

**TAL  
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**TalTech is looking for a CEO and co-founder for a new potential startup**

Preferred background of the CEO: business development in the field of industrial chemicals, materials manufacturing, healthtech.

# **Noble Metal Nanostructure Technology**

# Opportunity and conditions

TalTech annual budget for RD activities is 50M euros.

In order to take research to the market we need multifaceted great teams and therefore we are looking for CEOs for science based tech startups.

What you get: equity in the company which is based on years of research. Cap Table will be decided together with research partners. TalTech will get equity in the founding stage in the range of 5-10% for exchange of IP.

What we expect from the cofounder:

- describe the best possible product market fit
- personal contribution (time and/or money)
- capability to attract funding (personal and/or investors/grants)

**In order to apply for the cofounder position, finish the slides (feel free to add/modify slides) and return them to [mirjam.kert@taltech.ee](mailto:mirjam.kert@taltech.ee)**

In case current team members see you fit to be the potential CEO we will arrange a meeting and discuss potential co-founding possibility.

Questions: [mirjam.kert@taltech.ee](mailto:mirjam.kert@taltech.ee)

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# PROBLEM

## INPUT FROM TALTECH

**Noble metal nanoparticles are expensive, slow to produce and difficult to scale**

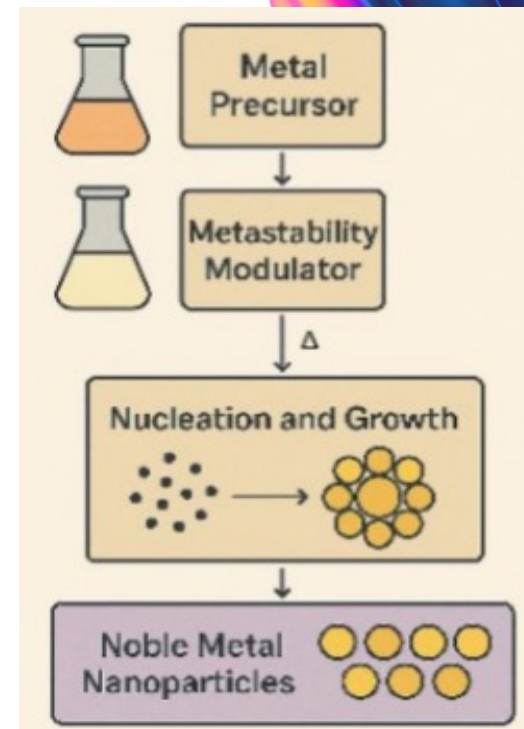
- Current nanoparticle production methods rely on energy-intensive physical processes or expensive biochemical routes.
- Production needs inert atmospheres, specialized reactors, toxic reducing agents and long synthesis times — all of which inflate cost and limit scalability.
- Market demand for Ag, Au, Pt, Pd and Cu nanoparticles is rapidly increasing (14% CAGR), yet supply chains cannot deliver fast, affordable, high-quality material.
- Industrial users, startups and R&D teams depend on a few global suppliers for noble metal nanoparticles.

# SOLUTION

INPUT FROM TALTECH

## Fast, low-cost chemical route for high-value metallic nanoparticles

- Novel metastable-complex chemistry enables formation of Cu, Ag, Au, Pt and Pd nanoparticles in under 1 hour — drastically reducing production time.
- Open-atmosphere synthesis, no toxic reagents, no specialized high-energy equipment → significantly lower operating cost.
- Produces both stabilized suspensions and dry nanopowders, suited for direct integration into biomedical, catalytic, energy and electronic applications.
- Designed for scalability with demonstrated batch production at 200 mg → 500 mg → 1 g → 5 g, enabling predictable cost curves and industrial upscaling.



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# CURRENT STATE

## INPUT FROM TALTECH

### TRL3 Validated synthetic routes, strong commercial potential and clear IP strategy

- Verified production of Cu, Ag, Au, Pt and Pd nanoparticles with defined structure, composition, size and morphology using XRD, SEM/EDX, XPS and XRF.
- Technology uniquely positioned to compete with premium suppliers (Sigma-Aldrich, American Elements, Nanoshel) through faster synthesis and lower cost.
- Early customer-fit signals in healthcare, electronics, catalysis and energy, all large and fast-growing markets.
- Well-defined IP strategy
- Next step scaling production

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# MARKET OPPORTUNITY

## INPUT FROM TALTECH

- Today, noble metal nanoparticles are typically bought from large chemical suppliers like Merck / Sigma-Aldrich, Thermo Fisher, American Elements.
- These suppliers offer reliable quality, but materials are expensive and slow to deliver, especially outside standard catalog products.
- Smaller companies and industrial users often struggle with price, lead times, or customization.
- A faster and cheaper production method opens the door to new customers and new use cases, not just research labs.
- This creates an opportunity to build a company that either supplies nanoparticles directly or licenses the production technology.

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# MARKET OPPORTUNITY (TAM, SAM, SOM)

INPUT BY POTENTIAL CEO

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# COMMERCIALIZATION PLAN FROM LAB TO PRODUCT

INPUT BY POTENTIAL CEO

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# **FINANCIAL PROJECTIONS: PATH TO MAXIMIZE STARTUP VALUE INPUT BY POTENTIAL CEO**

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# **VISION FOR FUTURE TEAM**

**INPUT BY POTENTIAL CEO**

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# CONTRIBUTION

(TalTech will give options shares for the new co-founder, what is that you are willing to invest in terms of money, time and competencies and what are your expectations regarding option shares)

## INPUT BY POTENTIAL CEO

- I'm suitable to be the founding member ...
- My contribution can be (time, money, competencies, contacts etc)
- My expectations regarding option shares in startup founding stage is in the range of x-x%