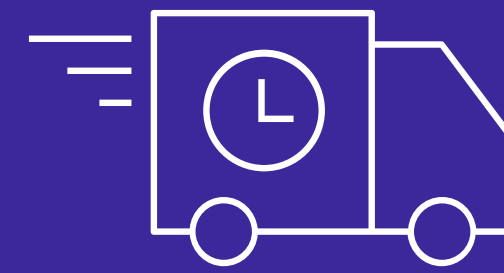
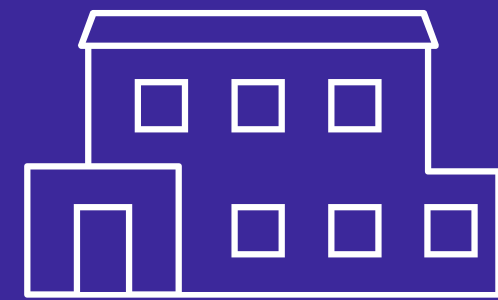


# From just-in-time to risk-based logistics

Emerging technologies, approvals of novel complex biopharmaceuticals and shifting attitudes towards globalization are testing the industry's supply chain partners.

The increasing sensitivity of drugs, raw material supply disruptions, demand for cold chain and ever more complicated choreography during manufacture mean the storing and transporting of pharmaceutical products is more intricate than ever.



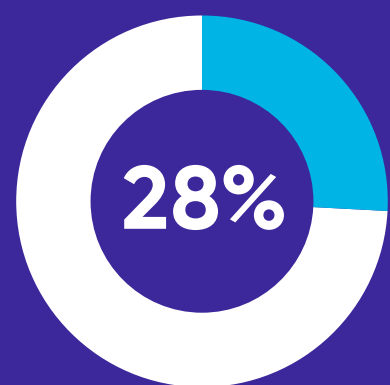
## Sourcing raw materials and APIs

## Manufacturing

## Storage and transportation



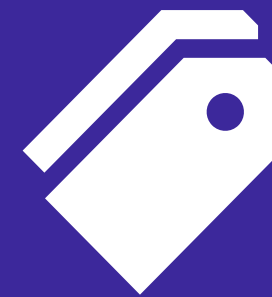
Over 7/10 API manufacturers supplying the U.S. market are based overseas<sup>1</sup>



28% of supply chain leaders believe that challenges with raw/material product pipeline caused by the pandemic may create problems in the future if left unaddressed<sup>2</sup>



In February 2020, the Chinese government imposed strict containment measures, including the lockdown of Hubei province. 45 Active Pharmaceutical Ingredient (API) manufacturing facilities closed for an extended period<sup>2</sup>



24,000+

Some big pharma companies alone have a product line of over 24,000 SKUs and over 200 contract manufacturers that it counts as partners across 175 countries<sup>3</sup>

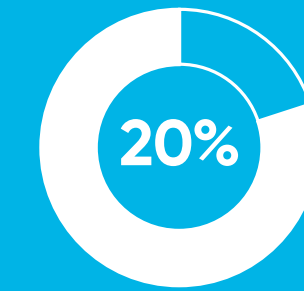
30%

of scrapped pharmaceuticals can be attributed to logistics issues alone<sup>4</sup>

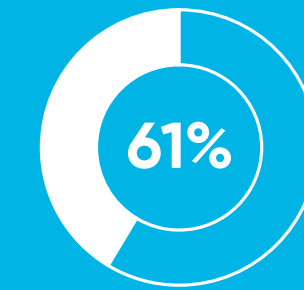
48%

The market for products requiring refrigerated storage and transportation will rise by up to 48% by 2024, with cold chain products growing at 1.8X the rate of non-cold chain<sup>5</sup>

## DID YOU KNOW?



20% of temperature-sensitive products are damaged during transport due to a broken cold chain<sup>5</sup>



61% of supply chain leaders believe a lack of sufficient collaboration with external suppliers, logistics, and/or customers may lead to problems in the future<sup>6</sup>



1 year Some biomanufacturers are waiting up to a year for single-use equipment, according to ABEC<sup>7</sup>

World Courier offers a range of deep insights into pharma supply chain challenges and their potential solutions. Our white paper: *From just-in-time to risk-based logistics* – provides analysis on how the pressures on drug manufacturing by the COVID-19 pandemic and other trends are shaping the supply of active pharmaceutical ingredients and finished pharmaceutical products.

[Download the white paper here](#)