



halofreeetch.eu



# HaloFreeEtch

Novel approaches for halogen-free and sustainable etching of Silicon and Glass

## Project

HaloFreeEtch aims to **revolutionize semiconductor manufacturing** by developing an environmentally sustainable etching process that **eliminates the use of halogenated compounds**.

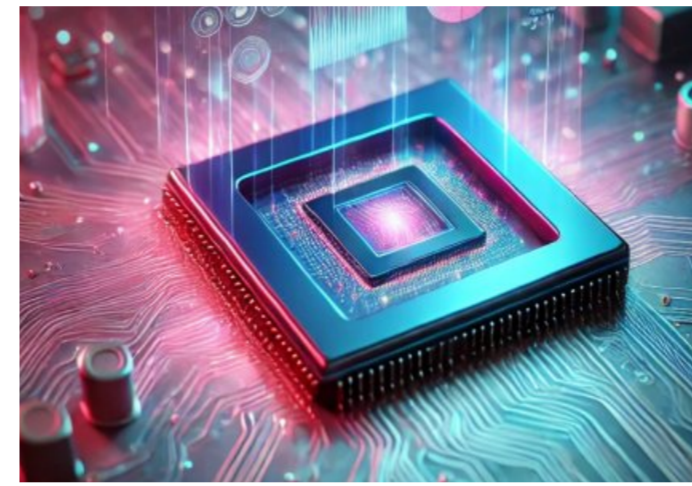
Funded by the European Union, this innovative initiative brings together leading experts from academia, research institutions, and industry to address the critical need for greener **manufacturing technologies**. By leveraging cutting-edge plasma etching techniques and advanced materials science, HaloFreeEtch strives to reduce the **environmental footprint** of semiconductor production while maintaining **high performance and cost-effectiveness**.

## Case Studies



### Development of a deep etching process for capacitive sensors without halogens

Reduce environmental impact and improve process efficiency.



### Multi-Scale modeling for etching process optimization

Development of multi-scale models to predict and optimize energy efficiency and etching speed.

## Objectives



## Expected Impacts

HaloFreeEtch aims to significantly impact both the **semiconductor industry** and the environment by eliminating the use of harmful halogenated compounds in etching processes. This reduction in ecological footprint aligns with global efforts to combat **climate change** and promote **sustainable practices**.

The project will enhance the European semiconductor industry's competitiveness by developing cutting-edge, environmentally compliant technologies, essential as the EU enforces stricter regulations on **fluorochemicals**. This innovation will lower costs and improve compliance with environmental standards.

## Partners



## Project details

Project number: 101161153

Project name: Novel approaches for halogen-free and sustainable etching of Silicon and Glass

Project acronym: HaloFreeEtch

Topic: HORIZON-EIC-2023-PATHFINDERCHALLENGES-01-04

Type of action: HORIZON-EIC

Project starting date: 1 September 2024

Project duration: 48

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## Contacts

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