



DEVELOPING Al-Sc ALLOYS FOR ADVANCED MANUFACTURING — L-PBF and WAAM

CO-DEVELOPING WITH INDUSTRIAL PARTNERS.

Patent-Pending Modified Aluminum With Scandium, Zirconium and Cerium in 500 (535/Sc/Zr/Ce) and AA7000 Series (7075/Sc/Zr) for Advanced Manufacturing.

The Ideal Co-Development Partner Is Looking To:

Reduce the weight of components with stronger alloys



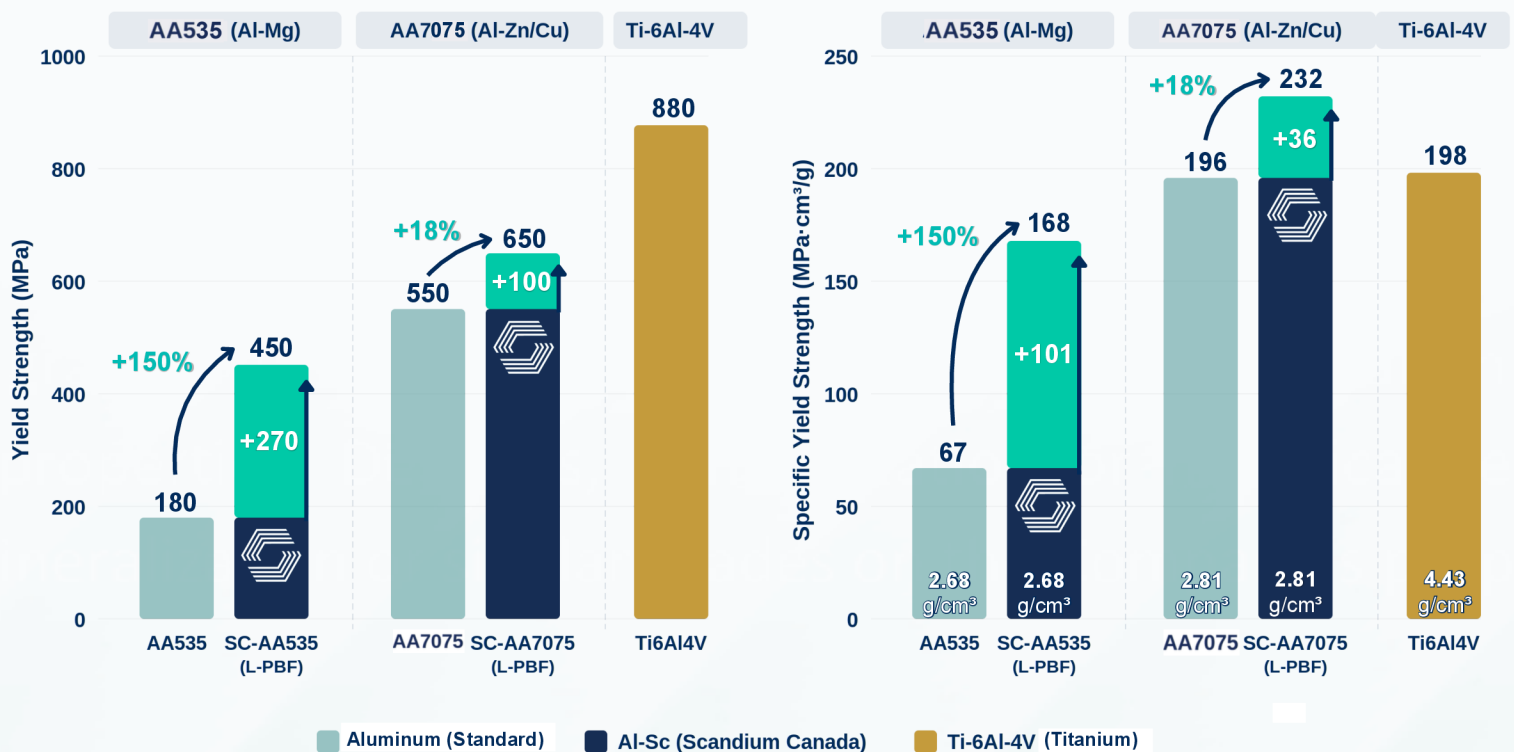
Reduce production costs of subtractive processes

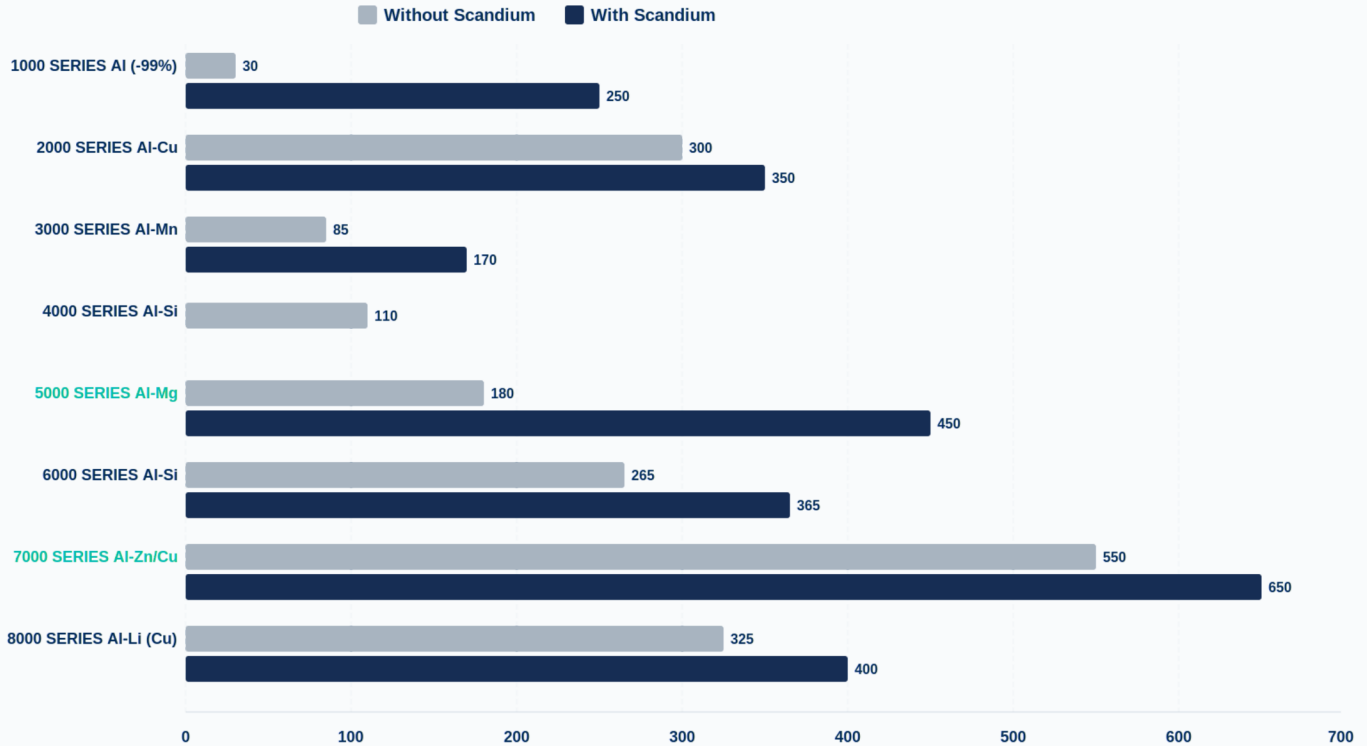


Develop new products through L-PBF & WAAM



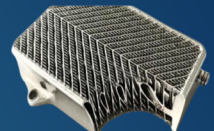
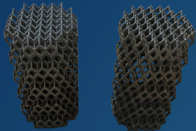
SUMMARY OF RESULTS YIELD vs. SPECIFIC YIELD STRENGTH





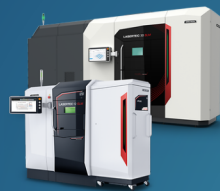
Modified After: Rayset, J. and Ryum, N., 2005, Scandium in Aluminium Alloys, Industrial Mineral Review, v.50-1

APPLICATIONS FOR SCANDIUM CANADA'S AL-SC POWDERS & WIRES



L-PBF

WAAM



AEROSPACE

- Small heat exchangers — Aircraft engines
- AC & pressurization ducting — Aircraft
- Onboard antenna horns
- Wire arc welding

DEFENCE

- Ballistic armour plating
- Blast armour plating
- Personal body armour

ENERGY

- Heat exchangers — Power generation
- Wire tabbing — Solar modules
- Electrical transmission lines
- Electric motors wiring

INDUSTRIAL & TRANSPORTATION

- Medium/large robotic end-of-arm tools
- Thermoforming & vacuum forming molds
- Interior components — Public transit
- Conformal cooling pipes — Batteries

4 sectors • 15 applications • L-PBF & WAAM processes

