



**Design**

## Customization

Precision design of nanomaterials, for both size and technical attributes

## Rapid Innovation

Efficiently establish proof of concept and enable a path towards commercialization typically within 1-3 months

## Product Integration

Our goal is to design a solution that is compatible with your product and process

## Everything else has been precisely engineered for your product . . . shouldn't your nanomaterial be?

When harnessing the unique attributes of nanomaterials to enhance your product is the goal, you need exactly the right material — thoughtfully designed for both performance and ease of integration into your product. Controlling nanoparticle size and other technical attributes is our specialty and can have a measurable impact on performance at the nano-scale.

### Precision Control of Technical Attributes

Cerion is known for the degree of customization and flexibility in its nanomaterial design process. We take atoms and individual molecules, binding them together through precisely controlled chemical reactions. This has enabled us to produce some of the smallest, monodispersed and un-agglomerated nanoparticles in the industry. Cerion has demonstrated precision control and customization over a wide variety of nanoparticle attributes including but not limited to:

- Particle size
- Particle size distribution
- Morphology
- Surface charge
- Purity

In addition, we specialize in complex nanoparticle design requirements, such as:

- Surface functionalization
- Alloyed nanoparticles
- Doping with tightly controlled elemental ratios
- Core-Shell

### Nanomaterial Formats

Recognizing that our customers' needs are unique and how they incorporate nanomaterials into their products are varied, we provide materials in the format that is most compatible with their product manufacturing process.

These formats include:

- Aqueous & nonaqueous dispersions
- Polymer-based dispersions
- Proprietary customer dispersions
- Powders
- Pastes
- Re-dispersible "wet cakes"

### Successful Integration

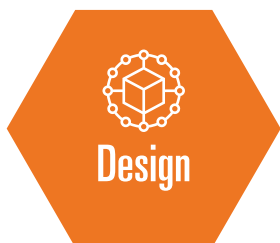
We work with you from the very beginning to understand your product, manufacturing conditions and desired end-state of the nanoparticle. Our goal is to design a solution that is compatible with your product and process, allowing you to seamlessly integrate the nanomaterial and preserve its performance.

# WE GET IT.

Developing in-house advanced expertise in nanomaterials is expensive and time intensive. That shouldn't stop you from utilizing them to improve your products.

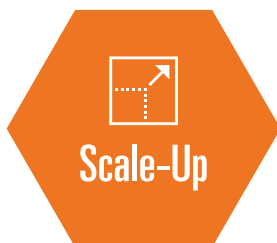
## Cerion Nanomaterials Can Help

As a global leader in designing, scaling and manufacturing custom nanomaterials for industry, Cerion provides the expertise and materials you require, while your team stays focused on advancing the development and delivery of your products and systems.



### Design

Precision design and customization of both nanoparticle size and technical attributes



### Scale-Up

Robust processes to scale materials from prototype to low and high-volume production rates



### Manufacturing

Industry-leading, cost-effective manufacturing systems and production capacities

## Our Material Expertise

Cerion has a breadth of experience across a range of material systems. These include material classes such as metals, metal oxides and ceramics:

- Barium
- Boron
- Ceria
- Cobalt
- Copper
- Gold
- Iron
- Nickel
- Niobium
- Palladium
- Platinum
- Silica
- Silver
- Titania
- Tungsten
- Yttrium
- Zinc
- Zirconia
- And more...

## Synthesis Methods

We are proficient in precipitation, hydro/solvo thermal, high energy milling, conventional spray drying and high temperature combustion.

## Dedicated In-House Analytical Team

We have our own fully-staffed analytical department along with a full suite of state-of-the-art equipment for the characterization of nanomaterials.

## Customers

Experts in product & system development seeking to leverage nanomaterials to enhance performance



## Cerion

Experts in providing nanomaterials to support customer requirements — from research through manufacturing

Ready to learn more? Visit [www.cerionnano.com](http://www.cerionnano.com)

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