



# RESEARCH, DEVELOPMENT, PRODUCTION, PHYSICO-CHEMICAL CHARACTERIZATION, APPLICATION AND TRADING OF NANOPARTICLES & NANOPARTICLE-CONTAINING PRODUCTS

PLiN Nanotechnology is a research driven spin-off of Aristotle University of Thessaloniki, specializing in the fabrication and characterization of tailored metal and metal oxide nanoparticles. The mission of the company is to bring stable and functionalized nanomaterials to the market, synthesized through an eco-friendly route that facilitates their global integration into both, commercial and customized products. PLiN has already some branded products, such as Ecoline and NANOSANITASTM.

## **Application Field**

- Construction Products • Textile • Cleaning products
- Pet-care • Agro-Biotechnology

## **Services Offered to Third Parties in the following fields**

- Professional integration support • Quality Control
- Stability monitoring • Custom fabrication
- Materials analysis • Full structural and compositional characterization
- Product Testing • Commissioned R&D • Collaborative research projects

## **PLiN Nanotechnology S.A.**

### **Head of the Laboratory**

Dr. Theodora Karamanidou

### **Members of the Lab/Research Team**

Dr. Dimitrios Papadopoulos  
Dr. Alexandros Tsouknidas

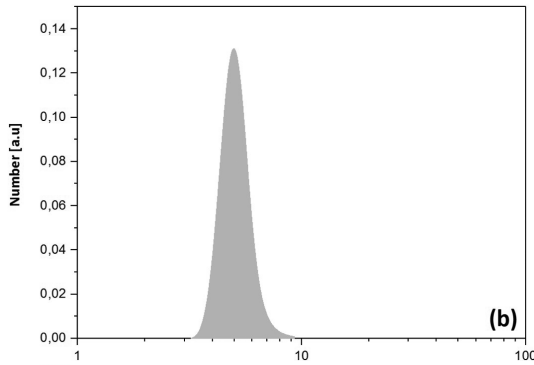
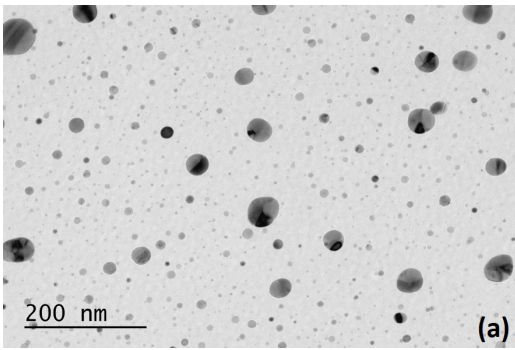
### **Contact**

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# 1

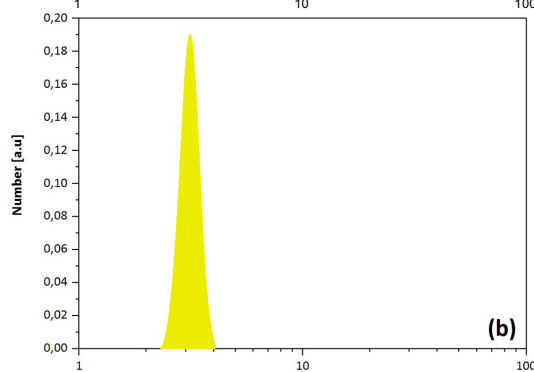
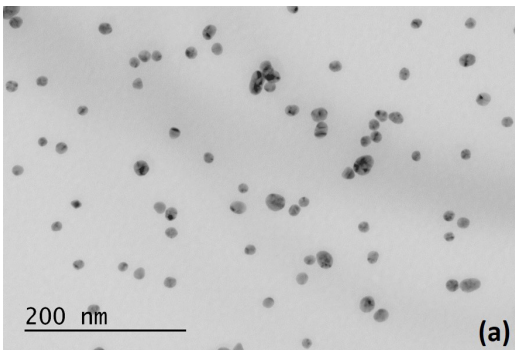
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# 2

(a) TEM image of Silver Nanoparticles

(b) Stable silver nanoparticles are carefully engineered with specific and controllable physicochemical characteristics, such as chemical composition, size, shape, morphology and surface functionalization



# 3

(a) TEM image of Gold Nanoparticles

(b) Tailor-made gold nanoparticles are synthesized with controllable physicochemical properties in order to obtain stable colloidal dispersions.

**Construction products**

SilverWall is a user- & eco-friendly additive, designed to provide unparalleled efficacy and hygiene.

- Certified against bacteria/mold
- No hazard indications
- Easy integration
- Market validated product

**Textiles**

Skin-friendly Nano-Silver shields fabrics from pathogens, while eliminating all bacteria originating odors.

- Certified functionality
- Easy integration
- Market validated product

**Agrobiotechnology**

Nano-Copper derivatives, tailored to upcoming legislative restrictions for pesticides.

- Unparalleled efficacy
- Low environmental footprint
- Undergoing extensive in-vitro, in-planta & in-vivo validation

**Nano-Energy  
Nano-electronics**

Nano-Silver and Nano-Copper inks and pastes, engineered for printable nano-electronics and energy conversion/exchange.

- High-quality condensed solutions
- Highly efficient application
- Highly conductive

# 4

Nanomaterials are already used in many applications in various industrial sectors such as energy and environment, food & agriculture, medical, pharmaceuticals & cosmetics, electronics & computers and a great number of consumer products. The future of nanotechnology looks promising and is among the fastest growing scientific sectors and in a great number of consumer products.

**NANO SANITAS™**  
HEAL - PROTECT - REPEL

**DOG SHAMPOOS** (Perfectly safe for PET & HUMAN USE)

**VARIOUS ANIMALS**

- Multipurpose Skin & Fur Care
- Dental Care
- Anti-Odor Spray

Short Fur, Long Fur, Puppies, Clean & healthy, Coming soon

# 5

NanoSanitas is a PLIN trademark, debuting in a brand of nano-enhanced pet products inspired by nature. Through engineering our products down to the nanoscale, we were able to mimic nature's ability to heal, protect and repel, using Nano-Silver as a physical shield to pathogens.

**PLIN™**  
NANOTECHNOLOGY  
FOR EVERYONE