

Petrol Station Canopies

By Martin Steggles
Managing Director, Global-MSI

Why do petrol stations have canopies?

The main reason is so that customers don't get wet when filling their cars. Back in 1960's, drivers would sit in their cars in the dry; the petrol pump attendant would come out to the cars and put in as much petrol as was asked for. He would then take the money and bring the change while the motorist stayed warm and dry in the vehicle.

Until the 1960's many villages had their own petrol station, like this one from the 1930's.



Kerbside petrol from 1930's

For much of this period petrol was served from a garage selling or repairing motor cars with the pumps on the pavement. It is impossible to think of serving petrol in that way today with regulation the way it is.

The first 'self-fill' petrol stations in England appeared in the early



Petrol station with car repair workshop from 1950's

1960's, but the idea did not become popular until the late 60s and it was only after the oil shortage in the early 70s that self-service became pre-eminent, as a cost-saving measure. As drivers had to get out of their cars, the canopy roof structure was placed over the forecourt to protect them against the elements. For the first half of the 20th century, when petrol attendants sold fuel, such protection from the elements was not deemed necessary. Forecourt branding, as a part of product differentiation, began to play an important part in fuel retailing from the early days of the first roadside filling stations at the start of the last century.

The first lightweight structures that appeared in the 1950's were built by the local blacksmith in rural areas

and were of gull-wing design. The coming of the motorways at the end of the 50s and the motorway service area complete with petrol station may be seen as a successor to the coaching inn on the highways of 18th century England. The introduction of the separate HGV canopy soon became popular as a way of keeping commercial traffic away from domestic. The proliferation of petrol stations and the change to 'self-fill' hastened the disappearance from the market of the local fabricator and the dominance of highly focused, dedicated contractors like Global Canopies (a forerunner of Global-MSI) with design; manufacture and erection specialisation and total commitment to providing the resources in a professional cost effective package.

Since that time petrol stations have become increasingly standardised. During the late 70s and 80s, the petrol companies bought service stations all over the country, and as a result they were rebuilt. The varieties of buildings across company networks were demolished and replaced with a uniform canopy structure. Often buildings of greater architectural merit were demolished in favour of the standard structure, favoured as a device on which to hang the company's branding.

Now, when petrol stations are



The Global-MSI canopy built for Chevron Espana San Bartolomé de Tirajana, Gran Canaria in 2011

redesigned, the basic canopy structure tends to be retained but it is re-signed with updated graphics. Influenced by the growing number of cars and car drivers no longer wanting to hand wash their own



The Global-MSI canopy built for J. Sainbury Greenwich, London 2000



The Global-MSI canopy built for J. Sainbury, Bath 1999

cars, petrol stations designers began to include car wash buildings which consisted of an automatic machine that rolls back and forth over the stationary vehicle, often within a steel canopy-like structure with automatic doors at either end and with glazed elevations.

Apart from the standard flat top design there are an increasing number of contemporary iconics

the chance to break the mould. Canopies were chosen as an interesting way of providing cover for the customer filling up their cars, but also as an eye-catching statement. An example was the

concrete hyperbolic paraboloid on the A1 at Markham Moor originally designed as a petrol station in the late 1950s. The architect tried to

with solar panels, and translucent roofs.

Post 1990 the development of Central and Eastern Europe brought about opportunities for expansion and through existing

address the challenge of ensuring the free access and flow of traffic by avoiding columns near the pumps; this design unfortunately caused a wind tunnel that was totally and quite rightly unacceptable to the customer was eventually completely enclosed at ground level and became a 'Little Chef' restaurant.

The comfort of the customer has always rightly been the prime concern of the seller, particularly when having to stop on a journey, get out of the comfort of the motor

that include the dome structure adjacent to the Millennium Dome (now O2 Arena) in London, and the barrel-vaulted structure in Bath both built in the late 1990's.

Few people see petrol stations as a pinnacle of architecture, but to certain Customers it was

car, stand in the open for several minutes and then walk to the shop to stand in the queue spend an ever-increasing sum of money before walking back to the car feeling aggrieved, can make such an exercise an unwelcome purchase. Overall the flat top, multi stanchion canopy with colour display on the fascia has proved to be the most successful; practical and aesthetically pleasing design, an iconic feature on any highway and one that is particularly pleasing to see when having travelled some miles on 'empty' hoping that the next station isn't far away.

In urban areas there was a time when a more domestic design became the vogue with pitched tiled canopy roofs to satisfy local planning authorities that required petrol stations to blend in with other buildings of the High Street. Standard canopies in petrol station estates around the country are still the norm but are increasingly interspersed with examples of canvas roof coverings, canopies

with solar panels, and translucent roofs.

Post 1990 the development of Central and Eastern Europe brought about opportunities for expansion and through existing

association with the western oil majors Global-MSI's expertise was called on to construct the western style and corporate image canopy. To do that we had to operate locally and we are still there in Poland contributing our technical, manufacturing and erection expertise to the east European majors, local operators and supermarkets. Amongst my many memories was a canopy installation in the bitter January cold, in a provincial town in the Ukraine, and a weeks stay at the towns' still at the time unfinished and unheated Hotel Sputnik! Another from the late

1990's, was when I spent a fortnight in near 40-degree heat during the installation of a shop and canopy in Kazakhstan, close to the border with China. The reason for the canopy here, as with the canopies Global-MSI supplies in southern Europe, was to keep the sun rather than the rain off the Customer! This was not only an unusual destination, but even more unusual was the mode of transport, with the entire canopy and shop material delivered to site

competition.

Supermarkets share of the retail fuels market has grown steadily over the past 15-20 years. The supermarkets' growth in market share has coincided with a rapid expansion in their large out-of-town stores, with filling stations able to sell large volumes of fuel, particularly to people doing their weekly shop at the main store.

Petrol station design has come a long way in a comparatively short



The Global-MSI canopy built for Aram, Warsaw, Poland in 2011



The Global-MSI canopy built for Esso, Akureyri, Iceland in 2005

on board a cargo aeroplane from Stansted airport to Almaty, 4,000 miles away!

The latest Retail Marketing Survey, conducted by the Energy Institute (EI), shows that the number of forecourts in the UK continued to decline over the past year, falling to just 8,892 sites. This is compared to 20,000 in 1991 and 1967's all-time high of 39,958 forecourts, reflecting closure of the original village one pump garage station to the development of multi-pump service stations. Rural, independently-owned petrol stations have been particularly prone to closure due to the steep cost of fuel on the wholesale market, rising business rates and taxes, and increased

period of time. The modern forecourt today with multi-pump dispensers, car wash and convenience food store is a far cry from the 1950s when a canopy over the pumps was considered a

convenience rather than a necessity. Increasingly, the slim margin on fuel retailing has prompted the re-development of many sites to boost volume throughput and provide a better standard of service and facilities, with particular emphasis on larger shops or convenience stores that are a vital element in overall site profitability.

In the last 15 or more years, the role of the forecourt "shop" has changed from being a small kiosk that stocked oil and a few commonly used consumables for the motorist and the average car, to today's convenience type store. This marked change is partly a reflection of a transition to busier lifestyles more reliant on convenience foods and the development of more sophisticated cars. The main influence, however, has been the erosion of competitive advantage in fuel retailing and increased price competition that has driven companies to develop non-fuel

revenues from the forecourt shop. Convenience store spending represents an increasingly important source of revenue to forecourt operators. In recognition of this, many fuel retailers have established joint venture operations with supermarket brands for the larger convenience store/fuel outlets. When sites are demolished and rebuilt, the closure period is to be kept to an absolute minimum. Global-MSI's prefabricated shop buildings address this requirement, providing a waterproof envelope within a few days.

The separation of the food offer available in many forecourt shops from the fuel at the pumps has encouraged petrol station designers to specify canopies that are not linked to the shop. It is usually possible to remove the canopy links from existing canopies whilst retaining the part over the fuel pumps. Global-MSI has carried out many such projects where the station operators wish to separate shop from canopy, with the added benefit of providing more natural light to the fuelling area. The opposite i.e. extending 'un-linked' canopies to form a covered walkway to the convenience of the shop is also specified by operators that wish to use the area in front of the sales building for storing produce; and for protecting produce behind the shopfront from the effects of the sun.

Whilst design is challenging so can the erection process be. There are the green field open sites that can be straightforward but there are many different shapes and positions in urban areas that bring many challenges to the contractor; proximity of major roads, narrow streets, close proximity of railways; over head cables etc. At Global-MSI we have seen them all and gained from the experiences.

Canopy installation has changed greatly over the last 20-30 years. In the 70s and 80s it was not uncommon in the steel industry for steel erectors to work at height straddling beams and making the connections whilst clipping and



The Global-MSI canopies, sales building and car wash building, Livingston, built for Shell in 2011



The Global-MSI canopy built for Tesco, Barnstaple, 2011

unclipping their safety harnesses as they slid along the beams to the next connection. Thankfully a combination of safety awareness and legislation has forced these practices from the industry and as a result the process of installing canopies has become far safer. The preferred method of installing canopies is to assemble the main components at ground level, and to lift the canopy top onto the columns using one or more mobile cranes. This is the default method but a number of factors will determine whether the canopy can be built at ground level. The service station will need to have sufficient space to accommodate the canopy at ground level and in which to operate one, two or more cranes. The position of the fuel tanks is another determining factor as it is not desirable to place a crane over

flight paths will all warrant consideration. The advantage of assembling canopies at ground level is to a large extent to eliminate working at height. Safety benefits are not limited to the canopy installers. Sign fixers and the electrical contractor can both install their products completely or partially at ground level too, as can be seen from the photo of Shell Etwelle taken during the installation of the canopy and fascia image signs.

Global-MSI has been committed

recently recognised at the prestigious APEA Awards Dinner in November, where Global-MSI received awards in two categories and a further two nominations. A



The Global-MSI canopy built for BP, at Gatwick Airport, West Sussex in 2005

proactive health and safety approach is quite rightly a prerequisite for working on forecourts today and future innovation in canopy construction will continue to be welcome in an industry focussed on the highest safety standards.

Global-MSI is proud to have played a major part in the evolution of the petrol station since the 1960's and has intimate knowledge of the design and construction of 80% of the operating stations in the UK. Customers that undertake forecourt canopy alterations; re-imaging, refurbishment, maintenance and damage repair services can benefit from Global-MSI's comprehensive reference library of original drawings and structural calculations for thousands of operational petrol filling stations across the UK and



The Global-MSI canopy built for Shell, at Etwelle, Surrey in 2011

the tank farm. Nearby power cables, railway lines and airport safety on the forecourt, a fact

Europe. Accessibility to this unique resource enables Global-MSI to respond promptly, provide instant specification definition all in accordance with local regulations when structures on active stations require modification or repair, minimising downtime, disruption and eliminating expensive intrusive site surveys and multiple site visits. Recent innovations in canopy design will improve safety performance whilst maintaining or dismantling canopies. New canopies are now supplied with a socket as provision for fitting scaffold edge protection for maintenance of the canopy's fabric in later years without the need to remove the

perimeter image fascias or disrupt the operation of a 'live' forecourt. The 'lifting spigot' detail provides locating pins on the canopy main beams that slot into an opening at the top of the columns, allowing canopies assembled at ground level to be guided into place without the need for engineers to stand beneath the canopy when it is suspended from a crane whilst making the bolted connections to the columns. Already a benefit during canopy dismantling, when the installation process is reversed.

This is design and safety innovation that will benefit the industry in years

to come, while at the same time addressing the ever-increasing requirement to improve safety standards and reduce cost. Global-MSI's development team is continuing to work on radical and innovative designs that reflect current influences such as the protection of the environment, using alternative materials; utilising low cost energy; and generating designs that will enhance durability, minimise maintenance and repair work that result in station down-time.

Martin Steggles MCIOB
Managing Director
Global-MSI plc
Doncaster, England
Email: martin@global-msi.com