

# Heterogenous Photo(electro)catalysis in Flow using Concentrated Light: modular integrated designs for the production of useful chemicals

**Timeline** | 06/2020 to 05/2024

**ICIQ People** | [N. López Research Group](#)

**Overall Budget** | 6,993,315 €

**Website** | <https://flowphotochem.eu>

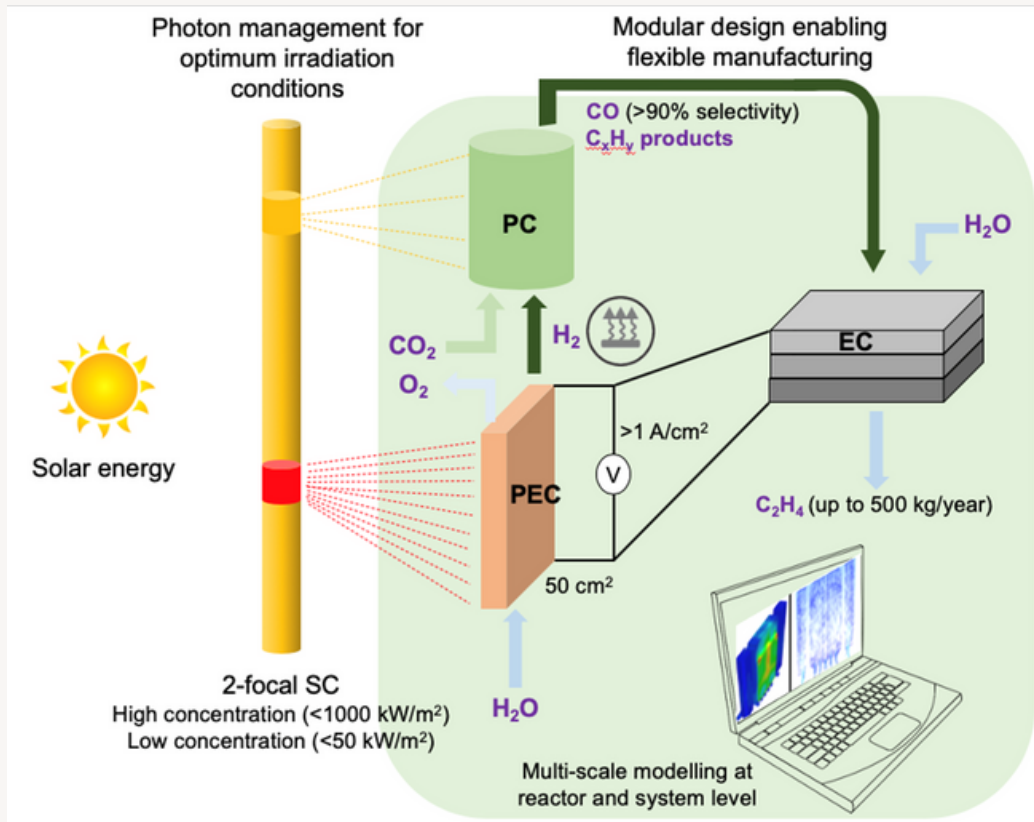
**ICIQ's Budget** | 492,500 €

**Call** | H2020-NMBP-ST-IND-2019-RIA

## SUMMARY

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 CO<sub>2</sub> 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"



>7% sunlight to chemical conversion efficiency and performance loss <5% in 1,000 hours

Lower costs to alternative non-fossil fuel-based methods but with improved efficiency and negative CO<sub>2</sub> emissions

Helping chemical manufacturing contribute to Europe's vision of a climate neutral society by 2050

## CONSORTIA

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