

Heat Pump Awards 2026

Application submission

Making heat pump expertise accessible at OEMs

Chapter | Innovation Award

1. Application overview

Award category	Innovation
Title of the project	Making heat pump expertise accessible at OEMs
Organisation Name	Chapter
Exact address of the project	VOC-kade 10, 1018 LG, Amsterdam
Funding	Private
Organisations involved in the project	Chapter, implemented across Inventum Technologies in Houten, the Netherlands, and Solvis in Germany, supporting their service teams and installer networks.
Project ending date	15/10/2027
Project website	https://www.chapter.works/customers
Sector of application	Commercial / Residential

2. Applicant & EHPA contact details

Full name	Mieszko Czyzyk
Email address	mieszko@chapter.works
Phone number	31649933767
EHPA member involved	Chapter
Role of EHPA member	Chapter is the technology provider and implementation partner responsible for developing and deploying the AI-native technical knowledge platform for Inventum Technologies and Solvis. Chapter works closely with both manufacturers to structure their technical documentation, make specialist knowledge accessible through an AI assistant, and continuously improve answer quality based on real-world questions.

3. Project description and benefits

Project description (goal, problem addressed, and solution provided by the heat pump)

An installer working on a heat pump needs the right technical answer while the job is underway. Yet that answer often sits in a lengthy manual or with a manufacturer's busiest specialist. Repeated questions consume support capacity and leave installers waiting.

Chapter worked with heat pump and heating manufacturers Inventum Technologies in the Netherlands and Solvis in Germany to make their product and service knowledge accessible through an AI-native service knowledge base.

The platform structures existing documentation and answers technical questions with references to the relevant source passages. Users can check the evidence, while clarifying questions help establish the correct product and situation. Missing information becomes a knowledge gap that specialists can review and resolve, making their expertise available for future questions.

The implementations address two connected needs: helping Inventum's internal service and sales teams answer customers more quickly, and giving Solvis installers direct access to technical guidance.

The goal is to reduce time spent searching and handling recurring questions, preserve specialist knowledge, and give the people installing and supporting heat pumps more time for work that requires their expertise.

Expected or achieved benefits

At Solvis, the assistant has handled thousands of technical questions from installers. Many concern information previously found by searching manuals of up to 90 pages. Solvis reports that this has redirected hundreds of hours back to fieldwork, while giving its support team more time for complex cases. As the system improves, Solvis considers handling up to 50% of incoming support questions realistic. This remains a customer expectation rather than a measured deflection rate.

At Inventum, service and sales colleagues can answer technical questions during customer conversations, checking the relevant documentation instead of promising to respond later.

A focused evaluation illustrates the potential time saving. Two Inventum experts spent two weeks testing approximately 100 difficult second- and third-line support questions against around 60 files. Their estimate was 10 minutes saved per answer, including preparing an email response. For a day with ten questions, that represents 100 minutes. Three of those questions would also require at least 40 minutes each of deeper technical searching or consultation, bringing the estimate to 220 minutes per expert per day. This is a customer estimate based on the tested workflow, rather than a measured daily average.

The evaluation also exposed gaps in the documentation. Addressing these gaps captures explanations that might

otherwise remain in individual emails or with a few specialists.

Together, the implementations demonstrate faster access to technical knowledge and a practical way to improve that knowledge through daily use. The intended wider benefit is greater service capacity to support heat pump deployment and maintenance.

Obstacles/barriers encountered during development

The first challenge was the structure of the available information. At Solvis, simply pooling documents using generic AI did not produce the required answer quality. Technical manuals had to be organised across product lines, with clearer labelling and retrieval. This work helped the system find information relevant to the question being asked.

The second barrier was trust. Technical support teams need to understand why an answer applies to a particular product or situation. Inventum tested the platform with real support questions and checked the answers against its documentation. Highlighted source passages and clarifying questions were particularly important in building confidence.

A third obstacle was incomplete documentation. Some questions required knowledge that specialists possessed but had not yet recorded. The platform made these gaps visible, giving experts a way to add the missing information and improve subsequent answers.

Finally, the implementation had to fit how people actually work. Solvis initially considered an end-customer application, but early work identified installers as the stronger starting point. Inventum began with internal service and sales teams to validate the knowledge base before extending access to installers and customers. These different starting points allowed each manufacturer to build confidence through practical use.

Why should this project win an award?

A heat pump installer can have the equipment, tools and training needed for a job and still be held up by one unanswered technical question. When that question reaches the manufacturer, it often joins a queue for the same small group of experts.

This project addresses that everyday constraint on heat pump deployment. At Solvis, installers can consult the manufacturer's knowledge directly. At Inventum, service and sales teams can use that knowledge while speaking with customers. The work has already supported thousands of installer questions, and Inventum's evaluation indicates substantial potential to release expert time.

The innovation also extends beyond answering the immediate question. When the documentation falls short, the question reveals what needs to be improved. Specialists can capture the missing explanation so that the next colleague or installer benefits from it.

Two manufacturers in different countries demonstrate how this approach can serve both internal support teams and external installer networks. It starts with documentation manufacturers already possess and improves through the questions people ask.

The wider impact is on Europe's energy transition. According to the European Commission, an estimated 750,000 additional installers are needed to scale heat pump deployment and meet the EU's 2030 climate goals, while at least 50% of existing installers will need reskilling. Against this enormous workforce challenge, making better use of existing expertise is just as important as training new professionals. By reducing time lost searching for information, avoiding unnecessary support calls and helping installers resolve problems faster, Chapter enables the existing workforce to work more efficiently and support more heat pump installations. This helps ease pressure on an already stretched sector and removes a practical bottleneck to the electrification of heating.

Chapter deserves recognition for making specialist knowledge more accessible and reusable across the heat pump service chain. By helping the people already working in the sector do more with their time and expertise, Chapter contributes to accelerating the energy transition without placing even greater demands on an already constrained workforce.

4. Technical specifications

Capacity of unit(s)	Not applicable.
Energy sources used	Not applicable.
Coefficient of Performance (COP)	Not applicable.
Service provided	Not applicable.
Refrigerant type	Not applicable.

Heat pump details (compressor technology, heat exchanger, system configuration)

Not applicable.

5. Renewable energy integration and grid response

Integration of renewable energy sources

Not applicable.

Response to energy demand / smart grid integration

Not applicable.

6. Innovation, monitoring and replicability

General (all awards)

Why the project is innovative (all awards)

Chapter introduces an AI-native knowledge platform that makes complex heat pump documentation instantly accessible through reliable, source-backed answers. Unlike static manuals or generic AI assistants, the platform continuously identifies knowledge gaps and helps manufacturers capture and reuse specialist expertise, reducing repetitive support work and enabling installers to resolve technical issues faster.

Building on this proven technology, Chapter is developing SmartService AI together with Dutch heat pump innovator Tarnoc, supported by approved government R&D funding through the Dutch MIT R&D AI programme.

The next innovation is integrating real-time heat pump sensor data with Chapter's continuously improving knowledge platform, enabling AI to provide installation-specific diagnostics rather than generic technical guidance. This will help less experienced technicians solve more complex problems independently, reducing pressure on scarce specialists and accelerating heat pump deployment across Europe.

Monitoring approach (performance, cost, and carbon targets) (all awards)

Currently, Chapter monitors platform usage, answer quality and knowledge gaps to continuously improve technical support. The platform does not yet directly monitor physical heat pump performance.

Through the government-funded SmartService AI project with Tarnoc, Chapter is developing the integration of real-time sensor data, operating history and system configuration. This will enable the AI to assess actual heat pump behaviour, guide technicians through step-by-step diagnostics and evaluate the effects of interventions using live sensor feedback.

The project also includes planned fleet-level monitoring to identify recurring technical issues across installations. By supporting faster fault resolution, fewer repeat visits and more effective maintenance, the system aims to reduce service costs and unnecessary travel, contributing indirectly to lower carbon emissions.

For Innovation Award

Technology/technique developed solely for this project (Innovation Award only)

Chapter has developed a proprietary AI-native knowledge platform specifically designed for technical support in the energy sector. Unlike generic AI solutions, it combines manufacturer documentation, technical knowledge graphs, verifiable source references and continuous knowledge improvement.

Building on this foundation, Chapter is developing SmartService AI with Tarnoc through an approved government-funded R&D project. This adds real-time sensor data, installation-specific diagnostics and an AI reliability model that determines when human expert validation is required.

The underlying technology is designed to scale across different manufacturers and energy technologies, rather than being limited to one installation or project.

Differentiation from state-of-the-art solutions & market maturity (Innovation Award only)

Unlike traditional knowledge bases, static technical manuals or generic AI chatbots, Chapter uses a domain-specific knowledge graph rather than relying solely on conventional Retrieval-Augmented Generation (RAG). This approach captures relationships between technical concepts, components, product configurations and troubleshooting procedures, enabling more accurate and contextually relevant answers.

A key differentiator is Chapter's ability to process complex technical schematics, diagrams and multimedia documentation, including instructional videos. The platform provides verifiable references to exact source passages and even specific seconds within a video, allowing technicians to immediately verify answers and access the relevant instructions. Combined with automatic knowledge gap detection and continuous improvement, this makes Chapter particularly suited to complex technical environments.

Security and data sovereignty are equally important. Chapter is ISO 27001 certified, GDPR compliant, EU-hosted and designed for EU AI Act readiness, meeting the security and compliance expectations of European manufacturers.

The platform is already commercially deployed at European heat pump manufacturers. With 2–3 new OEMs joining every month, Chapter has moved beyond the pilot stage to a commercially proven solution. The next generation, supported by approved government R&D funding, will integrate real-time sensor data and adaptive diagnostics, moving from knowledge-based assistance towards intelligent, installation-specific technical support.

Regional benefits (energy savings, emissions, jobs, infrastructure) (Innovation Award only)

The project benefits the Netherlands, Germany and the wider European heat pump industry by addressing one of the largest barriers to the energy transition: the shortage of qualified technical professionals.

By helping installers resolve technical issues faster and enabling manufacturers to support more installations without proportionally increasing their workforce, Chapter improves productivity across the heat pump service chain.

This supports faster heat pump adoption, reduces unnecessary service visits and associated transport emissions, and strengthens Europe's clean energy infrastructure.

Chapter is backed by two leading impact investors, Rubio Impact Ventures and CapitalT, who share its mission to accelerate the energy transition. Their investment supports the development and international expansion of AI solutions that empower Europe's clean energy workforce. Together with the government-funded R&D collaboration with Dutch heat pump innovator Tarnoc, this strengthens the Netherlands' position in sustainable energy innovation while creating scalable benefits for the broader European market.

Commercial potential (Innovation Award only)

Chapter already operates a commercial SaaS model, licensing its AI-native knowledge platform to energy equipment manufacturers. Successful deployments at Solvis and Inventum demonstrate market demand and the ability to scale across different manufacturers and countries. With new OEMs joining every month, commercial traction continues to grow.

Europe has approximately 200 heat pump manufacturers, representing an estimated annual serviceable market of €20 million for Chapter. The broader opportunity extends to an estimated 1,000–1,500 European manufacturers across heat pumps, HVAC, solar inverters, home batteries and other energy technologies.

The upcoming sensor-data integration will create additional commercial opportunities through advanced diagnostics, fleet monitoring and predictive service capabilities. Designed as a manufacturer-independent platform, Chapter can expand through recurring software licences, OEM integrations and international partnerships, supporting scalable growth across Europe's energy technology sector.

For Large Heat Pump or Building Solutions Award

Why the project serves as a model for others (Large Heat Pump or Building Solutions Award)

No answer provided.

Potential for expansion to other locations/industries (Large Heat Pump or Building Solutions Award)

No answer provided.

Barriers to replication elsewhere (Large Heat Pump or Building Solutions Award)

No answer provided.

Business opportunities for expansion, licensing, or commercial production (Large Heat Pump or Building Solutions Award)

No answer provided.