



# CASTEL GOFFREDO

**WORLD CLASS  
HOSIERY  
MANUFACTURING  
CENTRE  
KNITTING  
INDUSTRY**

# 3

**DEVELOPING  
BRANDS**  
INNOVATION  
AND  
INTERNATIONAL  
PATENTS

# 13

**NEW  
TECHNOLOGIES**  
PRODUCT  
INNOVATION  
MASS  
CUSTOMISATION

# 9

**CASTEL  
GOFFREDO**  
HOSIERY  
INDUSTRY  
FACTS AND  
FIGURES

# 18

**MULTI  
DIVERSIFICATION**  
STRATEGY  
AND A  
SUSTAINABLE  
FUTURE

Design: Studio Hunter  
studio-hunter.com

2 knittingindustry.com

Castel Goffredo is a small town in Lombardy in Northern Italy, situated just a few miles from Brescia, near Lake Garda. The town has a long textiles history dating back more than 300 years and underwent sustained and steady economic development and growth during the 20th century.

In the post-war boom it began to specialise in the manufacture of hosiery and became a centre of expertise in the production of woman's hosiery, known internationally for its quality and inventiveness both in terms of product and business innovation.

This e-book comprises four in depth articles written and published by Knitting Industry after visiting a number of companies in the area in late 2018. The aim was to find out if the district was still world class and to try to gauge how it is evolving to compete in the now globalised and highly competitive hosiery industry.

**Billy Hunter**  
Editor, Knitting Industry

**Editorial enquiries:**  
[editor@knittingindustry.com](mailto:editor@knittingindustry.com)

**Advertising enquiries:**  
[advertise@knittingindustry.com](mailto:advertise@knittingindustry.com)

**DEVELOPING  
BRANDS**  
**INNOVATION &  
INTERNATIONAL  
PATENTS**



**Micromassage Magic  
tights have a smooth knit  
and are extraordinarily  
sheer, soft and comfortable**

**C**astel Goffredo is a 'comune' in the province of Mantua, in Lombardy, northern Italy, with a population of around 12,000. It lies 35 kilometres from Mantua and a few more from Brescia in a region of springs at the foot of the slopes that drain into beautiful Lake Garda.

The town of Castel Goffredo has been involved in textile production since medieval times. The original source material was wool, but in the 1700s, the leading family of the town, the Acerbi, introduced silk-worm farming and silk-production became an important sector. Cotton weaving was also introduced around this time and the production of cotton and silk was revolutionised by the industrial processes of the twentieth century, which also saw the introduction of the new synthetics into the business. During the 20th century, the area underwent a period of sustained and steady economic development and growth.

The first modern textile-factory was built in 1925 and others soon followed. They took great advantage of the post-war boom and began to specialise, in particular, in the manufacture of hosiery. The area became a centre of expertise in the production of woman's hosiery and was known internationally for its quality and inventiveness both in terms of product and business innovation. Some of the great names of the Italian hosiery industry hail from the district, including Golden Lady and Calzedonia.

Knitting Industry recently visited a number of producers in the area around Castel Goffredo to find out if the 'district' was still in fact world class



**Scaligero Castle in Sirmione at Lake Garda, Italy**

and to try to gauge how it is evolving to compete in the now globalised and highly competitive hosiery industry. This article, the first in a series, looks at two companies who have reinvented themselves, having started life as private label manufacturers for the big brands and retailers.

## **DUELEGS**

A typical entrepreneurial and innovative approach is taken by Duelegs SRL, a producer and marketer of ladies' hosiery based in Castel Goffredo. Owner-manager William Gambetti runs a family business, which was founded in 1969 by his father and his father's brother, which sits under the family holding BBF Group. Duelegs is a vertical, 100% Made in Italy manufacturer – it buys in yarns and knits, dyes and finishes and packs and despatches finished goods. The company has experienced rapid growth in recent years, going from a turnover of EUR 5 million to EUR 36 million in just nine years.

## **BRAND DEVELOPMENT**

Duelegs' William Gambetti is a real 'go getter', and developing new brands and markets seems to be his forte – the company had 37 stores in the USA prior to 9/11, when the market collapsed.

Gambetti has an agreement with a large hosiery marketer for much of his production but is also continuously actively looking into new markets. Duelegs manufactured 26 million pairs of tights last year and until four years ago the company, like many others in Castel Goffredo, was a 100% 'private label' manufacturer making for the big brands. Now it has invested in developing its own brands for the medical hosiery and fashion segments, as well as in other new projects.

On the fashion side the company has invested in its own Gambetti brand – with its strapline 'maximum quality hosiery' signalling that it operates in the medium to high quality end of the market. For the fashion sector Duelegs has also developed the Nina Ray brand, which is doing very well in China and other parts of Asia. Be on Top is the company's 'sexy compression' brand for prevention of venous insufficiency, with a new image. It aims to bring in new customers, as its customer base is ageing.

## **THE PERFECT FUSION BETWEEN TIGHTS AND LEGGINGS**

Duelegs latest project, and the one that William Gambetti is most excited about is Tightings. Tightings are seamless leggings made on adapted circular seamless technology as opposed to hosiery

technology like the company's other products. "Tightings are in effect leggings without vertical seams – the waistband still needs to be sewn on, which helps bypass the problem of finishing labour," William Gambetti says.

"The product was first exhibited in January this year at the Salon De La Lingerie in Paris and then a few weeks later at the ISPO winter outdoor exhibition in Munich, where we were absolutely unique."

## HIGH-TECH YARNS FROM FULGAR

Tightings are made using high-tech yarns from locally based international hosiery yarns maker Fulgar – Emana, EVO, Q-Skin and Nanofibra yarns are all supplied by the yarn covering specialist. The focus for Tightings is no seams, '100% Made in Italy' and special yarns and the company plans to build on its current capacity of 4000 pairs per week.

"More than just a garment, Tightings is a technical innovation that has inspired a new product category. It's made using an exclusive patent pending technology by Duelegs based on a development of the classic tights machine, adapted to create garments that can be worn as outerwear," Fulgar commented at the 2018 launch.

For the global lift-off, Duelegs created a collection made exclusively with Fulgar yarn and LYCRA stretch to provide maximum comfort and fit. Four unique models, each featured a high-performance yarn: BIANCA with Nanofibra by Fulgar, with a thermal effect; CELESTE with EVO by Fulgar, with

an ultra-light effect; ROSSANA with EMANA by Fulgar, with a Kinesio Taping effect; and VIOLA with Q-SKIN by Fulgar, with a skincare effect. Since the launch, the company has also added GIADA to the collection, which uses Fulgar's MULTIFIBRA yarns.

"It's a significant challenge for us, one that means breaking out of the world of female legwear to enter the much wider sportswear world, which has experienced exponential growth in recent years. We've invested two years of our energy in research and development, to the point where we are now ready to launch Tightings and we have chosen, also for this important project, a qualified partner such as Fulgar, a company that always supports us with its innovative yarns. We are optimistic that our innovation will shake up the legwear market, which has long remained static," William Gambetti said at the official introduction in Paris.

BIANCA, CELESTE, ROSSANA, VIOLA and GIADA are all aimed at different types of woman, each of whom have different lifestyles and very specific requirements in terms of look, feel and performance. BIANCA for example is a woman who prefers training and exercising outdoors and loves wearing sportswear even during her daily social life. She loves comfort but always keeps an eye on fashion trends.

William Gambetti really focusses on fine detail. Even his packaging is well thought out – Tightings are sold in hard back book like packages, which have a distinct '50 shades' look about them and can be displayed in a bookcase format at retail. Trademarked and patent pending Tightings are, according to William Gambetti, "the perfect fusion



Above  
William Gambetti, Duelegs

Right  
Tightings. 100%  
Made in Italy



between tights and leggings” and are sold on the company’s own website to both the public and to retailers. The company is very active on social media platforms like Facebook and Instagram. Gambetti explains: “We have to create an image online, because after all, we are only a village manufacturer.”

Gambetti talks about his hopes for the brand. “When you think about globally known brands, like for example, the Post-It-Note – the brand is the product – and the product is the brand. I have the dream to do the same with Tightings.”

To complete the offer, Duelegs offers Toppings, a range of tops, including Sport Jacket, Sleeve T-Shirt and Sport Bra. The company’s innovative Tightings can be worn with the new complementary Toppings, which have been “developed and created to complete the outfit for those who want 360-degree freedom.” Tightings come in a range of solid colours and coloured intarsia patterns and Toppings in various colours.

## SOLIDEA

Calzificio Pinelli SRL is a family owned business which has become known internationally for its Solidea compression hosiery brand. The company was founded in 1976 by Enzo Pinelli and was supplying famous private label brands with women’s fashion hosiery until 1997, when the market became price sensitive and was flooded with cheap imports from countries like Turkey and China.

Family member Michele Pinelli, accompanied by



**Michele Pinelli at Solidea  
in Castel Goffredo**

marketing manager Ilaria Sereni, told Knitting Industry that the company was then forced to make the choice between doing something different and remaining in Italy or staying in the fashion business and moving its production to a lower labour cost region.

It was at this point that Calzificio Pinelli decided to target the growing preventative compression hosiery market, combining graduated compression with its flair for fashion, something the established compression hosiery brands were not doing. This allowed the company to continue manufacturing at home, making 100% Made in Italy products using European yarns.

Twenty years on the company reflects on its progress: “The Solidea brand has revolutionized the concept of elastic stockings, offering collections of graduated compression fashion stockings and tights that: combine leg well-being and

effectiveness in the prevention of circulatory disorders; elegance, softness and a stylish and perfect fit of refined garments; and refinement in a wide range of styles, patterns and colours,” Solidea states on its website.

Solidea manufactures more than 110 product lines, adding a few more each year to its Preventiva, Therapeutic, Cellulite Control, For Men, Maternity, Silver Support (Orthopaedic) and Sport categories. The company’s highest-quality standards were acknowledged when it achieved ISO 9001 certification in 2003 and ISO 13485 certification in 2015.

## INNOVATION AND INTERNATIONAL PATENTS

The company has been granted a significant number of international patents, which are applied to many of its innovative product lines including, Solidea Therapeutic, Curvy, Wonderful Hips High-Waist Shaper and Night Wellness lines.

Magic collant for example, is described as “a complete and truly revolutionary beauty and well-being treatment in the combined action of top micromassage and graduated leg compression. Micromassage Magic tights have a smooth knit and are extraordinarily sheer, soft and comfortable. Micromassage Magic by Solidea is a line of tights and shorts that combine “effective massage with regenerating compression and that constitute a fully qualified specific anti-cellulitis treatment.”

According to the company, clinical studies have shown that the exclusive fabric wave shape, with its



**The company's stunning architect designed building in Castel Goffredo is its only location, and houses its manufacturing, offices, e-commerce and warehousing facilities**



**We are introduced to four robotic pick and pack lines – Charlie, Spirit, Opportunity and Curiosity – which are busy packing hosiery to be sent in a timely despatch service to the company's customers who buy online**

special relief knit, exploits natural body movements and exerts beneficial micromassage on the skin and the subcutaneous layer, stimulating microcirculation that is jeopardized by cellulitis and favouring elimination of fluids, the first cause of blemishing “orange peel” skin.

Products in the company’s Red Wellness line are made using a special microfibre that concentrates the beneficial properties of Far Infrared Rays. The yarn used, contains a mineral additive which, when stimulated by the natural thermal energy of the body, converts it into Far Infrared Rays and reflects the rays back into the skin tissue, generating a pleasant temperature-control effect. “The action of the infrared rays, in perfect synergy with graduated compression, stimulates blood microcirculation of the skins surface and improves blood circulation in the legs, which functions to help reduce cellulite,” the company explains.

## MARKET CHANGES

“More recently there have been big changes in the compression hosiery market with the introduction of e-commerce. Also, more and more people are better educated about venous disease and the benefits of preventative compression hosiery and so demand is increasing,” Michele Pinelli explains.

“The market is still growing but other international players entering the market, so we need to keep ahead. Our product focus and main market is prevention, but our products can be worn by everyone. We make products that improve venous

circulation and help prevent varicose veins and similar conditions,” he adds.

Solidea works with medical professionals in its research and is a regular exhibitor at major industry events like Medica in Germany, Healthy Style in Moscow and Arab Health in the Middle East. Sales are split 50/50 Italy/Export with Italian sales going mainly to pharmacies but also to para-pharmacies (drug stores) via agents.

“Italy is an advanced market and we also sell in the treatment and therapeutic markets,” Michele Pinelli adds. In Europe sales are in the medical and orthopaedic fields, including via prescription, whereas sales outside of Europe are made via distributors. Chinese and Japanese sales are made on the company’s e-commerce website,” Michele Pinelli adds.

“We also look for innovation in raw materials, like yarns with medical properties – there are any new developments in that field. We move towards products that have special function, special performance.”

## AUTOMATION AND CUSTOMER SERVICE

The company’s stunning architect designed building in Castel Goffredo is its only location, and houses its manufacturing, offices, e-commerce and warehousing facilities. Solidea has of course invested in the very latest knitting technology which is adapted to meet the company’s own needs. Michele Pinelli stresses the importance of

innovation, not just in raw materials but also in machinery and equipment. He is however, reluctant to discuss machinery in detail, wishing instead to tell us about the company’s investment in the automation of its warehouse.

“Our robotic automated warehouse is for customer service, because service is just as important as quality. If you order our product today, we despatch it tomorrow,” Michele Pinelli explains.

We go to the warehouse where the first thing we see is an unmanned forklift truck moving freely and speedily between the isles of the floor to ceiling racking, which contain open boxes of packed hosiery items awaiting despatch.

We are introduced to four robotic pick and pack lines – Charlie, Spirit, Opportunity and Curiosity – which are busy packing hosiery to be sent in a timely despatch service to the company’s customers who buy online. Opportunity is feeding the other three robots as we pass through but is also capable of picking and packing. This is state-of-the-art warehousing facility is unsurpassed in the hosiery industry, with the first robot being purchased 15 years ago, and the others followed soon afterwards.

According to the Solidea website, the brand makes 7,500,000 pieces per year, has 15,000 sales outlets in Europe alone and is present in 70 countries around the world.

---

**tightings.com**

---

**solidea.com**

---



Manufacturers in the Castel Goffredo hosiery manufacturing district produce around 90% of all Italian hosiery exports



# **CASTEL GOFFREDO HOSIERY INDUSTRY FACTS & FIGURES**

**R**ecent data shows that global exports of women's hosiery were estimated to be worth US\$ 5.787 billion in 2016.\* Of total exports, China had a 51.7% market share and Italy had a 10.2% market share. However, when it comes to tights (pantyhose), which account for US\$ 1.915 billion of total exports, things are a little different – China has a 23.6% share of global exports and Italy has a 23.4% share. And that, is down to the manufacturers located in the Castel Goffredo hosiery manufacturing district, who are estimated to produce around 90% of all Italian hosiery exports.

## ITALIAN IMPORTS AND EXPORTS

### EXPORT MARKETS

In 2017, Italy exported just over 504 million pairs of women's hosiery items, including tights, stockings, socks and knee-highs, and medical and compression hosiery items. 81.03% (a huge 408,408,813 pairs) of the country's hosiery exports went to Europe (EU28), an increase of 1.49% on 2016. The top three EU28 countries for Italian hosiery exporters were UK, Germany and France, followed by Holland and Spain.

A further 60.8 million pairs (12.07%) went to non

EU28 European countries, down 3.45% on 2016. The Americas imported almost 16.6 million pairs of women's hosiery items (3.29%) from Italy in 2017, an increase of 1.62% from 2016, and Asia bought just over 14 million pairs (an increase of 4.71% from 2016) or 2.78% of total exports. Africa purchased just over 1.76 million pairs from Italian producers in the same year and Oceania, just over 2.4 million pairs.

Some of the district's hosiery manufacturers outsource their manufacturing from geographically near countries like Croatia, Serbia, Poland, Slovakia, Romania and Albania. Some have moved their factories there, whilst others buy from local producers.



**Castel Goffredo, situated in the province of Mantua, in Lombardy close to Lake Garda, is a centre of expertise in the production of woman's hosiery. Manufacturers in the Castel Goffredo hosiery manufacturing district produce around 90% of all Italian hosiery exports**

## PRODUCT CATEGORIES

The largest product category of women's hosiery exports from Italy is that of tights or pantyhose, of 60 denier count or greater. In 2017, a whopping 320 million pairs were shipped, 63.33% of total exports, down 2.46% from 2016.

For tights in the 'below 60 denier (finer) category, in excess of 85.8 million pairs (17.03%) were exported in 2017, up 10.25% on 2016, confirming the trend for finer, lighter weight hosiery products.

In the category Medical and Graduated compression hosiery, 41.53 million pairs were exported from Italy in 2017, up 2.19% from 2016, constituting 8.24% of total exports. This segment is said to be still growing, with more players joining each year.

Knee socks (greater than 60 denier) constituted 5.68% of exports by weight at 28.6 million pairs,

up 9.78% from 2016. Similarly, stockings and socks exports amounted to 28.8 million pairs (5.71%), up 5.91%.

## ITALIAN IMPORTS OF WOMEN'S HOSIERY

Italy exports three and a half times more than it imports, in terms of women's hosiery products. In 2017, it imported a total of 146,767,245 pairs of women's hosiery items, up 2.48% on 2016.

Europe (EU28) was the largest importer, with a 51.76% market share, representing almost 76 million pairs, up 1.69% on the previous year. 64.6 million pairs were imported by non EU28 European countries (44.05%) and 5.7 million pairs were imported from Asia (3.89%), which was down a significant 10.88% on 2016.

American imports into Italy were down 83.57% at just 11,068 pairs and imports from African were up 30% to 425,136 pairs.

**Massimo Bensi owner manager of Calze BC and president of CSC Enterprise Services Service, is automating his children's and infant's hosiery manufacturing to remain competitive, but is also trialling his 'Personal Size' customised women's hosiery innovation in the Italian market and expects to roll it out to the rest of the world in the near future**



**Alda Bondiali of Ileana is keen to stress that manmade fibres have a role to play in the socks industry which is dominated by natural fibres. The Italian socks exporter is bucking the trend with its 1177 brand of synthetic fibre socks which are made from**

**Aquafil's Dryarn, a microfibre polypropylene yarn, which has moisture management properties and regulates body temperature. The company also sells its 1177 socks in an innovative way, via vending machines in shopping malls**

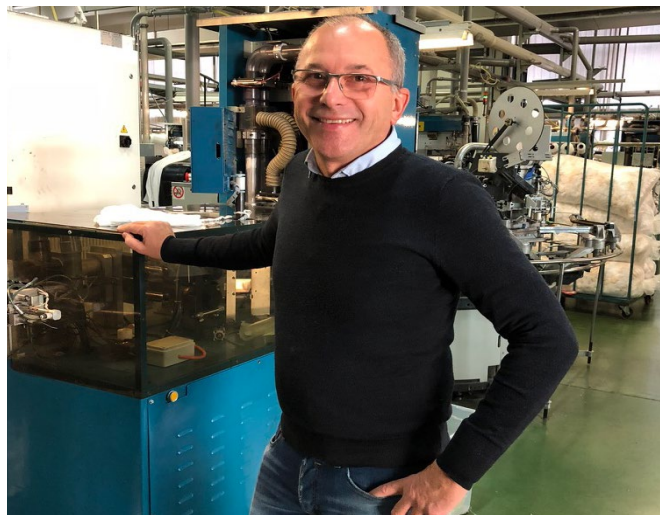
## SOCKS EXPORTS AND IMPORTS

Italy's socks exporters had a very good 2017 compared to 2016. Total exports of socks were up 20.20%, amounting to 130.3 million pairs. Exports of wool socks were up 36.50% on 2016, at 16.68 million pairs, and exports of cotton socks (98.89 million pairs) were up 16.99%. Exports of socks made from other fibres amounted to 14.81 million pairs, up 26.36% on 2016.

Italy's best export markets for socks in 2017 were Croatia, France, Germany, UK, Spain and USA. In terms of imports, Italy imported 191.5 million pairs of socks in 2017, 5.51% more than in 2016. Wool socks imports were up 38.79% in 2017, amounting to 4.26 million pairs. Cotton socks imports were also up, at 4.31% (177.9 million pairs) and socks made from other fibres amounted to 9.29 million pairs, up 18.72% on the previous year. The main importers of socks into Italy in 2017 were China, Croatia, Turkey, Holland, France and Germany.

## EMPLOYERS AND EMPLOYEES

Approximately 7000 people are employed in the Castel Goffredo hosiery manufacturing district and an estimated 3000 more are employed in the manufacture of underwear in the area. Recent data from 2017\* shows that the hosiery sector in and around Castel Goffredo still comprises of a large number of womens hosiery and seamlesswear manufacturers. A total of 395 producers, down from 435 in 2010, are still making and marketing hosiery-



**Marco Schinelli of Calzificio Schinelli. The company has 200 hosiery knitting machines, is a typical family owned Castel Goffredo hosiery manufacturer, and makes around 15 million items of hosiery each year.**

**Calzificio Schinelli is innovative in terms of the way it markets its hosiery products. A recent move in to e-commerce via its CalzItaly brand has been very successful – 15% of sales now come from the channel**

based products in the district. The 395 companies are made up from:

- 96 Societa' di Capitale (public or private limited companies)
- 70 Societa' di Persone (partnerships)
- 225 Imprese Individuali (sole proprietors)
- 4 Altre Forme (other forms)

As with other manufacturing areas in Europe the industrial landscape in Castel Goffredo is constantly changing. Although the overall number of companies operating in the area reduced by around 9% in the period 2010-2017, the partnerships category (Societa' di Persone) in fact

shrunk by 40.2% since 2007 and by 13.6% since 2014. In terms of people employed, the data shows that there are 275 companies employing less than 10 people each, down from 302 companies in 2010. 105 companies employ between 10-49 people, down slightly from 108 companies in 2010. The statistics also show that just 10 companies have between 50-249 employees, whereas only 20 companies employed 50-249 people in 2010. In 2010, only 5 companies employed more than 250 people and in 2017, the number stood at just 4 companies.

## COMPANY OWNERSHIP

In 2011, three companies from a total of 436 womens hosiery manufacturers operating in Castel Goffredo, were community owned, whereas in 2017 just one company was communally owned. In 2011, 132 of the district's producers was in 'Extra EU' ownership, which had increased to 150 in 2014 and 153 in 2017. There were 298 Italian owned companies in 2011, which reduced to 258 in 2014 and 235 in 2017. \*Osservatorio Economico, Brescia, 30 May 2018 – "Calzetteria – I Principali Dati Statistici di Settore per Il 2017: Analisi e Prospettive." ('Hosiery – Principal Statistical Data for the Sector in 2017: Analysis & Perspectives')

---

[solidea.com](http://solidea.com)

---

[calzebc.com](http://calzebc.com)

---

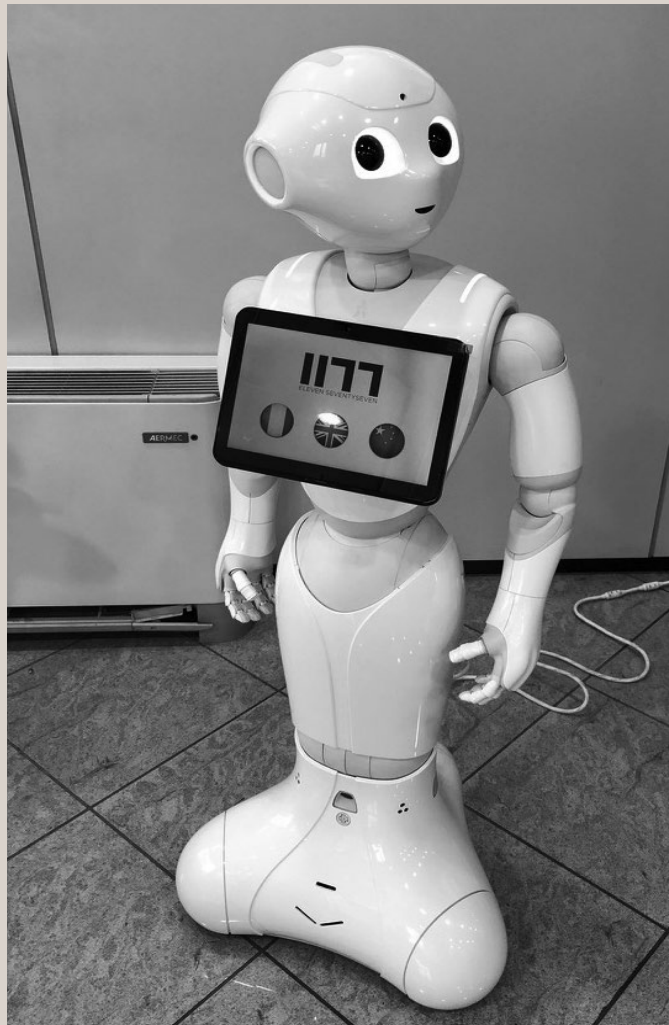
[elevenseven.com](http://elevenseven.com)

---

[calzificioschinelli.it](http://calzificioschinelli.it)

---

# **NEW TECHNOLOGIES** **PRODUCT INNOVATION &** **MASS CUSTOMISATION**



**Ileana's cute life-sized robot called Pepper, speaks 19 languages, and helps consumers to buy multi-coloured socks from space-age style vending machines**

**C**astel Goffredo's entrepreneurs are always looking for the next big thing in hosiery – the next fashion craze or the next trend. But they also think laterally, looking at what they could do with their skills, knowledge, technologies and contacts. A good example is the current trend for knitted shoe uppers, which until recently has been the domain of the flat knitting machine builders, ever since Nike launched its legendary Flyknit running shoes for the London Olympics in 2012.

I meet for lunch in a local restaurant with a man who thinks he may have the key to the next big thing. According to Elia Gorgaini of GB Machine Attrezzature Per Calzifici, a leading supplier of machinery to the Castel Goffredo trade, shoe uppers knitted on socks knitting machines are a really good potential new market for the district's producers.

GB is an agent and distributor for the Brescia headquartered Lonati Group and its daughter group Santoni for most of Italy, selling machines and supplying spare parts for all of the group's brands. GB's three owners employ just seven people, with technical service being handled by the Lonati and Santoni companies.

Elia Gorgaini heads up sales and is very well known in Italy's hosiery and socks manufacturing industries – 90% of the business he does is with Lonati, which supplies almost everything except for dyeing machinery – working as an agent with the larger companies and as a distributor with the smaller companies. The company also refurbishes and sells used machinery.



**Lake Garda from Sirmione. Castel Goffredo is a 'comune' in the province of Mantua, in Lombardy, northern Italy. It lies 35**

**kilometres from Mantua and a few more from Brescia in a region of springs at the foot of the slopes that drain into beautiful Lake Garda**



**Shoe uppers produced on the Santoni X Machine**

In terms of machines for shoe uppers Elia explains there are three options – the X Machine from Santoni, and the double cylinder DC88 and single cylinder 616 from Lonati.” We have started sampling with customers in the Castel Goffredo area and although we are not yet in series production, we are targeting the sports shoe market companies like Nike and adidas,” Elia explains.

“Flat knitting machines take around 45 minutes to knit one shoe upper, or one and a half hours per pair. A sock knitting machine takes 6 or 7 minutes per shoe upper or around 15 minutes to knit a pair,” he adds.

## **SANTONI X MACHINE**

Elia shows us some samples from Santoni's X Machine, which can reciprocate and make the design without the need to cut the yarn. Santoni created the X Machine especially for the footwear market. The machine offers the possibility to knit a wide range of intarsia patterns for designing seamless uppers. It allows the mapping of different areas with different types and combinations of yarn. This way a finished shoe body is produced that is ready for application to the sole, the last stage in manufacturing the shoe.

With the help of X Machine, the production process becomes more efficient, reliable and costs can be minimised. Product-wise the shoe uppers can be designed with unlimited patterns and colour combinations including three-dimensional areas and eyelets for the laces.



Lonati DC88-XS

## LONATI OPTIONS

Elia explains that with the DC88, the target is to close the shoe under the foot and produce a real 3D knitted shoe upper. “With the Lonati single cylinder machine, the design is unlimited, but we have to cut the yarn,” Elia adds.

“But we are now making a double layer sock using Grillon yarn, where the liner sock hides the cut yarn. The Grillon yarn fuses the liner to the outer and the knit time is 12-15 minutes per pair,” he explains.

The two Lonati machines are also available with automatic toe closing. However, Elia admits that there is still work to do in the project to bring the manufacturer of injection moulding machines for soles together with the hosiery or socks manufacturers. But he emphasises that: “There is big interest in the district in manufacturing shoe uppers using hosiery knitting.”

The DC88-XS is a double cylinder 2 feed machine for the production of shoe uppers in ribs, plain knit, links and links jacquard – with needle by needle single-magnet selection for different rib, links patterns and links jacquard. Shadow stripe and open-work knitting is optional. The machine has a brushless motor incorporated in the column with variable heel and toe reciprocating motion with 2 selection points instead of pickers and needle droppers.

The DC88X 1530XS machine, to give it its full name, is available in 4-inch diameter in gauges 8, 9, 10 and 11. The machine is fully electronic, including

yarn finger control with easier sinkers maintenance thanks to the rotating knitting head. It has stitch cams with independent stepper motors and mechanical takedown.

## PERSONALISATION FOR CURVY WOMEN

Another example of Castel Goffredo entrepreneurship is where hosiery manufacturers create a or help create a completely new product category within the hosiery sector. Massimo Bensi, owner of Calze BC is doing exactly that.

Calze BC has two areas of focus. The first area is children's tights and the aim here is to automate for maximum efficiency. The second area of focus is the 'curvy women' market in larger pantyhose sizes – in the past, manufacturers simply added size XXL to their ranges to satisfy demand, but the segment has now become much more sophisticated with far greater choice for consumers.

## PERSONAL SIZE

Calze BC's own brands are Jolie Folie for women and Aquilone for children. The real innovation at Calze BC is the company's Personal Size project. Massimo Bensi started the project around four years ago, initially focussing on retail sales, although much of the focus now is on selling direct to consumers. According to Massimo Bensi, for most companies in the region, around 20% of turnover from large sizes (4 and 5). He explains that the curvy market is becoming more challenging

with the need for more customised products. "Comfort matters and with curvy the products need to fit really well," Massimo explains.

From a technical standpoint, the company needs to use a 430 needle 4¼" hosiery knitting machine to produce the larger sizes. Massimo Bensi explains that: "In order to increase the panty and leg measurements we need to use larger diameter machines. Some women have, for example, 90cm thigh measurements."

Massimo markets his Personal Size project as 'Il Collant Su Misura Per Te', which translates as – Tailored tights for you. The company sells its Personal Size products directly to consumers through a dedicated e-commerce platform called Personal Size, which is currently focussing on the Italian market but which has global potential. Calze BC also sells Personal Size products to selected retailers. "Our Personal Size project has turned on a light with curvy females," says Massimo Bensi.

The Personal Size product range comes in a range of deniers and panty styles and nude looks and includes tights, socks and stockings, some of which are also available in compression hosiery styles. Socks are available in both long and short styles. Three different machine diameters are used which give six different panty size options to consumers. "We also have another project called 'Special Size' which includes sizes 6/7 (XXXXL) and size 8 (XXXXL)," Mr Bensi adds.

"Initially the main benefits of the Personal Size project were for the consumers, but finally Massimo says, there is now a benefit for the producer as the

market matures. We do get good prices, but we need to explain that it's a product engineered to meet the needs of curvy women."

When the company first entered the curvy market, retailers told Massimo that his product was too expensive and it was then that he realised the importance of communicating the benefits of his products – like the fact that the product is engineered, in order to justify the premium price. Personal Size also extends to children's pantyhose in special sizes. Calze BC makes 2million pairs of pantyhose per month or 24 million pairs per year. The company has a EUR10 million turnover and has 75 employees, 10 of which are family members.

## SELLING SOCKS VIA VENDING MACHINES

Ileana is a Castel Goffredo based family business, which designs and markets hosiery, socks and underwear. The company launched its 1177 (Eleven Seventy-Seven) brand of technical socks three years ago after doing its own market research. Typical 1177 socks are made from high-tech synthetic yarns to enhance both comfort and performance and have individual left and right feet. The company says it is the first to use Aquafil thermoregulation and moisture management yarns in the sock arena.

On arrival at Ileana I'm greeted in the company's reception area by a very cute life-sized robot called Pepper, whom I'm informed speaks 19 languages. Pepper is standing next to a space-age style vending machine full of multi-coloured socks and asks me a



number of questions – What style of socks do I like? Which colours do I like? What is my shoe size? I’m asked to confirm my preferences by selecting answers on a tablet Pepper is holding, and within seconds my stylishly packaged socks are being despatched by the vending machine. It’s a very slick presentation and I could imagine it going down well with consumers in the right setting.

Just as my socks exit the machine my host and company owner manager Ms. Alda Bondioli arrives to greet me. Alda explains that Ileana currently has five such socks vending machines in the market in high footfall locations such as shopping malls and railway stations. Medium/high end socks sell for around EUR 14-16 per pair, with some selling at up to EUR 20 per pair.

## **SYNTHETIC FIBRE FOCUS**

Ileana’s socks are different to the norm. The company uses synthetic fibres in its men’s socks, whereas traditional men’s socks tend to be made from natural fibres like cotton or wool. The company uses Aquafil’s Dryarn, which is made from micro fibre polypropylene, and has anti-bacterial properties, as well as thermoregulation and moisture management properties.

Alda Bondioli says that it was tough to introduce synthetic socks into the market but that it was now getting easier. She reminds me that 15 years ago we all wore cotton t-shirts to exercise in – or to go to the gym.

“Nobody does that today. Everyone wears synthetic clothing to exercise in today,” Alda says. I think she has a very good point here. I’ve been testing a pair of the company’s Active socks since my visit and I have to say, they are great to wear – very comfortable, and in the main, odour free. “It needs a change in mentality”” Alda says. “Men wear natural fibre socks because that is what they are used to. But performance will become more and more important in future.”

Reinforcing the synthetics advantage Alda states: “In skiwear we have base layer, middle layer and outer later – they have all gone over to synthetics. Even technical lightweight synthetic down jackets are preferred to natural down. Other areas of clothing will go the same way.”

## **WASH FASTNESS ADVANTAGE**

Alda says that standard cotton socks can withstand 7-10 washes, whereas her 1177 branded socks can

withstand 50 washes. She adds that the toes and heels are also reinforced which helps – and that she still has the same socks even after two years. “Colour fastness is also much better,” she adds.

“The unpredictable temperature variations we are experiencing with global warming constantly raises the question for consumers – what do I wear today? Thermoregulation available with modern synthetic fabrics makes it easier to chose synthetics over cotton,” Alda Bondioli explains. “Also, the amount of water used to grow, process and dye cotton makes it a bad choice for consumers. And then there is the whole land use question the planet faces – to grow food or grow cotton.”

Alda adds that the local dye house she uses has solar panels to generate power and recycles its processing water. Ileana designs and develops its own styles and has them produced and finished locally. The company’s focus is to develop value added products and as such Alda does her own colour and trend research. The company also offers bespoke products. “There are no specialist hosiery designers, design normally comes from lingerie. So, we follow our own trends and attend the leading shows and create our own collections.”

Tintoria Barbara is totally independent energy wise and has invested heavily in sustainable technologies, including its own co-generation system



# **MULTI-DIVERSIFICATION STRATEGY & A SUSTAINABLE FUTURE**

**W**e head to Castel Goffredo to visit Calzificio Schinelli SRL, a family owned company that has been in business since 1960. With a handed down Made in Italy tradition run by a third generation, Schinelli is a family story that is based on research, innovation and industrial organization. Owner-manager Marco Schinelli has been running the company with his wife and two sons, since his father retired 15 years ago.

The company's strengths are a technologically advanced plant, the high quality that distinguishes its products and its experience in the private label business. In order to respond rapidly to market needs, Calzificio Schinelli offers several collections of classic and fashion hosiery.

At the heart of the company is a large manufacturing unit covering around 8,000 square metres. Schinelli's so called 'technological laboratory' houses a plant of 200 or so modern Matec and Lonati hosiery, seamless and socks knitting machines, which are managed by a highly skilled team of professional technicians and operators. The company runs a '100% Made in Italy' business with yarns supplied by local hosiery specialist Fulgar and others, and dyeing and finishing services procured from Tintoria Manifattura Barbara, based in a nearby village.

Calzificio Schinelli's capacity is 70,000 pairs of tights per day or 15 million pairs per annum.

The company offers a wide range of products made with special yarns for the most demanding tastes – from cooling products for summer, to its

anticellulite and sustainable lines. Schinelli makes for the premium hosiery brands – 70% of turnover is from private label manufacturing and the other 30% is made up of own brand and e-commerce, and it's the latter two areas where Marco Schinelli sees the company's future.

## **MULTI-DIVERSIFICATION STRATEGY**

Marco Schinelli is on a mission to internationalise his company. "The market is currently quite poor, but we are still investing. Our new strategy is multi-diversification, where we will continue to develop our own brands and our e-commerce business. The margins in these areas are good whereas with the private label business, the margins are low. The quantities in the private label business are also now much lower than before – some years ago you needed five customers, now you need fifty customers," he explains.

## **E-COMMERCE AND THE AMAZON FACTOR**

E-commerce is definitely a hot topic at Schinelli – it has doubled in size every year for three years and now constitutes 15% turnover – with 90% of that 15% coming from Amazon sales and 10% from the company's own online brand Calzitaly. The company was one of the first hosiery manufacturers in the district to go into e-commerce.

Marco Schinelli has set up a commercial venture in New Jersey, USA to enable it to deal with the giant



**Schinelli's so called 'technological laboratory' houses a plant of 200 or so modern Matec and Lonati hosiery, seamless and socks**

**knitting machines, which are managed by a highly skilled team of professional technicians and operators**

Amazon online retail organisation. Sitting in Marco's office, there is a real buzz about the place with workstation bound millennials beavering away and darting in and out of various offices. Schinelli's US customers are Amazon Prime, where it makes for Amazon's stock, and the Amazon Seller programme, where hosiery is shipped directly to the consumer by Schinelli.

Schinelli also sells through its own B2B website where the minimum order is EUR 150.

It also owns the Belgian Cette brand, a high-quality hosiery brand which the company acquired through a historical connection. "The curvy market is also moving, and we invest a lot in that area – Cette has a good curvy range," Marco says. The company is currently trialling a new 4½" 430 needles Lonati machine for bigger sizes like XXL.

## CALZITALY

“Today we need a to offer a stock service. We have six people working in our Calzitaly business. We have tight computerised stock control and we have multi lingual staff in customer service staff, packaging and product information and we are still developing. This is a business which is much more complex to manage as Calzitaly is direct to consumers,” Marco Schinelli explains.

“Calzitaly is an innovative project born from the long tradition of Calzificio Schinelli and realised to explore the new world of e-commerce. A website built for a fast and comfortable shopping experience is at the project’s core and is, the perfect bond between tradition and innovation.”

The Calzitaly Gold Collection is an exclusive product line, which aims to take the high quality of Made in Italy worldwide, is a ‘refined collection for the most sophisticated and elegant tastes.’ The Curvy Collection is a new product line by Calzitaly that has, according to the company, been designed especially for ‘the softest beauty – a wide range of products which shapes and contains the curves.’

Schinelli is currently modernising its 200 strong knitting machinery plant and has replaced 32 machines very recently, with the latest models from leading Italian machine builder Lonati.

## POINT OF REFERENCE

Leaving Castel Goffredo, we drive south for 10



**Tintoria Barbara**

and processes around 400,000 pairs of tights and 20,000 pieces of seamless underwear per day, in a modern 10,000 square metres dyehouse.

But it’s not about quantity here – quality is of paramount importance. “Not only quantity but also quality – everything is checked twice. The colour must be solid – a third control,” Tintoria Barabara’s laboratory manager tells me.

Tintoria Barbara is the go-to place for dyeing and finishing for producers of pantyhose and seamless goods in the Castel Goffredo area – it is an important part of the cluster’s infrastructure.

The company’s mission is to satisfy the multiple needs of its customers in the development and improvement of their products, whilst offering assistance that starts from sampling and ends with the finished garment. Attentive to the needs of the market, the company combines research and development and is constantly searching for new

application techniques to achieve the quality finishing standards the market demands, in compliance with the health and environmental protection regulations in force.

## SUSTAINABLE TECHNOLOGIES

Tintoria Barbara is totally independent energy wise and has invested heavily in sustainable technologies. The company uses an ECOMAX co-generation system which is made in nearby Brescia.

Cogeneration refers to the process where both heat and electricity are obtained from the same fuel (gas in the case of Tintoria Barbara) at the same time. The heat energy from the system is also used directly, as heat, or indirectly to produce steam, hot water, and hot air, thus making it a CHP or cogeneration system.

“Around 500KW is generated by photovoltaic solar panels and another 600KW is generated by co-generation – by gas – also works water,” the company says. “However, as the cost of gas going up, we are reconsidering.”

“We are investing heavily in sustainability and are also part of a project with the University of Trento regarding more advanced sustainability. We are using colours with fewer heavy metals.”

“After dyeing, when the water is cleaned it cannot be used in the normal water system, as is too clean – and we would have to pay tax. But the hot water



The company dyes a wide range of natural and manmade fibres and processes around 400,000 pairs of tights and 20,000 pieces of seamless underwear per day



Above: The importance of Tintoria Barbara's fixing department is growing.  
Below left: Tintoria Barbara's advanced laboratory. Below right: tumble drying



can be used for the co-generator and the wastewater used in agriculture.”

## **OEKO-TEX 100 CERTIFICATION**

In order to protect the final consumer, since 2007 the company has certified its service according to Oeko-Tex Standard 100. “This certification is an indication of a human-ecological quality of textile products and of the work done to obtain the best possible result,” the company explains. “Now, we are going for Oeko-Tex Green – the top level.”

The Made in Green by Oeko-Tex label verifies that an article has been tested for harmful substances. This is carried out through certification in accordance with Standard 100 by Oeko-Tex. It also guarantees that the textile product has been manufactured using sustainable processes under environmentally friendly and socially responsible working conditions. This is carried out through certification in accordance with STeP by Oeko-Tex. With Made in Green, consumers can use a unique product ID on the label to trace the countries and production facilities in which the labelled article was produced.

## **MODERN PRODUCTION FACILITY**

### **LABORATORY**

Tintoria Barbara’s laboratory is equipped with a Rotarch colour lab built by Salce in Biella. The fully automatic colour lab has three towers, each of

which can hold up to 5000 recipes. The specially built machine stores each newly created colour in its archive, with each cartridge holding a piece of dyed fabric.

“The professionalism and experience of our technicians combined with the use of advanced machinery, allow us to offer our customers a valid support in the study and development of samples,” the company says. “The reproduction of the requested colour takes place through the instrumental reading of the desired tone and the use of equipment that allow the creation of small quantities.”

The development of new products takes place through the study and research of specific raw materials and auxiliaries and yarn tests in standard or customized dyeing baths. In addition, Tintoria Barbara offers a customer support service to evaluate the dyeing process suitable for best enhancing its products in terms of quality and cost. The technical staff of the laboratory performs the solidity tests to verify the quality standards required by the customer.

### **DYEING**

In its dyehouse, Tintoria Barbara has invested heavily in modern equipment and has a wide array of different types of machinery, to allow it to be able to respond positively to the requests of its customers. For example, it has: 20 dyeing cabinets, with capacities ranging from 20kg to 300kg, suited to dyeing items which have already been fixed or ironed; 4 circular machines with different capacities from 170 kg, ideal for the

dyeing of crumpled material; 7 rotary machines for dyeing seamless items and pantyhose, in natural fibres such as cotton, wool, viscose, as well as synthetic fibres like polyester and acrylic – from 20 to 200 kg; 1 Dutch machine for dyeing particularly delicate garments; and finally 5 sampling machines whose capacity varies from 2 kg to 15 kg.

“The use of these machines allows us to test the best type of garment dyeing to pass after production. The quality and precision with which the samples are made allow an effective reduction of the margins of error in the subsequent dyeing of the order,” the company says.

### **FIXING**

The importance of Tintoria Barbara’s fixing department is growing. Initially its purpose was to provide an additional service to its dyeing service, but today: “We can consider it a decisive step in the success of a product,” the company explains.

Equipment includes a Fixing Prince, which boasts a capacity of 50,000 pairs of tights per day; Cortese steam foot fixing, with an 8,000 pairs per day capacity; and Fixing Cortese Lancia, which processes up to 8,000 pairs a day; in addition the department also has seamless fixing machines, which can process up to 15,000 pieces per day.

### **DRYING**

The production cycle ends in the drying department. Once the dyeing of the garment is completed, it is



**Renato Moreni, hands-on entrepreneur, co-owner and founder of Tintoria Barbara**

transported to the appropriate drying section, where staff take care of drying and packing.

As different fabrics require a variety of drying machines, Tintoria Barbara has three radio frequency belt dryers, which are used for drying pantyhose, an oven for drying at low temperatures, which is used for lighter fabrics and items made from special fibres such as Lurex, and five tumble dryers, which are used for air drying of pantyhose and seamless items in a range of fibres.

## **ONE OF THE BEST DYEHOUSES IN EUROPE**

Leaving the drying area behind, we come across Renato Moreni, one of three owners and founder of the 50-year-old company. Renato is still very much hands on. He is working with passion together with a small group of employees, physically checking the dye quality of a batch of pantyhose – and this is a

company which employs around 80 people and turns over EUR 8 million.

Apart from servicing the complete Italian hosiery and underwear sector, Tintoria Barbara also works with companies in Spain, Holland and Belgium and is considered to be one of the best dyehouses in Europe.

“To best perform our business, we rely on highly qualified personnel supported by the use of technologically advanced tools. The passion and organization with which we carry out our business are recognized, and the quality of our service makes us proud of our work,” Renato Moreni tells me. “Our current investment programme is for the future.”

---

**gb-snc.com**

---

**tintoriabarbara.com**

---



Knitting  
**Industry**

KEEPING YOU IN THE LOOP