

ENVIRONMENTAL COLLABORATION OF THE YEAR



Winner – JD Cooling, Worldwide Fruit and Frigotec – Softripe

The winners here present a fine example of partnership between the refrigeration industry, technology specialists and the client. Judges liked the fact that the solution reduced energy usage while improving the end products' quality and reduced waste through reducing damage to the fruit – and indeed wondered whether the technology could be more widely applied to the UK fruit industry. But they also highlighted the dedication of JD Cooling to provide full service provision to their client under difficult circumstances.

Softripe is a new ripening technology that uses controlled atmosphere conditions to ripen fruit without stress – monitoring its respiration and applying the exact, controlled atmosphere that the fruit requires to ripen to its optimum condition.

The partners have reinvented a process, based on forced temperature changes and air distribution that has not changed fundamentally for many years, they say.

JD Cooling notes that while it has previously evolved its side of the technology with EC fans, glycol and heat recovery to ripen using waste heat from the cooling process, “we had been searching for a big step forward in ripening technology”.

The subsequent discussions with Frigotec, which was working with a Brazilian company on ripening techniques, have led to Softripe, which blends several processes, which JD says allow it to “listen” to the fruit through the respiration gases to ripen fruit “as close to possible as if it had done so on the tree itself”.

By combining lower temperatures with finite control of oxygen, carbon dioxide and ethylene, and adding in higher relative humidity and temperatures controlled according to the exact needs of the fruit at each point within its ripening cycle, the overall result is less stress for the fruit and a ripening cycle around 40 per cent shorter than the conventional process.

Finalists

Carrier and Max Fordham: Lambeth Palace Library

The chiller manufacturer and the consultant worked together on the controlled conditions for the ancient books and manuscripts at the residence of the Archbishop of Canterbury. The partners planned and delivered two cooling-only units and two heat pump-based chillers, with intelligent communication between the cooling and heating sides of the system to deliver the required capacity. The partners say it is an excellent example of a collaborative project that delivers outstanding efficiency while providing resilience and cooling headroom in a cost-effective design.

KPS Global and Arctic Express Packs: Automating Gel-pack Production

The production of the gel packs used to keep pharmaceuticals and food-and-beverage products at their desired temperature is labour-intensive and complex – and had never previously been automated, the partners note.

The two companies have collaborated on a way to fully automate manufacture on site and on-demand – in a fraction of the time (down from 2.5 weeks to less than an hour), at a fraction of the cost (savings of \$100,000 or more annually) and with a fraction of the greenhouse gas emissions (a carbon footprint reduction of more than 95 per cent).

A compact freezer unit with a vertical spiral conveyor developed by KPS Global plays a pivotal role in allowing the AEP system to produce the gel packs on-demand and on site.

Toshiba Carrier UK and Briggs & Forrester: Solent University Sports Centre

The manufacturer and contractor worked together to deliver the services for a BREEAM Excellent design, where the intensity of use and diversity of spaces posed challenges. The resulting design combined two types of VRF, along with splits and the manufacturer's novel AHU-DX combined coil systems.

The manufacturer claims the result is “a high-performance, high-efficiency building that delivers excellent indoor conditions for occupants while meeting the highest environmental standards and low running costs.”