

Fillable Hybrid Scaffolds for the treatment of critically-sized bone defects



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SUMMARY

Critical bone defects caused by trauma, surgery, or destructive bone diseases are usually treated by either autologous bone grafting or synthetic bone substitutes. While autologous bone grafting means removing part of intact bone tissue and carries risks of complications, synthetic bone structures remain inferior to autologous bone in terms of tissue healing.

Our solution comprises a new form of bone substitute that enables tissue regeneration of large bone defects with load-bearing capacities, thus providing reliable bone healing without losing rehabilitation potential.

PROJECT GOALS

- Identify and select most suitable material combination for the implant
- Develop the ideal implant structure
- Fabricate prototype for *in vivo proof-of-concept* (PoC) of the bone substitute
- Validate the implant functionality *in vivo*

LONG-TERM GOALS

- Validation of the prototype *in vivo* with large animals
- Start-up or spin-off foundation
- Implementation of new implant in clinical practice