

Facing the tide of Covid: crisis management driving innovation: the Coccato e Mezzetti case

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1. The company

Coccatto e Mezzetti S.r.l. (hereinafter C&M) – is a medium-sized enterprise in the funerary and sanitary business with around 60 employees located in Galliate, in the province of Novara in the North of Italy. The company was established on 25 October 1983 by Pasquale Coccatto and Carlo Mezzetti, who equally share the ownership of the company. The current company is an evolution of C&M Snc, founded by the same partners in 1978. After an initial transfer of a 10% of shares to the Coccatto family, in 2001, upon the death of the co-founder Carlo Mezzetti (2006) his heirs decided to sell the remaining 40% of the share capital to the Coccatto family. The deal took place in December 2008. Today the company is a typical family firm with owners and top managers coming from the Coccatto family.

C&M Snc's original goal was to carry out production and commercial activities in the funeral products sector. Over the years, the founders have created an entrepreneurial journey characterised by both diversification strategies and downstream integration, which led C&M, among other things, to produce textile products for the health sector and provide funeral services. The story of Coccatto is a story of managerial agility where the company shows not only a capacity of adaptation to the evolving competitive contexts, but also a constant and steady ability to find and exploit new business opportunities by both leveraging internal resources and cooperating with external partners. Thanks to its ability, which it has developed over the years, to adapt to very different circumstances and to continuously look for new business opportunities, the company was able to successfully navigate through the Covid crisis that heavily impacted the area where the company is located. During the worst days of the pandemic, the company – in a very difficult context – was able to increase production and to start offering products for which there was a very high demand in Italy.

The following data enable us to have a broad picture of the main company characteristics. Over the last five years, the company has recorded a non-linear trend in turnover and fluctuating operating results which, in 2020, reached their maximum point, mainly thanks to the reactivation of the production lines relating to the creation of Personal Protective Equipment (PPE) following the Covid-19 pandemic. Table 1 summarises the main economic-financial and dimensional indicators relating to the last five years. The first line reports the average number of employees; Sales are the total company turnover, while Production Costs refer to all operating costs. The difference between Sales and total production costs is reported in the table as EBIT. The last two lines show the amount of the capital employed and of financial debt.

Indicators	2018	2019	2020
Employees (Average values)	58	57	53
Sales	4,815,260	4,694,732	6,605,448
Production Costs	4,786,697	4,881,434	5,980,897
EBIT	65,485	- 53,678	623,336
Invested Capital	4,068,572	3,994,853	4,653,487
Financial Debt	1,546,080	1,479,983	1,259,753

Source: Internal company data. All data are in Euro.

With reference to the workforce in service in the 2020 financial year, almost two thirds of the employees (64%) are employed with permanent contracts and 75% are employed full time. From the point of view of the contractual framework, approximately 80% of the workers hold blue-collar positions, while 15% hold clerical positions. The company operates in various business areas, which include commercial, service and manufacturing activities: the latter both for its own brand products and for third parties (Table 2 shows the data relating to the breakdown of the 2020 turnover). As regards commercial activities, C&M sells products for funeral use (such as hardware and coffins); semi-finished goods for the industrial sector with the Promovita brand. The manufacturing activity concerns both the production of non-woven fabric (tessuto non tessuto – TNT) products; among these, Personal Protective Equipment, which played a crucial role in the Covid-19 pandemic period and that of textile products for the inside of the funerary coffins (padding and veils). The services business area on the other hand deals with funeral services managed both on its own behalf (with the Gaia Funerals brand) and on behalf of third parties with the logistical support of the Service Centre. Finally, the company offers third-party processing activities relating to non-woven fabric.

Business	Sales	%
Production of semi-finished goods (Promovita)	€2,292,264.11	33.98%
Production for the funerary and cemetery sector	€1,879,272.84	27.86%
Trades	€1,205,624.99	17.87%
Funerary Services (Gaia Funerals)	€1,074,817.44	15.93%
Outsourced activities	€294,230.28	4.36%
Total	€6,746,209.66	100.00%

Source: Internal company data

The commercial activity is carried out with a multi-channel approach based primarily on a large network of unique agents focused on the funeral (funeral companies) and healthcare (e.g. hospitals and healthcare homes for the elderly) targets, but only for products connected to mortuary aspects, such as non-woven overalls for operators assigned to the mortician services and body bags. A second distribution channel – also focused on funeral products – is represented by commercial relationships with retailers distributed throughout Italy. Thanks to this double channel, C&M succeed in being the supplier – directly or indirectly – of almost all the funeral agencies in Italy (around 6,000 units) for a very significant proportion of their purchases. To maintain and further develop this position of competitive advantage, C&M was also the first operator in the funeral accessories sector to equip itself with an online sales channel.

Funeral services were initially managed through outsourcing on behalf of funeral agencies, which focused solely on the direct relationship with the relatives of the deceased. Subsequently, the company decided to integrate downstream into the direct provision of funeral services through its own commercial units in the North of Italy using a different brand (Gaia Funerals). Finally, a small number of “relevant customers” – mostly interested in innovative non-woven products for non-funeral use – are directly managed by the CEO, Fabiano Vittorio Coccato, son of Pasquale, co-founder of the company.

As regards marketing on foreign markets, this exclusively concerns the supply of reels of an innovative material composed of a layer of non-woven fabric laminated with a layer of Mater-BI® of plant origin. One of the company’s particular characteristics has been its continuous attention to research and development activities and consequently to innovation. Despite the company’s relatively small size, C&M has constantly devoted resources to innovative activities that enable the company to offer a number of new products over the years. For example, the company, between the years 1997 and 2017, obtained four patents for inventions and five for utility models. Equally important was the company’s commitment to the optimisation and innovation of organisational processes. The focus on processes enabled it in 2002 to obtain the Quality Management System certification pursuant to the UNI EN ISO 9001:2015 standard. Furthermore, during 2018, the ISO 14001 certification relating to environmental management systems and the BS OHSAS 18001:2007 certification (subsequently transformed into UNI ISO 45001 in January 2021), relating to health and safety management systems, were obtained.

Until the end of 1983, the administrative, commercial and production activities described so far were carried out in a series of premises (offices, warehouses and laboratories) located in the municipalities of Galliate and Trecate, both located in the province of Novara, a few kilometres from Milan. In 1984, a major real estate investment was made which, starting from 1986, made it possible to streamline organisational processes and material flows. A property was acquired in the municipality of Galliate, which still houses the company’s registered office today. Given the building’s large size, various company activities take place within it, including logistics and production activities deriving from the process of expanding the business portfolio pursued by the company.

2. Strategic evolution

2.1. From a commercial company to a manufacturing company: backward and forward integration in the funeral products sector

The original C&M Snc essentially carried out commercial activities for the funeral sector with funeral companies as customers. Driven by the desire to obtain higher margins and stable revenues with which to ensure the company's economic sustainability, the owners-managers decided to include textile-derived products in the catalogue (e.g. internal padding for funerary coffins) with its own brand. Initially the choice was to rely on local contractors, whose experience in manufacturing of textile products was ensured by the long local tradition in the sector. C&M is based in an area located to the north-west of Milan with a long-standing tradition of textile production, where a number of subcontractors for the main Milanese fashion brands work. These subcontractors operated exclusively for C&M, which carried out the quality control and outbound logistics phases internally.

The decision to expand its activity also to the production phases was based on the expectation of the introduction of more stringent environmental rules in the sectors. These rules began to be implemented from the beginning of 1990 and allow the company to be very well placed in the market.

The collaborative relationship with local manufacturing companies is a constant in the strategic and organisational development of C&M, which has been able to activate a network of collaborations, both for the production activities that had initially been outsourced and for the supply of machinery and equipment to company specifications. In this sense, it is worth mentioning the case of the first product to be entirely assembled within the company: a valve to be inserted into coffins, which the company has been making since 1996. On this occasion, the creation of the moulds for the plastic injection of the components was entrusted to external workshops specialised in the design, prototyping and production of such equipment.

In the two-year period 1988–1989, C&M decided to activate internal production of textile products for which it made significant investments in technical fixed assets, including an innovative large plant for the electronic quilting of fabrics supplied by MECA Spa, a leader in the sector in Varese. The transformation from a commercial company to a manufacturing company was also accompanied by initial investments in R&D carried out directly by Pasquale Coccato, co-founder of the company, who in 1989 – collaborating with the Institute of Forensic Medicine of the Novara hospital – invented a revolutionary technical device capable of neutralising miasmas and cadaveric fluids. The invention is recognised as patented by the competent national authorities as well as being authorised by the Ministry of Health (no. 400.4/8.D1077 Rome, 1 March 1989). The device, which will be marketed under the registered trademark Salvazinco®, not only complies with the legislation in force at the time, which requires that unspecified biodegradable materials with adsorbent functions be inserted inside the coffin (at the time, among other things, basic elements such as peat or sawdust were used), so as not to interfere with the body's spontaneous decomposition- but actually accelerates the decomposition processes, also guaranteeing the prophylaxis

of the operators involved in the treatment of the bodies after the decomposition phase. The activity of the textile department has significantly expanded over time, maximising the saturation of the production capacity of the quilt machine through the activation of three processing shifts. To this end, orders are also carried out on behalf of third parties, as in the case of automotive manufacturers (car seat covers).

The development of R&D activities with local partners has been a constant feature of the company throughout the years. The choice to invest also in innovative activities and to partner with local institutions and firms has allowed the company to constantly develop new products and consequently new businesses, as in the case of the development of the MaterBi® product, a biodegradable and compostable bioplastics product family patented by Novamont.

2.2 The partnership with Novamont for the industrial promotion of MaterBi®

In the two-year period 1989 – 1990, a new page in the history of C&M opened, that of the partnership with the Novara-based Novamont Spa, a spin-off of the then-national chemical giant Montedison, an industrial holding of the group of the same name, which was at the time managed by Raoul Gardini. The Novara spin-off had developed a research project called Fertec, relating to the treatment of starches of natural origin (corn and starches) of which the Ferruzzi-Montedison Group had considerable availability, given the agricultural and agro-industrial activities these groups managed. The project included two distinct lines, the first of which was dedicated to bioplastics and the second to biofuels. The latter was closed following the failure of the European Union to authorise the marketing of fuels of agricultural origin: therefore, the project was refocused on the sole research line of bio-plastics and took on the name “Biodegradable Materials” (hence the acronym MaterBi® which today constitutes the registered trademark of the innovative material derived from it). The investments in R&D allowed for the obtainment of the first patents relating to a new biodegradable thermoplastic polymer called Mater-Bi®, synthesised for the first time in the laboratories in Novara, headed by the scientist Catia Bastioli, and made available, free of charge, by the Guido Donegani Chemical Research Institute.

The complex financial situation of Montedison at that time gave the company management the idea of promoting spin-offs to alleviate the financial burden of new projects. Among the projects, the business branch relating to the bioplastics project was outsourced, giving the newly-formed company adequate financial resources for the development and engineering of applications industrialists of new technology. Furthermore, given the critical financial situation of the “parent company”, investors were reluctant to invest in the spin-off. Therefore, Novamont Spa, which at the time had a very limited workforce and resources, composed almost exclusively of researchers and laboratory technicians, was looking for industrial partners who could support the industrialisation phase of the new material and promote applications. In a period when the attention to environmental issues in industry was still limited, promoting products based on biodegradability was not an easy task. To this end, Dr Bastioli decided, during 1988, to publish a series of articles in the local press, in which she described the characteristics of the new material and declared

herself ready to collaborate with local companies for its promotion. It was by reading one of these articles that Pasquale Coccato became curious and decided to contact Dr Bastioli, in order to ascertain whether there could be any applications for the funeral sector.

After the first meetings, in which Pasquale Coccato was accompanied by his son Fabiano Vittorio, the entrepreneur from Novara did not seem to believe that Novamont could have a bright future, until he had the intuition that MaterBi® could be coupled with viscose, a material that C&M already used in some funerary products. The first tests, carried out in the laboratories made available by the Donegani Institute, produced positive results that confirmed the hypothesis that it would be possible to pair a layer of viscose and one of MaterBi®. This new material would make it possible to improve the technical performance of some of the products made by C&M at that time, which involved, in addition to viscose, the use of aluminised paper and cellophane: neither of which were biodegradable or compostable. Furthermore, it was foreseeable that the new product could also have applications in contexts other than the funerary sector. However, neither Novamont nor C&M had the financial resources necessary to create systems in which to extrude the polymer created by the Montedison spin-off and transform it into a bioplastic film. The involvement of other partners was therefore necessary; in this sense, a fundamental barrier was represented by the limited size of the production batch requested by the two Novara companies, incompatible with the significant setup times that were necessary for the potential supplier to equip the extrusion line. Finally, in 1990, MG of Vicenza, a company producing plastic films of chemical origin, was convinced to dedicate one of its production lines of plastic sheets for geotextile use to the test. Starting from the biopolymer granules made by Novamont, MG provided for the extrusion and subsequent production of the MaterBi® plastic film reel.

Fabiano Vittorio Coccato highlights that his family has humble origins and this has always stimulated their personal “desire for redemption”. Based on this feeling, both he and his father were able to combine two fundamental elements of their very personal “entrepreneurial formula”: “curiosity”, with regard to what was happening outside of the company, and the “practical sense” orientation, namely, a desire to experiment with all possible solutions to the technical problems arising in their sector of activity. The combination of these two factors explains very well the birth and subsequent development of the relationship with the then-spin-off Novamont, a company that had been capable of developing a particularly innovative technology, but which needed to understand which applications could benefit from it. From this perspective, the ability of the founder Pasquale Coccato to “network” allowed C&M to support Dr Bastioli in making the innovative characteristics of MaterBI® better known.

3. From Mater-BI© to bioplasting: product and process innovation

The next step for the promotion of the new material for industrial purposes was the invention of the so-called “bioplasting technology”, a thermofusion lamination technology that exploits the properties of natural starches, avoiding the use of glues. Between 1994 and 1995, thanks to an intuition of Fabiano Vittorio Coccato, C&M developed a technology capable of coupling a layer of Mater-Bi® with another material of natural origin (e.g. textile fibres, paper, cardboard). The product thus obtained maintains the biodegradability and compostability features of the Novamont material, which remain unaltered. To test and refine this technology, a pilot plant has been built at the C&M headquarters, while further analyses were carried out in the laboratories of the Novara spin-off. The positive results obtained made it possible, in 1998, to file a patent application for the promotion of which the Bio.Pl.A.® brand was also registered (the name derives from the Italian acronym for ‘Coupled Biodegradable Plastics’). The patent for a “laminate comprising a film of biodegradable plastic material and a substrate and process for its preparation” (code 101998900647837) was granted in the year 2000. The new lamination technology ensures the permeability of the finished product without compromising its breathability and wearability; furthermore, the product thus created is biodegradable and compostable, as certified by the “OK Compost” certification obtained from the accredited Belgian institute AIB-Vinçotte. Subsequently, a second patent has been obtained, conceived as an evolution of the first, for some improvements made and for the possibility of also inserting layers of aluminium into the lamination process, an element that is particularly useful for applications in food packaging.

The construction of the upstream supply chain – again in cooperation with MG from Vicenza – and the new bioplasting technology paved the way for the exploration of the possible promotion of new coupled materials, not only in the funeral sector but also in other industrial contexts. In particular, the laminate represented an excellent alternative to non-compostable materials, such as polyethylene, chemical glues, acrylic resins or other synthetic polymers derived from petroleum, as it is both biodegradable and compostable. Therefore, the products made with it can be disposed of together with the organic division of solid urban waste and can be treated in composting plants in compliance with the 2002 EN 13432 standard. Furthermore, if they are destined for incineration, the products return minimal quantities of CO₂, and therefore do not contribute to the greenhouse effect; finally, no metal residues are released. Lastly, it should be noted that the laminate obtained through bioplasting is antistatic, compatible with food safety standards and can be sterilised using Beta rays, without compromising its functional and morphological characteristics. The applications of this new product are multiple: among the ones that C&M and Novamont identified, the following products stand out:

- a) Single-use textile products in non-woven fabrics deriving from the overlapping of layers of viscose and Mater-BI©. This segment of the offer includes both disposable technical clothing items (e.g. laboratory coats, coveralls with and without a hood, diving suits, hoses, food caps, footwear, ward gowns, culottes and bibs) as well as recovery bags and covers for IT products. These products ensure, in addition to permeability of organic liquids, airtightness against dust of any kind and also smells;

- b) Products for food packaging: the semi-finished product, as it is waterproof, non-toxic and durable from a mechanical point of view, can come into contact with any type of food, both liquid and solid, both at room temperature and at low temperatures. In this respect, it is particularly useful for preservation through refrigeration (as it allows the food to breathe while retaining its aromas) or freezing;
- c) Products for catering: this line includes products such as plates, glasses and containers in which Mater-BI® is coupled with paper or cardboard substrates. This material was used to make, among other items, the glasses used for Coca-Cola sold during the Salt Lake City Olympics in 2002;
- d) Products for the horticultural sector: this line includes pots and containers that, once buried, decompose, becoming a useful fertiliser for the plant.

In order to adequately exploit the significant opportunities for industrial promotion of the new rolling technology, the pilot plant at the Galliate site was dismantled and an industrial-scale one built. In June 1999, a company named Promovita S.r.l. was established. The company registered in Galliate had as its main corporate goal the “wholesale marketing of semi-finished and finished products formed with coupled, laminated, moulded, injected, extruded, thermoformed, deep-drawn and manufactured materials obtained with MaterBi® and with biodegradable and non-biodegradable plastic materials”. In October 2003, the company was merged into Coccato e Mezzetti S.r.l.

The coupling technology of Mater-Bi® with materials of natural origin was found to be particularly effective for paper converting materials: so much so that in 1999 a collaboration was established with the company Scatolificio del Garda Spa of Pastrengo and the Finnish company Iggesund Spa. These alliances, aimed at the production of disposable tableware, led to the creation of the first totally biodegradable and compostable glass in the world, which was used by Coca-Cola on the occasion of the Salt Lake City Winter Olympic Games in 2000. Starting from the virgin fibre cardboard made by the Finnish partner, Coccato & Mezzetti carried out the coupling phase with Mater-Bi®, thus making the product available to the Venetian company (Scatolificio del Garda Spa of Pastrengo), which created the compostable glass. The success of the initiative and the continuous efforts for the progressive reduction of the production cost of the biodegradable and compostable coupled product strongly attracted the attention of several economic actors to the new material, including those of large-scale distribution groups such as Esselunga and Coop, both at a national and international level.

However, the growing demand for coupled material based on cardboard and Mater-Bi® required the making of huge investments in production capacity, which C&M did not want to do, as they were not consistent with the company’s core business relating to the funeral sector. In the meantime, starting from 2001, the company experimented with the coupling through bioplatisation of one of the numerous “families” of Mater-Bi®, which had been developed in the meantime by Novamont with textile materials, and in particular with a viscose-based non-woven fabric, a yarn made with cellulosic material. The new product was developed once again in cooperation with a

partner: in this case with the Varese-based company Orsa Spa of Gorla Minore, a company supplying non-woven fabric made from materials of natural origin (e.g. viscose). This further technology was particularly interesting for C&M, which had recognised the extensive application possibilities within its core business. Therefore, in 2007, it was decided to transfer the rolling technology patent to Novamont while maintaining a production licence until its natural expiration period. In this way, the former Montedison spin-off would have been able to develop, with suitable partners in the paper industry, applications in the sector of biodegradable and compostable disposable tableware. At the same time, C&M, which had now become one of the national leaders in the funeral and healthcare sector, could exploit the significant technical advantages deriving from the nonwoven fabric lamination technology (e.g., heat sealability, which avoids the use of traditional needle stitching). Thanks to the new material, it was possible to create disposable products (e.g. overalls, gowns, masks and similar), capable of ensuring chemical and biological protection and eliminating the serious environmental impact of chemically derived products. Following the decision to assign the patent to Novamont, the Bio.P.L.A.® brand was replaced by Promovita®.

Since 1990, C&M maintains a continuous cooperation with Novamont, not only because the Novara company remains the C&M supplier for Mater-Bi®, which was made in the Terni plant in Umbria, but also because, thanks to this cooperation, C&M has developed a number of products that have had market success. Examples of this fruitful cooperation are the camera made of biodegradable plastic derived from corn and distributed with the Mickey Mouse magazine and the “Ciuffo Gatto” dog bone, which was the subject of a patent subsequently sold to an American multinational (Company My ciuffogatto®).

4. Facing the Covid emergency: the “stop & go” of Personal Protective Equipment production

4.1 The surgical mask business

Thanks to the effectiveness of the lamination process of the MaterBI® and viscose layers, starting in 2001, C&M began the experimental production of biodegradable and compostable disposable masks, which subsequently obtained certification as a medical device. The production process consists of cutting the laminate made by C&M itself, sewing the parts, and final assembly. These activities are carried out in suitable rooms in the textile packaging department of the Galliate (NO) plant.

In 2005, given the aggressive price competition from Asian countries, C&M decided to significantly reduce the production of disposable biodegradable masks from the Promovita line made with Mater-BI®, starting to import the product made with materials of chemical origin from low-cost Asian countries, in particular China and Turkey. However, the production line of biodegradable and compostable overalls and gowns was maintained for over ten years, given the high breathability of the laminate product made by C&M. In 2018, the company realised that the business was not profitable. It was impossible to remain competitive when faced with the non-biodegradable products coming from low-cost Asian countries. Therefore, the company decided to supply its customers with products marketed precisely from those markets.

In order to partially recover the loss in turnover from the production stop, first of masks and then of other PPE, C&M explored other business opportunities for which the competition from non-biodegradable products from low-cost countries was not particularly significant. The idea was to look for niche markets where customers valued quality and where environmental sustainability represented an important element in the purchasing process of the companies operating (Henart, Majocchi and Forlani, 2019).

The research into these applications, which also took place thanks to the cooperation with managers from the ORSA group, supplier of viscose non-woven fabric, led to the identification of a first niche that was represented by the business of “molecular sieves”. Molecular sieves are products used in many businesses when moisture needs to be absorbed very quickly. C&M became a supplier for this specific product, used as a component for the dehydrants for Propagroup Spa, a company located in Rivoli (in the province of Turin) and leader in the production of packaging materials.

A further opportunity has been found in workplaces where the required levels of hygiene are higher than those of operating theatres, whereby those who work there must use single-use clothing items, with significant environmental impact. This is the case of the clean rooms of ST Microelectronics, the Italian-French electronics giant then led by Pasquale Pistorio, a manager particularly sensitive to environmental issues. Since 2006, C&M has become a supplier to the semiconductor giant, as well as to AM Instruments, based in Cesano Maderno (in the province of Monza Brianza), a company specialised in the production of customised protection, packaging and sterilisation systems for the life sciences sector. AM was interested in particularly innovative

and sustainable materials for applications in the pharmaceutical sector, and more specifically in covers for the transfer of trays used in the creation of galenic productions. The use of C&M material allowed AM to increase technical performance compared to previously used materials, as well as ensuring significant impacts in terms of greater environmental sustainability.

To support the requests of such demanding customer targets, the company made a series of investments both to expand production capacity, as well as to innovate and update the production process through the adoption, for example, of ultrasonic stitching machinery. Moreover, in line with its tradition of cooperation with local suppliers and customers to address the growing engineering needs, C&M made use of local suppliers, developing partnerships. For example, a local supplier based on the company's specific needs designed the ultrasonic sewing machines. The equipment created for C&M was subsequently modified to develop plant solutions that were successfully proposed to other customers operating in similar businesses generating further business.

4.2 Covid-19 as a trigger for the restart

In February 2020, following the spread of Covid-19, first in Italy and then in the rest of Europe, the demand for surgical masks and Personal Protective Equipment such as overalls and gowns for healthcare personnel dramatically increased and with it the need to find the relevant raw materials. The global demand shock, accompanied by protectionist policies by some countries, especially in the Asian continent, and by lockdowns, reduced if not completely stopped the flow of products and materials along international value chains and immediately generated widespread shortages. As soon as Italy decided to introduce lockdown measures, various Italian institutional players, such as: the Civil Protection (the national body that deals with the prevention and management of emergency events), the regional authorities in charge of the health system, the police, as well as local and national business associations, pressured C&M.

After having verified the availability of materials from the company's two main suppliers (Novamont and Orsa), Fabiano Vittorio Coccato, the C&M CEO promptly decided to reactivate the production of non-woven clothing certified as biodegradable and compostable to be used for the masks and for Personal Protective Equipment production. The company quickly realised the urgent need to draw on the technical know-how relating to the cutting, sewing and assembly phase of masks and other Personal Protective Equipment. In this respect, both the technical documentation accumulated over the years (also following the requirements relating to ISO 9001 certification regarding the management of drawings, diagrams and models for the creation of the devices subject to certification) and the experience gained by two of the operators working in the textile department and soon to be retired. The latter, in fact, had taken an active part in the mask production process in the 2001–2005 period and were therefore able to quickly transfer their skills to their colleagues. In an interview released at the end of February 2020, the CEO of Coccato e Mezzetti stated, referring to the reactivation of the two mask production lines, “we were able to do it because we have senior employees who still remember the production procedures well, and

who have taught them to the younger employees” (La Stampa, 28 February 2020). From a technical-production point of view, some machinery in the textile department was moved and some changes were made to the layout of the technological process of the masks.

The topic of authorisations/certifications deserves a mention, as C&M already possessed the approval for Personal Protective Equipment issued by the Ministry of Welfare for use in the workplace. The company also had certifications for its masks as Medical Devices, issued by the Ministry of Health on 08/27/2010, but the emergency legislation issued to encourage the national production of masks required that the companies involved also equip themselves with new authorisations provided by the Ministry of Health, which is responsible for the approval of medical devices. Therefore, C&M was forced to obtain those relating to the new reference standards (14683 and 10993). Initially the problem was finding laboratories to carry out the certification, given that there were none in Italy and those in Turkey could not be used due to the impact of Covid on logistics. The process of obtaining the new authorisations was therefore concluded only in July 2020.

Despite hiring additional staff, the company was unable to satisfy the immense market demand, despite deciding to supply only the healthcare target and public administrations. To further increase production, the CEO activated contacts with five textile and clothing companies operating in the surrounding area. To help them to start this new production, C&M provided each of them with rolls of non-woven fabric coupled with MaterBi® and accessories (metal foil for modelling the mask on the upper side and elastic bands), so that they could complete the production of the masks independently.¹

The company, quick response to the necessities generated by the Covid emergency, ensured the production from the first week of resumption of around 800 masks per day. The amount quickly rose to around 9,000, thanks also to the introduction of a “long week” and the adoption of significant overtime hours for employees. These measures allowed the company to achieve a production volume of approximately 500,000 pieces per month. At least at the beginning, the masks produced were made available only to the public administrations and the public and private healthcare sector of the Piedmont Region, despite the multiple requests also coming from private companies whose production did not fall within the sectors closed as part of the national lockdown measures. Some of the masks produced were donated to non-profit organisations active in helping the neediest families.

At the same time, the company increased the production of the semi-finished products for the production of the Promovita line masks, also making it available to local companies. At the same time, to increase the production capacity of the mask line, C&M signed production contracts with

1. The companies involved are the following: The G.M. joined the initiative. of Airoldi Mariella in Galliate (Novara), Gelmar Srl of Oleggio (Novara), 3G Snc of Gravellona Lomellina (Pavia), Geeco of Oleggio (Novara), Gallo Tessile of Mortara (Pavia).

Polish subcontractors identified with the support of the supplier Orsa. Unfortunately, however, the spread of the pandemic in Europe and the protectionist policies of some countries have led to the blocking of transfers of finished products in our country (C&M, Press release 12 March 2020). In the end under the exceptional circumstances of Covid the company was able to exponentially increase the production of Personal Protective Equipment, including masks, generating an overall growth in the company turnover of 40.6% and of almost 30 times for the Promovita brand line. Given the massive use of subcontracting for the production of masks, however, there was also an increase of roughly 25 times in the value of the work outsourced to subcontractors. Additional profit was generated by these activities, and in accordance with a consolidated policy, the partners decided that even for the financial year of the Covid pandemic, the profits would be reinvested for the further development of the company.

In February 2021, approximately one year after the reactivation of the production lines of disposable compostable masks, C&M decided to cease production of this type of Personal Protective Equipment and to reconvert the production lines of laminated fabric coveralls for the healthcare sector and private manufacturing companies. The decision has as its main reason economic evaluations, given that with the Decree 11/2020 of 26 April 2020 the Extraordinary Commissioner for the COVID 19 Emergency had set “the final consumer sales price [...] charged by final retailers” at €0.50/piece (net of VAT). This resolution, which was aimed at avoiding “an unjustifiable increase in consumer prices, such as to jeopardise the widest access to this type of device and, consequently, the full effectiveness of the planned combat measures”. The decree did not take into account the characteristics of the masks in reference to their compostability and biodegradability, assimilating them with products with a significantly different impact in terms of environmental sustainability. The environmental impact of healthcare masks’ waste management is high. According to the [greenplanner.it](https://www.greenplanner.it) website, the post-use waste-to-energy phase of non-biodegradable Personal Protective Equipment alone generates approximately 1.39 kg of CO₂ for every 256 masks treated. This data should be added to the emissions resulting from materials, production processes and logistics, which in the case of supplies from Asian countries is very high. The choices of the Italian authorities forced the company to leave the health mask business. The gamble that the authorities would introduce legislation banning the use of non-biodegradable masks, as was done for shopping bags and disposable tableware, did not pay off. However, even if the business of health masks was considered unsustainable from the point of view of economic return, C&M continued to retain, albeit partially, that relating to other Personal Protective Equipment for the health and funeral sectors, such as overalls and gowns. The production remained partially within the company, but was also outsourced to two of the five companies that had collaborated with C&M in the phase of relaunching the production of masks. To this end, the company carried out a new redefinition of the production layout, also investing in new machinery, some of which were installed at the beginning of 2021.

In recent times, given the growing competition from Asian producers with lower prices, the production of masks has been completely abandoned. On the contrary, products intended for specific

market niches, such as body bags sewn with ultrasound technology, remain firmly in the catalogue. However, the story of innovation based on sustainability in the company did not end. C&M recently introduced a new product to its line: a fully biodegradable urn made of a mixture of Mater-Bi and rice husk, studied to resist falls and impact, avoiding shattering and other kinds of damage during the storage phase. As is frequently the case with product innovation (Golovko, & Valentini, 2011), the introduction of a new product paves the way for accessing new markets. The company has recently entered the Norwegian market with the biodegradable urn and it has recently been exploring new opportunities outside the domestic market.