Notes from a small country

Despite being an automotive hub of some importance, Belgium slips under the radar more often than not. But with a manufacturing ethos the envy of many larger industrialized countries, Belgium is worthy of further consideration writes **Matt Youson**

Which country produces the most automobiles per capita? Ask the question on any street corner – or indeed in most boardrooms – and most people will be wide of the mark. The smart money suggests Japan, though this is not the case. Nor is it the US, Germany, France or South Korea. The answer which surprises a lot of people – myself included – is Belgium. In fairness the statistic is something of a distortion. The annual car production in Belgium hovers around the one million mark, barely troubling the world top 10 in terms of overall output, but for a small country it represents a massive portion of overall industrial output and a sizeable share of the European total.

Manufacturing track record

Perhaps it is the lack of a domestic marque that obscures the Belgian automotive industry for it has been a long time since a Minerva or Imperia rolled off the production lines. However, the nation has been a steady international producer for eight decades, from Model Ts and Chevrolets in the 1920s to the VW Golf, Ford Mondeo, Opel Astra and Volvo S60 today. A 40-mile stretch of Northern Belgium centered on Brussels has a higher density of car production than Detroit. The 'Flanders Automotive Valley' is home to major production facilities for Ford (Genk), Volvo (Ghent), VW (Brussels) and Opel (Antwerp). Three of the four (Ford being the exception) have recently re-tooled their plants to begin production of new models for 2004. Belgian government officials are on record predicting high automotive growth in the coming year. While that can be regarded as highly optimistic, the Belgian automotive sector is at the very least not going backwards, at a time when many other European regions most definitely are.

Most Westerly of Belgium's 'big four' is the Volvo factory in the port city of Ghent. At the beginning of the 1960s Volvo decided to establish a car factory in the then embryonic EEC with the intention of avoiding high import duties on finished products. With Swedish accession to the European Union in the early 1990s, such practicalities became moot, but by this time Ghent had become a cornerstone of the Swedish manufacturer's production base. The 850 model, manufactured on the site in the 1990s was the first Volvo to begin production outside of Sweden, paving the way for a future production philosophy which now sees Sweden and Belgium producing roughly equal portions of Volvo's total output. In 2002 the facility manufactured 150,130 mixed S60 and V70 models. This year a €340 million ($400 million) investment at the site has seen capacity rise to 270,000.

Ghent upgrade

Following Mitsubishi's decision to acquire complete control over the NedCar plant in the neighboring Netherlands (currently the production facility for Volvo's S40/V40 models) Volvo took the decision to produce its replacement models – the new S40 and V50 unveiled in Frankfurt – at Ghent. The site has undergone an upgrade to its trim & final assembly lines,

Above: This year a €340 million ($400 million) investment at Volvo's Ghent site has seen capacity rise to 270,000

Left: Opel's facility in Antwerp includes an assembly and component manufacturing plant, a paint shop and welding and engine dress lines

enlarged paint shop provision and a completely new body assembly line. Although Volvo seems intent on moving production of the V70 back to the Torslanda plant in Sweden, the net effect is a huge increase in the strategic importance of the Ghent facility.

"Volvo has invested heavily in this region over the years and continues to do so, as witnessed by our present investment program – Volvo is a believer," says Ghent manufacturing manager Herman De Rom. "[Volvo] had to look for a new place to produce the successors of the 40 range and all options were open: using capacity in a Ford plant; building a new Greenfield site, possibly in the US; or expanding a Volvo plant. The choice fell on Ghent, because it simply made the best offer in all respects, financial, technological, quality-wise and also regarding intangible aspects, such as the Flemish work ethic."

Bursting point

Increasing Ghent's capacity is a vast undertaking that will push the plant to bursting point. "We face a watershed," admits De Rom. "We will go from a medium sized to a large plant and all within our existing walls. We will add a night shift, meaning that the plant will run 24 hours a day in a three-shift system. Because space is limited, we outsource activities [for example, body sub-assembly to Tower Automotive, *see robots and conveyors article in this issue*]. The line speed is gradually being increased, to a cycle time of 63 seconds and the number of man-hours per car will improve from 21 to 17 [IMVP calculations]. In 1992 the corresponding figure was 36 man-hours."

Flexible labor

Much play is made of the advanced level of technical education provided in Belgian schools by all of the manufacturers in Belgium. However, the compliant nature of the labor market is a far more significant factor in the attraction of the country to international corporations.

Less rigid than elsewhere in the EU, and incomprehensibly open from a US union standpoint, in the past Ghent has faced its fair share of industrial action. But since a particularly bitter dispute in the late 1970s consensus, rather than confrontation, has dominated.

"In the end that dispute had a cathartic effect. It was the beginning of our consensus model, and I believe that we can still be regarded as a role model when it comes to social relations, not only in Belgium but in the whole of Europe," says De Rom. "If you asked our parent company how they would describe us, I think they might call us 'the plant that delivers.' I believe this is something which can be traced to our Flemish or Belgian roots, since I hear the same story with our colleagues and competitor plants at Opel, Volkswagen and Ford."

Single-minded Opel

The view is certainly one echoed by Opel in the nearby city of Antwerp. Established in 1924, Opel's facility in Antwerp includes an assembly and component manufacturing plant, a paint shop and welding and engine dress lines. It produces a single product, the Opel/Vauxhall Astra with capacity to build slightly more than 300,000 units a year. The new Astra model has recently begun production and is expected to ramp up to full speed by Easter 2004. It is models on which GM Europe's aspirations rely heavily.

"Continuing employment comes about by doing lots of other things very well – such as improving quality, productivity and customer service," says plant manager Diana Tremblay. "Everybody here understands their responsibilities to build a quality product. It's an important point and I think the understanding of it is far greater here than in many locations where I've worked. Certainly from the union side there is a much better understanding."

Above: We face a watershed… we will go from a medium sized to a large plant – and all within our existing walls – Herman De Rom, Volvo

VW

Volkswagen assembly began in Belgium in 1954 when the D'leteren company was granted a license. By 1970 when VW took over its own operations at the plant in Vorst near Brussels, D'leteren had production of more than 835,000 cars. These included some 800,000 Beetles with a balance of Karmann Ghias, Packards, Porsches and Studebakers. From 1980 onwards the plant at Vorst produced a succession of Golf models, from the original A1 up to the current incarnation. The plant has also produced all evolutions of the VW Passat, predominantly for the North American market, eventually ceasing Passat production in 1997 when the car was replaced in the plant by the Toledo and Leon models from VW Group's Seat marque.

Today, VW produces the A4 Golf and the Lupo supermini at Vorst. It is currently gearing up to move to production of the 5th Generation Golf, following the lead of the Wolfsburg plant, and will also take on additional responsibilities for the Lupo, becoming the sole manufacturing site for the model. Audi's A3, which shares a platform with the Golf will also be produced at the facility. The plant employs around 6,000 people and produces around 250,000 vehicle a year.

R&D

Flanders' DRIVE is a recently established innovation cluster that has the strategic goal of strengthening the product development capacity of automotive suppliers within the region. Founded by Bakaert, Bosal, Bosch, LMS and Tenneco, Flanders' DRIVE was bought into existence to provide an R&D resource to suppliers suddenly tasked with design responsibilities, for which no in-house testing facilities exist locally.

In the first instance, Flanders' DRIVE is a platform where companies and centers of expertise can exchange both knowledge and experience, as well as define research and training projects. Another major step in the development of the organization is the construction of an engineering and test facility which is currently being built on a parcel of land formerly part of Ford's Lommel proving grounds.

The site has been purchased from Ford by the Development Agency of the Limburg region and the funding of the center will be supported by grant assistance from the EU and Flemish Government and input from the Flanders' DRIVE companies. "This is an excellent project which offers the opportunity of sharing advanced technical facilities to the advantage of a wide range of companies, including Ford," says Martin Leach, former COO, Ford of Europe. "It also represents an innovative partnership between government and industry, which brings considerable benefits to both the private sector and the wider economy."

The Lommel site was chosen because of the availability of the Ford test track to provide real world testing facilities to complement the research and development work of the technical center. In a separate development, Ford also invested $12.8million to build a special vehicle dynamics area and new high-speed handling course at Lommel.

Production guinea pig

The new model is the latest transformation in a decade of change for Opel Antwerp. It was very much a guinea pig for GM's production philosophy, being transformed from a very traditional brownfield industrial site, to a lean-manufacturing facility in the mid-1990s. The plant has taken on board GM's adoption of a system similar to the Toyota Manufacturing System, and had its first audit in 2002."The hardware conversion took place in the mid-1990s but the mental conversion is an ongoing journey," continues Tremblay."That really is the hardest part – getting people to think differently about how they work – but we're making excellent progress. While we still have opportunities for improvement, the audit process indicated that we were GM's best brownfield conversion, which is a reward for the work that has gone on."

The reward for the results produced by Antwerp comes in financial form."GM is investing: that's a key message for us," says Opel Belgium managing director Eddy Geysen. "In total €0.5 billion ($0.59 billion) is being allocated for the expansion of our press shop and the launch of the new Astra."The new car will go on sale in January with a 5-door model, followed by the station wagon later in the year. These models will also be produced at the sister plant of Ellesmere Port in England, however a 3-door model, due to go on sale in 2005, is scheduled to be produced exclusively at Antwerp.

At the cutting edge

Aside from vehicle production, the Antwerp facility has undergone a massive expansion to its press shop capability. A €50 million ($58.9 million) investment was made in anticipation of the new model program. A third high-technology transfer press from Schuler and a new blanking line have joined the two existing transfer presses and the associated cutting-press capacity. In total the steel 'turnover' capacity of the plant has risen from 50,000 tonnes to approximately 80,000 tonnes. The new Schuler press is capable of stamping larger and more complex parts than the existing lines and will be tooled to accommodate the latest types of steel."By installing this cutting-edge technology, Opel is clearly investing in the future," says Geysen.

Belgium has clearly profited from having a responsive and flexible labor market – after all, there are many other countries eager to attract the inward investment that currently pours into

VW produces the A4 Golf and the Lupo supermini at Vorst, is gearing up to move to production of the 5th Generation Golf, and will become the sole manufacturing site for the Lupo

TENNECO AND MONROE

The Tenneco Automotive manufacturing site at St Truiden covers 60,000m^2 and produces more than 9.5million ride-control systems and components annually under the Monroe brand name. The plant has a daily capacity of more than 45,000 units.

Monroe first came to the Flanders region in 1964, 14 years before being acquired by Tenneco. Steady investment and expansion through the years has seen the site expand until today it employs around 1,400 staff.

In 1995 the Monroe European Technical Center was opened at St Truiden and today employs a further 200 people. The center houses NVH and life-test equipment in two specially-adapted anechoic chambers.

HONDA

Honda launched its Belgian operation back in 1962. Today that operation has grown into an extensive parts manufacturing and logistics business that supplies plants around the European mainland and the UK. Honda Belgium makes instrument panel sections and inlet manifolds (aluminum and plastic) for Honda UK. In 1999 the plant also began producing drive shafts for Honda UK and Honda Turkey. An aftermarket fender painting section, supplying the Honda Europe Spare Parts Center in Ghent has been in operation since 1996.

TOYOTA

As well as being home to Toyota's European head office, Belgium contains several other important Toyota facilities. The Toyota Technical Center in Zaventem carries out parts design, selection and testing of materials, engine evaluation, and the tuning of the driveability characteristics of all Toyota models sold in Europe. Product Design, Material Engineering, Vehicle Engineering, Homologation and Regulation, Powertrain Engineering and Engineering Support are the divisions responsible for carrying out these activities. The center employs 300 people and represents an investment of €17million ($20 million).

Belgium is also home to Toyota's 'vehicle hub'. Located at the port of Zeebrugge, the hub represents a €10million ($11.7 million) investment. It encompasses Toyota's Vehicle Logistics Center (VLC) for Europe and fulfills four key functions for the company. First, the site will receive vehicles arriving by ship from the UK and Japan. Second, in a reciprocal arrangement it will be the export location for Yaris models built in Toyota's nearby plant at Valenciennes in France. Third, the VLC will act as central stock location and carry out post production option (PPO) mounting, pre-delivery inspection (PDI) and direct dealer delivery (DDD) for Belgium, Luxembourg and the Netherlands. Finally, the center will be the transit location for imports for France, which will be transported to Toyota's vehicle hub at Valenciennes.

Left: Volvo's continuing renaissance, both in Europe and in North America will be in part driven by production at Ghent

Below: The compliant nature of the labor market in Belgium is a significant factor in the attraction of the country to international corporations

Belgian automotive business. But having a flexible structure is something of a double-edged sword – and what goes up can also come down. Ford has maintained a strong presence in Belgium for many years, but in line with its plans to reduce a well-documented overcapacity and meet high profit targets by the end of the decade, it has recently announced plans to scale back its European production, and the massive factory at Genk will be particularly hard hit.

Ford cutting jobs

On 1 October, Ford of Europe announced its intention to concentrate production of the next generation Ford Focus in two plants rather than three. This plan would result in canceling investment in new Focus tooling and facilities at Genk. Further, Ford also announced the intention to scale back Mondeo production at the Belgium factory by moving from a three- to a two-shift pattern from the beginning of 2004. Taken together, the changes will result in a reduction of 3,000 jobs at Genk, approximately one-third of the 2002 workforce.

"The automotive market in Europe has deteriorated dramatically since only a year ago," says Lewis Booth, president and COO, Ford of Europe. "With lower industry outlooks, a larger number of competitors, and escalating marketing costs, we must concentrate on maximizing our product line-up while minimizing our spending."

Sales volumes in the European automotive market are down by more than one million units since the original plans for Genk were drawn up, and the European C/D segment in particular has seen a sharp contraction in demand, from 13 percent of the market a year ago to 11.5 percent today.

Flexible manufacturing

This decline alone would not have been enough to allow Ford to make the changes it has announced, but over the past few years Ford has invested massively in flexible manufacturing technology which has improved the company's productivity in Europe by an estimated 12-15 percent. Indeed Ford of Europe cites its ability to take advantage of these efficiency gains as a prime factor in its decision to concentrate production of the next generation Focus in two, rather than three plants.

Genk, which also produces the Transit commercial vehicle, will continue to produce the current Mondeo and to serve as a stamping facility for the family of Ford brands in Europe. It is also widely believed to be Ford's preferred location for the production of the next generation Mondeo.

The news from Ford takes the gloss off what has been an excellent year for the automotive manufacturing industry in Belgium. However, on balance, the country is prospering at a time when prosperity is in short supply. Realistically, volumes are unlikely to see, for some time to come, the continued growth that characterized the late 1990s and took Belgian production to an all-time high of 1.06 million in 2001, but the model base that has been allocated to Belgian facilities is very strong and, when strong demand returns, that figure is certain to be eclipsed. In the Astra, Golf and Mondeo, Belgium will produce three of Europe's best selling models, and Volvo's continuing renaissance, both in Europe and in North America will be in part driven by production at Ghent.

Belgium's production figures are respectively one-third and one-quarter those of France and Germany, its two much larger neighbors, but both of those countries have a strong domestic manufacturing presence. Belgium doesn't share that good fortune, but has instead eclipsed its neighbors when attracting inward investment from abroad. This is a telling factor: inward investment only flows when the conditions are right. ■

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