

SyrCelt™ Esomeprazole Gastro-resistant Syrup

FOR THE TREATMENT OF PAEDIATRIC GERD
POWERED BY THE MMCR* TECHNOLOGY



* Multi-layer Microparticle Controlled Release. Patent applied

February 2025

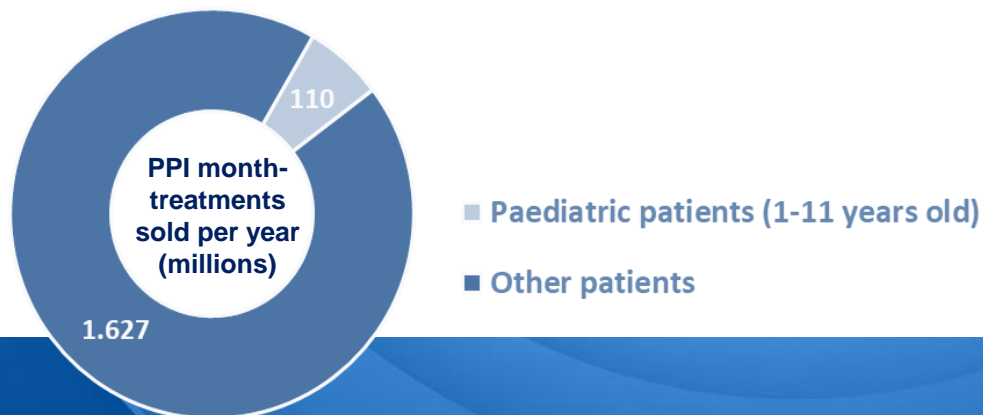
- Gastroesophageal reflux (GER) is a common and self-limiting condition.
- It is a normal physiological process defined as the retrograde flow of gastric contents into the esophagus, usually related to immaturity of the lower esophageal sphincter in the case of children.
- However, when **GER becomes pathological**, it can lead to frequent or **severe symptoms and complications**, which is then referred to as **gastroesophageal reflux disease (GERD)**.
- Although the prevalence of GER **in the first six months of life** is reported to be as high as **55–73%**, a proportion (5–9%) of all infants with regurgitation have GERD.
- Symptoms that suggest GERD in infants include **poor growth** or weight gain, as well as signs of esophagitis such as irritability, feeding problems, **sleep disturbances**, crying episodes, and **anemia**.



- Gastroesophageal reflux disease (GERD)
 - One of the most commonly diagnosed digestive disorders, estimated to affect **20% of the western population**.
- Proton Pump Inhibitors (PPI)
 - Of the available drugs to treat GERD, **Proton Pump Inhibitors (PPI) are the most used** and in the Guidelines of ESPhang.
 - Of all patients using PPIs, **children between 1 and 11 years old** represent **3-6% of the population**.

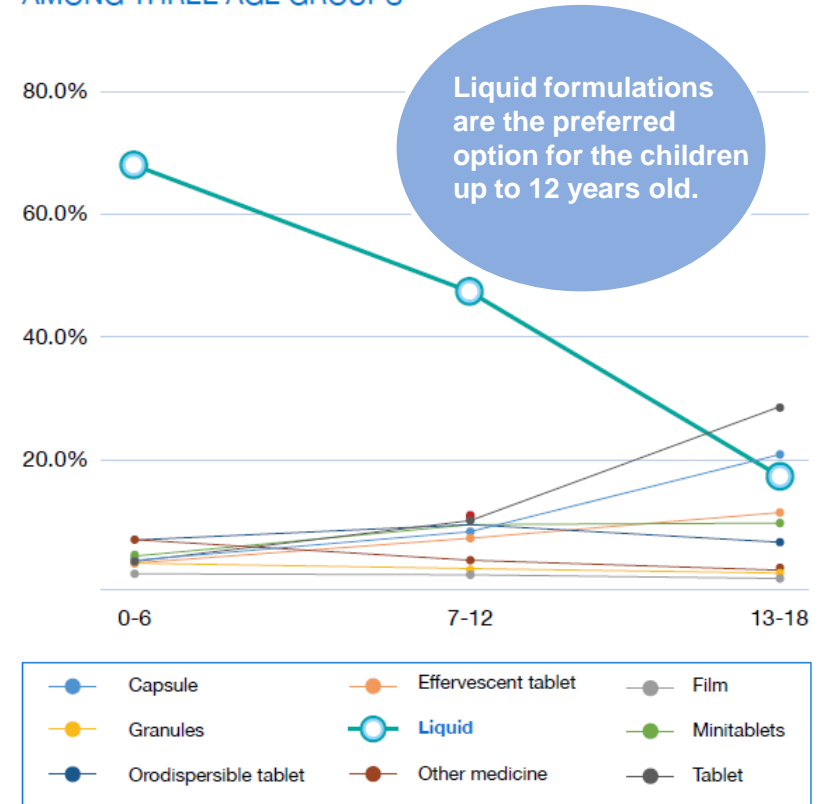
Paediatric Market size⁷ :

Estimated range in 2023
154.5 - \$ 360.5 Mio US\$



- The **current approach** for treating **children** suffering from **GERD** remains **far from optimal**.
 - **Challenging for children to swallow**, as most are available only as solid capsules or tablets
 - **Most Solid forms do not allow for adequate weight-based dosing administration**
- The advantages of a liquid formulation of PPI **gastro-resistant** would meet this **major unmet need for the paediatric patients**.

TRENDS OF DOSAGE FORMS' PERCEIVED PREFERENCE AMONG THREE AGE GROUPS



Source : Pharmaceutics 2021, 13, 730

A CONVENIENT PPI LIQUID DOSAGE FORM



Liquid oral formulation

Designed oral
pharmaceutical
dosage form tailored
for the pediatric
population



Gastro- Resistant

Gastro-resistance is
key to ensure
optimal
bioavailability and
maintains the drug's
effectiveness



Flexible dosage

Accommodates
flexible weight-based
dosing without
compromising the
medication's
effectiveness caused
by inadequate
preparation



Stable multi-dose formula

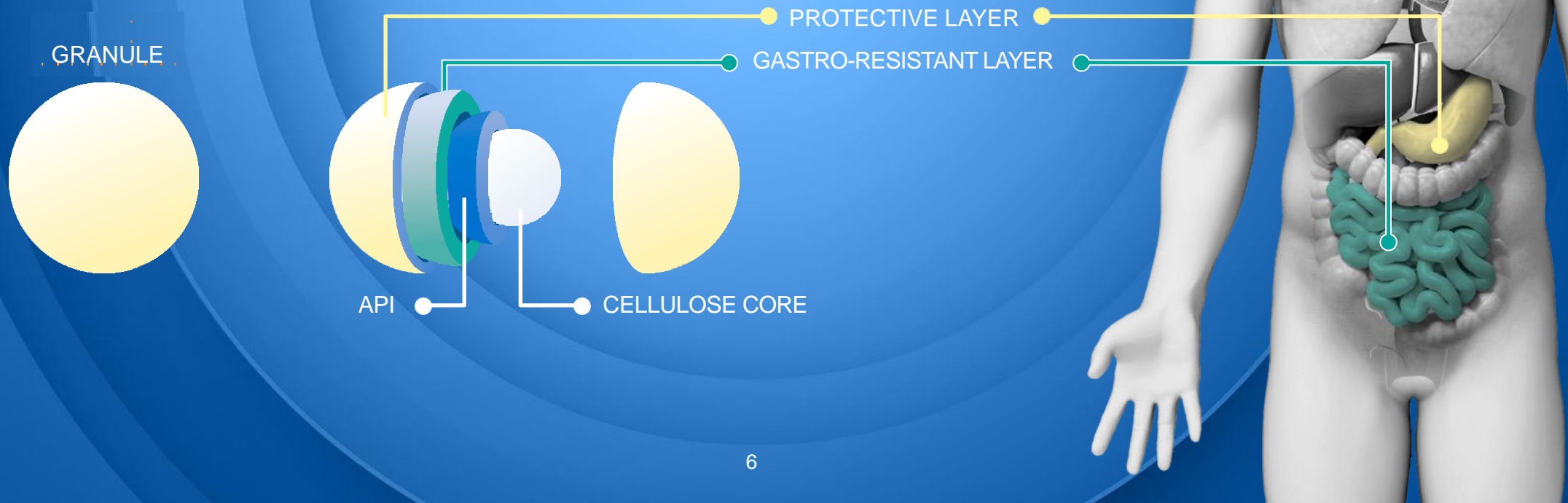
Long in-use stability
upon reconstitution
ensuring
effectiveness in each
dose

This innovative treatment will lead to rapid market penetration

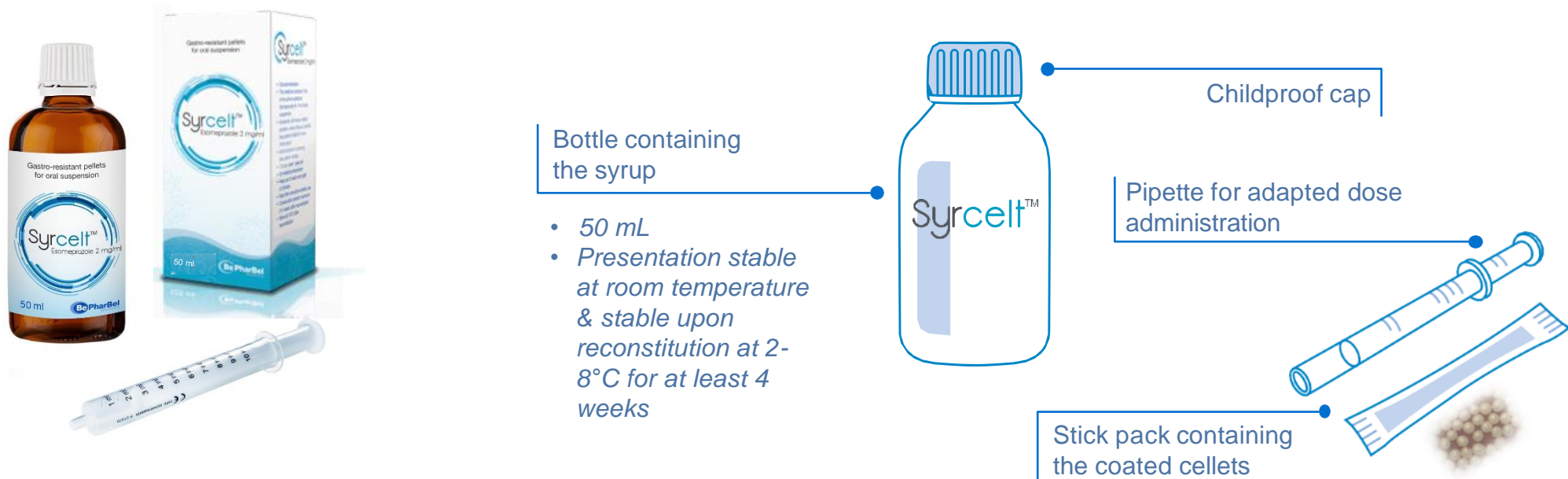
THE MMCR ESOMEPRAZOLE SYRUP TECHNOLOGY

For the treatment of paediatric GERD

- A gastro-resistant syrup that ensures **delayed delivery** to prevent degradation of API by the acidity of the stomach.
- The MMCR Technology = a combination of multilayered granules resuspended in a syrup.
- The multiple coats on the granules :
 - An external layer which ensure the stability of the granules in the syrup and which dissolves in the stomach.
 - An intermediate layer which protects the active ingredient from the acid environment of the syrup (gastro-resistance) and which will dissolve in the neutral pH of the intestine.
 - An API-containing internal layer



KEY PRODUCT FEATURES & RECONSTITUTION PROCESS



Optimized Product Design



Open



Transfer



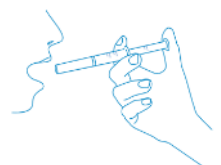
Screw with the adapter



Mix before use



Fill the pipette



Administer

VALUE PROPOSITION

Improved patient compliance through

- a unique **oral liquid formula** that is **easier to swallow** compared to solid tablets and capsules
- **superior patient adherence** due to meticulously designed product making the reconstitution step easy and reliable

INNOVATIVE TECHNOLOGY

Our novel proprietary MMCR technology enables the delivery of esomeprazole

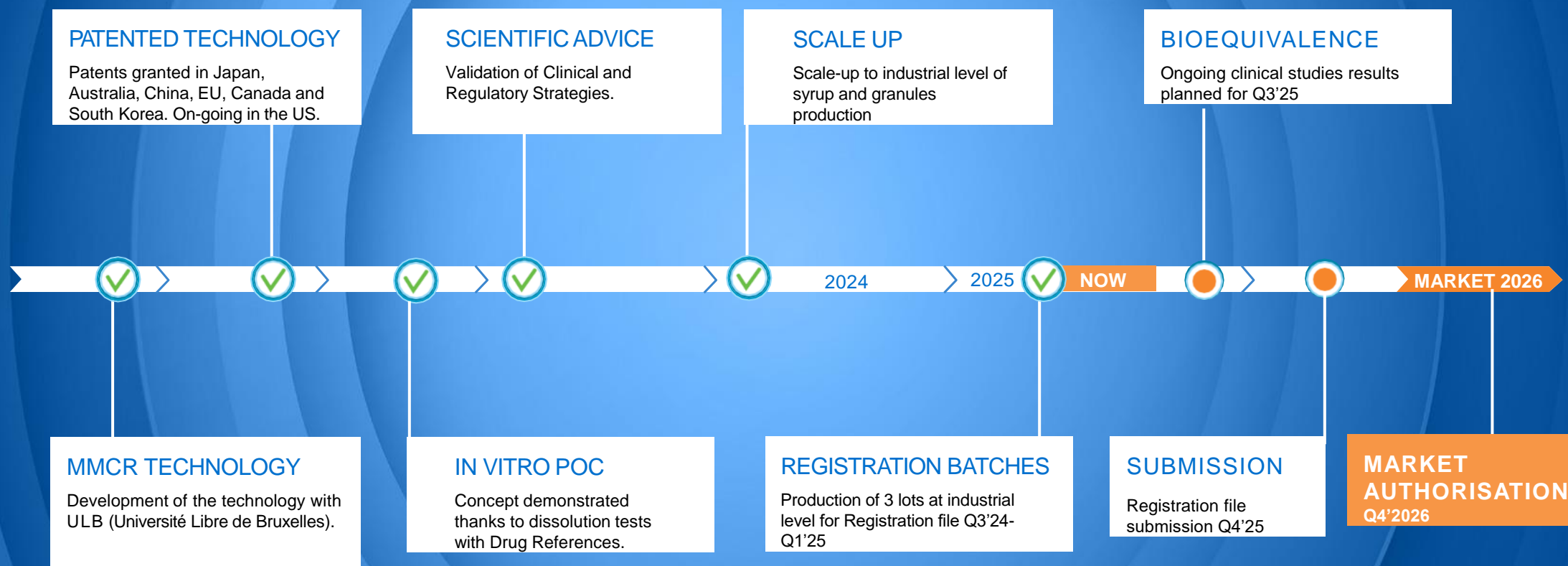
- under the form of coated microparticles suspended in a **highly stable** syrup
- **overcoming the intrinsic acid-labile characteristics of any PPI.**

COMPETITIVE ADVANTAGES

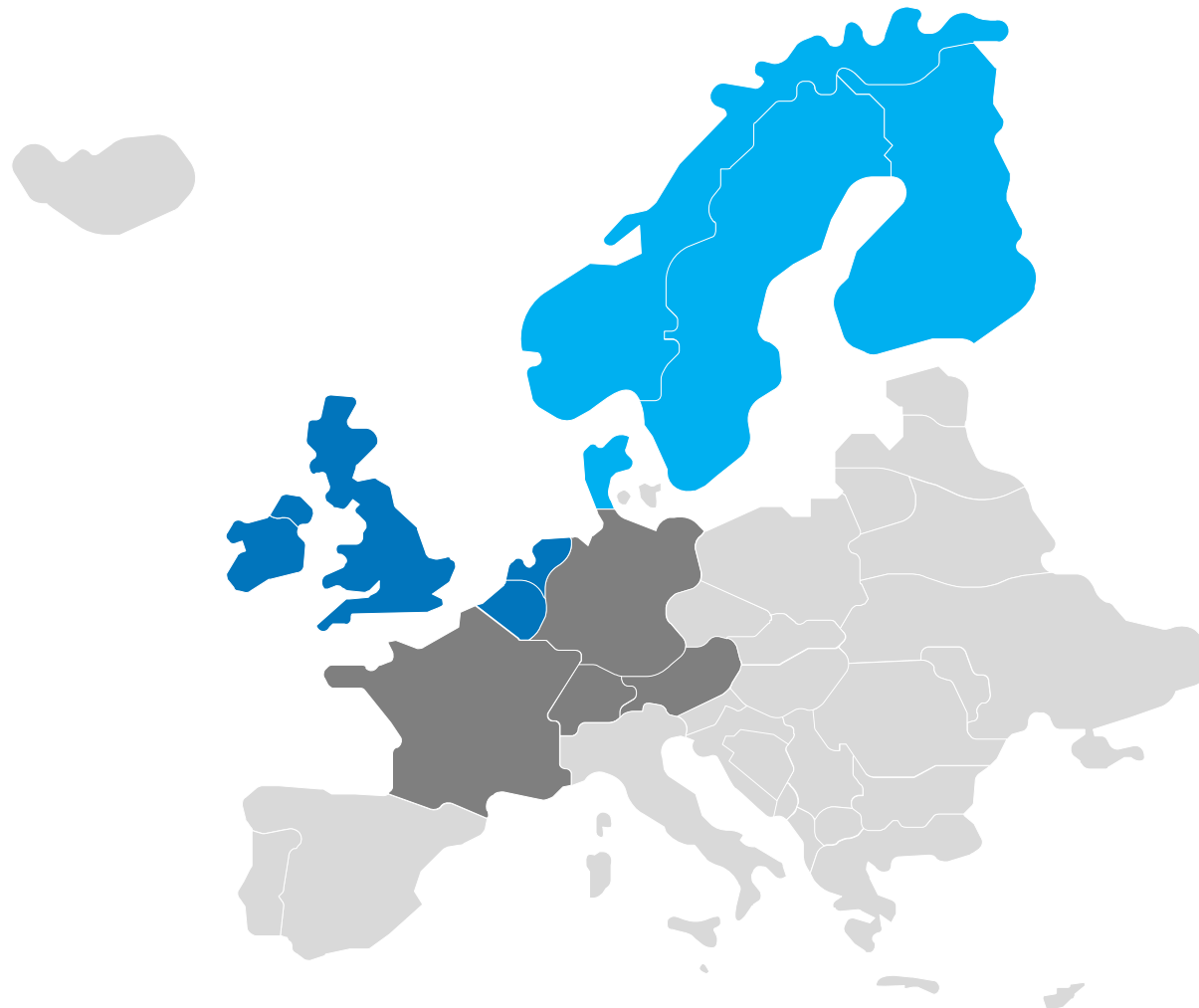
Unlike most of the paediatric liquid products, SyrCelt™ Esomeprazole offers a unique combination of

- **gastro-resistance formula** without the undesirable effects of buffering and stabilizing agents
- **flexible weight-based dosing** depending on patient age
- **long stability upon reconstitution** that doesn't require preparation by a pharmacist

ROADMAP FOR THE 2027 LAUNCH OF SyrCelt™ ESOMEPRAZOLE IN EU MARKETS



Note: Indicated dates are expected completion dates



Out licensed markets

The Netherlands
Belgium
Luxemburg
United Kingdom
Ireland



Markets prospected

Sweden
Norway
Denmark
Finland



Scouting Markets

Germany/ Austria / Switzerland
France

Interested ?

We're seeking ambitious pharmaceutical collaborators to advance the development and commercialization our MMCR Esomeprazole Syrup.

If your portfolio includes gastroenterology or pediatric products—and you're looking to expand—we are keen to explore the out-licensing of this innovative solution.

Email us at dwy@bepharbel.com to arrange an introductory meeting.

We look forward to connecting !



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