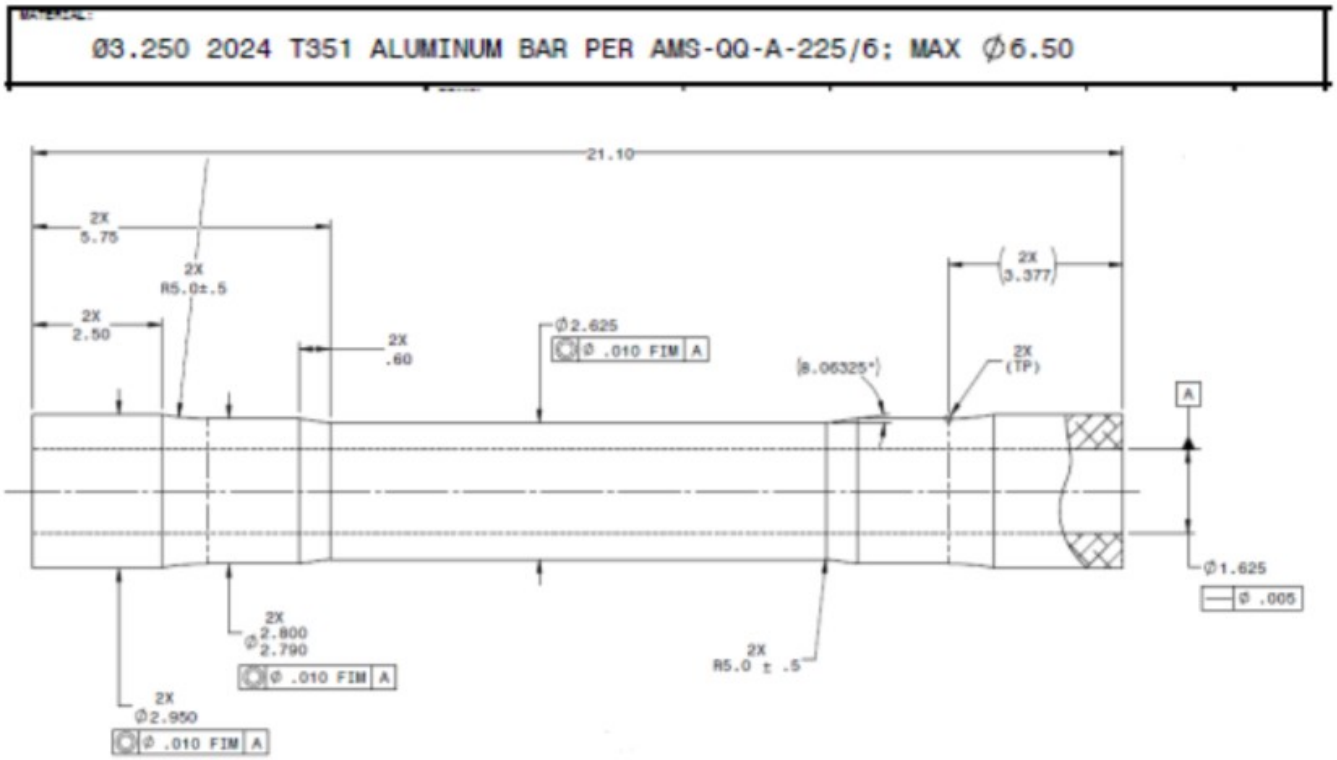
OMIC R&D TECHNOLOGY BOARD
Thin Wall Horizontal Tube Machining
Request for Proposals

1.0 Project Information

- **Project Title:** Thin Wall Horizontal Tube Machining
- **Project Type: Joint General Project**
- **Project Description:** O.D. Machined / Deep Hole Drilled / Honed precision tubing is utilized in many critical aerospace applications. Currently the process requires anywhere from 2-5 separate operations that could potentially be completed in one operation on the WFL CNC Millturn Machine Tool.
- **Project Outcomes:** Specific desired outcomes are for a one and done approach to
- manufacturing thin walled tubing within print specifications for the aerospace industry. The present WFL CNC Machine Tool can be utilized for this project in conjunction with special tooling / tool holders drastically reducing cycle time / handling time / and with it quality issues due to human intervention. Parts range from 20” to 65” in length. Aluminum, 15-5, Titanium solid round bar stock (see image below).



- **Project Duration:** The team expects that this project would require on the order of 6 months.

2.0 General Information for All Proposals

- **Eligibility*:*** All faculty at OMIC R&D Research institutions and OMIC R&D technical staff.
- **Performance Period:** The Performance Period of the proposed work must be appropriate for the content given above in the Project Information sections. Requests for excessive or unjustified performance periods can be reason for proposal rejection by the OMIC Technology Board.
- **Award Amounts*:*** The funding requested must be appropriate for the content given above in the Project Information sections and consistent with any limitations given there. In all cases requested funds must be fully justified. Requests for excessive or unjustified funding can be reason for proposal rejection by the OMIC Technology Board.
- **Proposal Format, Content and Details:** All proposals must strictly follow the template given below and include all required sections
- **Submission Deadlines: Monday June 3, 2019**
- **How to Submit:** Send proposals by email to the OMIC R&D Project Manager, Ally Imbody <*alicia.imbody@oit.edu*>
- ***Proposal Review Process:*** Proposals will be reviewed and award decisions made by the OMIC Technical Advisory Board. The Board encourages collaboration between OMIC's university research partners in response to this RFP when collaboration will provide the best value for achieving the desired Project Outcomes. Evaluations will be based on the following criteria:
  - Soundness of the proposed methodology
  - Demonstrated subject-matter expertise of proposed staff
  - Cost/reasonableness of proposed budget
  - Timeline/adherence to proposed schedule
  - Past performance (if applicable)

  Technology Board members will evaluate each eligible proposal submitted using a five-point scale where: 1- poor, 2-deficient, 3-acceptable, 4-superior, 5-outstanding. Evaluators will assign a default score of 3 for Past Performance if no information is available. All scores will be averaged by the Tech Board chair and a decision made based on the highest overall score.
- **Informational Contact:** Questions are to be directed to the OMIC Project Manager, Ally Imbody <*alicia.imbody@oit.edu*> by **Monday, April 29, 2019**. Consolidated questions will be sent to the Technology Board Chair and responses will be provided to all research partners by **Monday, May 6, 2019**.
- **Performance Requirements:** The PI and institution awarded the project will be expected to progress the work expeditiously to meet all of the progress milestones shown in their proposed schedule (see section two below).
- **Project Termination:** The Tech Board reserves the right to cancel the project at any time.

3.0 Specific Information for this RFP

Researchers could consider new technology such as electronic chucks that can align parts and use very minimal clamping pressures; hydraulic expansion mandrels that grip the ID of the tubing while the OD is turned to meet specifications; constant contact probing and

ultrasonic measuring of thin wall tubes using coolant as the liquid; and spindle speed variation for long boring applications that allows boring long deep holes with less expensive bars. Potential applications include developing a method for predicting the amplitude and pitch of these vibration cancelling spindle speed adjustments.