# QUEBEC METALLURGY CENTER (CMQ)







SERVICES OFFERED IN: English and French



ADDRESS: 3095 rue Westinghouse Trois-Rivières Québec, G9A 5E1



WEBSITE: http://cmqtr.qc.ca



### POINT OF CONTACT:

Nicolas Giguère, Ph.D., ing. Director - Centre for Advanced Alloys Office: (819) 376-8707 poste 5025 Email: nicolas.giguere@cegeptr.qc.ca **CMQ** helps Canadian manufacturing companies specialized in metal processing through applied research and development services, technology transfer, technical assistance and specialized training. Main areas of research are advanced alloy development, additive manufacturing, welding, casting, non-destructive testing, heat treating, corrosion and thermal spraying.

### AREAS OF INNOVATION EXPERTISE

- Additive Manufacturing
- Non-destructive testing
- Advanced alloys
- Thermal spraying
- Welding
- Foundry

Affiliated with the Cégep de Trois-Rivières

Proud member of Tech-Acces Canada

#### TECHNICAL AND BUSINESS SERVICES

- Advanced welding support for product development
- Competitive assessments
- Competitive market analysis
- Field trials/Simulation
- Non-destructive inspection (NDI)
- Production of pre-commercial batches
- Product testing
- Project management
- Proof of concept
- Rapid prototyping / 3D printing
- Sample analysis & testing
- Scientific and technological monitoring
- Scientific report writing
- Technology & workflow consultation
- Technology development
- Technology evaluation / validation
- Testing Services

### S APPLIED RESEARCH AND DEVELOPMENT

- Advanced welding (including laser and arc processes)
- Concept validation
- Manufacturing process design and development
- Non-destructive inspection
- Pre-commercialization 3D Printing services
- Process optimization
- Provincial and federal grant proposal development
- Report preparation on R&D results
- Reverse Engineering
- Technology validation and transfer

## TRAINING

- Corporate on-site & in-house training
- Interactive Workshop Sessions
- NDT training leading to certification ONGC

### TECHNOLOGY DIFFUSION

- Customized technology demonstrations
- Evening speaker series
- Field site product demonstration
- Industry-specific events & symposia
- Networking events
- 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

- Additive Manufacturing : Directed energy deposition, binder jetting and ultrasonic additive manufacturing
- Corrosion testing
- Hot isostatic pressing
- Mechanical testing (tensile, hardness, impact)
- NDT equipment (real-time X-ray, digital radiography, phased array ultrasound testing, Eddy current testing, penetrant testing, magnetic particles testing)
- Sand molding
- Scanning electron microscopy (EDS, WDS, EBSD)
- Thermal spraying (plasma and HVOF)
- Vacuum heat treatment
- Vacuum induction furnace
- Welding (all types)

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