In order to promote a low-carbon future, Europe needs to develop novel multifunctional photo(electro)catalytic materials integrated into practical and scalable reactors to maintain its technological leadership in chemical manufacturing. With this in mind, the EU-funded FlowPhotoChem project aims to develop and model an integrated modular system with improved energy efficiency and negative CO₂ emissions. Based on continuous-flow heterogeneous photo(electro)catalytic reactors, the system will produce ethylene and other high-value chemicals using abundant resources such as water, carbon dioxide and light. The project’s work will result in cost-efficient, small-scale systems for intermittent operation that will meet the needs of regions with abundant solar resources and provide them with the possibility for distributed manufacturing.

"Sustainable chemicals from sunlight and carbon dioxide"

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