

**OST**  
Ostschweizer  
Fachhochschule

# IntSGHP

## WP Tagung 2022

Frédéric Bless, Cordin Arpagaus, Manuel Prinzing, Stefan Bertsch

1. Juli 2020

OST / IES



# intSGHP

**Integration of Steam-Generating Heat Pumps  
in industrial sites (retrofit)**



## intSGHP will help swiss companies

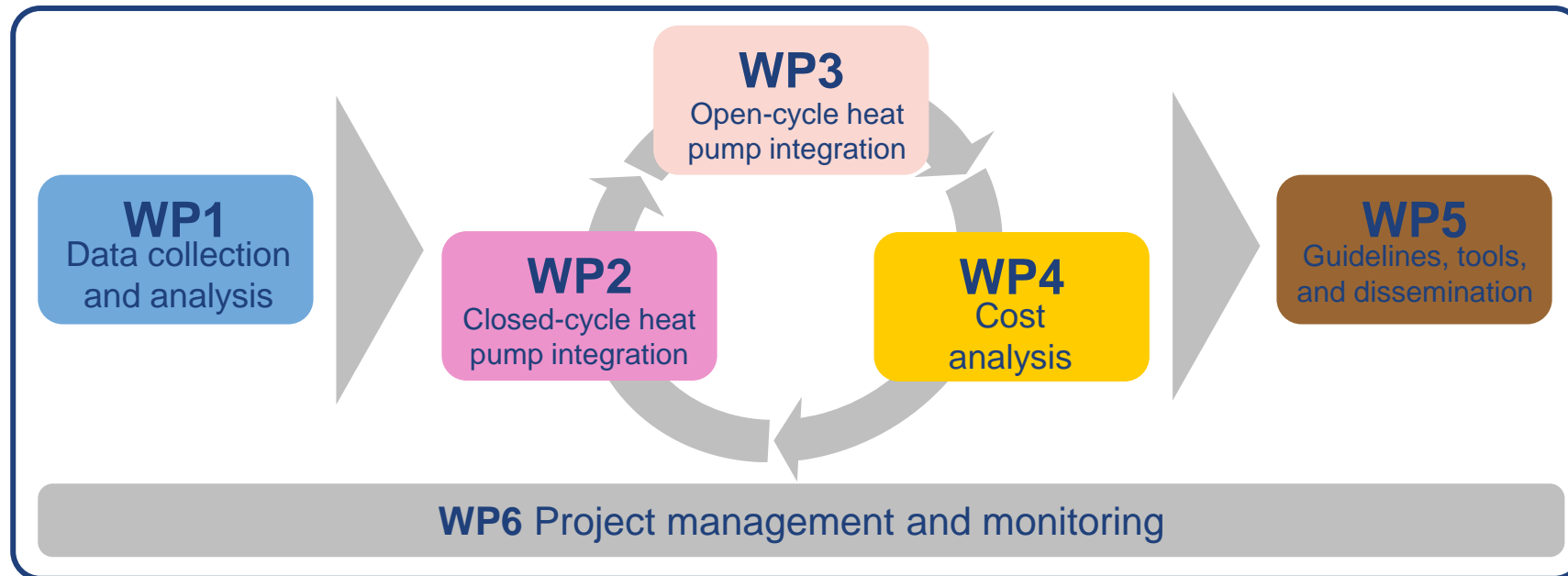
- **Steam** is a major heat carrier.
- Mostly coming from burning **fossil fuels**.
- **Integrating** industrial steam generating **heat pumps** to reduce carbon emissions.
- The reason is the **uptake is slow**.
- Three **case studies** are used to highlight the situation in CH.
- The aim is to fill the gap between the process integration analysis and the actual implementation.

## Goals are integration & guidelines

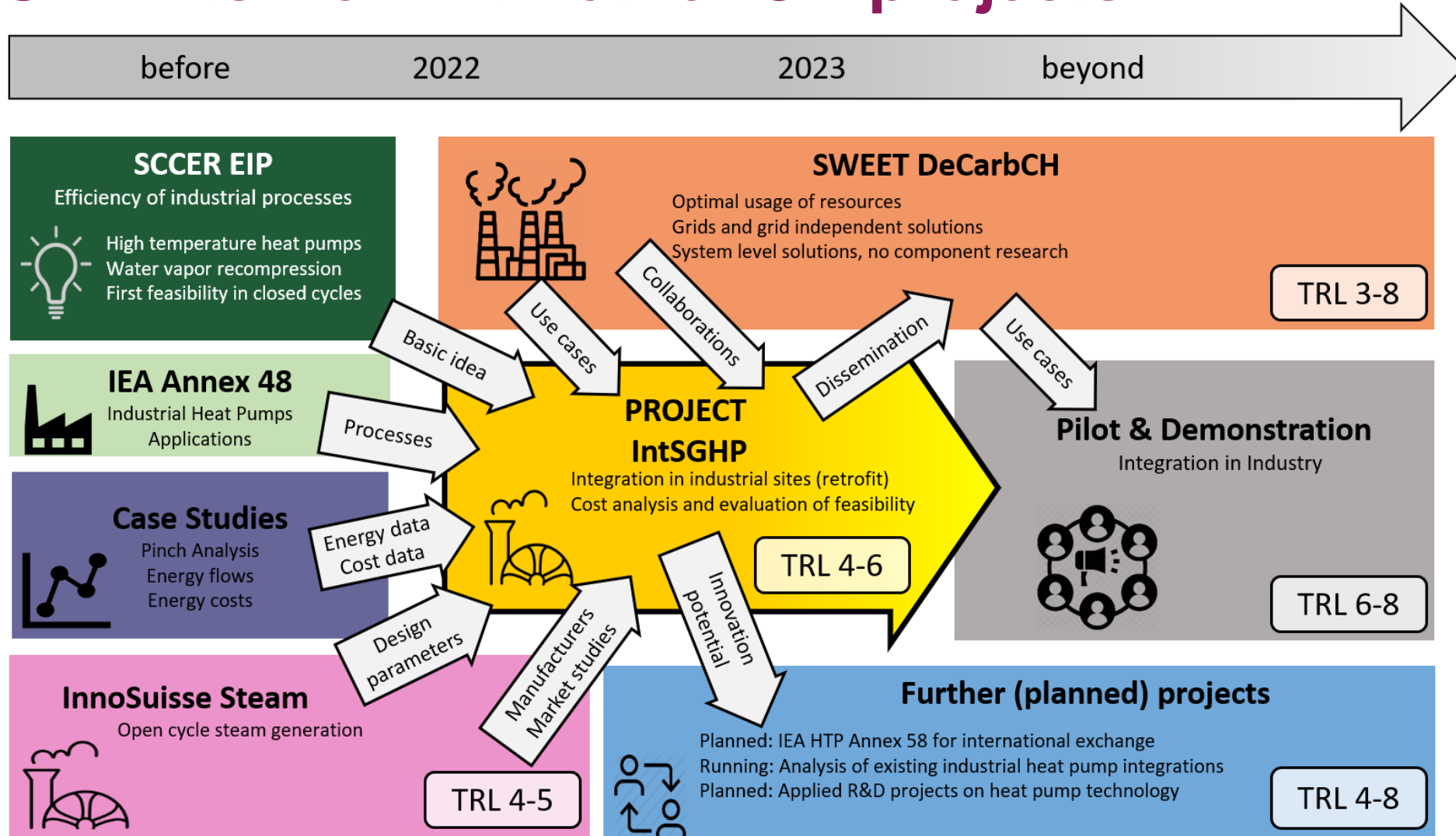
- Helping 3 Swiss industrial sites with the integration of steam generation heat pump systems
  - Finding optimal solution using data analysis, process integration, market availability, etc.
- Preparing for the demonstration of an integration
- Sharing the experience and creating guidelines for other companies

## Structure of the project

- Data collection (WP1)
- Scenario simulation and cost analysis (WP2-4)
- Results and guideline (WP5)
- Management and monitoring (WP6)



# intSGHP fits well with other CH projects



## First results are already interesting

- Beside **cost** especially **technical questions** are important factors when integrating HPs
- **Risk** of integration **on the product** is a determining factor.
- HP is also interesting **not only for CO2 reduction** but water consumption reduction (cooling tower) & to overcome cooling limit due to river temperature in summer.
- Lots of **interest of manufacturers** in state of the art open-cycle & close cycle & combined cycle to enter CH industrial market.
- **Case studies & demonstration are lacking.**

## Project should be followed by a P&D project

- **P&D** project, hopefully several projects
- Gain knowledge to **increase the speed of integration** for future projects
- **Guideline** not only for CH but also for **HTHP-CH & Annex 58** so market uptake is quickened