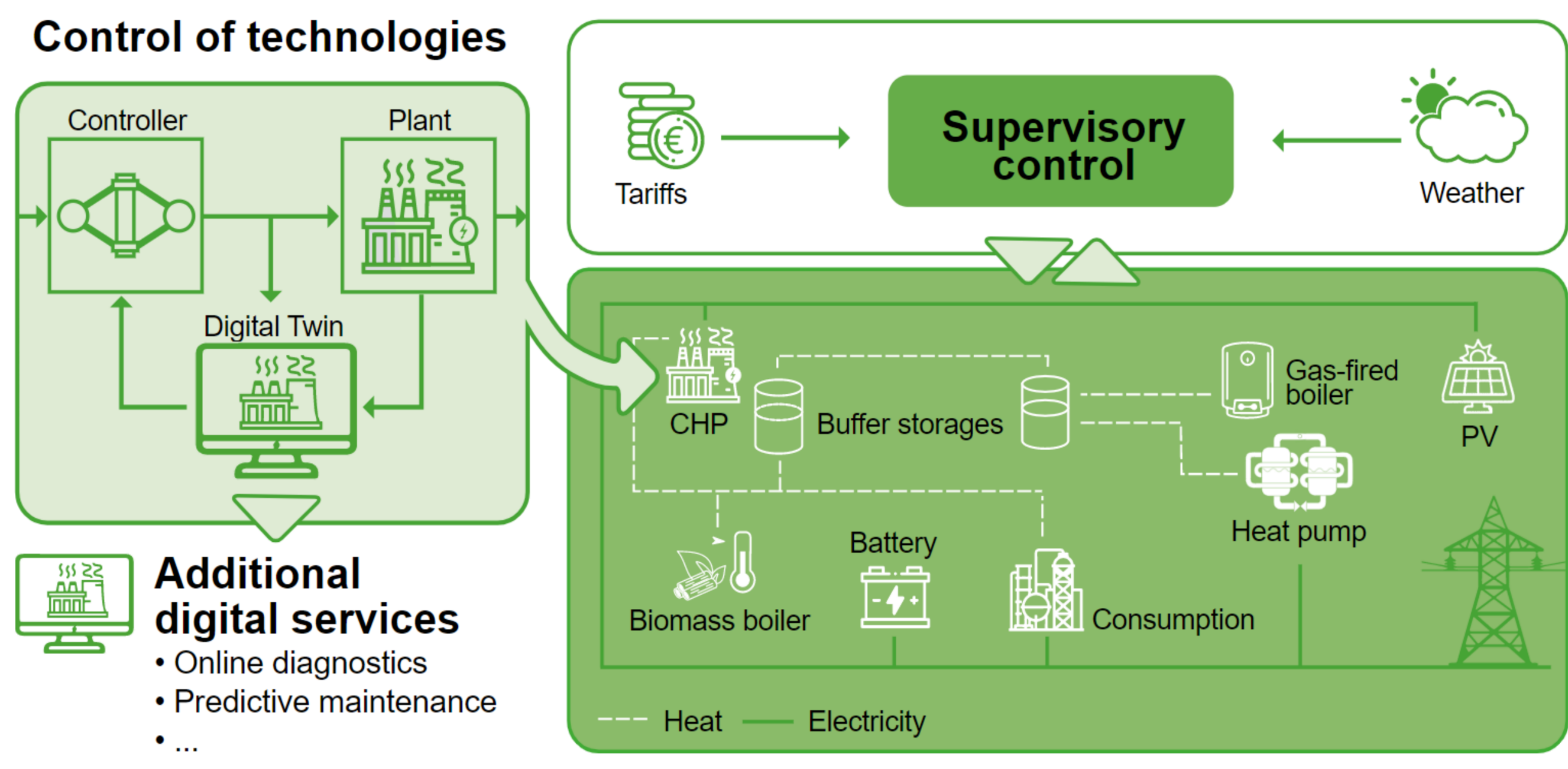


Automation and Control of Renewable Energy Systems

Vision

The Area **Automation and Control** at BEST - Bioenergy and Sustainable Technologies GmbH focuses on the **optimal operation** of **sustainable biorefinery** and **renewable energy systems**, the optimal interaction of different technologies and systems and the **highly automated operation management** by **new digital services**. The overall aim of Sub-Area 2.2 is the optimal operation of sustainable biorefinery and renewable energy systems.



Optimal operation (control) of biorefinery and energy technologies:

The first steps towards a highly efficient, sustainable and flexible system are **efficient individual technologies** that can be **operated flexibly**. For this reason, we develop **advanced control systems** for biotechnological, thermochemical and thermotechnical plants (e.g. gas production or solar thermal plants).

Our team of enthusiastic experts:



Optimal interaction of different technologies and systems:

At the system level, it is then necessary to ensure **optimal interaction of all components and systems**. To this end, we are developing various methods for the **predictive control of hybrid energy and resource systems**, with a particular focus on the specific consideration of the individual sectors (e.g. different temperature levels in the heating sector).

Highly automated operational management by new digital services:

In addition to the actual controls, we are working on **new digital services** that allow a significant **increase** in the degree of **automation** of the plants' and systems' operational management (e.g. methods for automatic plant monitoring, plant simulators for training purposes, ...). We mainly focus on the use of **digital twins**, but purely **data-based methods** are used, too.

BEST – Bioenergy and Sustainable Technologies GmbH

Markus Gölles
 Area Manager –
 Automation and Control

P +43 5 02378-9208
 markus.goelles@best-research.eu
 www.best-research.eu