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Application of Multiple Metrology Systems for Predictive Machining

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ABSTRACT

Application of Multiple Metrology Systems for Predictive Machining

This presentation describes the application of white light scanning, photogrammetry, and laser tracking in a rapid-response situation to make quality deficient castings acceptable for production usage.

An aircraft component was re-designed to reduce complexity from a sheet metal assembly to a single piece, net shape investment casting. Upon evaluation of the first casting, it was determined that surface waviness and additional features as cast, were unacceptable. With schedule already critical, Boeing - St. Louis Tooling / Rapid Response Center was tasked with developing a solution to process these castings, thereby making them suitable for production usage. With a host of metrology systems, software, and a Forest Line' high speed machining center at our disposal, the St. Louis Tooling Center put a plan into action, which yielded success for the program.

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