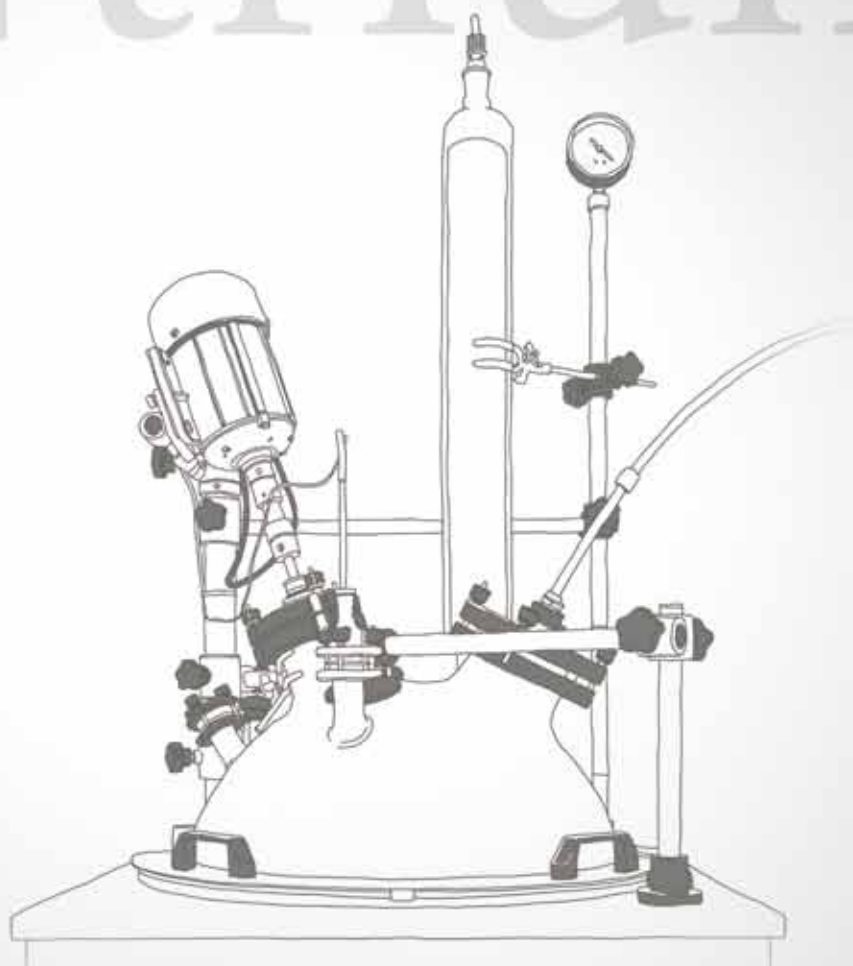
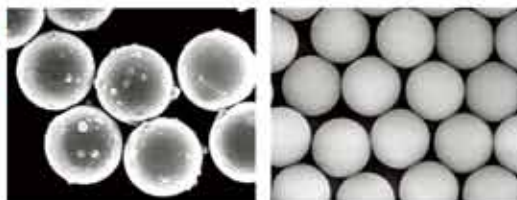


Ntrium



**We are Nano-Alchemists.
We Coat Happiness.**

Ntrium offers customized material solutions with our sophisticated and innovative nano-coating technology.
We coat, create new world



Ntrium



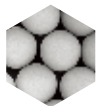
Core Technology

Nano-Coating Technology of Fine Particles

CORE TECHNOLOGY

Nano/Micro-Particle Synthesis Technology

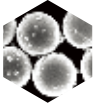
Particle Dispersion Mixing Technology



POLYMER / METAL / CERAMIC

Nano-Coating Technology of Fine Particles

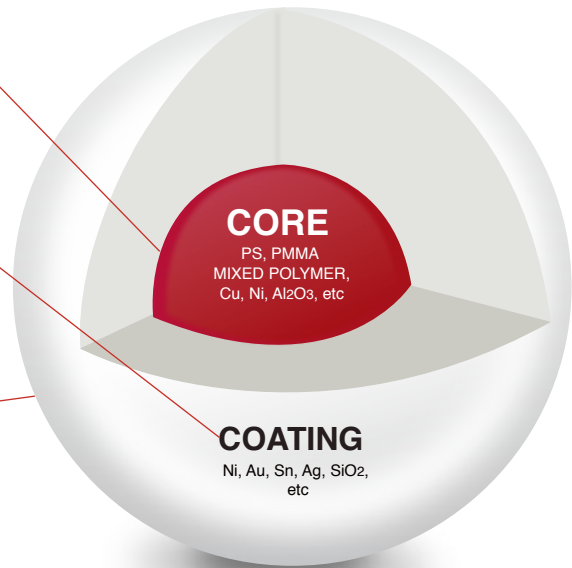
Nano-Convergence Technology



POLYMER / METAL / SILICA

Coating Surface Control Technology

LAMELLAR COLUMNAR BUMPY POROUS



Nano-Convergence Technology

Ntrium is presented with the opportunity to converge Nano-material technology and the Microelectronics packaging technology of Display / Semiconductor / Mobile / IT products, to ignite bright minds that solve technical problems customers face, to provide collaborate and innovative solutions.

Guided by a firm focus on customer centricity and sustainability, we strive to be global partners of choice to our customers in diverse industries, such as Energy (Solar cell, Rechargeable battery), Biomedical (Pharmaceutical, Biomaterial), Cosmetics and Automobiles as well as IT and Electronics.

We are committed to helping customers analyze the problems and overcome them with our Nanotechnologies.



Business Model

Customized Materials

Development and Production of Customized Materials.

Ntrium offers customized material solutions with our sophisticated and innovative coating technology.

Ntrium's experts(Alchemists) customize Nano Material solutions for clients in a wide range of industries, from Display to Mobile, Semiconductor, 3D Printing, Biopharmaceutical, Cosmetics, Aerospace and Beyond.

We actively seek opportunities to work with customers who are interested in combining their resources and scientific strength with our proven Nano-Technology and Material expertise. We develop formulations for materials intended for your specific applications, provide samples within a very short time, and produce materials only for you.

We are not restricted to using materials both for core and coating layer. Based on your application demands, we select materials from Polymer to Ceramic, Metal, Silica, and Composite Materials. This is possible because we apply the best practices we've developed in our own R&D process and manufacturing facilities, as well as providing two decades of High-Technology world experience. Our laboratory and production sites are extensively equipped for the purpose.

So, if you need new innovative materials for your own application and you're looking for a partner to maximize your development process, connect with Ntrium to discuss a mutually beneficial collaboration.

Our objective is to develop and produce new materials that are critical building blocks for customers success. Let's combine our strengths to create the new future.

Licensing and Technology Transfer

We will help your innovation.

You can integrate Ntrium's advanced technology into your own products to maximize their innovations through our licensing model.

Ntrium is making a considerable contribution to the fields of advanced display materials, mobile, semiconductor, and biopharmaceutical products.

Ntrium is developing and supplying a broad range of diverse products such as nano/micro-scale polymer particle, coated bead, conductive ball, TIM(Thermal Interface Material), underfill filler for flip chip package, and DDS(Drug Delivery System).

We encourage the use of Ntrium's intellectual property and technology through the licensing agreements.

If you have discovered something significant to help your product innovation, it's time to contact our Licensing and Technology Transfer organization to learn how we can work together to turn your discovery's potential into reality.

We are flexible with respect to licensing, and will always try to find a licensing model that both works for our customers and gives us a fair share for our IP.

One of our licensing models is a license fee that is based on your organization's overall gross annual revenue of all products that use Ntrium's IP. We therefore also offer other models, including fixed annual fees and one-time buy-outs.

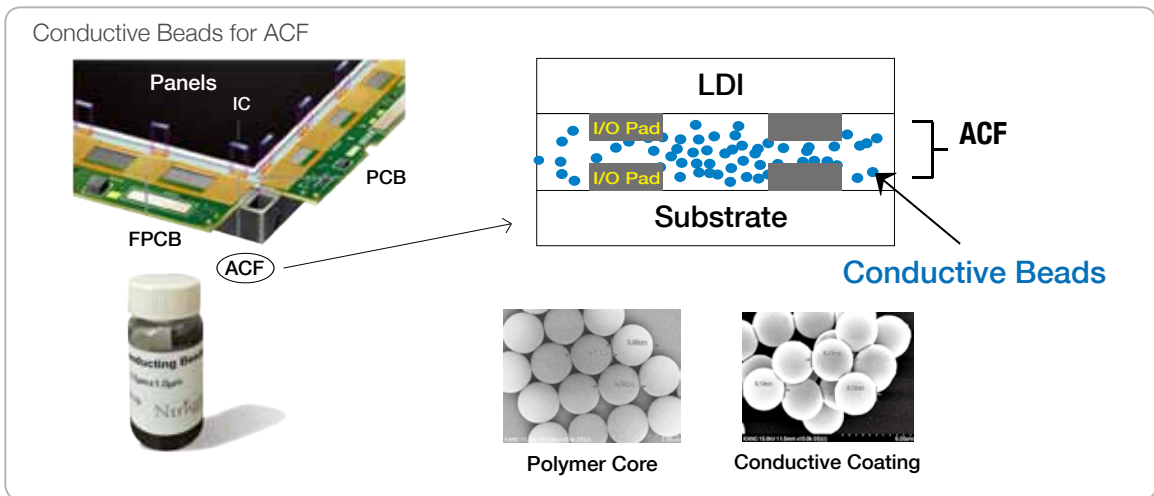
Please contact us to discuss your licensing requirements.



Products

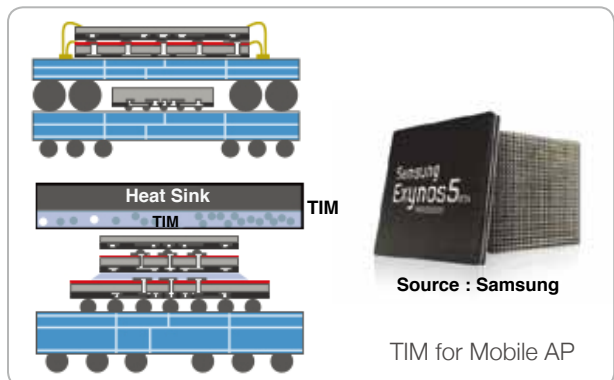
Conductive Beads for ACF (Anisotropic Conductive Film)

- ▶ Conductive Bead is a core component of ACF (Anisotropic Conductive Film) which is used in the Displays (LCD/PDP) and Touch Screen Panels to make the electrical and the mechanical connections between Glass and Chip/FPCB.
- ▶ Main Product : Polymer Cored Bead
- ▶ Particle Shape : Spherical
- ▶ Particle Size : Customizable (1~50um)



TIM(Thermal Interface Material) for Mobile AP Chipset

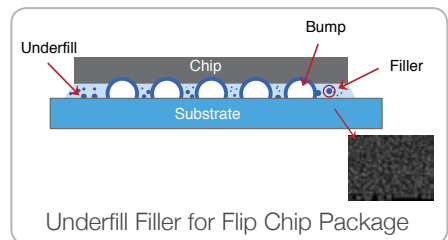
- ▶ Ntrium's unique and innovative technology solves the issue of overheating in advanced single high performance packaging material such as Mobile AP, protecting it from damage and speed slowdown due to overheating.
- ▶ Ntrium's patented TIM technology achieves much higher thermal conductivity and heat dissipation performance than other existing silicone-based TIM.
- ▶ Thermal Conductivity (TIM) : Above 100W/mk
- ▶ Thermal Conductivity (Heat Sink) : Above 1,500W/mk





Thermally Enhanced Underfill Filler

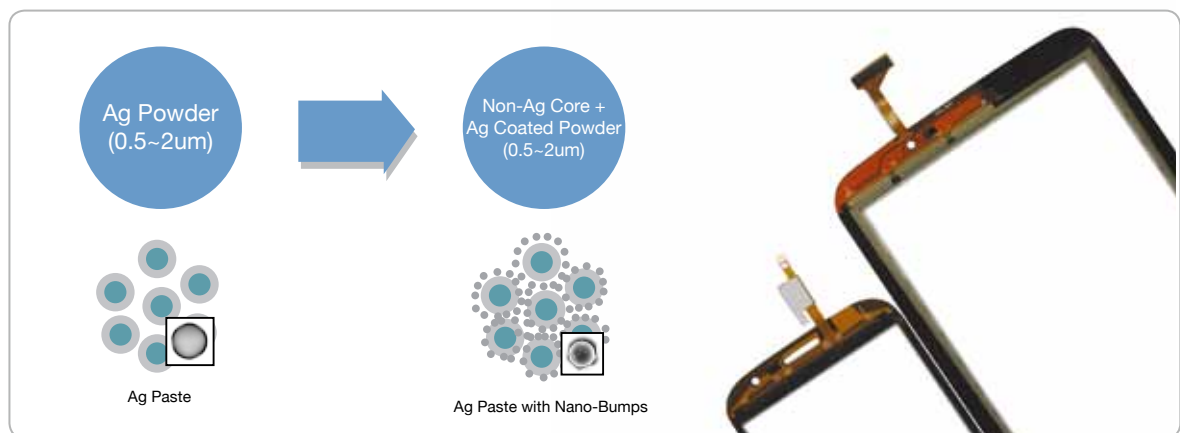
- ▶ Fillers are most important single ingredient in Underfill of Flip Chip Package, especially for improving the thermal conductivity.
- ▶ Thermal Conductivity (Filler Particle): Above 50W (The existing Filler particle from another companies: Usually 1.4W/mK)



Silver Powder Alternative for Printed Electronics

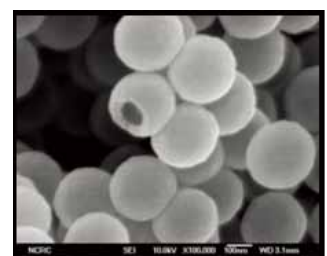
The field of Printed Electronics is clearly spreading from Touch Screen Panel, to Solar Cell Electrodes, RFID, FPCB and further applications. The persistently high price of silver, which retards the use of silver inks and pastes in cost-sensitive applications, calls the alternative cost efficient nano-particles.

With Ntrium's sophisticated coating technology, we're conducting research and development of Core-Shell type nano-particle which can substitute the silver powder. The low cost core materials with silver coated layer can reduce up to 50% price from the existing silver powder.



Mesoporous Silica Nanoparticles (MSN) as Drug Delivery System (DDS)

MSN have potential as drug delivery and controlled release devices due to their adjustable particle size and high surface area. Ntrium is developing and preparing the production facilities for the Nano particle capsule as MSN which can be used for Target Anticancer Drug.



The History of Ntrium

2012

Feb | Dreaming Big

Realized the huge potential of Nano/Micro Coating Technology

Apr | First Big Step

Researching the Nano-technology in collaboration with AICT(Advanced Institutes of Convergence Technology, <http://aict.snu.ac.kr/eng/>)and SNU Materials Sci & Engineering Dept. (<http://mse.snu.ac.kr/english/main/main.php>) to start a business

Aug | Entrepreneurship Training

Graduated with top honors from Young Entrepreneur Academy operated by Non-profit Government-funded Organization, SBC(<http://www.sbc.or.kr/sbc/eng/main.jsp>)

2013

Jan | CEO & Executive Education

Entered to Institutes of Global Management - IGM (<http://www.igm.or.kr/eng/>)

Feb | Ntrium is founded

The 1st company founded and invested by AICT(Advanced Institutes of Convergence Technology, <http://aict.snu.ac.kr/eng/>)

Jun | Venture Company Certify

Aug | Acknowledged by Government

Selected the top beneficiary for Global R&D Program operated by SBC (Small and Medium Business Administration, www.smba.go.kr/eng/index.do)

Sep | Ntrium R&D Center

Nov | Top winner of T2B Program (Material Field) operated by Nano-Technology Research Association (www.nanokorea.net)

Winner of Startup & Growth Program operated by SMBA



Need Products or Technologies?

Please contact us to learn more about how Ntrium can help your products become more innovative and futuristic.

Andy Kim (Marketing & Sales VP)

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