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## **Nikon Metrology- High energy Micro CT applications**

Abstract: X-ray based computed tomography (CT) has revolutionized diagnostics in medicine since the seventies and is used for non-destructive testing (NDT) for over 30 years. Industrial CT applications in quality control and product development are growing since the end of the nineties. Applications can be differentiated by the energy of the applied X-ray radiation –low energy applications up to about 200 keV for small and lower density specimens like plastic parts or high energy applications typically up to 450 keV for larger specimens like metallic casting parts. In the mid-eighties X-ray tubes with micron size focal spots have been developed to achieve higher resolutions than previously possible with conventional X-ray tubes. Typical micro focus tubes in comparison to conventional X-ray tubes are limited in energy and power. This presentation is especially about outstanding technical achievements regarding micro focus X-ray tubes with a high energy spectrum up to 450 keV and significantly higher power ratings. In combination with state of the art CT technology this opens new possibilities for the development of new and innovative products and manufacturing techniques.

**Session Classification:** Industry and Academia on Non-Destructive testing