Technical Assistance Facility (TAF) for Industrial Modernisation and Investment

CASE STUDY: FROM TECHNICAL VALIDATION TO FINANCIAL PLANNING: DEFINING AN OFFER FROM A COMMERCIAL PERSPECTIVE

Project name: Bi-rex

Partnership name: Chemicalsv

Geographical coverage: Lombardia (IT), Limburg (NL)

Estimated investment volume: EUR 6 million

TAF support extended: business and legal expert support

Source: Nowalchimica

Project objective

Though the development of a process in which eutectic solvents are used to extract biopolymers from agri-food biomasses, the project goals are to enable the substitution of consumed tree-sourced cellulose with cellulose derived from agri-food waste, and to make Europe a manufacturer of chitin and chitosan with raw materials sourced locally from insects and crustaceans' farmers.

Impact of TAF services

- ✓ Bi-Rex received TAF business and legal expert support between March and September 2021. The outcomes of the support were a first project **business plan** and a report covering a set of legal issues relevant to the solution's market access, such as procedures for **compliance** with existing regulation.
- ✓ During TAF support delivery, the solution was validated from the technical side at pre-commercial scale, in different operational environments through potential users/clients. The core of the TAF expert support consisted in the **definition of the offer from a commercial standpoint** which, together with the market validation, allowed for a calculation of the expected product costs and the definition of project financials.
- ✓ From the identification of the three revenues channels for the solution, corresponding to the manufacturing and sale of tree-free cellulose, purified cellulose and sustainable chitin, TAF enabled the validation of the respective business models, which supported the process of **assessment of the fields of applicability of the innovation** and the subsequent costumer exploration.
- ✓ Based on a set of assumptions on the costs involved with manufacturing one unit of output, a **cost structure** was developed looking at the current market value of the two types of cellulose and chitin. Next, raw materials and production costs, R&D, personnel/service costs and capital expenditure were estimated, as well as costs related to market compliance processes.
- ✓ Therefrom, potential market areas of applicability of the solution were mapped and, through the validation of the product with early adopters, a **revenue model** was created for each stream. In addition to revenues generated from product sales, revenues from licensing the patented solution were included in the model. Detailed costs and revenues resulted in the **profit & loss statement** of Bi-Rex's business plan.
- ✓ During and after TAF support delivery, Bi-Rex secured a pre-seed investment of EUR 160k from an Italian capital fund for the project scale-up activities and attracted the interest of several potential clients from the pharmaceutical, paper, bioplastic and textile industries as well as suppliers of biomasses.

Lessons learnt for other S3P-Industry projects

While it is generally the norm for projects that foresee the development and market sale of new industrial products to undergo a first stage of research, to which an investment stage follows, the experience of Bi-Rex shows that intertwining the two is mutually benefitting to the development of an investment project. Reaching out to potential users/clients can allow for the technical, in addition to the market validation of the solution, and looking for investors at early research stages might secure the conditions for project implementation.

For more information, please check the TAF page at: https://eismea.ec.europa.eu/technical-assistance-facility-taf-industrial-modernisation-and-investment_en

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