

### **Innovative project for the utilization of organic materials is seeking for partners**

The project aims to develop a decentralized process for recycling homo- and heterogenic organic materials using the heterotrophic microalgae *Galdieria sulphuraria*. The residues are first hydrolyzed in an innovative infrastructure together with the SME ConversionTec GmbH. During hydrolysis, nutrients (carbohydrates, amino acids and phosphate) are dissolved in water in order to subsequently cultivate the microalgae *Galdieria sulphuraria*, which grows in the dark. The algae biomass is harvested and used as a regenerative raw material for trade and industry. The process therefore fulfills both disposal and supply functions in a circular economic system.

The project further aims to develop a modular process for the bioconversion of residues into protein-rich biomass using heterotrophic microalgae. The objectives of the work are 1) to technically specify and scale up the desired process and implement it based on a utilization strategy. A downstream strategy to exploit proteins in algae biomass but also other high value compounds such as the pigment phycocyanin will be suggested.

We are seeking for partners in the areas of plant engineering and automatization. Discussions with partners have revealed the complexity of, for instance, decentralized container-based process. Accommodating all the equipment while complying with safety regulations requires expert knowledge. This area must be strengthened, especially for a later practical implementation. Support is also needed from partners in the field of biomass utilization. This area must be strengthened when it comes to a commercialization. Furthermore, we believe that this approach is interesting to all producers of organic materials, who need to transport and to treat it. We can minimize transportation costs by a decentralized utilization approach.

