

New technologies applied to natural refrigerants education

Juan Carlos Rodríguez, AEFYT

euramm^on Symposium, July 7 - 2022



New technologies applied to natural refrigerants education

Current limitations of natural refrigerants learning

Difficulty to access to real installations “on-site”



Safety requirements to access to installations



Users don't always accept external visitors (schools, universities,...)



Timing required for full understanding of the refrigeration circuit “on-site”



Not easy to find “representative” installations including most possibilities



Not possible to interact with the installation “on-site”

Difficulty to built training centers “at school”



Safety requirements in some countries don't allow to create circuits



Big investment required

New technologies applied to natural refrigerants education

What can we improve using Virtual Reality applications?



Safety



All required time for best understanding of systems



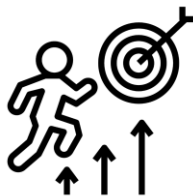
Different installations configuration, including most possibilities



Interaction with the refrigeration circuit



Low investment (only hardware normally available)



Student motivation

NEW GENERATIONS LEARN IN A DIFFERENT WAY NEW METHODS HAVE TO BE APPLIED

New technologies applied to natural refrigerants education



UNIÓN EUROPEA
Fondo Social Europeo
El FSE invierte en tu futuro



- Schools
- Universities
- Associations



And everyone that wants to learn
about **NATURAL REFRIGERANTS**

VIRTUAL REALITY CLASSROOM FOR TRAINING IN INDUSTRIAL REFRIGERATION PLANTS WITH AMMONIA

CONCEIVED AND DEVELOPED BY



IN COOPERATION WITH



New technologies applied to natural refrigerants education

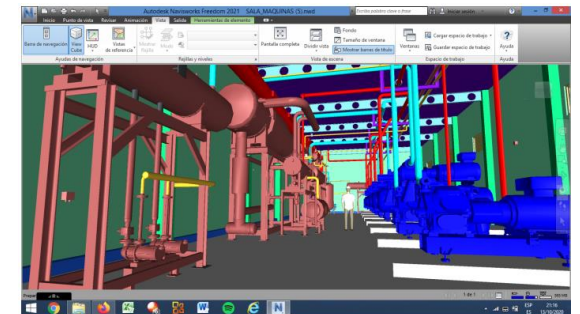
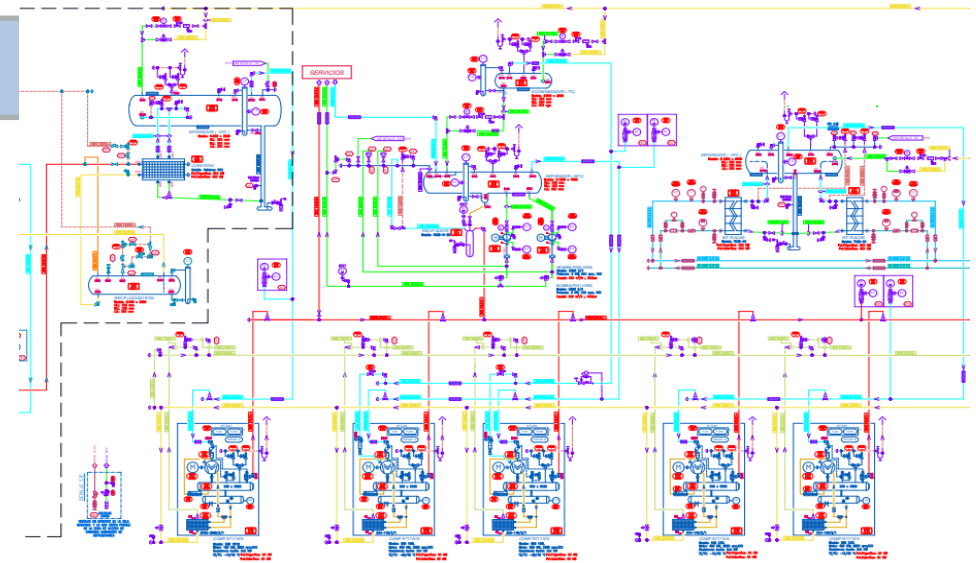
THE APPLICATION

Different configurations of the refrigeration circuits

- NH₃ Single stage
- NH₃ Single stage screw compressor with economizer
- NH₃ Booster system
- NH₃/CO₂ cascade system
- Gravity feed/pumped refrigeration system
- Secondary coolant system
- Air condensers/Evaporative condensers

Included modules

1. **Free tour** through the installations, including internal visualization of some components
2. **Training.-** Interaction with the installation for most general operations learning (air purging, oil purging, filter replacement, ...)



New technologies applied to natural refrigerants education



eurammon e. V. is always available as a sparring partner for questions on refrigeration with natural refrigerants.

Contact:

Dr. Alexander Schmeink | Lyoner Straße 18 | 60528 Frankfurt | Germany

Phone: +49 (0)69 6603-1277 | E-Mail: alexander.schmeink@eurammon.com