

Trane Technologies, or Thermo King as it is better known in Ireland, enjoys a special place in the development of modern commerce.

Trane Technologies Ltd Case Study

The company played a key role in the supermarket revolution through its development of breakthrough refrigeration technology in the US in the 1930s.

“The company started in the US Midwest in the 1930s,” explains Cormac Mac Donnacha, VP Operations, Thermo King EMEA. “The original invention used petrol engines to power refrigeration systems in a closed trailer. That innovation ushered in the supermarket era as it made it possible to transport and store food near to consumers.”

The company located in Ireland in 1976 when it moved into a 150,000 square foot factory in Galway. “We have doubled the size of the factory since then. The Galway plant has always excelled, and we have been able to compete with lower cost locations due to the skills, capability and commitment of our people here.”

Thermo King's growth path since those early days has been truly impressive. "We produced three trailer units per day back in 1976. Each of them had a 30kw diesel engine in them. When that grew to six per day our employees were looking at the finished units in the yard and wondering where they would go. Now we are producing 140 units per day and have grown from 150 people to 600."

Units per day and employee numbers aren't the only measures of the company's growth and success, however. "Historically, Thermo King products were designed in our Minneapolis headquarters," he points out. "Since the 1990s our 60 strong Galway engineering team has taken on an increasing amount of that work."

The team now works fully independently on the designs for trailer units and truck units. "The team started with truck products for the EMEA and is now so successful that we export all over the world and even sell some units to customers in the US."

600

Have grown from
150 people to 600

60

60 strong Galway
engineering team

Sustainability has been a key factor in the company's success story. "Our main strength is our fuel efficiency and that's due to our unique approach to transport refrigeration design. For example, in 2015 we developed a new refrigerant in partnership with DuPont. The R452A refrigerant has 50 per cent of the global warming potential of its predecessors and has now become the world standard."

That enabled the company to offer a new line of trailer and self-powered truck units that are energy efficient and environmentally superior to competitors. "Ours is a premium product but we still have the biggest market share. We are now working on the next generation of refrigerants which will represent another dramatic improvement."

Thermo King Ireland was awarded the highly prestigious ISO14064A environmental standard in April 2021. "That allows us to certify our production operations as zero carbon," says Mac Donnacha. "We were the first manufacturing facility in the country to do so. We were delighted with that."

Innovation is another key piece of the story. "We acquired one of our key suppliers in Galway, Celtrack in 2015. That gave us the capacity to design customised telematics solutions for customers. We can track the unit's fuel consumption, the refrigeration settings, we can instruct drivers if they get lost, and we have even tracked stolen trailers."



The company also won a number of innovation awards for its Advancer A-Series smart trailer. The Advancer A-Series features a new design architecture that sets new standards for performance, temperature control, and fleet connectivity.

And growth continues. “We are at record levels of output at the moment, and we are expecting further growth of 20 per cent next year.”

He does point to some challenges which need to be addressed, however. “Housing is probably the biggest issue. Our employees are affected by the cost of housing, and it makes attracting talent more difficult. The other issue which comes up from time to time is the inability to get infrastructure projects delivered quickly. The ease of objection is a problem. It would be good to see some reform of the planning system, particularly to speed up projects of national interest.”

The company has taken a proactive approach to addressing the skills pipeline needed for continued innovation. “We collaborated with GMIT and the IDA to design a degree course in automation and robotics to boost STEM skills in the west of Ireland. Thermo King invested €1.5 million in a special robotics automation training centre at our facility here in Galway. Students can come to the centre to get hands-on experience.”

That initiative has its origins in a robotics project undertaken by the company’s product engineers and its 20 strong manufacturing engineering group. “We decided to bring robots into a production cell but when we sought an outside quote, the price was €1 million. We ended up doing a lot of the design work ourselves and that brought the investment down to €550,000. We realised if we had the skills in-house it could have been €250,000. We don’t have the volume to justify a lot of automation, so we have got to bring down the investment costs to justify it.”

20%

we are expecting further growth of 20 per cent next year

The teams designed and built a three-armed robot to perform specific tasks on the production line. “We bought in the components and designed and built it ourselves. We did everything including the vision systems and the CE Marking. Thermo King Ireland can become a world centre for automated cell design. We have already done one project which involved building a cell for a sister plant. That was our ambition setting out – to become the absolute experts in automated cell design.”

For the future, talent and sustainability along with innovation remain top of the agenda for Thermo King Ireland. “Innovation is vitally important, and we need to continue to attract talent,” Mac Donnacha concludes. “The whole green agenda is critical to us. Carbon neutral certification is very important, and we hope the whole plant will be certified within the next six months.”



150

150 stations on our main
200 metre assembly line