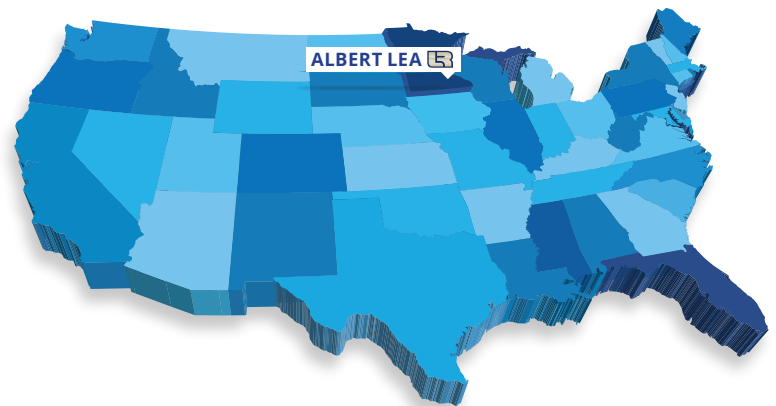


At Lou-Rich, we believe that when employees are owners, that makes everything in the customer experience better. A strong emphasis on design for manufacturability, active cost reduction efforts for on-going projects, overall lean process improvements, performance testing, inventory management agreements and outsourcing of castings and finishing services are just some of the ways we help our customers get the very best results on each and every project. While we are proud of the equipment and capabilities inside our facility, our greatest asset, and the reason our customers trust Lou-Rich, will always be our people.

## GENERAL INFORMATION

- Lou-Rich was established in 1972
- Lou-Rich is 100% Employee Owned (ESOP)
- Annual sales revenue of \$60M
- Headquartered in Albert Lea, MN
- Part of the Innovance group of companies, with over \$85M in revenue and 400+ employees
- Manufacturing square feet of 300,000 in three facilities with available capacity
- ISO 9001:2015 Certified, MN Sharp and ITAR Certified
- Contract manufacturing to customer supplied drawings, CAD models and project specifications
- Core capabilities: complex machining, milling & turning, robotic and manual welding, forming, sheet and tube laser cutting, powder coat and liquid painting, high level assembly, and general assembly



SAFETY • HEALTH • EXCELLENCE



OSHA • MANAGEMENT • LABOR



## ENGINEERING

- Robust engineering staff specializing in design for manufacturability
- 3D printing capabilities 10" x 10" x 12"
- Solidworks and CREO Software for design
- Complete product engineering documentation
- CAD Model types include: PRT, SOLIDWORKS, IGES, DXF, STEP, ESPIRIT CAM Software
- Lean Manufacturing

## PROJECT MANAGEMENT

- Dedicated project and account management teams
- Experienced engineers and customer service professionals
- Clear and consistent communication to ensure expectations are met
- Design for Manufacturability as part of our ongoing project reviews

## MAJOR MANUFACTURING EQUIPMENT

- CNC 400MM to 1250MM Horizontal Mill (9)
- CNC 3 Flexible Manufacturing System, 400MM, 500MM, 630MM. From 20 pallets to 34 pallets. (7 total machines)
- CNC 5 Axis with Robot Loading (2): up to 500MM
- CNC Vertical Mill (23): up to 40" x 84"
- CNC 5 Axis Drill Tap Mill(1): up to 16" x 24"
- CNC VTL 36.22" (1) max OD
- Swiss Lathe (2): up to Ø32MM
- 4 Axis Lathe (3) with Ø2½" bar feed and live tooling
- 5 Axis Lathe (4): Ø10.5"/Ø3.1" Bar
- 3 Axis Lathe (8): Ø17.7"/Ø3" Bar
- Mazak Multiplex - dual main spindle lathe, with live tooling, Y-axis and gantry loader: Ø16.9" Bar
- 2 Doosan NHP4000's
- Doosan Puma TT2100SYYB, turret twin spindle machine with live tooling, Y-axis on both turrets, 6' bar feeder with collet chucks: Ø3" Bar
- Tube Laser (1) – 6" square capacity
- 6000 Watt Fiber Laser w/power cut 5' x 10': 25mm steel, 30mm SS, 30mm AL. 30 Tray Sheet Loader and Fully Automated Sheet Handling (1)
- CO2 5' x 10' Flat Laser (2)
- Robot Welding Cells (4), small to large
- Manual Welding Cells (10+)
- Welding capabilities: GMAW (gas metal arc welding, MIG), GTAW (gas tungsten arc welding, TIG), RSW (resistance spot-welding, spot-welding), FCAW (flux core arc welding), TB (torch brazing)
- Finishing booths, Aluminum & Steel
- Paint Line – Continuous (Liquid and Powder), 8 stage wash system, 5' x 5' x 10' max part size
- Laser Etch/ Engraving
- Auto Form Brakes (3) – 6 axis with back stop
- Media Tumbler (5)
- Complete in house tool room – build tooling, CNC fixtures, weld fixtures, dies, etc.
- Flexible assembly cells to match customer project requirements.
- Testing – in housing paint testing, pressure testing, life cycle testing, cleanliness testing, and more upon request.

## QUALITY

- Lou-Rich is ISO 9001:2015 Certified
- Copy of Quality Manual provided upon request
- AQP and PPAP performed at customer request
- CMM's range from travel up to 78" x 118" x 72" (6)
- Farrow Arm (Gold Series) - 10' reach with articulating arm (0.003 accuracy) (1)
- Mitsutoyo Optical Comparator 6"x 4" (10x and 20x Digital with SPC output) (1)
- Econotherm Laboratory Oven X-18", Y-15", Z-15" (Cleanliness measurement) (1)
- MicroVu (Qubix Series) 6" x 8", (20-250 mag) (1)
- Virtek LaserQC 1200 (0.002 accuracy) (1)