

ENGINEERING  
TOMORROW

*Danfoss*

# Natural Refrigerant Training

Nielsen Mads Holst, Segment Marketing Manager



AUSTRALIA

**ATMO**  
sphere

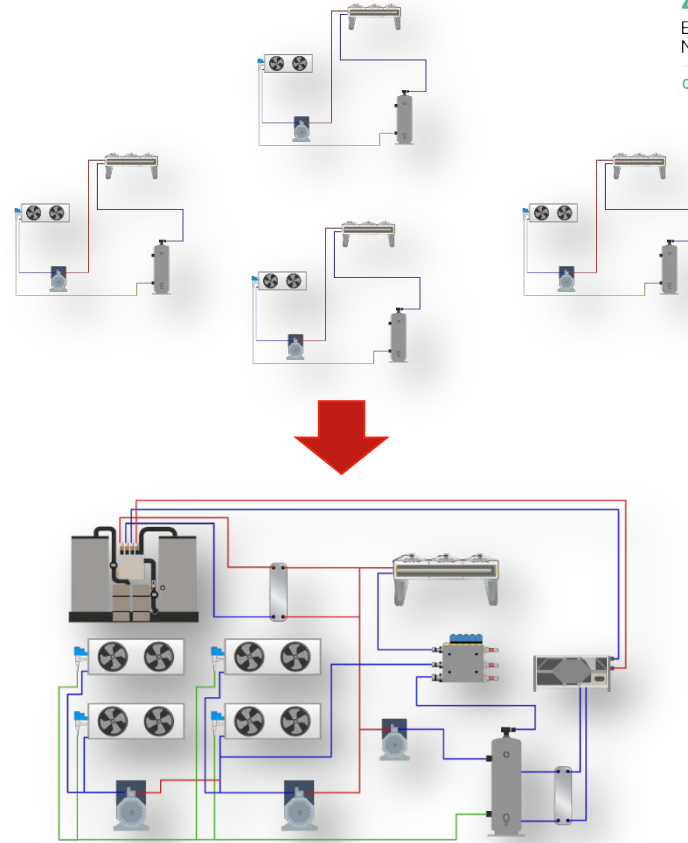
Business Case for  
Natural Refrigerants

07/05/2018 – Sydney



# Gaps in training

- Transition to natural refrigerant requires changes in system designs
- Technicians need to be trained to handle the transition
- Steep learning curve – as with all new technologies
- In the end, CO<sub>2</sub> becomes routine – even preferred by technicians!



# A complete CO<sub>2</sub> learning portfolio is offered

- A global network of CO<sub>2</sub> Champions to assist customers
- Portfolio combines eLessons, videos, webinars and face-to-face training
- Face-to-face training with regional partners
- CO<sub>2</sub> Mobile Training Unit
- 40 CO<sub>2</sub> Online eLessons are offered in 11 languages
- 6472 e-learning course registrations in Danfoss Learning, available in various languages, 2904 are courses in English

The screenshot shows a video player interface for an eLesson. The title bar reads 'Introduction to Carbon Dioxide: Properties and Impact' with the Danfoss logo and 'ENGINEERING TOMORROW' on the right. The main content area features a central 'CO<sub>2</sub>' icon connected to three circular icons: a globe, a snowflake, and a Euro symbol. Text boxes provide details: 'CO<sub>2</sub> is environmental friendly and is one of the few sustainable refrigerants for supermarket systems.', 'Since 2007, CO<sub>2</sub> has evolved from being a cutting-edge refrigerant to being more mainstream refrigerant.', and 'CO<sub>2</sub> provides the lowest total cost of ownership.' Below this is a section titled 'Danfoss and CO<sub>2</sub>' with a list of Danfoss's considerations and products. A video progress bar is visible at the bottom, showing '2 / 13'.

- [www.danfoss.com/learning](http://www.danfoss.com/learning)
- YouTube [Danfoss Cool](https://www.youtube.com/DanfossCool) for technical videos



“**Danfoss Learning** is an excellent learning platform that **provides professional knowledge** and helpful for sales promotion and faster response on customers’ inquiries.”

- **David Lin**, Taiwan

“The general cold room module and heat load selector **assisted in greater learning** when doing heat loads for customers.”

- **Cameron Chamberlain**, Australia



**Danfoss learning** made it **easier for me to help customers** and to understand how the individual parts work together in a system.”

- **Mathias Karrer**, Australia

# Supporting Local Institutes

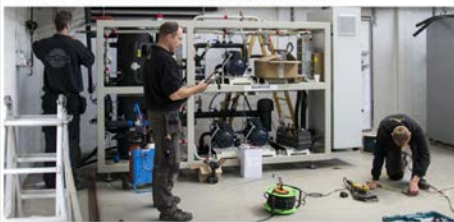


## Koleafdeligen på DJH har fået opdateret sin maskinpark

Et transkritisk CO<sub>2</sub> køleanlæg for uddannelse af fremtidens køleteknikere er i efteråret monteret i køleafdelingen på DJH. Det miljørigtige køleanlæg er et moderne set up af et traditionelt supermarkedskøleanlæg, så elever oplever en undervisningssituation, der er fuldt sammenlignelig med det virkelige liv, og det de møder der.

Anlægget består af et compSUPER 5 3x2 maskinanlæg fra ADVANSOR leveret på særdeles favorable vilkår. Køleolien og frostrum er sponsoreret af CoolTrade. Igennem gruppens medlemmer (Combibat, Danfoss, Faeh & Køl, LE Køleteknik og Ventsjældnings Køleservice) er også har påtaget sig at montere og idriftsætte anlægget uden omkostninger for DJH. Danfoss har sponsoreret styringen til anlægget.

Tak til alle der har bidraget til at optimere køleafdelingens anlæg til det absolutte nyeste.




- Face-to-face training is provided by Danfoss trainers (CO<sub>2</sub> Champions) or by one of our partner training institutes located around the world
- Together with partners, we also sponsored several training facilities
  - DJH, Denmark
  - IUC Katrineholm, Sweden
  - Sintef, Norway
  - Lueven Liemburg, Belgium
  - TAFE, Australia

# Mobile CO<sub>2</sub> Training Unit



## Description of Mobile training unit

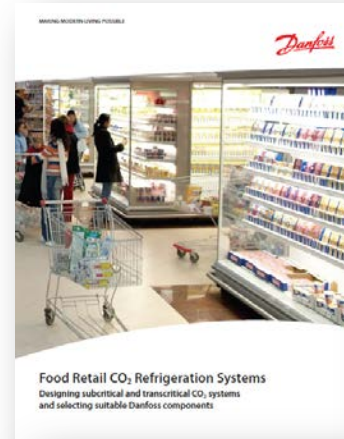
- 20ft standard **high cube shipping container**
- Multi voltage 400/460V 50/60Hz for worldwide grid compatibility
- **CO<sub>2</sub> rack refrigeration system** which can be operated in 3 different cycles (simple to advanced)
- 3 learning stations for training set up and operation of the system
- Cold room with electronic expansion valves

## Description of the equipment

- **Rack system to train commissioning and service situations**
- Simple remote type system for demonstration of the CO<sub>2</sub> cycle
- Various charts, diagrams, and screens for training purposes
- **Full prerequisite online curriculum** available at [Danfoss Learning](#) (requires registration to the system)

# Future Training

- After a year of operation around the world, MTU unit has been rebuilt and has started a new trip
- Application handbook is being brought up to date
- We are also working on detailed instructional videos for commissioning and servicing the CO<sub>2</sub> systems



# Mobile CO<sub>2</sub> Training Unit, 2017 Sydney, Melbourne, Auckland

Jatinder Masson, Director Sales PACIFIC/APR



Business Case for  
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07/05/2018 – Sydney



# Worldwide Training for Innovative & Sustainable Refrigeration

ENGINEERING  
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# CO<sub>2</sub> MTU on **the Move** in 2017

4

Continents



6

Countries



11

Cities



62000

kilometers



47

Training sessions



616

Trainees



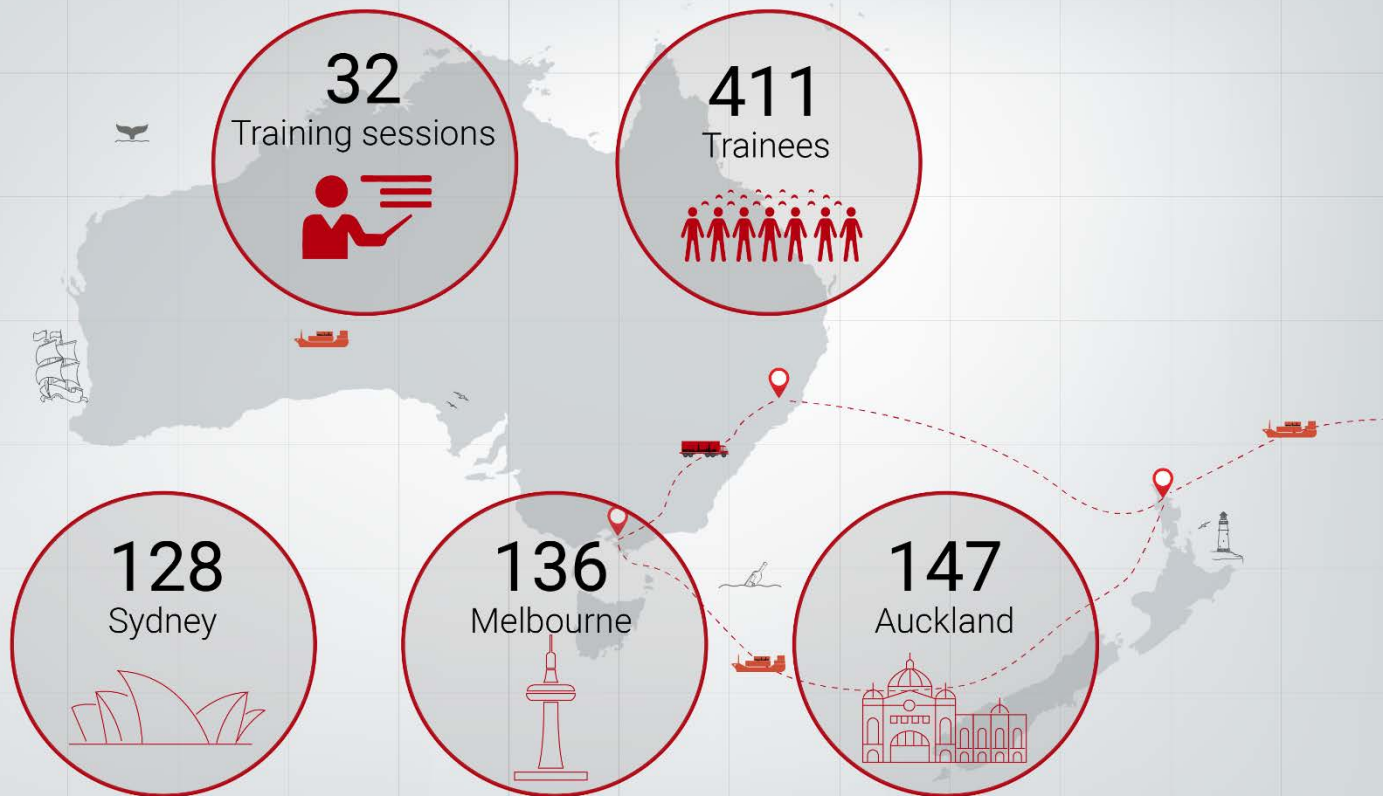
414

visitors





# CO<sub>2</sub> MTU on **the Move** in 2017



**“Genuinely believe this course will help refrigeration sector move to Natural Refrigerants, by way of informing those in the trade, and making the option more readily available.”**

**- Dylan Myers,  
Active Refrigeration**

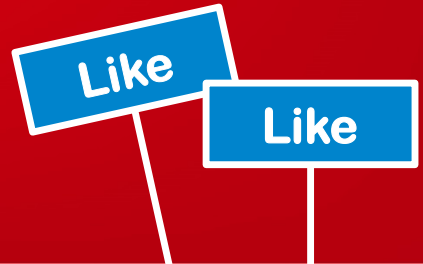


**“Really enjoyed course. Highly informative + interactive.”**

**- Matt Cochrane,  
McAlpine Hussmann**

**“Brilliant Gents. Well presented. Huge Danfoss Investment. 1st CO<sub>2</sub> training - need more. Danfoss to pressure industry for more involvement. Thank you.”**

**- Lee, ENGIE Services**



# Social Media

**Danfoss Refrigeration and Air Conditioning**  
34h

Coming to Australia and New Zealand! Danfoss Mobile CO2 Training Unit, packed with interactive learning modules, to increase competencies around the use of CO2 in the industry. Limited seats available! Click here to find out more ...see more

**Mobile CO2 Training Unit**  
Coming to Australia & New Zealand!

1. September: Sydney, Australia  
2. September: Melbourne, Australia  
3. October: Auckland, New Zealand



**Prudy Wong**  
Regional MarCom Manager, Asia Pacific  
Vikas Anand, Jatinder Masson, inderpal saund



Danfoss CO2 training unit to his NZ, Australian shores  
R744.com

1 Like • 1 Comment

**Danfoss Cool**  
@DanfossCool

Danfoss Mobile CO2 Training Unit landed in Australia. Come visit info here [bit.ly/trainco2](http://bit.ly/trainco2) #TrainCO2

**Indy Saund** @indysaund  
The Danfoss Co2 MTU has touch down and BBQ's..... #co2mtu



**Danfoss Cool**  
@DanfossCool

Danfoss Australia unveils CO2 Mobile Training Unit & product innovation to customers by hosting Danfoss Tech Day in Sydney. #TrainCO2



**Danfoss Cool**  
@DanfossCool

128 attendees trained in a well-engaged Transcritical #CO2 learning in Sydney. Heading to Melbourne now. [bit.ly/trainco2](http://bit.ly/trainco2) #TrainCO2



**Indy Saund**  
@indysaund

Power up with Danfoss at the tech Day at MIT AUCKLAND NZ#danfosscool#Co2



10:07 AM • 24 Oct 2017

4 Retweets 9 Likes

**Beijer Ref AU**  
@BeijerRefAU

Beijer Ref West Melbourne Team attended @DanfossCool Mobile CO2 Training Unit session. #danfoss #beijerrefau #mobileCO2training




11:28 PM • 26 Sep 2017

1 Retweet 4 Likes

**Danfoss Cool**  
@DanfossCool

Over the past 7 days, we had trained a total of 118 attendees, including 21 TAFE techs. The #CO2 MTU is heading to Auckland, see you!



9:48 AM • 12 Oct 2017

5 Retweets 8 Likes

**Danfoss Cool**  
@DanfossCool

#Danfoss hosts Power-up Technology Day in Auckland, customers learn to turn challenges into growth opportunities. #trainCO2 #ICFDefrost




8:00 PM • 27 Oct 2017

5 Retweets 11 Likes

**Prudy Wong**  
Regional MarCom Manager, Asia Pacific  
WooHoo...well done team Pacific, inderpal saund, Jatinder Masson, Alan Kelly, Vikas Anand, Kunal Pental

**Danfoss Refrigeration and Air Conditioning**  
6,047 followers

A lovely finale shot with CO2 MTU in Auckland, a total of 147 trained in NZ. This wraps up our tour in the Pacific region. Thanks to our champion trainer Indy and team for their dedication, hard work and to our respected cust...see more



20 Likes

673 views of your post in the feed



Barcelona, Spain

Lyon, France

Kamnik, Slovenia

Warsaw, Poland

Istanbul, Turkey

Sodex Exhibition, Istanbul, Turkey  
Izmir, Turkey



# Mobile CO<sub>2</sub> Training Unit - 2018 tour plan

# Register Your Interest with **Danfoss #CO<sub>2</sub> MTU 2020**



**I Want** 😊

