



## SOFTWARE FOR OPTIMIZED PLANNING OF SUSTAINABLE ENERGY SYSTEMS

### Problem – Challenge

The convergence of the energy transition and digitalisation has driven a proliferation of new technologies, new business models and new data streams. For energy planners and facility managers – who are responsible for translating the energy transition into on-the-ground reality – this creates enormous challenges. They must navigate a seemingly endless range of potential supply solutions when (re)developing any given site, taking into account numerous uncertainties and complexities.

### Solution

Since 2017 the Urban Energy Systems laboratory at Empa develops strategies to transform building and urban, sub-urban and rural neighbourhoods into energy efficient and decarbonized systems.

In 2020, researchers out of the laboratory founded the Empa spin-off “Sympheny” that offers a software to support optimized energy planning of sites, from a building to a neighborhood to an entire city. The software is a combination of digital twin technology and intelligent algorithms, integrated in a software-as-a-service (SaaS) platform.

Trough this subscription based SaaS platform, Sympheny aims to enable their customers to quickly, comprehensively and effectively navigate through the range of available technological options and to identify a set of optimal design solutions tailored to the specific constraints and objectives of a given site and customer. This will enable energy planners, facility managers and site owners to meet new knowledge needs within the context of the emerging energy landscape.

