

# Morpho

Alfasigma Contract  
Development & Manufacturing



**Morpho** intends to be recognized as leading **Tech Driven Specialty CDMO** belonging to a global pharmaceutical company, focused on value-added development and manufacturing technologies.

It provides **end-to-end** pharmaceutical and nutraceutical solutions, tailored to meet the specific needs of its partners worldwide.

By **driving innovation**, **leveraging cutting-edge technologies**, and **offering end-to-end capabilities** with a team of skilled, accountable professionals, Morpho builds on over 75 years of contract manufacturing experience to deliver excellence at every level.



# Who we are

Morpho is a **dynamic, full-service CDMO** with a **robust heritage and a clear vision for the future**. With a network of state-of-the-art facilities in Europe—specialized in complex pharmaceutical formulations—and in the United States—focused on nutraceutical production—Morpho guarantees high standards of quality and reliability at every stage.

Morpho's capabilities span a wide range of pharmaceutical forms—including sterile injectables, vaccines, oral solids, semi-solids, and more—supported by advanced formulation research, clinical batch preparation, and process validation services.

**Dedicated teams** of business development, project management and R&D follow and support tech transfer projects from early stage (pre-clinical and clinical trials) to commercial production.



Just as *Morpho* in **Ancient Greek** refers to shape and transformation, our CDMO is specialized in transforming raw materials into high quality Pharmaceutical products through innovative, precise, and flexible processes.



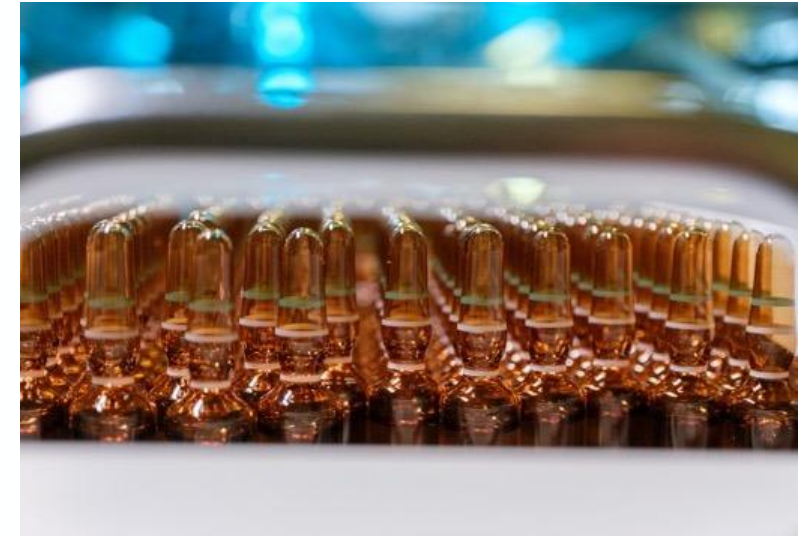
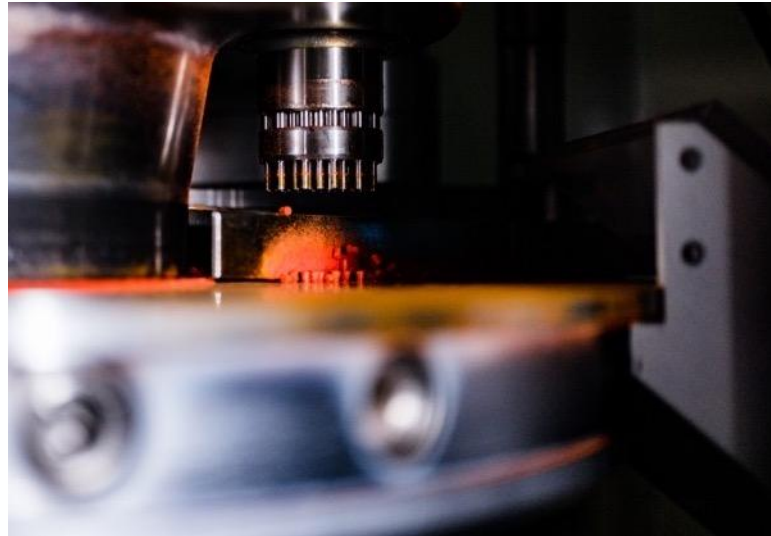
# Our Path Forward

## A Leading Tech-Driven Specialty CDMO within a Pharmaceutical Company

Morpho is evolving to a fully integrated CDMO by continuously expanding its capabilities in pharmaceutical technologies and analytical sciences.

The 'D' in CDMO reflects Morpho's increasing focus on advancing a pipeline of technologies and products with the goal of becoming a leading tech-driven specialty CDMO.

This transformation is supported by close collaboration between business development, project management, and R&D, enabling fast and agile responses to client needs.



# Morpho in a nutshell

Morpho intends to be recognized as leading **Tech Driven Specialty CDMO** belonging to a global pharmaceutical company, focused on value-added development and manufacturing technologies.

Through its three divisions **Pharma Tech (Alanno, Pomezia and Labio 4.0)**, **Fine Chemicals (Biosint. Sermoneta)**, and **Nutra & Medical Food (US, Shreveport LA)**, Morpho provides end-to-end pharmaceutical and nutraceutical solutions, tailored to meet the specific needs of its partners worldwide.

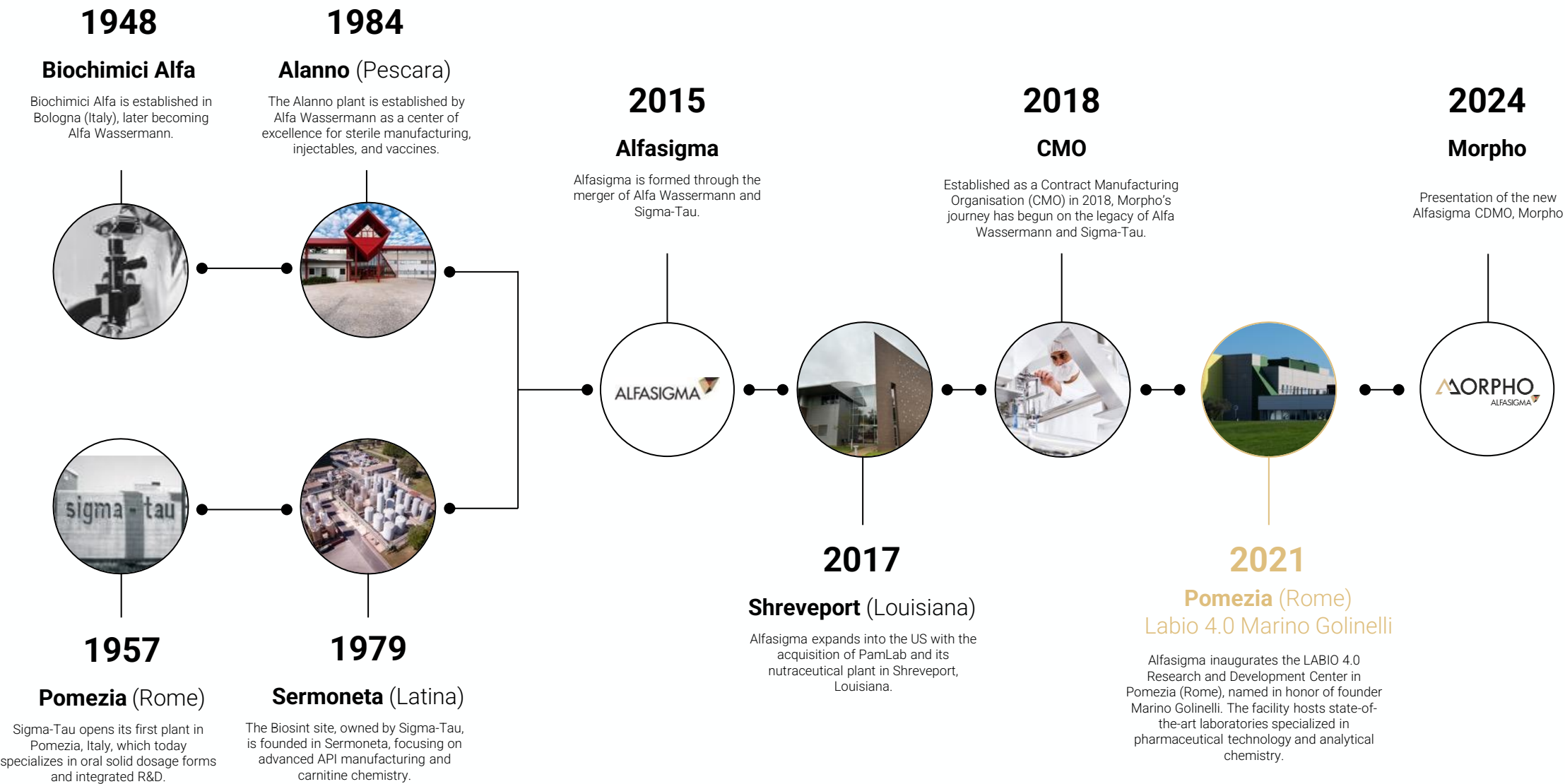
## Pharma Tech

## Fine Chemicals (Biosint)

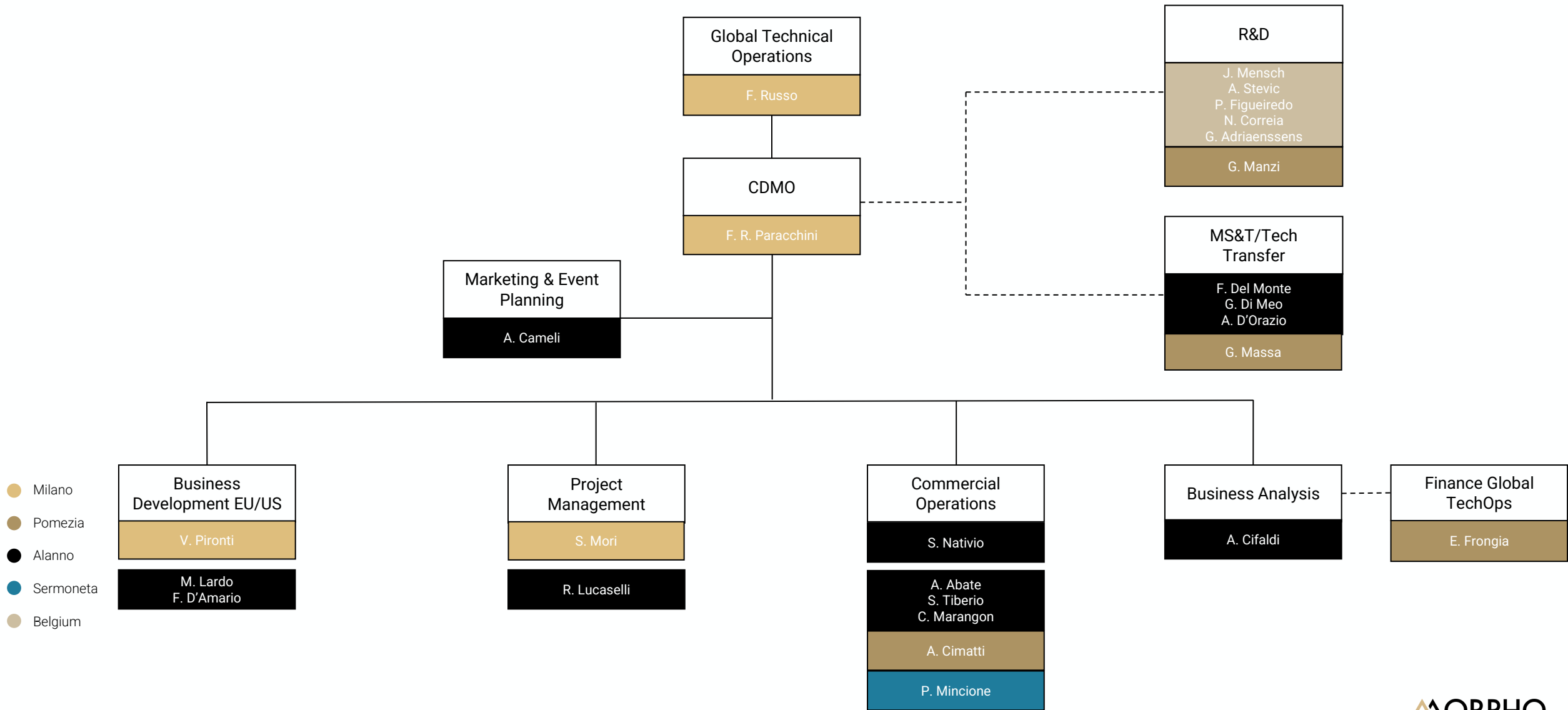
## Nutra & Medical Food (US)



# Strategic Milestones and Expansion



# Morpho - international & diverse Org. structure



# Morpho 4 pillars to our customers



## Customer-centric approach

Morpho adopts a customer-centric approach, managing third-party production with the **same care** and **high standards** applied to Alfasigma's own branded products.



## Integrated tech approach

It is characterized by an integrated approach combining both **development and manufacturing capabilities**, ensuring **flexibility**, **efficiency**, and **innovation** throughout the entire pharmaceutical value chain.



## Providing tailored high quality services

This comprehensive model allows Morpho to support customers **from formulation development to the production of commercial batches**, for a wide range of pharmaceutical forms, providing tailored, high-quality services that meet specific client needs.



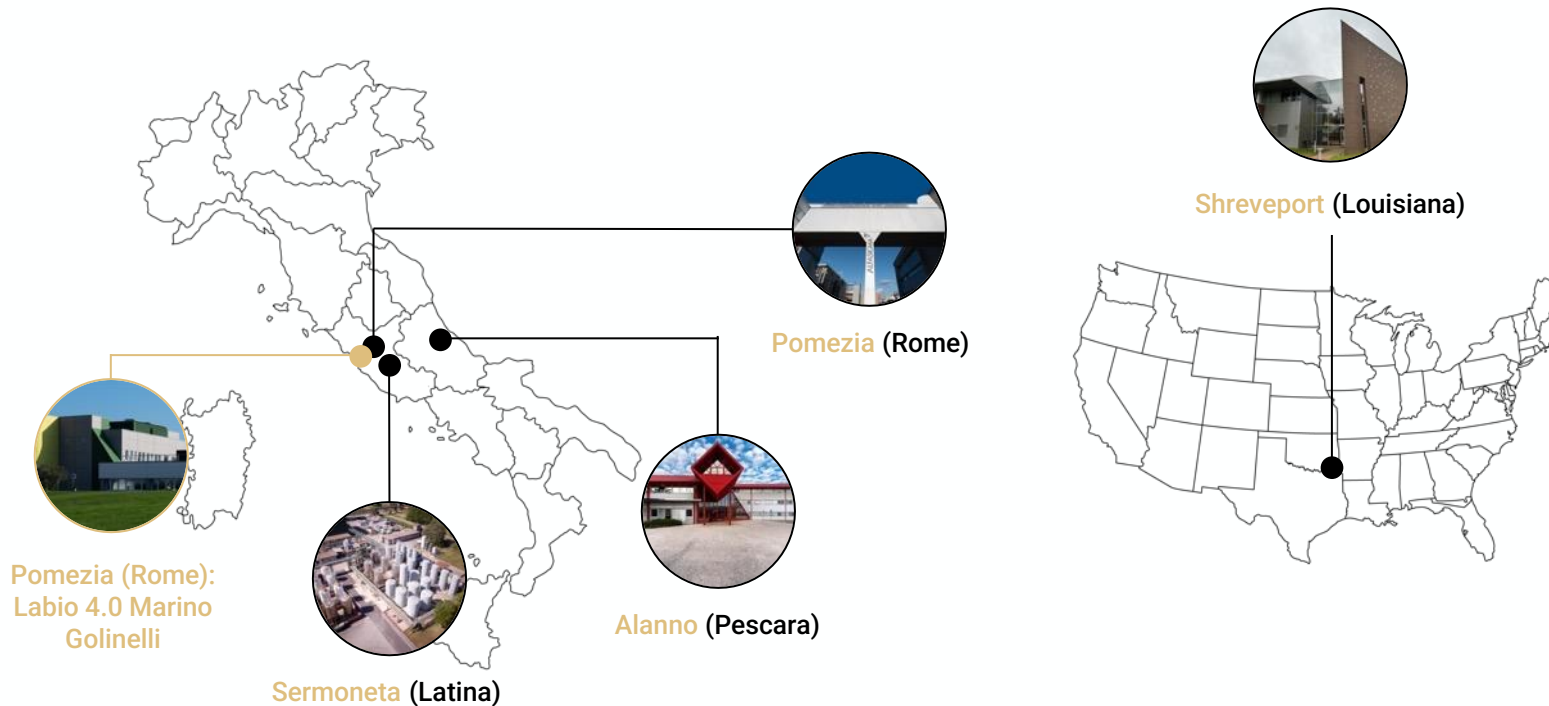
## Firewall and IP Segregation

Morpho employs a pragmatic approach to **IP and Know-How segregation** to ensure maximum protection of client data. This is achieved through the establishment of "Chinese walls" to maintain the separation of proprietary information.

***More-for-you*** is our brand promise, firmly rooted in building lasting relationships with companies that share our dedication to innovation and quality.

# Our comprehensive network

Morpho's development and manufacturing network offers specialized capabilities to meet a wide range of pharmaceutical needs, with strategic locations across **Europe** and the **USA**.



# Pharmaceutical forms



## Liquid Injectables

Terminally sterilized & aseptic ampoules and vials, pre-filled syringes, and cartridges, vaccines



## Sterile Powders and Lyophilized Products

In vials and ampoules



## Semi solids and liquids oral

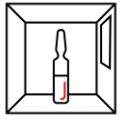
(Syrups, softgels, suppositories, vaginal pessaries)



## Oral solids

(Tablets, capsules, sachets, granules in sachets, stick pack)

# Expertise



Containment &  
cleanroom standards



Regulatory affairs –  
Quality Control & assurance



Process development  
& analytical excellence



Aseptic fill-finish  
technologies



Scale-up and tech-transfer  
platform



GMP manufacturing

# Capabilities

|                   |                               | Alanno Plant | Pomezia Plant | Labio 4.0 Pharm. Dev. | Shreveport Plant (for nutraceutical) | Sermoneta Plant (API only) |
|-------------------|-------------------------------|--------------|---------------|-----------------------|--------------------------------------|----------------------------|
| STERILE           | Lyophilized products          | ✓            |               |                       |                                      |                            |
|                   | Sterile powders               | ✓            |               |                       |                                      |                            |
|                   | Sterile liquids               | ✓            |               |                       |                                      |                            |
| NON STERILE       | Oral solids                   |              | ✓             | ✓                     | ✓                                    |                            |
|                   | Semi-solids                   |              | ✓             |                       |                                      |                            |
|                   | Non-sterile liquids           | ✓            | ✓             |                       |                                      |                            |
|                   | Soft-gels                     |              | ✓             |                       |                                      |                            |
| CHEM. SYNT.       | Chemical synthesis            |              |               |                       |                                      | ✓                          |
| PRIMARY PACKAGING | Blister                       |              | ✓             | ✓                     | ✓                                    |                            |
|                   | Prefilled syringe             | ✓            |               |                       |                                      |                            |
|                   | Cartridges                    | ✓            |               |                       |                                      |                            |
|                   | Vials                         | ✓            |               |                       |                                      |                            |
|                   | Ampoules                      | ✓            |               |                       |                                      |                            |
| SEC. PACK.        | Secondary packaging           | ✓            | ✓             |                       | ✓                                    | ✓                          |
| DEV.              | Formulation & analytical dev. | ✓            | ✓             | ✓                     | ✓                                    |                            |
|                   | Clinical batch manufacturing  | ✓            | ✓             | ✓                     |                                      |                            |

# Alanno (Pescara)

## Italy Operations

A centre of excellence for sterile manufacturing, equipped with state-of-the-art facilities for injectable products and vaccines.



\*Including corticosteroids & sexual hormones

\*\*Including vaccines

### LYOPHILIZED PRODUCTS\*

- Ampoules
- Vials

### STERILE POWDERS

- Sterile powder vials filling

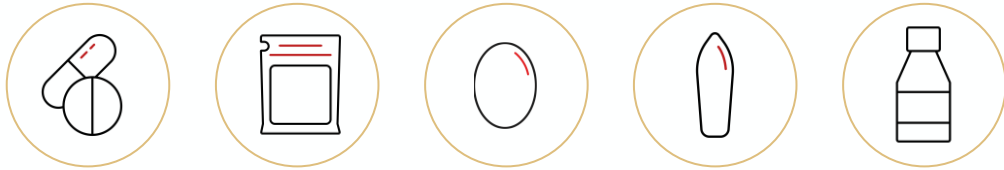
### STERILE LIQUIDS\*

- Small volume liquids ampoules (terminally sterilised & aseptic process)
- Small volume liquids vials (terminally sterilised & aseptic process)
- Prefilled syringes and cartridges\*\* (terminally sterilised & aseptic process)

# Pomezia (Rome)

## Italy Operations

Specialising in oral solid dose forms with integrated R&D capabilities.



\*Including corticosteroids & sexual hormones

### ORAL SOLIDS

- Tablets\* (incl. film coated)
- Capsules
- Sachets

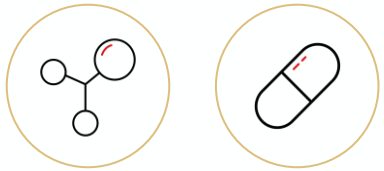
### SEMI-SOLID DOSAGES AND NON-STERILE LIQUIDS

- Soft Gels
- Suppositories and vaginal pessaries
- Syrups

# Sermoneta (Latina)

## Italy Operations

Advanced manufacturing facility (Biosint, Alfasigma Group), with particular expertise in **carnitine** chemistry, salts and derivatives, both as **APIs and nutraceutical ingredients**, in compliance with GMPs standards. Our carnitines are Halal, Kosher, ISO 9001 certified.



### PHARMACEUTICAL CARNITINES

- Levocarnitine
- Acetyl L-Carnitine Inner Salt
- Acetyl L-Carnitine Hydrochloride
- Propionyl L-Carnitine Hydrochloride

# Sermoneta (Latina)

## List of Carnitines L

(Carnitine, its salts, and derivatives, both as APIs and nutritional ingredients)

### OUR NUTRACEUTICAL INGREDIENTS

Nutraceutical applications for our carnitines, include: newborn formula, sport management, weight reduction programs, general wellbeing, fitness and physical maintenance, mental performance, anti-stress solutions and more.

| Carnitine type                                     | Features & formulation                                                                                                                                                                          | Application                                                       | Main benefits                                                                                                                                                                                            |
|----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>L-Carnitine Base</b>                            | 100% active ingredient. Most suitable for formulation requiring high concentration of the active ingredient and for liquid formulations due to its great capacity to absorb water.              | Infant formula<br>Sport & Energy Drinks                           | <ul style="list-style-type: none"> <li>Enriches soy-based and milk infant formula</li> <li>Useful for general well-being</li> <li>Boosts athletic performances and accelerates Recovery</li> </ul>       |
| <b>L-Carnitine Hydrochloride</b>                   | 82% L-Carnitine Base. It is characterized by a higher density. It is soluble, thus, can be used for effervescent formulations and tablets in general. It is not recommended for jelly capsules. | Sports & Energy Drinks                                            | <ul style="list-style-type: none"> <li>Useful for general well-being</li> <li>Boosts athletic performances</li> <li>Accelerates Recovery</li> </ul>                                                      |
| <b>L-Carnitine Tartrate</b>                        | 68.7% L-Carnitine Base. Given its solubility is indicated for liquid and effervescent formulations.                                                                                             | Sports & Energy Drinks<br>Sports tablets                          | <ul style="list-style-type: none"> <li>Useful for general well-being</li> <li>Boosts athletic performances</li> <li>Accelerates Recovery</li> </ul>                                                      |
| <b>L-Carnitine Fumarate</b>                        | 58.5% L-Carnitine Base. It is the most stable of all L-carnitine salts and the most palatable. Recommended for effervescent formulations, tablets and capsules.                                 | Sports & Energy Drinks<br>Sports & Weight loss tablets & Capsules | <ul style="list-style-type: none"> <li>Useful for general well-being</li> <li>Boosts athletic performances</li> <li>Accelerates Recovery</li> <li>Co-factor in weight reduction program</li> </ul>       |
| <b>Ultrafine L-Carnitine Fumarate</b>              | L-Carnitine Fumarate (patented) 58.0%, 2% carnitine, 41.5% + 1% fumaric acid. Mesh size: Passes 150 mesh conditioned with fumes food grade silica.                                              | Sports & Energy Drinks<br>Sports & Weight loss tablets & Capsules | <ul style="list-style-type: none"> <li>Finer particle size</li> <li>Increases bioavailability</li> <li>Decreases hygroscopicity</li> <li>Conveniently formulated with oil-based ingredient</li> </ul>    |
| <b>Acetyl L-Carnitine Hydrochloride/ Taurinate</b> | Carnitine derivative, very soluble in water and suitable for liquid and solid formulations.                                                                                                     | Memory, Learning & Concentration Beverages, Tablets, Capsules     | <ul style="list-style-type: none"> <li>Memory enhancement &amp; reduction of mental decline</li> <li>Learning and concentration enhancement</li> <li>Mood improvement (anti-depressant)</li> </ul>       |
| <b>Propionyl L-Carnitine Hydrochloride</b>         | Carnitine derivative, very soluble in water and suitable for liquid and solid formulations.                                                                                                     | Blood circulations<br>Sports drinks                               | <ul style="list-style-type: none"> <li>Blood circulation peripheral improvement</li> <li>Physical performances tolerances increase</li> <li>Favours better results in longer walking distance</li> </ul> |



# Shreveport (Louisiana)

## US Operations

Dedicated nutraceutical production facility.



### NUTRACEUTICAL & MEDICAL FOOD SOLID DOSAGES

- Tablets
- Capsules
- Stick pack
- Bottle packaging
- Blister packaging



\*Including corticosteroids & sexual hormones



# Labio 4.0 Marino Golinelli

## Pharmaceutical Development Hub – Italy

A flexible, cross-functional facility supporting customized solutions in formulation, process optimization and regulatory readiness.



\* Including High Potent/ OEL4 Drug Substances

### ORAL SOLID PILOT PLANT\*

Flexible. Scalable. Reliable.

- **Product Development & Scale-Up**  
From concept to clinical trial readiness.
- **Scale-Down Capabilities**  
For troubleshooting, process optimization and problem-solving.
- **IMP Manufacturing**  
Compliant production of Investigational Medicinal Products.
- **Clinical Supply Management**  
Efficient support for small-scale clinical trials.
- **Small Batch Commercial Production**  
Cost-effective and high-quality manufacturing for niche markets.



# Labio 4.0 Marino Golinelli

## Pharmaceutical Development Hub – Italy

A flexible, cross-functional facility supporting customized solutions in formulation, process optimization and regulatory readiness.



\* Including High Potent/ OEL4 Drug Substances

### ANALYTICAL DEVELOPMENT / QUALITY CONTROL\*

Precision-driven insights. Quality-assured outcomes.

- **Method Development & Validation**  
Robust, reproducible analytical techniques tailored to your product.
- **Impurity Detection & Identification**  
Sensitive analysis of trace impurities in formulations.
- **Structural Elucidation (NMR)**  
In-depth characterization of known and suspected impurities.
- **Regulatory Support Data**  
Comprehensive documentation for filings and compliance.
- **Release Testing & Batch Certification**  
Ensuring each batch meets exacting quality standards.
- **Stability Studies**  
Long-term assurance of product efficacy and safety.



# Labio 4.0 Marino Golinelli

## Pharmaceutical Development Hub – Italy

A flexible, cross-functional facility supporting customized solutions in formulation, process optimization and regulatory readiness.



### PHARMACEUTICAL TECHNOLOGY LABS

Innovating formulations. Optimizing processes.

- **Formulation & Process Development**  
From concept to scalable manufacturing solutions.
- **Conventional & Enabling Technologies**  
Including advanced drug delivery platforms and techniques.
- **Design of Experiments (DoE)**  
Data-driven approach for troubleshooting and optimization.
- **Solid State Characterization**  
In-depth analysis of physical forms to ensure product stability and performance.



# Why partnering with Morpho

Combining **development and manufacturing capabilities** with a strong commitment to solving customers' challenges, Morpho stands out as both a solution provider and a trusted partner.

Driven by **patient-centered innovation**, Morpho aspires to deliver solutions that place patients and their needs at the core of every project.

Looking forward, Morpho is strategically positioned to become a **leading tech-driven specialty CDMO**.

By focusing on innovation, differentiated technologies and long-term partnerships, committed to creating exceptional value for our clients.



# Thank You

If you want more information please  
contact the Morpho - CDMO Office:

[Morpho@alfasigma.com](mailto:Morpho@alfasigma.com)

