

LumiShield Technologies

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LumiShield in a Minute

- ▶ Materials and Process Company
- ▶ Creating Disruptive Change in the Anti-Corrosion Market
- ▶ By Displacing Hexavalent Chromium Plating (**\$13 Billion / yr in U.S.**)
- ▶ Through Improved Coating Performance, Reduced Environmental Impact, and **Lower Cost**
- ▶ Using a **Proprietary** Aluminum Electroplating Technology
- ▶ Seeking **\$300k** in Seed Funding for Process Optimization and Scale-up



The Problem with Hexavalent Chromium

Expensive!



Environmentally Harmful

Toxic



Unsafe



Liability
Risk



The Alternative

- ▶ Based on a non-toxic metal...
- ▶ Which eliminates ground and drinking water contamination...
- ▶ Has relatively minor issues with waste disposal...
- ▶ Can be conducted with greatly diminished risk to workers...
- ▶ Avoids the massive regulations of chromium plating...
- ▶ Makes coatings that are tougher and last longer...
- ▶ Uses less expensive materials at every stage of the process...
- ▶ **And will ultimately produce products which are much less expensive.**



The LumiShield Process

The Special Sauce

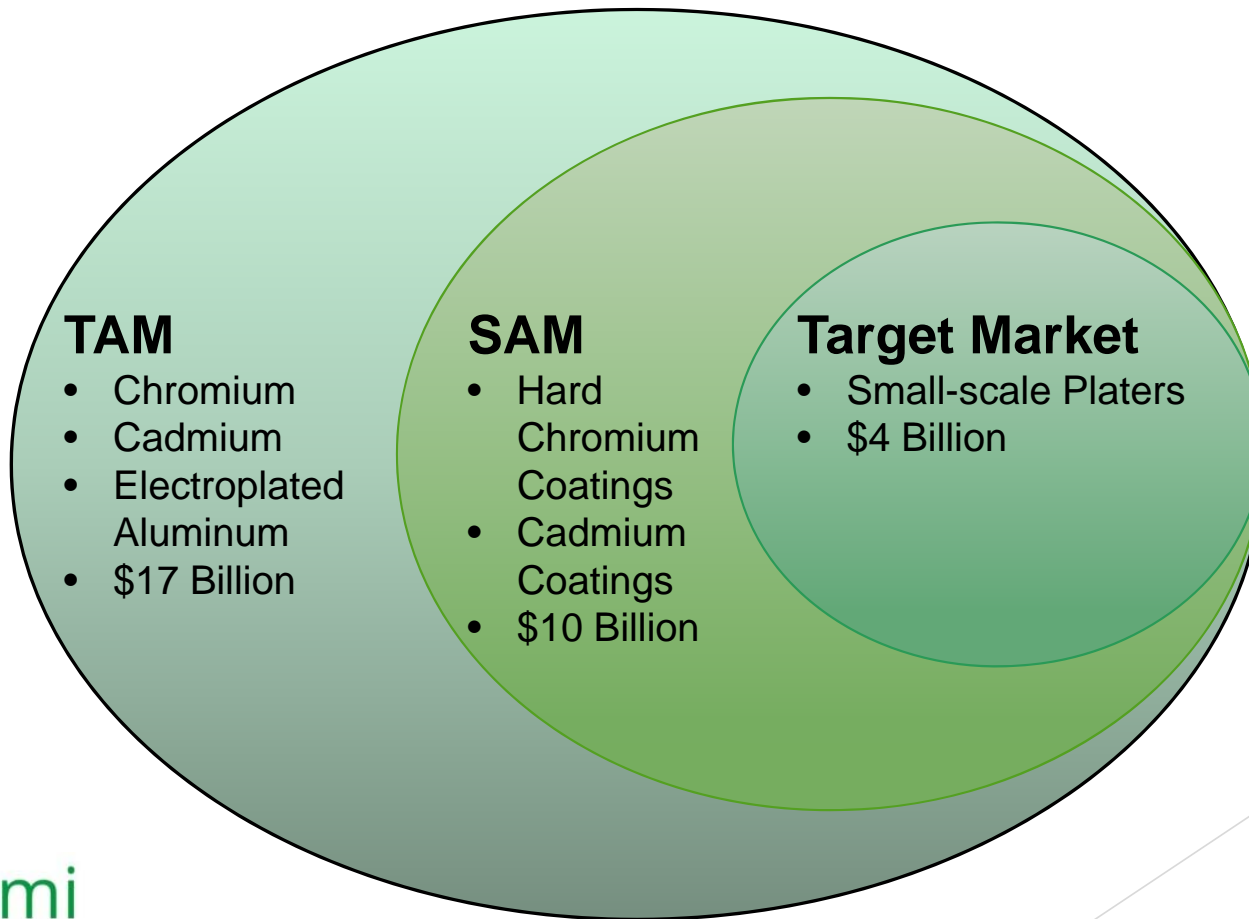


Aluminum Oxide
Aluminum

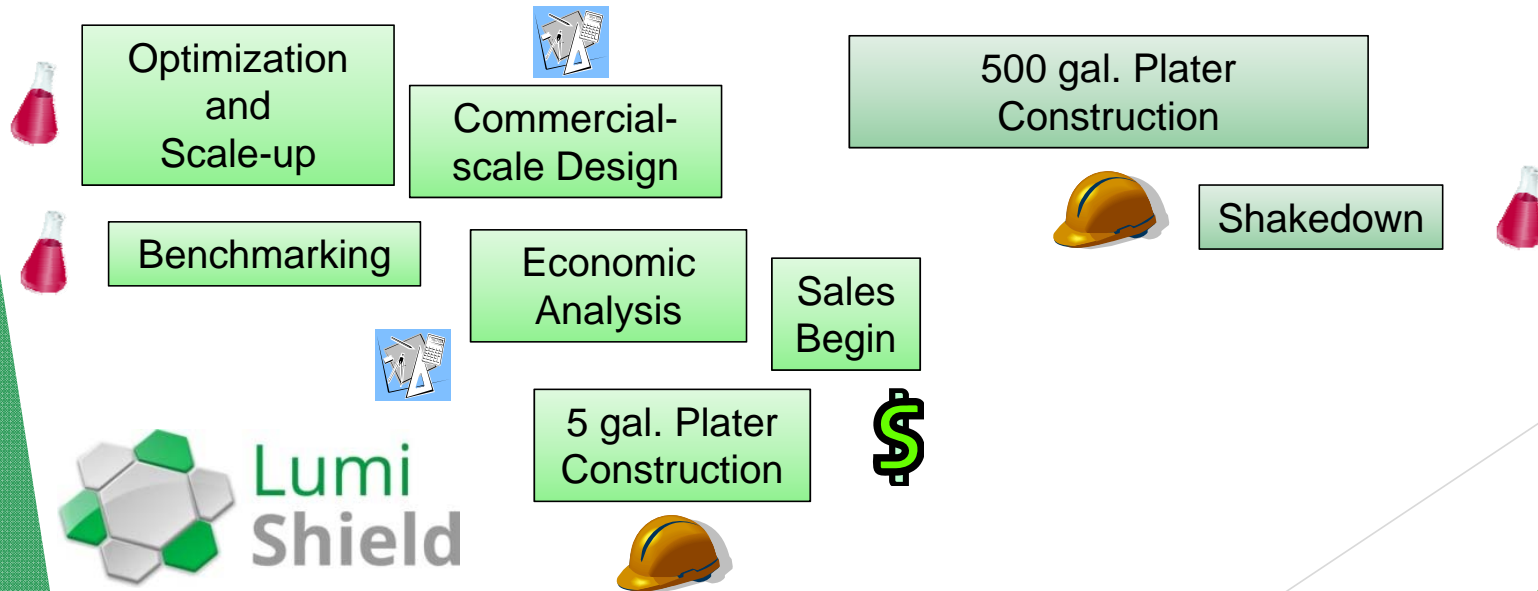
Carbon Steel



Target Market



The Plan



The Market Strategy

- ▶ Direct Sales of Plated Products from Commercial-scale Unit
 - ▶ Target: Regional Retailers and Distributors
 - ▶ Demonstrate Process and Get Products into the Market
- ▶ Direct Sales of Package Systems and Plating Solution
 - ▶ Target: Small Electroplating Businesses
 - ▶ Equipment Sold at Cost
 - ▶ Plating Solution Sold at Profit
 - ▶ One Year Payback Period for Customers
- ▶ Direct Sales of Plated Products from Industrial-scale Unit
 - ▶ Target: National Retailers and Distributors
 - ▶ Take Advantage of Significant Economies of Scale to Decrease Cost
- ▶ Licensing to Large Companies
 - ▶ Target: Large Players in Aerospace and Automotive Industry



The Team



Chief Executive Officer David Luebke Ph.D. – chemical engineer with 12 years experience, formerly managing a research budget of \$6.5 million at the US Dept. of Energy.

Chief Innovation Officer Hunaid Nulwala Ph.D. – materials scientist with experience in leading researchers in the design of polymers and ionic liquids for specific applications.



Chief Operating Officer Brett Luebke M.B.A – seasoned manager with 14 years of experience in the energy sector.



The Takeaway

- ▶ Within two years, **LumiShield** will go to market with a disruptive coating technology that will replace chromium and cadmium plating.
- ▶ The combined value of the chromium and cadmium coating markets in the U.S. is \$17 billion annually.
- ▶ **LumiShield's** process creates coatings which have superior performance, are less expensive to produce, and are more environmentally-friendly than the competitors.
- ▶ The company is seeking \$300k in seed funding for process optimization and scale-up.

