



TRAINING & SAFETY PANEL

4th of June 2013

Vincent Grass

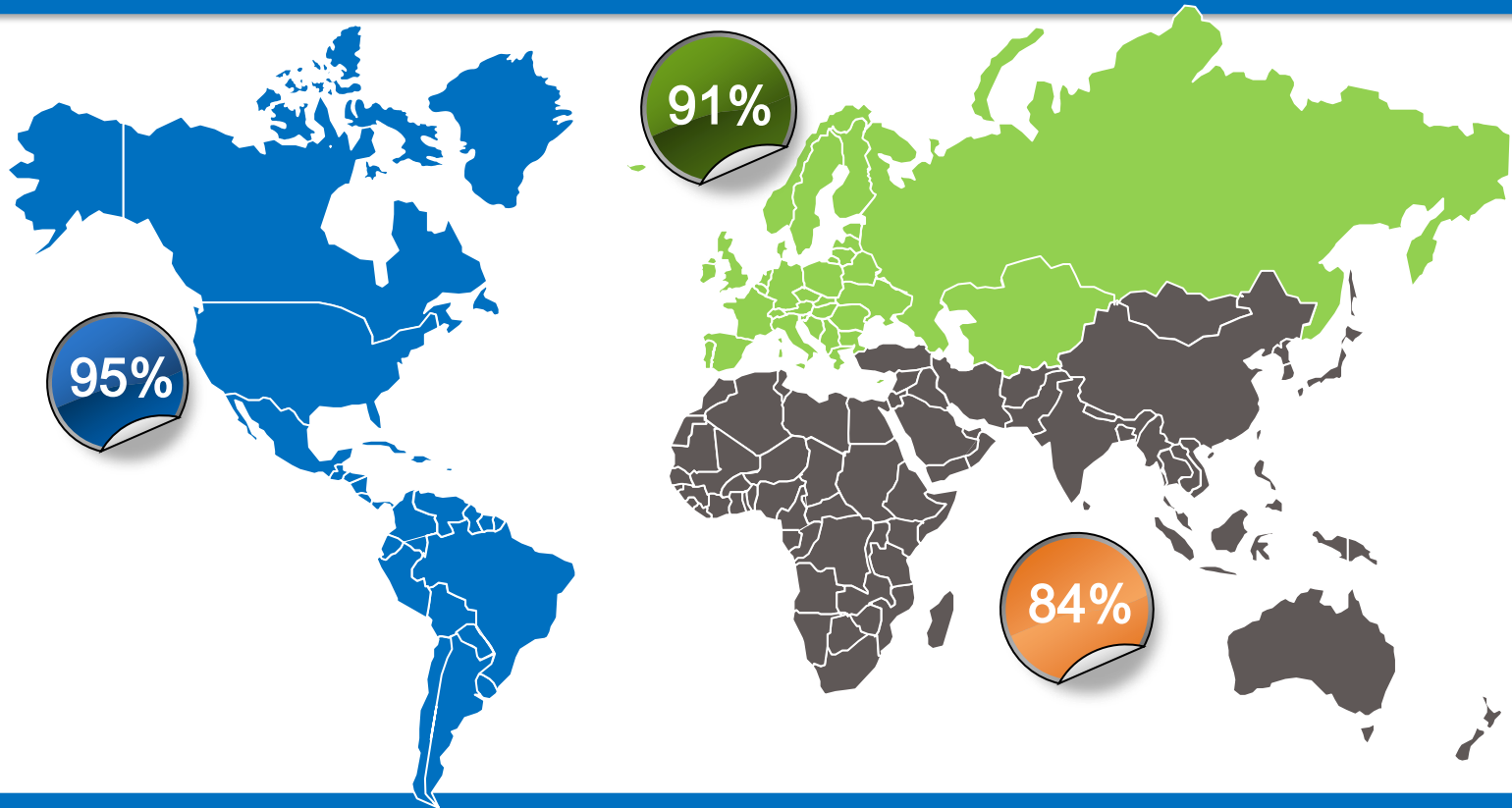
Vienna

Refrigerants in Nestlé

In industrial refrigeration

468 factories in 86 countries

Above 90% Natural



Current situation as a result of Nestlé Natural Refrigerant Program that begun in 1986

Next steps

In all facilities

Of the 10% non natural refrigerants a number are for air conditioning systems

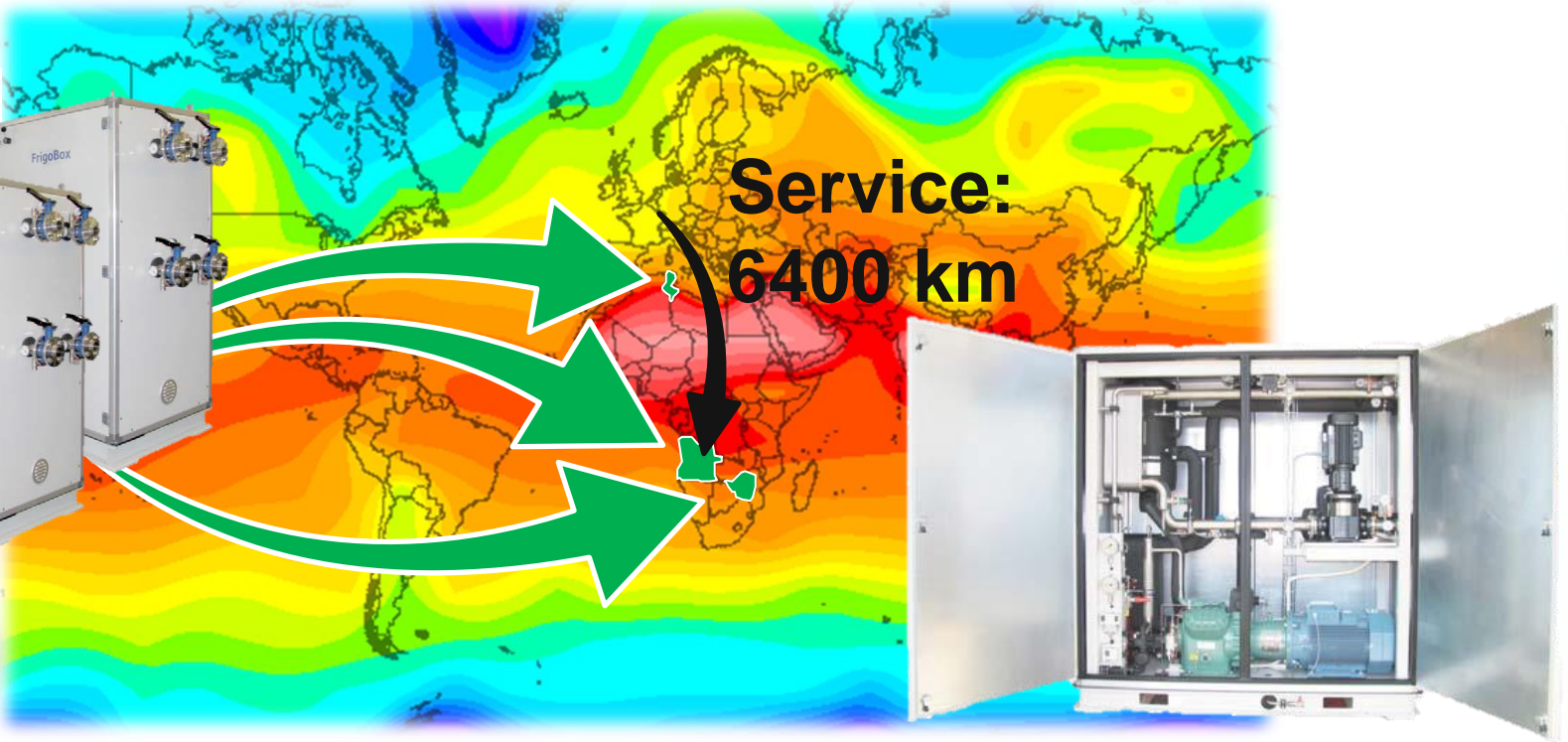
What choice do we have for HFC-free solutions?

FRIGOBX
from
AXIMA Refrigeration
GDF SVEZ



**Service:
6400 km**

5 kg NH₃
100 kW



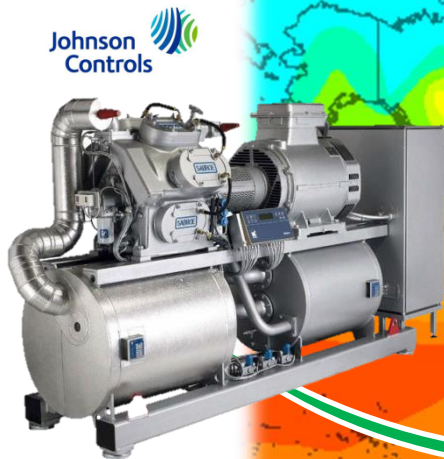
Enclosed packaged ammonia chillers (safety features included)

Next steps

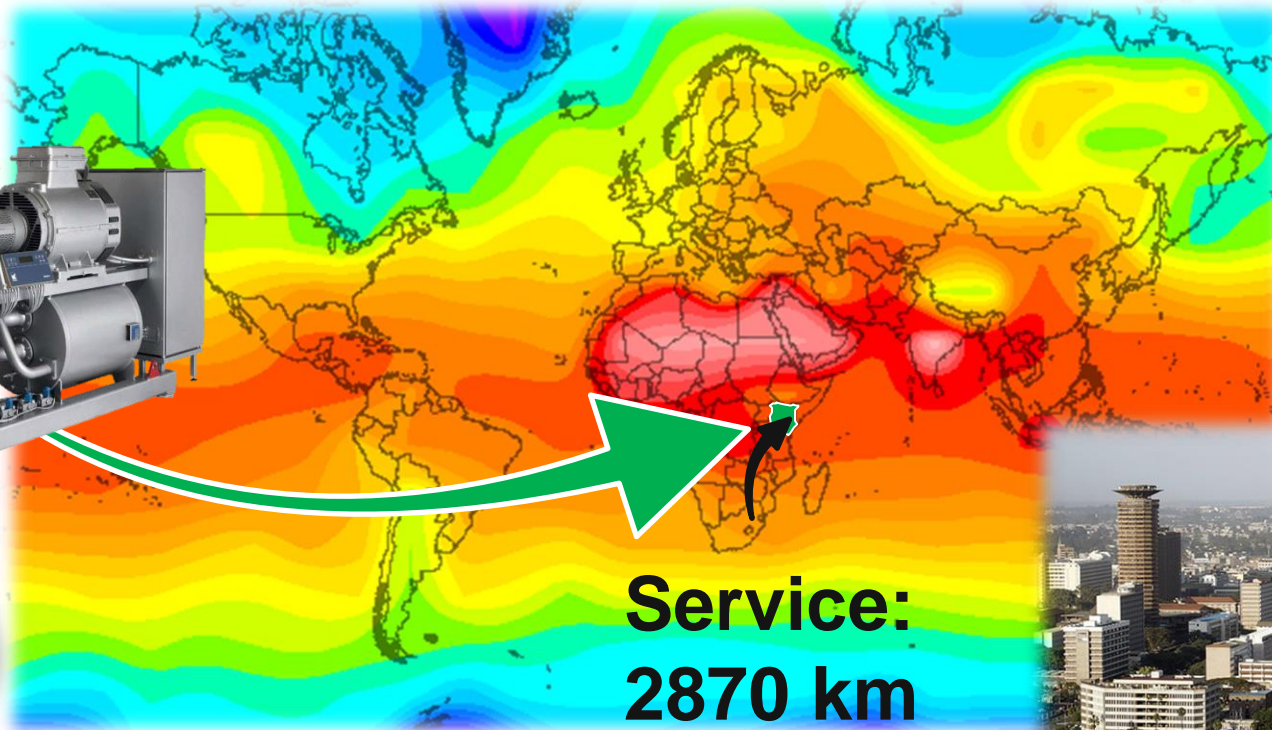
In all facilities

Of the 10% non natural refrigerants a number are for air conditioning systems

What choice do we have for HFC-free solutions?



50 kg NH₃
1 000 kW



Nairobi, KENYA



**Service:
2870 km**

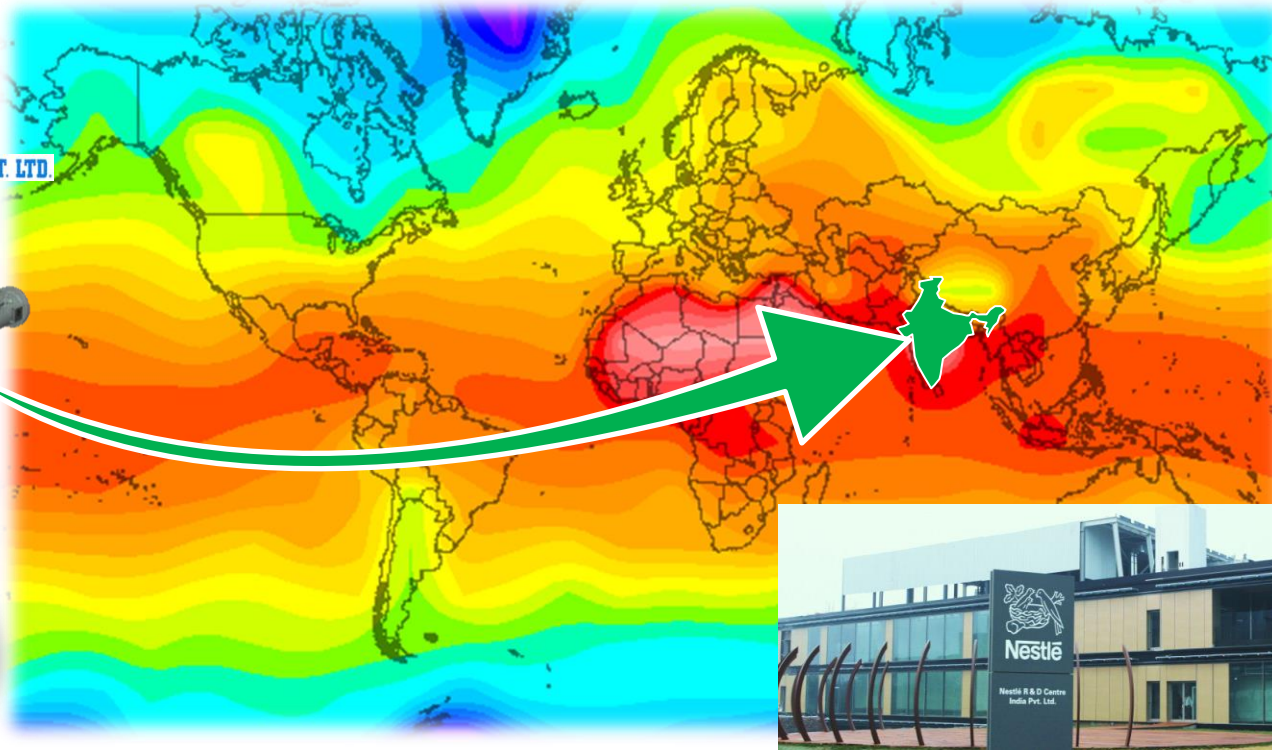
Centralised chilled water system for new regional head office

Next steps

In all facilities

Of the 10% non natural refrigerants a number are for air conditioning systems

What choice do we have for HFC-free solutions?



Delhi, INDIA



Centralised chilled water system for new R&D

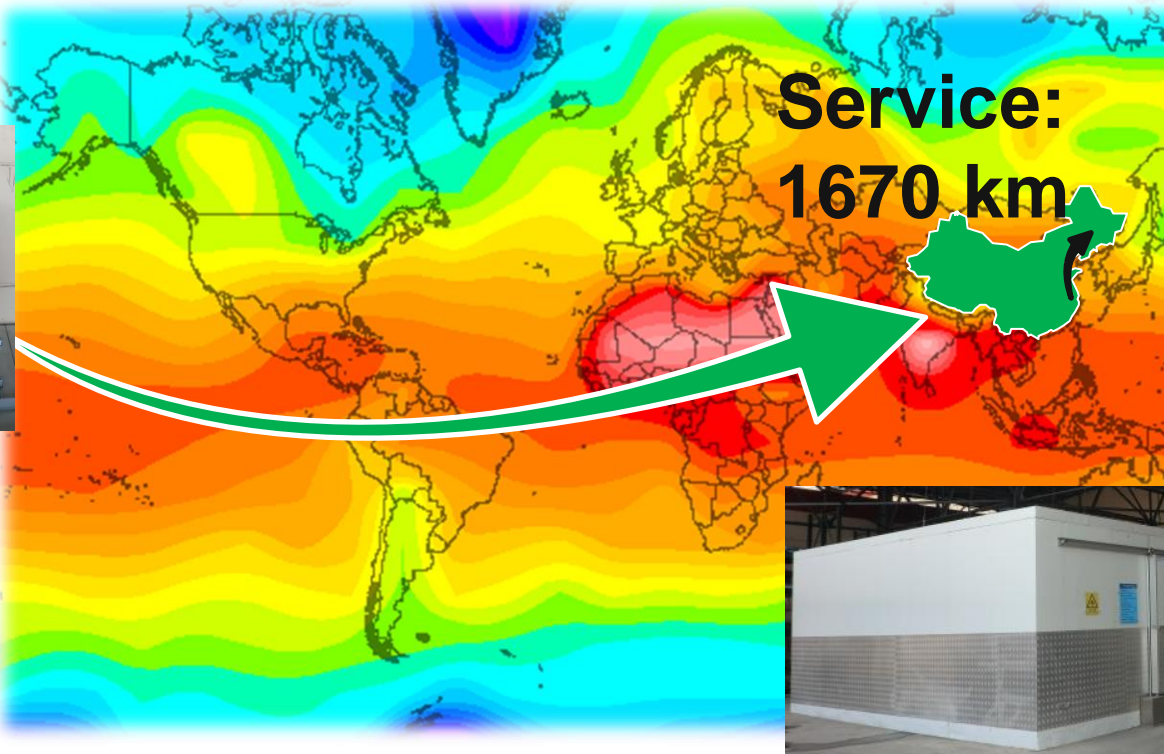
Next steps

In all facilities

Of the 10% non natural refrigerants a number are for air conditioning systems

What choice do we have for HFC-free solutions?

Fute 符特制冷
POWER IN TECHNOLOGY



CO₂
3 x 13 kW



CO₂ systems for small low temperature cold stores

Training And Safety

When dealing with natural refrigerants

**How to overcome the hurdle of lack/shortage of competences
in developing countries?**



- Stringent internal standards that are going beyond codes and regulations
- Internal ammonia audit
- In house trainings
- Developing customized Standard Operating Procedures
- Working with external training institutes



**Service Providers
Manufacturers**

- Development of standard low charge packages “safe by design” and SOP ready
- Availability of local service in all developing countries
- Customized trainings anywhere



EDUCATION

- National Refrigeration Schools
- NGOs training institutes (hands on trainings and certifications)



Learning process (The 70:20:10 model)

Education 10%

- Professional journals
- Conferences/seminars
- E-learning/Blended Learning
- Books
- Formal “Training”

Learn
10%

Relationships 20%

- Feedback and role models
- Working around good or bad examples
- Mentoring

Support
20%

Experience 70%

- On job experience
- Hands on trainings
- Problem solving

DO
70%

SOURCE: Princeton University USA

70:20:10 great theory ... how do we make it work?

How to influence education?

**END-USERS CAN'T DO IT
ALONE!**



 **ATMO**
sphere
technology summit
natural solutions
3 - 4 June 2013 in Vienna

Thank you very much for your attention

