

Transformation of Natural Resources Industries through Smarter Data, Modeling, and Analytics

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Abstract.

Growing world prosperity is increasing demand for natural resources at the same time that scarcity of these resources is increasing. Therefore, natural resource firms need to dig or drill deeper, and to do so in increasingly remote locations and under increasing environmental and regulatory scrutiny. This presentation will describe how rapidly growing instrumentation and data gathering capabilities are presenting natural resource industries with opportunities to employ advanced analytics and models to create step-change improvements in productivity and output potential. Transformative opportunities ranging across the planning, exploration, production, refining, and distribution phases of the natural resources lifecycle will be discussed. And a detailed discussion of a new family of capabilities based on heavy equipment instrumentation and health modeling will be presented, along with applications to production optimization.

Speaker Bio.

Matt Denesuk oversees analytics & modeling programs relating to natural and environmental resource management, operational efficiency, sustainability, and social technology at IBM Research. His current focus is on equipment modeling for production optimization solutions. He was previously a Partner with the IBM Venture Capital Group, where he focused largely on cleantech and analytics segments, including smart grid, smart buildings, environmental resource management, and renewable energy technologies. Prior to this, he was the leader for measurements and efficiency in IBM's Global Technology Services business, and for global strategy for IBM's "asset-based services" transformation. He has also held various positions in IBM Research focused on new business/offering creation in such areas as medical diagnostics, advanced sensors, portal technology, and text analytics. Before joining IBM, Matt co-founded and managed several companies, including a globally integrated consumer products company and a biodegradable plastics company. He has also led research programs for intelligent window technologies for green buildings, and has led fundamental research activities in electrochemical systems modeling and capillary-driven fluid flows. In addition, he served for many years as a consultant specializing in IP strategy & litigation and product liability. Matthew received a B.S. from MIT in Electrical Engineering and Computer Science, and M.S. and Ph.D. degrees from the University of Arizona in Materials Science and Engineering.