

EUREKA[★]2016

Heating, Cooling, Refrigeration & Ventilation: Sustainable technologies for a better life



Visionary Paper

Heating, Cooling, Ventilation:

Sustainable technologies for a better life,
for present and future generations

1. EUREKA 2016: the start of a journey towards a better life

It would be impossible to imagine our lives without heating, cooling, ventilation and refrigeration - yet we tend to overlook the industry that is providing all these technologies.

Today, the Heating, Ventilation, Air-Conditioning and Refrigeration (HVAC-R) industry stands at a crossroads. Whilst striving for ever more innovative sustainability, energy efficiency, health, and comfort, preserving the sustained competitiveness and attractiveness of the industry represents a major challenge.

What will the future look like for this industry? More importantly, what will future generations expect from it? How can the industry respond?

These key questions formed the basis for discussion at the first edition of the conference EUREKA 2016: Sustainable Technologies for a better life, which took place in December 2016 in The Hague.

Representatives from the HVAC-R industry, as well as academia, NGOs, media, and policy-makers, came together to brainstorm and sketch out a vision for the future of the industry. The key themes discussed were close to the hearts of both consumers and the industry, namely food waste, indoor air quality, energy efficiency, and refrigerants.

Capturing the discussions during the day, as well as wider trends and developments, this paper aims to provide an outlook to 2030 based on what future customers will want and expect. It is clear that maintaining the status quo is not an option, and that industry will need to transform itself in order to be truly resilient and sustainable.

This Vision is only the start of our journey. The organisations behind the EUREKA initiative – **EPEE & EVIA** – are committed to helping industry prepare for the future. For this purpose, various events will be organised at national level to discuss this paper in more detail. The second edition of EUREKA will take place on 28-29 November 2017 in Berlin. Save the date and join our journey!

We hope you find this paper informative and insightful, and we are always open to discuss this Vision with you.

Happy reading!

Andrea Voigt
Director-General EPEE

Russell Patten
Secretary-General EVIA



2. Who is the future? Meet Generation Z

Generation Z - those born between the mid-1990s and early 2000s - are those for whom the internet has been a regular feature of their daily life since early childhood. They are comfortable with technology and with interacting with people around the world on social media.

What are the needs of this new generation? How do they live, work and interact, and how to best fulfil their expectations?

Meet Generation Z



Currently
2 billion
globally

A focus on Generation Z



**The future
workforce**

- **31%** of the workforce by 2025
- **1 in 2** Gen Z'ers are university educated



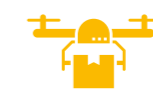
**Their key
focus**

- **Economy**
- **Entrepreneurship**



**A singular
generation**

- Learn, think, communicate, act, eat **differently**
- Mobile: **5** careers in a lifetime, **17** jobs, **15** homes



**The future of
business will**

- **Redefine work**
- Drive **innovation and change** with technology, hyperconnectivity, and collaboration



**Game
changers**

- Very aware of the **human impact** on the planet
- Want to **make a difference**
- Are concerned about **hunger, disease, environment**



**Generation
Z's identity**

- **Visual** over verbal
- **Facilitator** more than teacher
- Would rather **try and see** than sit & listen
- **Flexibility** over job security
- **Collaborating** over commanding
- **Screens & devices** over books & paper
- **Learner centric** over curriculum centred

3. Generation Z and HVACR: Major trends

We know now that Generation Z will be even more demanding than current customers and that their demands are fundamentally changing the way the HVAC-R industry will operate.

Maintaining the status quo is not an option. By being prepared, the sector can turn challenges into opportunities and continue to provide heating, cooling, and ventilation every day across the globe.

1. 'I want the full service, not just a product'

Generation Z will be looking for convenience and user-friendliness, buying a concept or a function rather than focusing on a particular product. A shift in mind-set in the HVAC-R sector will be necessary to adapt to these expectations, moving away from complex, technology-driven products towards easy to manage and fully integrated solutions.

The challenge: Rethinking the classic relationship between producers and consumers and shifting to service-based models.

2. 'I want the product to be exactly what I need'

Future consumers will be more demanding and will want to be unique. Customised solutions that are exactly tailored to their needs, with possibilities of self-learning, self-adapting, and self-management will be a must. Technological innovation such as 3D printing and robotisation will reinforce this trend.

The challenge: Finding the right balance between standardisation and customisation at an affordable price.

3. 'I just want to pay for a service when I need it'

The sharing economy will also spill over to the HVAC-R sector, and accessing products & services rather than owning them will be at the core. Driven by the Internet of Things (IoT), new technologies will increasingly enable customers to share and consume resources more efficiently and consciously on the basis of the pay-as-you-use principle.

The challenge: Creating business models which fulfill consumers' expectations while remaining viable for business.

Smart homes & Appliances

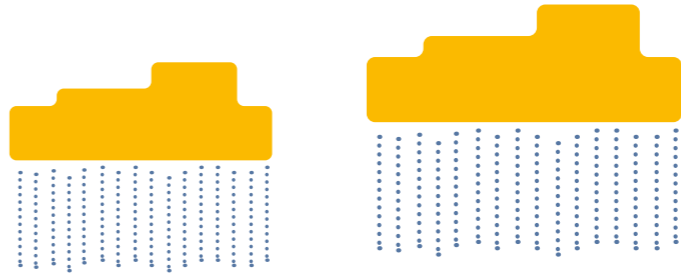
Home appliances will be able to communicate with each other and be connected to high-speed internet as well as the grid (demand-response). Providing solutions which empower their users, these devices will be able to react to transparent and up-to-date information to control their applications: maximized comfort & well-being guaranteed.

Rental Services

The HVAC-R sector will not provide a product – e.g. an air-conditioner – but a function – e.g. cooling – and additional services. The pricing will shift from a pay-per-product to a subscription-based model. Consumers will increasingly lease and buy packages that include the function as well as service, maintenance, and continuous commissioning options.

Building clusters

Collaborative economy schemes may flourish in the building sector with the rise of decentralised, shared, and potentially renewable-based energy networks. Neighbours may for instance purchase power from each other's rooftop solar panels or share heating and cooling networks, micro-generation, and storage facilities.



4. 'I care about the impact I have'

Highly aware of the human impact on the planet, Generation Z wants to change things by living more sustainably. For this to happen, they will be keen on having easy access to a range of information on products' performance and footprint.

The challenge: Striking the right balance between making products fit for the future from an environmental and a human well-being perspective while maintaining their affordability.

5. 'I know the world is big, so I want to control what is around me'

In recent decades, we have experienced increasing globalisation, where the product itself and its (low) price mattered more than where it was produced. While globalisation will remain part of our society, the consumers of tomorrow will be more sensitive to their local context, both from an environmental and economic perspective. They will prefer locally-sourced products and may agree to pay a higher price for this.

The challenge: Managing the "two-way-trend" between local and global, bigger & bigger, yet smaller & smaller.

6. 'I am a digital native'

Digital technologies have spread at exceptional speed in recent decades and are changing our way of living and thinking. Generation Z is comfortable with Information and Communications Technologies, are used to interacting with people around the world on social media, and use apps for each aspect of their daily lives (education, friendship, love, hobbies, etc.).

The challenge: increased integration of ICT and the wealth of data flows will require clarity on data protection and privacy to ensure consumer trust.

Awareness

Consumers' awareness of their global socio-economic status and the impact of their habits on the environment can help improve the cold chain and reduce food waste. Across the sector, actors will need to progress on a common code of conduct to develop, among others, the concept of bulk sales, launch a call for the review of the expiry dates criteria, and encourage supermarkets to increase food donations.

Place value on local features

As consumers will prefer products that support local sourcing and production, manufacturers will have to make the origins of their products clear. "Made in" labels may become increasingly popular and a key criterion for consumers when choosing a product.

Transparency

HVAC-R products will need to meet the highest quality standards, whilst managing and providing a wealth of data and information in a user-friendly way.

Visual tools and indicators (e.g. on Indoor Air Quality and low-impact refrigerants) and easy-to-understand information will help consumers make informed choices.

So what can we do?

We know that future generations will still want our industry to exist, but we also know that they will want their heating, cooling, and ventilation to be provided in a different manner.

Our industry must be up to the task.

But how?



About EPEE:

The European Partnership for Energy and the Environment (EPEE) represents the heating, cooling, refrigeration, air-conditioning and heat pump industry in Europe. Founded in the year 2000, EPEE's membership is composed of 40 member companies, national and international associations.

EPEE member companies realize a turnover of over 30 billion Euros, employ more than 200,000 people in Europe and also create indirect employment through a vast network of small and medium-sized enterprises such as contractors who install, service and maintain equipment.

EPEE member companies have manufacturing sites and research and development facilities across the EU, which innovate for the global market.

As an expert association, EPEE is supporting safe, environmentally and economically viable technologies with the objective of promoting a better understanding of the sector in the EU and contributing to the development of effective European policies. Please see our website www.epeeglobal.org for further information.



About EVIA:

The European Ventilation Industry Association (EVIA) was established in Brussels in July 2010. EVIA's mission is to represent the views and interests of the ventilation industry and serve as a platform between all the relevant European stakeholders involved in the ventilation sector, such as decision-makers at the EU level as well as our partners in EU Member States.

Our membership is composed of more than 35 member companies and 6 national associations across Europe, realising an annual turnover of over 7 billion euros and employing more than 45,000 people in Europe.

EVIA aims to promote highly energy efficient ventilation applications across Europe, with high consideration for health and comfort aspects. Fresh and good indoor air quality is a critical element of comfort and contributes to keeping people healthy in buildings.

Check our website: www.evia.eu



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For more information, please visit our website www.eureka-hvacr.eu or contact info@eureka-hvacr.eu