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BlueScope Steel – inspiring smart solutions in steel

Dr. Monika Wyszomirska

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Abstract:

BlueScope Steel Limited (BSL) is at the cutting edge of materials technology for application in prepainted and metal coated steel products and as such has a strong innovation focus to maintain technical leadership in a competitive global market. A key aim of BSL is to provide customers with safe, durable and sustainable products, the development of which is heavily dependent on the ability to understand materials performance. This in turn requires a fundamental understanding of the materials themselves and mechanisms that govern their performance, studied to the high level of detail. Delivery of BSL's innovation roadmap requires high-capability analytical equipment to resolve and provide compositional and structural information about the materials that underpin new product developments. The pathway to innovation includes fundamental studies supported by PhD level research to investigate and deliver targeted outcomes as well as day-to-day support of the plant operation. In this context modern laboratories with high-end equipment on site as well as access to the specific expertise in the proximity are crucial to fulfilling the needs of the business long term. Examples of the collaborations range from sharing costs of the equipment purchase with the universities, support of the grants, outsourcing for specific testing which otherwise would only have intermittent usage and supporting cadetship arrangements to support the community and provide future work possibilities in the region.

Bio:

Dr. Monika Wyszomirska is a Materials Evaluation Specialist at BlueScope Steel Limited (BSL). She completed her PhD studies in the area of plasma processing of powders and characterisation using XRD, SEM, TEM and EBSD techniques. She has since turned her skills and experience directly to the manufacturing industry and her research focusses on characterisation of engineering materials to provide understanding of their chemistry, structure and properties. Importantly for industry her work forms the critical connection between fundamental materials science and materials behaviour in residential, commercial and industrial applications. Dr. Wyszomirska is currently focussing on supporting research and development projects across the BSL with a focus on metallic and organic coated products. As an emerging specialist in analytical characterisation techniques, her role also includes the identification and assessment of advanced, state-of-the-art analytical instrumentation and technologies, in particular electron microscopy-related methods and to establish and maintain strong collaborative relationships between industry and research facilities and universities. She has played a key role in the justification, specification, procurement and installation of high-end electron microscopy and ion milling equipment within BlueScope and is responsible for its ongoing operation, maintenance, and utilisation.