

HVACR Europe Market Insights 2022:

Dealing with the component shortage and the energy crisis

Complete HVACR Market Report by Eurovent Market Intelligence



SPECIAL ANNUAL REPORT

HVACR EUROPE MARKET INSIGHTS 2022:

Dealing with the component shortage and the energy crisis

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I. Introduction	4	7. Italy	97
II. About EMI	5	8. Netherlands	100
III. Methodology	6	9. Norway	103
IV. Guidelines	7	10. Poland	106
V. Executive summary	8	11. Portugal	109
VI. Context		12. Russia	112
1. Economic overview	18	13. Spain	115
2. War in Ukraine	20	14. Sweden	118
3. Component shortage	21	15. Switzerland	121
4. European regulations	26	16. Turkey	124
5. Development strategy	29	17. United Kingdom	127
6. Mergers and acquisitions	35		
7. Communication strategy	37		
VII. Market by product		IX. Market by application	
1. Overview	40	1. Overview	131
2. Air Filters	42	2. Agriculture	133
3. Air Handling Units	45	3. Data center	134
4. Chilled beams	48	4. Education	135
5. Chillers	51	5. Health	136
6. Cooling Towers	54	6. Hotels	137
7. Domestic Heat Pumps	57	7. Leisure & Entertainment	138
8. Fan Coils	59	8. Industry process	139
9. Heat Exchangers	62	9. Offices	140
10. IT Cooling	65	10. Residential	141
11. Rooftops	68	11. Retail	142
12. VRF	71	12. Transport	143
13. CO2 systems	74	13. Warehouse / storage	144
VIII. Market by country		14. Refrigeration	145
1. Overview	78	X. Long-term challenges and market prospects	
2. Austria	82	1. Hiring difficulties	147
3. Belgium	85	2. Climate crisis	150
4. Czechia	88	3. Resource scarcity	152
5. France	91	XI. Appendix	
6. Germany	94	1. Definitions	156
		2. Respondents of the survey	157
		3. Results of the survey	158
		4. Main trends	164
		5. Acknowledgements	165
		6. Contacts	166



“No man ever steps in the same river twice, for it's not the same river and he's not the same man.” Heraclitus said.

What does the post-covid world look like? More telecommuting, more flexible and user-friendly offices, more online shopping, more online entertainment as well, more data centers, more warehouses, more vacant jobs, the greater importance of indoor air quality... that's all?

But the contours of this new world were just beginning to take shape when a new crisis came to change the situation. No, not a new crisis, a *bunch* of new crises: component crisis, which leads to significant slowdowns in the lead time of manufacturers; war in Ukraine, which accentuated this first crisis and created inflation on energy prices while those of raw materials began to fall; recruitment crisis, which is a time bomb for many sectors, in particular, road transport; and above all the climate crisis which will have a massive impact on the HVAC sector for the next few decades.

In this third annual report on the HVACR market, Eurovent Market Intelligence has tried more than ever to answer the questions that concern manufacturers. We carried out around a hundred interviews *upstream and downstream* of this study to adjust our analysis as well as possible, and for the first time, we interviewed also experts outside the HVACR sector to have sufficient perspective on the overall issue.

This new report contains more than 160 pages compared to 110 for the previous one: we have gone further in the analysis by country and by product as well as in current issues. We hope this will help you see things more clearly and to find your way in this uncertain world.

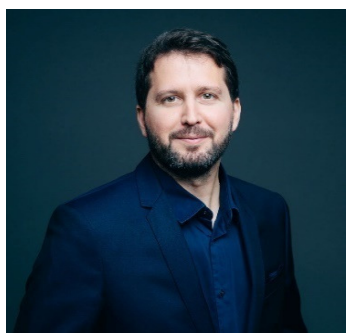
Yannick Cotrelle
Market Intelligence Manager

Eurovent Market Intelligence is a brand of Eurovent Services Company.

Eurovent Market Intelligence (EMI) is the European Statistics Office on the HVACR market and it provides key market data since 1994. The guiding principle of EMI is to establish a detailed map of the European market with the participation of the manufacturers in the data collections.

The single sales data collected from the participants remain strictly confidential and the overall results can be received by the participants only. EMI provides the manufacturers with the annual and quarterly results, market trends and analyses, and also makes available total market estimations to non-manufacturers. EMI tripled its number of participants in the last 6 years, and today, it reaches more than 440 manufacturers worldwide within 18 different statistics programmes.

The authors



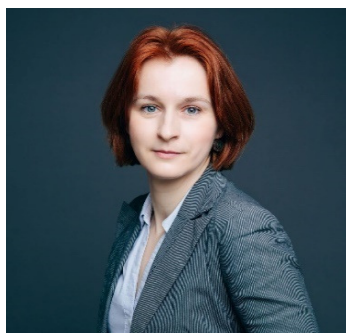
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Yannick Cotrelle was born in 1979. He studied Economics and Marketing respectively at the University of Nancy2 in France and the University of Florence in Italy. He ended his education with a master degree diploma in Management at the University of Paris XII.

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She joined Eurovent Market Intelligence in December 2019.

She speaks English, French, and Turkish.

The survey and analysis were conducted in the period from 13 July to 24 October 2022 with 119 responses of HVACR manufacturers located in 15 different countries or regions*.

The survey concerned 12 types of products:

- HVAC (Air filters, Air handling units, Chilled beams, Chillers, Domestic Heat Pumps, Fan Coils, IT Cooling, Rooftops, VRF);
- Refrigeration (Heat exchangers, Cooling towers, CO2 Systems).

Survey's objective is to make a data-based forecast of HVACR market development in 2022-2025, to estimate the impact of component shortage on the different HVACR products in terms of delivery time, price increase and production volumes, and to identify the key development trends and prospects in the current economic context.

**More information on the geographical origin of the participants available in appendix.*

Survey methodology

The report is based on primary and secondary research.

1. Primary research

1.1. The survey on the sales results in 2022H1 and prospects in 2022H2, as well as expectations for next years (filled in by all the respondents), supported by the qualitative questions investigating the current state of the market and challenges,

1.2. A profound interview with the HVACR and component manufacturers (conducted with over 20 respondents).

2. Secondary research

2.1. Analysis of the macroeconomic statistics on the economic development by country and application,

2.2. Analysis of the information in press article on countries' economy in 2022 and forecasts about their further development, key challenges, and the vertical markets for HVACR.

Forecast methodology

The forecast for 2022-2025 is made by product and country. The forecast is based on the following information:

1. 2022 forecast

- results of market evolution in Q1-Q2 2022 for 5 products (chillers, fan coils, AHU, rooftops, heat exchangers), based on the quarterly survey regularly conducted by EMI;

- performance evolution in 2022H1 in comparison to 2021H1 for 7 other products, based on the survey results and interviews,

- sales forecast for 2022H2 for all products, based on the survey results and interviews.

2. 2023-2025 forecast

- expectations of the respondents for the market evolution + EMI expertise;

- analysis of the macroeconomic situation by country and by the industry/application of HVACR products.

Important note

The results regarding the questions about the sales performance in 2022H1 and sales forecast in 2022H2 in the report are presented in weighted average and takes into account the size of the respondent (factual or estimated sales of the corresponding products). The unweighted results of the survey (distribution according to the simple number of participants) can be found in appendix.

This report investigates, from different perspectives, the European economic context and how the HVACR market is concerned, concentrating on the hot topics of the market such as component shortage and energy crisis. The main information in every chapter is a synthesis of qualitative survey results from the HVACR manufacturers, key taking from profound interviews with other industry experts, macroeconomic data, and EMI HVACR market data including forecasts as well as the information from the open sources.

CONTEXT

Constructed in a free form, this chapter investigates the current European context such as economic outlook, war in Ukraine, component shortage, European regulations and their impact on the HVACR market, as well as manufacturers' development and communication strategies, and mergers and acquisitions in the industry. The aim of this chapter is to draw the big picture of the European economy and main challenges of the HVACR industry, while trying to forecast the future trends and their impact on the HVACR market.

MARKET BY PRODUCT

- Overview of the chapter where the analysed products were compared to each other.
- Single subchapter on 12 different products which consists of:
 - The market in a nutshell: current state and different aspects of the product market
 - Impact of the component shortage and delays in deliveries
 - Evolution in 2022H1 and forecasts for 2022H2 by technology, country, and application as well as 2023-2025

MARKET BY COUNTRY

- Overview of the chapter where the analysed country were compared to each other.
- A single subchapter on 16 different countries which consists of:
 - Current macroeconomic state of the countries and forecast for 2023-2024
 - Analysis of building permits dynamics and the situation in construction industry in the country
 - Evolution in 2022H1 and forecasts for 2022H2 by product as well as 2023-2025

MARKET BY APPLICATION

- Overview of the chapter where the analysed applications were compared to each other.
- A single subchapter on 13 different countries which consists of:
 - Main products and their market share in the industry
 - Evolution in 2022H1 and forecasts for 2022H2 of related products
 - Macroeconomic indicators of the application

LONG-TERM CHALLENGES

This chapter investigates the long-term challenges such as hiring difficulties, climate crisis, resource scarcity and their potential impact on the market in the long-term future. Constructed in a free form, the chapter is made as a synthesis of the macroeconomic indicators in order to help understand the situation, the feedback from the manufacturers and other market experts, the information and expectations available on the press concerning the issues. The aim of the chapter is to understand the future challenges of the industry and predict how the market would react.

APPENDIX



2003-01

Rechnungen

1987

1988

1989

32 3070

2003-02

Rechnungen

1987-1988

1. Definitions

Air Filter (AF):

A filter unit to clean air from particulate contamination comprising filter material including framing, supporting parts and gaskets, the total to be inserted into a filter housing device.

Air Handling Unit (AHU):

A double wall casing with at least a filter, a fan and a temperature controlling component delivering air to the building with minimum 250 m³/h.

Chiller (LCP):

Liquid Chilling Packaged; a factory assembled unit of the self-contained type designed to cool liquid using a compressor, an evaporator and an integral condenser and appropriate controls.

Cooling Tower (CT):

Heat rejection device, which extracts waste heat to the atmosphere through the cooling of a water stream to a lower temperature. The generic term "cooling tower" is used to describe both direct (open circuit) and indirect (closed circuit) heat rejection equipment.

Domestic Heat Pump (DHP):

Device that can provide heating, cooling and sanitary hot water for residential applications. It transforms energy from the air, ground and water to useful heat. This transformation is done via the refrigerant (or thermodynamic) cycle.

Fan Coil Units (FCU):

Factory made assembly which provides the functions of cooling and/or heating air using chilled or hot water with air flow to the room ensured by one or more electrically driven fans.

Heat Exchanger (HE):

Forced convection air cooled refrigerant condenser (or "condenser"): A refrigeration system component that condenses refrigerant vapor by rejecting heat to air, which is mechanically circulated over its dry heat transfer surface by integral fans and fan drives. The heat transfer coil includes distributing and collecting headers. (EN 327)

Forced convection unit air cooler (or "unit cooler"): Refrigeration system component transferring heat from air to a refrigerant or liquid. The air is mechanically circulated over the heat transfer surface by integral fan(s) and fan drive(s). The heat transfer coil includes refrigerant distributing and collecting headers. (EN 328)

Forced convection air cooled liquid cooler (or "dry cooler"): A self contained system, that cools a single phase liquid by rejecting sensible heat via a heat exchanger to air that is mechanically circulated by integral fan(s). (EN 1048)

Forced convection unit cooler : Refrigeration system component transferring heat from air to a refrigerant or liquid. The air is mechanically circulated over the heat transfer surface by integral fan(s) and fan drive(s) (EN 328) (same product than coolers using HFC but with CO₂)

Air cooled refrigerant gas coolers : Refrigeration system component that cools the refrigerant (CO₂) by rejecting heat to air, which is mechanically circulated over its dry heat transfer surface by integral fans and fan drives (EN 327).

IT Cooling (ITC):

Group of products for IT cooling purpose, including CRAC (Computer Room type Air Conditioning), RACK (Rack cooling units, including row units), TLC mobiles (Units for telecommunications ; in case of split, only the system and not the unit is taken into account), and Evaporative cooling (see AHU definition).

Rooftop (RT):

Comfort air conditioner; Packaged unit assembled in factory; Common single frame; Direct expansion system; Air cooled condenser with axial fan; Water cooled; Designed to operate permanently outdoors with the possibility to be installed on roof curb for vertical flow; Cold or warm supply air provided through a duct.

Variable Refrigerant Flow (VRF):

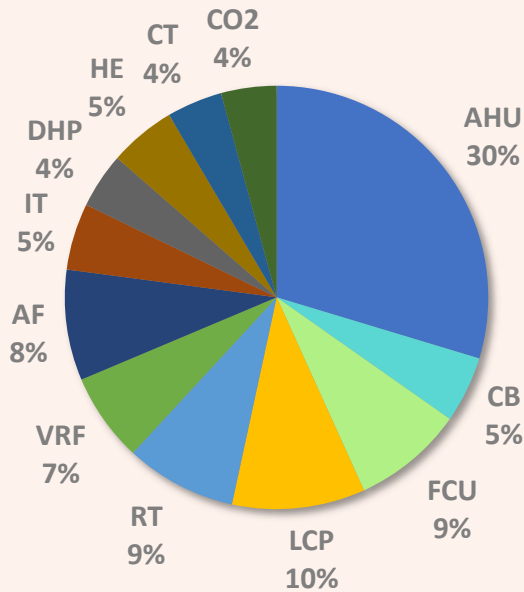
An Air Conditioner is an encased assembly or assemblies designed as a unit to provide conditioned air to an enclosed space. It includes an electrically operated refrigeration system for cooling and possibly dehumidifying the air. It may have means for heating, circulating, cleaning and humidifying the air. Where such equipment is provided in more than one assembly, the separate assemblies are to be used together. A VRF unit is a multisplit system with the discharge valve located on each indoor unit.

CO₂ refrigeration systems:

CO₂ Condensing units, transcritical CO₂ power racks and subcritical CO₂ power racks
T₀ MT= -9°C and T₀ LT = -32°C.

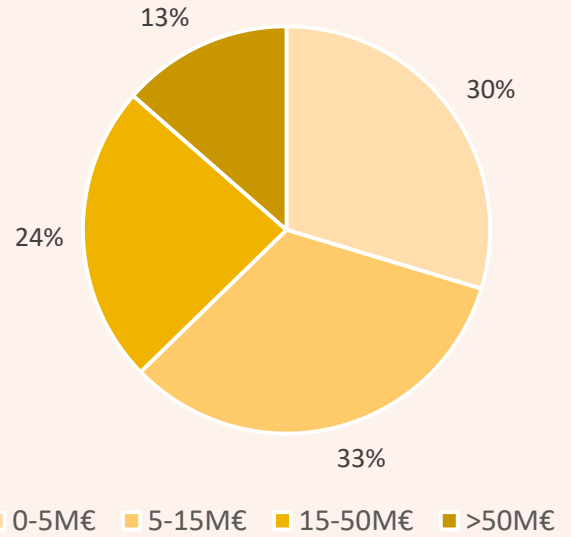
2. Respondents of the survey

Respondents by product



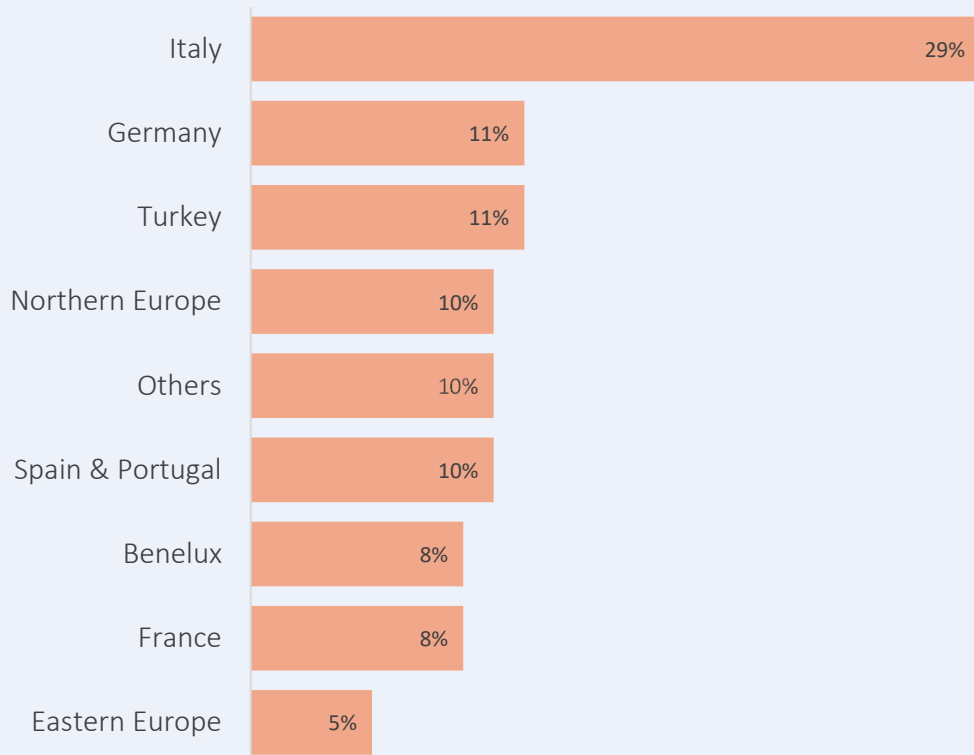
118 respondents in total

Respondents by size



Size: based on the revenue from the corresponding product (factual or estimated)

Respondents by country of origin



We take into account the physical location of the respondent and not the headquarter's country.

6. Contacts

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EMI programmes

Adiabatic Coolers

Air Curtains

Air Filters

Air Handling Units

Chilled Beams

Chillers and Hydronic Heat Pumps

Cooling Towers

Domestic Heat Pumps

Fan Coil Units

Heat Exchangers

IT Cooling

Pool Applications

Rooftops

VRF

Water Fan Heaters

CO2 refrigeration systems

EUROVENT MARKET INTELLIGENCE

HVACR EUROPE - MARKET INSIGHTS 2022



PRICE LIST

Packages	Participant-respondent	Non-participant respondent	Non-participant non-respondent
Executive summary	0 €	0 €	600 €
+ 1 additional chapter	150€	300 €	600 €
+ 5 additional chapters	500€	1 000 €	2 000 €
+10 additional chapters	900€	1 500 €	3 000 €
Complete report	1 500 €	3 000 €	6 000 €

Participant = manufacturer who participated in the EMI statistics collection in 2022

Respondent = manufacturer who replied to the survey of this report

Price list by parts & chapters	Page	Participant-respondent	Non-participant respondent	Non-participant non-respondent
I. Introduction	4			
II. About EMI	5			
III. Methodology	6	<i>Free of charge</i>	<i>Free of charge</i>	600€
IV. Guidelines	7			
V. Executive summary	8			
VI. Context				
1. Economic overview	18	<i>chapter: 150€</i>	<i>chapter: 300€</i>	<i>chapter: 600€</i>
2. War in Ukraine	20	<i>+ free 1&2</i>	<i>+ free 1&2</i>	<i>+ free 1&2</i>
3. Component shortage	21			
4. European regulations	26			
5. Development strategy	29	<i>whole part: 400€</i>	<i>whole part: 800€</i>	<i>whole part: 1600€</i>
6. Mergers and acquisitions	35			
7. Communication strategy	37			
VII. Market by product				
1. Overview	40			
2. Air Filters	42			
3. Air Handling Units	45			
4. Chilled beams	48	<i>chapter: 150€</i>	<i>chapter: 300€</i>	<i>chapter: 600€</i>
5. Chillers	51	<i>+ free overview</i>	<i>+ free overview</i>	<i>+ free overview</i>
6. Cooling Towers	54			
7. Domestic Heat Pumps	57			
8. Fan Coils	59	<i>whole part: 800€</i>	<i>whole part: 1600€</i>	<i>whole part: 3200€</i>
9. Heat Exchangers	62			
10. IT Cooling	65			
11. Rooftops	68			
12. VRF	71			
13. CO2 systems	74			

Price list by parts & chapters	Page	Participant respondent	non-participant respondent	non-participant non-respondent
VIII. Market by country				
1. Overview	78			
2. Austria	82			
3. Belgium	85			
4. Czechia	88			
5. France	91			
6. Germany	94	<i>chapter: 150€ + free overview</i>	<i>chapter: 300€ + free overview</i>	<i>chapter: 600€ + free overview</i>
7. Italy	97			
8. Netherlands	100			
9. Norway	103			
10. Poland	106	<i>whole part: 800€</i>	<i>whole part: 1600€</i>	<i>whole part: 3200€</i>
11. Portugal	109			
12. Russia	112			
13. Spain	115			
14. Sweden	118			
15. Switzerland	121			
16. Turkey	124			
17. United Kingdom	127			
IX. HVAC applications				
1. Overview	131			
2. Agriculture	133			
3. Data center	134			
4. Education	135			
5. Health	136			
6. Hotels	137			
7. Leisure & Entertainment	138	<i>Whole part: 200€</i>	<i>Whole part: 400€</i>	<i>Whole part: 800€</i>
8. Industry process	139			
9. Offices	140			
10. Residential	141			
11. Retail	142			
12. Transport	143			
13. Warehouse / storage	144			
14. Refrigeration	145			
X. Long-term challenges and market prospects				
1. Hiring difficulties	147	<i>Whole part: 150€</i>	<i>Whole part: 300€</i>	<i>Whole part: 600€</i>
2. Climate crisis	150			
3. Resource scarcity	152			
XI. Appendix				
1. Definitions	156		1-2-5 free	
2. Respondents of the survey	157			
3. Results of the survey	158		3-4 available only in case of full report purchase	
4. Main trends	164			
5. Acknowledgements	165			
6. Contacts	166			