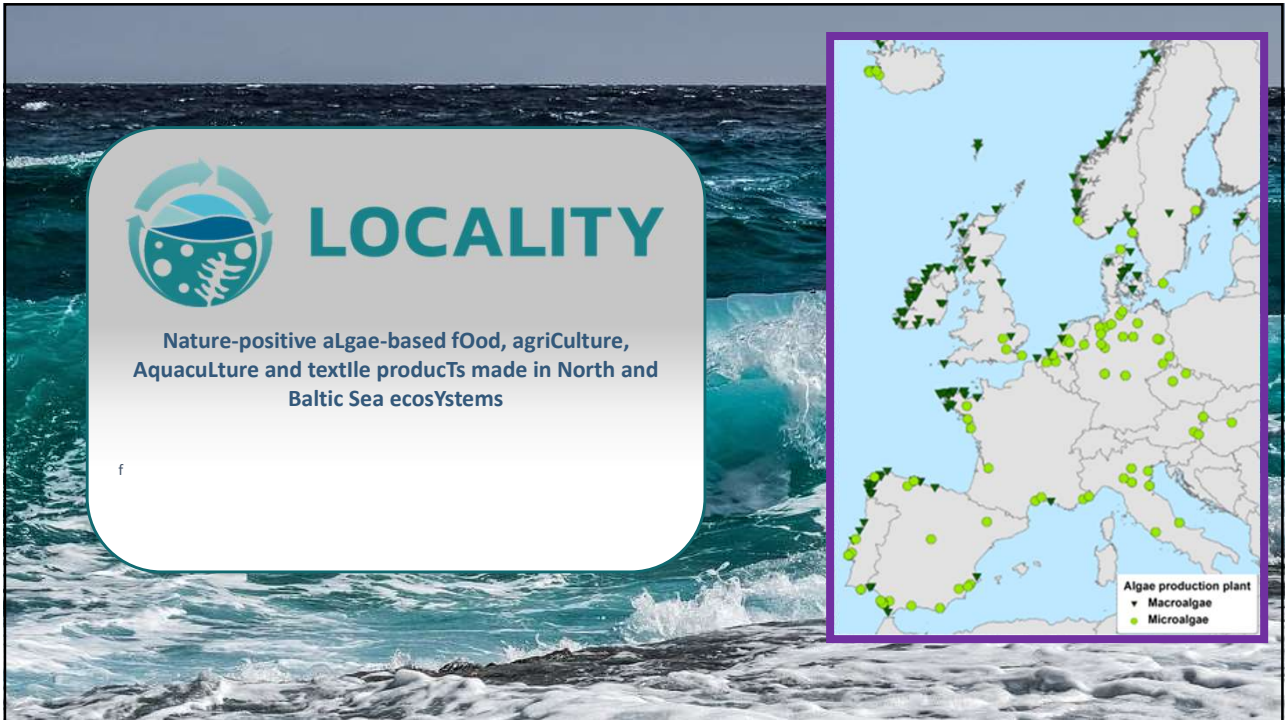
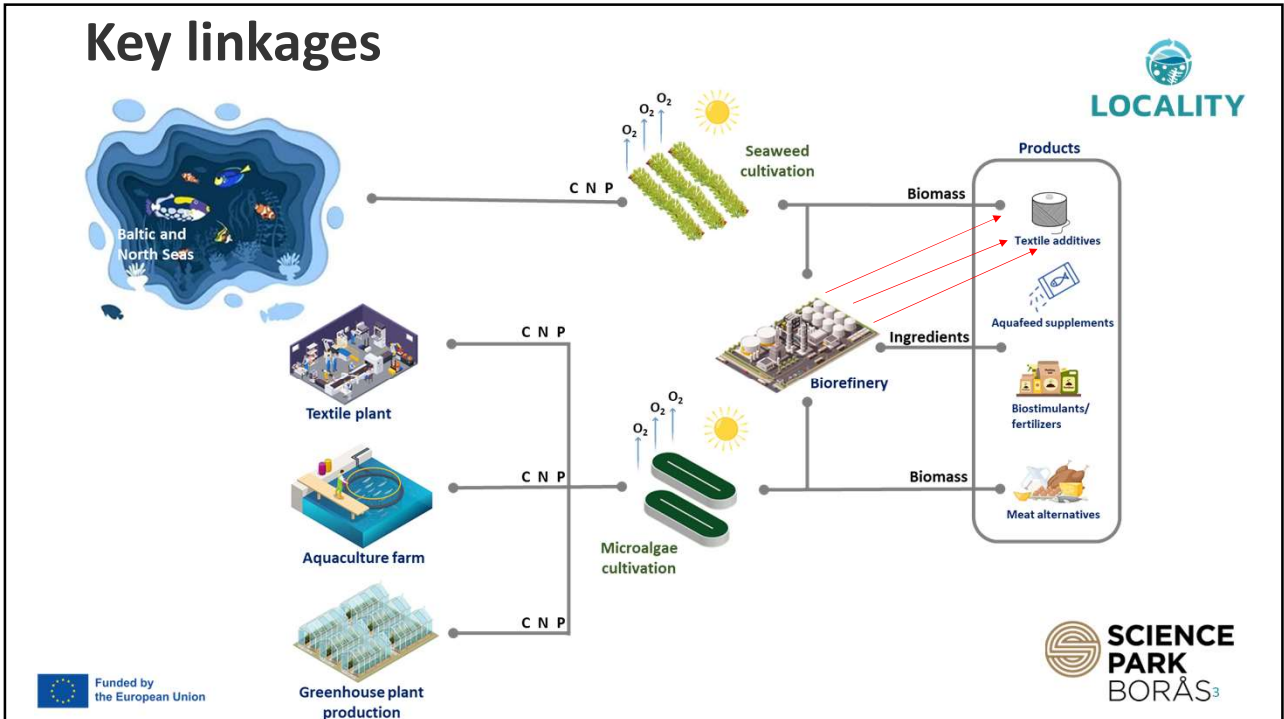




1



2



3



4

Additive formulation



5

5

Additive formulation



Species: *Indigofera tinctoria* Family: Fabaceae




6


6

Additive formulation

- Focus on algae dye formulation and color fastness, lab-scale.
- Test of color fastness and dye stability







Funded by the European Union

7

7

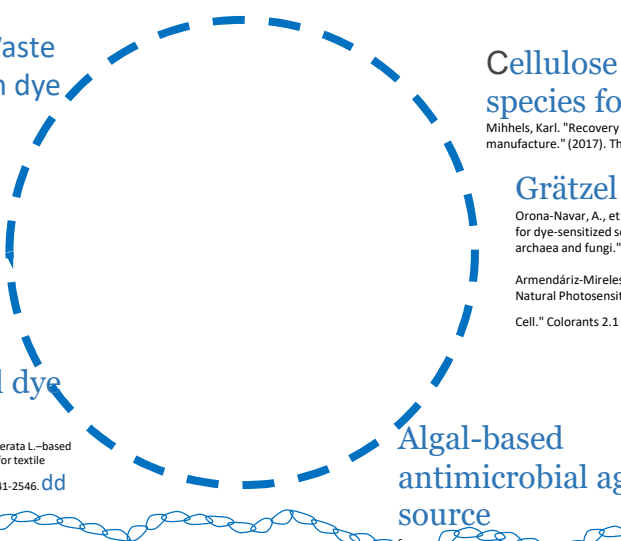
Benefits of textiles and algae together

Phycoremediation. Waste water treatment from dye shops by algae

Cellulose from algal species for textile fiber
Mihhels, Karl. "Recovery of cellulose from green algae for textile manufacture." (2017). Thesis




Grätzel photovoltaics
Orona-Navar, A., et al. "Alternative sources of natural pigments for dye-sensitized solar cells: Algae, cyanobacteria, bacteria, archaea and fungi." *Journal of Biotechnology* 332 (2021): 29-53.

Armendáriz-Mireles, Eddie Nahúm, et al. "Alternative Sources of Natural Photosensitizers: Role of Algae in Dye-Sensitized Solar Cell." *Colorants* 2.1 (2023): 137-150.



Algal-based natural dye source
Mir, Riffat Ayesha, et al. "Green algae, *Cladophora glomerata* L.-based natural colorants: dyeing optimization and mordanting for textile processing." *Journal of Applied Phycology* 31 (2019): 2541-2546. [dd](#)

Algal-based antimicrobial agent source

8

Textile vs algae

textiles

algae

UNIVERSITY OF BORÅS

UNIVERSIT OF BORÅS

9

Textile vs algae

textiles

algae

UNIVERSITY OF BORÅS

UNIVERSIT OF BORÅS

10