



## CM NANO. A novel nanoparticle solution for greatly improving the solubility of traditionally poorly soluble drugs

### Overview

Annual global spending on pharmaceutical research and development exceeds \$190 Billion. However, despite this significant investment, 90% of drugs put forward for clinical trials will fail. Key reasons for failure at this stage include poor bioavailability, low efficacy, and poor solubility. Poor solubility represents a significant problem during pre-clinical trials with up to 90% of new drugs being poorly soluble.

### Technology

The CM Nano technology offers a solution to poorly soluble drugs while also addressing poor bioavailability and low efficacy. Scientists at the University of Limerick have developed a novel continuous nano-spray drying technology. This technology, through a single process, allows for the control of nanoparticle size, the collection of the spray-dried nanoparticles, and the conversion of these nanoparticles into micron-sized solid nanodispersions.

### Benefits

The advantage of using nanoparticles is to enhance the absorption of the pharmaceutical. This invention could lead to cost savings in terms of pharmaceutical products and materials.

Benefits of highly soluble Active Pharmaceutical Ingredients (APIs):

- Reduced production costs
- Greater bioavailability (effectiveness in API achieving desired goal)
- Patent expansion opportunities
- Accurate nanoparticles size control (lowest size 90nm)
- Higher collection yields (average yield 70%, max yield 90%)
- Reduction of environmental footprint through simplified production process
- Continuous and scalable production
- Flexible formulation format
- Improved post-process processing
- Reduced time to market

### Applications

The inventions relate to spray coating of nano particles (active pharmaceutical ingredients) onto carrier particles and has application in batch and continuous manufacturing.

### Commercial Opportunity

The University of Limerick is interested in seeking partners to exploit the commercial potential of these technologies by entering into licensing agreements.

Target Market for Innovation: Pharmaceutical sector

Development partner

Commercial partner

Licensing

University spin-out

Seeking investment

Patent Title: Particle Coating Method

Type: PCT

Country: EPO

Status: Filed

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Application number: PCT/EP2021/054235

Link:

<https://worldwide.espacenet.com/patent/search/family/069784050/publication/WO2021165514A1?q=PCT%2FEP2021%2F054235>

Publication:

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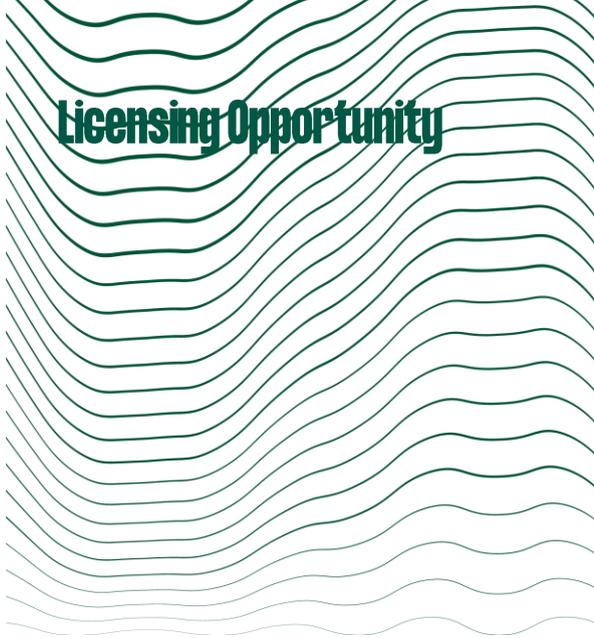
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**Licensing Opportunity**