**Problem Statement:**
Incoming stock from casting and forging suppliers can vary to the point that standard machine tools cannot adequately respond to the existing material condition in the as-programmed state.

**Deliverable:**
Metrology software and manual detailing how to implement the metrology software.

**Benefits:**
- Generate a more efficient method to map the volumetric errors of a machine tool
- Obtain deeper understanding of thermal efforts for industries with non-controlled working environments.
- Generate an approach for in-situ measurement with laser scanning system to capture part variation
- Generate a tool to perform virtual gage analysis
- Generate a software application to generates programs which compensate for workspace errors and simulate machining with these programs.
- Generate a tool to predict cutting forces and got better understanding of induced form errors on the parts from machining process.

**Industry Use Case:**
- Standard procedure and software from IMVM are available to MxD members (based on membership level)
- Company Type: Large OEMs or related suppliers
- User Position: Manufacturing engineers and operators
- Industry Segment: Aerospace, Automotive, Mining, power generation and constructions machinery companies