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Opportunities for Industrial Engagement and Commercial Applications of X-ray and Correlative Microscopy at the Australian Synchrotron

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The Australian Synchrotron is a powerful scientific tool offering state of the art techniques and is ideally positioned to provide services for the evolution and commercialization of the next generation of high-tech products. The increasing pressure to move products to market quickly has required industry to look for new approaches in their development cycle. To this end, industry is embracing the advantages provided by the Synchrotron, with respect to both the technical services and scientific experience and expertise provided to commercial clients.

The world class X ray and Infrared microscopy facilities at the Australian Synchrotron provide unique opportunities to commercial enterprises not available at any other facility in Australia. The large area scanning and high sensitivity of the X ray Fluorescence Microscopy beamline enables the acquisition of high definition elemental maps for industries including agriculture, minerals and mining, and advanced materials. The Infrared Microspectroscopy beamline combines the high brilliance and collimation of the Synchrotron source to achieve a spatial resolution that has been applied to problem solving - such as contaminant identification in manufactured products. The Imaging and Medical beamline ability to produce rapid, time-resolved, high-contrast 3D tomographic images of soft and hard materials has been applied to investigations of pore networks and connectivity in additive manufacturing products and geological systems. Examples will be provided highlighting the strengths of these techniques and the particular benefits they can provide Australian industry.

Keywords or phrases (comma separated)

Industry, Agriculture, Mining, Minerals, Materials

Summary

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