• Janos Technology has been a leader in the design and production of advanced multi-spectral electro-optical components and assemblies since our beginning in 1970
• We supply to diverse markets such as: Defense, Homeland Security, Industrial, Commercial, Space based systems, Thermography Inspection, Aerospace and R&D
• In June 2005 we moved into our new state-of-the-art 40,000 sq. ft. manufacturing facility in Keene, NH we support both lean and agile manufacturing philosophies
• Over the last 5 years, Janos’ ownership has invested over $10M in capital equipment and facilities to support companies growth
• Janos is a unique optical manufacturer who can take your project from concept > design > prototype > test > volume production

Photos courtesy of FLIR Systems Indigo Operations
Advanced Optical Solutions

- Dedicated team of multi-disciplined engineers to help you realize your R&D needs
- We specialize in the design of custom systems utilizing optical, mechanical and electrical technologies

Defense and Aerospace

- We have the ability to design and manufacture elements and assemblies for the most demanding applications
- We offer complete program management, systems engineering and design-to-cost services

Commercial OEM and Catalog Off -The - Shelf (COTS)

- Janos is able to deliver select components with fast turn around
- Janos also has one of the largest optical catalogs in the world with over 4500 items offered
New Manufacturing Facility

- Currently 40,000 sq ft with 17,000 foot planned expansion
- Designed using best practices in lean and agile manufacturing principles utilizing continuous improvement concepts
- Class 1000 clean rooms with class 100 assembly stations
- Open layout is consistent with visual factory philosophy and reinforces one-team atmosphere rather than a departmentalized structure
- Agile features include: overhead electrical, water, air, data links etc, which can be easily rearrange to accommodate custom manufacturing needs with minimal interruption of business
- Inline metrology inspection for better product flow
• Our MRP System can provide more accurate floor date to program management
• Badge systems enable tracking of jobs, machine, and operator
• Ultimate goal is to have real-time status available to customers through a password provided with each order. (Visual tracking of product through the line)
• This customer link will be available through our web site sometime in 2006
Operational Capabilities

Materials:

- Experienced with nearly every optical material available including:
  - Exotic Glass
    - Zerodur, ULE, etc.
  - Crystalline Materials
    - ZnSe, Zns, Ge, Silicon, Cleartran, CaF2, MgF2, BaF2
  - Metals
    - Aluminum, Nickel, Brass, Titanium etc.
  - Unique Materials
    - AMTIR, CdTe, KRS-5, Gasir, etc.
- We stock raw materials and process completely in house
Operational Capabilities

Generating:

- 5 Axis OptiPro Capable of Generating Spheres, Aspheres, Prisms, Cylinders and Non-rotationally Symmetric Surfaces
- CNC Centering Machine Capable of High Volume and Complex Shapes
- CNC Generating allows us to do angular truncations, rounded corners, elliptical edge shapes, notches, steps, conical edges, angular edges and other features
Polishing:

- Schneider 50 CNC automatic polisher which enables us to quickly turn generated optics into finished lenses ready for coating
- Over 80 active spindles and an experienced staff of master polishers
- Janos has the unique capability of producing optical flats on double-sided polishing (DSP) and continuous polisher (CP) which enables us to achieve tight tolerances on parallel parts
Operational Capabilities

**Diamond Turning:**

- Janos has 6 high speed diamond turning machines including two Precitech 350 NanoForm machines
- We are located adjacent to Precitech which enables us to co-develop advanced programming and machining techniques
- This technology allows us to create: aspheric, diffractive, off-axis parabolic, metal mirrors, precision edges on most optical materials
Operational Capabilities

MRF – Magnetorheolgical Finishing:

- Janos has expanded this capability and can now process optical materials to 6 nm precision
- Allows us to post polish diamond-turned optics to reduce roughness and achieve higher accuracies
- Ability to wavefront correct optical systems
- More flexibility in system design
Operational Capabilities

**Advanced Optical Coatings:**

- Janos offers an extensive library of proven Anti-Reflective and Reflective coatings for MWIR, LWIR and Multi-Spectral applications
- Hard Carbon (HCAR) and Diamond-Like Carbon (DLC) are coated in-house for optical elements exposed to harsh environments
- E-beam, ion beam assist and sputtering capabilities
- Large capacity and High Volume chambers
Operational Capabilities

Metrology:

- Interferometers with 4”, 6” and 12” aperture with digital data output capacity
- Stitching Interferometer for large surfaces
- Form Talysurf with 200mm traverse length
- Multiple Spectrophotometers for UV-Vis-IR measurements
- Infrared MTF
- Interferometric Radius Slide
- Microscopes w/computers
- 3.39 um IR Interferometer
- Zygo New View to measure surface roughness
- Environmental test chambers
In House Machine Shop:

- Janos has its own in-house shop for rapid prototyping and tooling
- 2 CNC Lathes for fast turn around
- Production CNC Mill
- 3.0 Axis CNC Mill
**System Engineering**

- Janos' systems engineering group offers services to support management and reduction of technical risk, Design-to-Cost (DTC) initiatives and cost take-out initiatives
- We believe in providing an open communications channel with customers and help bridge the gap between systems requirements and production capabilities

**Design Engineering**

- Janos provides concept-to-production design services for virtually any application
- On-site staff of optical designers utilizing various programs including: ZEMAX, Code V, DIFFSYS
- Opto-Mechanical programs include: SolidWorks, CosmosWorks and AutoCAD
• Janos can support our customers most complex programs by utilizing our experienced group of program managers
  – Provide a single point of interface, detailed scheduling of events, design reviews both at the component as well as at the systems level
• Communicate with the customers integrated product development teams as well as the integrated production team
• Our Program Managers Also Provide:
  – Risk Assessment with the customer in-mind.
  – Conflict management
  – Real time status flow of information
  – Depth and personal contact within the organization
Janos in Summary

• Janos has invested over $10M in last 5 years and is determined to become the world's premier optics manufacturer
• These investments are a result of our commitment to the optics industry and willingness to adapt to the diverse needs of our customers
• Our new facility has allowed us to expand our capacity and now gives us the ability to consistently deliver on schedule
• Janos is a true solution provider: from concept through volume production Janos can handle every step of the process while providing unmatched value
• Whether you need a complex assembly for your deep space telescope, thousands of opto-mechanical assemblies for your defense program, an off-the-shelf lens for your IR camera or a single component for your optical test bench, Janos Technology is the only place you need to go