



ATMO
sphere



COMMERCIAL REFRIGERATION SERVICES



Industrial Refrigeration

Transcritical CO₂ Blast Freezer

CRS – South Africa

Wynand Groenewald



Founded 1976

Design

Manufacturing

Installation

Service



COMMERCIAL REFRIGERATION SERVICES

CO2 Refrigeration Systems

CO2 Chillers

CO2 Heat Pumps

CO2 Condensing Units

Industrial Solutions

Project Background

Client:	In2Foods
Project Scope:	Freeze 2 tons per hour in 3-5 minutes
Product:	Diced up Avocado and Berries in 3-5 minutes
Product Temperature:	-20'C core temperature
Plant:	To be able to relocate
Plant Specs:	Cost effective

Project Application

Octofrost IQF Blast Freezer

Based in Sweden

Efficient coil cleaning system

Automatic foam

Removable bedplates

No grooves or joint

No bacteria build up

No accumulation of water



Project Solution

Transcritical CO₂ booster system

Te = -43°C

Cooling capacity: 331kW

MT Compressors: 6 x 4DTC-25K

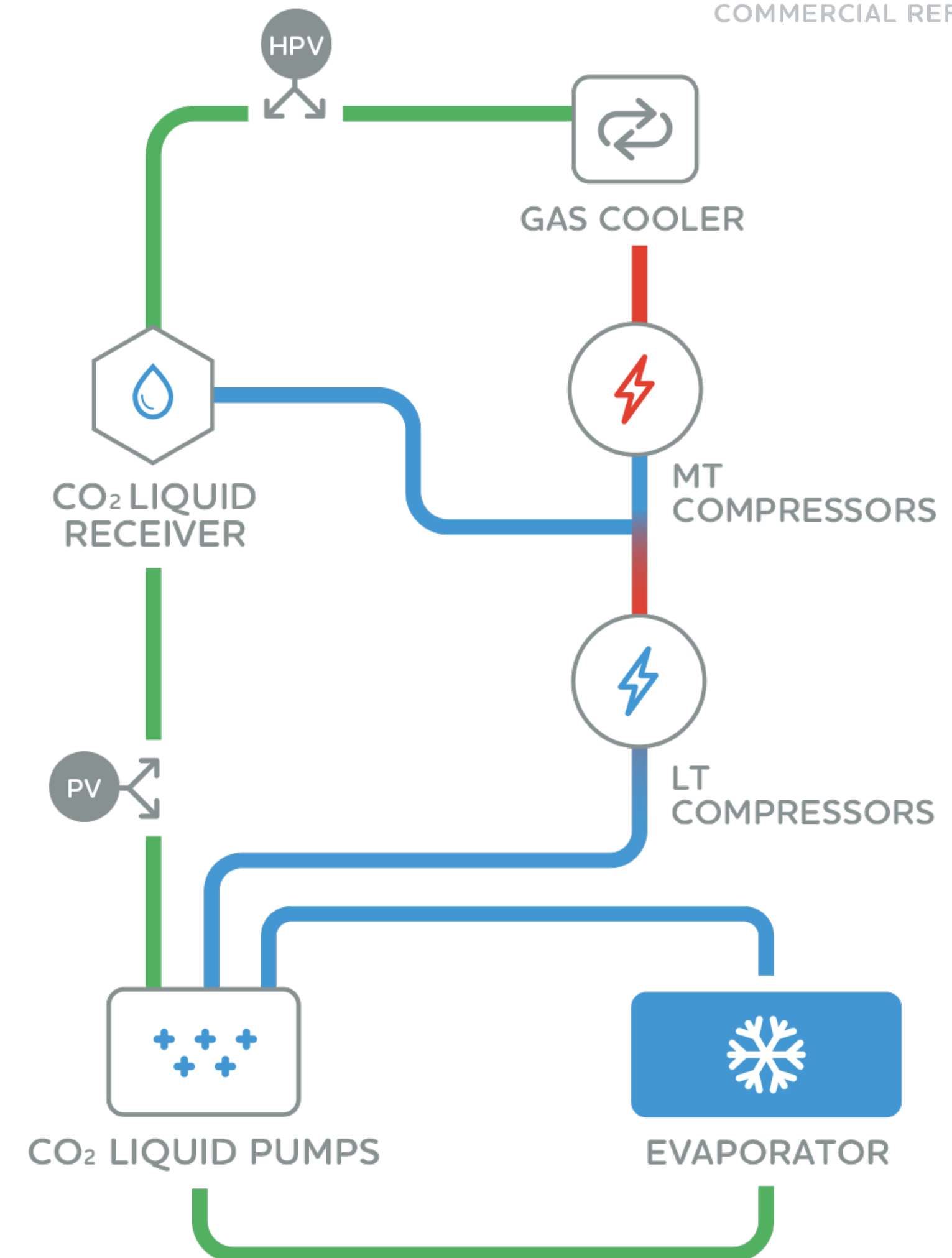
LT Compressors: 6 x 4NSL-30K

COP: 1.5 excl Heat reclaim

Adiabatic gas coolers

Surge drum

Liquid overfeed system



Project Solution

Heat Reclaim

240kW @ 45°C

System cleaning

Process application

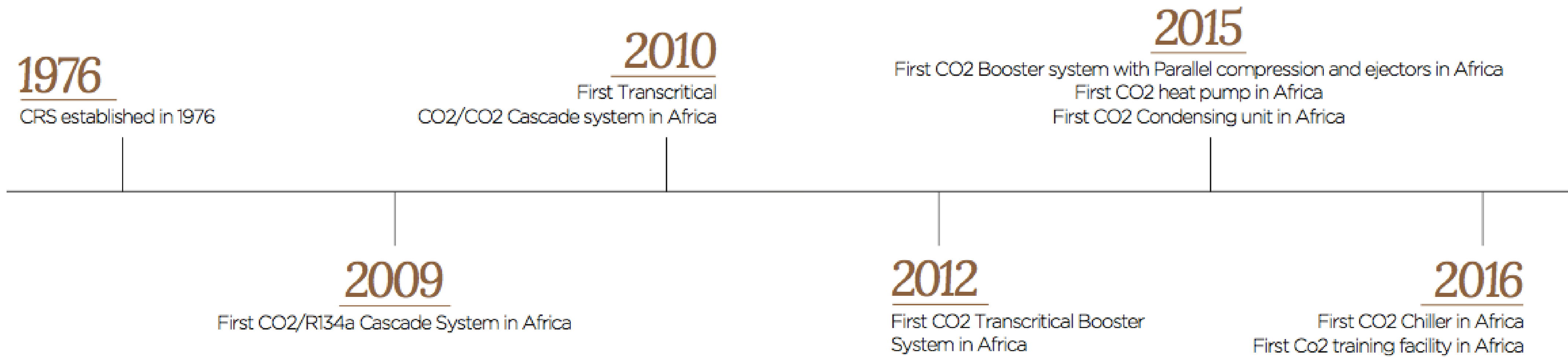
Hot gas defrost

System controls

Pressure manipulation

Standstill up to 24 hrs





Another first for CRS with CO₂: First Industrial LT application

Wynand Groenewald

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International Expansion: Australia

Strategic Partnerships

Knowledge transfer

Training

Local presence

High Ambient Experience

Solution driven for customer needs

Commercial

Heating

Industrial



CRS Ready for Australian/New Zealand Market



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Thank you very much!

