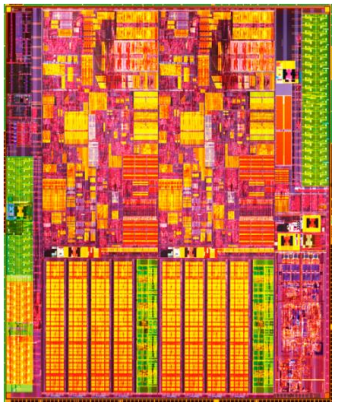
Calcium hydroxyapetite coatings on prosthetic implants

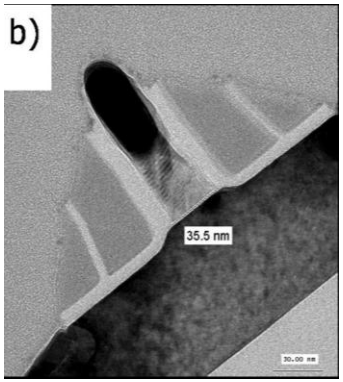
Energy



Transparent conducting oxides for 'low-e' glazing and PV

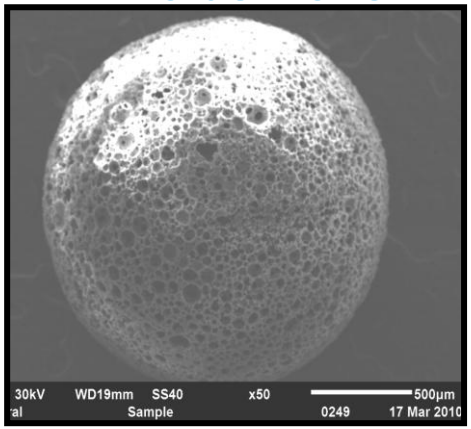
ICT

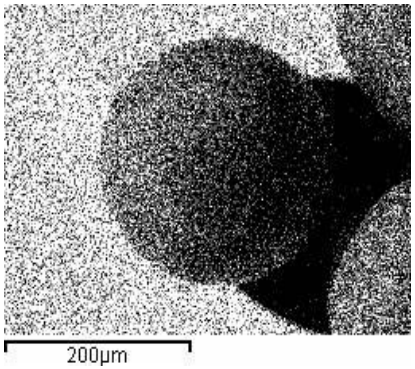




High permittivity dielectrics for processors and memory devices

Materials





Porous and powder materials – catalysts, nanoparticles etc.

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