A revolutionary, environmentally-friendly process for creating nanoparticle powder

Introduction

March 2021

Who We Are

A US-based company with a proprietary, patented process for nanoparticle powder production

Proprietary, Patented Process

We have been granted a Utility Patent for “System and Method for Heating Materials”. We also have submitted two more provisional patents.

Groundbreaking Sourcing

We can use source materials in any composition (including recycled materials), greatly reducing cost while increasing environmental friendliness.

Reducing Offshore Reliance

Because we are a US-based company, we address critical materials supply-chain offshore dependence, important for industries like aerospace and defense.

How it Works

A proprietary, high-temperature furnace capable of temperatures over 3500°C

High Current Source

High-Temp Reactor

Proprietary Process

Prototype Reactor Set-up

High Current Source

Instead of chemicals or force, our system uses a high current source to power our furnace/reactor, making our process low-cost and environmentally friendly.

High Temperature Reactor

The key to our process is extremely high temperatures (over 3500 degrees Centigrade) that break down source materials efficiently and completely.

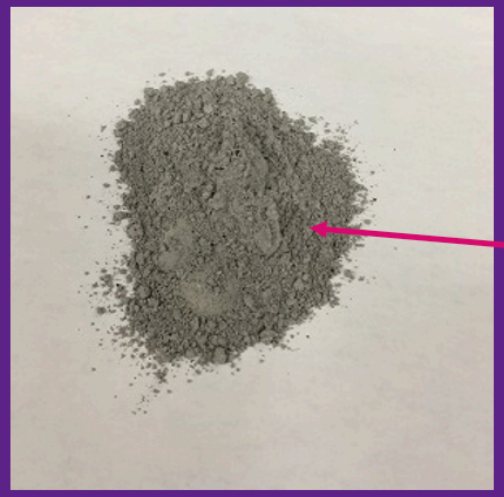
Scalable Process

Our proprietary process is completely scalable and tailorable to address large production and specific material needs.

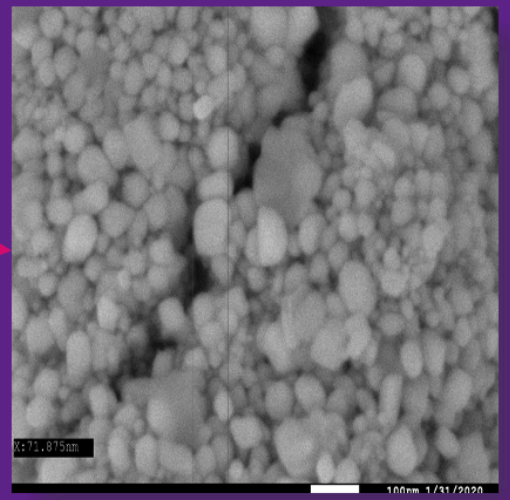
Process Gallery

Actual photos and analyses related to our five-step process

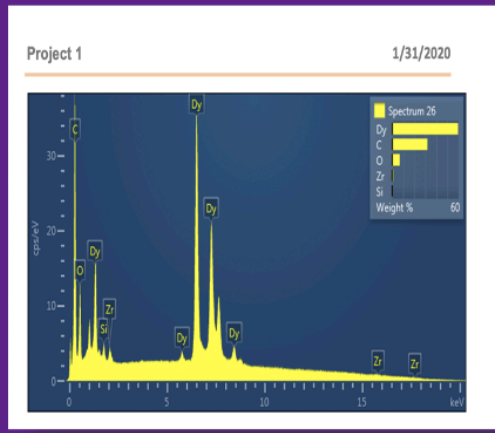
Reactor setup as was operated at SBU Physics Department Lab



Output from reactor post-testing



SEM image of output sample



Composition analysis of sample

Output

Initial production of Nanoparticle Powder from prototype reactor

Samples

Bulk to Nanoparticle Powder

Dysprosium
Gadolinium
Yttrium
Copper
Cu + Al
Zink
Graphite
Silicon

NP Source Material evaluated to date

Bulk Source Material
Bulk source material is processed to nano-powder form via extreme thermal cycling combined with evaporation / condensation stage to yield fine control over size.

Source Material Independent
Our high temperature thermal process can be used to breakdown and reduce to nanoparticle powder a broad range of materials, even Rare Earth Elements.

Separation / Extraction
Our proprietary process can extract specific constituents from composite sources, such as recycled materials and soil samples, to yield bulk material for further processing.

Our Leadership

Complementary skill sets provide the right foundation

Vasily Jorjadze
Founder / CEO

Experimental Nuclear Physicist
Ph.D. Nuclear Physics

George Papadopoulos
Chief Business Officer

Industry Experience
Ph.D. Aerospace Engineering

Axel Drees
Chief Operating Officer

Management Experience
Ph.D. Physics