

Engineered Coatings, Inc. (ECI)
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Engineered Coatings, Inc. (ECI) is a small business concentrating on the development and commercialization of new physical vapor deposition (PVD), atmospheric-plasma deposition, and atomized-spray deposition technologies that offers substantial performance improvements compared to conventional coating technologies.

Engineered Coatings, Inc. is offering a revolutionary coating technology based on:

- Nanostructured and nanocomposite coatings for protection against extreme environments
 - Ø Multifunctional performance: corrosion, sand-abrasion/erosion, and low-friction
 - Ø Fretting-wear
 - Ø Solid lubrication
- Enhanced plasma deposition technology which ensures coating adhesion and the deposition of thick (~25 µm; 0.001 in.) coatings.
- Developing unique atmospheric plasma-deposition and atomizing-spray deposition methods (both non-vacuum).

Attributes of Coating Technology:

- Excellent adhesion of high-hardness ceramic coatings to metallic substrates
- Exceptional toughness, corrosion-resistance, and sand-abrasion, sand-erosion, and fretting-wear resistance.
- With appropriate solid lubricant top surface (e.g., MoS₂, WS₂, a-Carbon, DLC), very low friction can be achieved.

Benefits to Industry:

- Increased durability/lifetime, and reliability of manufactured products
- Reduced down-time and increased maintenance schedules, **increased profit**

ECI Coating Depositions and Evaluations:

- Two PVD systems: 1) R & D /sub-scale PVD coating system, 2) Larger pre-production PVD system with enhanced plasma deposition capability
- Atmospheric-plasma and atomized-spray systems with robot for reproducible coatings.
- Tribological screening capabilities: 1) pin-on-disk friction/wear tester, 2) galling tester, 3) sand-erosion
- Leverage local university (Colorado School of Mines, Colorado State University) and small company (Rocky Mountain Laboratory) characterization/testing facilities

