

# Biopolymers as a tool for zero-waste materials

S-02.2-2

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We are entering a 'storm' of climate change and biological resource constraints. The earlier companies, cities, and countries plan ahead and prepare themselves for the predictable future, the better their chance of thriving. To slow down the impact a step towards new logic including resilience and sustainability through exploring renewable biomass and waste streams not only to replace current practice but foremost pursue a way of delivering new value products and energy following the zero-waste concept by closing the loops, reducing the material and emission footprint and protecting the environment and resources for the future generations will be the inspiration for the presentation. The advances in biopolymer science and technology are aiming towards resilience, safe and sustainability by design approach and zero-waste. The successful showcases of natural biopolymers that have been utilized as a tool (cellulose nanomaterial, chitosan, alginate, and starch) towards the development of a business-ready application in the sectors of food, textile, cosmetics, and packaging will be demonstrated.

The final note will be delivered towards the EU Green Deal Mission Ocean initiative aiming to protect and restore our ocean, seas, and waters, where societal factors will be taken into account, thus giving a real future perspective for "green" bio-based polymers for an engineered future alternative to current material choice.