NGM PHOTONICS

The Future of Welding.
Delivered with Laser Precision.



Precision Laser Cleaning & Coatings Removal

Non-Abrasive, Eco-Friendly Surface Preparation

Industrial & Mobile Surface Prep Partner

NGM Photonics provides industrial plants, fabrication shops, and field sites with high-speed, non-abrasive laser surface cleaning and coating removal solutions. Operating from our Calgary headquarters and Edmonton fabrication facility and backed by an active research partnership with the University of Alberta's Canadian Centre for Welding and Joining (CCWJ), we deploy state-of-the-art laser ablation systems for both in-shop and mobile on-site service. By replacing harsh chemical solvents, power tools, and media blasting (sand/grid/dry ice) with targeted laser energy, NGM vaporizes rust, mill scale, oxides, paints, and contaminants without damaging the underlying metal or generating secondary hazardous waste.



Core Laser Cleaning Capabilities

Rust, Oxide & Scale Removal
Vaporize severe surface corrosion, iron oxides, heat tint, and mill scale from structural steel, piping, and machinery.

Selective Coating Removal
Strip paints, epoxy, or rubberized coatings from localized weld seam areas prior to inspection or welding.

Pre- & Post-Weld Preparation
Clean joint interfaces prior to laser or arc welding, and remove post-weld soot, slag, or heat tint discoloration on stainless steels and other alloys quickly and easily.



Operational & Economic ROI

- **No Consumable Media Costs:** Eliminates grit/sand purchasing, containment setup, and costly contaminated media disposal.
- **Substrate Preservation:** Photonic energy vaporizes contaminants instantly without altering base material dimensions or surface profiles.
- **In-Situ Mobile Dispatch:** Fully equipped service vehicles bring portable laser cleaning directly to field tanks, pipelines, and structures.

Environmental & Quality Advantages

Class IV Safety Governance
Fully equipped fume extraction and LSO oversight compliant with CSA W117.2 and ANSI Z136.1.

NDT / NDE Inspection Prep
Delivers pristine, bare-metal finishes ideal for Ultrasonic (UT), Magnetic Particle (MT), and Dye Penetrant testing.

Precision Ablation Control
Clean specific localized zones (e.g., 2-inch weld margins) without stripping surrounding intact coatings.

Chemical-Free Process
Eliminates toxic solvents, acid washes, and hazardous chemical runoff.

Zero Media Waste | **100% Non Abrasive** | **50% Prep Time Saved**

Target Cleaning & Prep Applications

APPLICATION AREA	COMPONENT & SURFACE SCOPE	NGM ADVANTAGE
Weld Prep & NDT Inspection	Pressure vessel seams, pipe joints, structural welds, and cast component surfaces.	Removes rust/paint from localized joint area; zero blast media embedded in weld grooves.
Infrastructure & Tank Maintenance	Storage tank seams, bridge girders, structural frames, and heavy machinery housings.	Mobile, dust-free field cleaning without grit contamination in surrounding mechanical equipment.
Tooling, Dies & Molds	Injection molds, stamping dies, precision tooling, shafts, and threaded fasteners.	Removes baked-on residues, oils, and oxides without wear or rounding sharp tooling edges.

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ACADEMIC & FACILITY PARTNER
CCWJ, UNIVERSITY OF ALBERTA • EDMONTON