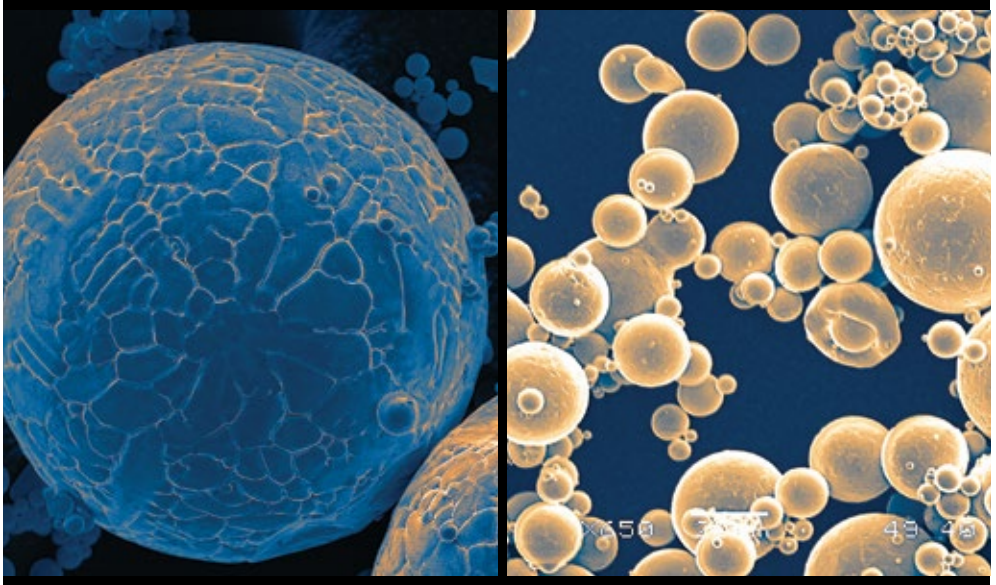


# Powder Synthesis & Development Facility

## Custom Metal Alloy Powder Production

- ◆ 20 base elements
- ◆ 800 custom atomization runs
- ◆ 30 years of experience
- ◆ Reactive gas atomization
- ◆ Powder passivation
- ◆ Tunable size distributions
- ◆ Complete powder analysis



The Ames Laboratory Powder Synthesis & Development Facility is a state-of-the-art center that focuses on advanced powder making technologies, especially high-pressure gas atomization and centrifugal atomization for additive manufacturing and other powder processing methods. This one-of-a-kind research facility offers custom metal alloy powder development and production, catalyzing rapid commercial implementation.

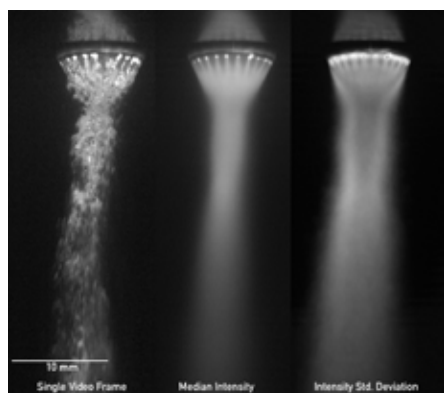
## Technical Contacts:

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## Capabilities:

- ◆ Experimental gas atomization (~5 kg)
- ◆ Pilot-scale gas atomization (~25 kg)
- ◆ Atomization process in-situ research, gas die modeling, development and optimization
- ◆ Customizable melt delivery designs with complex internal melt flow geometries
- ◆ Research quantities of high quality reactive metal powders (e.g., Al, Mg, and alloys containing rare earth elements)



To facilitate rapid technology transition and commercialization, Ames Lab's atomization systems are fully compatible with industrially designed and fabricated gas atomization methods. As the leading research institution for metal powder production, our expertise in high-pressure gas atomization is put to work through technical collaborations and cooperative research and development agreements (CRADAs) with companies to transition alloy and atomization technology advancements to industry.



**AMES LABORATORY**

*Creating Materials & Energy Solutions*

U.S. DEPARTMENT OF ENERGY