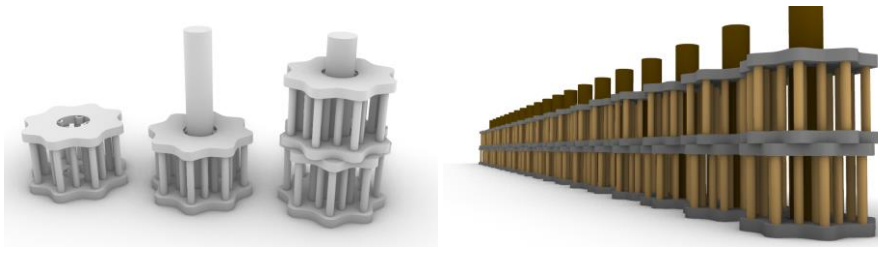


# ROOT – NATURE-BASED SOLUTION TO PROTECT COASTLINE, RESTORE MANGROVES, AND GENERATE LOCAL ACTIVITIES AND ECOSYSTEM SERVICES

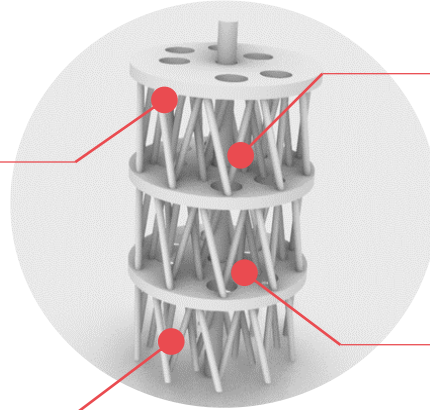


ROOT IS AN INNOVATIVE NATURE-BASED-SOLUTION THAT SUPPORTS MANGROVE RESTORATION THROUGH THE RESTORATION OF SUITABLE HYDRO-SEDIMENTARY CONDITIONS FOR SPONTANEOUS MANGROVE RECOVERY AND REPRODUCES MANGROVE PERFORMANCES FOR COASTLINE PROTECTION.

## A solution to mitigate coastal erosion



- An optimal roots density to mitigate waves and currents action.
- A biomimetic structure of mangrove root trees
- A pile of units allowing to reach the desired water column occupancy



## A functional solution on an ecological level



- A suitable rugosity for the colonization by the biodiversity
- Creation of a substrate, of habitats and nursery areas for numerous species



- Inexpensive, affordable and locally produced materials (wood, bamboo, concrete)
- Management and exploitation of the infrastructure by local communities

## A solution supporting ecosystem services

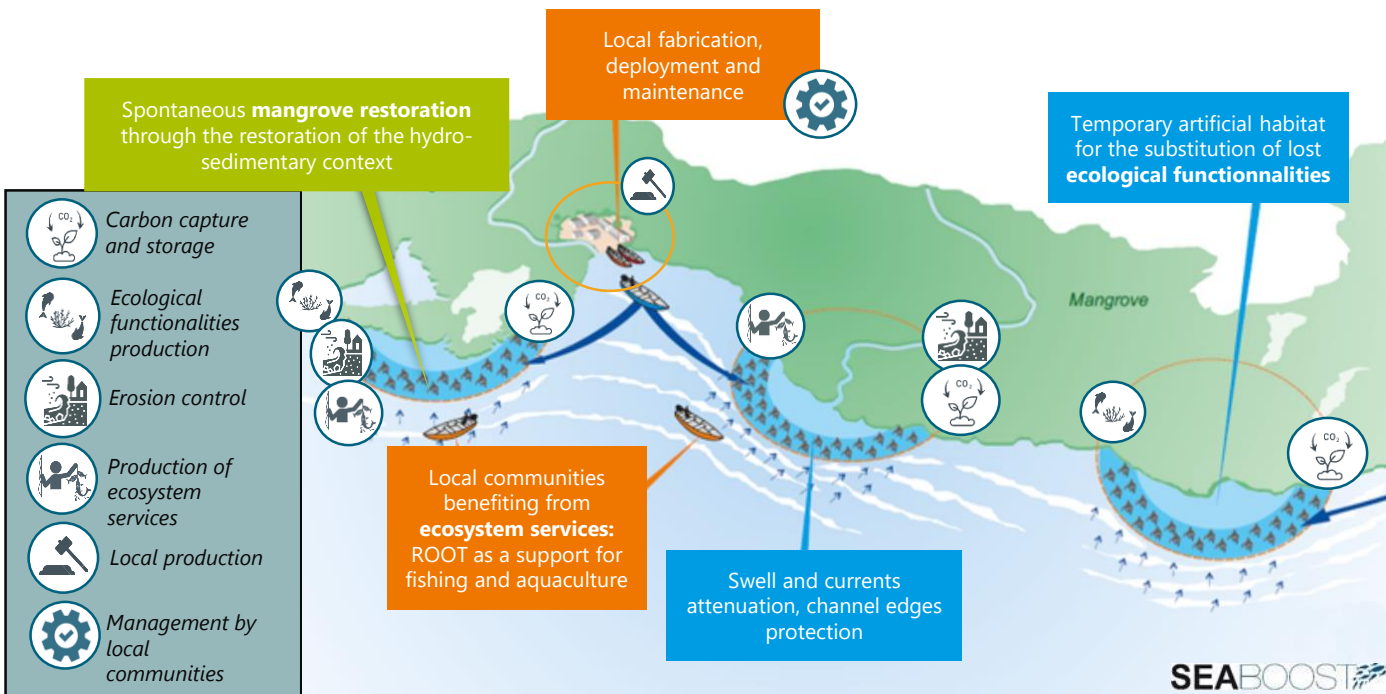


- Reefs supporting shellfish farming
- Reefs creating habitats and nursery areas for commercially important fish and shellfish species



Module complexification with simple, lightweight and potentially versatile add-ons

ROOT RELIES ON THE WORLD BEST PRACTICES TO UNDERSTAND AND MODEL DYNAMICS IN ORDER TO MITIGATE COASTAL EROSION. IT IS A POROUS MODULAR STRUCTURE, WHOSE SETTLEMENT PATTERN AND DIMENSIONS ARE CUSTOM-MADE AND ADAPTABLE TO BEST FIT AND EVOLVE WITH THE LOCAL CONTEXT.



ROOT IS A LOW TECH APPROACH, THAT EMPOWERS LOCAL COMMUNITIES TO PRODUCE, MAINTAIN ,MANAGE AND EXPLOIT THE DEVICES. ROOT DESIGN ALLOWS THE PRODUCTION OF VALUABLE ECOSYSTEM SERVICES FOR COASTAL COMMUNITIES AS WELL AS KEY ECOLOGICAL FUNCTIONALITIES FOR LOCAL SPECIES.