





800 million
Coating capacity



100 tons
Granulation capacity



200
New developments



1500 m²
ISO 8 cleanroom



40
Active customers

Euronovis, one step forward

Reliability, competence and innovation...

Euronovis is a dynamic, young company always ready to respond to customer needs and requests in a prompt, timely manner. That is why it has taken just a few years for it to become absolute leader in the nutraceutic coating sector in Italy, and why it began new granulation, pellet production and hard capsule filling services at the starting from 2023.

Our strongpoints are consolidated technical know-how with pharmaceutical imprinting, international standard certifications and important collaboration with Universities (Department of Pharmaceutical Sciences UNIMI) and with leaders in the implant and cleanroom market (Nicomac Europe). Not just a supplier but a partner for success. Our company is ready to sustain all those companies wanting to open up to new solutions and technologies, with a full consultancy, development and production service. We work to find the best options enabling cost containment, guaranteeing a high quality level and the best result obtainable every day.

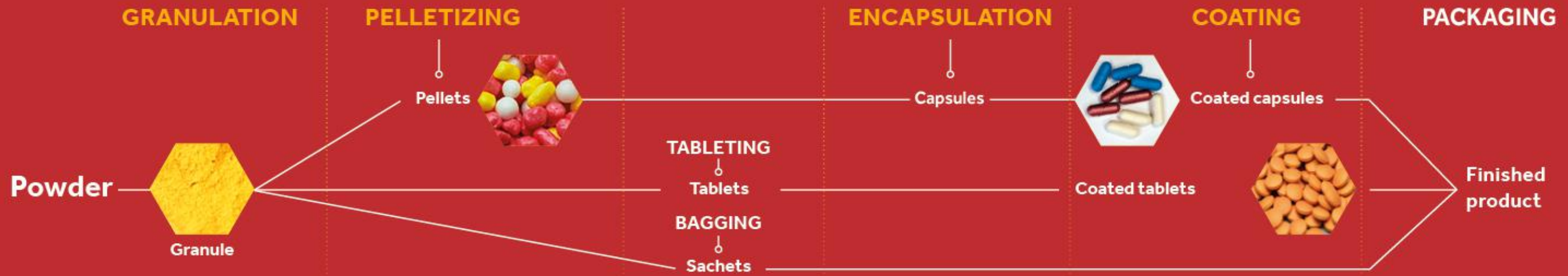
This is the Euronovis method.

Dr. Mattia Spoldi - General Manager



Solid orals in nutraceuticals: **where is Euronovis**

Euronovis operates from its renewed Liscate office, just outside Milan: 1,500 m² of laboratory in class ISO8 for the **Coating, Granulation, Pelletizing and Capsule Filling processes**, built with the highest pharmaceutical standards available on the market; multimedia training room; meeting room; logistics warehouse with controlled temperature area.



coating

Film and sugar coating
High production capacity,
fast deliveries,
technical/regulatory support.



granulation

Wet granulation.
Processing for dedicated
campaigns, high flexibility,
excellent replicability.



pellets

Production of pellets through
extrusion/spheronization.
Small and large scale produc-
tion, customized product.



hard capsule

Filling off hard capsules with
liquids, granules and pellets.
Design and creation of
high added value products.



the Euronovis method for the coating technology

AESTHETIC COATING

Color matching
Protection
Masking



Euronovis supports the customer needing to faithfully replicate the qualitative/quantitative formula of a product currently marketed, and in the creation of new colors or customised formulas for any need.

FUNCTIONAL COATING

Modified release
Enteric
Delay



Euronovis creates multiple coating types based on the different therapeutic targets; in order to optimise preparation effectiveness, enabling the correct release of active principles along the gastrointestinal tract.

The Coatech process



Synergic Research

University research
Innovation internal R&D



Color Precision

Absolutely faithful
Dedicated color matching



Perfect Coating

The best quality
Defined costs



Planning Ahead

Ideas for new products
Exclusive hi-tech processes

FILM & SUGAR COATING

CUSTOMER REQUEST

FEASIBILITY ANALYSIS

FINE TUNING

AESTHETIC COATING

FUNCTIONAL COATING

EURONOVIS R&D

PRODUCT DEVELOPMENT

SCALE UP/PRODUCTION

FINISHED PRODUCT

Filming and sugar coating

Euronovis can coat any type of oral solid for the nutraceutical sector – tablets, hard capsules, soft gel, pellets or granules – with polymeric suspension film, or sugar for aesthetic, protective, customised or enteric purposes.

Choosing the correct coating to apply to an oral solid could seem to be a “simple” operation for a non-expert. But it is the result of a multi-discipline study involving multiple dynamics, especially related to choosing the right coating agents and their compat-

ibility with the substrate being coated, with the therapeutic target involved and legislation with the regulatory limits in force in the Countries where the product will be marketed.

Customers turning to Euronovis have access to a

team of experts supporting the companies for all production development aspects, to follow creation of the most suitable formulas based on single needs step by step.



FILM & SUGAR COATING

hardware and software



The production Site

All the production chain processes, from receiving materials to releasing finished products, are performed in our operating office just a few minutes from Milan Linate airport. The types of wall, ceiling, fittings, floors and finishing, all certified Nicomac Europe, are the same as those used by the pharmaceutical sector. The air filtering and conditioning systems guarantee environmental overpressure and perfect control of internal thermo-hygrometric conditions. The technical room, created with a specific gallery overlooking the clean room, is dedicated to all utilities serving the latter and the processing plants. Three 200,000 Kcal/each boilers and three 30 Kw/each air compressors have been installed on the outside.

The control systems

Detailed control of each aspect during the creation, preparation and production stages enables us to obtain high quality finished products, with the characteristics required by the customer. Thanks to a PLC-PC control system integrated in the coating systems and developed with a user-friendly software compliant with CFR 21 Part 11, Euronovis can memorise up to 100 recipes that guarantee process replicability.



PLC-PC control system

The security systems



Parameter monitoring system

From the monitors, provided with several password levels and connected to alarm systems, all parameters can be controlled during the different processing stages: inlet air, pan rpm, coating suspension capacity, moisture, process pressures and temperatures.

Coating equipments

The perfect core mixture, uniform distribution of the coating solutions and the efficient drying system, guaranteed using Nicomac Europe drum mixers, ensure a replicable result while operating with an extremely flexible production capacity (from 1 kg to 350 kg per single batch).



PSC 250 with perforated basket of the production department and PC CLASSIC 1-3-5 with interchangeable perforated baskets of the R&D department

Model	Type	Min capacity	Max capacity	Type
PC Classic 1-3-5	Coating System	500 g	1-3-5 kg	Perforated coater
PSC 250	Coating System	50 kg	200 kg	Perforated coater
SWC Elite 50	Coating System	10 kg	35 kg	Solid coater
SWC Elite 200	Coating System	40 kg	150 kg	Solid coater
SWC Elite 350	Coating System	80 kg	250 kg	Solid coater
SWC Elite 450	Coating System	100 kg	350 kg	Solid coater

The guarantee and efficiency of non-stop production

Perfect synergy between operators, maintenance staff and specialised technicians is behind all operations, guaranteeing production continuity in all situations. Teamwork organised in three shifts and direct immediate assistance agreements with Nicomac Europe enable our company to handle any challenge in production efficiency, reduced timeline terms and downtime optimisation terms.



24h non-stop

FILM & SUGAR COATING

research & development



Color matching

Euronovis offers a color matching service that can faithfully reproduce any qualitative/quantitative formulas of products already on the market or reproduce a specific color based on precise customer indications. Use of modern colorimetry systems coupled with the drawdown technique provides us with a result that overlaps the reference chosen perfectly, giving coating maximum uniformity, the best resistance and stability.



Protection and masking

Protective coatings against moisture, O₂ and UV rays are applied to preserve the easily degradable active principles and therefore improve the stability of solid forms; masking unpleasant smells or tastes can favour patient compliance and make it easier for products to be taken. For that reason, Euronovis has developed ad hoc formulas to handle that need.



Modified release > Enteric / Delay

When creating a nutraceutical product it is really important to critically analyse all aspects linked to the therapeutic efficiency of its active principles. To perform their function in the best way possible, they have to be released in the gastrointestinal tract where absorption is greater.



To "drive" the disaggregation of the solid form at the right time and pH, Euronovis has created coating formulas that guarantee certain performances based on Pharmacopoeia indications.



Synergy and collaboration with universities

Euronovis collaborates actively with universities and other laboratories to develop high added value products. We also welcome students and interns to prepare external theses on subjects of interest and relevance for the academic world, in synergy with our technologies and know-how.



GRANULATION

POWDER

WET GRANULATION

DRYING

CALIBRATION

FINISHED PRODUCT

Wet granulation

Euronovis offers customer a full wet granulation service to respond to any production need thanks to the coupling of High Shear Mixer and Fluid Bed Dryer created and produced by Nicomac Europe. From the first preliminary feasibility study stages

to creating industrial batches, every aspect of the process is controlled carefully, in order to guarantee the replicability of granules with certain particle size, moisture content, flowability and bulk density.

The products obtained can be destined for direct use or subsequent processing to prepare other pharmaceutical forms. This is a fundamental and extremely important process for several parties involved in the nutra-

ceutic production chain. That is why Euronovis makes all its experience available for customer companies needing it.



GRANULATION

hardware and software

research & development



The granulation equipments

Based on the type of product to be processed, use of just one production plant could be sufficient or coupling the HSM and FBD.

The new Euronovis granulation department is equipped with a NICOMIX 75-200 high shear mixer and a fluid bed dryer - NICOBED 120. These solutions provide excellent production flexibility and enable us to satisfy any request related to the production of granules through a wet process.



Model	Type	Min capacity	Max capacity
HSM Nicomix 75-200	High shear mixer	50 kg	100 kg
FBD Nicobed 8	Fluid Bed dryer	1 kg	5 kg
FBD Nicobed 120	Fluid Bed dryer	50 kg	100 kg

Control, safety and washing



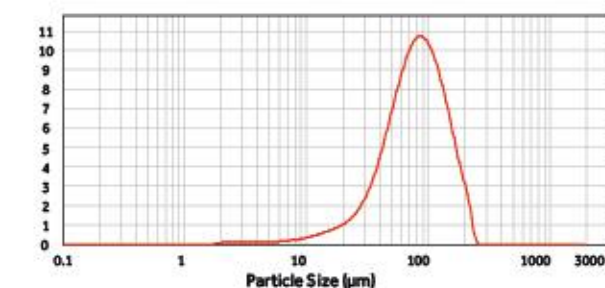
Parameter monitoring screen

Nicomix and Nicobed use PLC-PC control systems with user-friendly, CFR 21 Part 11 compliant software. Each operation is managed to guarantee the operator maximum safety. It also has a washing program in WIP with several completely automated stages to speed up operations and limit operator intervention.

Formula development

Euronovis supports the customer from beginning creation and product fine tuning stages. Based on starting powder characteristics, suitable binders can be added to obtain the correct granule formation, in order to form inter-particle bonds. The subsequent drying stage will then consolidate the finished product characteristics; this will be calibrated to meet customer needs.

At times, the process is extremely complex so not easy to envisage, considering the



Particle Size (µm)	Frequency
0.1	0.00
0.2	0.00
0.3	0.00
0.4	0.00
0.5	0.00
0.6	0.00
0.7	0.00
0.8	0.00
0.9	0.00
1.0	0.00
1.2	0.00
1.5	0.00
2.0	0.00
2.5	0.00
3.0	0.00
4.0	0.00
5.0	0.00
6.0	0.00
8.0	0.00
10.0	0.00
12.0	0.00
15.0	0.00
20.0	0.00
25.0	0.00
30.0	0.00
40.0	0.00
50.0	0.00
60.0	0.00
80.0	0.00
100.0	0.00
120.0	0.00
150.0	0.00
200.0	0.00
250.0	0.00
300.0	0.00
400.0	0.00
500.0	0.00
600.0	0.00
800.0	0.00
1000.0	0.00
1200.0	0.00
1500.0	0.00
2000.0	0.00
2500.0	0.00
3000.0	0.00

Particle size distribution

noticeable number of variables to be considered. Our R&D has several instruments dedicated to the physical characterisation of granules (particle size analyzer, thermal balance and systems to measure powder flowability and bulk density) that enable detailed definition of the product properties obtained before moving on to the real industrial scale up.

PELLETS

HARD CAPSULE

PRODUCT ANALYSIS

GRANULES

HARD CAPSULE WITH GRANULES

HARD CAPSULE WITH LIQUID

PELLETS

HARD CAPSULE WITH PELLETS

Pellets

Small, solid, free flowing, spheric or pseudo-spheric units with sizes that are generally between 500 and 1500 µm. These are technically called "multiple-unit dosage forms" and can be divided into sachets, hard capsules or tablets. Compared to the other solid dosage forms, they provide a benefit in safety and effec-

tiveness terms and, above all, determine an absorption profile, for their active principles, characterised by better replicability as they are not influenced by the transit time along the digestive tract and by the digestive stage.

Hard capsule

Casing made with gelatine or other materials, filled volumetrically with active principles and other ingredients. Compared to the "common" powder filling operations, in Euronovis we offer the possibility to create customized products that bring together several solid, liquid or mixed formulas, in order to have

different active principle release profiles in the same dosage form. New, innovative products can be designed and created with the support of our experts.

granule



pellets



liquid



ECO-NUTRACEUTICS



RESPECT FOR THE ENVIRONMENT

RENEWABLE ENERGY

WASTE WATER DEPURATION

SOCIAL ACCOUNTABILITY

RESPECT FOR PEOPLE

SUPPORT FOR THE COMMUNITY

Respect for the environment

Euronovis is committed to containing its environmental impact and contributing to the sustainable growth of the area and its companies forming the connective fabric.

Thanks to installation of a photovoltaic plant (130 kw) covering a surface of about 1000 m², we can produce, in a completely sustainable way, a part of

the energy we consume every day. Reduced use of plastic, wastewater treatment system and responsible management of all resources drive growth towards obtaining ESG (Environment, Social & Governance) certification that measures the company path towards the Agenda 2030 SDGs.



Social accountability

Euronovis believes in the centrality of people and operates based on the principles of collaboration and active participation. In fact, belonging to a community must translate into making your contribution to enhancing the territory's most worthy initiatives. Our company is lucky in knowing and being able to support the Association Le Vele Onlus, which sup-

ports fragile families and is involved in recreation, education and socialisation activities for the disabled. Sport has an equally fundamental role in the formation of youngsters.

That is why Euronovis is the proud sponsor of the local football team Monsignor Orsenigo.



The commitment and growth of Euronovis

Success comes from competences and, above all, the courage to get involved. What was just a showroom for the coating systems and cleanrooms of Nicomac Europe, in 2010, thanks to the intuition of **Tomaso Nigris** and the engineer, Pietro Zanchi, became the first R&D laboratory of the company and the place that could offer a real true contract service for customers. That is how Euronovis Srl was officially established in 2015. Professionalism, competence and the resulting service quality have led to a considerable increase in requests and, from there, the creation of an independent, modern, constantly evolving laboratory. Availability and collaboration are the tools supporting customers for the creation of any request. Nowadays, those choosing Euronovis can count on the excellence of pharmaceutical standards applied to the nutraceutical world.



This is the Euronovis method. This is the present, and the future of a company that is always one step ahead.



— CERTIFICATION —



WEBSITE





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