

A study in collaboration, confidence and realism

The PVS group constitutes an interesting case study in the joining of three complementary glass industry forces: Spanish firms Pujol and Vidriarte, and Italy's Sebino Porcellane. It made its international debut at Vitrum 2001 last October and is celebrating its first year of operation with the presentation of a joint catalogue at glasstec 2002. Following our profile of this fledgling entity last year, Glass-Technology International returned this summer to speak to Matteo Mazza of Sebino Porcellane, whose main task it is to further heighten the market profile of PVS.

Peter Finch

The Sebino Porcellane workforce with Matteo Mazza (right)



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Despite the fact that progress for PVS over the past 12 months has been very solid, Matteo Mazza tempered his satisfaction at achievements with a clear awareness that the group is still in its early stages, that evolution will inevitably be gradual and that it is important to proceed with a mix of constructiveness and caution.

To summarize the short history of the joint-venture, PVS was set up by three glass sector firms who identified the need and the potential for a European operation providing, under a single roof (both virtual and real), machines, materials and consultancy for the glass fusing and art glass sectors. The three partners, *Sebino Porcellane*, *Hornos Industriales Pujol* (Pujol) and *Vidriarte*, also obviously recognized the highly complementary nature of their respective activities.

Sebino, headquartered in Villongo, northern Italy, offers moulds and varied accessories and materials for glass fusion; Pujol builds various types of furnace, including electric glass-fusing kilns, in Sant Feliu de Llobregat near

Barcelona, Spain, while Spanish, Alicante-based Vidriarte produces coloured and decorated sheets from *Saint-Gobain* float glass for use in fusion-based processing. Their initials go to form the PVS name.

Georgia Apostolopoulou,
in charge in
Greece

SOLID EXPANSION

Logistically, PVS is seeking to build a pan-European network of depots, stocking and



distributing the partner companies' products. Besides its bases in Spain and Italy, PVS has also established depots through agreements with glass industry operators in Greece and Norway.

Both human and structural resources within PVS have grown over the past year or so. Sebino now has a workforce of 15, up 50 per cent on this time last year, and is busy adding around 250 square metres of extra floor space through the construction of a

Inside the PVS depot in Athens

**Vetro Più, PVS's
Sardinian depot**

split-level area; the company is also renting extra storage space close to its main site. Pujol and Vidriarte are expanding too, with the building of a new workshop and the installation of a new tunnel respectively.

In Italy, for which Sebino has regional PVS responsibility, two new depots have been set up in the past 12 months: one in Sardinia and one in the southern Italian region of Calabria, areas not covered previously. The new Sardinian outlet, headed by Riccardo Lasic, is a good example of the quality of the PVS network. *Vetro Più*, in Cagliari, has a 200-square-meter warehouse with adjoining showroom, and boasts over 40 years' experience in the field of flat glass for the building and furnishing industries. At the time of our interview, another new depot was in the process of being set up in Campania, southern Italy.

Financially, recent performance has been encouraging, with Sebino reporting consistent growth in turnover in the last few years (2000: +46 per cent; 2001: +56 per cent; January-June 2002: +70 per cent) and Pujol achieving 2001 turnover of around EUR 5.17 million, a 28-per-cent improvement on the previous year.

PVS attentions are, for the present, focussed on the more familiar markets of the European Union, totally coherent with Mazza's emphasis on small, concrete steps forward, though he does not exclude the possibility of looking further afield should the circumstances permit it. Asked about the effects on PVS or its members of the devastating 11 September terrorist attacks on New York and Washington, Mazza said that important orders



**Riccardo Lasic
(right) and the
Vetro Più staff**

from India and Pakistan had been lost but that overall performance had remained extremely positive.

COORDINATING RESOURCES

Glass-Technology International asked Mazza about how the three partners organize group operations. "We hold quarterly meetings," he told us, "at which we discuss matters such as new depots, fair attendance, advertising, financial aspects and general PVS strategy."

In terms of administration of the PVS depot network, central stock control is handled by Pujol from Barcelona. Inventory is controlled and monitored via Internet, explained Mazza, with a daily updating of sales and stock remaining. Inventory management software generates automatic orders for restocking on a weekly or monthly basis, depending on individual depot requirements, to ensure that all depots can guarantee a pre-determined minimum range of PVS group products for their markets.

As regards specific responsibilities for PVS operations, Mazza said that although roles have not been institutionalized, he takes care of the marketing side of the business, Pujol has overall administrative responsibility and Vidriarte generally deals with technical issues.

An important moment in PVS evolution will be the presentation in October, at *glasstec* in Düs-

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PUJOL - STATE-OF-THE-ART KILNS ENRICH PVS OFFER

In this interview, Joaquín Pujol, commercial director at Hornos Industriales Pujol (Pujol), tells *Glass-Technology International* about the Spanish furnace maker's performance and plans, and also profiles the company's advanced kiln for the production of transparent washbasins. Based at a 5,000-square-metre plant in

Sant Feliu de Llobregat just north of Barcelona, and with a current workforce of 33, Pujol has been making furnaces since 1911.

What is current turnover at Pujol and what are your business objectives for 2002?

Pujol: In 2001, our turnover increased by 28 percent, reaching EUR 5,168,000. Our objectives for 2002 include a consolidation of turnover, avoiding rapid growth and

the risk of lessening the level of attention towards our clients. We also plan to extend our facilities, continue expansion at an international level and increase R&D investment.

What are the reasons for re-investing in an extension of the plant?

Pujol: In order to bring the design, development and production processes up to date. Additionally, owing to the strong demand for our products, we want to establish an efficient logistical process. This will enable us to offer our clients a faster service, with shorter delivery times, in line with market requirements.

What are the new products you will be presenting at glasstec?

Pujol: A patented thermo-forming kiln capable of producing complete, totally transparent washbasins, in

multiple forms - oval, round, square, flower-shaped, shell-shaped - all manufactured in the same kiln. Moreover, the kiln can also be used for flat fusing.

Where did the idea of building a kiln for transparent washbasins in multiple forms come from?

Pujol: It was dictated by the market. Pujol has always supported the idea of decoration and flexibility as the principal commercial outlets for its clients. Washbasin producers were being forced to buy a separate machine for each type of washbasin, which meant a high level of investment, taking into account the limited production attainable. They also had to produce specific models dictated by kiln makers.

With the market thus inundated with the same product, profits were squeezed.

With these trends in mind, the project was clear; it was necessary to design a multifunctional kiln, able to produce any type of design in the same kiln and sufficiently flexible to be capable of also performing fusing at certain points during production. This would greatly increase business possibilities for our clients. Through exclusive designs, their profit margins per unit would be increased and market saturation, caused by concentration on a minimum number of products, would be avoided.



Joaquín Pujol,
Commercial Director



The Pujol kiln for
transparent washbasins



Why did you decide to develop a kiln which can also be used for fusing?

Pujol: Because by adding an extra fusing pan, we do not 'condemn' the kiln to one



Examples of the kiln capabilities

sole market and one sole product. Through the kiln's flexibility, we again fulfil the objective of maximizing our clients' business possibilities, making it possible for them to produce a variety of items - different coloured washbasins or decorated mirrors, for example - and target those sectors offering the highest returns.

What does the kiln's laser technology consist in?

Pujol: There is a beam of light between a transmitter and a receiver, which is interrupted the moment in which the hollow of the washbasin reaches the required depth. In this way, we ensure totally accurate repeatability and full automation. Moreover, each kiln is formed independently. Even though washbasins introduced into the same kiln batch may be mechanized in different ways, all will reach the same depth regardless of whether or not one finishes its firing before the others.

How are the laser technology and the regulation of heat zones interrelated?

Pujol: By substituting conventional independent regulators with a system of control and multi-linked regulation. In this way, we can achieve, if necessary, complete control of up to 11 different zones, choosing each time the type of installation supervision we require and programming our temperature curves from a single element. All this is possible thanks to the new Bentrup technology used in the manufacture of this equipment. The built-in micro PLC permits the handling of the variables of the process as if it were a robot. Furthermore, through a software option, it is possible to customize the programmes and store the different temperatures for later visualization and analysis.

All these and other system characteristics provide the user with total flexibility, which is impossible to obtain with conventional regulators when customizing and controlling the installation. It also makes it possible to introduce all the desired safety measures into the control process.



What safety measures does the kiln have apart from those already mentioned?

Pujol: All our kilns are designed and built to EU standards and delivered to our clients fitted with a dual temperature and electrical power control system with a double thermocouple, one to govern and the other as a safety control against overheating. Each thermocouple is connected to an independent work controller which ensures the impossibility of breakdown or defective performance which could cause a fire.

We have also incorporated a system of pneumatic opening with a block valve. This allows indefinite opening without any risk to the operator even when there is no pressure at all in the system.

What type of heating and ventilation is incorporated into the system?

Pujol: Heating is based on the principle of converting the whole of the kiln roof into a complete,

uniformly radiant surface. In this way, the heat application is from homogeneous glass ceramic elements with a large radiation area.

There is a system of accelerated cooling which means that the process is reduced to around two hours. The cooling takes place in a uniform manner over the whole of the flat glass base, avoiding any breakage.

What do you see as the basic targets for the PVS group?

Pujol: Consolidation of the group at an international level, reinforcing our presence and activity in countries with a PVS distributor; group expansion by means of new distributors in potentially interesting markets and through a presence at new trade fairs.



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seldorf, of the first-ever joint PVS catalogue, containing the full range of Pujol, Vidriarte and Sebino products available through the international distribution network. Depots will be contractually bound to stock catalogue products exclusively from PVS.

The group is also registering the PVS trademark, meaning that PVS as a company will be able to market PVS-brand materials and equipment produced by Sebino, Pujol and Vidriarte. The individual companies will, however, clearly remain responsible for guarantees, technical assistance and so on.

LEARNING TO GROW

Research remains a key element in group-wide daily life, leading directly to the launch of new products in the member companies' specific areas of activity. Pujol, for example, has spent around 18 months developing a tempering kiln for fused glass which is scheduled to be presented at glasstec.

Vidriarte has developed, among other things, a special glass paste for three-dimensional working while Sebino now has a range of all-new moulds and is working on an automatic cutting machine for glass sizes of down to one x one centimetre.

Another fundamental activity is the group's educational/promotional programme. Sebino has a tradition of organizing courses in glass fusion, and PVS as a group has now initiated

workshops and presentations at its various depots. Each depot organizes an annual open-day, thus ensuring at least one such event a month throughout the network. Interested parties are invited to view the PVS product range and to learn how new PVS technology can be applied to their particular fields of activity. So far, PVS open-days have been held in various parts of Italy and in Greece.

PVS GROUP

EUROPEAN DISTRIBUTION NETWORK

Italy:	<i>Sebino Porcellane, Villongo</i>
Spain:	<i>Pujol, Barcelona Vidriarte, Alicante</i>
Norway:	<i>Glass Forum, Bruhagen</i>
Greece:	<i>Georgia Apostolopoulou Stained Glass & Fusing, Athens</i>
Portugal:	<i>Tons Pastel, Espinho, Luso Glass, Lega Palmeira</i>

ITALY - REGIONAL DISTRIBUTION NETWORK

Calabria:	<i>Raffaele Henninger</i>
Emilia Romagna:	<i>Vetro Art, Reggio Emilia</i>
Lazio:	<i>F.T. General Glass, Rome</i>
Liguria, Piedmont:	<i>Daniilo Sciutto</i>
Lombardy:	<i>Baresco, Milan Fratelli Cristinelli, Villongo</i>
Sardinia:	<i>Vetro Più, Cagliari</i>
Sicily:	<i>Raffaele Henninger</i>
Tuscany:	<i>Vetreria Chiti, Follonica</i>



▲ The Vetro Art premises,
Reggio Emilia, Italy

The steps PVS are taking may be small, as Mazza himself admits, but are very concrete, also considering that the partners have only really known each other for just over a year. They were present at their first fair together last year, they have successfully implemented a computer-controlled group distribution network, and have now produced their first catalogue together. Asked about problems which the partners have encountered as a result of having to work as part of an international team, Mazza immediately replied "time, finding enough of it" but then added that the youth and the energy of the individuals involved has, so far, made it possible to overcome all prob-

Vidriarte's technical director, Santiago Hernández Osa, gives *Glass-Technology International* his views on the market in which the company, founded in 1980, operates, and tells us about the qualities of the material which Vidriarte supplies to glass processors.

The company's flagship product is its Flosing brand two-millimetre float glass, developed for fusion to a float glass base in the production of mirrors and murals, leaded glass windows, door panels, table tops, glass cases, washbasins, room partitions, lamps, signs and so on.

How has Vidriarte evolved in recent years?

Osa: In the last 10 years, Vidriarte has moved on from being a company 100-per-cent orientated to craft and decorative glass, such as concrete and stained glass, to a company incorporating the fusing technique in its end products as well as manufacturing coloured float glass and developing the fusing technique with glass compatible with float. This means that from working mainly within the regional market, we have, over the last few years, reached national and international markets. As a consequence, we have tripled the production and turnover of our Flosing product line.

What do you consider to be the most important current trends in the glass sector?

Osa: Glass is a material that is never going to be substituted and, for this reason, there will be constant demand for more features and applications. Within the construction sector, the main trend is towards a considerable increase in the security glass segment as well as that of glass providing different types of insulation. In the world of decoration, the most important trend is the fusing technique. Designers working in many different styles continue incorporating this technique, which means that the demand for fusing products will become even broader.

At Vidriarte, we have developed the technique of combining fusing with lamination in order to provide the security that present and future international regulations will demand. As regards decoration trends, the fusing technique is now being incorporated into new applications in the construction sector, such as decorative friezes, tiles, washbasins, shelves and so on.

How do these trends translate into short- and medium-term market objectives for Vidriarte?

Osa: In terms of short-term objectives, our aim is to complete and confirm our presence in the European market. For this reason, we are appointing exclusive distributors for Flosing glass in various countries. Currently, we work in Austria, France, Greece, Italy, Malta, Norway and Switzerland. Our medium-term objective is to reach other markets: we are already increasing our presence in countries such as Canada, Japan, Russia and the United States, as well as some South American and Arab states.



Vidriarte glass in a PVS showroom

What is Vidriarte's R&D department working on at present?

Osa: We are focusing on a product that we hope will become the market leader - F1osing Plaqué, which involves the colouring of the float glass with a surface of compatible coloured glass. It is a very important innovation within the world of fusing because, until now, all glasses were treated with enamels. We are presently developing a range of 12 new colours that will complement the 70 colours we already offer our clients.

lems which have presented themselves.

Growth at PVS has been steady rather than hasty, and the wings which first spread just over a year ago have carried the group successfully onto the international scene.

The three partners are, however, the first to acknowledge that the evolution of PVS is still in its early stages, that there is much to do and much to learn. Pujol, Vidriarte and Sebino have demonstrated the ability to distribute their energies to the good of both their individual companies and the group. Market interest permitting, the confident and realistic approach displayed by those involved is likely to ensure that their efforts are rewarded. ■