

e-learning for REAL Skills in Europe

REAL SKILLS EUROPE forges ahead with the development of e-learning material and guidance notes based on industry expertise in reducing refrigerant emissions and leakage.

Gaining feedback from industry stakeholders from the Belgium, Estonia, Germany, Greece, Poland and the UK the project is learning more about our attitudes to skills and leakage.

Views have been obtained from stakeholders on the REAL Zero guidance notes produced in the UK in 2009 which will be basis of future REAL Skills Europe guidance and calculators available in national languages including French, German, Polish, Greek and Estonian.

Preliminary results of an international training needs survey are providing interesting insights into how the REAL Skills Europe e-learning training scheme will be designed (see article on page 3 “strengthening support from stakeholders”)

In addition the Project Partners met in July in Belgium to progress:

- key learning outcomes,
- detailed course content,
- teaching, learning and assessment strategies,
- procedures for accreditation, certification and course administration

Intelligent New Energy Technologies group (I-NET) presented to the meeting sample e-learning and assessment

modules based on REAL Zero learning books. The e-learning modules will incorporate 'rich content' such as videos/ animations to get the message across.

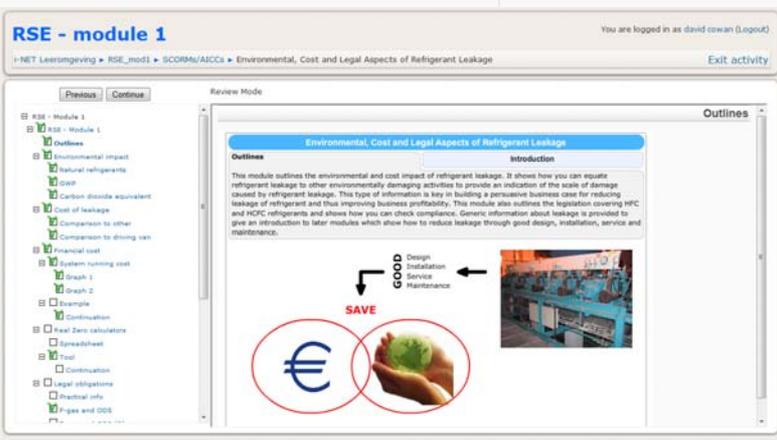
coming soon..

- **13-15 October 2010** - Chillventa exhibition, Nuremberg, Germany
- **19th October 2010** – AFCE Colloque Effect de Serre, Paris (project presentation)
- **20 -21 January 2011** – Partner meeting at NRF, Warsaw, Poland
- **6-7 June 2011**- Partner meeting at EERC, Tallinn, Estonia
- **21-26 August 2011** - 23rd IIR International Congress of Refrigeration in Prague, Czech Republic
- **5-6 Sep 2011** - Closing partner meeting at NTUA Athens, Greece

REAL savings from reduced leakage

The IOR REAL Zero initiative broke new ground with the UK refrigeration, air conditioning and heat pump industry in 2009 when it addressed directly the technical issues related to reducing refrigerant leakage.

It led to a series of guidance notes, published articles, new refrigerant logging tools and training courses.



Sample page from the learning platform model

Nearly two years on from the initial research and investigations which underpinned the REAL Zero approach, the IOR has conducted follow up analysis of what has been learned and what actions have taken place. The collated results are very encouraging. Follow up activity conducted in March 2011 focused on seeking updated information from the original refrigeration equipment sites surveyed 12 to 18 months ago. The sites were asked for information on refrigerant use and actions carried out as a result of their work with REAL Zero. In total 27 systems at 10 of the original 24 sites were reviewed. Feedback showed that the REAL Zero concept has changed practice on these sites and as a result there has been significant reduction in leakage related to that equipment.

The carbon savings realised equates to nearly 8,000 tonnes CO₂(e) per annum, based on a net reduction in refrigerant leakage of 4,900 kg over a corresponding 12 month period. This represents an impressive 43% reduction in annual leakage, averaged across the 10 sites.

“REAL Zero originally projected around 25% improvement in refrigerant use across the sample sites, so these results at 43% have really exceeded all expectation. But it doesn't mean that there isn't still more that

can and must be done to reduce emissions. The IOR has always seen REAL Zero as a process rather than a one off initiative. The industry is making massive steps in recognising the financial, practical and environmental benefits of refrigerant containment and these results show its commitment to achieving even further improvements in the future.” Prof Graeme Maidment F Inst R, REAL Zero Steering Group Chairman

experience REAL Zero with UK workshops

The UK is holding further REAL Zero training courses over the next few months. The events are open to all and give an opportunity to experience a one day face-to-face training event. The workshops review all of the existing REAL Zero training material and delegates can take the on line assessments to gain IOR CPD Certificates in the core modules. Workshops are being held on 19th November Manchester and 1st February 2011 in Midlands with further events being planned for Scotland in 2011. See www.realzero.org.uk for details.

achievements, objectives & deadlines

achievements to date:

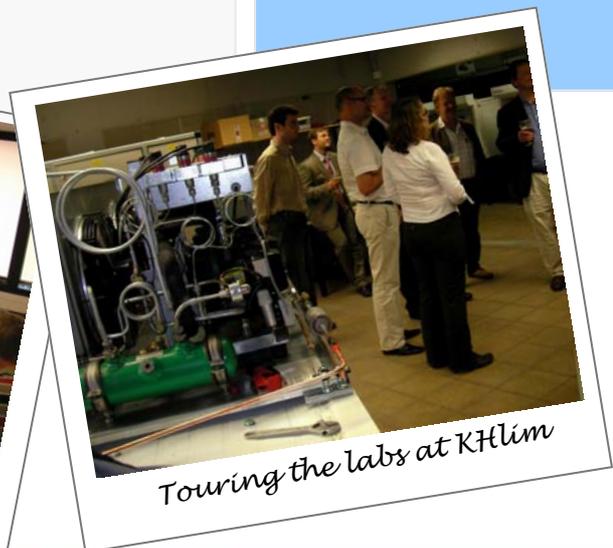
- Report on national priorities published
- Stakeholders at national and EU level engaged in the review process
- Survey of training needs and updating of material taken place
- Key performance indicators being developed
- Website areas for partners, stakeholders and communications with the general public
- Publicity and communications strategy developed

next stage activities:

- Contents and design of an e-learning training scheme
- Submissions for the e-learning
- Report on training needs
- Updating and translation of revised Guidance notes
- Evaluation plan implemented



Partner meeting



Touring the labs at KfHlim

Email: rse@ior.org.uk Telephone: +44 208 647 7033

www.realskillseurope.eu

strengthening support from stakeholders

Project Stakeholders from throughout Europe are taking an active role in shaping the outputs of the project. Most recently, there were two distinct consultations:

- Reviewing the basic REAL Zero guidance notes and tools
- Contributing to a survey of leakage reduction training needs

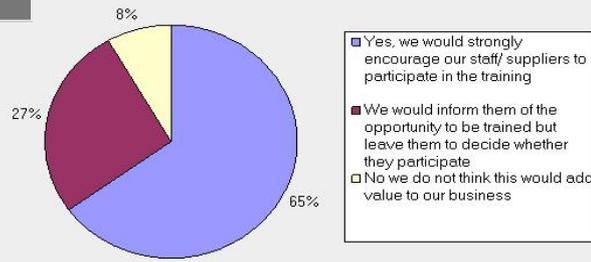
Interim results have highlighted the factors that potential users of the learning package consider most important. Not surprisingly, top of the list was the ability to demonstrate reduced use and leakage of refrigerant. Other issues such as minimising environmental impact, reducing energy use and improving reliability were also key. Further down the list (so far) are issues directly related to financial aspects - lower maintenance and capital costs.

On the skills front the following items were seen to be the areas which the training should focus on:

- Best practice methods for service and maintenance
- Verifying efficient system operation and performance
- Calculating system charge and understanding the consequences of incorrect charge
- Conducting site audits, preparing reports and recommendations

There are still opportunities to feed into the surveys and comment on the existing guidance. Register now as a stakeholder by contacting rse@ior.org.uk or view the links on the stakeholder pages of the website.

Would your organisation value a certificate in refrigerant management and leakage reduction skills that was endorsed by a national training organisation and recognised in other EU countries?



Initial survey results

piloting and testing the training scheme

Marc Schreurs, Walter Reulens and Marnik Lenaerts of the Intelligent New Energy Technologies group hosted the July project meeting focused on plans to pilot and test the new training materials and e-learning principles.

Partners reported that much of the original REAL Zero material has already been translated into several of the partner national languages as part of the consultation process.

Stakeholder groups are being involved at all stages to ensure that the materials the project will fully address national needs identified in the analysis carried out earlier this year.

An evaluation or Valorisation plan will monitor take up and results.

The next partner meeting will take place in Warsaw (Poland) in January 2011 to finalise the new international Guidance Notes and software tools for public release and to being piloting the e-learning scheme.

meet our partner - iRefrigeration



iRefrigeration is part of i-NET (Intelligent New Energy Technologies) - the central energy management centre of the Department of Industrial Sciences and Technology (IWT) at the Catholic University College Limburg (KHLim) in Diepenbeek (Belgium).

iRefrigeration.eu is the home of Innovative Cooling for the University. Its aim is to keep up to date with the latest trends and developments in the field of refrigeration. In this way it helps to spread knowledge through its student base and amongst the workforce.

Recognized as an official examination centre for the certification of competence in refrigeration engineering, iRefrigeration.eu offers the following courses:

Soldering, Basic cooling, Working with refrigerants, Problem solving, V@K e-Learning about heating, cooling and air conditioning, Certificate of competence in refrigeration engineering, Preparatory training routes, Examination Certificates of aptitudes for cooling technicians.

<http://inet.khlim.be/>

contact: Marc Schreurs
marc.schreurs@khlim.be

project outcomes and milestones

| project result | date available |
|---|---|
| <ul style="list-style-type: none"> Website set up with public, stakeholder and partner areas. | Completed www.realskillseurope.com |
| <ul style="list-style-type: none"> Overviews of national situation on refrigeration emissions & leakage reduction training needs published | Completed report available |
| <ul style="list-style-type: none"> Updated refrigerant leakage guidance notes and calculators issued for review by stakeholders | Review in progress, due for completion end Sept |
| <ul style="list-style-type: none"> Specifications for the training scheme developed in consultation with stakeholders | Completed |
| <ul style="list-style-type: none"> Multi-lingual versions of revised guidance notes and tools previewed to stakeholders | October 2010 |
| <ul style="list-style-type: none"> e-learning and assessment scheme set up for multi lingual trialling | January 2011 |
| <ul style="list-style-type: none"> Guidance Notes and tools launched formally on the public website | January 2011 |
| <ul style="list-style-type: none"> Completed e-learning package launched publicly in all partner countries | June 2011 |
| <ul style="list-style-type: none"> Monitoring of take up and survey of users | September 2011 |

the EU Leonardo da Vinci programme

The Programme funds practical projects in vocational education and training as part of the European Commission's Lifelong Learning Programme. Activities include 'mobility' initiatives enabling people to train in another country, co-operation projects to transfer or develop innovative practices, and networks focusing on topical themes in the sector.

It enables organisations in the vocational education sector to work with partners from across Europe, exchange best practices, and increase their expertise. A core objective is to help people to gain new skills, knowledge and qualifications, and boost the competitiveness of the European labour market.

Innovation projects are key to the programme. They aim to improve the quality of training systems by developing and transferring innovative policies, courses, teaching methods, materials and procedures.

http://ec.europa.eu/education/lifelong-learning-programme/doc82_en.htm

This project has been funded with support from the European Commission.

This publication newsletter reflects the views only of the author, and the Commission cannot be held responsible for any use which may be made of the information contained therein.

national partner contacts

Institute of Refrigeration

Carshalton, UK
<http://www.ior.org.uk>
 Contact: David Cowan
 david@ior.org.uk

Limburg Catholic University College

(KHLim), Limburg, Belgium
<http://www.irefrigeration.eu>
 Contact: Marc Schreurs
 marc.schreurs@khlime.be

London South Bank University

(LSBU), London, UK
 Dept of Engineering
<http://www.lsbu.ac.uk/esbe/>
 Contact: Prof Graeme Maidment,
 maidme@g@lsbu.ac.uk

Ethniko Metsovio Polytechnio,

Thermal Engineering Section,
 Laboratory of Applied Thermodynamics,
 National Technical University of Athens
 (NTUA)
<http://www.mech.ntua.gr>
 Contact: Dr Irene Koronaki
 koronaki@central.ntua.gr

Informationszentrum für Kälte-, Klima- und Energietechnik gGmbH

(IKKE), Technology Centre of
 Refrigeration, Air conditioning and
 Energy, Duisburg, Germany
<http://www.i-k-k-e.com>
 Contact: Dipl.-Ing Karsten Beerman
 beermann@i-k-k-e.com

Krajowe Forum Chłodnictwa. National Refrigeration Forum (NRF), Poland.

<http://www.kfch.pl>
 Contact: Mr Michal Dobrzynski
 biuro@kfch.pl

Estonian Environmental Research Centre (EERC), Ozone Unit

<http://klab.ee>
 Contact: Mr Inari Truumaa,
 inari.truumaa@klab.ee

Email: rse@ior.org.uk Telephone: +44 208 647 7033

www.realskillseurope.eu