

"Waterloop" solutions for sustainable supermarkets

100% propane for natural and efficient cooling and heating

Herbert Schupfer | Güntner Group Europe

eurammön Symposium, 05-08.07.2022





Herbert Schupfer
Head of Future Solutions



Güntner Group
with a team of over 4.000 employees worldwide

SUSTAINABILITY

AT OUR HEART



We are united in the desire to find ways to progress as a society – unified in our search for well-being, prosperity for future generations, and the protection and preservation of our shared home. And we believe it's part of our role to make our industry better – step by step.

WE ALWAYS KEEP THIS COMMITMENT IN MIND



Our manufacturing plants are designed with respect for our nature:

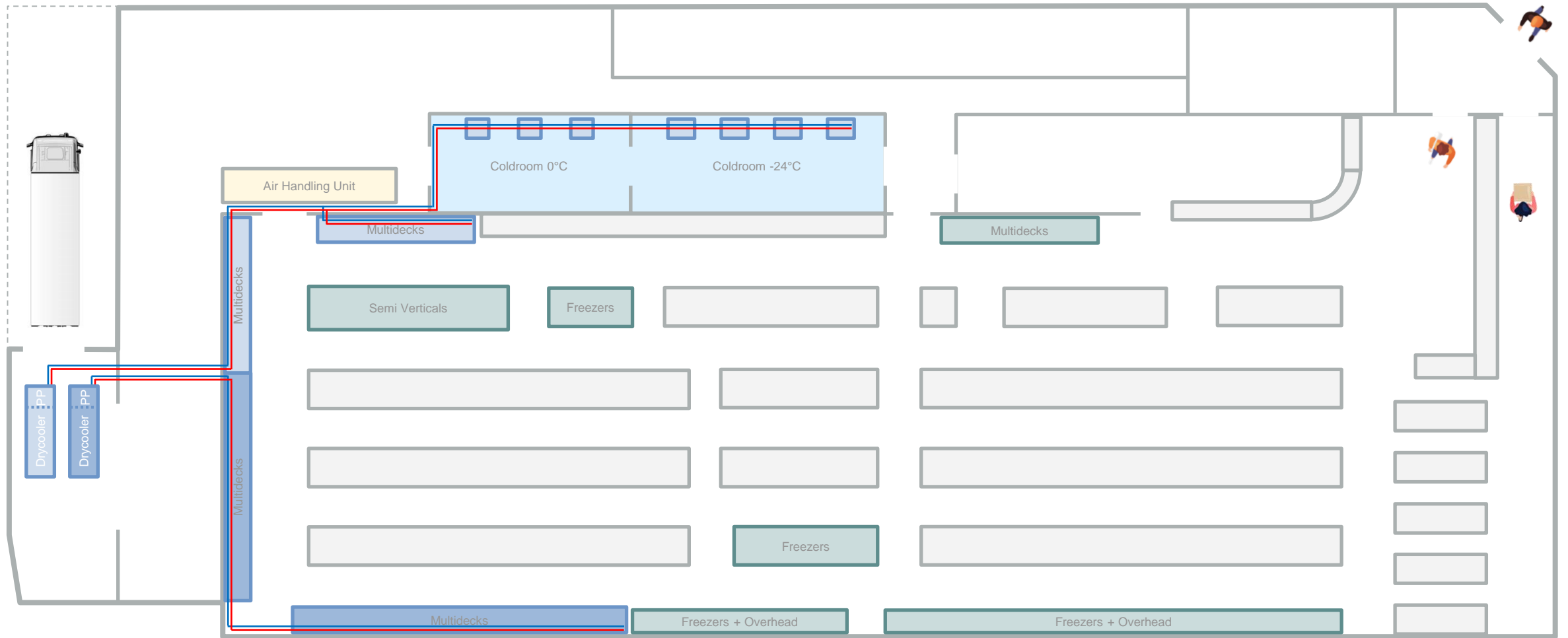
- We use green energy
- We have implemented sustainable water treatments
- Our unique 'planted plant' concept in Sibiu (Romania) is a breakthrough in healthy work environments

Also, all our units operate with the lowest water and energy consumption possible, protecting the world's valuable resources.

“Waterloop” Systems as known in Supermarkets

„Waterloop“ for Product Cooling

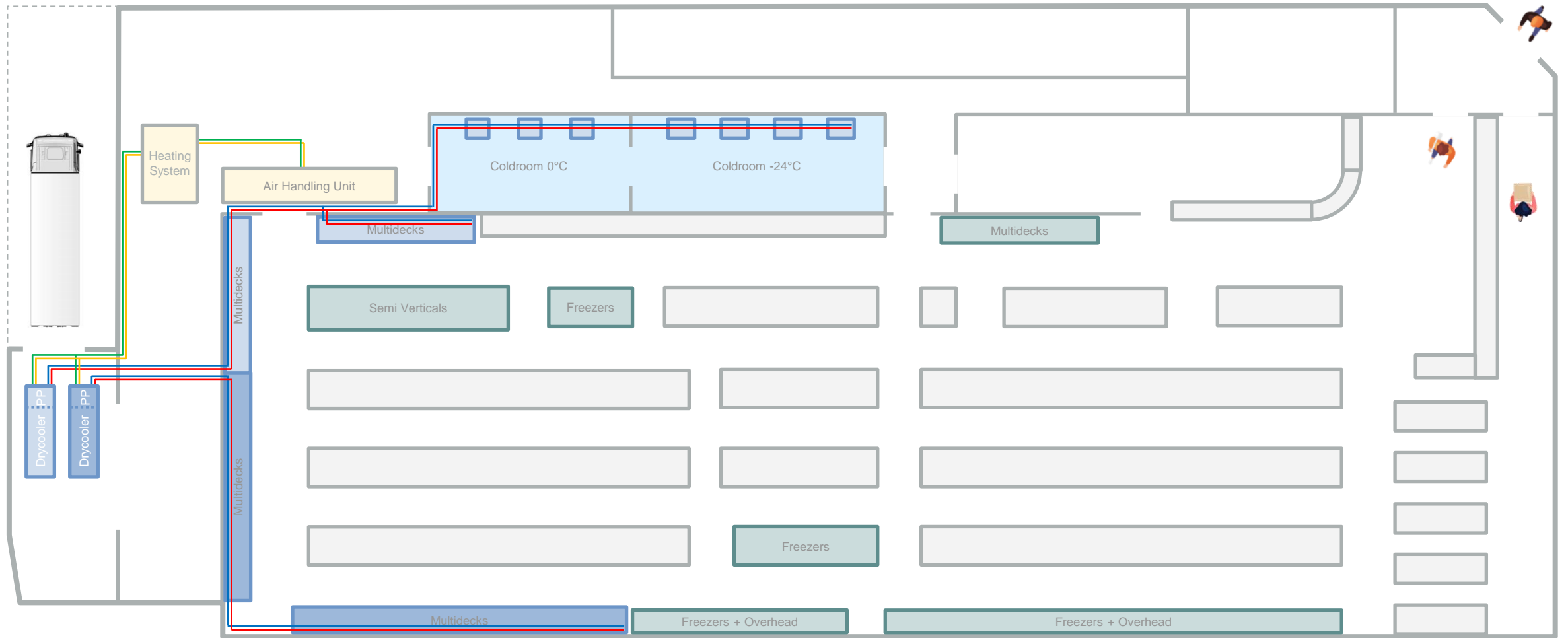
-  Air cooled cooling devices
-  „Waterloop“; Water cooled cooling system / BHCU



exemplary store layout

„Waterloop“ with „simple“ Heat Recovery

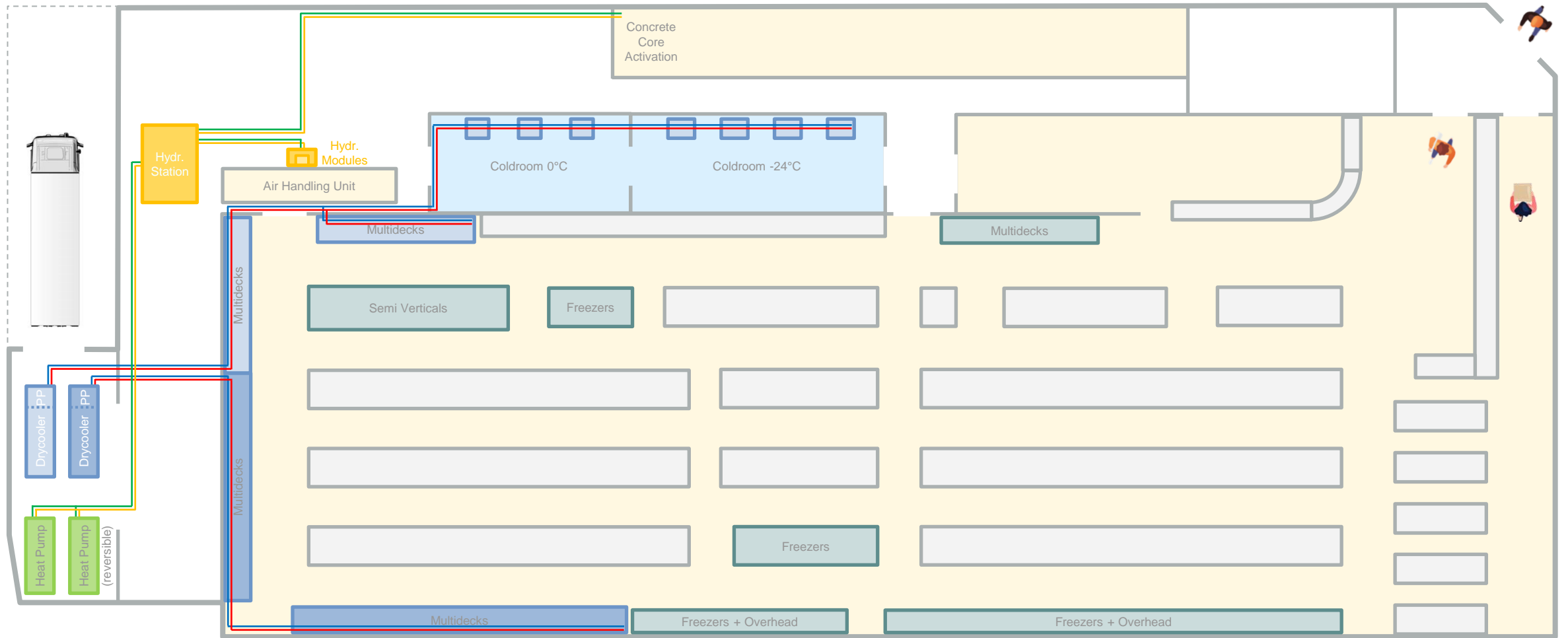
- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU



exemplary store layout

„Waterloop“ with Heat Pumps (separat Systems)

- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps

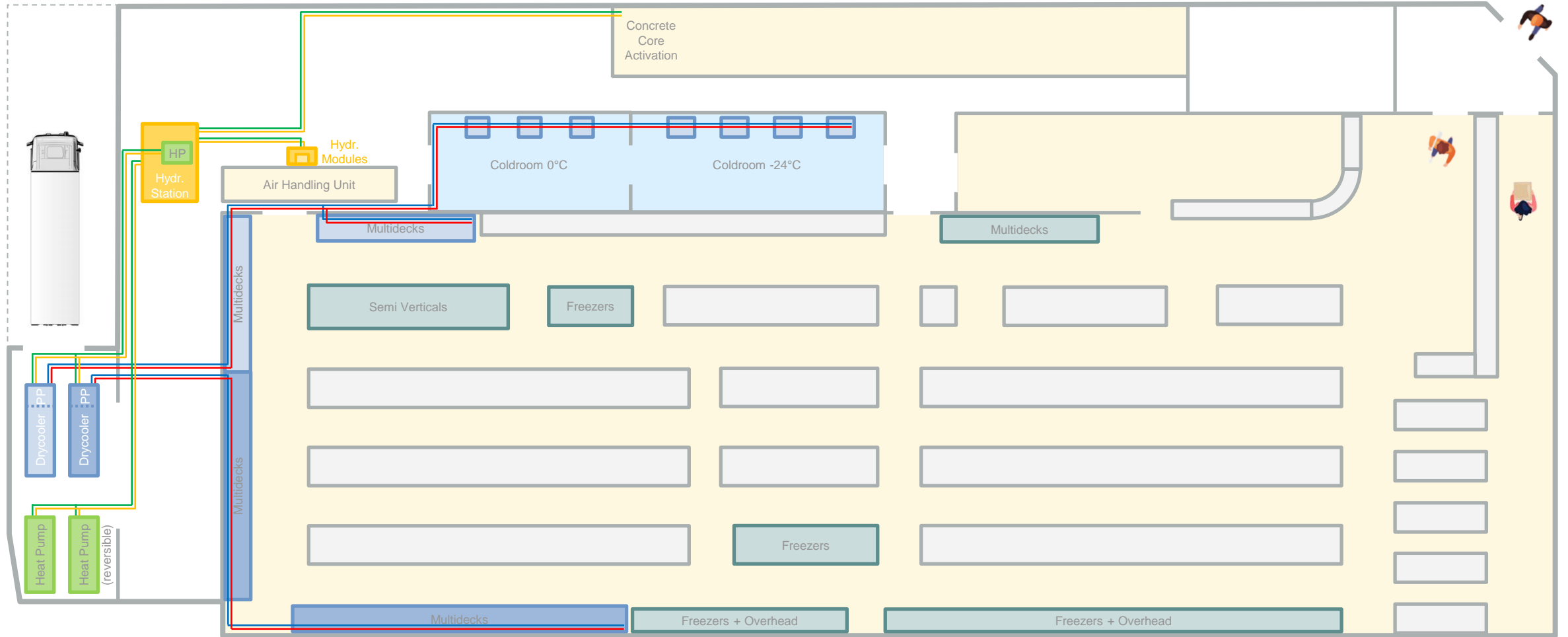


exemplary store layout

“Waterloop” Solutions being even more flexible & sustainable

„Waterloop“ with Heat Pumps & Heat Recovery

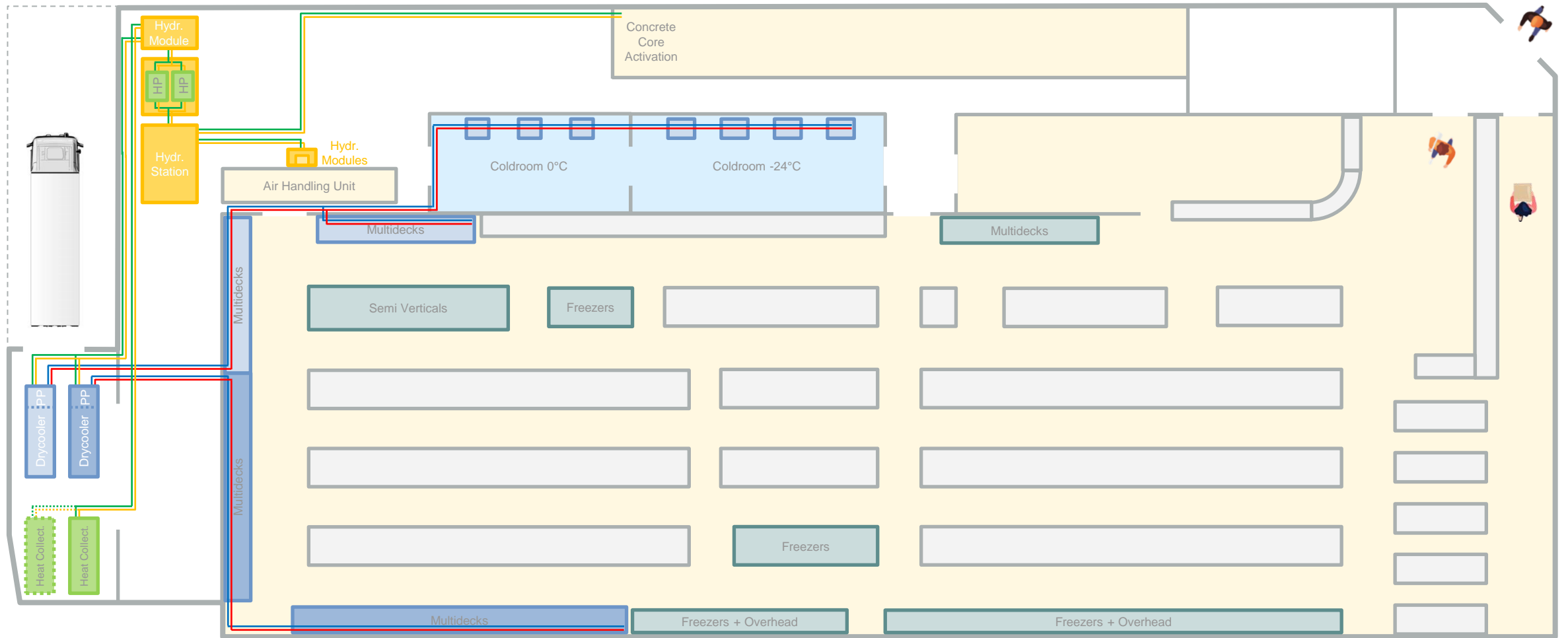
- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps



exemplary store layout

„Waterloop“ with Heat Pumps & Heat Recovery (for very silent environment)

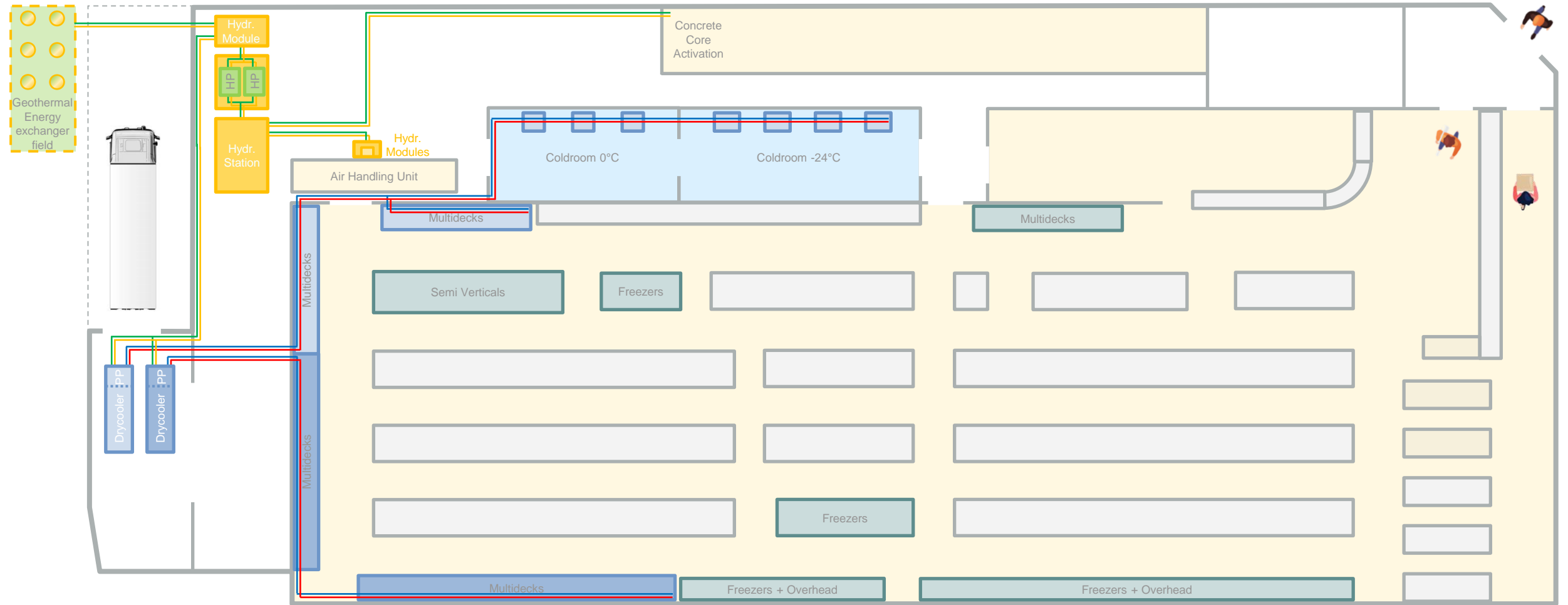
- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps



exemplary store layout

„Waterloop“ with Heat Pumps & Heat Recovery & Geothermal Energy

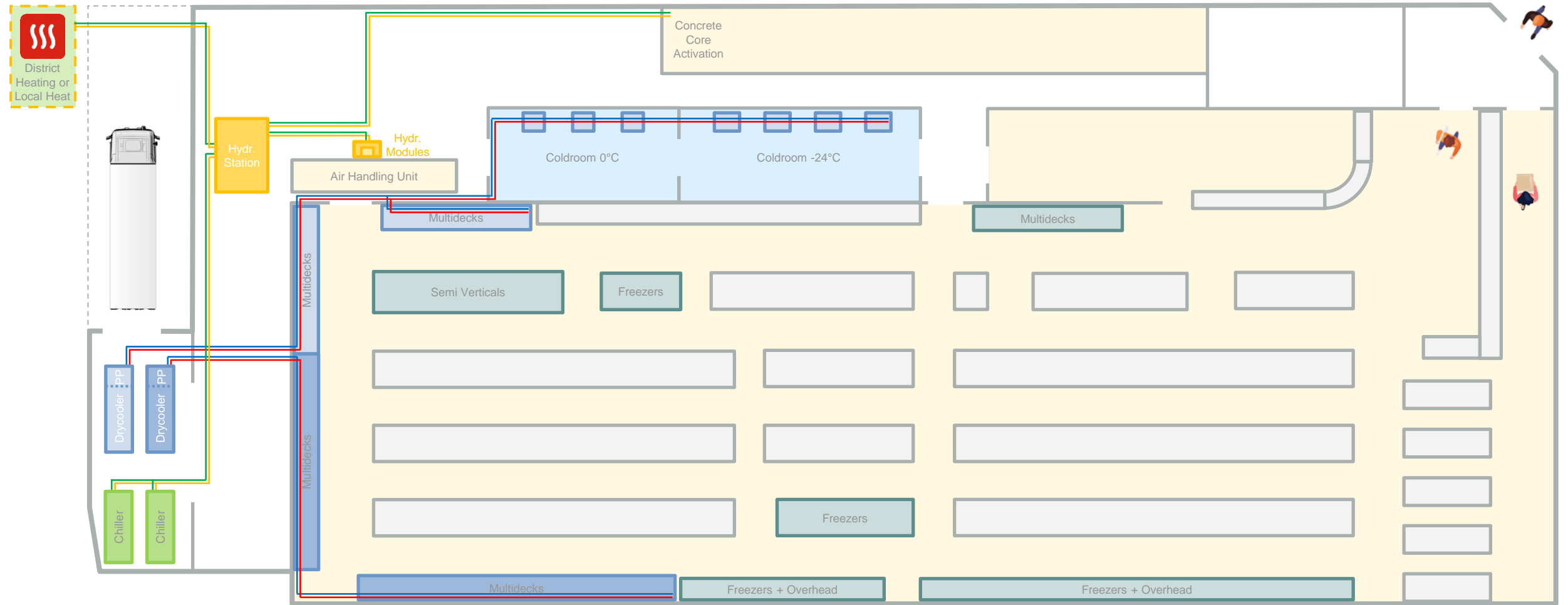
- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps



exemplary store layout

„Waterloop“ with Chillers & District Heating

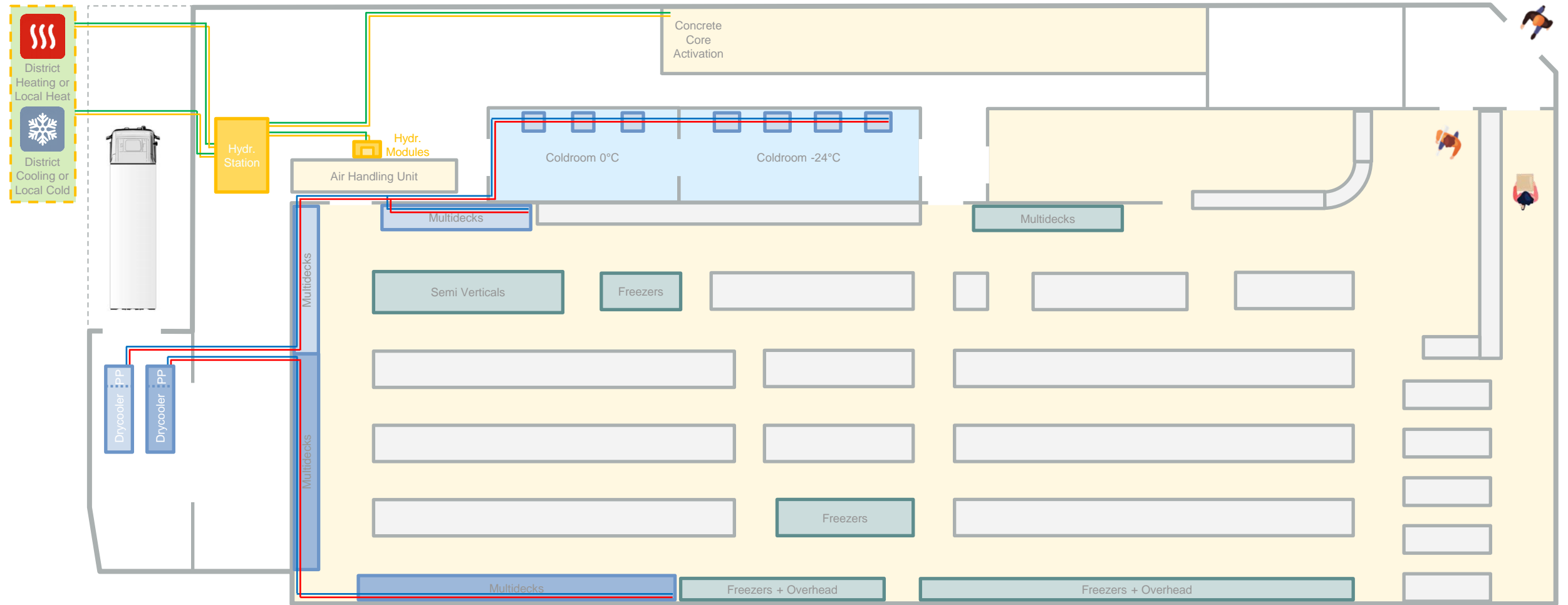
- Air cooled cooling devices
- “Waterloop”; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Chillers



exemplary store layout

„Waterloop“ with District Cooling & Heating

- Air cooled cooling devices
- “Waterloop”; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU



exemplary store layout

Example for sustainable “Waterloop” Stores



Location:
Germany

Sales area:
~1400m²





Store Concept:

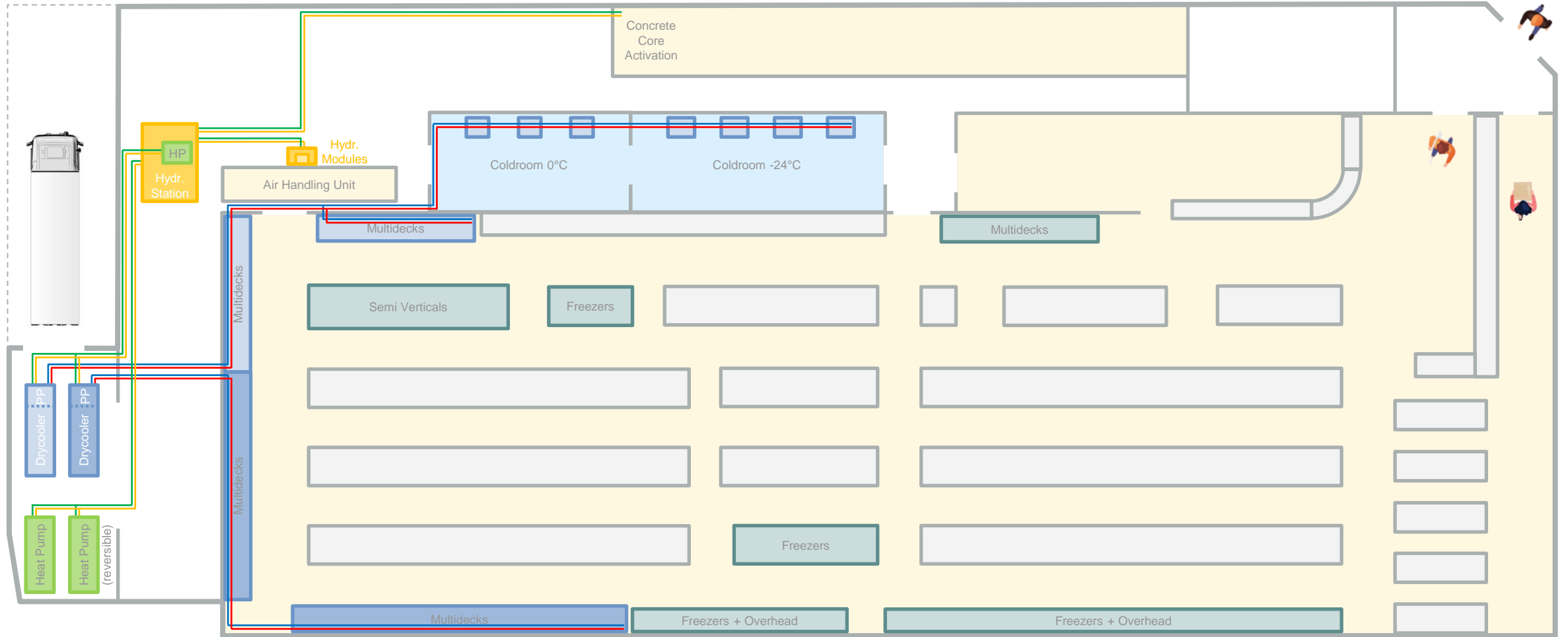
- Sustainable, Efficient
- Standardized
- Reliable & Predictable
- For any Location
- Flexible & Modular
- Simple & Smart
in setup & operation
- Future proof

Cooling & Heating:
100% Propane R290

Modular „Waterloop“ System with Heat Pumps & Heat Recovery

Store layout

-  Air cooled cooling devices
-  “Waterloop”; Water cooled cooling system / BHCU
-  Hydraulic station and modules / BHLU
-  Heat pumps

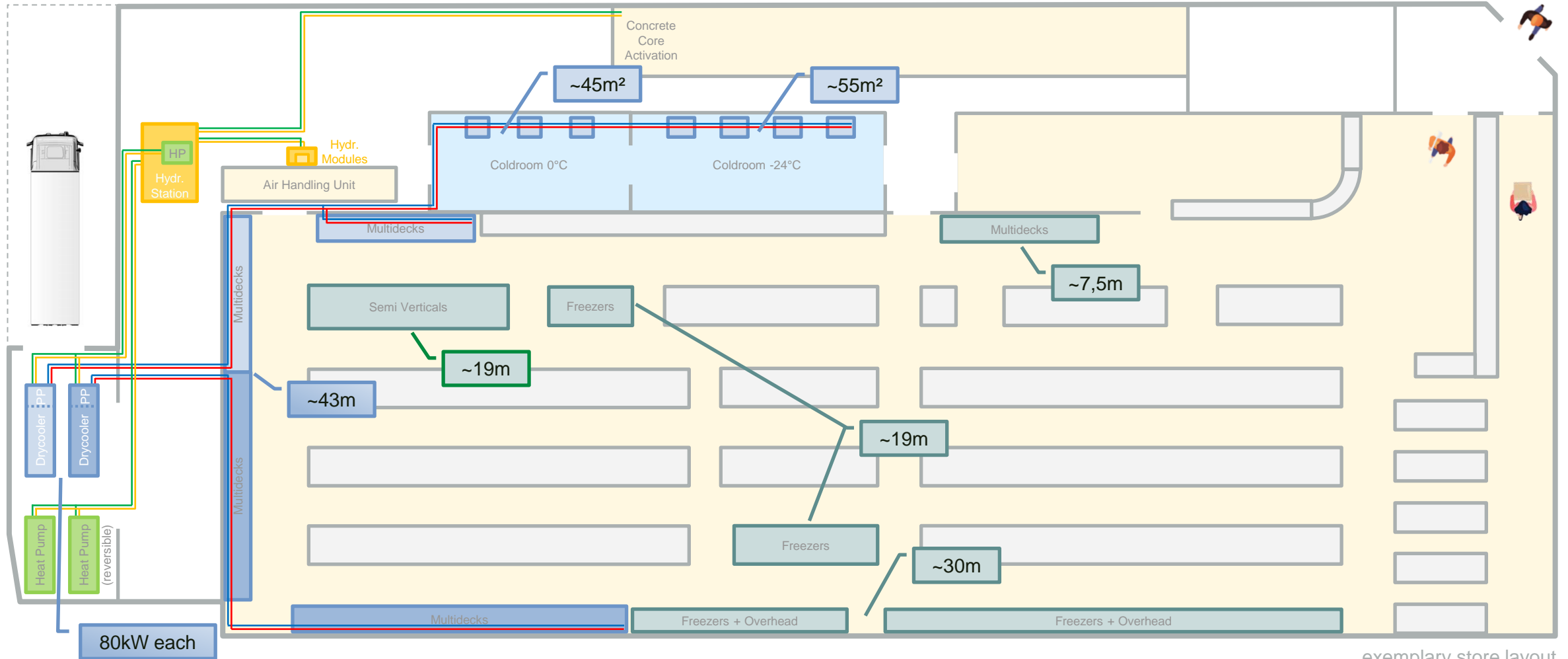


exemplary store layout

Modular „Waterloop“ System with Heat Pumps & Heat Recovery

Product cooling

- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps

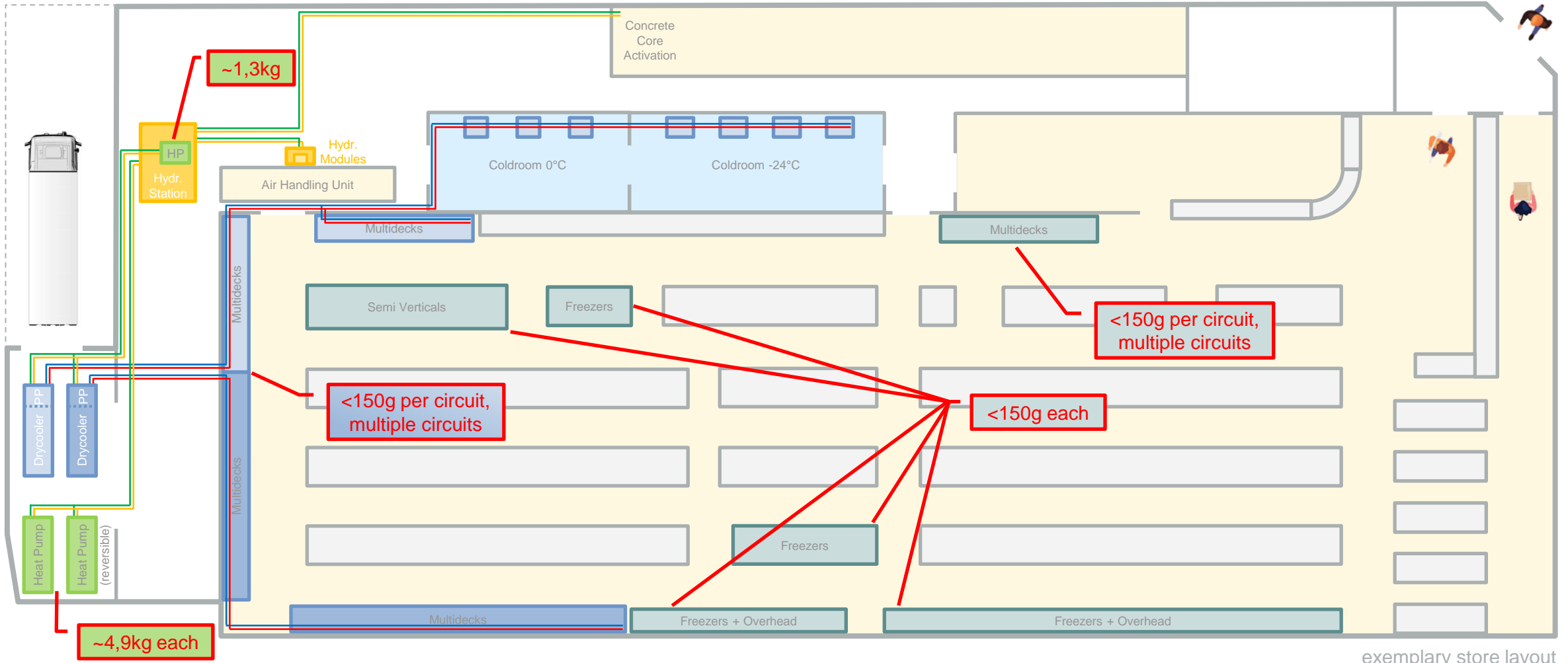


Modular „Waterloop“ System with Heat Pumps & Heat Recovery

Refrigerant charges

- Air cooled cooling devices
- “Waterloop”; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps

**~25kg Propane
in total**

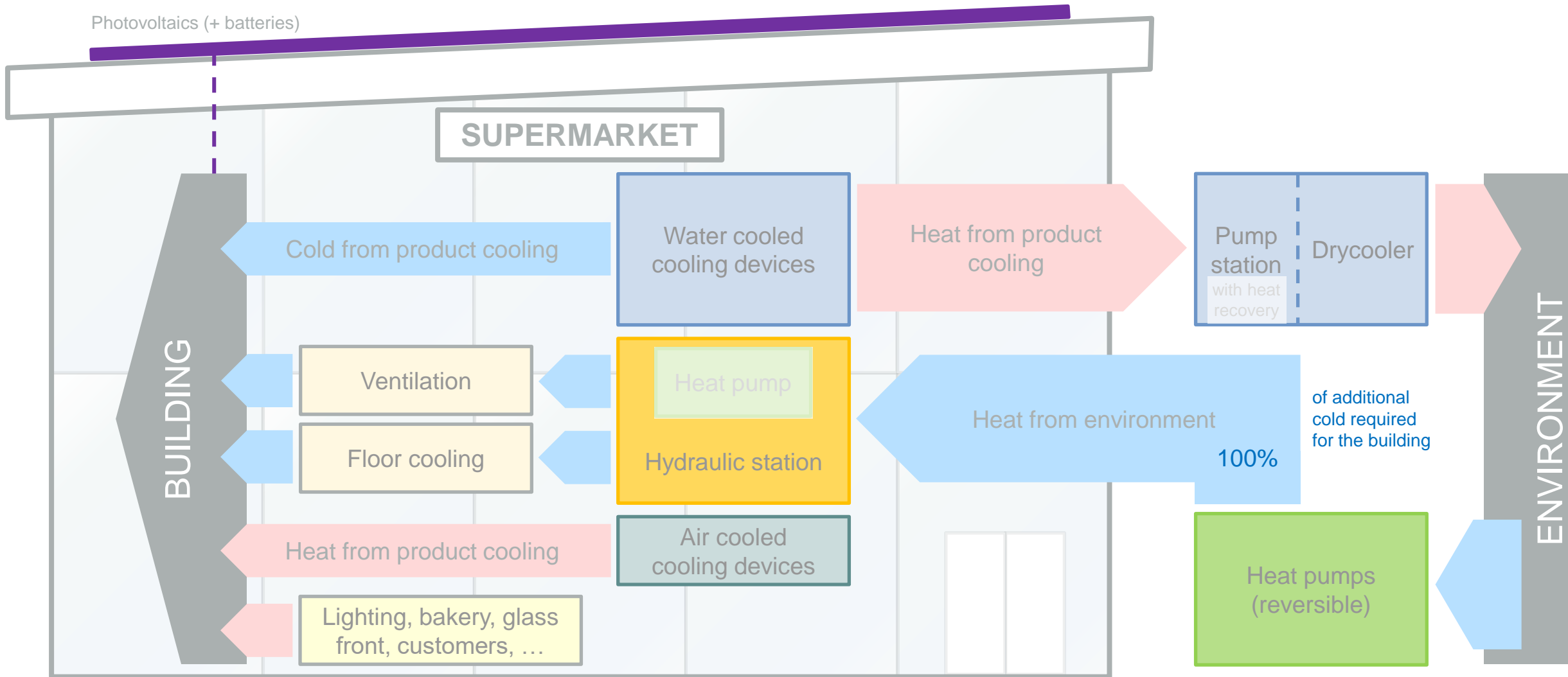


exemplary store layout

“Waterloop” Energy Management

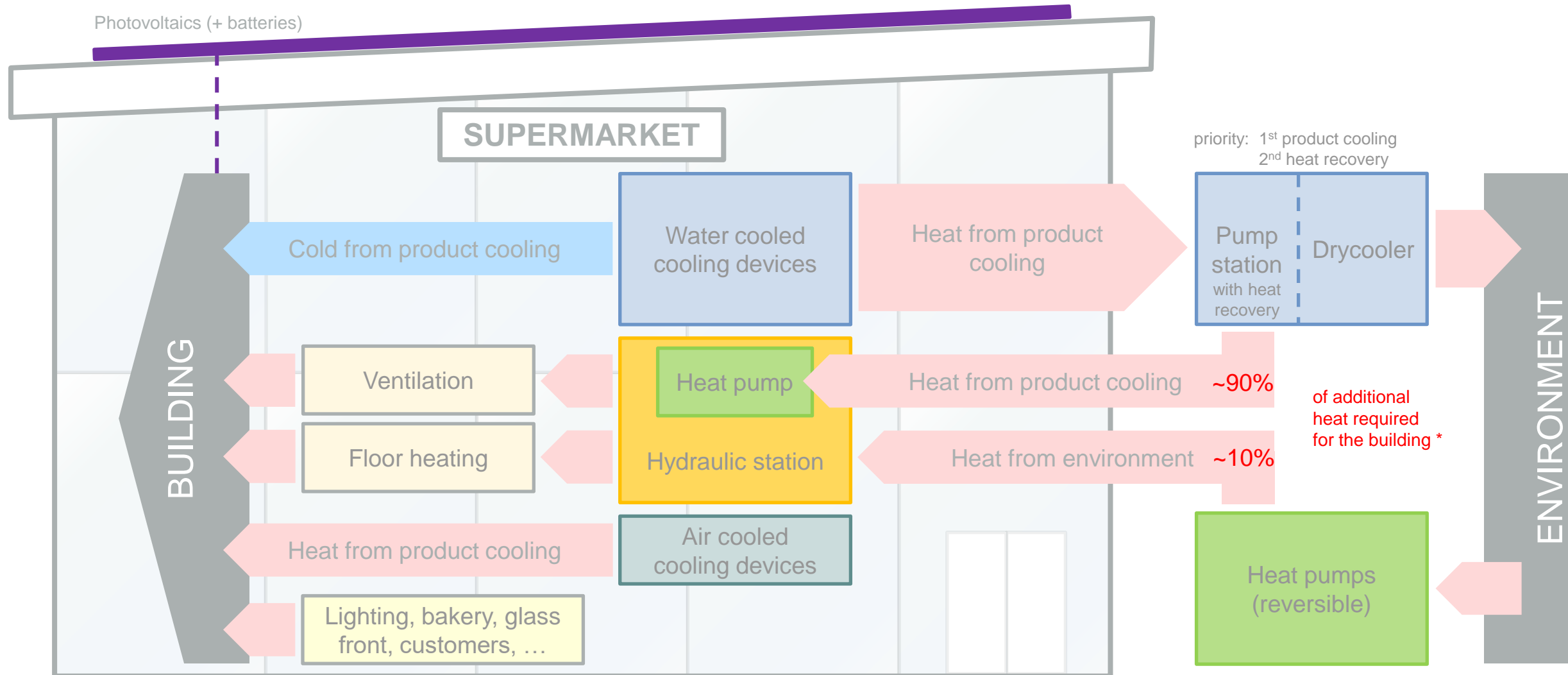
„Waterloop“ with Heat Pumps & Heat Recovery

energy management - **Cooling**



„Waterloop“ with Heat Pumps & Heat Recovery

energy management - **Heating**



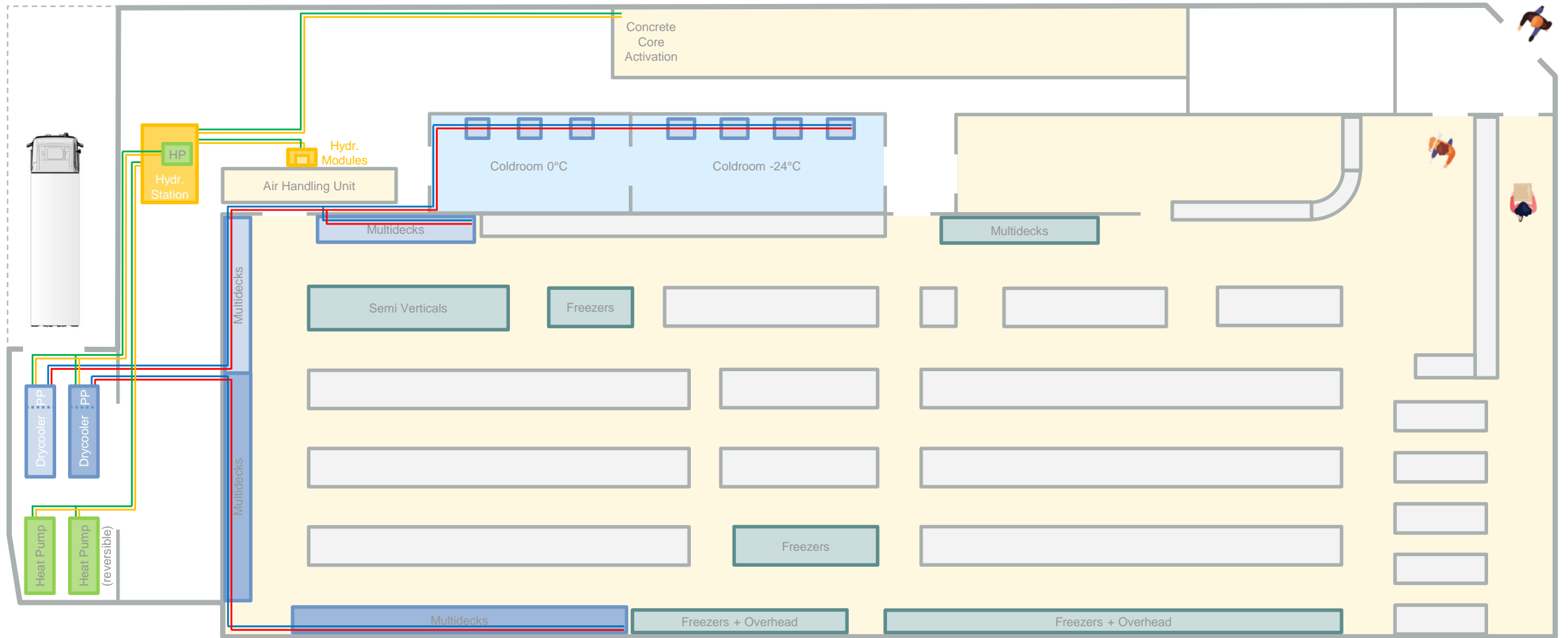
* source: Swegon / test period for heating: 13.12.2021 – 27.03.2022

“Waterloop” Modularity and Flexibility at its best

Modular „Waterloop“ System with Heat Pumps & Heat Recovery

Store layout

- Air cooled cooling devices
- „Waterloop“; Water cooled cooling system / BHCU
- Hydraulic station and modules / BHLU
- Heat pumps



exemplary store layout



Swegon TITAN SKY for heating & cooling *

- Full inverter reversible air/water heat pump
- R290 optimized, special safety concept
- ATEX compressor, leakage warning, ...

2x ... 60,00kW nominal heat capacity A7/W35 (DIN EN 14511); 3,12 SCOP (EN 14825)
46,80kW nominal cooling capacity A35/W7 (DIN EN 14511); 3,41 SEER (EN 14825)



basetec BHCU for product cooling

- All-in-one “Waterloop” solution
- Drycooler with integrated high efficiency (double) pump station and demand-oriented heat recovery system (with plate heat exchanger)
- R290 system optimized, special safety concept

2x ... 80kW cooling capacity (38% propylene glycol; 43°C air in; 48°C water out; 54°C water in)







basetec BHLU for heat management

- All-in-one “Waterloop” solution
- Hydraulic station with integrated heat storages and heat pump for heat recovery
- Highly efficient pumps and backup heaters
- Additional connections for another heat source
- Heat pump manager (from Swegon*, for all the HP)
- R290 system optimized, special safety concept, for indoor use with flammable refrigerants

Swegon TITAN W SKY for heating *

- Full inverter water/water heat pump
- R290 optimized, special safety concept
- ATEX compressor, leakage warning, ...

34,20kW nominal heat capacity W10/W35 (DIN EN 14511);
5,63 COP (EN 14511)

* source: Swegon

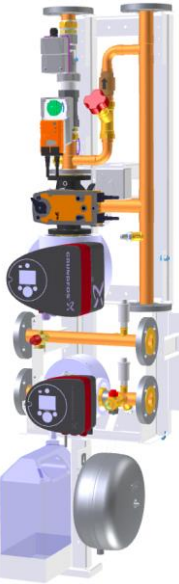




basetec BHLU for heat management

- All-in-one “Waterloop” module
- Hydraulic module with integrated flow control, bypass and highly efficient pump
- Standardized module for implement. into different air handling systems

- Optional with run-around coil module; additional and easy to mount “rucksack”-module



WOLF KG TOP for ventilation, heating & cooling *

- Air handling unit with EC fans and rotary heat exchanger
- Filter, heat, cool, humidify, heat recovery
- Integrated controls

40,19kW heat capacity (water in/out 40°C/34°C; 5,81m³/h)
35,35kW cooling capacity (water in/out 8°C/14°C; 5,07m³/h)
43,80kW dehumidification capacity (water in/out 8°C/14°C; 6,25m³/h)
6.000m³/h air volume; 400Pa external pressure

* source: WOLF GmbH

SUSTAINABILITY HAS COUNTLESS FACETS

“WATERLOOP” IS THE MOST FLEXIBLE COOLING & HEATING SOLUTION



THANK YOU VERY MUCH FOR YOUR ATTENTION

For information and questions contact us as your Future Solutions Partner

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