Making use of waste heat can make an important contribution to increasing energy efficiency. Latent heat storage units offer the advantage that the up-take and discharge of heat takes place at a constant temperature level. In comparison to hot water tanks, the energy storage density is considerably higher. Using mobile storage containers, the energy stored can be used independent from the location where waste heat is produced. Especially for consumers which have a constant need for energy throughout the year, such a system is ideal. However, also seasonal use can be attractive, for example to heat (public) open-air swimming pools in summer and heating the indoor pool building in winter.
This includes the development of economical transport and logistics concepts for your specific application. Based on our measurements and our calculations, Fraunhofer UMSICHT offers a detailed profitability analysis, supplying you with an economically optimised heat usage concept for your mobile latent heat storage unit.

Your benefits

Fraunhofer UMSICHT has many years of experience with mobile latent heat storage unit technology. Independently developed evaluation procedures and calculation tools are available for the evaluation of the measurement data and for the preparation of profitability analyses. By comparing with already available data, we can offer an accelerated optimisation for your heat utilisation concept on the basis of mobile latent heat storage units.

Based on the recommendations of Fraunhofer UMSICHT, the loading and discharge cycles of the mobile latent heat storage unit are adjusted to your needs so that the storage efficiency additionally be further increased.

Pilot storage unit specifications

- 20 feet container
- 2 partial storage units, parallel-connected
- Total mass: 25,000 kg
- PCM: sodium acetate trihydrate
- PCM mass: 16,600 kg
- Phase change temperature: 58°C
- Lower process temperature: 35°C
- Upper process temperature: 95°C
- Loading performance: 180 to 200 kW
- Discharge performance: 80 to 100 kW
- Storage capacity: 2,000 kWh

Our service

Fraunhofer UMSICHT supports you in the planning of your specific heat utilisation concept from consulting through to implementation. Our consulting approach bases itself on the analysis of the specific waste heat potential and its potential use. Our surveys include both a detailed technical and economic consideration of the feasibility of the concept. In our demonstration center in Sulzbach-Rosenberg, we are able to determine the capacity of latent heat storage units using our independently developed testing facilities. An intensive support and evaluation of the measurement data guarantees that the optimum operation parameters for your application can be determined.