

REHVA ANNUAL AND FINANCIAL REPORT 2022

From REHVA Board of Directors

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REHVA BOARD OF DIRECTORS

The REHVA Annual report of the year 2022 was approved by the REHVA board of directors on the 27th of March 2022. The year 2022 was the 59th year since the founding of REHVA.

REHVA board members after the General Assembly 2022 were the following:



CATALIN LUNGU
President
AIIR, Romania
2017–2025



IVO MARTINAC
Treasurer
Vice-President
SWEDVAC, Sweden
2019–2025



KEMAL GANI BAYRAKTAR
Vice-President
TTMD, Turkey
2019–2025



**LADA HENSEN
CENTNEROVÁ**
Vice-President
TVVL, Netherlands
2022–2025



LIVIO MAZZARELLA
Vice-President
AiCARR, Italy
2022–2025



JOHANN ZIRNGIBL
Vice-President
AICVF, France
2022–2025



PEDRO G. VICENTE QUILES
Vice-President
ATECYR, Spain
2022–2025

REHVA MEMBERS

In 2022, our 26 members were:

- AHGWTEL/LATVAC, Latvia
- AiCARR, Italy
- AICVF, France
- AIIR, AFCR, AGFR, Romania
- AIIRM, Moldavia
- ATECYR, Spain
- ATIC, Belgium
- BAOVK, Bulgaria (**NEW**)
- CIBSE, United Kingdom
- DANVAK, Denmark
- Die Planer, Switzerland
- EKVÜ, Estonia
- ÉTÉ and MMK, Hungary
- FINVAC, Finland
- KGH-SMEITS, Serbia
- LITES, Lithuania
- NORVAC, Norway
- ORDEM Dos ENGENHEIROS, Portugal
- PZITS, Poland
- SITHOK, Slovenia
- SSTP, Slovakia
- STP, Czech Republic
- SWEDVAC, Sweden
- TTMD, Turkey
- TVVL, the Netherlands
- VDI, Germany

The membership fee was 2 850 € in 2022.

A detailed list of the members and their logos is in [Annex 1](#).

International collaboration has always been at the core of who we are as REHVA community, however, the current war in Ukraine left REHVA in a dilemma regarding the membership status of the Russian Member Association, ABOK. While - in sense of fairness - our intention was not to punish colleagues for the decisions of their government if not actively linked to them, this is a dilemma which cannot be solved. REHVA has therefore carefully considered the situation and, with a heavy heart, the General Assembly approved that ABOK's membership (Russia) will be suspended until further notice and any further alteration to ABOK's membership status will be confirmed at a future REHVA General Assembly. With the consequence also that all ABOK-related information was removed from all REHVA means of communication (REHVA website, REHVA Journal, REHVA newsletters etc.).

REHVA SUPPORTERS

In 2022, our 29 supporters were:

- Aermec, Italy
- Arcelik, Turkey
- Belimo Automation, Switzerland
- Camfil, Sweden
- Daikin Europe, Belgium
- Dosetimpex, Romania
- East European Business Center (E.E.B.C), Romania (**NEW**)
- EPEE, Belgium
- Eurovent Certita Certification, France
- European Ventilation Industry Association (EVIA), Belgium (**NEW**)
- Evapco Europe, Italy
- Fläktgroup, Sweden
- Friterm, Turkey
- Granlund, Finland
- Halton, Finland
- Haskoning DHV, The Netherlands
- Isover Saint-Gobain, France (**NEW**)
- LG Electronics, France
- Lindab, Sweden
- Purmo Group, Finland
- RHOSS, Italy
- Smay, Poland
- Swegon, Sweden
- Systemair, Sweden
- Testo, Romania (**NEW**)
- Uponor Corporation, Finland
- Velux, Denmark
- Viega, Germany
- ZoonEx Systems, United Kingdom (**NEW**)

The fee paid by the supporters was 3 000 € in 2022. A detailed list of the supporters with their activities and logos is in [Annex 2](#).

REHVA ASSOCIATE ORGANISATIONS

In 2022, our 6 Associate Organisations were:

- Enerbrain, Italy
- Enviromech, United Kingdom
- European Copper Institute (ECI), Belgium (**NEW**)
- European Ventilation Hygiene Association (EVHA), Belgium (**NEW**)
- ISIB, Turkey
- OAER, Romania

The Associate Organisations, as defined in the [articles](#), are organisations, associations or institutions in any country to which heating and air conditioning engineers and technicians in the country of establishment are affiliated or in any country to which engineers or technicians in the country of establishment are affiliated who are only indirectly concerned with heating and air conditioning. The annual fee differs, according to organisation type and company size from 500 € to 1 500 €. A list of the Associate Organisations and logos is in [Annex 3](#).

PUBLICATIONS, ONLINE TOOLS, AND DIGITAL MEDIA COMMUNICATION

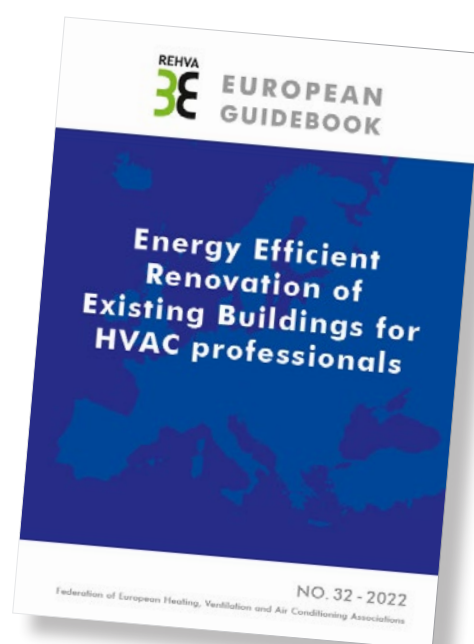
Guidebooks

REHVA European Guidebooks are at the heart of our mission and aim to disseminate the latest knowledge and technical information to members and professionals in the field of HVAC and building services technologies.

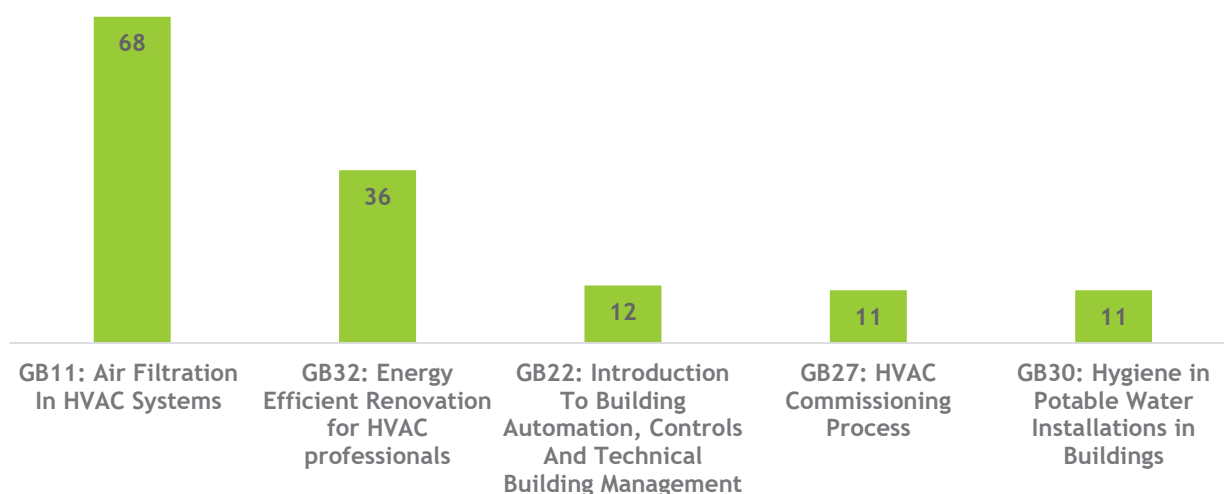
In 2022, REHVA published one new guidebook, No. 32.

Energy Efficient Renovation of Existing Buildings for HVAC professionals (Guidebook No.32)

This Guidebook presents the fundamentals for specific energy efficiency and other renovation measures in existing buildings for which HVAC systems play an important role. Emphasis is placed on market-ready and technically mature solutions that have been proven in practice to increase building renovation rates and facilitate the energy renovation process of existing buildings. The Guidebook presents results from field studies with quantified energy savings that are complemented with payback time estimates to document the overall benefits resulting from different renovation measures that can be implemented by HVAC professionals and practitioners.



5 most popular guidebooks and number of copies sold in 2022



Translations

Right after its publication, Guidebook No. 32 “Energy Efficient Renovation of Existing Buildings for HVAC professionals” was translated in Portuguese by Ordem Dos Engenheiros, the Portuguese REHVA Member.

Guidebook sales

The list price of a guidebook for direct sale from the e-Shop is 50€ (both PDF and hard copy), while Member Associations and supporter companies benefit from a discounted price. Besides, the office creates regularly marketing options with lower price. The Publishing and Marketing Committee may define lower prices depending on the year of publication and the market interest. All guidebooks are available for online purchase in the REHVA [e-Shop](#).

REHVA guidebooks were an important REHVA income source in the past, but this situation has changed. There was a significant 50% drop in the number of copies sold in 2020 and the negative trend continues in 2022 (Figure 1).

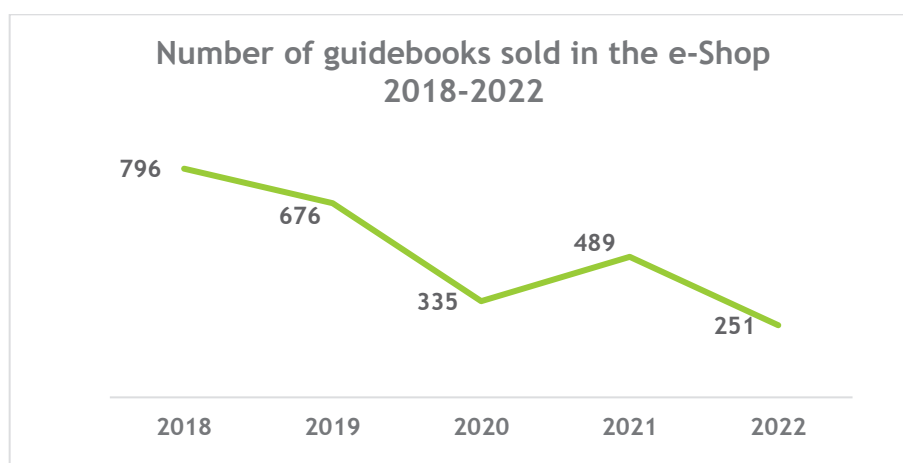


Figure 1. Evolution of number of books sold in the past 5 years.

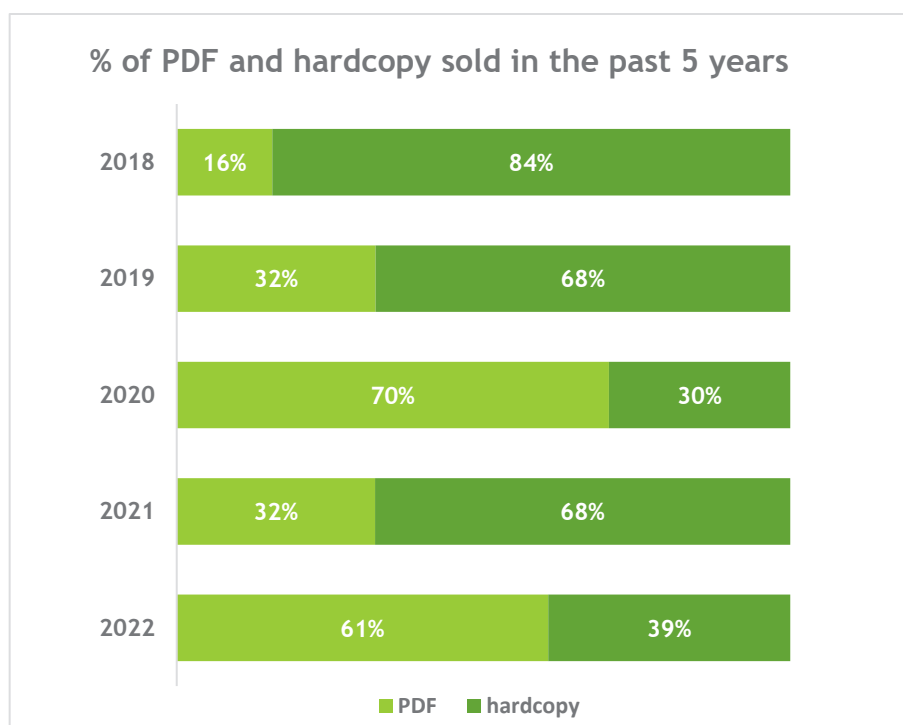


Figure 2. Share of PDF and hardcopy in total sales in the past 5 years.

Income from guidebook sales have been decreasing in the past years and the trend remains in 2022. REHVA office sought different opportunities to sell more publications. One of them is to have special arrangements with companies about the guidebook whose topic is interesting for practitioners and manufacturers, to print their own branded edition and distribute for free to their employees, clients, and contractors, like the revised No. 11.

To satisfy changing customer expectations, REHVA staff is seeking new ways to sell guidebooks in the digital age. Since 2018, REHVA has a contract with Knovel, and Elsevier digital knowledge platform that offers a subscription based on demand access to the guidebook content. REHVA earns royalties based on the reader traffic. The annual income from Knovel has been around 3000€ counting 15-20% of total income from guidebooks. Finding alternative income sources from other digital offers, for example create digital eBook licences for digital libraries could be a similar annual income from guidebooks.

Since 2019, REHVA also offers the e-book version of all guidebooks in the REHVA [Knowledge Hub](#) (previous “Experts area”) for an annual subscription fee, providing also other content (EU policy tracking, recorded courses and webinars, etc.).

All in all, the figures show that the production of guidebooks is financially not sustainable anymore, considering the cost of staff effort related to the production, promotion and sales of guidebooks, along the cost to maintaining the e-Shop infrastructure. REHVA should consider a different business model for guidebooks and develop other type of knowledge services instead of guidebooks. The TRC and PMC are working on further solutions to make guidebooks more attractive to practitioners and develop new digital knowledge products beside guidebooks.

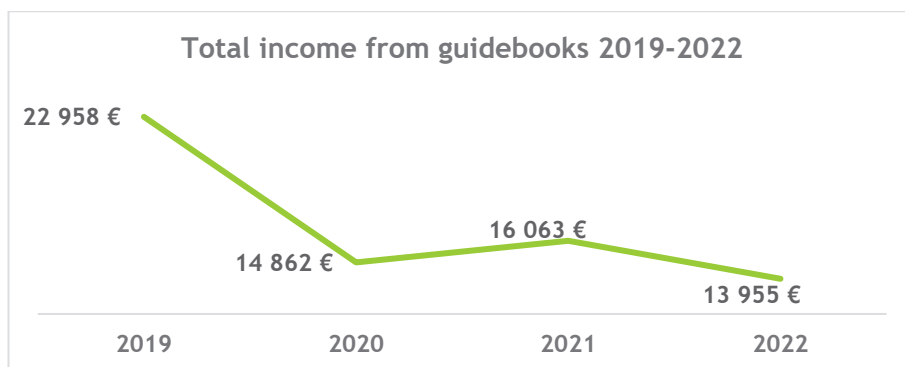


Figure 3. Evolution of total income (Knovel and e-Shop) in the past 4 years.

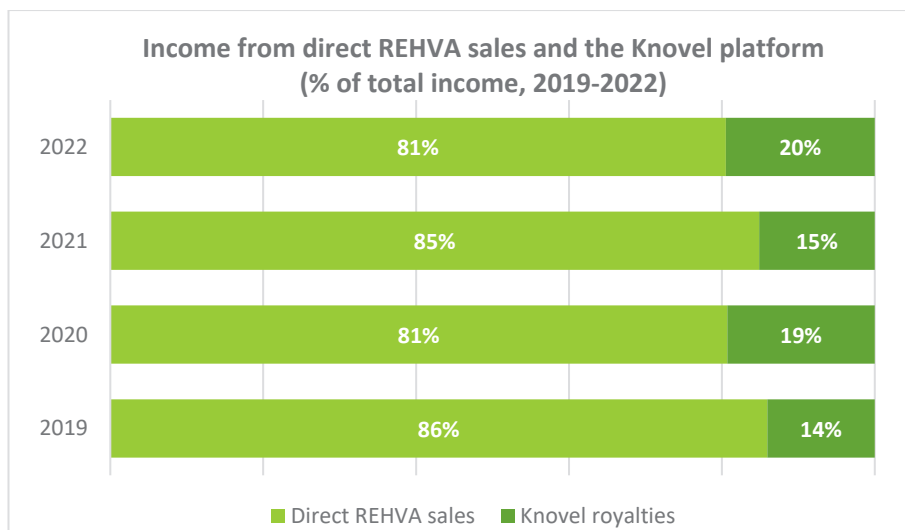


Figure 4. Share of guidebooks income via direct REHVA sales and the Knovel Elsevier platform.

REHVA European HVAC Journal

Published journals

The REHVA European HVAC Journal is a technical, practical journal for HVAC industry professionals published bi-monthly. It is read by designers, consultants, manufacturers, investors, mechanical contractors, sales and representative companies, architects energy sector's professionals, governmental institutions authorities, etc.

In 2022, REHVA published six issues. The average volume was about 100 pages per issue. This is, in average, 10 more pages than in 2021. All the issues with CLIMA 2022 papers ended up being a little bit bigger than the issues we usually publish.

REHVA Journal issues are available for free in [digital format](#) on the REHVA website. Individual technical papers are available online as HTML or downloadable in PDF format, the entire journal issue is also downloadable as a PDF document. The REHVA website is optimised for search engines, so the individual articles are easier to find online. Jarkko Narvanne, the Graphical Designer, provides the HTML and PDF versions. REHVA office uploads the technical papers of each issue on the REHVA website and promotes each new issue by sharing each technical paper on all REHVA social media (LinkedIn, Facebook and Twitter). REHVA Member Associations continued to receive 2 free copies of each issue of the REHVA Journal, while the REHVA Supporters receive 1 free copy. Beyond members, the printed journal is only available to paying subscribers for an annual fee of 60€. Following the update of the "Experts area" into the new Knowledge Hub service, [the subscription to the REHVA Journal](#) is no longer linked to the service and can only be purchased on its own.



Publishing information

The Journal was distributed at many events in 2022 as presented in the table below:

Issue	Theme	Events where the Journal was distributed
01-Feb	HVAC Technological innovation towards post-carbon society	
02-Apr	Performance of ventilation Zero-emission buildings in EPBD proposal Aiming at good IEQ in cold climate	400 copies at CLIMA 2022 Congress
03-Jun	Outcome of the CLIMA 2022 Congress Presidential Address	
04-Aug	EPBD in transition CLIMA 2022 Papers on Energy Eurovent Certification overview	200 copies to Chillventa 50 copies to the European Sustainable Energy Week 2022 15 copies to the REHVA Brussels Summit
05-Oct	CLIMA 2022 papers on Health & Comfort with focus on aerosol, IAQ and Comfort	40 copies to the REHVA Brussels Summit
06-Dec	CLIMA 2022 papers on Digitization REHVA Brussels Summit CO ₂ and PM sensors tested	

Readers of the REHVA Journal in 2022

In 2022, more than 3280 copies of the REHVA Journal were printed and distributed. On the REHVA website, the journal pages have reached more than 77 000 unique page views in total, a 31% increase in traffic compared to 2021 numbers. Considering the cumulative number of visits in all individual article and REHVA Journal pages, the journal became again the most viewed content on the REHVA website in 2022. This popularity is a result of the continuous posting and promotion of individual REHVA articles on all REHVA social media platforms, and that the COVID-19 pandemic is over, thus the guidance page that was most visited section in 2020-2021, lost its popularity.

The REHVA Journal had only 3 hardcopy individual subscribers through the REHVA e-Shop in 2022. Most of the distribution list of the REHVA Journal is composed of REHVA Member Associations and Supporters, some of them having larger quantities in their supporter packages.

The top 10 articles by views in 2022 are the following:

Article	Author	Issue	Pageviews
European heat pump market	Thomas Nowak	n°04/2021	4329
India's First District Cooling System at GIFT City	Gaurang Kumar Patel	n°01/2018	2194
CO ₂ monitoring and indoor air quality	Özgür Küçük Hüseyin	n°01/2021	2065
Filter Class Conversion between EN 779 and EN ISO 16890-1	Jiří Hemerka, Pavel Vybíral	n°01/2021	1960
Can HVAC Systems Spread the Coronavirus / COVID-19?	Cate Shaw	n°01/2021	1519
Ventilation rate and room size effects on infection risk of COVID-19	Jarek Kurnitski	n°05/2020	760
Green Air Conditioning- Using indoor living wall systems as a climate control method	Tatiana Armijos Moya, Andy van den Dobbelsteen, Marc Ottel��, Philomena M. Bluysen	n°03/2017	742
Heat Pump or CHP – which one is greener?	Faramarz Sadr	n°05/2014	711
How to improve energy efficiency of fans for air handling units	Nejc Brelih	n°02/2012	700
Thermal and acoustic comfort requirements in European standard and national regulations	Nejc Brelih	n°02/2012	698

The demographics of online readers was evaluated with the Google Analytics tool, which allows for better understanding and connection with our readers. Some key facts emerged from our analysis: readers are relatively young, 50% of them are between 18 and 34 years old, 71% are under 44 years old. Regarding the geographical coverage, 61% of online readers are from Europe, the rest are spread worldwide with notably 24% in Asia and 11% in Americas.

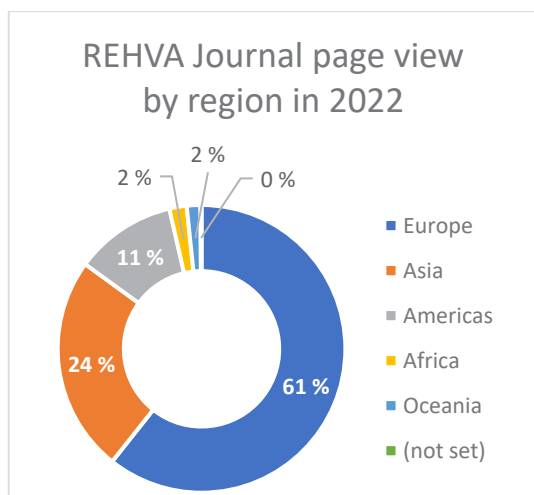


Figure 5. Geographical distribution of online REHVA Journal readers.

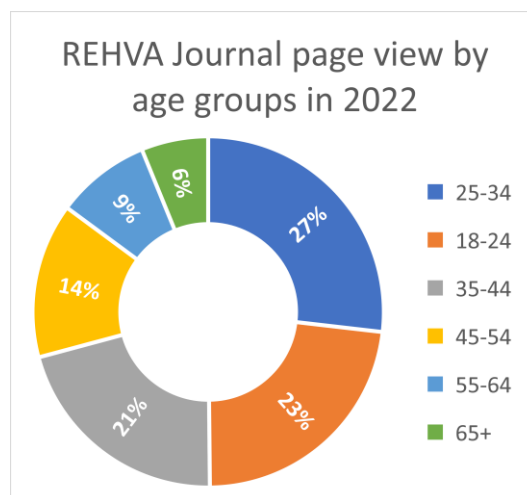


Figure 6. Age demographics of online REHVA Journal readers.

REHVA Journal Editorial Board 2022

- Murat Cakan, Turkey
- Guangyu Cao, Norway
- Tiberiu Catalina, Romania
- Francesca R. d'Ambrosio, Italy
- Ioan Silviu Dobosi, Romania
- Lada Hensen Centnerová, The Netherlands
- Karel Kabele, Czech Republic
- Risto Kosonen, Finland
- Jarek Kurnitski, Estonia
- Livio Mazzarella, Italy
- Dejan Mumovic, United Kingdom
- Ilinca Nastase, Romania
- Natasa Nord, Norway
- Dusan Petras, Slovakia
- Olli Seppänen, Finland
- Branislav Todorovic, Serbia
- Peter Wouters, Belgium

REHVA Journal, Editor-in-Chief

- Jaap Hogeling (since 1st January 2015)

REHVA Journal, Staff

- Jarkko Narvanne, Graphic Designer
- Marie Joannes, Editorial Assistant
- Nicoll Marucciová, Advertisements

REHVA Newsletter

Six bi-monthly electronic newsletters were published in 2022. This newsletter is distributed electronically to a list of 4338 subscribers. They are also [downloadable](#) from the REHVA website. This newsletter offers exclusive insights about major HVAC industry topics, policy coverage, EU projects news and worldwide HVAC events updates.

Supporters' bulletin

Six issues of the Supporters' Bulletin were published in 2022. The Supporters' Bulletin is a bi-monthly electronic newsletter exclusively for REHVA Supporter companies to provide useful knowledge and tailored information about EU policy trends, REHVA community updates and events.

EU policy Newsletter

The EU Policy Newsletter that was created in 2021 to cover the extensive amount of policy developments under the EU Green Deal and the Fit for 55 package contains news about ongoing policy issues, background studies, updates about REHVA advocacy activities, and a selected review of blogposts and policy information available in more detail on the REHVA website.

In 2022, 6 issues of the EU Policy Newsletter were published and are [downloadable](#) from the REHVA website.

REHVA Dictionary

The [REHVA Dictionary](#) is available in the REHVA website as a free service containing technical words and terms used in the building services. The REHVA Dictionary is an online translation service, which provides technical words and terms frequently used in building services. The REHVA Dictionary offers a unique tool for HVAC professionals that allows to search and translate a word or term simultaneously in 16 languages. The dictionary search lists all related expressions and word combinations of the searched term.

REHVA App

Since 2017, REHVA has transferred the popular online dictionary into a user-friendly App for tablets and smart phones, downloadable on App Store and Google Play. In 2022, there have been no major developments in the REHVA mobile app.



REHVA Website and Online Services

After the COVID-19 guidance related boom which doubled the number of visitors in 2020, we see a trend of continuous decrease over 2021 and 2022, while the total number remains still 17% higher than in the year before the pandemic.

Over 88% of the page views come from new website visitors, as seen in Figure 8. This shows that the website is reaching new audiences while keeping around 10-14% of loyal visitors across the years.

Figure 9 shows that in 2022, the REHVA Journal was the most popular page on the REHVA website with more than 27%. Second place is the homepage with 10%, and then the News page with almost 13%.

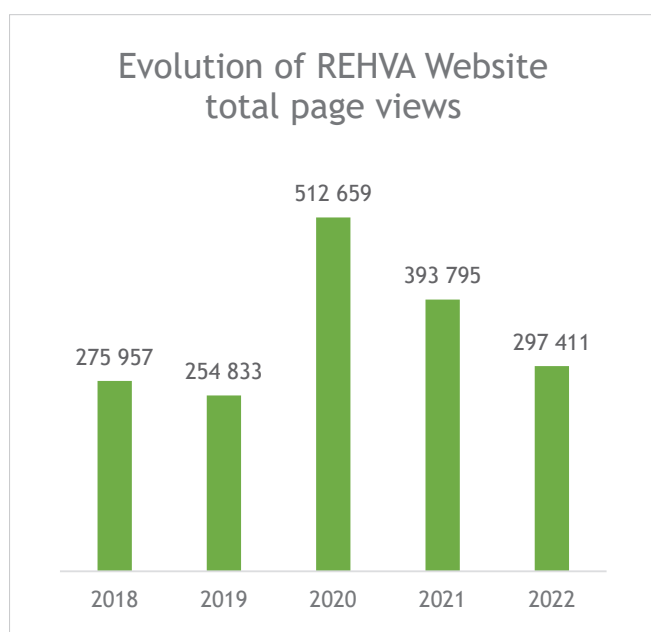


Figure 7. Evolution of REHVA website page views since 2018.

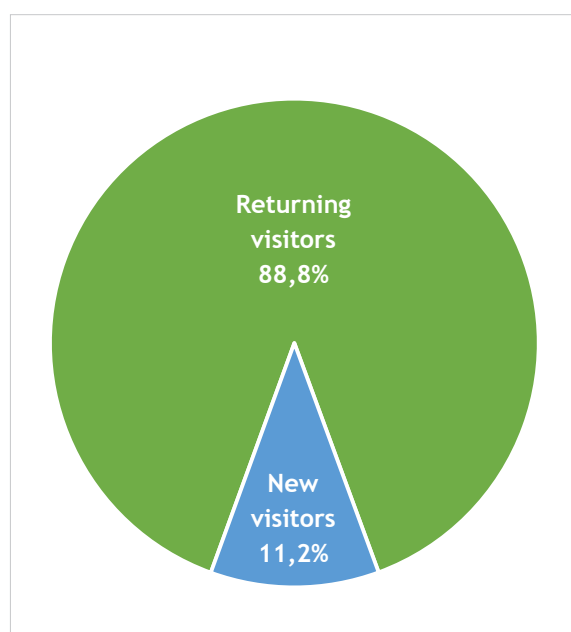


Figure 8. Shares of returning and new visitors on all website pages in 2022.

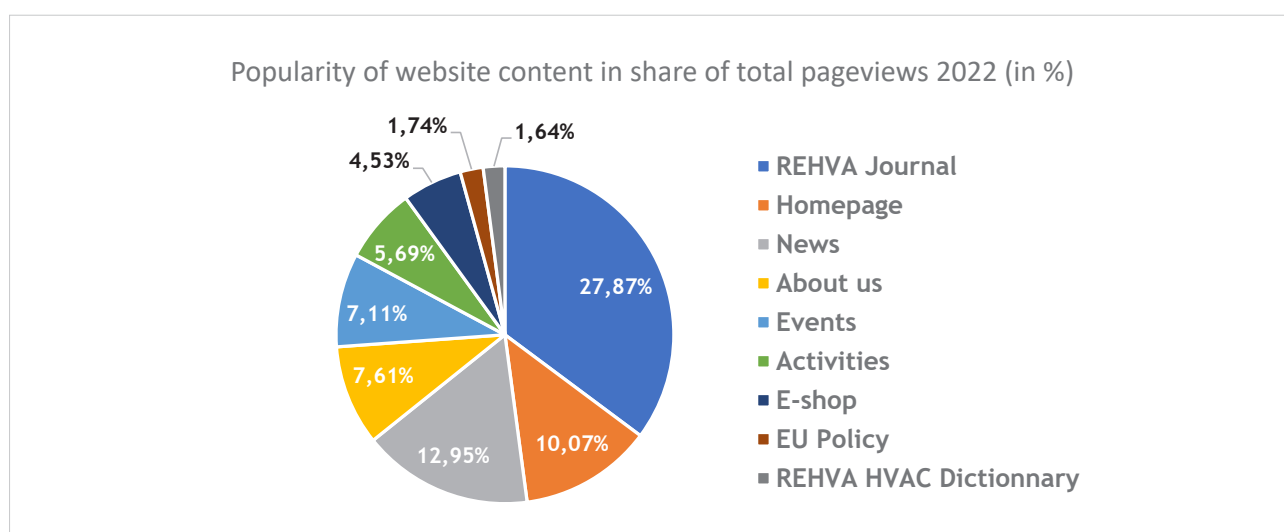


Figure 9. Most popular website pages in 2022.

Knowledge Hub

In 2019, REHVA created a new subscription based digital knowledge service called “Experts area” with the following main content items: REHVA guidebooks repository in an online e-format, policy issue tracking with updates and insider information on the EU policy issues covered by REHVA and some recorded courses and workshops from the previous CLIMA congresses. In 2021, the REHVA team invested extensive effort in further developing this section to the new “REHVA Knowledge Hub” that was launched in October 2021. Since then, REHVA staff constantly develops new content in this section. This digital platform offers subscribers independent, high quality, trustable information about building services and indoor climate. The subscribers get several benefits from the platform; access to all the REHVA e-Guidebooks, recorded courses and workshops in the REHVA Academy, regular EU policy tracking updates, a glossary of HVAC terms and definitions. The Knowledge Hub also has a featured topics part, which will be updated based on relevant topics of the moment. During 2022, the EU Policy Tracking has been updated with the overview of the EPBD recast with a briefing of the draft report by ITRE-rapporteur Ciaran Cuffe and the briefing on the package of proposals under REPowerEU presented by the Commission on 18 May. Also, the e-book version of Guidebook No. 32 has been added to the Knowledge Hub, so that the subscribers have access to all REHVA guidebooks.



Online learning management system

REHVA invested in 2020 in the development of a Moodle based online learning management system which was first used for the COVID-19 course, which has been live in 2020 and 2021.



The LMS infrastructure will be further used to develop other courses in the coming years based on guidebooks or other topics, relying on TRC experts and in cooperation with Supporter companies.

Social media

REHVA is active on the 3 main social media channels on a daily basis: Twitter, Facebook and LinkedIn. The REHVA Social Media accounts: LinkedIn REHVA Page, REHVA Energy Group, REHVA Community of Young Professionals, Facebook and Twitter have significantly increased the reach of the REHVA audience and knowledge dissemination.

In 2022, REHVA experienced growth across its social media channels, amassing a total of 1 213 new followers. This upward trend shows no signs of slowing down, especially on LinkedIn, as illustrated by Figure 10. REHVA also links the social media groups of its EU projects to the REHVA channels to generate synergies.

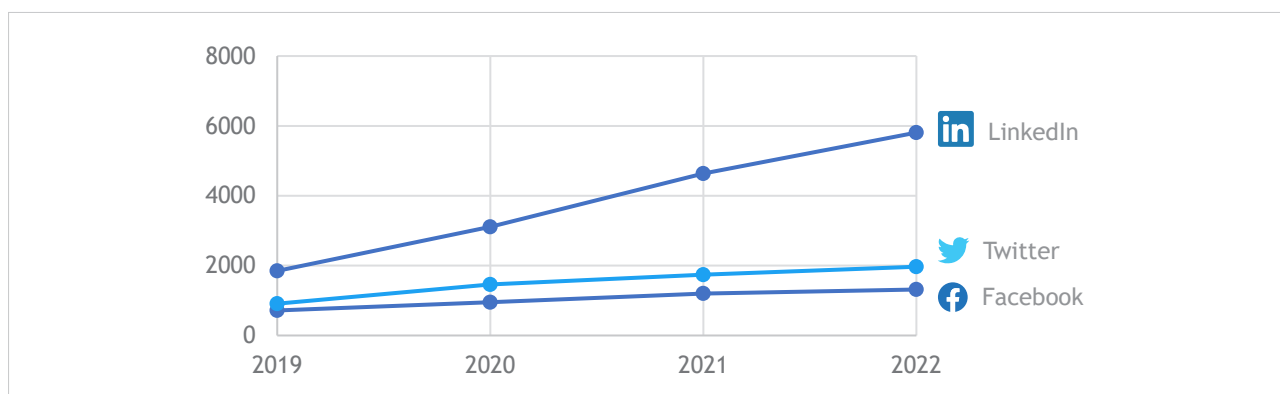


Figure 10. Increase of REHVA followers on social media from 2019 to 2022.

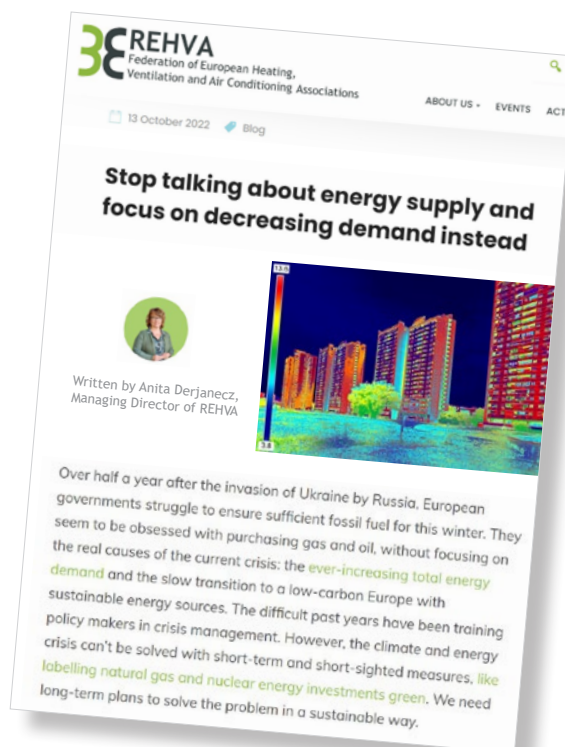
YouTube is used to share videos about REHVA activities and events, and it is available as a promotional channel also for our supporter companies.

In 2022, REHVA staff continued its effort to boost REHVA's presence on social media, based on a daily communication plan of new content to disseminate REHVA knowledge, information of our activities and community news, and to promote our knowledge services to our stakeholders. REHVA staff invested in tools and skills to produce graphic design, infographics, videos, and other digital content in house, which resulted in significant impact on all digital communication channels.

LinkedIn proved to be an effective focus point of the strategy to engage with stakeholders along with our website and newsletter.

The content calendar of the social media channels of REHVA includes the latest news, activities, and industry highlights, as well as promotion of publications, REHVA events and other events relevant to the industry, events, and news from REHVA Member Associations or REHVA Supporters.

Highlighted posts on social media are often related to REHVA activities and the year 2022 was no exception to this trend. In the top content for 2022, we can find the announcement of the election of the new board, as well as the announcement of new colleague and a blog post written by Anita Derjanecz "[Stop talking about energy supply and focus on decreasing demand instead](#)".



Regarding the LinkedIn users we are reaching, Industrial Machinery Manufacturing leads the way with 14% of people reached, followed by Construction with 8%, and Higher Education with 7%. The remaining industries represent between 3% and 6% of the people we reached on LinkedIn. These findings offer insights into the effectiveness of LinkedIn as a platform for reaching out to professionals in the HVAC and various industries.

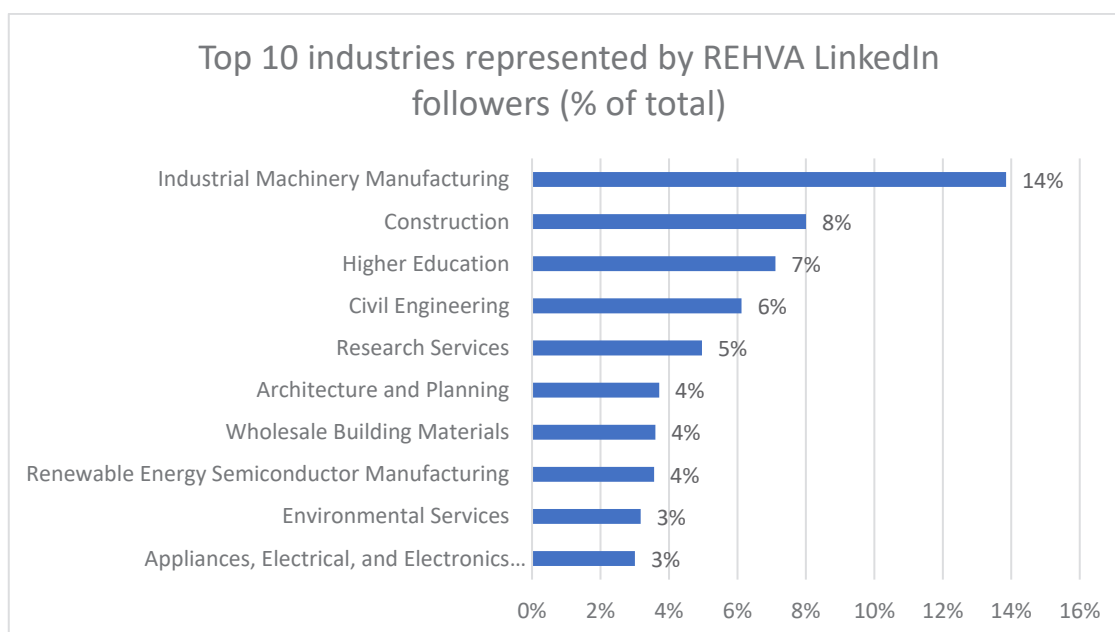


Figure 11. REHVA LinkedIn followers by industry.

EUROPEAN PUBLIC AFFAIRS AND GLOBAL COOPERATION

REHVA keeps liaison with the European Union Institutions: European Commission Services, such as DG Energy, DG GROW, DG Environment, DG Research and Innovation, the Joint Research Centre, the Commissions' Executive Agencies CINEA and INEA, the European Parliament's ITRE and ENVI Committees and the Council of the EU. REHVA is acknowledged by DG Energy and DG RDI as a European stakeholder organisation and regularly receives invitations to policy consultations and stakeholder meetings, as well as information about on-going policy making work. REHVA is registered in the EU Transparency Register and has access to the relevant Committee Meetings (ITRE, ENVI) of the European Parliament.

In 2022, REHVA focused especially on the "Fit for 55 package", the Renovation Wave and the revision of the EPBD, EED and REDII directives, and followed also the policy development on circular economy and Ecodesign for sustainable products. The details and technical support of our EU advocacy activities is already reported in the chapter "Technology and research activities" on page 26.

EU Policy events organised by REHVA

EPEE-REHVA high-level EU policy conference session at EUSEW 2022, Brussels

On 28 September 2022, EPEE, REHVA and AREA co-organised a high-level EU policy session at EUSEW 2022 with the title ***"Zero-emission buildings: how to achieve climate-neutral heating and cooling"*** in the context of the upcoming EPBD recast and the objective to transform the EU's building stock to zero-emission levels by 2050. The session discussed the various elements needed to successfully implement the ZEB concept from a heating and cooling angle, uniting the perspectives of the EU institutions with the HVAC designers, manufacturers, installers and building professionals representing the whole value chain of efficient and renewable HVAC technologies from design to operation and maintenance. Johann Zirngibl, REHVA Vice-President, was speaker at the session talking about challenges and recommendations on how to define ZEB performance levels relying on the existing EPB standards. EUSEW 2022 was a hybrid event, the recording of this session is available [online](#) at the EUSEW2022 event page.



REHVA Brussels Summit 2022


On 15 November 2022, REHVA organised its traditional Policy Conference during the Brussels Summit titled **“Zero Emission Buildings & REPowerEU. How to decarbonise heating and cooling?”** covering two interlinked topics in the upcoming EPBD review, featuring high-level speakers from the European Parliament, Commission, REHVA experts and industry representatives.

Zero Emission Buildings & REPowerEU

How to decarbonise heating and cooling?




MEP Cristian Buşoi, Chair of the Industry, Research & Energy Committee (ITRE) opened the morning session **“Healthy Zero Emission Buildings with the EPBD”** with a keynote on priority areas for the ongoing negotiations within ITRE on the EPBD, followed by Paula Rey Garcia, from DG ENER who gave an overview of the Commission’s proposal and the IAQ and indoor climate related aspects. TRC Chair, Jarek Kurnitski, presented the technical implementation of IEQ and primary energy aspects in zero emission buildings (ZEB) within the EPBD recast, followed by Benjamin Haas, Regulatory Affairs Director at Engie, who gave some insights in the French example of regulation sustainable buildings and life cycle carbon assessment. Ursula Hartenberger, Secretary General of the Climate Positive Europe Alliance, closed the morning session talking about the role of green building certification.




Zero Emission Buildings & REPowerEU – How to decarbonise heating and cooling

POLICY CONFERENCE
15 NOVEMBER 22


FIRST SESSION:
ACHIEVING HEALTHY ZERO EMISSION BUILDINGS WITH THE EPBD




CRISTIAN-SILVIU BUŞOI
MEP (EPP), ITRE Chair




PAULA REY-GARCIA
Deputy Head of Unit, DG Energy, Unit B2, Buildings and Products



JAREK KURTNITSKI
REHVA TRC Chair, TalTech




BENJAMIN HAAS
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Secretary General, Climate Positive Europe Alliance


SECOND SESSION:
REPOWEREU AND BUILDING DECARBONISATION – THE PATH BETWEEN DREAMS AND REALITY



ANDREW MURPHY
Head of Buildings & Industry, ECOS




PHILIPPE RIVIERE
Policy Officer, DG ENERGY, European Commission




TOMASZ CHOLEWA
PZITS, REHVA Building decarbonisation Task Force Chair


Followed by an expert panel discussion moderated by REHVA managing director Anita Derjanecz




HENK KRANENBERG
DAIKIN




ILARI AHO
UPONOR/EHI/WGBC




TOMASZ CHOLEWA
PZITS



CELINE CARRE
EURO ACE



PHILIPPE RIVIERE
DG ENERGY



CHRISTIAN SCHAUER
VIEGA

The afternoon session focused on different aspects of building and HVAC system decarbonisation. Andrew Murphy, Head of Buildings & Industry at ECOS provided some insights in the environmental aspects and standards of sustainable buildings. Philippe Riviere, Policy Officer of the Buildings & Products unit of DG ENER gave an overview about the role of Ecodesign & energy labelling for HVAC products in decarbonisation. Tomasz Cholewa, chair of the REHVA Task Force on Building Decarbonisation presented the REHVA guidance on deep energy renovation as means of decarbonisation. The session was closed by a panel discussion on the feasibility and readiness to ban fossil fuels in heating and cooling. The panel was formed by Philippe Riviere, Tomasz Cholewa, Celine Carré (President, EuroACE), Ilari Aho (VP Sustainability & Regulatory Affairs, Uponor), Henk Kranenberg (Senior Manager, Daikin Europe), Christian Schauer (Director Water Competence Centre, Viega).



Co-operation with EU-level professional organisations

REHVA cooperates with several Brussels-based EU-level professional and industry associations involved in the field of HVAC, building performance as well as health and indoor environmental quality. The level and scope of cooperation varies between the different organisations. With some, REHVA has MoUs, while with others the cooperation is less formal and includes the exchange of technical and policy related information, inviting each other as speaker at own events, coordinating select advocacy actions targeting the EU energy and climate policies and regulations.

A non-exhaustive list of these organisations are: Eurovent Association, EVIA, EPEE, EHPA, ECI, eu.bac, EHI, EFA, EuroACE, FEANI, GCPEurope.

Eurovent Association: REHVA signed a Memorandum of Understanding (MoU) with Eurovent Association on 28 May 2015 that serves as basis of co-operation. Eurovent expert Igor Sikonczyk is member of the TRC and the REHVA COVID-19 Task Force. REHVA and Eurovent Association experts cooperated in various ways in 2022.

EPB Center: REHVA and ISSO have created the EPB to support the uptake of EPB standards. The aim of the EPB Center is to disseminate, promote, and provide guidance on the application of EPB standards. In 2019, REHVA became 50% shareholder. Since June 2022, the new REHVA Board members, Cătălin Lungu and Johann Zirngibl, are appointed as REHVA representatives in EPB Center's structure i.e. Cătălin representing REHVA as Shareholder with voting right in the General Meetings, Johann acting as Board Director on behalf of REHVA. They attended the General meetings and the Board of Directors meetings to oversee the financial situation and activities planned. In Autumn 2022, REHVA Board agreed to give a 20K shareholder loan to EPB Center to help overcome cash-flow problems of the company (related to the extension of U-CERT project). Andrei Lițiu is part-time Executive Director of the EPB Center, since June 2021, working on landing consultancy contracts with the private sector (for example with the European Copper Institute on Waste Water Heat Recovery), LIFE and Horizon Europe programme projects, European Commission tenders supporting the roll-out and implementation of EPB standards, Member State level tenders on EPB calculation methodology, the CEN-CE scheme roll-out in collaboration with REHVA Member Associations and additional income sources.

European Construction Technology Platform (ECTP): REHVA is member of the European Construction Technology Platform since 2013. ECTP is involved in the planning of the related Horizon Europe call topics and programming documents. REHVA attended the General Assembly and committee meetings organised by ECTP in 2022 to get information about the upcoming research topics in the field and maintain contact with potential partners for EU project proposals. The platform also became a key partner in the Built4People PPP initiative (B4P) launched by the European Commission in 2020. Since 2021, Anita Derjanecz, REHVA Managing Director is member of the Built4People Partnership Board.



European Federation of Engineers (FEANI): In 2019, REHVA started a cooperation with FEANI, a federation that joins engineering associations from 32 countries, representing 6 million engineers. REHVA joined the Engineers Europe Advisory Group signing a Lol along with 26 other signatories. In 2022, REHVA submitted as partner a successful joint proposal to create an Erasmus+ Knowledge Alliance called Engineers for Europe, coordinated by FEANI (see details in the chapter “European projects and tenders” on page 30).



Co-operation with global MoU partners

REHVA cooperates with sister associations beyond Europe to facilitate knowledge exchange at a global scale, and to spread European engineering knowledge, HVAC technologies and standards in the world. REHVA has global partners in China, India, Japan, Korea, North and South America. CLIMA 2022 was an opportunity for some to come to Rotterdam to meet and renew MoUs.

American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE): REHVA renewed its MoU with the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE), via an electronic document signed by both parties in May 2021. They met physically at CLIMA 2022 to discuss about future cooperations and activities.



Indian Society of Heating, Refrigerating and Air Conditioning Engineers (ISHRAE): REHVA and ISHRAE met physically at CLIMA 2022. The renewal of the existing MoU was signed in presence of Vishal Kapur and our past President, Frank Hovorka, the President, Catalin Lungu and the Vice-President Johann Zirngibl.



China Innovation Alliance for Heating, Ventilation and Air-conditioning (CAHVAC): REHVA renewed its MoU agreement with the China Innovation Alliance for Heating, Ventilation and Air-conditioning (CAHVAC) during an online meeting on 17 September 2021.



Federation of Ibero-American Associations in Air-conditioning and refrigeration (FAIAR): REHVA renewed its MoU agreement with the Federation of Ibero-American Associations in Air-conditioning and refrigeration (FAIAR) on 6 May 2022 in Lisbon during the CIAR congress. The President Frank Hovorka met on this occasion Odete de Almeida, the President of FAIAR.



From left: Arnaldo Basille (ABRAVA), Frank Hovorka (REHVA President), Odete Almeida (FAIAR President), Claudia Sánchez (ACAIRE) and Rafael Vásquez (ATECYR)

Indoor Environmental Quality - Global Alliance (IEQ-GA): IEQ-GA is an international association (AISBL) founded in 2019 and registered by REHVA in Brussels under the same address than the REHVA office. The aim of the IEQ-GA is to enable further development of the organisation in a formalised way. IEQ-GA has six founding full members (AIHA, AiCARR, AIVC, ASHRAE, IAQA, ISHRAE and REHVA). The founding members of the association represent professionals from various disciplines linked to indoor environment.



The current membership includes 11 full members and 2 affiliate members across the world. They are committed to working together and promoting education, research and knowledge exchange at a global scale, developing standards, codes, guidelines, as well as advocating the well-being of the general public in indoor environments globally.

IEQ-GA continued to exchange views and information within the COVID-19 created during the pandemic. The group held meetings every 2 months, shifting its focus on the lessons learned from the COVID-19 pandemic. The IEQ-GA Task Force on COVID-19 had five on-line meetings during 2022, experts from around the globe participated to exchange information regarding the findings and positioning of the IEQ-GA member organisations. IEQ-GA also nominated experts to the WHO Environment and Engineering Control Expert Advisory Panel (ECAP) for COVID-19.

REHVA continued to work as the secretariat of the association and taking care of the daily management of IEQ-GA. Frank Hovorka was a member of the IEQ-GA Board until May 2022, while Catalin Lungu succeeded him as the new representative. Jaap Hogeling is still serving the board as Treasurer.

Climate Positive Europe Alliance (CPEA): The Climate Positive Europe Alliance (CPEA) is an AISBL registered in Brussels, under the address of REHVA office. REHVA is a founding member along the German Sustainable Building Council DGNB, the Austrian Sustainable Building Council ÖGNI, Green Building Council España GBCe. The mission of CPEA is to collaboratively accelerate market transformation towards more sustainable market practices by facilitating cross-sectoral dialogue and providing sectoral insights and tangible solutions for the most pressing challenges faced by the construction and real estate stakeholder community. REHVA has been represented in CPEA by Frank Hovorka, his mandate was extended by the current REHVA in June 2022. REHVA hosted the CPEA General Assembly on 8 June 2022 in the MAI building, Frank Hovorka and Anita Derjanecz represented REHVA in the meeting. Ursula Hartenberger, Secretary General of CPEA was invited as speaker at the 2022 Brussels Summit Policy Conference.



International Institute of Refrigeration (IIR): REHVA has renewed its MoU with the International Institute of Refrigeration (IIR) during a physical meeting at CLIMA 2022 in Rotterdam in presence of the President, Catalin Lungu, Livio Mazzarella, Vice-President and Didier Coulomb, General Director of IIR.



Society of Heating, Air Conditioning and Sanitary Engineers of Japan (SHASE): REHVA has renewed its MoU with the Society of Heating, Air-Conditioning and Sanitary Engineers of Japan (SHASE) via an electronic document signed by both parties. The planned physical ceremony was finally cancelled. Instead, the chairman of SHASE, Dr Takashi Kurabuchi sent us a small [video](#).



Society of Air-conditioning and Refrigerating Engineers of Korea (SAREK): REHVA has renewed its MoU with the Society of Air-conditioning and Refrigerating Engineers of Korea (SAREK) during a physical meeting at CLIMA 2022 in Rotterdam in presence of Prof. Jinchul Park, former president of SAREK 2020, Frank Hovorka, past President and Catalin Lungu, President.



REHVA has also MoUs with the following associations

- [ABRAVA](#), Brazilian Association of Refrigeration, Air Conditioning and Heating
- [AIVC](#), Air Infiltration and Ventilation Centre of International Energy Agency
- [IBPSA](#), International Building Performance Simulation Association
- [Venticool](#), The international platform for ventilative cooling



TECHNOLOGY AND RESEARCH ACTIVITIES

The Technology and Research Committee (TRC) oversees activities related to the exchange of technical information, knowledge transfer and disseminating the latest technology developments, constituting the most important action field of REHVA.

REHVA Office published an updated version of its [task force guidelines](#) together with a template for drafting the work plans of new task forces. The updated guidelines and the template aim to assist task force chairs to structure their work plans in harmonised way and provide useful information regarding the marketing and promotion details, necessary for the evaluation by the PMC.

Development and dissemination of technical information: task forces, guidebooks, and reports

Activities of the COVID-19 Task Force in 2022

During 2022, the COVID-19 Task Force shifted its focus on developing design guides and disseminate knowledge using the lessons learned regarding engineering measures to control the spread of airborne pathogens and infectious diseases indoors. The topic was also high on the agenda of the CLIMA 2022 HVAC World Congress, where the Task Force experts organised workshops and presented papers on the subject.

Workshop at CLIMA 2022

The COVID Task Force organised a workshop and contributed to interactive sessions at the CLIMA 2022 Word Congress. The workshop **COVID-19 implications on ventilation criteria and design** discussed how new evidence on aerosol transmission should affect ventilation design methods/criteria and proposed directions how to input these to the revision of the EN 16798-1 standard. Speakers were Bjarne W. Olesen, who introduced the EN 16798-1 revision process; Pawel Wargocki presenting quantitative evidence on IAQ and ventilation criteria that are relevant for building design; Amar Aganovic talking about the effect of relative humidity on the spread of COVID-19 and other respiratory viruses, and Jarek Kurnitski who outlined a proposal for infection risk-based ventilation design method. The session facilitated the dialogue between researchers, HVAC professionals, consultants, manufacturers, building and occupational health authorities to find a path forward to solve a paradigm change in ventilation design.

Post-COVID ventilation design guide

Following-up the discussions of the CLIMA workshop, and based on the excellent work of the Nordic Ventilation Group, the COVID-19 TF developed a [“post-COVID” guide](#) on Health-based target ventilation rates and design method for reducing exposure to airborne respiratory infectious diseases, which was published on 12 December 2022. The infection risk-based ventilation design method proposed in this document provides new target ventilation rates and is intended to complement existing ventilation design methods in non-residential buildings, excluding healthcare and industrial buildings. It is proposed that



the target ventilation rates be applied in the design of new buildings and renovations so that the highest of health and comfort-based ventilation rates is used as the design capacity of the ventilation system.

Task Force activities and guidebooks

In 2022, the TRC coordinated the work of several Task Forces and published one new [guidebook No. 32](#) on Energy Efficient Renovation of Existing Buildings for HVAC professionals that was launched at CLIMA 2022 where the Task Force presented the guidebook also at a workshop.

REHVA had 7 active Task Forces:

- REHVA COVID-19 response Task Force, chaired by Prof. Jarek Kurnitski
- Energy efficient renovation of buildings for HVAC professionals, chaired by Tomasz Cholewa
- Targeted Ventilation for Occupied Spaces (TVOS), chaired by Arsen Melikov
- Personalized Systems, chaired by Mariya Petrova Bivolarova and Ogun Berk Kazanci
- REHVA IEQ requirements - input for revising EN 16798-1, chaired by Jaap Hogeling
- Evaporative cooling, chaired by Livio Mazzarella

REHVA launched a new Task Force on Building decarbonisation, chaired by Tomasz Cholewa.

CLIMA 2022 workshop on Advanced airflow distribution methods for reducing exposure to indoor pollution and cross infection

The Task Force Targeted Ventilation for Occupied Spaces and SCANVAC organised a joint workshop at CLIMA 2022, introducing the planned REHVA Guidebook on Occupant Targeted Ventilation. The goal was to inform the community, discuss the work performed on the guidebook and collect suggestions for improving the upcoming guidebook.

REHVA expresses its deepest gratitude to all the volunteers from its Member Associations and Supporter Companies for their indispensable contribution and support.

EU policy monitoring, position papers and policy implementation

REHVA follows European policy developments linked to building performance, indoor environmental quality, energy efficiency and the sustainable build environment at large. In 2021, we closely monitored the Fit for 55-package under the Green Deal with a special focus on the EPBD recast, besides the revisions of the EED & REDII. REHVA staff publishes regular updates on EU policy developments, overview articles in the REHVA Journal and posts new updates on its website, social media, e-Newsletter and Supporters' Bulletin. This activity is supported by the TRC that coordinates the development of position papers and technical comments supporting evidence based European policy development.

In 2022, REHVA monitored various policy issues under the Green Deal and the implementation of the Renovation Wave strategy:

- 1) The Fit for 55-package:
 - a) EPBD recast
 - b) REDII and EED revisions
 - c) EU ETS extension to the building sector

2) REPowerEU

3) EPBD implementation:

- a) Promotion and dissemination of the new EPB standards
- b) Smart Readiness Indicator
- c) Renovation passport and building digital logbook

4) Eco-design and Energy labelling updates (EPREL implementation)

5) Circular Economy and Level(s), Construction Product Regulation, F-gas regulation

6) Built4People Partnership

REHVA and the TRC experts spent efforts on commenting the EPBD revision under the Fit-for-55 package. In addition, REHVA continued to follow the Smart Readiness Indicator and promote the harmonised application of EPB standards at national level in cooperation with the EPB Center.

REHVA Office updated the EU policy tracking section in the revamped REHVA Knowledge Hub, providing exclusive policy briefings and intelligence services to our members and subscribers. The issue tracking provides expert briefings, a well-structured coverage of technical meetings with insider information, as well as REHVA internal documents about specific advocacy actions linked to the current revisions of the EPBD, REDII and EED, the EU Green Deal, Renovation wave and “Fit for 55 package” an information on technical studies relevant to the HVAC sector.

EPBD Recast

The EC opened a new EPBD revision process in 2021 to strengthen the framework for the Renovation wave energy renovation rate of buildings by 2030 and shift towards building decarbonisation. The Commission published the proposal of the EPBD recast on 15 December 2021. In 2022, REHVA followed and contributed to the review process, collecting inputs from REHVA members.

- REHVA collected the opinion of TRC experts and Member Associations to draft a feedback on the EPBD recast proposal of the European Commission and submitted the [REHVA feedback & amendments](#) on March 2022.
- Based on these comments, REHVA also drafted a position document targeting the European Parliament's ITRE Committee that was working on its own amendments. In July 2022, the [REHVA position document targeting ITRE](#) amendments was published and shared with the ITRE chair and the rapporteurs of the EPBD file.

Smart Readiness Indicator

REHVA continued to follow, actively contribute and influence the overall SRI happenings at EU level via the [SRI platform](#) set up by the European Commission services and managed by the DG ENER contracted SRI support team. The main aim of the SRI platform is to provide support to the EU's Member States interested to opt in for an official SRI testing phase (according to the current EPBD the SRI scheme is voluntary) while also doing the same for the wider smart building technology stakeholder community. Andrei Lițiu represents REHVA in the role of co-chair of the SRI platform [Working Group 3 \(Working Group 3 - SRI value proposition and supporting measures\)](#) and participated during 2022 in all the SRI plenary meetings, the relevant Working Group meetings and all the related events to raise awareness on the smartness of buildings in general and specifically SRI as an enabling and facilitating policy instrument while provide the practical and technology neutral perspective of building professionals. Furthermore, as of late Autumn 2022, [REHVA is partner in 2 of the 4 SRI projects funded by the European Commission under the LIFE programme and managed by CINEA](#).

REHVA has supported (and shall continue) the clustering activities of the LIFE SRI projects closely followed by CINEA and DG ENER to be sure that reinventing the wheel is avoided and that the projects go farther together as opposed to fast alone. During the course of 2023, REHVA will engage in more depth and in a meaningful way the REHVA experts, especially the members of the Technology and Research Committee.

REPowerEU

Few weeks after Russia's invasion of Ukraine, the Commission presented the [REPowerEU Communication](#) defining measures to gradually remove 155 bcm of fossil gas use in Europe, the equivalent of the volume imported from Russia in 2021. By May, the Commission developed with member states the [REPowerEU Plan](#), defining a range of actions impacting the revision of all directives within the Fit-for-55 package. REHVA reported about REPowerEU in its Knowledge Hub Policy Tracking section, on its website and EU policy blog. REPowerEU was also on the agenda of the Brussels Summit Policy Conference.

Construction Product Regulation and Ecodesign for sustainable products

On 30 March 2022, the European Commission published its proposal for a revision of the [Construction Products Regulation \(CPR\)](#) in line with the Circular Economy Action Plan. The revision aims to address the sustainability performances of the products and make them fit for the digital transformation of the construction sector.

Along the CPR revision, the Commission also tabled a proposal for a new [Ecodesign for Sustainable Products Regulation](#) as part of its Sustainable Products Initiative. The proposal establishes a framework to set ecodesign requirements for specific product groups to significantly improve their circularity, energy performance and other environmental sustainability aspects.

REHVA informed about both policy developments on its website, EU policy Newsletters and in the EU Policy Tracking section of the REHVA Knowledge Hub and organised on 14 November 2022 a REHVA Expert Talk with a presentation by the European Commission discussing with expert from the supporter companies and the REHVA network the CPR revision and how it links with the Ecodesign for Sustainable Products Regulation with REHVA supporters and the European Commission.

Circular Economy & Level(s)

REHVA is part of the Level(s) stakeholder community and has participated in two workshops in 2022 organised by DG ENV and Ecorys together with other EU associations, think tanks and Green Building Councils about what tools could be developed to make Level(s) more accessible for building professionals and how the different organisations could help to share information about Level(s). As a result of this, Josefina Lindblom, Senior Policy Officer at DG ENV, has written multiple articles for the [REHVA Journal](#) on how building services engineers can use the Level(s) framework and what tools are available for them to learn more about it.

European projects and tenders

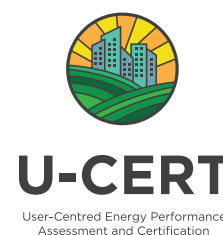
REHVA joins European projects aiming at the development and market deployment of innovative technologies, as well as capacity development and training of professionals related to buildings energy efficiency and indoor environment quality.

In 2022, REHVA was involved in 11 projects under different funding instruments (H2020, HEurope, Life, Erasmus+) that are described below. REHVA has significantly increased the number of projects managed compared to 2021 and the project portfolio is now diverse and heterogeneous in terms of topics covered. REHVA continuously informs about the latest updates and news on these activities in the Newsletter and on the EU project sections of the REHVA website.

U-CERT project (Towards a new generation of user-centred Energy Performance Assessment and Certification), 2019-2022

U-CERT aims to introduce a next generation of user-centred Energy Performance Assessment and Certification Scheme to value buildings in a holistic and cost-effective manner. U-CERT has a focus on strengthening actual implementation of the EPBD by providing and applying insights from a user perspective and creating a level playing field for sharing implementation experience to all involved stakeholders, facilitated and empowered by the EPB Center. U-CERT activities are implemented with the direct (AiCARR, AIIR, ATECYR) and indirect (AICVF, DANVAK, EKVU, ETE/MMK, SITHOK, SWEDVAC, TVVL) involvement of REHVA Member Associations.

Project's highlights 2022: U-CERT team, under the leadership of REHVA, organised many events at both EU level (e.g. CLIMA 2022 workshop) and national events (e.g. U-CERT EPB Center roadshow, U-CERT roadshow, U-CERT workshops) in several countries (Denmark, Estonia, France, Hungary, Romania, Slovenia) involving directly whenever possible the REHVA Member Associations even if they we're not directly project partners. Additionally, 4 U-CERT workshops were either organised or planned during Autumn 2022 in countries not covered by the U-CERT project partners (i.e. Latvia, Moldova, Poland, Portugal) in direct collaboration with the REHVA Member Associations or associated universities. Lastly, REHVA has further facilitated the clustering activities of the Next Gen EPC cluster (comprising to date in 13 Horizon 2020 & Horizon Europe projects) which has agreed late 2022 that EPB Center shall be the coordinator of the cluster of projects with an emphasis on exploitation activities and basically acting as the EU umbrella organization supporting the meaningful evolution of the Energy Performance Certification schemes at EU and national levels intertwined with the related EPBD policy instruments exploring synergies with the activities of the REHVA Members Associations. Website: <https://u-certproject.eu/>



TRI-HP (Trigeneration systems based on heat pumps with natural refrigerants and multiple renewable sources), 2019-2023

TRI-HP project aims to develop and validate flexible energy-efficient and affordable trigeneration systems, based on electrically driven natural refrigerant (propane and carbon dioxide) heat pumps coupled with renewable electricity generators (PV), using cold (ice slurry), warm and electricity storages to provide heating, cooling and electricity to multi-family residential buildings with a renewable share of 80%.



In particular, the project has developed three highly-efficient and cost-effective heat pumps based on natural refrigerants (propane and CO₂) for multi-family buildings, an efficient solar-ice slurry system for intermediate storage and an advanced energy management control for optimal efficiency for heating systems.

Project's highlights 2022: in TRI-HP project, REHVA as a leader of dissemination and communication activities, organised a workshop during CLIMA 2022 in Rotterdam. The main purpose of the workshop was to facilitate the dialogue between TRI-HP technology developers on one side and HVAC designer experts who acted as the Jury on the other, to discuss the most prominent barriers and identify country-specific but also EU-wide innovation diffusion pathways, toward full market deployment of innovative, renewable heating and cooling applications. TRI-HP published an [animation video](#) in December, explaining the innovations that the project has managed to bring to heat pumps combined with intermediate storage and an advanced energy management system for optimal efficiency.

Website: <https://www.tri-hp.eu/>

QUEST project (Quality Management Investments for Energy Efficiency), 2019-2022

QUEST promotes investments in sustainability and energy efficiency by identifying and empirically risk-grading factors that influence energy performance of buildings. QUEST has developed a toolkit to evaluate the financial added value of different quality management services to support their integration in building projects and de-risk green investments. REHVA co-organised an EU-wide webinar in March 2021 on ***"Taxonomy-Compliant Methodologies for De-risking Investments in Buildings"*** to discuss the impact of the EU Taxonomy on building projects and how the QUEST toolbox can help investors with this.

Project's highlights 2022: A highlight of the project was the publication of [QUEST Technical Manual: De-Risking Green Investments in Building Projects](#) in March 2022 that was published and co-authored by REHVA. This publication was combined with a [BUILD UP webinar](#) to introduce the manual in that same month. The project ended with its [final event](#) that took place at the CLIMA 2022 Congress in May where all project results were highlighted and embedded in the wider discussion of the EU Taxonomy.

Website: <https://project-quest.eu/>

QUEST-Tool: <http://quest-tool.synavision.de/>



BIM-SPEED project (Harmonised building Information speedway for Energy-Efficient Renovation), 2018-2022

BIM-SPEED aims to facilitate the EU-wide adoption of BIM in renovation by developing an open, affordable and reliable cloud-based BIM platform with a set of BIM tools and interoperability solutions integrates in a BIM platform with validated and standardised procedures for BIM-based activities throughout the whole renovation process. These solutions are tested and demonstrated in real cases.

REHVA's role was to organise the ***EU BIM for Building Renovation Competition*** which aimed to get teams together consisting of architects and engineers to present a building renovation project that applies one of the Building Information Model



(BIM) tools and methods developed by the BIM-SPEED partners, on their own or in conjunction with other tools available on the market.

Project's highlights 2022: Both the project and competition came to a close in October 2022. The competition managed to get participants from across the world to work within the BIM-SPEED eco-system and use the tools made available through the platform for their own real-life projects. The winners were honoured during the BIM-SPEED final event at Sustainable Places in Nice (France) in September 2022. The winners and finalists were interviewed for the REHVA Journal issue in October 2022.

Website: <https://www.bim-speed.eu/en>

EPC RECAST project (Energy Performance Certificate Recast: New toolbox to assess building energy performance and retrofit needs) 2020-2023

EPC RECAST develops a process and toolbox supporting the development, implementation and validation of a new generation of Energy Performance Assessment and Certification, with focus on residential buildings undergoing energy renovation. It aims at enhancing EPCs usability, reliability, and comparability at linking them to renovation roadmaps and building digital notebooks.

As the responsible partner for the project's communication and dissemination activities, REHVA has coordinated the creation of the project's visual identity and website in 2021. Two newsletters were also published and shared, in June and December, providing a clear overview to the target audiences about the project activities and progress.

Project's highlights 2022: Building further on the work of 2021, REHVA has continued to facilitate coordination of the NextGen EPC Cluster, a cluster of 13 EPC projects, with a highlight in December when a session was organised with CINEA and DG ENER to discuss the EPBD between the European Commission and the EPC projects. REHVA organised workshop on measured building performance and operational rating at Sustainable Places in Nice (France) in September 2022, which included our projects U-CERT, EPC RECAST and MODERATE.

Website: <http://epc-recast.eu/>

InCUBE project (sustainable building innovations) 2022-2026

InCUBE envisions to unlock the EU renovation wave through cutting-edge standardised and integrated processes based on industrialisation, innovative renewable energy technologies, digitalisation, and new market entrants. All while accounting for social inclusion, upskilling, and enhancement of women's role in the construction industry. The InCUBE solutions will be demonstrated in 3 large-scale demo sites: Zaragoza (ES), Trento (IT) and Groningen (NL).

REHVA is contributing in the transformation of Deep Renovation of InCUBE Demonstration, Evaluation and Impact Assessment as well as in liaising with other projects, initiatives and partnerships, build a communication bridge with its sister project and organise workshops.

Website: <https://incubeproject.eu/>



MODERATE project (Marketable Open Data Solutions for Optimized Building-Related Energy Services) - 2022-2026

MODERATE aims to connect data providers with other building stakeholders by improving interoperability between datasets, by making use of data from different providers and aims to develop services based on data analytics that can transform raw data into knowledge for end-users.

REHVA oversees communication and dissemination. The objectives are to communicate about progress and results from the project to the relevant target groups to engage and activate them to make full use of the potential that the MODERATE platform can offer them.

Project's highlights 2022: REHVA established a common project's visual identity, created the main communication channels such as the project website and social media channels and coordinated the overall reporting structure for communication & dissemination activities. REHVA organised workshop on measured building performance and operational rating at Sustainable Places in Nice (France) in September 2022, which included our projects U-CERT, EPC RECAST and MODERATE. Website: <https://moderate-project.eu/>



SmartLiving EPC (Advanced Energy Performance Assessment towards Smart Living in Building and District Level) - 2022-2025

SmartLivingEPC project aims to deliver a certificate which will be issued with the use of digitized tools and retrieve the necessary assessment information for the building shell and building systems from BIM literacy, including enriched energy and sustainability related information for the as designed and the actual performance of the building. The new certification scheme will also expand its scope, covering aspects related to water consumption, as well as noise pollution and acoustics.

REHVA is leading the communication and dissemination part of the project as well as the SRI analysis and integration to SmartLivingEPC. **Project's highlights 2022:** REHVA has organised the first NDA Workshop to explore synergies and join forces with other EU projects for successful implementation maximizing the impact at cluster level.

Website: <https://www.smartlivingepc.eu/en/>



E4E (Engineers for Europe)- 2022-2025

The objective of E4E is to prepare better equipped engineers through the acquisition of new competences, covering new knowledge, attitudes and leadership skills while focusing on digital, green, resilient and innovative entrepreneurship. E4E will bridge the gap between education and industry, while operationalising EU competence frameworks (DigComp, LifeComp, EntreComp) for engineers.

Project's highlights 2022: the Engineers for Europe (E4E) project was presented at the REHVA Education and Training Committee (ETC) meeting on 14 November 2022 to inform members about the project's objectives and core activities, and explore possibilities to involve ETC members as advisers in the project.

Website: <https://engineers4europe.eu/>



Smart²-(Smart Tools for Smart Buildings: Enhancing the intelligence of buildings in Europe) 2022-2025



The [Smart²](#) project aims to develop and deliver appropriate tools and applications that enable the promotion and establishment of intelligence assessment of buildings in Europe, through buildings Smart Readiness Indicator (SRI) scheme. **Smart Square** aspires to deliver a cloud based open platform for assessing the intelligence of buildings, available in all 24 EU official languages, considering as well the specificities of the Member States, with a view to maximize synergies with other EU initiatives.

REHVA is leading in collecting the information for bridging the gap between SRI and EU citizens. The objective is to deliver the appropriate tools and mechanisms for collecting the required information for the delivery of the required tools to allow the SRI uptake, as well as to bridge the gap between the SRI and the EU citizens. Website: <https://www.smartsquare-project.eu/>

SRI2MARKET-(Paving the way for the adoption of the SRI into national regulation and market) 2022-2025



The [SRI2MARKET project](#) will improve the knowledge and capabilities of six Member States (Austria, Croatia, Cyprus, France, Portugal, and Spain) with regards to the introduction of the SRI in their national regulation and market. The project will use lessons learned by countries that are well advanced in rolling out SRI to support countries still beginning their test phases and/or struggling to encourage smart upgrades. The effort should accelerate the adoption of the indicator and facilitate the design of policies that inspire action among those that are not early movers. The project kicked-off in November 2022, so real activities will start only the next year.

Website: <https://www.rehva.eu/eu-projects/project/sri2market>

EDUCATION

REHVA Student Competition



During CLIMA 2022 in Rotterdam (The Netherlands), REHVA organised its yearly student competition which took place on Monday 23 May. Fourteen candidates representing eleven countries (France, Finland, Italy, Serbia, Slovakia, Spain, Switzerland, Romania and The Netherlands) were in competition; Switzerland and Romania being represented by a team of two students.

Exceptionally for the REHVA 2022 competition, due to the organisational disruptions caused by the COVID-19 pandemic, two entries were accepted from a member association that had organised a national competition in 2021 and could not send the winner to participate in the REHVA 2021 competition, as it was not organised. Therefore, France, Spain and Romania sent each 2 candidates. Nevertheless, only one student or a team of maximum two students per national association could win.

The jury was chaired by Manuel Gameiro da Silva from Portugal, the chair of the Education and Training Committee. The jury was composed of Francis Allard (AICVF, France), late Robert Gavriluic from Romania (AIIR, Romania), Livio Mazzarella (AiCARR, Italy), Uwe Schulz from Switzerland (SWKI) and Pedro Vicente Quiles from Spain (Atecyr, Spain).

After intense deliberation, the jury declared as winner Íñigo Martín Melero from Spain for his work on “Numerical Modelling of an Ultrasonic Evaporative Precooling Process of the Inlet Air of the Condenser for a Vapour Compression Refrigeration System.”.

The second prize was awarded to Amila Strikovic from France and the third prize was awarded to Viktoria Nadas from Finland. Finally, the award of the ‘Best Poster’ was given to Rick Cox (The Netherlands).

Manuel Gameiro da Silva congratulated all contributors for their excellent work and emphasized the high quality of their presentations.



Jury and students

On Wednesday 25 May, during the closing ceremony of CLIMA 2022, Manuel Gameiro da Silva, the chair of the REHVA Education and Training Committee together with Sylvain Courtey, the CEO of Eurovent Certita Certification handed over the Trophy Cup to the winner and a financial reward to all three awardees sponsored by Eurovent Certita Certification.



The 3 winners of the REHVA Student Competition with Manuel Gameiro and Sylvain Courtey.

HVAC World Student Competition



The HVAC World Student Competition is organised in Europe in the year of CLIMA congress. Therefore, the 2022 competition took place on Tuesday 24 May in Rotterdam, The Netherlands during CLIMA 2022 congress.

Five of the total six MoU partners that participated in this initiative have delegated candidates to this competition: ASHRAE (United States), CAHVAC (China), ISHRAE (India), SAREK (South Korea) and SHASE (Japan). REHVA delegated the winner of the REHVA Student Competition 2022, Íñigo Martín Melero from the (Universitat Miguel Hernández d'Elx, Elche, Spain, who represented Europe in the competition.

The jury composed by Manuel Gameiro da Silva (REHVA), William P. Bahnfleth (ASHRAE - USA), Prof Jinqing Peng (CAHVAC - China), Prof. Jin Hwa Jung (SAREK - Korea) and Prof. Junta Nakano (SHASE -Japan) were assigned to judge the performance and quality of the work of the competitors.

The Chinese student attended remotely as well as two members of the jury, still due to the sanitary situation in their respective countries.

After deliberation, the jury declared Ínigo Martín Melero (REHVA, Spain) as winner for his work on “Numerical Modelling of an Ultrasonic Evaporative Precooling Process of the Inlet Air of the Condenser for a Vapour Compression Refrigeration System”. The second place was awarded to Brett Stinson from ASHRAE (USA) and the third place to Mizuho Akimoto from SHASE (Japan).

Manuel Gameiro da Silva handed over the certificates with a financial reward to each participant sponsored by Eurovent Certita Certification represented on site by Sylvain Courtey, CEO.



Inigo Martin Melero with Sylvain Courtey (ECC) and Manuel Gameiro da Silva at World Student Competition.

During the REHVA Brussels Summit 2022, REHVA President Catalin Lungu and Sylvain Courtey, President of Eurovent Certita Certification, renewed the agreement for the sponsorship of the REHVA Student Competition and the HVAC World Student Competition for the next 3 years. REHVA is looking forward to working together toward a common goal and cooperating on these events.



Renewal of sponsorship with Sylvain Courtey and Catalin Lungu

REHVA Community of Young Professionals



The REHVA Community of Young Professionals facilitates professional activities and knowledge exchange between young professionals (below 35 years) in the fields of indoor climate management, HVAC and building services. We reach out first to former participants of the REHVA student competition and invite them to join our initiative.

REHVA is committed to advancing its programs and services for young engineers, helping them build their professional foundations and carrier. REHVA organises courses for students and young professionals and promotes their participation in the REHVA network event by discounts. The CLIMA World Congresses are inviting young researchers to submit abstracts. If students team-up and purchase REHVA guidebooks, they receive a discount.

REHVA will support the joint activities defined later together with the community members and offer advantages relying on the existing REHVA knowledge sources and services, such as free or discounted access to REHVA guidebooks, events and trainings, publication possibility in the REHVA Journal, specific sessions at REHVA events for the community. Our aim is to create an online community and information hub tailored to the interest of community members.

In 2022, REHVA has organised the first social activities during CLIMA 2022 in Rotterdam. Arash Rasooli, the leader of the RCYP, has organised a dinner and joined the evening concert with the CLIMA participants. On another day, there's been an organised architectural tour of Rotterdam. Both events were well attended and a success.

The RCYP community has also been invited to attend the REHVA course at CLIMA 2022 for a reduced price.



REHVA EVENTS

CLIMA 2022 - 14th REHVA World Congress

REHVA's 14th CLIMA World Congress was held on 22-25 May in Rotterdam, The Netherlands, hosted by TVVL. Over 3 and a half days, the participants could enjoy presentations and discussions related to one of the 5 congress themes: Health & Comfort, Energy, Circularity, Digitization and innovative Learning & Education. The program included close to 400 scientific presentations, 30 interactive sessions & workshops, 1 course, 9 inspiring keynote presentations.



Keynote speaker
Pau Garcia-Audi



Keynote speaker
Lidia Morawska

CLIMA 2022 with the sub-title “EYE ON 2030” was for the first time a hybrid edition. CLIMA congress was attended by 876 participants, from which 147 were online. There were 383 papers presented by 342 presenters at the CLIMA congress.

During CLIMA 2022, REHVA organised 14 workshops, while REHVA and TRC expert presented several papers as part of the Scientific programme of the congress. Linked to CLIMA 2022, REHVA organised also a course on *In-Situ Monitoring of Transmission and Solar Heat Exchange Through Building Envelope*, led by Arash Rasooli.

The CLIMA workshops were allocated in 4 main congress themes:

Health & Comfort

- COVID-19 implications on ventilation criteria and design (led by REHVA COVID-19 Task Force)
- Advanced airflow distribution methods for reduction of cross infection and exposure to indoor pollution (led by REHVA Task Force on Occupant Targeted Ventilation)
- 7 Essentials of Healthy Indoor Air (led by BELIMO)
- Low relative humidity in indoor air - an important element of indoor air quality (led by SWEGON)



CLIMA 2022 COVID-19 panel

Energy

- Trigeneration systems based on heat pumps with natural refrigerants and multiple renewable sources (led by TRI-HP project)
- Support, consultancy and services for the implementation and practical use of the set of Energy Performance of Building standards (led by EPB Center)
- Impact of the EU Taxonomy on Building Projects - Bridging the gap with financial actors (led by QUEST project)
- Deep Renovation Concepts (led by PURMO Group)
- Deep energy renovation of buildings for HVAC professionals (led by REHVA task force on Deep energy renovation)
- Future ventilation solutions and indoor environment (joint REHVA and CAHVAC workshop)

Energy + Learning & Education

- CEN-CE scheme roll-out: harmonised training and certification of experts on EPB standards (led by EPB Center)

Digitization

- Digital transformation facilitating building performance convergence and enabling operational rating (led by U-CERT project)
- The Future of HVAC as a Service (led by LG Electronics)
- Efficiency beyond the building: the leverage of advanced HVAC control systems in the management of Energy Communities (led by Enerbrain)

On Monday evening, we had the honour to throw a Presidents' dinner inviting the closest 'friends and family'. On Tuesday night, CLIMA 2022 hosted the congress dinner in the beautiful Wereld museum, continuing the evening with a silent disco party.

During the closing ceremony of CLIMA 2022, the next 15th REHVA World Congress - CLIMA 2025 on Decarbonized, Healthy and Energy Conscious Buildings in Future Climates was announced. The host will be AiCARR, the Italian Member. The congress will be held in May 2025 in Milan, Italy.



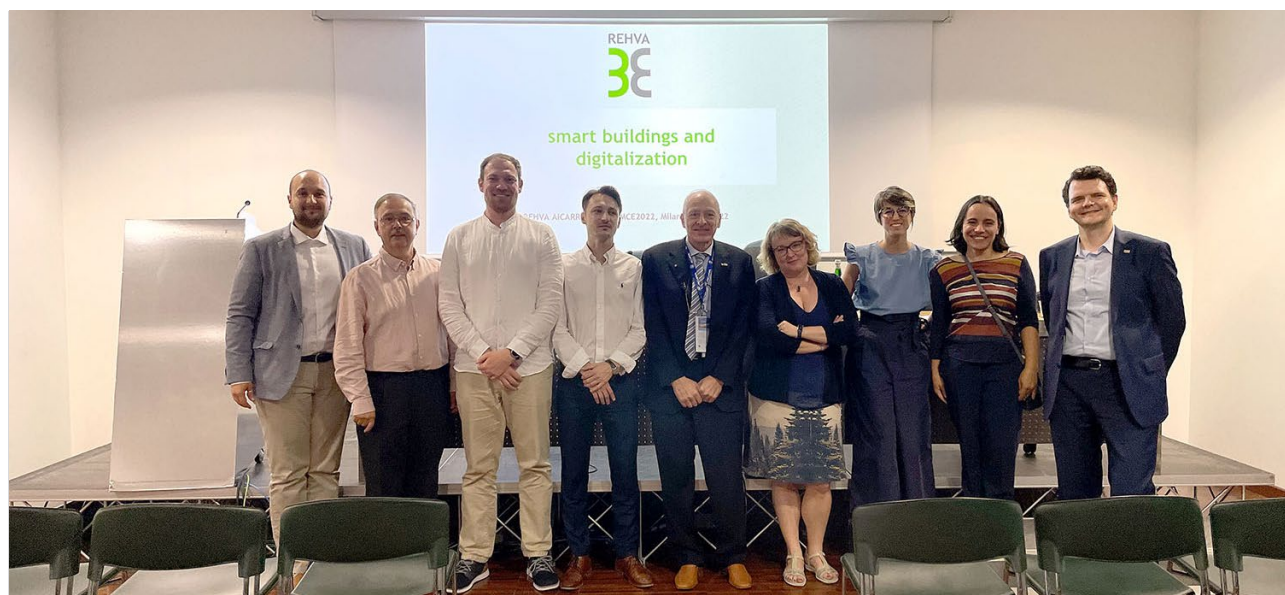
Seminars and conferences at trade shows and industry fairs

Mostra Convegno Expocomfort 2022

REHVA was present at Mostra Convegno Expocomfort (MCE) in Milan and organised a joint seminar with AiCARR on Smart building and digitalization on 1 July 2022 discussing how digitalization and ICT based technologies are changing a vast range of building disciplines, including HVAC, underpinning smart building systems that take building energy and non-energy-related performance to the next level through advanced digital intelligence. Thanks to AiCARR, the seminar was offered as accredited course for professionals.

REHVA President Catalin Lungu opened the seminar with keynote on Smart buildings and digitalization and their impact on building performance assessment and certification, followed by Managing Director, Anita Derjanecz who gave an overview about the changing EU policies for digital and green transition of building sector, highlighting existing and upcoming EPBD requirements about BAC, smart readiness indicator and the conversion to digital building logbooks under the ongoing EPBD review. Livio Mazzarella discussed impact of digitalisation on the HVAC sector itself, complemented by hands-on case study examples presented by Tiziana Buso from Enerbrain, a new REHVA Associate Organisation.

Andrei Litiu talked about the SRI indicator and the U-CERT project, followed by Davor Stjelja from Granlund Consulting who gave the consulting industry perspective on how to create value with Smart Buildings. Risto Kosonen from Aalto University talked about room systems as a service Platform for smart Buildings, and Sandrine Marinha from PRODBIM, a Eurovent company with REHVA involvement, highlighted how their services can facilitate access to certified data in BIM software and exchanges.






SEMINAR

Friday, 1 July 2022, 9:45 -13:45
MCE 2022, Fiera Milano Rho

*Chaired by REHVA President Cătălin Lungu and Prof. Livio Mazzarella,
REHVA Vice-President*

Smart buildings and digitalization

AGENDA

<p>09:45 Welcome and opening</p> <p>10:00 Smart buildings and digitalization - Impact on building performance assessment and certification <i>Cătălin Lungu, REHVA, President</i></p> <p>10:25 Digitalization and smart buildings in the revised EPBD <i>Anita Derjanecz, REHVA, Managing Director</i></p> <p>10:50 The impact of digitalisation on the HVAC sector <i>Livio Mazzarella, REHVA, Vice-President</i></p> <p>11:15 Digitising energy efficiency - Application cases <i>Tiziana Buso, Enerbrain, Energy Expert</i></p> <p>11:40 Coffee Break</p> <p>11:55 EU's Smart Readiness Indicator: outlook and practical implications for building professionals powered by U-CERT project <i>Andrei Viadimir Litiu, REHVA, Building Performance Adviser</i></p> <p>12:20 Creating value with Smart Buildings <i>Davor Stjelja, Granlund, Consultant, Innovation and development</i></p> <p>12:40 Room Systems as a Service Platform for Smart Buildings <i>Risto Kosonen, Aalto University, Associate Professor</i></p> <p>13:10 How to facilitate access to certified data in BIM software and exchanges? <i>Sandrine Marinha, Managing Director, PRODBIM by Eurovent</i></p> <p>13:30 Q&A and closing remarks</p>

Light+Building 2022

During Light+Building 2022 on 5 October in Frankfurt, REHVA has showcased its knowledge and top-tier experts with an Expert Talk on the topic of [BIM Interoperability](#) moderated by Lada Hensen Centnerová, REHVA Vice-president.

Building Information Modelling (BIM) is a shared knowledge resource of information for a vast range of professionals -architects, engineers, AEC- involved throughout the building lifecycle, from modelling to management. However, buildings are complex objects to design, construct and maintain, and BIM faces challenges on integrating inhomogeneous data across multiple disciplines and formats: this is where BIM interoperability issue arises.



The diversity of actors and systems involved coupled with the long-life cycle of a building decrease the ability to solve identified problems. In addition to this issue, the heterogeneous nature of applications and software systems used across the construction industry makes the BIM flow of information even more complex.

In this Expert talk, international REHVA experts from academia and industry tackled the importance and necessity of achieving interoperability in BIM, overviewing challenges, and presenting existing solutions. Andras Rónai, Chair of the BIM Task Force held an excellent hands-on presentation on BIM for the whole building life cycle.



REHVA representation at Members' events

CIBSE Technical Symposium (21-22 April in London, UK)

The Vice-president Kemal Gani Bayraktar represented REHVA at the symposium.

KGH 53rd International HVAC&R Congress and Exhibition

The traditional congress of SMEITS was organised as a hybrid event, Serbian participants could meet in person, while all international participants joined online.

AiCARR 60th Anniversary celebration

Beside the joint REHVA-AiCARR seminar at Mostra Convegno Expocomfort 2022 in Milan, AiCARR also celebrated its belated 60th anniversary as a first in-person meeting occasion after the pandemic. This gave the opportunity for REHVA to be present at the festivities upon the kind invitation of the AiCARR President. Anita Derjanecz, Managing Director, and Nicoll Marucciova, Senior Marketing and Knowledge Dissemination Officer, joined the lovely anniversary dinner and had the honour to raise their glasses to congratulate the nice occasion and share the birthday cake with AiCARR Board, staff and members at the informal and warm celebration in Milan.



Exhibitions

REHVA is endorsing international fairs and exhibitions of the HVAC and construction sector each year, to promote our publications and expertise.

- ASHRAE Winter Meeting
- World Sustainable Energy Days 2022
- CIBSE Technical Symposium
- CIAR
- AIVC - ASHRAE - IAQ joint conference
- Indoor Air 2022
- BuildSim Nordic 2022
- Roomvent 2022
- International HVAC&R Technology Symposium
- TightVent - 8th venticool conference
- 2022 Eurovent Summit
- KGH 53nd International HVAC&R Congress and Exhibition



COOPERATION WITH SUPPORTER COMPANIES

Healthy Homes Design Competition



A new project saw the light of the day in 2021, the Healthy Homes Design Competition. This project born out of the collaboration of VELUX and REHVA aims to encourage and challenge students and young professionals working within the field of building and buildings service systems, operation, and construction to explore the theme of healthy living - and to create a deeper understanding of indoor environmental qualities as well as exploring the impact of future climate changes. The

award celebrates and promotes excellence in projects with focus on people's health and indoor climate solutions in their living environments and at the same time balancing energy use.



REHVA has received 114 registrations, and in the end, 18 projects were submitted to the competition. The expert jury has then chosen 4 finalist teams. In 2022, the competition peaked in Rotterdam during CLIMA 2022 congress, where the finals took place. Unfortunately, we did not receive enough submissions for the young professionals category, therefore this part of the competition has been cancelled.



4 finalist teams in the student category have been invited to join REHVA in Rotterdam. During the final presentations, the teams had the chance to present their projects and convince the jury their idea of a healthy home is the best. The winner has been presented at the closing ceremony, winning 5 000 €.

Short video: <https://www.youtube.com/watch?v=jwdvrl5M4pA>

Long video: <https://www.youtube.com/watch?v=S0p3jxKQv4A>



REHVA at the LG workshop “HVAC as a service”

On 5th October 2022, LG Electronics Air Solution organised a workshop in Lisbon around the topic *HVAC as a service* deep diving into the potential future of the HVAC industry when it comes to sustainable, shared, and digitalized solutions and allowed participants to brainstorm and think about what that future could look like through the unique, collected lens of experts from across the industry. LG invited Andrei Litiu from REHVA as speaker provide our expert view on the topic.



REHVA Expert talk CPR revision and Ecodesign for Sustainable Products

On 14 November 2022, during its Brussels Summit, REHVA organised another edition of its Expert Talk series inviting supporter companies and speakers from the European Commission to discuss about the revision of the Construction Products Regulation and how it links with the Ecodesign for Sustainable Products Regulation. Supporter experts and executives contributed with short statements about their take on these policies and their actions to tackle sustainability performance in their products followed by an informal discussion between participants.



FELLOWS AND AWARDS

Fellows

REHVA has granted the status of REHVA fellow in the year 2022 to Gratiela Tarlea (AGFR-Romania) and Lada Hensen Centnerova (TVVL-The Netherlands).



Frank Hovorka with the help of Catalin Lungu handed over during the REHVA Gala Dinner of Saturday 21 May at the Nhow Hotel of Rotterdam a memorial certificate, a pin and the right to state “REHVA Fellow” under their name.

REHVA grants the status of “REHVA Fellow” for significant contributions to REHVA, the board, the committees and to the task forces.

Awards

The following members of REHVA Member Associations were recognised for their outstanding achievements in different activities within the HVAC fields and for their contributions to improve energy efficiency and the indoor environment of buildings and received a REHVA Award handed over by Frank Hovorka, the REHVA President and Catalin Lungu, the President-elect.

REHVA Professional Award in EDUCATION

Siru Lönnqvist (FINVAC - Finland) and late Robert Gavriluc (AIIR - Romania) received a REHVA Professional Award in Education.



REHVA Professional Award in SCIENCE

Liviu Drughean (AFCR, Romania) and Francesco Franchimon (TVVL- The Netherlands) received a REHVA Professional Award in Science.



REHVA extended their heartfelt congratulations to TVVL, the Dutch Society for Building Services, for their active and substantial contribution at the CLIMA Congress 2022.



REHVA Professional Award in DESIGN

Ricardo García San José received a REHVA Professional Award in Design on the occasion of the Atecyt's General Meeting 2022 on 16 June in Santiago de Compostela. Livio Mazzarella and Pedro Quiles Vicente, two REHVA Vice Presidents were present to hand him over.



REHVA Professional Award in TECHNOLOGY

Sergio La Mura received a REHVA professional award in design and Luca Pauletti a REHVA Professional Award in Technology during their National event, MCE 2022 on 29 June in Milan, Italy.



REHVA Professional Award in EDUCATION

Lars Ekberg received a REHVA Professional Award in Education on the occasion of their national event in Nordbygg, Sweden on 29 April.



REHVA RECOGNITION Award

Laure Itard received a REHVA special recognition Award.

REHVA SUPPORTERS' Awards

Furthermore, two Special REHVA Supporters' awards were handed over. REHVA congratulated Purmo and expressed its heartfelt gratitude for being a true REHVA supporter for fifteen years.



John Peter LEESI (CEO of Purmo) with Frank Hovorka and Catalin Lungu.

Lindab also received an award as REHVA expressed its heartfelt gratitude for being a true REHVA supporter for more than fifteen years.



Catalin Lungu and Johan Rasmussen from Lindab.

REHVA sincerely looks forward to continuing their strong collaboration with both organisations.

REHVA ADMINISTRATION

General Assembly

The 66th General Assembly was hosted by TVVL, the Dutch Society for Building Services in Woerden on 21 May (part 1) and in Rotterdam on 22 May (part 2).

The aim of the first part of the General Assembly that was opened by President Frank Hovorka, was mainly to deal with some amendments of the articles of REHVA but also to vote on suspension of the membership of ABOK, the Russian member until further notice. Any further alteration to ABOK's membership status will be confirmed at a future REHVA General Assembly.

22 out of the 26 Member Associations were present or represented at this first part of the 66th General Assembly. The quorum needed to vote was met. Four members were not present or represented.

The day after, our host TVVL represented by Olaf Oosting, Board Member, addressed a welcome message to all present delegates. Frank Hovorka opened the second part of the REHVA General Assembly. They approved the annual report and the accounts of the year 2021 as well as the budget for 2022 and the preliminary 2023 budget. 24 out of the 26 Member Associations were present or represented at this 66th General Assembly. The quorum needed to vote (half of the Members present or represented) was met. Two out of the 26 were neither present, nor represented. 47 delegates represented these 24 Member Associations attended the General Assembly.

Frank Hovorka presented the report of his mandate as a President of REHVA. He thanked all the members of the board having contributed to his presidential term and left the stage to the new REHVA President Catalin Lungu who got elected for the mandate 2022-2025. With a new presidential leadership, REHVA got a new Board of Directors that joint Catalin Lungu in this presidential term.

The new REHVA Board members that got elected for a mandate of three years (2022-2025) are the following: Kemal Gani Bayraktar, Lada Hensen Centnerová, Ivo Martinac, Livio Mazzarella, Pedro Gines Vicente Quiles and Johann Zirngibl.

Board Meetings

Seven board meetings were held in 2022, namely face-to-face in Rotterdam, the Netherlands (20 and 23 May) and Brussels, Belgium (14 November); five WebEx meetings were organised on 10 February, 1 March, 25 March, 23 June, 8 September.

Standing Committee Members

In 2022, REHVA activities have been organised under five Standing Committees in order to have an active core of colleagues strongly involved in their activities. The core members of the Standing Committees participated actively in the committee meetings and activities.

Please find the list of the core members of all the Standing Committees (as per 31/12/2022).



Awards Committee

- Chair: Frank Hovorka, France
- Francis Allard, France
- Stefano P. Corgnati, Italy
- Karel Kabele, Czech Republic
- Livio Mazzarella, Italy
- Bjarne W. Olesen, Denmark
- Secretary: Nathalie Wouters

Education and Training Committee

- Chair: Ivo Martinac, Sweden
- Co-Chair: Tiberiu Catalina, Romania
- Francis Allard, France
- Edith Barna, Hungary
- Murat Cakan, Turkey
- Francesca R. d'Ambrosio, Italy
- Tim Dwyer, United Kingdom
- Egils Dzelzitis, Latvia
- Ivan Chmurny, Slovakia
- Karel Kabele, Czech Republic
- Targo Kalamees, Estonia
- Risto Kosonen, Finland
- Catalin Lungu, Romania
- Zoltan Magyar, Hungary
- Joris Mampaey, Belgium
- Sašo Medved, Slovenia
- Uwe W. Schulz, Switzerland
- Marija Todorovic, Serbia
- Rafael Vazquez, Spain
- Cas Wegman, The Netherlands
- Torun Widström, Sweden
- Johann Zirngibl, France
- Secretary: Nathalie Wouters

Publishing and Marketing Committee

- Chair: Francesca R. d'Ambrosio, Italy
- Co-Chair: Lada Hensen Centnerova, The Netherlands
- Tuba Bingol Altiok Turkey
- Anna Bogdan, Poland
- Tiberiu Catalina, Romania
- Nelu-Cristian Chereches, Romania
- Hywel Davies, United Kingdom
- Christian Feldmann, France
- Jaap Hogeling, The Netherlands
- John Lens, The Netherlands
- Siru Lönnqvist, Finland
- Brigit Müller, Germany
- Dejan Mumovic, United Kingdom
- Olaf Oosting, The Netherlands
- Dusan Petras, Slovakia
- Rafael Vasquez, Spain
- Secretary: Nicoll Marucciova

Supporters Committee

- Chair: Kemal Gani Bayraktar
- Ilari Aho, Finland
- Horatiu Basa, Romania
- Mikael Börjesson, Sweden

- Sylvain Courtney, France
- Nerissa Deoraj, UAE
- Ioan Silviu Dobosi, Romania
- Kim Hagstrom, Finland
- Claus Händel, Belgium
- Jaap Hogeling, The Netherlands
- Emil Iakabos, Romania
- Bengt Johanssen, Finland
- Henk Kranenberg, The Netherlands
- John Lens, The Netherlands
- Livio Mazzarella, Italy
- Panu Mustakallio, Finland
- Olaf Oosting, The Netherlands
- Leonardo Prendin, Italy
- Leslie Rosenzweig, France
- Naci Sahin, Turkey
- Christian Schauer, Germany
- Marc Thuillard, Switzerland
- Franz Volker, Belgium
- Tobias Zimmer, Germany
- Judith van Osh, The Netherlands
- Secretary: Anita Derjanecz

Technology & Research Committee

- Chair: Jarek Kurnitski, Estonia
- Co-chair: Guangyu Cao, Norway
- Co-chair: Ilinca Nastase, Romania
- Edith Barna, Hungary
- Hans Besselink, Netherlands
- Anatolijs Borodinecs, Latvia
- Murat Cakan, Turkey
- Hywel Davies, United Kingdom
- Ioan Silviu Dobosi, Romania
- Christian Feldmann, France
- Adélio Gaspar, Portugal
- Jaap Hogeling, Netherlands
- Karel Kabele, Czech Republic
- Ongun Berk Kazancı, Denmark
- Michal Krajčík, Slovakia
- Andris Krumins, Latvia
- Milos Lain, Czech Republic
- Niklas Lavesson, Sweden
- Wei Liu, Sweden
- Catalin Lungu, Romania
- Zoltan Magyar, Hungary
- Ivo Martinac, Sweden
- Gabrielle Masy, Belgium
- Livio Mazzarella, Italy
- Brigit Müller, Germany
- Pedro Vicente Quiles, Spain
- Jorma Railio, Finland
- Javier Rey, Spain
- Manuel Ruiz de Adana, Spain
- Olli Seppänen, Finland
- Igor Sikarczyk, na
- Martin Thalfeldt, Estonia
- Branislav Todorovic, Serbia
- Ludmila Virlan, Moldavia
- Secretary: Anita Derjanecz

In Memoriam

REHVA is sad to announce that Ferenc Meszaros passed away. He was REHVA Vice-President for 9 years, a REHVA Honorary Fellow since 2003, a REHVA fellow since 2011, a proud member of [ETE](#), the Scientific Society for Building (Hungary) and the editor-in-chief for the Hungarian HVAC Journal between 1992-2007. Ferenc passed before of his 90th birthday and enjoyed a full life, with many accomplishments in our industry.



Ferenc Meszaros

REHVA is sad to announce that Peter Novak passed away at the age of 85. He was REHVA Vice-President from 1999 to 2008, a REHVA Gold Medal recipient in 2010 and an eminent member of [SITHOK](#), the Slovenian Society for Heating, Refrigerating and Air-conditioning Engineers. He was an excellent expert on the situation in the energy sector, a dean and professor at the Faculty of Mechanical Engineering at the University of Ljubljana. He was also the honorary president of the Slovenian Solar Energy Association. He has been a member of the Council for Environmental Protection for more than twelve years, chairman of the Climate Commission and a member of the Scientific Council of the International Institute of Refrigeration IIR, Vice-President of the Scientific Council at the European Environment Agency and an honorary member of ASHRAE.



Peter Novak

REHVA is sad to announce that Metin Duruk passed away. Ali Metin Duruk was known and recognized in the HVAC&R world. He was the founder of many organisations and will be remembered by the impact of his contributions to the industry, especially in Turkey. In 2021, he received the REHVA Professional award in Technology. He was the founder and CEO of [FRITERM](#), a REHVA Supporter for many years. He was also Vice-President at [ISIB](#), a REHVA Associate Organisation.



Ali Metin Duruk

The REHVA Family very sadly announces the untimely passing of Professor Dr Robert Gavriluc, on the 1st of December 2022. As a professor at the Technical University for Civil Engineering from Bucharest (Faculty of Building Services Engineering), he made a remarkable contribution to the Romanian school for mechanical engineering, especially in the field of heat pumps and geothermal energy, being a prominent member of the thermodynamic academic community. Robert Gavriluc was president of the Romanian Geoexchange Society and active member of the Romanian Professional Associations [AIIR](#) & [AGFR](#). Within REHVA, Robert Gavriluc made numerous and valuable contributions, especially in the Education and Training Committee. In recognition, in 2012, Robert was granted the status of REHVA fellow and in May 2022, he received the REHVA professional award for Education. In his private life Robert was a very devoted father and husband, and a kind and generous friend to many of us.



Robert Gavriluc

REHVA Office

The REHVA registered seat is in rue Washington 40,
1050 Brussels, Belgium.

In 2022, the REHVA team included:

- Sofia Bazzano, EU project Officer (from May 2022)
- Anita Derjanecz, Managing Director
- Alexandre Dziergwa, Communication and Publication Assistant (till mid-May 2022)
- Marie Joannes, Communication and Publication Assistant
- Nicoll Marucciová, Marketing & Knowledge Dissemination Officer
- Spyridon Pantelis, Assistant Project Engineer (till mid-January 2022)
- Jasper Vermaut, EU Policy and Project Officer
- Nathalie Wouters, Office and Membership Manager



Federation of
European Heating,
Ventilation and
Air Conditioning
Associations



Sofia Bazzano
EU Project Officer

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Anita Derjanecz
Managing Director

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Alexandre Dziergwa
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Publication Assistant

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Nicoll Marucciová
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Dissemination Officer

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Spyridon Pantelis
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ANNEX 1: REHVA MEMBERS



[AHGWTEL / LATVAC](#), Association of Heat, Gas and Water Technology Engineers of Latvia, LATVIA



[AiCARR](#), Associazione Italiana Condizionamento dell'aria, Riscaldamento Refrigerazione, ITALY



[AICVF](#), Association des Ingénieurs en CLIMATIQUE, Ventilation et Froid, FRANCE



[AIIR-AGFR](#), Romanian Association of Building Services Engineers (AIIR) and Romanian General Association of Refrigeration (AGFR), ROMANIA



[AIIRM](#), Installation Engineers Association from Moldova, MOLDAVIA



[Atecyr](#), Asociación, Técnica Española de Climatización y Refrigeración, SPAIN



[ATIC](#), Association Royale Technique de l'Industrie du Chauffage, de la Ventilation et des Branches Connexes, Koninklijke Technische Vereniging van de Verwarmings en Ventilationsnijverheid en der Aanverwante Takken, BELGIUM



[BAOVK](#), Bulgarian Association Heating, Ventilation and Air Conditioning, BULGARIA



[CIBSE](#), Chartered Institution of Building Services Engineers, UNITED KINGDOM



[Danvak](#), Danish Society of Heating, Ventilating and Air conditioning Engineers, DENMARK



[Die Planer - Swiss Society for Engineering](#), Energy and Environment, SWITZERLAND



[EKVÜ](#), the Estonian Society of Heating and Ventilation Engineers, ESTONIA



[ÉTE-MMK](#), complex society of building experts with a special section for heating, ventilating, air-conditioning, HUNGARY



[MMK](#), Magyar Mérnöki Kamara (Hungarian Chamber of Engineers), HUNGARY



[FINVAC](#), joint organisation in which 4 national societies of HVAC organisations (SuLVI, VSF, SIY, LIVI), FINLAND



[KGH](#), Serbian HVAC-R Society c/o Union of Mechanical and Electrical Engineers of Serbia (SMEITS), SERBIA



[LITES](#), Lietuvos siluminės technikos inžinierių asociacija (Lithuanian Thermotechnical Engineer's Society), LITHUANIA



[NORVAK](#), Norwegian Society of HVAC Engineers, NORWAY



ORDEM
DOS
ENGENHEIROS

[ORDEM DOS ENGENHEIROS](#), Portuguese Association of Engineers, PORTUGAL



[PZITS](#), Polskie Zrzeszenie Inżynierów i Techników Sanitarnych, POLAND



[SITHOK](#), Slovenian Association of Engineers for Cooling, Heating and Air Conditioning Technologies, SLOVENIA



[SSTP](#), Slovenska spoločnosť pretechniku prostredia (Slovak Society for Environmental Technology), SLOVAKIA



[STP](#), Společnost pro techniku prostředí (Society of Environmental Engineering), CZECH REPUBLIC



[SWEDVAC](#), Energi- och Miljötekniska Föreningen (Swedish HVAC Society - Society of Energy and Environmental Technology), SWEDEN



[TTMD](#), Türk Tesisat Mühendisleri Derneği (Turkish Society of HVAC and Sanitary Engineers), TURKEY



[TVVL](#), Nederlandse Technische Vereniging voor Installaties in Gebouwen (Dutch Society for Building Services), THE NETHERLANDS



[VDI](#), Verein Deutscher Ingenieure e.V. (Association of German Engineers) - Fachbereich Technische Gebäudeausrüstung der VDI-Gesellschaft Bauen und Gebäudetechnik - VDI/GBG (Division Building Services of VDI- Society for Civil Engineering and Building Services), GERMANY

ANNEX 2: REHVA SUPPORTERS



[Aermec](#), Italy - Air-conditioning



[Arcelik](#), Turkey - Manufacturing facilities



[Belimo Automation](#), Switzerland - Developer, manufacturer and distributor of electric actuators for air dampers and valve technology for heating, ventilation and air conditioning systems (HVAC)



[Camfil](#), Sweden - Manufacturer of filters and clean air solutions



[Daikin Europe](#), Belgium - Air-conditioning, heating and refrigeration solution provider



[Dosetimpex](#), Romania - Designing, executing and delivering installation equipment for constructions



[E.E.B.C.](#) - East European Business Center, Romania - Service provider for installations



[Eurovent Certita Certification](#), France - Certification of the performance ratings of air- conditioning and refrigeration products according to European and international standards



[Evapco Europe](#), Italy - Specialists in heat transfer products & services



[EVIA](#) - European Ventilation Industry Association, Belgium - The voice of the ventilation industry in Europe



[Fläkt Group](#), Sweden - European market leader for energy efficient Indoor Air Technology Solutions, providing the highest quality standards for improved Air Comfort and well-being



[FRITERM](#) Teknik Cihazlar Sanayi ve Ticaret, Turkey - Manufacturer of finned type heat exchangers and focused on the production of Air Cooled Condensers, Air Coolers, Dry Coolers, Water/Steam Air Heaters and Coolers, Oil Coolers and Heat Recovery Coils



[Granlund](#), Finland - A building services consulting firm



[Halton](#), Finland - Products for ventilation and air handling systems, commercial kitchen ventilation, marine air conditioning



[LG Electronics](#), France - Improvement of customer's life and business with leading products and world-class technology



[Lindab](#), Denmark - Developer, manufacturer and distributor of products and system solutions primarily in steel for simplified construction and improved indoor climate



[Purmo Group](#), Finland - Sustainable indoor climate comfort solutions, specialised in heating and cooling solutions



[RHOS](#), Italy - Specialised in the design and production of air conditioning and air handling products and systems



[Royal Haskoning DHV](#), The Netherlands - Independent international engineering and project management consultancy



[Isover Saint-Gobain](#), France - Technical insulation



[Smay](#), Poland - Consulting and production company who provides the solutions and devices in the range of ventilation



[Swegon](#), Sweden - Indoor climate for people and environment specialising in ventilation and air handling equipment



[Systemair](#), Sweden - Manufacturer of air handling and ventilation products and fans



[Testo](#), Romania - Manufacturing and calibrating measurement instruments for HVAC, Refrigeration, Catering, Food Processing, Indoor Climate Monitoring, the Pharmaceutical industry,...



[Uponor Corporation](#), Finland - Heating systems for all building types



[Velux](#), Denmark - Producers of installation technology for the sanitation and heating sector



[Viega](#), Germany - Internationally operating market leader of products covering the entire installation technology sector.



[ZoonEx](#), United Kingdom - Solutions for cleaner and protected environments

ANNEX 3: REHVA ASSOCIATE ORGANISATIONS



[Enerbrain](#), Italy - Improvement of financial performance, indoor comfort and environmental sustainability of buildings.



[European Copper Institute \(ECI\)](#), Belgium - Leading advocate for the copper industry in Europe.



[European Ventilation Hygiene Association \(EVHA\)](#), Belgium - Representing and bringing together, ductwork cleaning specialists throughout Europe and beyond.



[Enviromech](#), UK - Mechanical and Electrical solutions across projects in the United Kingdom.



[ISIB](#), Turkey - Building services company specialising in design, installation & facility management services.



[OAER](#), Romania, create the organisational framework to promote measures, concepts and actions that lead to the support of professional interests as well as to increase and improve the activity of long-term higher education graduates and research specialists, project execution and operation, for the realization of energy efficient buildings.

REHVA

Federation of European Heating, Ventilation
and Air Conditioning Associations

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REHVA is The Federation of European Heating, Ventilation and Air Conditioning associations founded in 1963. We are an umbrella organisation that represent over 120 000 HVAC designers, building services engineers, technicians and experts across 26 European countries.

REHVA provides its members with a strong platform for international professional networking and knowledge exchange, pursuing the vision of improving health, comfort, safety and energy efficiency in all buildings and communities. REHVA contributes to technical and professional development, follows EU policy developments and represents the interest of its members at EU level and globally.

REHVA is committed to advancing its programs and services for young engineers, through helping them build their professional foundations.

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