

TECHNOLOGY ACCESS CENTRE FOR AEROSPACE AND MANUFACTURING (TACAM)

Proud member of

Tech-Access Canada



SERVICES OFFERED IN:

English



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POINT OF CONTACT:

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Affiliated with Red River College

TACAM supports Manitoba's aerospace and manufacturing sectors by providing enhanced access to RRC's technological assets, specialized facilities and equipment, and subject matter expertise. Industry benefits through training, knowledge and technology transfer, technical services, and applied research engagements.

AREAS OF INNOVATION EXPERTISE

- Advanced materials processing
- Robotics and automation
- Laser and advanced arc welding
- Imaging (including high-speed imaging)
- Non-destructive investigation
- Physical and computer-based simulations



TECHNICAL AND BUSINESS SERVICES

- Advanced welding support for product development
- Assistance with building product approvals and commercialization
- Components/parts fabrication
- Concept ideation & design review
- Customized machining (including laser machining)
- Design Services
- Fabrication, Prototyping and Installation Services
- Facilitation service (introduction)
- Field trials/Simulation
- Non-destructive inspection (NDI)
- Performance Monitoring and Management
- Printability testing and analysis
- Proof of concept
- Scientific and technological monitoring
- Scientific report writing
- Technology & workflow consultation
- Technology evaluation / validation

APPLIED RESEARCH AND DEVELOPMENT

- 3D Design, Rapid Prototyping, & Scanning
- Advanced welding (including laser and arc processes)
- Automation
- Composite part manufacturing
- Composite tooling design and manufacturing
- Design of Experiment
- Industrial scale prototyping
- Laboratory/pilot scale prototyping
- Manufacturing process design and development
- Measurement inspection and alignment
- Non-destructive inspection
- Performance monitoring and analysis
- Process optimization
- Product Design & Development
- Provincial and federal grant proposal development
- Report preparation on R&D results
- Reverse Engineering
- Sensory research facilities
- Robotics and automation and imaging
- Technology validation and transfer

TRAINING

- Connections to co-op placement opportunities
- Corporate on-site & in-house training
- Curriculum development
- Design, development, and delivery of customized training
- Interactive Workshop Sessions
- Needs assessment and gap analysis
- Training planning
- Train the trainer

TECHNOLOGY DIFFUSION

- Customized technology demonstrations
- Field site product demonstration
- Industry-specific events & symposia
- Networking events
- Open houses - Testing facility & personnel
- Participation at trade shows & other venues with or on behalf of partners
- Presentation of results at conferences
- Publishing in Peer Reviewed Literature
- Rental of space & equipment
- Seminars and Workshops

INVENTORY OF SPECIALIZED EQUIPMENT

- Model Factory Machine Shop:
 - 3D Printing: Stratus (2) and Stratus Fortus
 - Manual Machining: Lathes, Milling Machines, Surface Grinders, Cylindrical Grinders
 - Gas High Heat Furnace, Gas Tempering Furnace
 - Inspection: Coordinate Measuring Machines (CMM): Mitutoyo CMM & Profile Projector, Brown & Share CMM Optical comparator
 - Computer Numerical Control (CNC): TL Lathes, SL20 Bar Feeder, SL20 APL, SL20, SL10
 - Haas Vertical CNC Mill: Mini Mill, vf1, vf2, Horizontal
- Composites Model Factory:
 - Contamination Controlled Area Shop
 - AGFM CNC Cloth Cutter
 - CNC 5-axis router
 - Ovens (curing composite parts)
 - Heated Platen Press
 - Environmental Booth
 - Paint Booth for all paint applications
 - Non-destructive Inspection: Ultrasonic, Liquid Penetrant Inspection (LPI), Magnetic Penetrant Inspection (MPI), and Laser Ultrasonic Testing (LaserUT)
 - Optical Layup Template Projector (OLT)
 - Metal/Engine specific: Sheet Metal Shop, Gas Turbine Repair & Overhaul Shop, Avionics Shop, large aircraft hangar, stores, etc.
- Centre for Aerospace Technology & Training
 - Advanced Robotic CMT Welder
 - Lasers: Manual Nd: YAG Laser, Robotic CO2 Laser, Laser-MIG Hybrid Welder, Diode Laser, Plastic Laser Welding System
 - Micro TIG welder
 - Industrial Robots
 - Digital X-ray Tomography
 - Fortus 3D Printer
 - Chemical Vapour Deposition / Fluoride ion Cleaning
 - Metallurgy Lab
- Centre for Non-Destructive Inspection
 - 5-Axis Gantry LaserUT NDI System
- Industrial Automation & Robotic Facilities:
 - Automation lab (FMS 200 System)
 - Robotics Lab: Dedicated Motoman Training Robots, Fanuc; Robot Cell in a Box, Dual Arm Motoman Robot
 - MIG Robotic Welding Training Cell
 - Research Robots : Baxter, Eddie – Robot Platform
 - High Speed Imaging Systems
 - Particle Image Velocimetry