



ATMO
sphere

business case

natural refrigerants

June 16 & 17, 2016 – Chicago



CO₂ training in Africa

Training Session

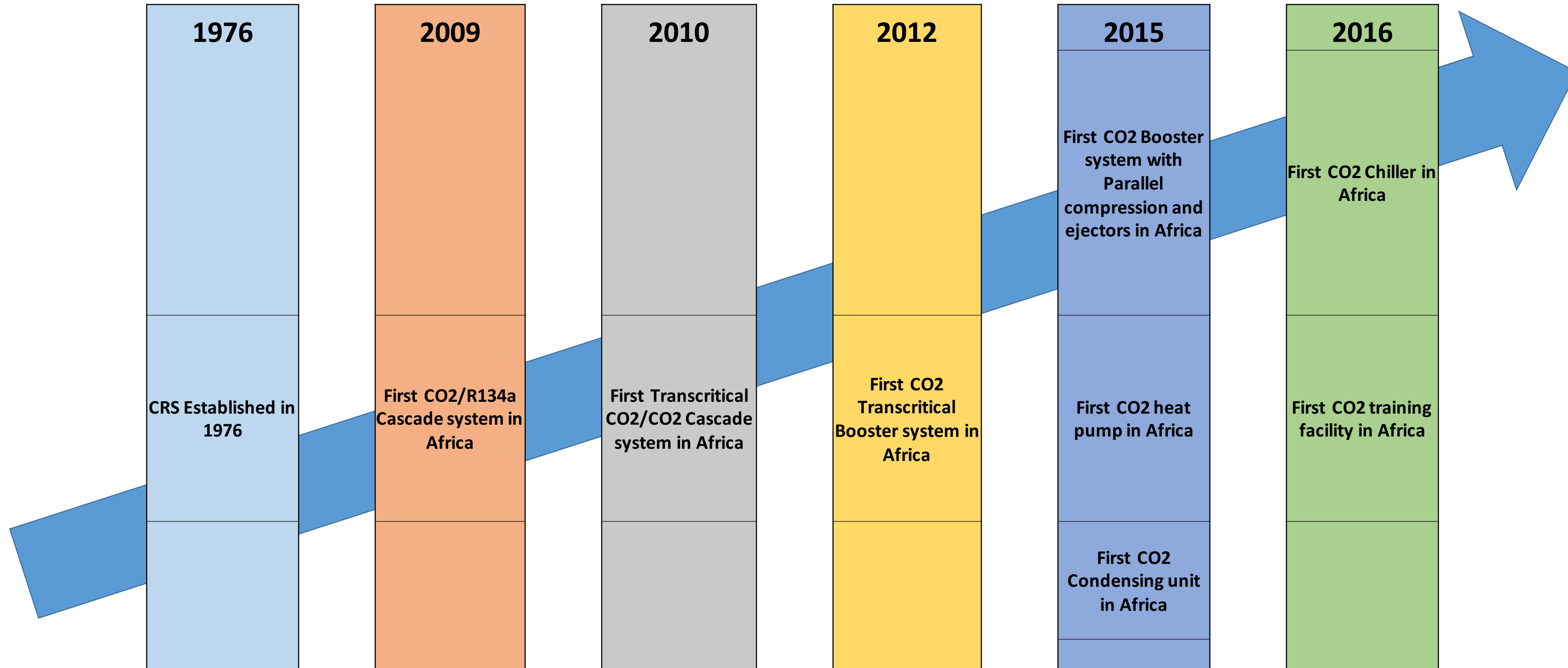


Wynand Groenewald
Commercial Refrigeration
Services

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- CRS Clients: Woolworths SA; Makro (Mass Mart); SAB
- 3 Subcritical Stores (4 units)
- 52 Transcritical Stores (78 units)
- Africa: Nigeria, Ivory Coast, Botswana, Mozambique, Namibia, Kenya, Zambia

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Floor Area

200 m²

Housing space

14 people

Rack type:

Transcritical booster with parallel compression
Compatible to include ejectors

Capacity

MT = 33kW

LT = 8kW

Adiabatic gas cooler

CO2 Training facility



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Skill development

- Transfer knowledge of using CO2
- Create confidence
- Hands on training
- Create interest

Development of NR

- Skills will promote usage of NR
- Transfer knowledge into African market
- Improve technology

Information

- Comparative studies
- Research and development
- Verify technologies

Different sectors

- End users
- Government

Vision



Literature Sessions

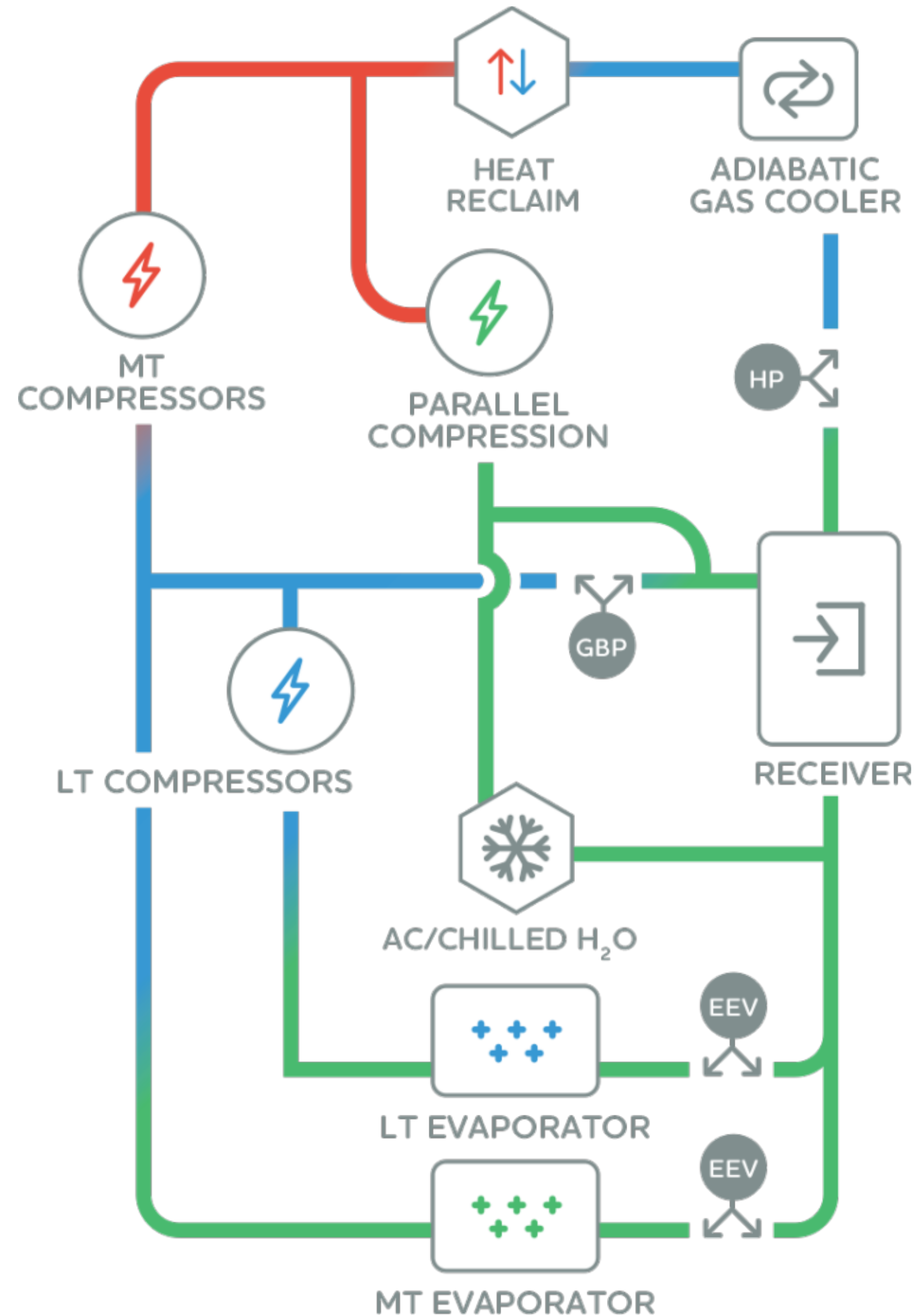
Why CO2 / Properties / Benefits
 Types of systems / Industry

Literature advanced

Thermodynamic properties /
 Technical information around installations /
 Vacuum / Charging / Different components /
 System operation / Safety / System demonstration

Technical

Hands on training /
 Servicing of CO2 system /
 Filter changes / Oil management system /
 Settings and operating parameters /
 Troubleshooting



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Our Reach

Training for

End users
Contractors / Suppliers
Technicians
Students

Interest shown

Interest currently leading to 1 session per month of 12 people
Predicted growth = 2 sessions per month of 12 people
Grow training content to include all NR (NH3/HC,etc)

Africa

Training intended for whole of Africa
Training facility reachable for SADC countries
Interest already shown from Ghana, Ivory Coast, Botswana, Namibie, Kenya
Green Cooling Initiative (GIZ)

Goal

Grow interest through training
Assist in expanding training facilities where needed





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Thank you very much!