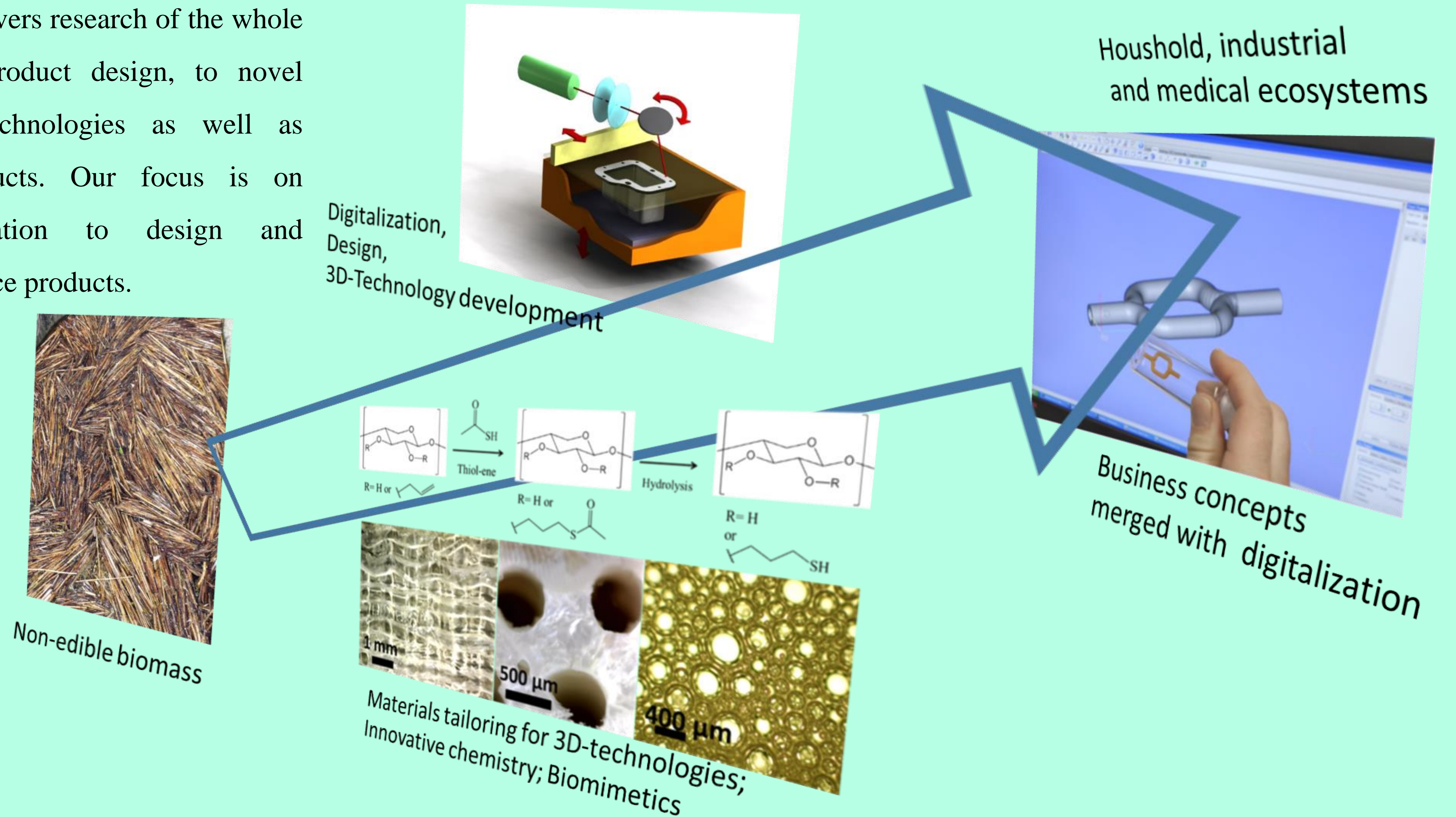
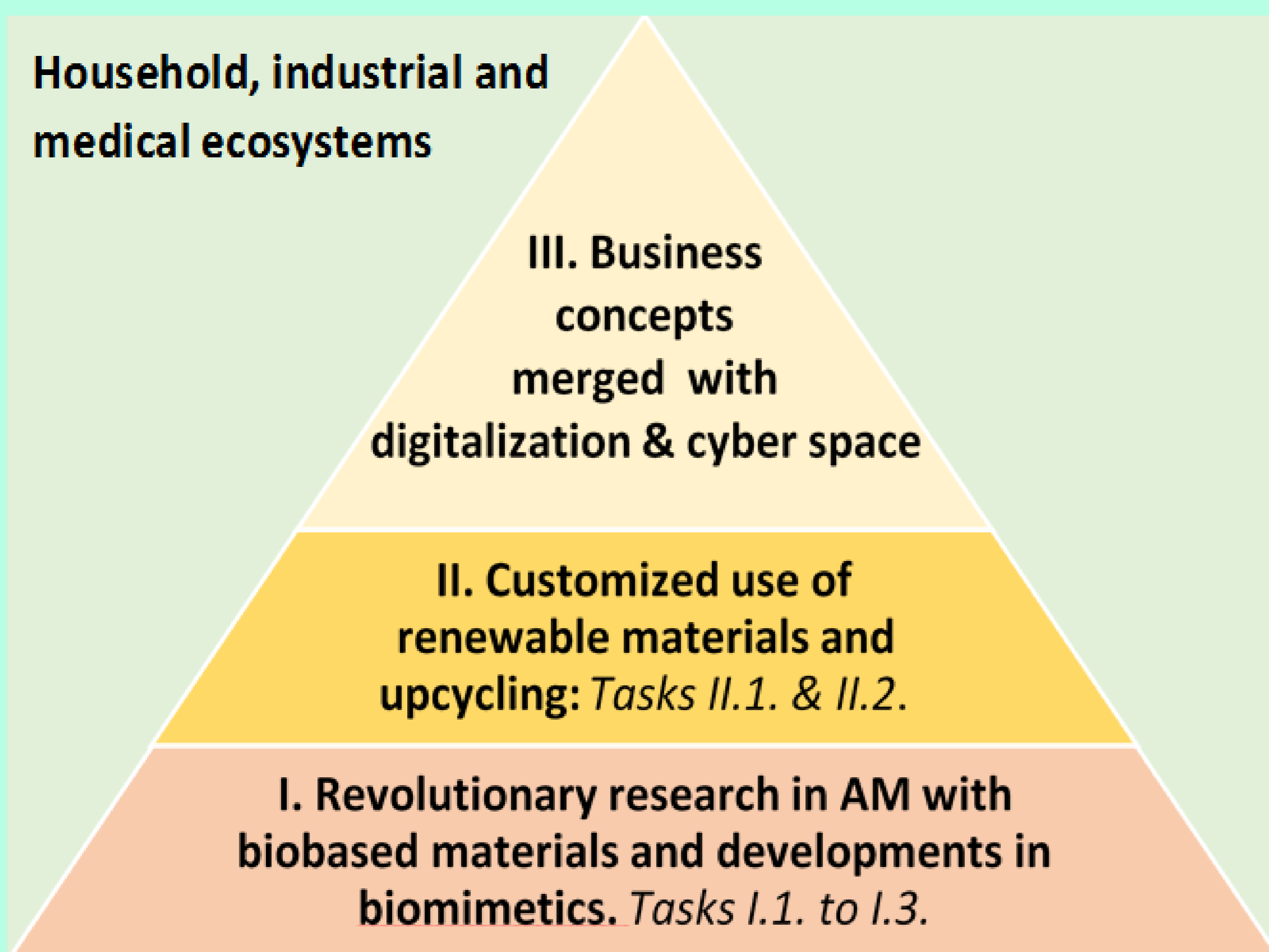


The *3D-Biomat* consortium covers research of the whole value chain: from digital product design, to novel material and production technologies as well as demonstration of the products. Our focus is on converting digital information to design and individualized high performance products.



Industrial biorefineries are in great role in implementing national Bio-Economy strategy and promoting the development towards renewable resource utilization. The grand challenge in biorefining is the full utilization of biomass into high value-added products. In our *3D-Biomat* project, we will provide valorization pathways to overcome this gap. Our project combines the bio-economy with the megatrend of digitalization via research and development of novel biomaterials with digital design and advanced 3D-additive manufacturing techniques including production value chains and business models. This production route will offer revolutionary pathways for biorefining and enable novel distributed, local and small to medium scale production opportunities. The *3D-Biomat* route will also promote the circular bioeconomy.



Three thrust areas

- (I) Fundamental research of polymeric biomaterials,
- (II) Use of the materials developed and,
- (III) Creation of business and cyber/digitalization concepts

Partners

- Professor **Jukka Seppälä** (PI), Aalto University, School of Chemical Engineering
Polymer synthesis especially in biopolymer synthesis and functionalization
- Professor **Orlando Rojas**, Aalto University, School of Chemical Engineering
Lignocellulose chemistry and engineering towards plant derived hierarchical materials
- Professor **Jouni Partanen**, Aalto University, School of Engineering
Additive manufacturing (AM), especially in high resolution stereolithography