



## General Introduction

**Nova-Tech Engineering**, with over 30 years of experience providing innovative solutions for our customers, we can support most any requirement. Our capabilities include design, analysis and fabrication of tooling, mechanical, electrical and automation projects. We have all the major CAD systems for 3-D solid modeling, and utilize Design for Manufacture (DFM) and Value Engineering (VE) methodologies. Our analysis capabilities include multiple FEA tools, and DELMIA Virtual Manufacturing software for both geometric and discrete event simulation. We also have the project management skills necessary to successfully deliver, install, and support these projects. These resources enable us to provide you with fast-to-market, cost-effective products and systems.

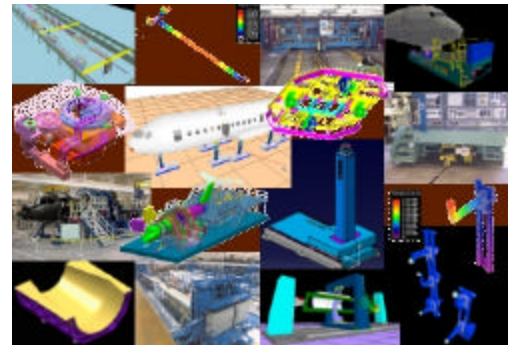


### *Products*

- Conventional Aerospace Tooling:** Fabrication, assembly and installation tooling
- Automated Aerospace Tooling:** Automated drill and fasten systems, material handling
- Industrial Control Panels:** Equipment and test carts
- Laser Alignment and Positioning Systems:** Multi-axis positioners, multi-positioner control systems, laser alignment
- Transporters:** Equipment
- Powered Casters:** Equipment
- Flight Structures:** Monolithic structures, self-indexing parts

### *Capabilities*

- Design and Analysis:** Solid modeling, structural analysis, spatial integration
- Virtual Manufacturing:** Kinematics, off-line programming, assembly simulation, virtual prototyping
- Automation and Controls:** PLC, CNC, Servo, hydraulic, pneumatic and hybrid control systems
- Software Development:** C/C++, Visual Basic, CATIA IUA, DELMIA customization



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### ***Aerospace Tooling***

**Automated:** Assembly automation, align & positioning systems, automated drilling & fastening, fixtures for automation, controls

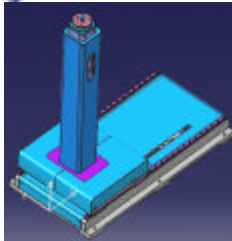
**Conventional:** Fabrication tools, assembly, installation & modification tools, safety and ergonomic tools

### ***Industrial Control Panels***

**UL 508A Certified:** General use industrial control panels

**Capabilities:** Design, fabrication, assembly, installation

**Service:** Field engineering support



### ***Laser Alignment and Positioning Systems***

**Positioners:** Quality positioners since 1989, modular, scalable, low profile, affordable, adaptable, reliable

**Alignment Systems:** Uses either laser tracker, or line-of-sight laser alignment

**Controls:** PLC controlled for highest level of industrial reliability

### ***Transporters***

**Moving Assembly Lines:** Guided and unguided tugs and transporters

**Part Movement:** Transport of parts, tools and containers, guided or unguided

**Ground Support:** Equipment and test carts



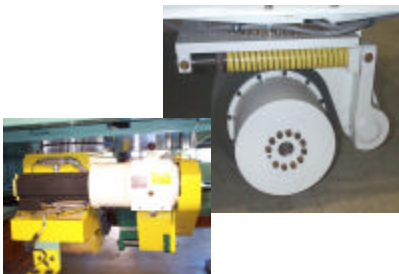
### ***Powered Casters***

**Drives:** Electric, hydraulic, pneumatic, disconnects for towing

**Controls:** Manual, tethered, RF, PLC controlled steering

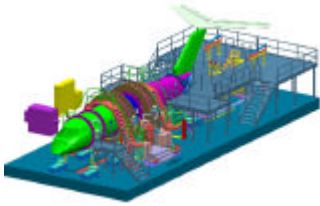
**Guidance:** Tape, wire, photogrammetry, laser, contact feeler

**Suspension:** Smooth or rough terrain, kneel-down



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### ***Design and Analysis***

**Applications:** Aerospace, commercial & industrial product development

**Solid Modeling:** CATIA V4.2.x, CATIA V5, Unigraphics 15

**Structural Analysis:** ALGOR, ANSYS, NASTRAN

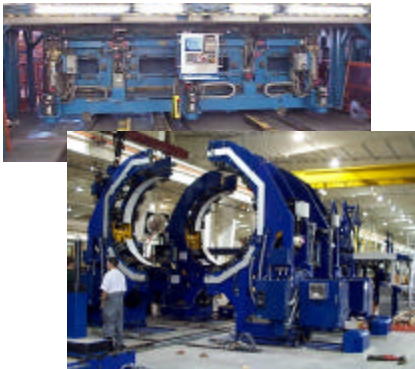
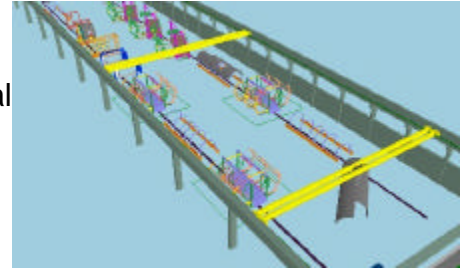
**Virtual Manufacturing:** DELMIA IGRIP and QUEST

### ***Virtual Manufacturing***

**Assembly:** Spatial integration, assembly sequencing, virtual prototyping, dynamic collision analysis

**Kinematics:** Machine development, off-line programming, reach & collision analysis

**Factory:** Workcell and factory layouts, factory flows, rate analysis, material handling systems



### ***Automation and Controls***

**PLC:** Allen-Bradley Rockwell, General Electric, Koyo, Mitsubishi Electric, Siemens, Square D

**Motion Control:** Fanuc, Galil, Siemens, SmartMotor, Yaskawa

**Hydraulics & Pneumatics:** Equipment design, controls design and PLC integration

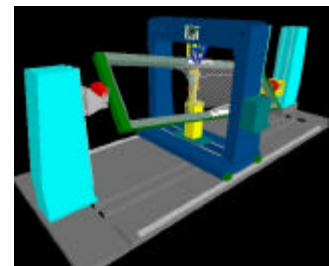
### ***Software Development***

**Languages:** C/C++, Visual Basic, CATIA IUA, DELMIA MACROS

**Controls:** PLC, CNC, Servos

**Networks:** DNC factory networks, RF, office, common bus protocols

**System Administration:** UNIX, NT, CAD, servers



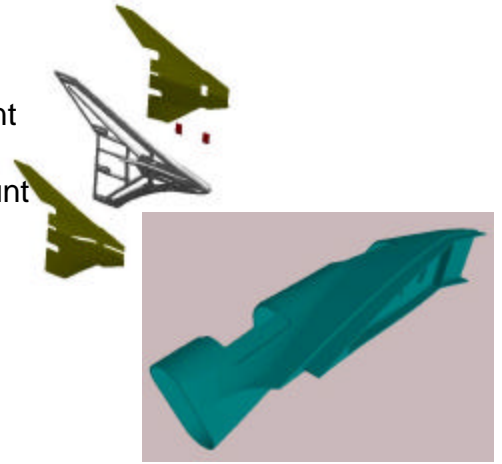
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### ***Flight Structures***

**Application:** Primary and secondary structures, equipment racks

**DFM:** Monolithic cast and sheet metal designs for part count reduction, self indexing parts for faster assembly



### ***Resources***

**CAD:** CATIA V4.2.x, Unigraphics 15, AutoCAD

**Structural Analysis:** ALGOR, ANSYS, NASTRAN

**Virtual Manufacturing:** DELMIA IGRIP and QUEST

**PLC Programming:** Allen-Bradley Rockwell , General Electric, Koyo, Mitsubishi Electric, Siemens, Square D

**Motion Control:** Fanuc, Galil, Siemens, SmartMotor, Yaskawa

**Programming:** C/C++, Visual Basic, CATIA IUA, DELMIA MACROS

### ***Company Profile***

- Nova-Tech Engineering is a privately held corporation.
- Aerospace tooling design and fabrication, flight structures design
- Automation and controls, industrial control panels, software development
- Alignment and positioning systems
- Design, structural analysis, virtual manufacturing
- Transporters and powered casters

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