



## Nolan's Supermarket

Clontarf, Dublin

2020



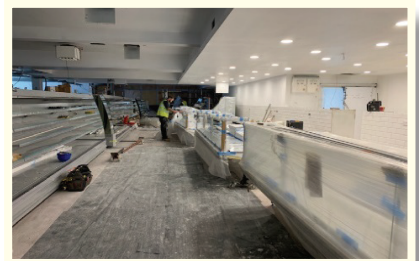
### CLIENT

Paddy Nolan started out in Vernon Avenue, Clontarf in 1958 as a local convenience store. It was a time when your grocer greeted you with a smile and you were assured of quality products and value, together with a real sense of community. Since then, not much has changed in that respect at Nolan's, still an independent, family run business with a commitment to excellent service. In 2018, 60 years after first opening, Nolan's undertook a massive redevelopment program. This was centered on an extension and refurbishment which has totally transformed and modernized the store and delivers a brand new, exciting shopping experience not only for their loyal patrons but also for a new generation of shoppers.



### PROJECT

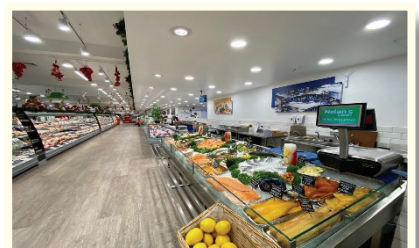
The scope of the Refrigeration contract was to design and deliver a complete new supermarket refrigeration system, to run on CO2 refrigerant which has 'Zero Ozone Depletion'. The plant, built by Clade UK, is comprised of 2 fully independent CO2 systems serving 43 individual pieces of equipment. The system is designed to reclaim the heat absorbed and as an added benefit, provides 80kw of heating for the store. The cold rooms, cabinets, counters and display units are manufactured by Viessmann and were shipped to Ireland in 10 no. 40ft containers. We also installed several satellite fridges which are running off a Panasonic CO2 Condensing unit, the very first Panasonic CO2 unit to be installed in Ireland.



### APPLICATION

CO2 has several unique thermo-physical properties and in practical applications, CO2 systems deliver very high performance, the main reasons being better heat exchange, very low pumping power when CO2 is used as secondary fluid, and in cold climate the possibility of operating with a very low condensing pressure in the winter. CO2 has high energy content at higher temperatures, and when this heat can be reclaimed for heating sanitary water or similar application, the efficiency of the total system becomes very high.

Environmentally, CO2 is a very attractive refrigerant with zero ODP and a GWP of 1. It is termed a "Natural Refrigerant" because it exists in the natural environment. Release into the atmosphere from refrigeration systems has a negligible effect compared to other CO2 sources that are driving the global warming debate. As a refrigerant, it is a manufactured product that conforms to strict purity specifications. The system pressures are much higher than in conventional systems, and all the components are designed accordingly. High investment costs were characteristic of early CO2 projects, but these costs are now on a downward trend.



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