Institute for

BEAP Final report

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Process Technology

Format final report (public part)

Project Number RVO and/or ISPT(-TKI)	TKITOEFP-50-02
Project Title + Acronym	Bundeld early adaptor project (BEAP)
Secretary (penvoerder)	ISPT
Name Cluster Director	Dr. K Roest
Name project leader	Dr. ir. Patrick de Wit (EMI Twente @ University of Twente)
PhD (name & title thesis)	N/A
Funding	€ 247.500,00
Project start	February, 1 2020
Project original end date	February, 1, 2020
Project final end date	October, 31, 2021

Partners

Final report

Summary

Within the Bundled Early Adaptor Project (BEAP) we worked on setting up membrane pilots at industrial plants so that Small and Medium Enterprises (SMEs) could showcase and tailor their membrane solution. The 5 technology developers (SolSep, Pertracta, i3, WiC an Eurekite) worked together with 5 different industrial end users (Shell, Corbion, Cosun, Carbogen Amcis, and Quackers) and 1 knowledge institute (EMI Twente / University of Twente) in order to either develop or optimize the separation challenged that was posed. For some applications no membrane exists yet, and work was mainly focusing on the development of a new membrane material for that specific application, including various improvements to make the material more robust, whereas in other cases, the work focused on development of a new pilot skid in order to demonstrate the technology at a larger scale.

The technologies offered by these SMEs encompass the entire membrane application area, such as organic solvent nanofiltration of water purification, and pertraction to membrane distillation. It was found during one of the matchmaking sessions that all of these technologies, even though tailored for a specific application, can potentially also be used for other applications. In addition to the technological work, also support was offered to the SMEs with respect to potential future funding opportunities or on how to improve their online presence during various workshops.

Introduction

This report is the final report of the bundled early adaptor project where 5 different technologies provided by small and medium enterprises are coupled to industrial end users. This report explains the project overview and summarizes the main findings for all different work packages. As this project in essence consists of 5 small projects, each technology tested at an industrial end user can be regarded as small project, the report is also set up in such a way. A general introduction to the project is given, together with a project outline and schedule, followed by the results per work package. This is followed by a financial overview of the total project and an overall conclusion.

The aim of this bundled early adaptor project is to function as platform where technology providers (Small and Medium Enterprises (SMEs)) and industrial end users can initiate and execute short-term projects, in such a way that these projects help the SMEs to realize, tailor or demonstrate their technologies and to convince the industrial partners of the viability of these technologies.

For technology providers, it is often challenging to test their new development under industrially relevant conditions. Yet, these so called ‘field tests’ are a necessity for their (new) technology to be recognized and, ultimately, adapted by industry. Additionally, for industrial end users it is often difficult to assess all available technologies, therefore this bundled early adapter program aims to bring industry and technology providers together.

To facilitate and assist these early adaptor projects, knowledge institutes are involved that work as independent assessor to verify the suitability of a technology, provide input on potential solution routes, or assist with technicalities related to such a field test (e.g., sample analysis, module autopsy, pilot infrastructure). In this project, ISPT will advance their programs, workshops, networking opportunities for developing Human Capital and innovative technology.