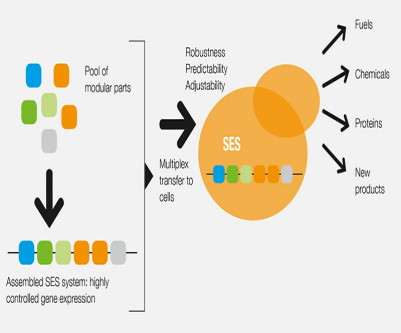
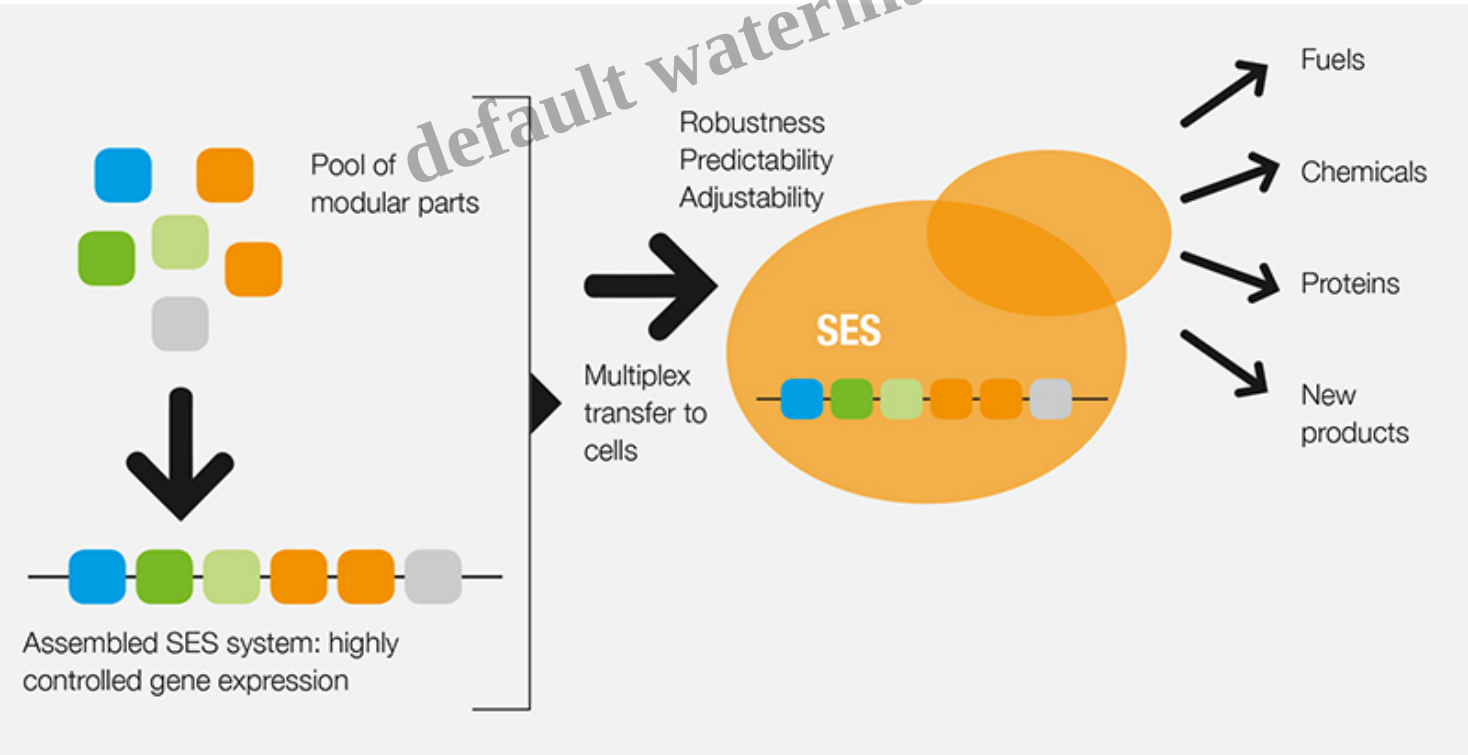


Synthetic biology toolbox offers “unprecedented” functionality, to assist with bio- and circular economy challenges | Envirotec

Description



VTT Technical Research Centre of Finland has developed what it describes as “an efficient synthetic biology toolbox for industry and research organisations.” The toolbox enables, in an unprecedented way, engineering of a diverse range of yeasts and fungi, says the group.

VTT says it comprises DNA parts which can be easily combined to create new biological systems.
The SES (Synthetic Expression System) toolbox seemingly enables expression of genes in yeasts and fungi considerably more efficiently and with better control than has been possible with previous methods. The toolbox is based on DNA components with well-defined functions and the components can be combined “as if they were Lego bricks.” In this way, molecular machines can be built, for example, for improved control of yeast cell performance in industrial bioprocesses for production of polymer precursors, fuels and medical compounds. Because the components of the SES toolbox operate the same way in different species, they can be used to engineer species that have attractive properties, but which have due to lack of engineering tools not been studied or used in biotechnology applications in the past. The SES toolbox is expected to enable development of numerous novel microbial production processes for valorization of various waste materials to higher value compounds. In doing so, the SES toolbox provides important solutions for bio- and circular economy challenges. VTT has written an article about the opportunities opened up by the toolbox, which you can read here. You can also read an article recently published in Nucleic Acids Research here.

Read the full article at: envirotecmagazine.com

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Date Created
December 1, 2022
Author
thecirculareconomyteam