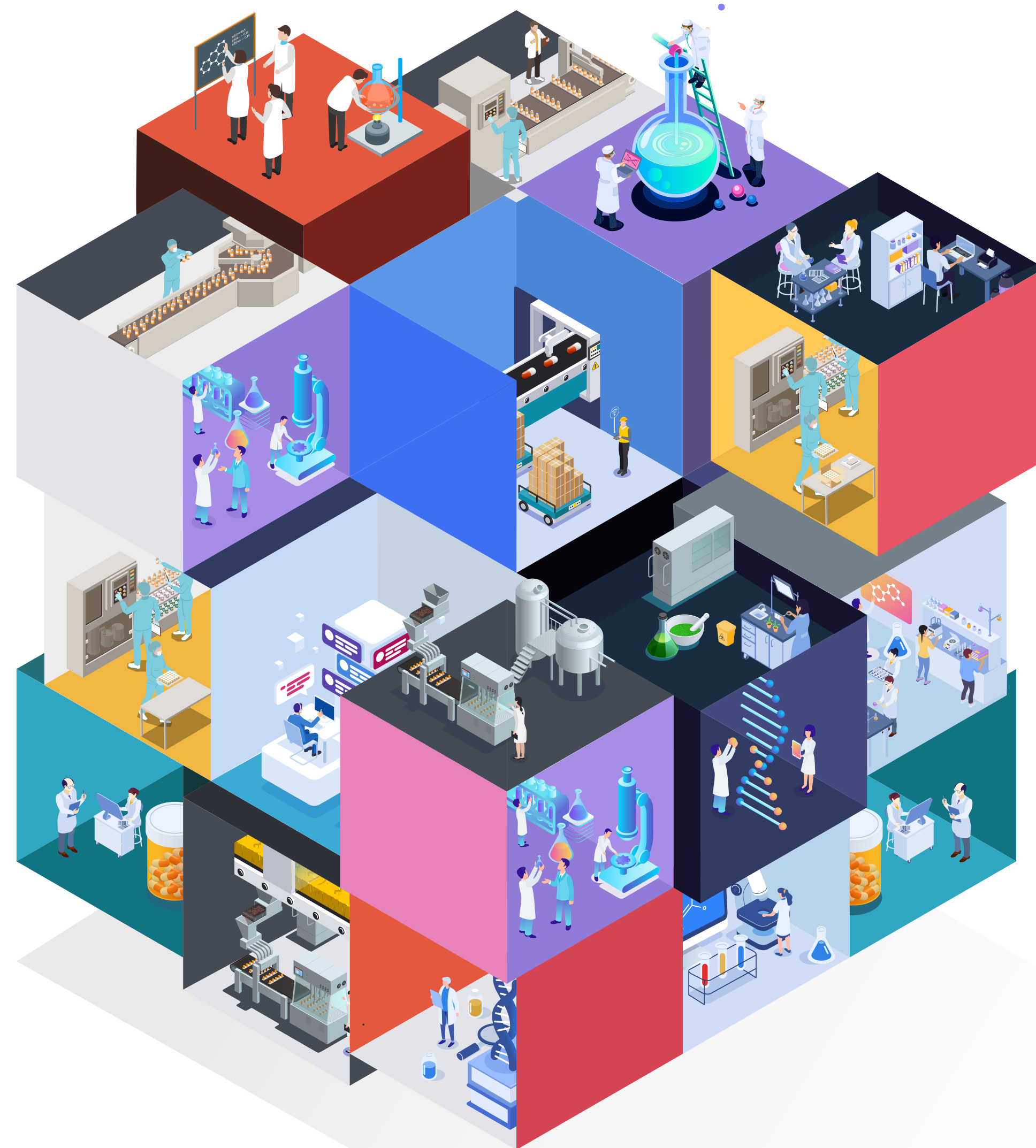


Unlocking your potential

At Roquette, our vaccine development support goes beyond the provision of high-quality ingredients.

Continue →



The word on everybody's lips... vaccines.



Across the globe, vaccine development is dominating the pharmaceutical market following the COVID-19 outbreak. As key players shift their focus from seasonal products to proactive therapeutics, the race is on to reach the finish line and produce a viable vaccine to help slow the spread of the virus and get the world back on its feet again.

As a long-established global provider of high-quality ingredients for the pharmaceutical and biopharmaceutical industries, Roquette is actively supporting vaccine development with its leading portfolio of excipients. Offering solutions for both upstream and downstream production, we can enhance processes, quality and advise on formulation – helping to get your vaccine to market quicker.

Revealing market need

The biologics market is booming, with monoclonal antibodies (mAbs) currently dominating as the largest single category. Fast approaching as contenders in the research and development space, however, are cell and gene therapies, closely followed by vaccines – displacing other modalities.

What does this mean for developers in the biopharmaceutical space?

One word – opportunity.

Roquette is the expert to help you tap into opportunities and new markets as they arise, ride the changing landscape and navigate its twists and turns to develop high quality, safe vaccinations with the end user in mind.





We help you make every move count.

As a supplier...

We bring an established, safe and quality portfolio of ingredients to the table, available at large-scale volumes. The only vertically integrated manufacturer of carbohydrate-based solutions for biopharma, we offer full supply chain visibility so you can always trust in our industry-leading quality standards and robust, consistent supply.

**A wide portfolio of ingredients,
with all our excipients complying
with compendial monographs.**

As a partner in innovation...

We are experts in excipients. With our advanced understanding of proteins and their characterization, we can support and drive new developments in the biopharmaceutical space.



Getting down to the details

Now it's time to explore what our key products can do for your development process.



Figure 1. Roquette's ingredients offer support at different stages of the vaccine development journey.

Upstream

As one of the world's largest producers, our dextrose products – Dextrose Anhydrous BioPharma and LYCADEX[®] BioPharma dextrose monohydrate – are high quality, naturally derived carbohydrates.



What are they used for?

In the early stages of cell culture media manufacturing, as a carbon and energy source for cells.

Our upstream offering doesn't end there, though...

At Roquette, we're unleashing the power of cyclodextrins with our first-to-market KLEPTOSE[®] BioPharma HPB and HP, HPβCD product.

Cyclodextrins are already being applied to the solubilization of typically insoluble components, like cholesterol and fatty acids, in cell culture media. Their function has been compared to protein adsorptive systems as they chelate lipids in a more water-soluble molecule and thereby increase aqueous solubility.

A significant advantage of 2-hydroxypropyl-beta-cyclodextrin (HPβCD) here is that its beneficial toxicity profile means it is unlikely to have any detrimental effects on cell viability.



Roquette is driving innovation with the development of its KLEPTOSE® BioPharma HPB and HP, HPβCD. Supported by our expanding in-house R&D department, we're committed to the development of emerging science focusing on excipient-protein interactions.

Why choose Roquette's dextrose and cyclodextrin products?

Because we are the only vertically integrated manufacturer with complete **supply chain control**.

We ensure a **consistent, reliable supply** and help to **reduce risk**, in turn addressing a number of industry concerns.

Downstream

We're a little further along in the development process now and Roquette is on hand to **support at the final formulation stage.**



Here's how...

With a range of **polyols** – both our NEOSORB® BioPharma sorbitol and PEARLITOL® BioPharma mannitol products work to stabilize proteins susceptible to instability.

Both excipients are also ideal for injectable lyophilized powder dosage forms.

Why choose Roquette's polyols?

Because they are produced in a vertically integrated, fiber-free supply chain, meaning we can ensure consistent supply, and reliable and transparent quality.

Roquette provided its NEOSORB® BioPharma sorbitol product as part of a study exploring the effectiveness of oral dosage forms, such as orodispersible film (ODF)* in oral vaccines. The end product – an orally disintegrating film – showed promising results in a juvenile porcine model.**



That's not all, though.

Our **Kleptose Biopharma HPB and HP, HPBCD** products also offer benefits downstream.

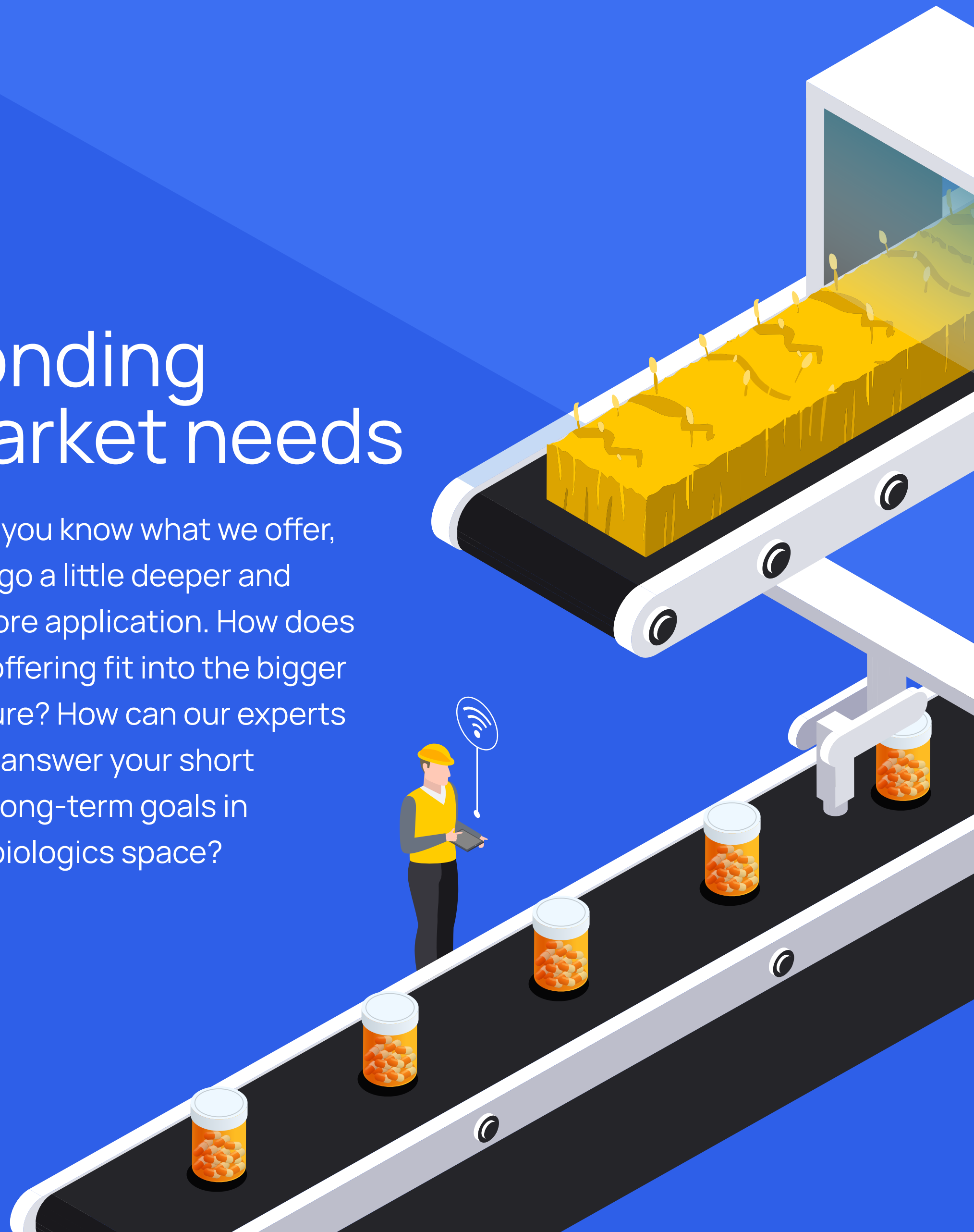
At final formulation stage, HPBCD cyclodextrins are a novel approach to stabilizing therapeutic proteins, and therefore ideal for liquid dosage forms.

HPBCD is a long-standing excipient, recently gaining interest for its ability to stabilize adenovirus formulations, allowing for long-term storage. The excipient can also be used as an adjuvant to boost vaccine immunogenicity and extend the body's immune response for longer than others, commonly used in vaccine production.

For more on our cyclodextrin offering, see our [exclusive e-book](#) [🔗](#)

Responding to market needs

Now you know what we offer, let's go a little deeper and explore application. How does our offering fit into the bigger picture? How can our experts help answer your short and long-term goals in the biologics space?



The market is developing quickly, especially in light of ongoing crises such as COVID-19 and Ebola. Thus, demand for bioprocessing ingredients is increasing, with production quantities moving from 1 g/l to more than 20 g/l in recent years.

With full control over the supply chain, Roquette is supporting the industry with a consistent supply of high purity ingredients.

Our quality standards and lean manufacturing also mean customers can achieve greater yields in upstream processes and consistency in downstream, such as processing the final product.

For cell culture media manufacturers, CMOs and biologics manufacturers, dextrose is a key, high-volume ingredient in your bioproduction process.

With Roquette and our Dextrose Anhydrous BioPharma, we offer:

- Shorter lead times
- Reduction of supply chain risk
- A long-standing history of production in Northern France
- Vertically integrated manufacturing with the ability to control quality attributes and consistency of our products
- Fiber-free packaging

...so you can continue the development of your vaccine without delay or interruption.



From established biopharmaceutical companies, to innovative start-ups, Roquette is on hand to support key players through what can be long research and development cycles with our KLEPTOSE®, NEOSORB® and PEARLITOL® BioPharma products.

Our excipient portfolio:

- Supports the development of biological formulations
- Supports the development of vaccine formulation platforms
- Ensures compliance with global regulations
- Helps improve patient compliance

While KLEPTOSE® is a well-known and widely used excipient, we can work with you to unlock formulation challenges. By leveraging our deep understanding of raw material science, we can help you understand how our products interact in your processes and formulations to promote innovation.

Technical and regulatory support

At Roquette, our expertise and capabilities go beyond the material characterization of the products we produce.

Our [Global Innovation Center in Singapore](#) allows us to mirror the processes and workflows seen across the industry, including scaled down vaccine development models. By understanding our partners' processes and challenges, we can be a more effective collaborator in bioprocessing and formulation development.

What does the Innovation Center offer?

Run by experienced scientists with a breadth of expertise in biopharmaceutical processes, the center is equipped with the facilities to support upstream and downstream processes, formulation and stability studies and biomolecule characterizations.

Additional services include technical input and customer application studies – so we can work with our partners to optimize Roquette products within specific applications.



Why Singapore?

Because we identified an exciting talent pool of technical experts with the capability to provide support and services to our customers globally.

We hope to welcome our customers in the near future to the Center, so they can better understand our capacity and discuss potential collaboration opportunities.





Ready to unlock your potential?

For technical help, please visit our Innovation Hub
and speak directly with one of our experts at
www.roquette.com/innovation-hub 

 Return to start