



## Company profile

Ceramisphere Health is a recent spin-off from Ceramisphere, a privately-owned micro-encapsulation company established in 2007. Ceramisphere encapsulation technology is based on biodegradable silica matrices which have been applied to a wide range of bio-actives for various drug delivery applications. Our current focus is the development of pioneering skin delivery solutions for small and large therapeutic molecules using our proprietary “ZERO-WASTE” nanocomposite patch technology. Our particular emphasis is on pain-relief and the development of smart bioactive wound care products. The patches incorporating the silica particles are produced in collaborations with two European leading companies.

### The Technology

Our biodegradable silica encapsulation technology is unique and versatile and can be customised to meet the complex requirements of healthcare solutions. We have a strong portfolio of 12 patents which cover both products and processes for a wide range of applications.

Capitalising on our technology’s key strengths, we have developed and patented a novel technology which allows the production of biodegradable, sustained release “ZERO-WASTE” patches.

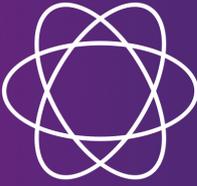
Our technology provides a significant competitive edge over current patch technologies:

1. Our patches are **more efficient** and **cost-effective** than current commercial solutions (at least 30 times less drug used to get the same effect) with almost “**nil left-over**” in the used patch. This ensures both ease and safety at disposal, and provides a safe and simple solution for the prescription of controlled drugs like opioids.
2. The unique protective properties of the silica matrix allow the production of SMART “**All in one**” bioactive dressings, containing growth factors, antibiotics and pain relief molecules, for effective treatment of both chronic and acute wounds with minimal pain and scarring.

### Product Pipeline and Markets

The market potential for zero waste sustained release patches is significant and can be distributed in three specific opportunities:

1. **Biodegradable Lidocaine Patches with extended release and/or reduced patch size**- Current market USD1.4Billions per annum
2. **Safer “Zero waste” Controlled Drug (Fentanyl) Patches** - The Opioids market is \$22.96B at 4.8% CAGR; According to IMS data, Fentanyl transdermal patches recorded market sales of USD 560M at end of 2016-~17% of US Transdermal patch market
3. **Low scarring, fast healing Growth Factor Wound Dressings**- Bioactive Wound care (2020) \$7.3B; 14% CAGR for growth-factors and synthetic skin-related products- ~12% share of the total wound-healing market (~2B); Anti-Scarring marking: 12B



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### **Partnership and Exit strategy**

We are looking for partners to help us progress our “zero-waste” nanocomposite patch technology through clinical trials.

Our goal is to license the technology for specific applications to patch or wound dressing manufacturers or pharmaceutical companies active in the dermal space.

### **Speaker profile**

#### **Dr Chris Barbé – CEO**

Chris is the CEO of Ceramisphere Health Pty Ltd, an Australian drug delivery company based in Sydney. He has over 20 years of experience in developing and commercializing new materials and technologies for a wide range of commercial applications ranging from blood biosensors (Dupont), to Solar Cells (Swiss Federal Institute of Technology - EPFL) and drug delivery (ANSTO).



In 2007, he founded Ceramisphere as a fully owned subsidiary of ANSTO and successfully spun it off in 2010. In 2014, Chris was asked to take over the management of Ceramisphere as CEO and refocused the company into two specific field of applications: Manufacturing of controlled release additives for paints and the Encapsulation of bio-actives for dermal drug delivery. This mutation resulted in the spin-off of Ceramisphere Health in 2018, to better focus on the significant opportunities available for the “zero-waste” sustained-release patch technology.