



QuantumLeap™ Data Centre Solutions

Thermal and integrated management innovations
designed for the data centre



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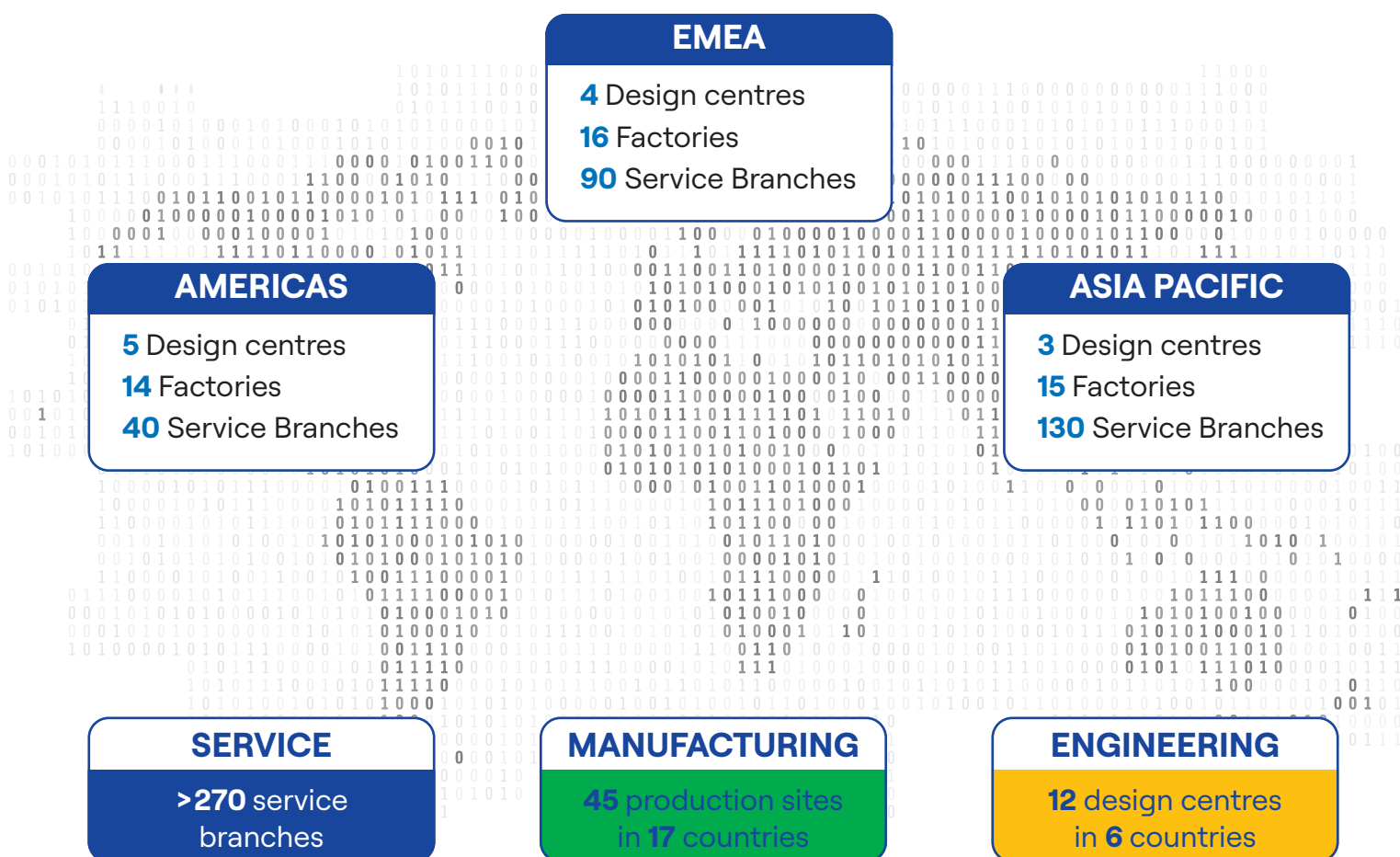
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- Thermal solutions
- Integrated management solutions
- A wide portfolio of service & aftermarket lifecycle solutions

A global footprint



Carrier is a global company renowned for its extensive manufacturing, engineering, and service capabilities. With a strong presence across various regions, Carrier leverages its expertise to deliver innovative solutions and exceptional service to customers worldwide.

By addressing the unique demands of the data centre market, the company establishes itself as a key player, delivering tailored solutions to clients around the globe.



A strong European presence



Culoz (France)

Airside products
780 employees



Montluel (France)

Commercial Heat pumps
and Chillers
750 employees



Vence (France)

Control systems &
Connected services
14 employees



Montilla (Spain)

Rooftops & Light Commercial Heat pumps
450 employees



Centres of Excellence



Production sites

The European Research & Design centre in Montluel & Culoz

The Carrier Laboratory in Montluel and Culoz advance thermal solutions and product performance. The Montluel site (7,500 m²) is a hub for Carrier's research in low-carbon heat pumps and chillers. The Culoz centre (4,300 m²) specialises in customer acceptance tests on Air Handling Units, Computer Room Air Handling Units, Fan Walls, and Dry Coolers. Carrier's labs embody innovation, quality, and sustainability in thermal solutions, simulating data centre conditions to meet market needs.



20°C to +55°C

Ambiant temperature control with humidity conditions from 5% to 95%



Chillers & Heat Pumps

- 5,000 kW max water-cooled unit test capacity
- 2,200 kW max air-cooled unit test capacity



Dry Coolers

- Thermal rating up to 2,000 kW
- Acoustic and adiabatic cooling



Eurovent & AHRI

Approved by Eurovent and AHRI for chiller certification tests



Air Handling Units

- Model Box performance under standard EN 1886
- Airflow tests (standard ISO 5801) up to 35,000 m³/h & 1,000 Pa
- Control software validation
- Thermal performance tests (standards NF EN 1397, EN 14511) up to 200 kW / 56,000 m³/h



Data Centre capabilities

- Transient test behavior between different mode (Total & Mixed Free Cooling/Meca. cooling)
- Fast Restart Test
- BMS Test



CRAH & Fan Wall

- Thermal test up to 600 kW
- Airflow test up to 160,000 m³/h

Carrier has established a formidable presence in Europe, with many data centre projects already operational across the continent.

With strategically located facilities and offices in key European cities, we maintain close relationships with our customers, ensuring that we are always within reach to provide personalised support and services.

Our solutions are designed to meet the highest industry standards, providing robust infrastructure that supports the growing demands of digital transformation.

Your Partner from design to long term operation



Step 3

Manufacturing & Delivering

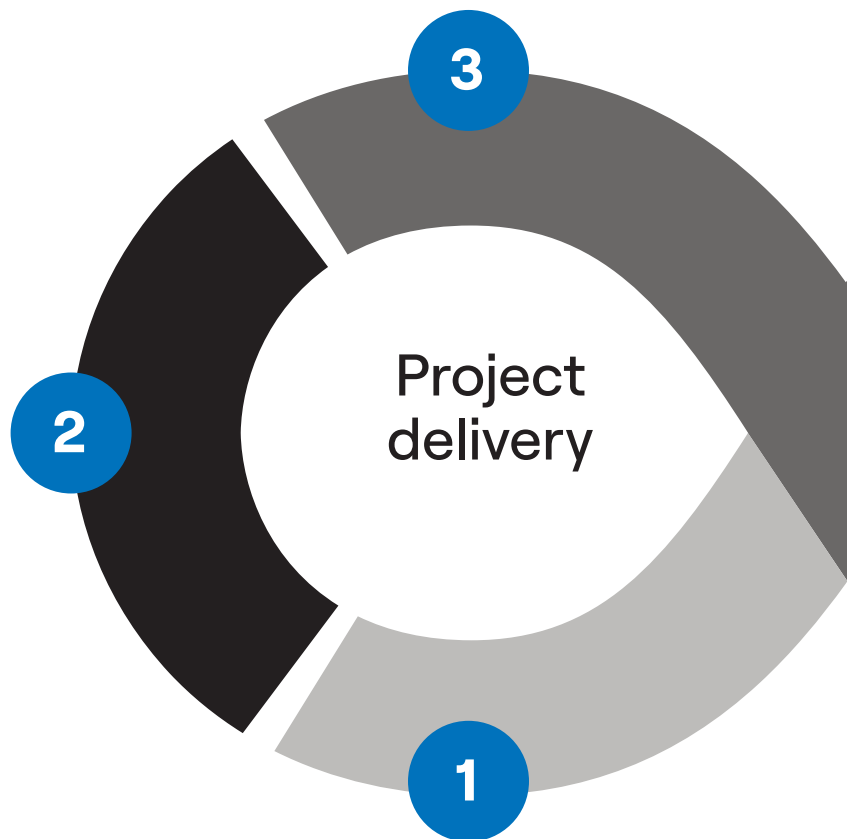
Your partner manufacturing with a rigorous focus on quality assurance and optimised lead times, performing end-of-line tests to guarantee product quality, and ensuring alignment with project timelines and performance specifications



Step 2

Factory Witness Test

Your partner equipped with certified laboratory facilities, purpose-built to meet the rigorous performance, reliability, and compliance standards of the data centre industry



Step 1

Listening & Designing

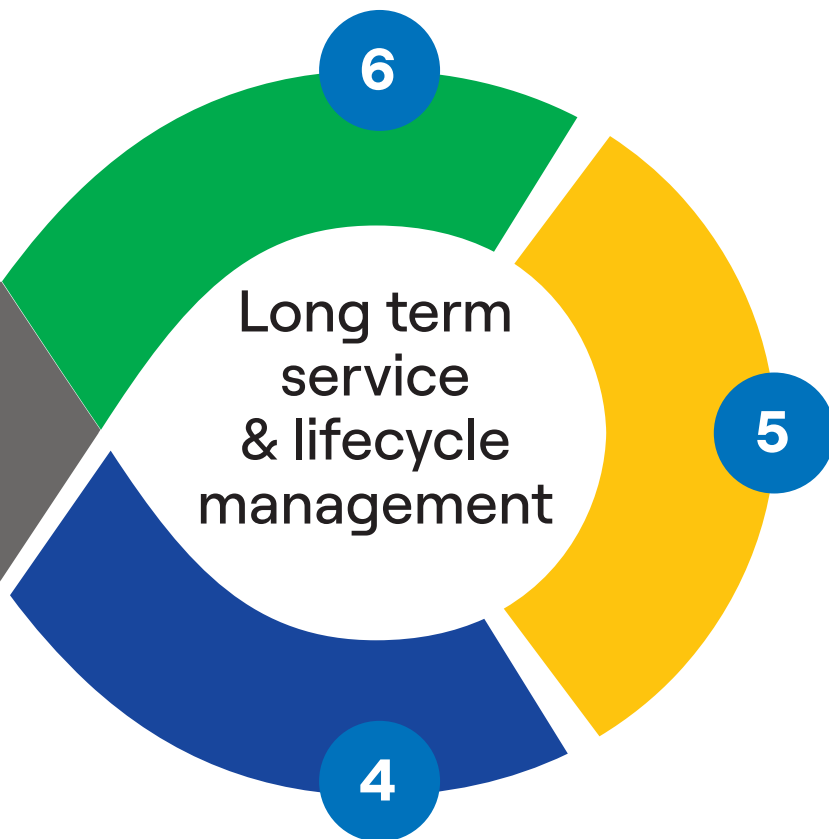
Your partner with solutions designed from the ground up, without a prior blueprint, crafted with efficiency in mind, driven by continuous innovation, and rooted in a deep understanding of your needs

We support your project from planning to delivery, commissioning, maintenance, and system optimisation. A dedicated local team ensures smooth project execution, meeting deadlines and maintaining project alignment. As a trusted partner, we provide innovative and sustainable solutions that meet the rigorous demands of data centres. Engineered for flexibility and performance, our systems align with the latest and upcoming green building standards.



Step 6 **Analysing & Improving**

Your partner that monitors real-time system performance, makes intelligent adjustments, and takes decisive action to optimise the entire solution - while also offering retrofit or replacement options to ensure long-term efficiency and reliability



Step 4 **Commissioning & Initial Operation**

Your partner handling on-site equipment commissioning, initiating system start-up, and conducting thorough functional performance testing to ensure operational excellence



Step 5 **Sustaining & Maintaining**

Your partner with a highly skilled service team, delivering tailored maintenance programs designed to meet the demanding performance standards of data centres. A strategic spare parts management approach ensures uninterrupted system continuity.

Carrier's response to data centre challenges

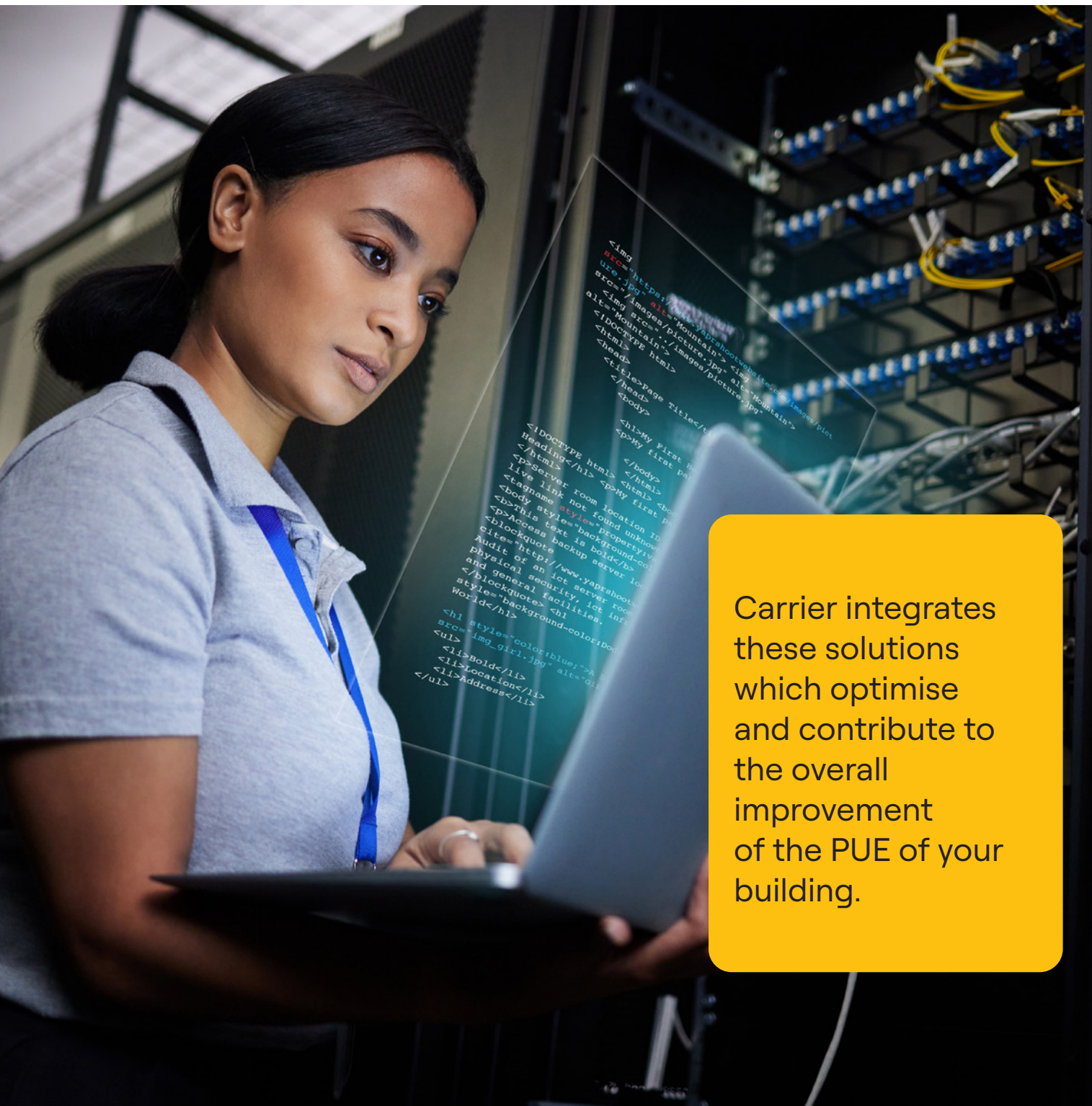
Leading on decarbonisation

The data centres of the future have an environmental responsibility, and must incorporate decarbonisation into the earliest stages of their design.

A number of elements must therefore be taken into consideration, such as the PUE (Power Usage Effectiveness), smart use of energy and heat, minimising equipment replacement, real-time measurement of the consumption of your machine inventory.

The use of low GWP refrigerants, heat recovery, free cooling and improved machine performance are just some of the technologies that Carrier is implementing to help reduce the carbon footprint of your data centres.

Carrier supports the European Union Energy Efficiency Directive (EU EED) by delivering innovative solutions that accelerate the decarbonisation of data centres and critical infrastructure.



Carrier integrates these solutions which optimise and contribute to the overall improvement of the PUE of your building.

Our solution to reduce your carbon footprint

Sustainable efficiency with our free cooling solutions

The increase in the operating temperatures of IT equipment allows free cooling to be used as a major resource. Throughout the year, optimising the operation of free cooling generates significant energy savings resulting in a rapid return on investment for your installations (OPEX).

The Carrier control system allows free cooling to be used as soon as the outdoor air temperature drops below the water network's return temperature. Carrier integrates this technology in its air-to-water cooling systems, but also in its air handling units for direct or indirect air-flow free cooling.

Optimised management of your building

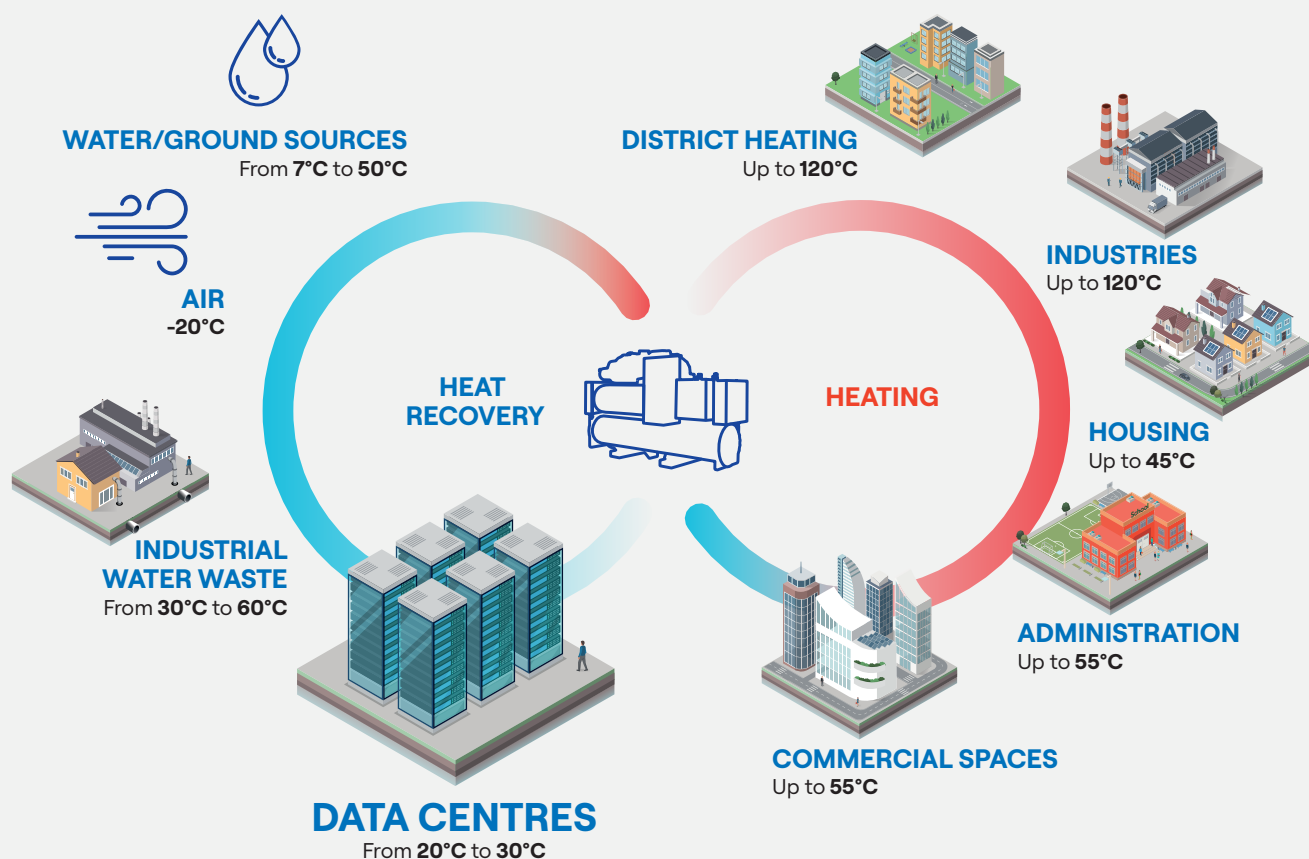
Benefit from powerful visualisation tools, monitoring of procedures and secure options for verifying your equipment. These tools allow strategies to be put in place to optimise the efficient use of energy with the conditions needed to maximise operation time and comply with service level agreements.

Waste heat recovery

Recovery of the waste heat from data centres consists of capturing the heat produced by the equipment so that this can then be used to produce thermal energy for urban networks or tertiary or industrial buildings.

Carrier provides equipment to recover and reuse the heat produced by data centre using its heat pumps. The high temperature this produces allows for optimum integration of this heat into urban or industrial environments to benefit local users. These energy reuse solutions will eventually lead to a significant reduction in the use of fossil fuels (e.g., gas, fuel oil) by the end users of the recovered heat (networks, industries, housing complexes).

Smart City, the data centre at the heart of the urban energy environment



Sustainability at the heart of our business



Scope 1

Build and operate sustainably

From natural refrigerant in chiller and heat pump, to digitally enabled solutions for predictive maintenance.



Scope 2

Innovate energy efficient solution

By 2030, we have committed to **invest over \$4 billion** to develop intelligent climate and energy solutions that reduce environmental impacts, up from our original commitment of \$2 billion.



Scope 3

Energy optimisation: from cooling to heat recovery

The REPowerEU initiative considers **increasing smart heating and cooling** networks to 30% by 2030 and to 50% by 2050.



Scope 3

Responsible supply

End-to-end solution made in Europe.



Scope 1, 2, 3

Product responsibility

Carrier's proactive product integrity programs help ensure that the **quality and safety of the products and services** we provide meet or exceed customer and **regulatory requirements and extend the lifecycle of equipment.**



Scope 3

Recycle, reuse and circularity

Carrier collaborates with suppliers to reuse packaging and optimise our production processes. We also recycle and recover useful materials produced from manufacturing.

Our 2030 Climate Commitments

Our Products

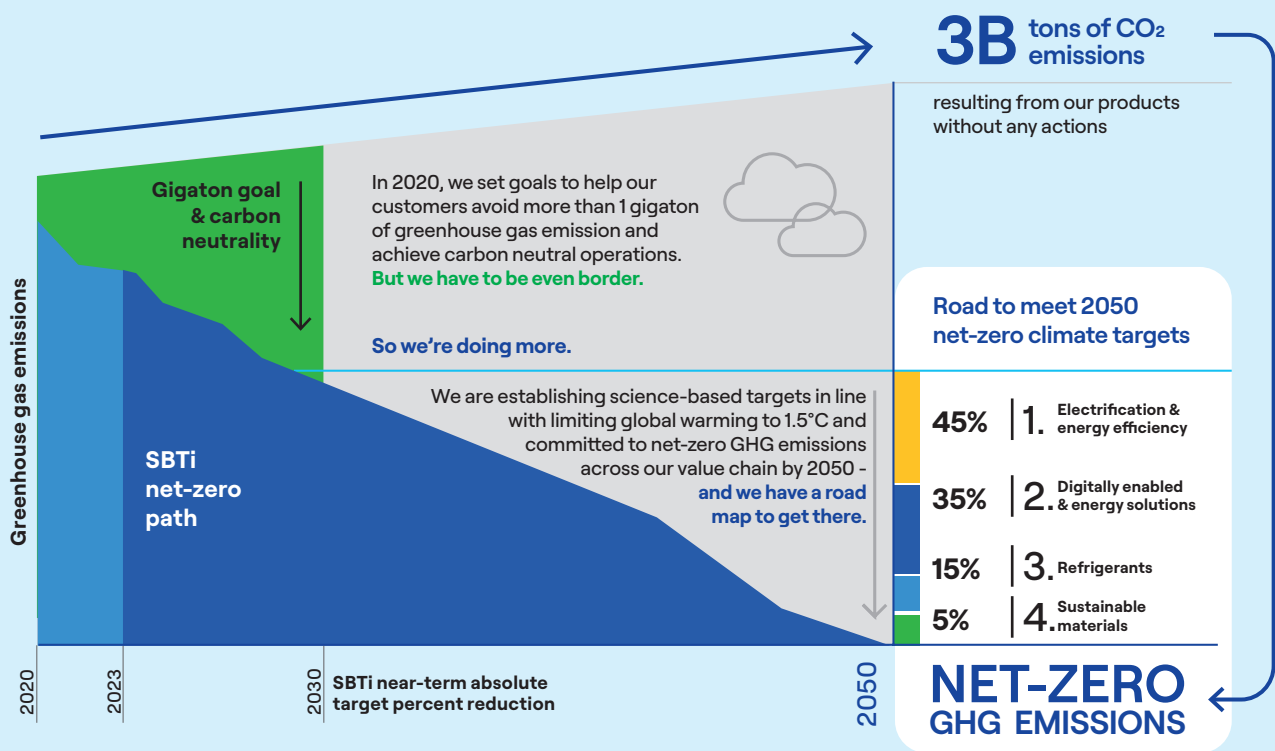
- Achieve net-zero greenhouse gas emissions across our value chain by 2050.
- Reduce absolute Scope 3 GHG emissions by 25% by 2030, from a 2021 baseline.
- Invest over \$4B to develop intelligent climate and energy solutions that reduce environmental impacts.
- Avoid more than 1 gigaton of customer greenhouse gas emissions.

Our Operations

- Achieve carbon neutral operations.
- Reduce absolute Scope 1 and 2 GHG emissions by 42% by 2030, from a 2021 baseline.
- Reduce energy intensity by 10% across our operations.

Road map to Net Zero

Carrier is evolving our business to take on the challenges of climate change. During COP28, we unveiled our road map to achieve net-zero greenhouse gas emissions across our value chain by 2050.



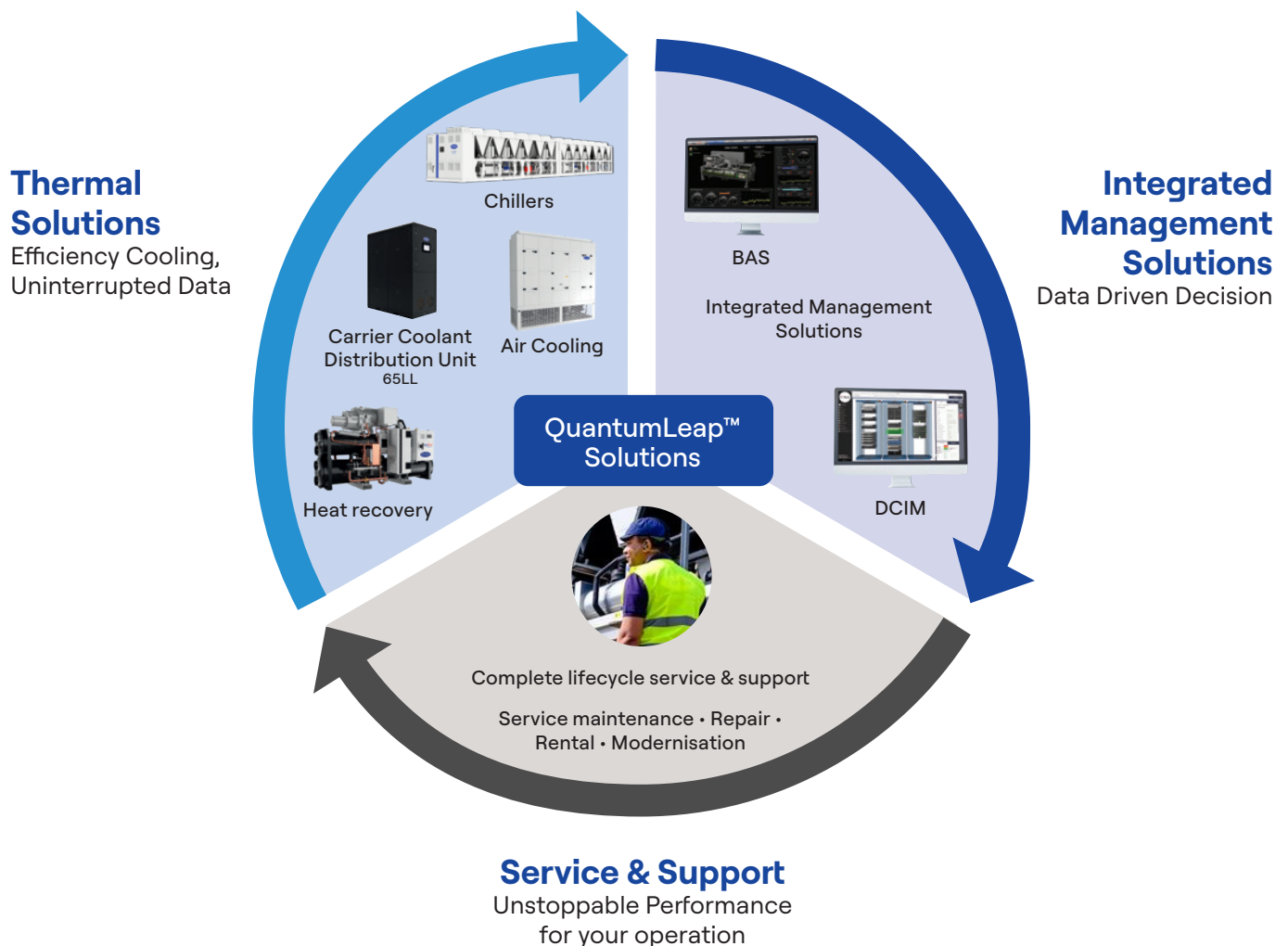


QuantumLeap™ solutions for data centre

The next evolution in data centre thermal and integrated management solutions

Data centres have never been more strategic or critical than they are today. They have also never faced greater scrutiny regarding efficiency, availability and flexibility. As your data centre evolves, you need cooling system solutions – and a trusted partner – that can evolve with it. At Carrier, we're always here with purpose-built solutions and expertise to help you face all your data centre challenges with confidence.

- Our HVAC equipment delivers essential cooling while reducing both your energy consumption and carbon footprint.
- Our integrated management systems integrate building and IT infrastructure to provide greater visibility and optimisation.
- Our service and support ensure peace of mind and help enable continuous operations. And as a truly global partner, we're there wherever and whenever you need us. It all adds up to the confidence you need to operate with optimised performance at every stage of the data centre lifecycle – and at Carrier, it's delivered by design.



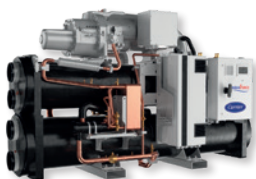
Our thermal solutions designed for the data centre



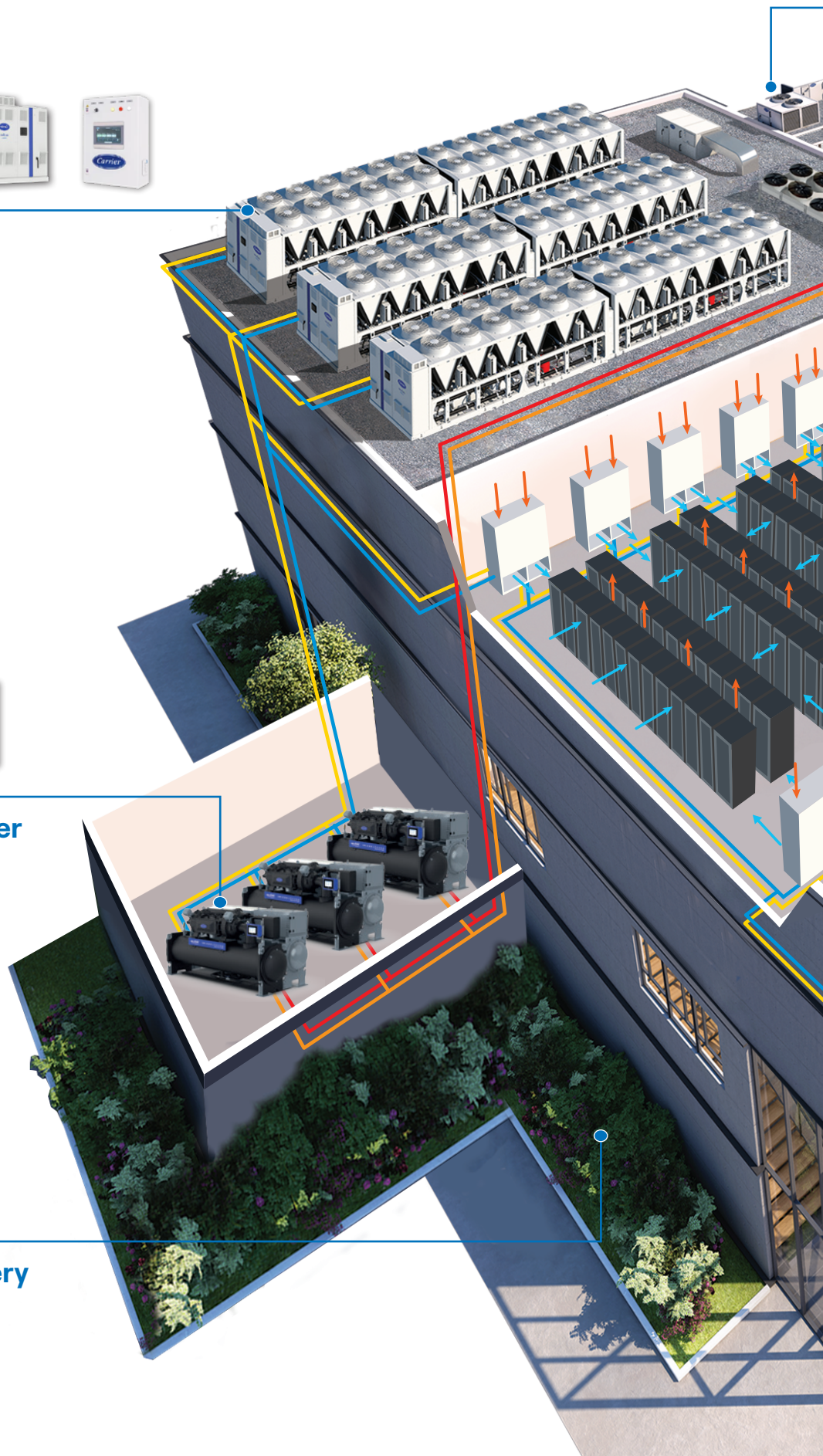
**Air Cooled Chiller
+ Sequencer**



**Water Cooled Chiller
+ Sequencer**



Waste Heat Recovery





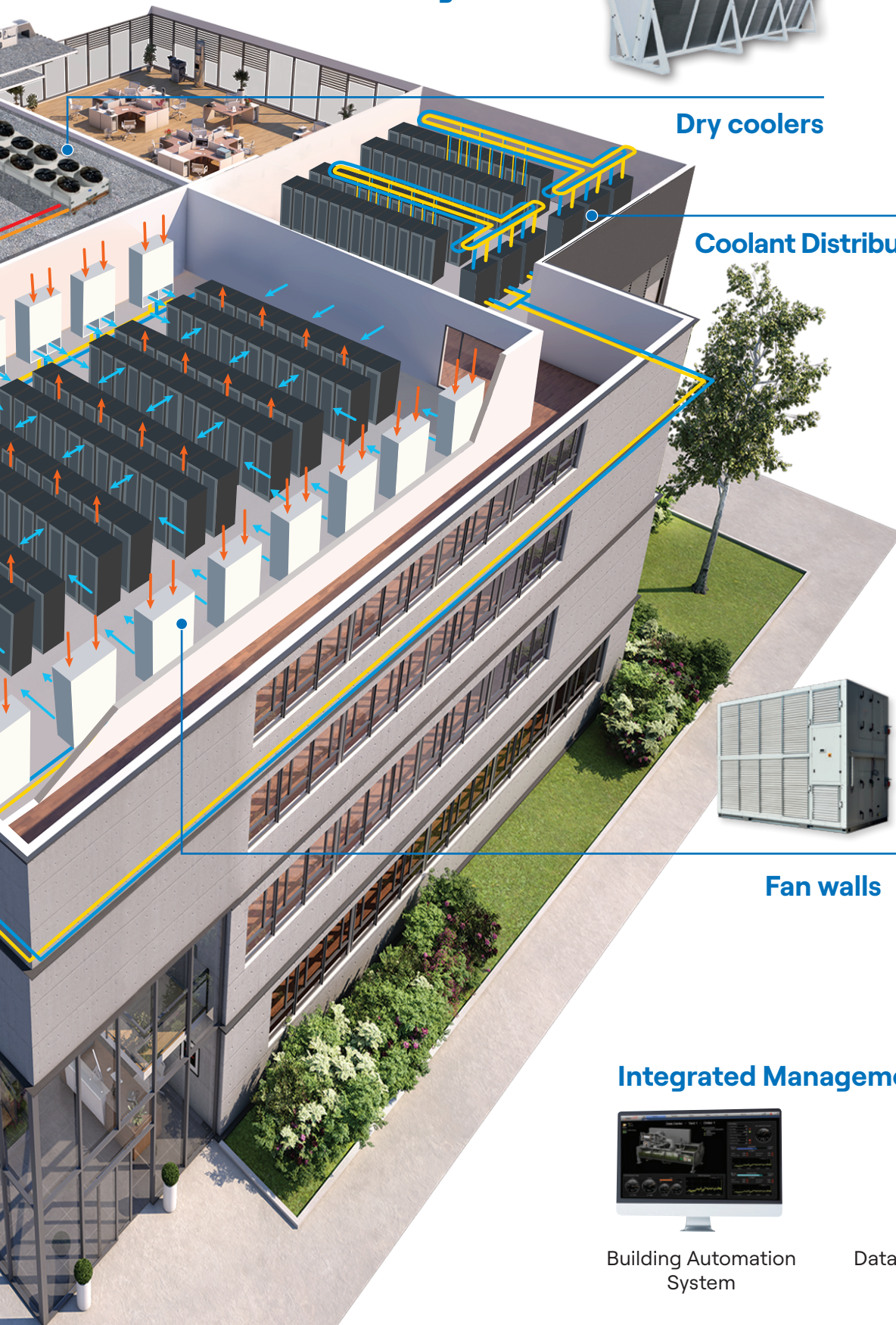
Air handling Unit



Dry coolers



Coolant Distribution Unit (CDU)



Fan walls



Computer Room Air Handler (CRAH)

Integrated Management Solutions



Building Automation System



Data Centre Infrastructure Management

Air-to-water solutions

AquaSnap® 30RBP

Air-Cooled scroll chiller with integrated free-cooling



Ideal for edge data centres

- Combination of optimal performance and reduced installation costs
- Capacity: 200 kW to 1,200 kW
- Operation -20°C up to 48°C outdoor air temperature
- Ultra fast-capacity recovery < 150 seconds

Energy saving

- Up to 50% energy saving
- SEER at 5.13
- R-1234ze ultra-low GWP Refrigerant

Suitable for noise-sensitive environments

- Down to 91 dB(A)
- Available with 3 sound levels

Easy installation

- Built-in Solution, no external component to facilitate the installation
- Compact footprint - Optimised weight-to-power ratio

AquaForce® 30XF with FreeBoost™ technology

Air-Cooled screw variable speed chiller with integrated free-cooling



Optimal for challenging structures & conditions

- Capacity: 390 kW – 2,100 kW
- Operation -20°C up to 55°C outdoor air temperature

Energy saving

- Up to 50% energy saving
- EER Up to 4.35
- R-1234ze ultra-low GWP Refrigerant

Service continuity & redundancy

- 100% capacity recovery < 120 seconds
- Optimisation of the buffer tank size

Easy installation

- Built-in solution facilitating installation and transportation

Trust and compliance

- First range Eurovent-certified under data centre conditions (Unit, options & selection software)
- Very high Temperature SEPR > 25

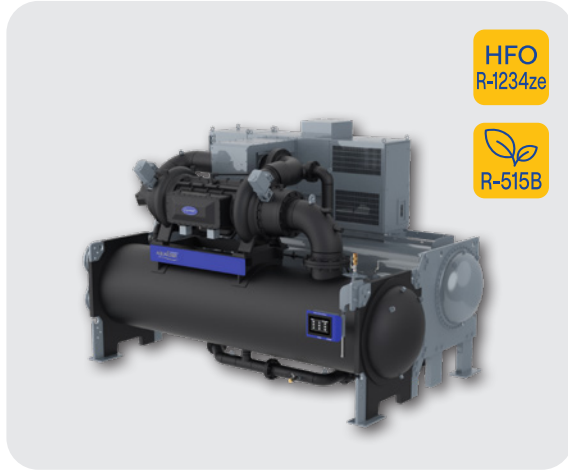
Optimised Performance enabled by FreeBoost™ technology

- Lower power input: Reduce your generator size
- Increase your IT capacity

Water-to-water solutions

AquaEdge® 19MV4

Water-cooled centrifugal chillers



Optimal for challenging structures & conditions

- Broad operating map up to 55°C
- 10 to 100% load capacities to adapt to all stages of data centre construction, from initial low IT loads to full-capacity operation

Energy saving

- High-performance chillers
- COP 6.75 with > 30% chiller operation cost reduction

Helping you achieve your sustainability goals

- Low GWP refrigerant R-1234ze or R-515B for A1 applications

Operational Continuity

- Ultra fast-capacity recovery < 150 seconds
- Operate down to 10% load with no limit of time
- Active Harmonic Filters for THDI < 5%

AquaForce® 30XWV-ZE

Water-cooled screw chillers



Optimal for challenging structures & conditions

- Large cooling capacity range up to 2,100 kW
- Up to 60°C leaving water temperature on condenser side
- Ultra low GWP refrigerant R-1234ze or A1 rated R-515B

Screw compressor technology

- Precise thermal performances with ultra low GWP refrigerant

Enhanced energy efficiency

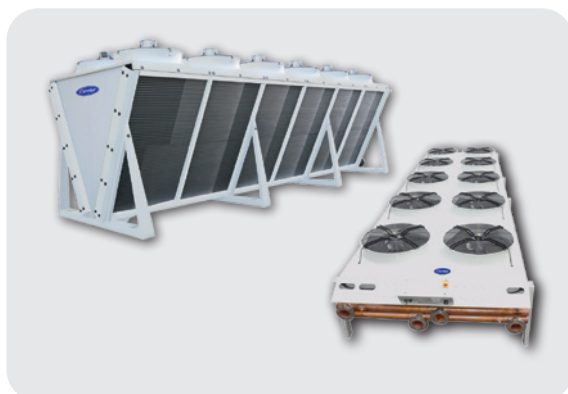
- High efficiency with SEER up to 8.3 lowering operational costs and minimizing environmental impact

Scalability

- Low footprint chillers – easier to scale the cooling capacity as the data centre grows (Width < 1.5 m)

Dry coolers

Large scope of capacities and options



Water-cooled chiller solution optimisation

- Free Cooling configuration to reduce power consumption & lowers operational costs

Challenging conditions

- Various coatings to withstand the most demanding conditions, including corrosive environments

Quick & easy installation

- Various options for safe transport and easy installation

Air cooling solutions

CRAH & Fan wall

Air Handlers



Optimal for challenging structures & conditions

- Large scope to 160,000 m³/h & cooling capacities up to 600 kW
- Vertical flow (CRAH)
- Horizontal flow (Fan Wall) to optimise footprint

Service continuity & reliability

- Automatic Transfer Switch
- Low THDi solution
- Tailor made controller for your projects

Reduction of energy consumption

- EC plug fan optimised control
- Low pressure drop design
- Performances validated by FWT

Air handling units

Modular and compact - versatile range of sizes, airflow rates, and options



Enhance air quality control

- Suitable filtration options & integrated control

High performances & reliability

- High Airflow up to 60,000 m³/h
- High tier Eurovent certified casing

Easy maintenance

- Casing design optimise to simplify the maintenance

Liquid cooling solution

Carrier Coolant Distribution Unit

65LL



Custom configuration

- Configurable options configurations (Additional pumps, top or bottom connections, ATS, UPS, Active Harmonic filters)

Reduction of energy consumption

- Low pressure drop with reduced facility pump power
- Enhanced options enable lower approach temperatures down to 2°C

Easy maintenance

- Front, rear and side access

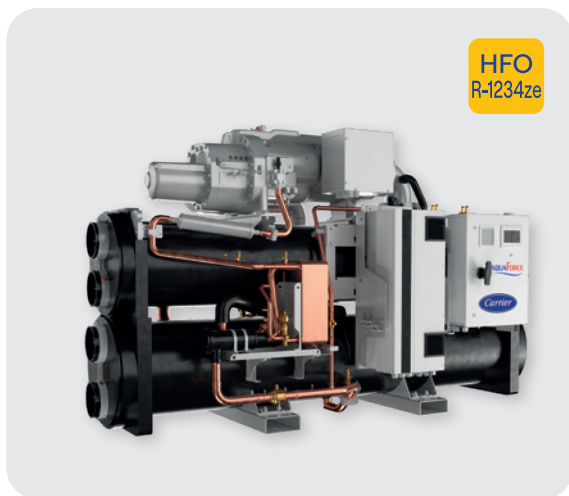
Responsible supply

- Made in Europe with well-known qualified suppliers
- Global design available through North America and APAC manufacturing locations

Waste heat recovery solution

AquaForce® 61XWHZE & 61XWHVZE*

High temperature Heat pump



Lower Carbon Footprint

- Ideal for Data Centres connected to District Heating
- High temperatures (up to 85°C) suitable to Heating network

Optimise your electrical grid

- Advanced variable-speed screw compressor technology minimizing inrush current*

Quick availability for time-sensitive installations

- Short lead times ensure rapid deployment, keeping projects on schedule

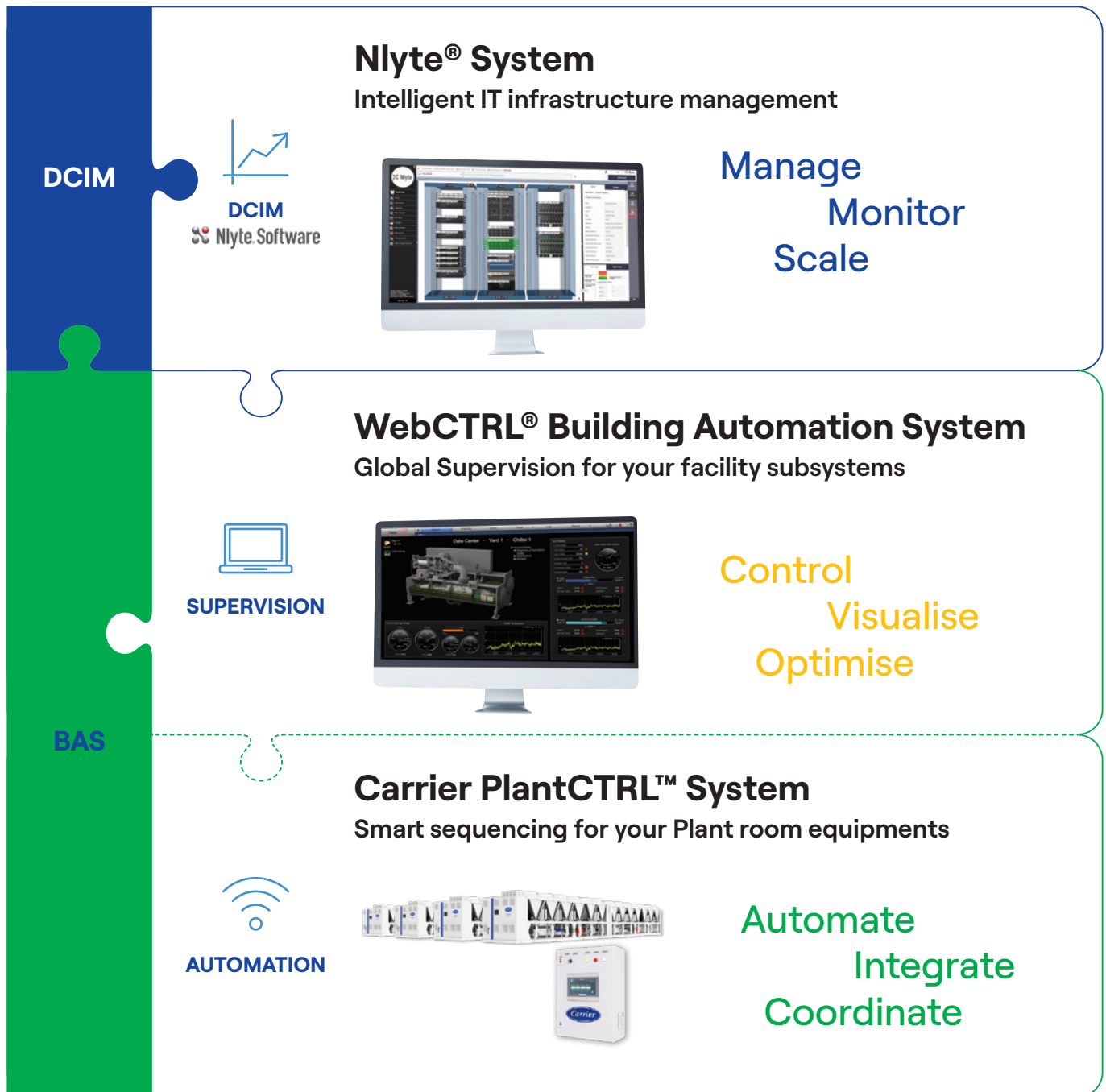
Perfect for dense urban environments

- Low footprint heat pump – easy to integrate into existing infrastructure without requiring extensive modifications (Width < 1.4 m)

* size 750 & 1,500 kW from December 2025

Integrated management solutions

From chip to chiller, QuantumLeap enables end-to-end thermal management by integrating intelligent cooling, digital controls, and predictive monitoring and service, ensuring real-time optimisation, adaptability and efficiency across data centre operations. Through this scalable system-wide approach, we deliver highly efficient, tailored solutions backed by proven expertise and our global support network. It all adds up to the confidence you need to operate with optimised performance at every stage of the data centre lifecycle – and at Carrier, it's built in by design.





Nlyte® DCIM

An open-platform solution to automate, optimise and monitor your entire data centre infrastructure.

Automated & Optimised Operations

Automate asset lifecycle, capacity and compliance management with real-time monitoring and alerts.

Actionable Insight Benefits

Use dashboards and consolidated data to anticipate issues and drive efficiency.

Adaptive growth capacity

Manage any data centre size and integrate with ITSM, finance, and infrastructure systems.

WebCTRL® Building Automation System

A web-based platform to unify and control all building subsystems for better operational efficiency.

Unified Facility Control

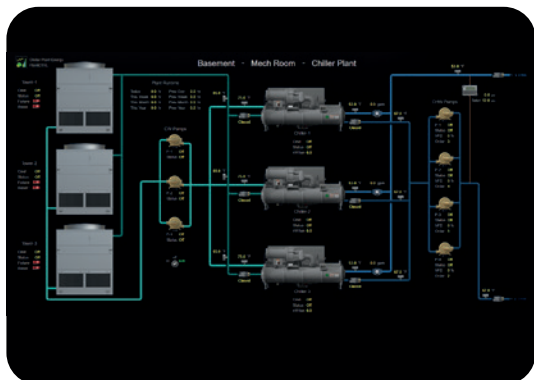
Centralise all HVAC, lighting, power, and security systems with secure remote access.

Gain Actionable Insights

Use real-time visualisation and data to optimise energy and maintain uptime.

Compliance & Performance

Automate control strategies to meet SLAs and reduce operating costs.



Carrier PlantCTRL™ System

An intelligent plant room control system that integrates heating and cooling into one automated network.

Integrated Plant Room Control

Centralise all plant systems into an automated platform tailored to your facility.

Optimised Coordination & Efficiency

Enable smooth integration of all components for improved efficiency and reliability.

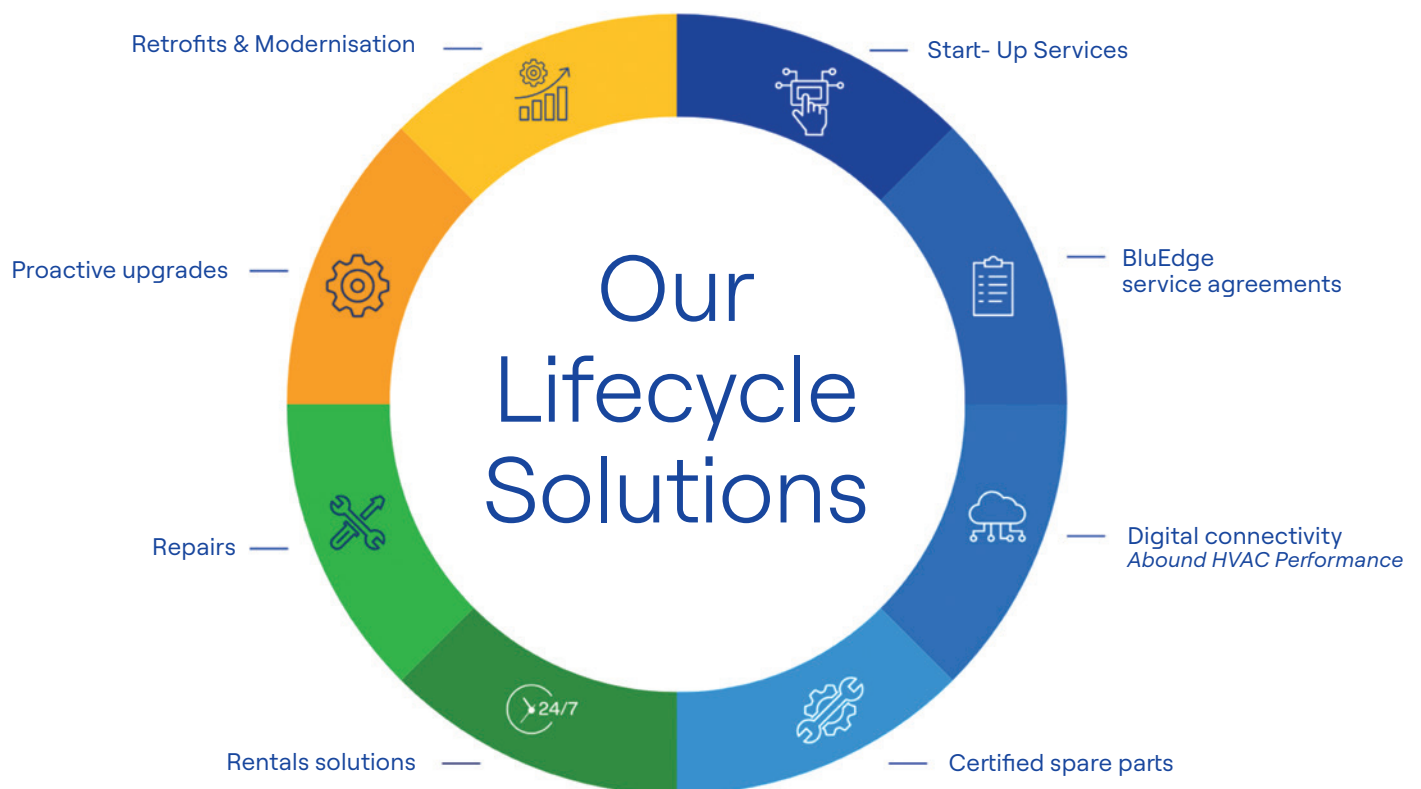
BAS Integration

Fully compatible with WebCTRL® BAS for unified facility management.

A wide portfolio of service & aftermarket lifecycle solutions

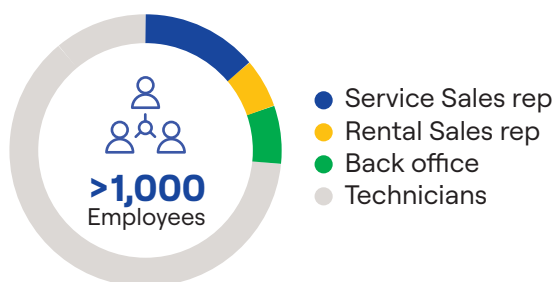
With Carrier, you are not just getting the most innovative equipment in the industry for your data centre. You're getting a trusted partner delivering expertise, service and greater peace of mind throughout the lifecycle of your HVAC equipment. Our comprehensive solutions range from predictive maintenance, repairs, OEM spare parts, rentals and upgrades.

With service solutions tailored for your unique business, we deliver the reliability, expertise, partnership and security you need through proactive and responsive support — ensuring maximum efficiency, protection and, most importantly, uptime.



An Extensive Service Network Across Europe

11 Countries
60 Branches
>1,000 Employees



Carrier's HVAC service organisation



~1,000

QUALIFIED, HIGHLY-TRAINED
TECHNICIANS



Customised

SERVICE OFFER



24/7/365

ON CALL <4 HOURS
SUPPORT



+100 K

UNITS INSTALLED

+25 K

UNITS UNDER MAINTENANCE



Parts strategy

DEDICATED TO DATA CENTRE



COMMAND
CENTRE
& IA ASSISTANCE

Carrier is your **one-stop service** provider for maintaining your data centre assets and facility infrastructure.



carrier.com/datacenters



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