



## Chassy

# Model-Based Construction and Optimisation of Versatile Chassis Yeast Strains for Production of Valuable Lipid and Aromatic Compounds

CHASSY is a collaboration between academia and industry that will develop yeast platforms for the production of high value products for the cosmetic and nutrition sectors.

Using systems and synthetic biology, we will remodel three species of yeast suited to specific applications. Then, we will fine-tune their cellular networks to construct strains with optimised metabolic pathways. Products made in these optimised strains will contribute to the European bio-based economy and help to replace petrochemicals and palm oil as sources of molecules for the chemical, cosmetic, and fuel industries. The strains will also facilitate sustainable production of plant-derived nutrition, flavour, and pharmaceutical products.

To achieve its goals, CHASSY combines some of the newest disciplines in science. The first is systems biology, which uses mathematical modelling to tell scientists how a yeast needs to change to accumulate the correct building blocks. The second is synthetic biology, which is a toolkit that enables those changes to be made. The scientists working on the project are specialists in lots of different areas and they need to collaborate to completely understand the functions of the yeast species they are studying. Once the cells have been studied and the relevant changes have occurred, industry partners will check that the yeast can survive, flourish, and produce the desired compounds under industrial conditions.

### Quick Facts

**Start:** 2017

**End:** 2021

**Funded By:** EU H2020

**Lead researcher:** Dr John Morrissey

### Contact Us

To join the SME stakeholder group or to learn more about partnering

**Email:** [yeastresearch@ucc.ie](mailto:yeastresearch@ucc.ie)

**Website:** <http://chassy.eu/>

