

## **CLIB<sup>2021</sup> Project:**

### **Adhesive peptides**

#### **Description:**

The project aim, in connection with the subproject at ARTES-Biotechnology GmbH in Langenfeld, Germany, is the commercial production of functional peptides with adhesive properties for defined surfaces.

Innovative and alternative gluing concepts are to be realized, allowing for new material properties on technical surfaces, such as those used in the household and in the following industries: construction, automotive and aerospace, electro, steel and packaging.

This allows for the application of industrial biotechnology in market segments which thus far have been almost exclusively occupied by the petrochemical industry.

The scientific focus is four fold: a) the evaluation of the principles of biological adhesion; b) new screening techniques for the identification of relevant peptide sequences; c) the development of miniaturized adhesion assays for detection of adhesion under application conditions and d) the development of an adequate expression system linked to an appropriate production process.

The scientific challenge is seen as the development and identification of peptide domains which lead to the desired product features by applying the auto display surface expression technology.

Optimization of expression includes complex tasks, such as broadening of the secretory bottlenecks, the development of concatemers or the co-expression of chaperones. In the production process the separation of protein expression and initialisation of the adhesive properties may be necessary.

**Timing of project: 2008 - 2013**

**Funding Agency: BMBF (BioIndustrie2021)**

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