

# Longbow Company Profile

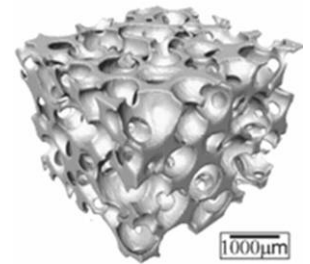
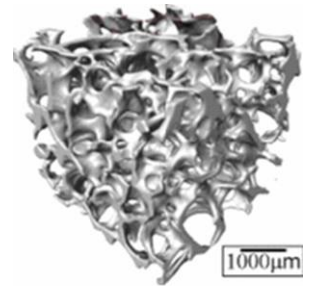
**REPREGEN**<sup>TM</sup>  
The Smart Biomaterials Company

**Repregen is a regenerative medicine company that has developed proprietary bioactive glasses, with applications including synthetic bone graft substitute or re-mineralising components for toothpaste.**

## Background

Repregen is a spinout company from the Department of Materials at Imperial College. The underlying technology is based on the research of Professors Molly Stevens and Robert Hill, who have developed two technology platforms, termed the BCT-000 series (hard tissue), and the BCT-100 series (soft tissue).

The commercial focus is on the BCT-000 series which has several 'close to market' applications which the company is focusing on; synthetic bone graft substitute, bioactive coatings for implants and re-mineralising components of oral care products such as toothpaste.



## Technology

Bioactive glasses have been on the market for over 25 years as 'bone fillers' to fill voids in bone caused by disease or trauma. They dissolve over time, a process which helps the formation of new bone. Repregen has modified this technology with the addition of strontium and other ions. This changes the properties of the bioactive glass, generating benefits over the basic material.

There is a great deal of positive data validating this technology, showing which formulations are more effective for different uses and that all the materials are well tolerated in the body.

## Market

Bone graft substitute has been marketed for many years. However, there has been little innovation over this time; consequently the market has not expanded to its full potential, evidenced by the fact that 80% of procedures use autograft. This involves taking and using bone and marrow from the patient's hip. There are advantages such as biocompatibility and osteogenesis (formation of bone) but it is an invasive and expensive process that results in short term pain for all patients and chronic pain and mobility issues in 25% of cases.

Existing suppliers prioritise one of two messages; safety or performance. Repregen believes that a substantial market exists for a product that can combine both. New technologies are emerging to satisfy this demand. Some products, such as Medtronic's Infuse or Biomimetic Therapeutics' GEM21S combine a scaffold with drugs to encourage bone growth. Others such as Orthovita's Vitos or Apatech's Actifuse are considered safer as they do not require drugs but significant performance improvement has not been demonstrated. The BCT000 Series combines the performance of the former with the safety of the latter. In addition, there is a cost advantage over the combination therapies.

[www.longbow.co.uk](http://www.longbow.co.uk)

