

**Advansor**  
**2018**

**Welcome**

# About ADVANSOR

- ❄ The World's largest producer of transcritical booster-systems
- ❄ Uses CO<sub>2</sub> to fight Global warming
- ❄ Each 3rd booster system is from Advansor
  - ❄ Market leader
- ❄ OEM and NOT an installation company
- ❄ Production of 20-30 systems per week
- ❄ Production area: 4000 (DK) + 3500 (PL) m<sup>2</sup>
- ❄ Employees: 150 (+30 at sub contractors)
- ❄ Production/year: 1400 systems (2018)
- ❄ Production capacity max. 2000 systems/year
- ❄ Reference list: 3500 systems operating in 30 countries
  
- ❄ **18 of Europe's TOP20 Retailers install transcritical CO<sub>2</sub> systems from Advansor**

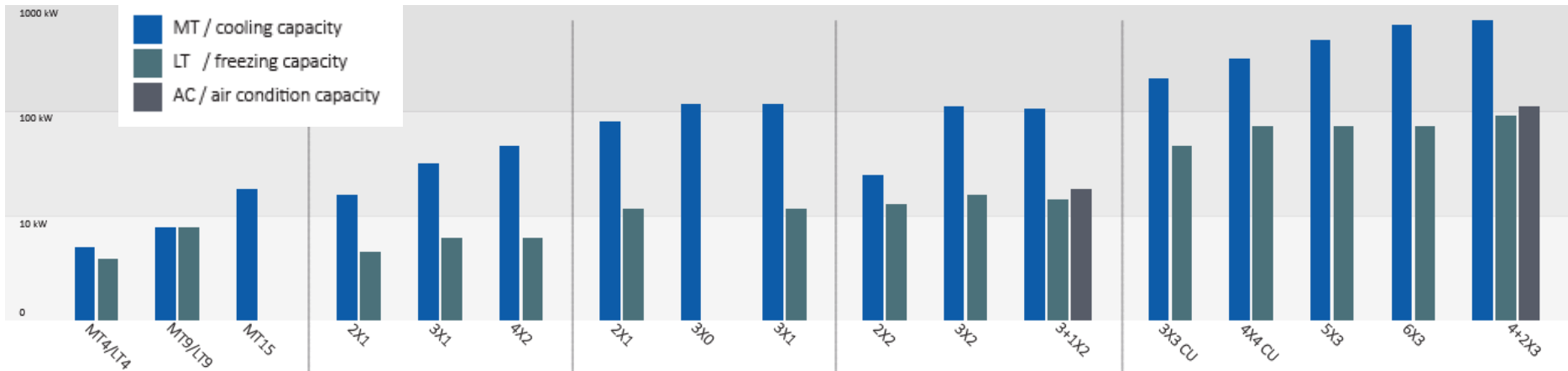


**Denmark**



**Poland**

# Product portfolio Supermarket



## XXS CDU

1000 x 800 x 1350 mm.

Single temperature CDU  
Rotary compressor  
Weatherproof cabinet  
For small capacity application



## XXS Mini Booster

1000 x 800 x 2100 mm.

Dual temperature  
Multi compressor setup  
Rotary or reciprocating  
Compact vertical design  
Weatherproof cabinet  
For discount / convenience



## XS Tower

1200 x 800 x 2200 mm.

Dual temperature  
Multi compressor setup  
Rotary or reciprocating  
Compact vertical design  
Weatherproof cabinet  
For discount / convenience



## XS ValuePack

2800 x 800 x 1900 mm.

Dual temperature  
Multi compressor setup  
Reciprocating compressors  
Flexible design (Options)  
Supermarket  
For discount / convenience



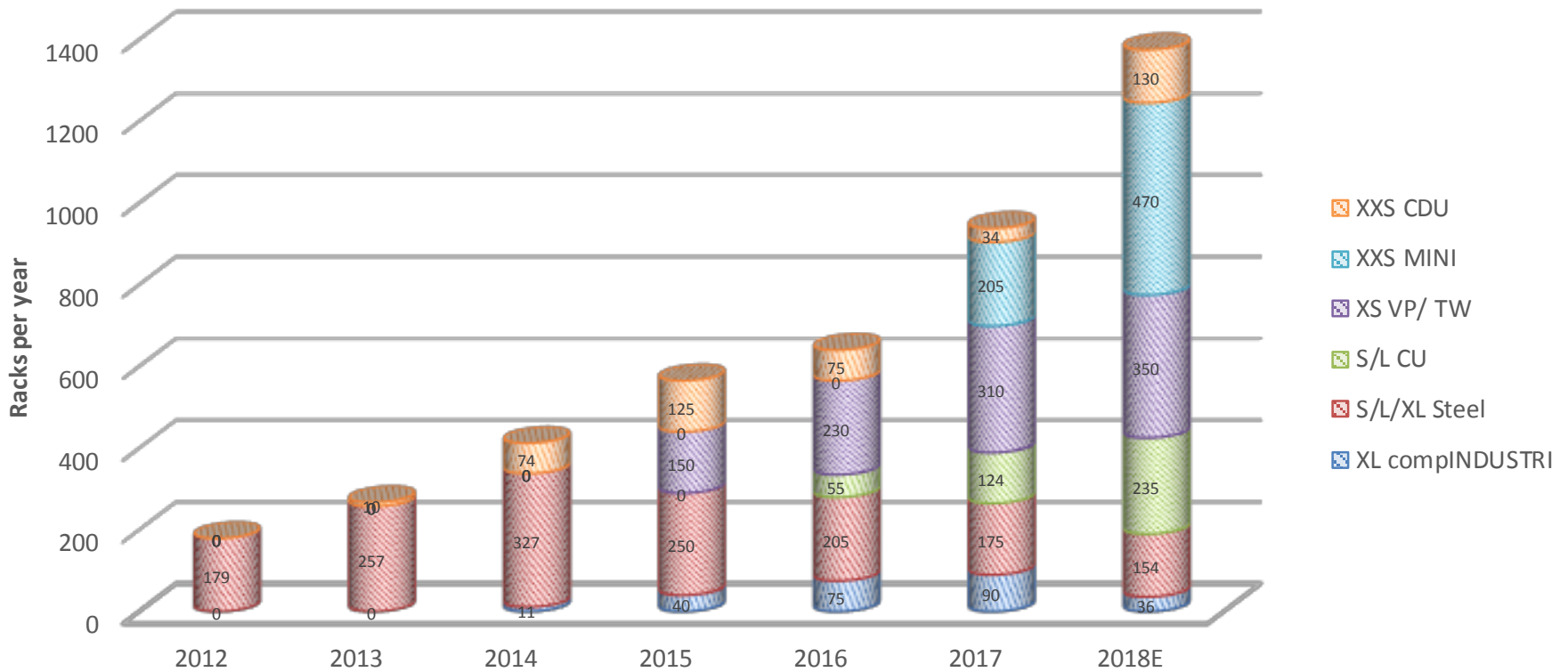
## compSUPER S/L

Dimension and configuration on request

Dual temperature  
Multi compressor setup  
Reciprocating compressors  
Flexible design (Options)  
Supermarket / Hypermarket

# ADVANSOR's growth

## ADVANSOR NUMBER OF RACKS



# Key strategic areas

- Small store formats
- Integrated solutions
- Energy efficiency
  - Hot climate: Parallel compressors and gas ejectors
  - Low superheat systems: AdvansorValue or ejector
- Industrial applications
- Customer focus and quality

# XXS Mini-Booster and XS Tower

- Developed for small store formats with low foot print and low noise levels
- Ease of installation and service – flexible solution
- Highly competitive on first cost and very low running cost

- ❄ Capacity: Below 40 kW

- ❄ XXS 4x2/ 4x1

- ❄ WxDxH = 1000/ 800/ 2000 mm

- ❄ Weight: App. 400 kg

- ❄ Oil management (TTE17 + return valve)

- ❄ Capacity: 40 -> 80 kW

- ❄ XS 3x1

- ❄ WxDxH = 1200/ 800/ 2200 mm

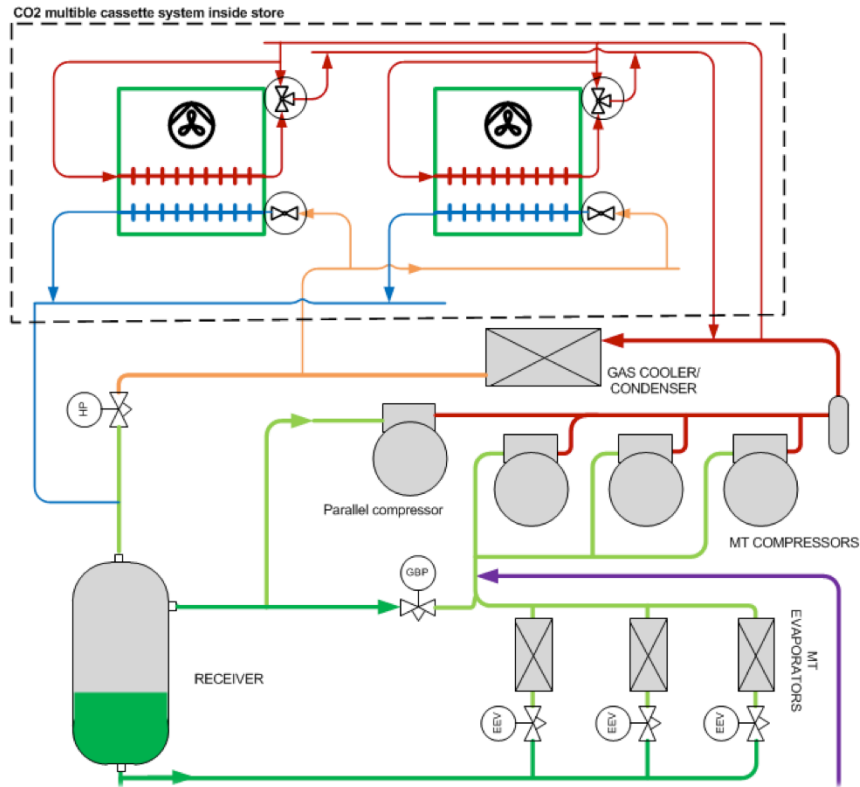
- ❄ Weight: App. 1200 kg

- ❄ Oil separator and management (TTE19 + Emerson)



# Integrated solutions – CO<sub>2</sub> cassette

- ❄️ Both AC and heating integrated
- ❄️ Cheaper and more simple solution for the end-user



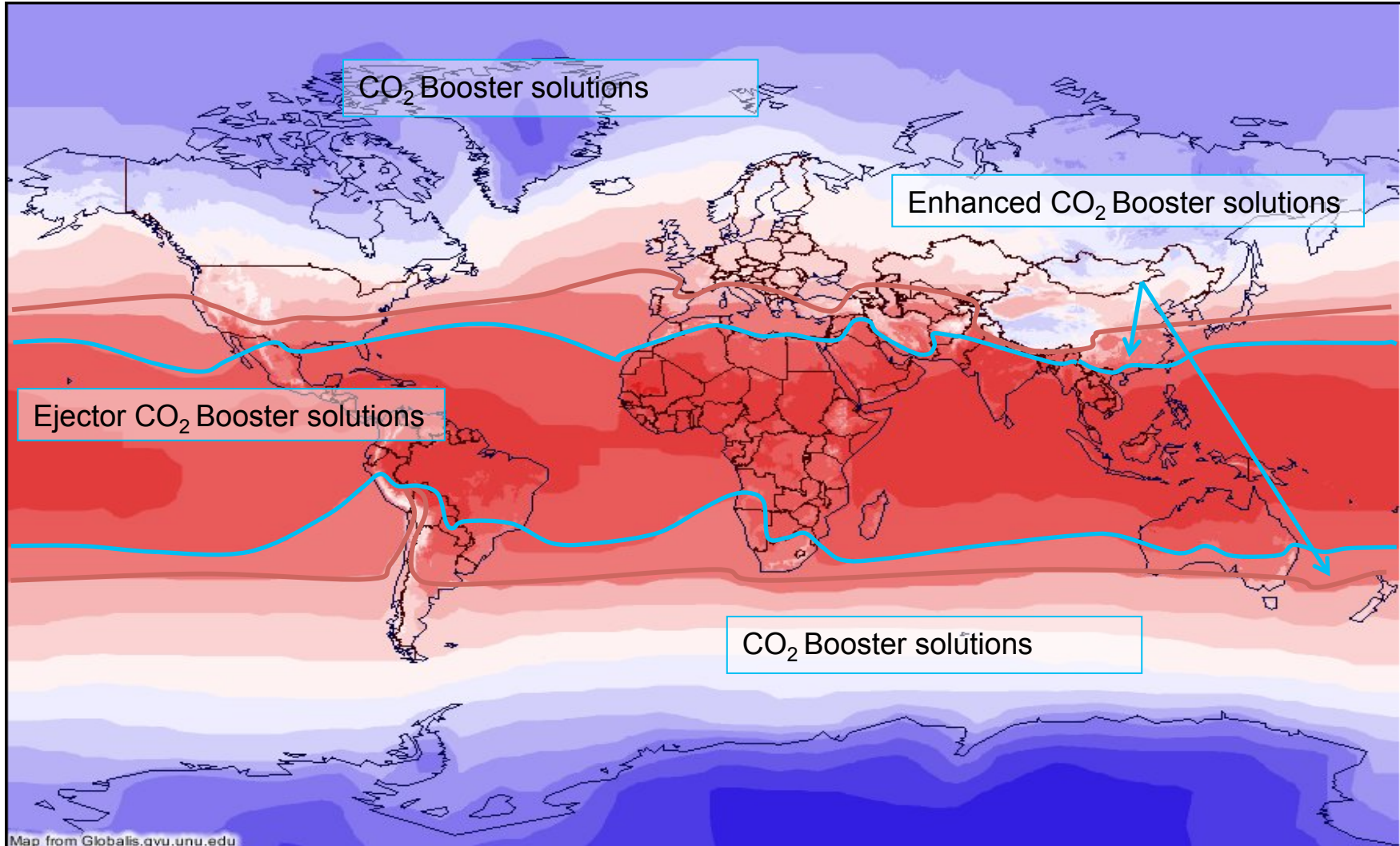
# Energy efficiency

- Warm climate zone
  - Not an issue any longer – just a matter of design
  - Combination of parallel comp, adiabatic and ejector
  - CO2 equator is erased
- Energy focus also in colder climates
  - AdvansorValue with low superheat uses combination of IHX and suction accumulator
  - Liquid ejectors for bigger stores(systems)



# Energy and hot climate tech

Parallel compression, adiabatic, sub-cooling, ejector

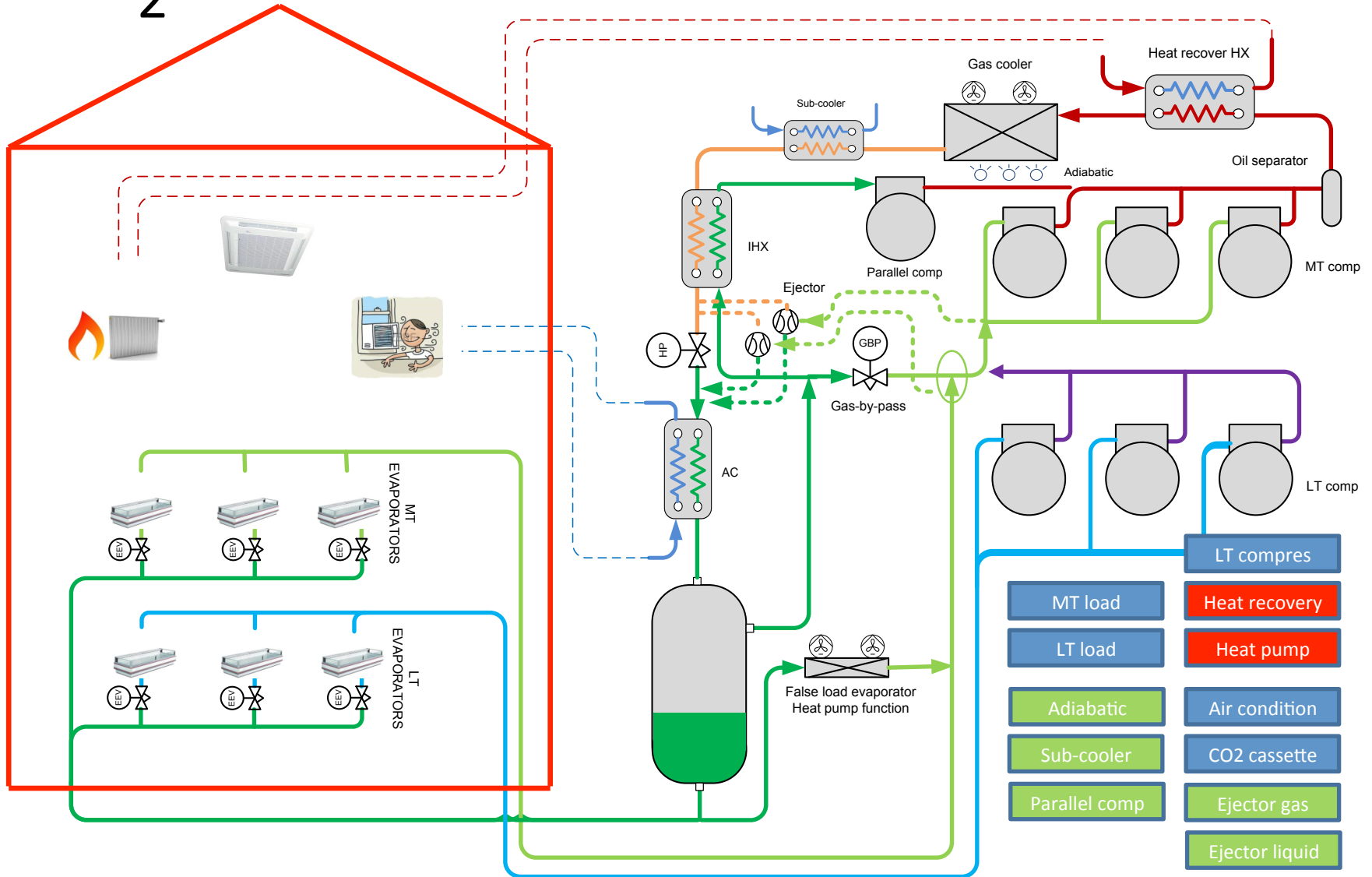


# Industrial

- ❄️ Big potential for CO2
- ❄️ Fast growing market
  
- ❄️ Max capacities per rack
  - ❄️ MT: 5-700 kW
  - ❄️ LT: 10-500 kW
  
- ❄️ Configurations
  - ❄️ DX CO2
  - ❄️ Pumped CO2
  - ❄️ Indirect with glycol or another secondary fluid
  - ❄️ CDU's
  - ❄️ Heat Pump
  - ❄️ Racks for “off shore”



# CO<sub>2</sub> evolution – Advansor solutions



# Customer focus and quality

- Highly increased volume requires control of all processes
- Larger degree of standardization, but also flexibility on features
- Better control of components and supplier compliance
- Better education of customers/ installers
- Cost optimization based on material cost and efficiency of factories
  
- CO2 transcritical rack is becoming a commodity – however still possible to differentiate on technology, quality and service