



shecco

SUSTAINING OUR ATMOSPHERE



Natural Refrigerants in Article 5 countries



MOP 23 Side Event, 25 Nov 2011, Bali
7 September 2010

Marc Chasserot
Managing Director

agenda



- awareness & information sources: Marc Chasserot, shecco
- article 5 examples: Alexandra Maratou, shecco
- HC refrigerant supplier perspective: John Clark, HyChill
- HC retrofits in SE Asia : Brent Hoare, Green Cooling
- information services : Linda Ederberg, GIZ Proklima

about shecco

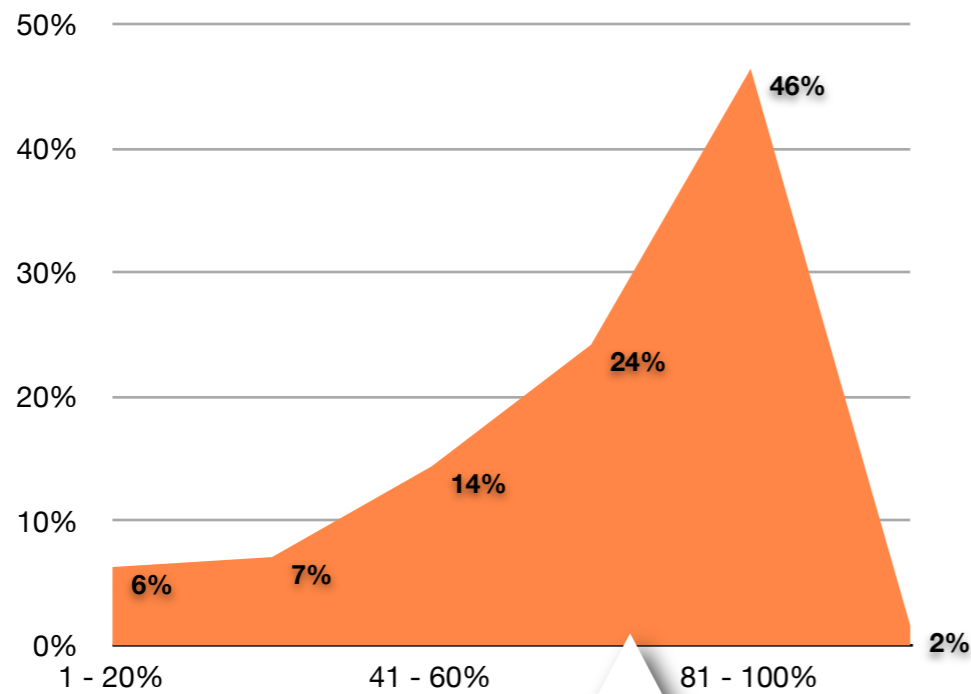


- innovative _ industry marketing specialist
- focus _ natural refrigerants
- expertise _ HVAC&R & transport sectors
- mission _ climate-friendly technologies faster to market

100+ partners worldwide

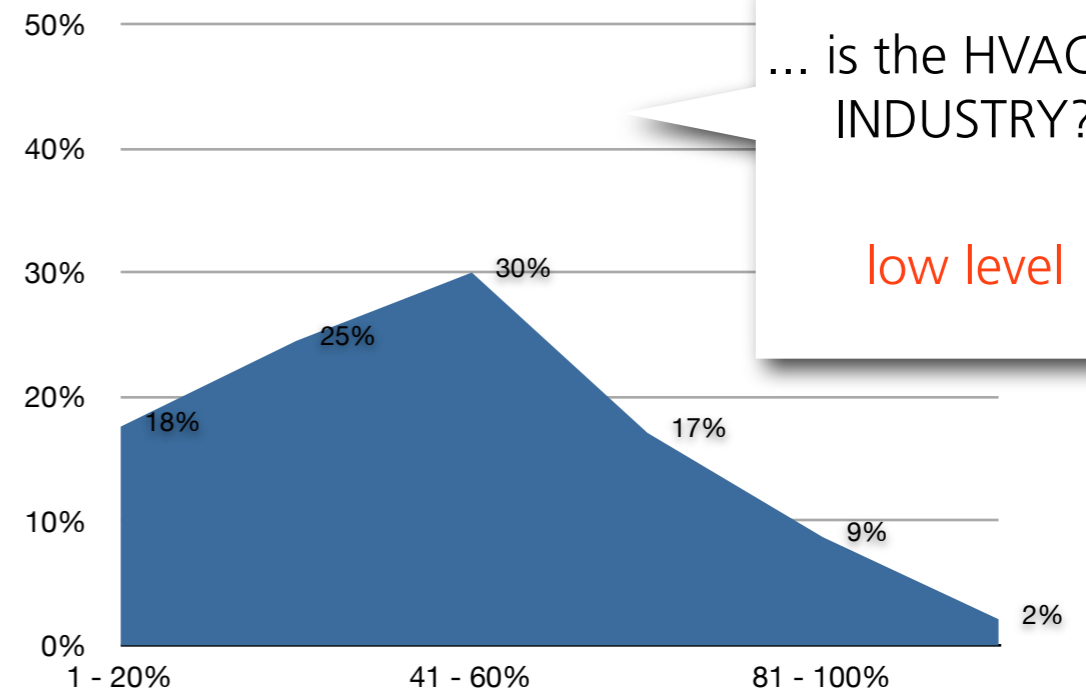


natural refrigerants awareness level



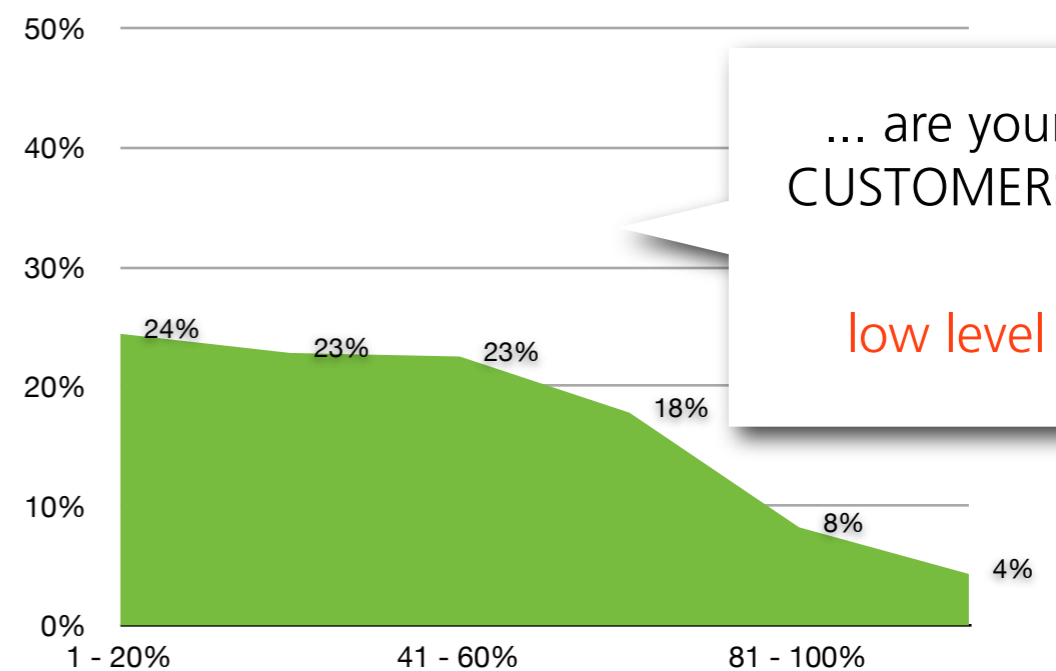
How informed ... are YOU about Natural Refrigerants (100% = highly informed)?

medium level



... is the HVAC&R INDUSTRY?

low level



... are your CUSTOMERS?

low level

natural refrigerants faster to market 2010



- barriers & solutions
- special chapter on India
- downloaded '000s times

industry platforms



R744.com



hydrocarbons21.com



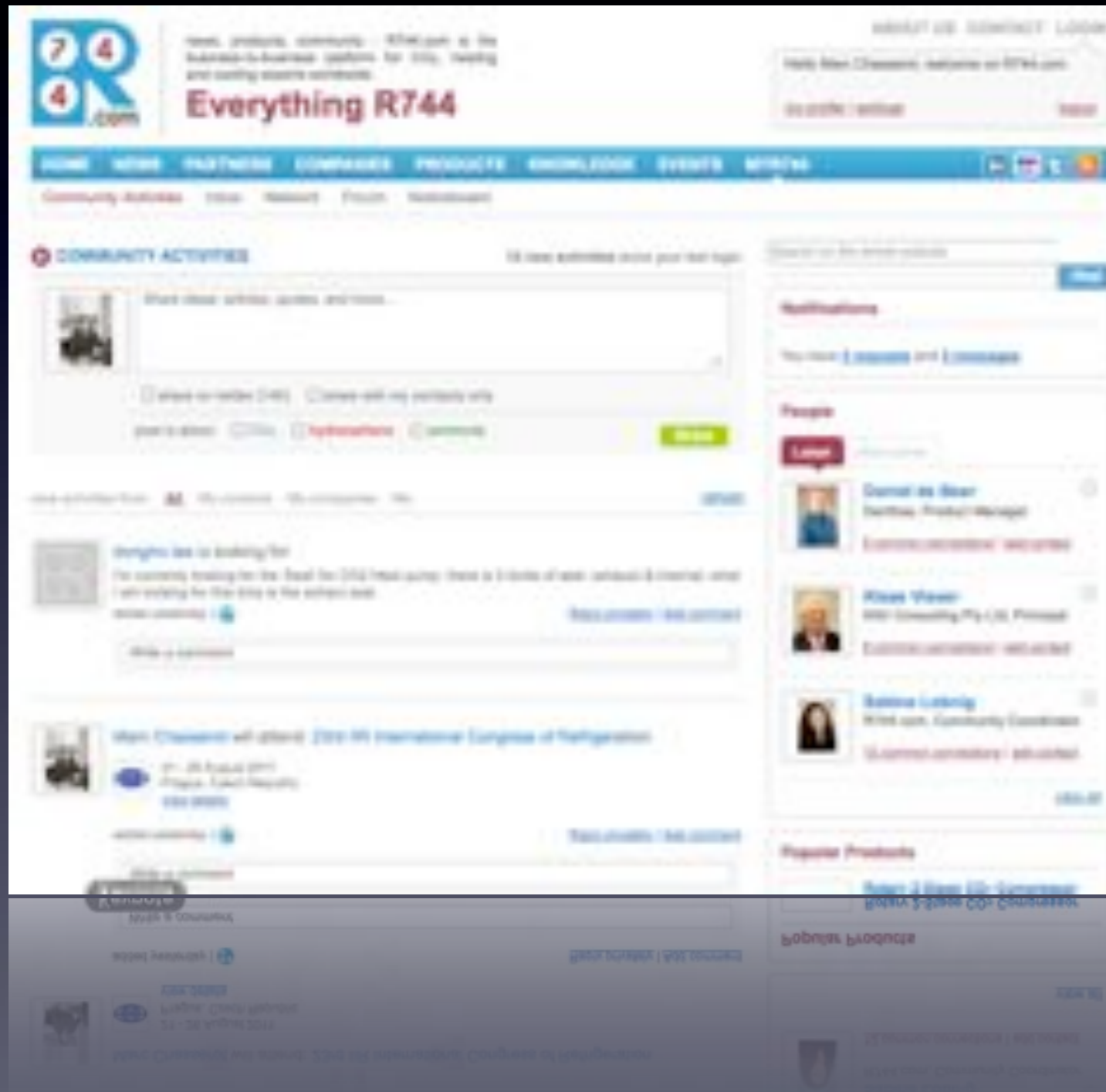
ammonia21.com

industry platforms



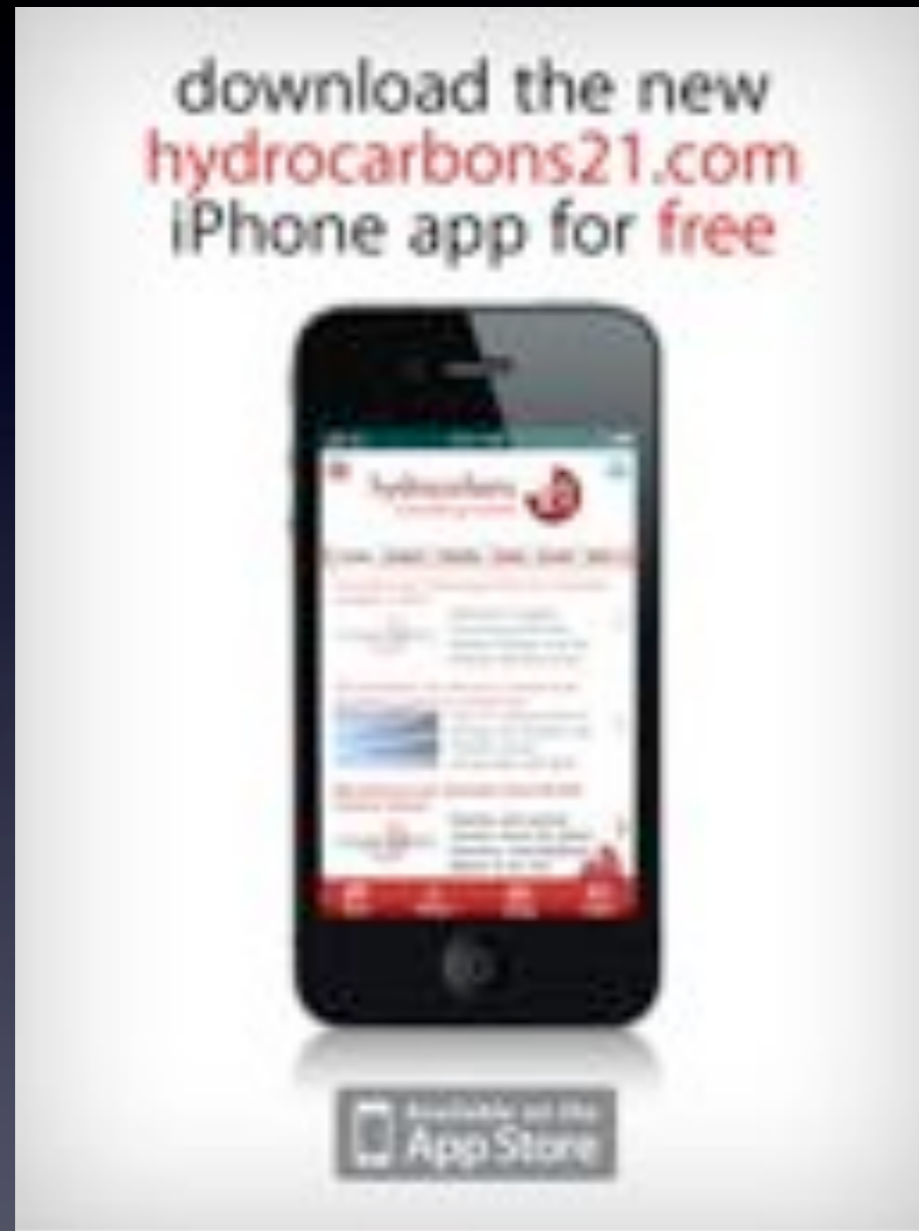
- 2000 + articles about Natural Refrigerants
- 1.5 million + pages views/ year
- 500 + papers & presentations
- 200 + products (worldwide)
- 8000 +/- experts (incl. policy), 150 + countries

global community

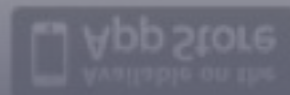


- the first global professional network for natural refrigerants
- exchange knowledge, connect with partners, customers
- share best practice about CO₂, NH₃ and HCs - without any barriers

mobile APPs



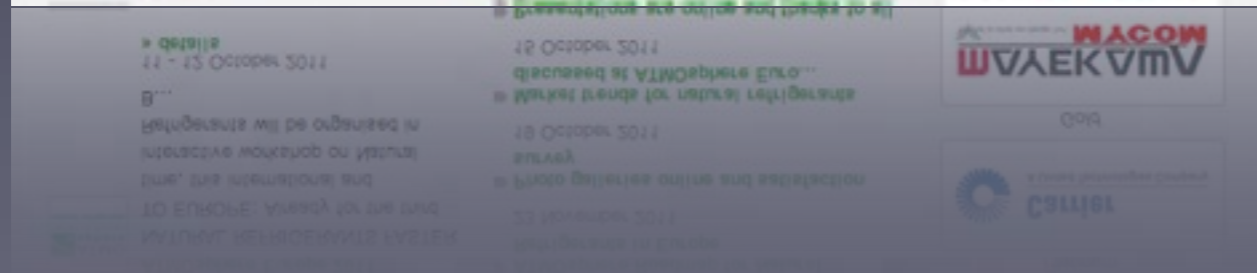
- Free APPs: Apple, Android, Blackberry
- hydrocarbons21, ammonia21, R744.com
- daily updates
- connect from anywhere



ATMOsphere workshops



- interactive workshop series with industry & policy experts
- ATMOsphere Europe (sept 2012)
- ATMOsphere America (June 2012)
- ATMOsphere Asia
- ATMOsphere Montreal Protocol



Natural Voice (2012)



- news service (to be launched 2012)
- inform Ozone & Climate experts about natural refrigerants
- new website
- email alerts
- regular newsletters

natural refrigerant examples in Article 5 countries



40 EXAMPLES OF
NATURAL REFRIGERANT
STORIES IN ARTICLE 5
COUNTRIES IN 2011

- 40 examples of natural refrigerant stories in Article 5 countries published in 2011
- They highlight opportunities & challenges in adopting CO₂, NH₃ and HCs
- 1 report* for Montreal Protocol delegates

HC ACs in China & beyond



- Lessons from Gree's AC facility conversion to R290
- help others set up similar projects
- 18 AC production lines in China to be converted to R290

HC ACs in China & beyond



a step-by-step approach was key:

- globally recognised testing, inspection and certification of facility(TUEV), CE certification
- service training, preparation of manual & development of working procedures
- pilot installation

18 of the 32 air conditioning production lines in China will be converted to R290 as part of China's HPMP.

solar water heating project with CO₂ as working fluid in Pakistan



- project will develop and demonstrate hybrid system at Gilgit-Baltistan area
- joint collaboration between the Pakistan-US Science and Technology Programme and the Higher Education Commission
- planned for completion end 2012

solar water heating project with CO₂ as working fluid in Pakistan



- combines a direct expansion heat pump with a solar collector
- demonstration at Gilgit-Baltistan area, where it can be very hot during the day, and very cold at night
- CO₂ selected for its low-freezing point compared to water
- hybrid system ensures continuous operation and a reliable heat supply

world's 1st OEM using HCs in production line (Australia)



- First OEM in the world to use hydrocarbon refrigerant in its production line
- 4+ years of safe use
- high performance

world's 1st OEM using HCs in production line (Australia)



- 4+ years of safe use of hydrocarbons in vehicle production
- adds to 20 years of experience with the safe use in the service market
- “Our packaging space is very limited and HCs give us a highly efficient solution whereby we can get more cold air out of the system for the same energy input and by using the same standard sized compressor”, Andy Granger, General Manager of Reymer Pty Ltd.

NH3 quick freezing system for one of India's largest food parks



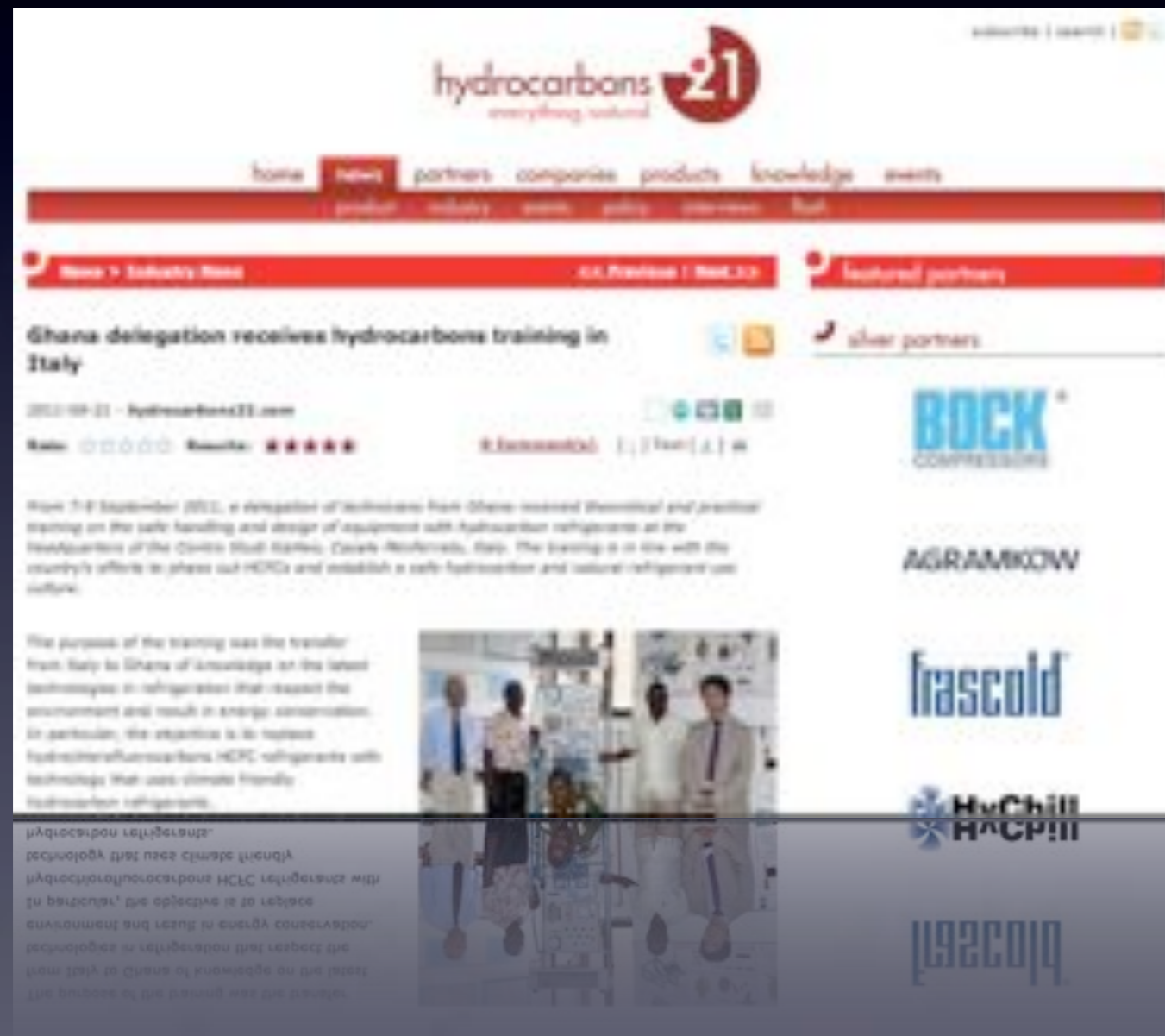
- first-of-its-kind Mega Food Park
- located at the Chittoor district, Andhra Pradesh
- high-end technology
- ammonia based quick freezing system

NH3 quick freezing system for one of **India's** largest food parks



- provides end-to-end linkage to food processing sector
- integrates global best practices and high-end technology
- includes ammonia quick freezing system for mango products
- The mango product will first pass through an initial crust freezing zone with cascade and variable control agitation, then be transferred to a deep fluidised bed for final freezing, ready to be sold on the domestic retail market and get packaged for export.

Ghana delegation receives hydrocarbons training in Italy



- training on HC safe handling
- theoretical & hands-on training

Ghana delegation receives hydrocarbons training in Italy



- Theoretical and practical training by Centro Studi Galileo
- Safe handling and design of equipment
- Part of Ghana's efforts to establish a safe hydrocarbon and natural refrigerant use culture
- "The technicians we have trained will now go back to Africa to spread this message, and to allow African contractors to start working correctly, in the most effective way", Marco Buoni, technical director of Centro Studi Galileo