

Final Report

Project acronym: *NAT4MORE*

Project number: *4169*

M-ERA.NET Call 2016

Period covered: 02/03/2019 to 30/08/2021

Publishable project summary

Innovation objective: physiological healing of bone implants (modulation of host response).

Unmet need: inadequate long-term outcome and infections of implants.

Specific objectives: scientific understanding of the implant-tissue interface (inflammation, osteoblast/osteoclast balanced activity, biofilm formation); bioinspired surface functionalization; industrial processing (stability of grafted biomolecules after packaging, sterilization and storage).

Expected results: up-scaled protocols of extraction and selection of natural biomolecules (polyphenols, chitin derivatives), optimized functionalization processes of bioactive glasses, hydroxyapatite, titanium alloy with biomolecules in active state and proper amount (quality control), assessment of post-processing steps.

Impact and benefits: exploitation of granted patents, enhanced functionality of implants, benefits for patients health, new commercial products and markets for the involved SMEs, reduction of hospitalization time/costs.