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Panel 1: Manitoba Priority Technologies for Economic Development

Industrial Technology Centre
Myron Semegen

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www.itc.mb.ca



ITC's Background

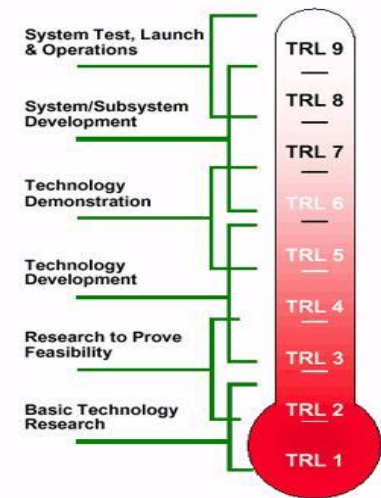
- Special Operating Agency (SOA) of Manitoba Innovation, Energy and Mines
- Mandate to support technology based economic development in Manitoba
- Established by the Province of Manitoba in 1979 & reconstituted as an SOA in 1996
- Located in Smartpark since 2005
- ISO 9001 registered with ISO 17025 accredited laboratories





Priority Technologies

- Technology based economic development agency.
 - TRL 5 to 9 range.
 - Topics identified by industry.
 - Survey feedback
 - Forums
 - Roundtable discussions
 - Ear to the ground.....





• Areas of interest by aerospace in Manitoba

- Robotics and Automation
- Machine Vision
- Inspection – NDT, imaging, on-machine
- Advanced Material Removal
- Finishes & Coatings/ Cleaning
- Tooling - Additive Manufacturing / 3D Printing, fixturing, quick change
- Paperless Shop
- Part Marking – Bar coding, RFID
- Joining
- Green Technologies



• Areas of interest by manufacturers in Manitoba (in addition to aerospace identified interests)

- Computer Integrated Manufacturing
- Inspection – laser scanning, white light scanning
- Additive Manufacturing / 3D Printing – limited production parts, concept development
- Factory and process simulation
- Advanced visualization, simulation and virtual reality



• Areas of involvement at ITC

- Robotics and Automation
- Inspection – Laser scanning, shape capture product acceptance
- Advanced visualization, simulation and virtual reality
- Additive manufacturing / 3D Printing
- Reverse engineering
- Process and factory simulation
- CAD/CAM/CAE and PLM



• Vision Based Robotic Systems

- Priming, painting, coating
- Material handling
- Trimming, drilling, torquing
- Assembly
- Inspection



••• Inspection Systems

- 3D laser scanning
- Shape and feature capture
- Inspection / comparison to digital definition

- Reverse engineering



••• Advanced Visualization and Simulation

- Product or process
- Pre-implementation reviews and buy in
- Image processing and multi-modality fusion

Additive Manufacturing / 3D Printing

- Prototyping
- Limited production
- Tooling



••• Benefits of establishing technology priorities

- Focused, concerted effort to support the development of capability.
- Clear objectives.
- Strength in numbers.
- Many can contribute; industry, academia and government.



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Thank You!

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