



The Global Aspects of Today driving the Healthcare of Tomorrow

Where Needs meets Innovation

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All data and analytics are based on evidence-based sourcing and references.

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Summary

The 5 tsunamis changing the way we will do healthcare



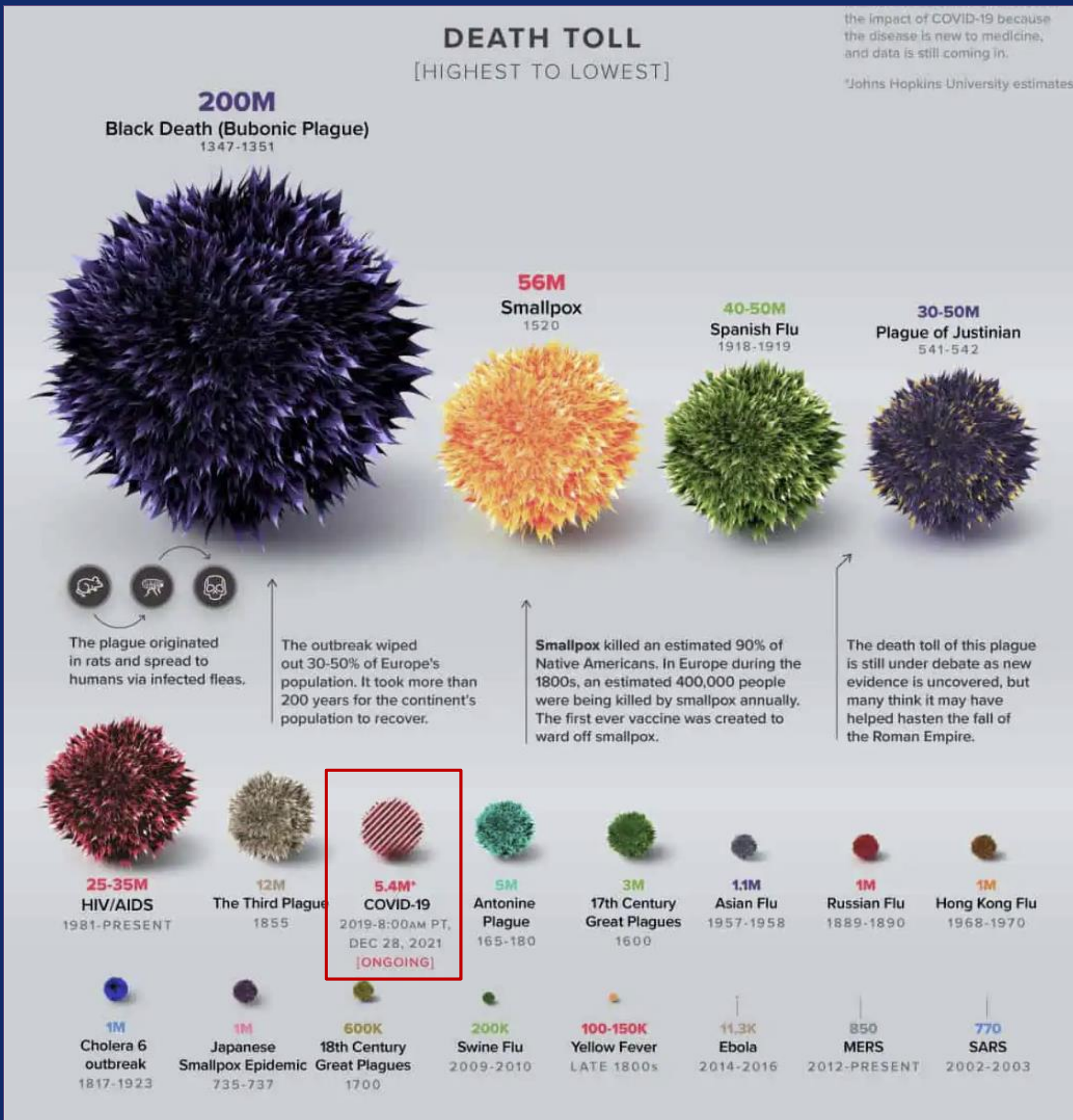
Since 2020 continuous increase of geopolitical conflicts, chronically impacting the next 15yrs

Global population will continue to age bringing us in 2050 to >60% older than 55yrs

Global population will be growing until 2060 reaching the max of 10 billion after it will start stagnate or even decline drastically

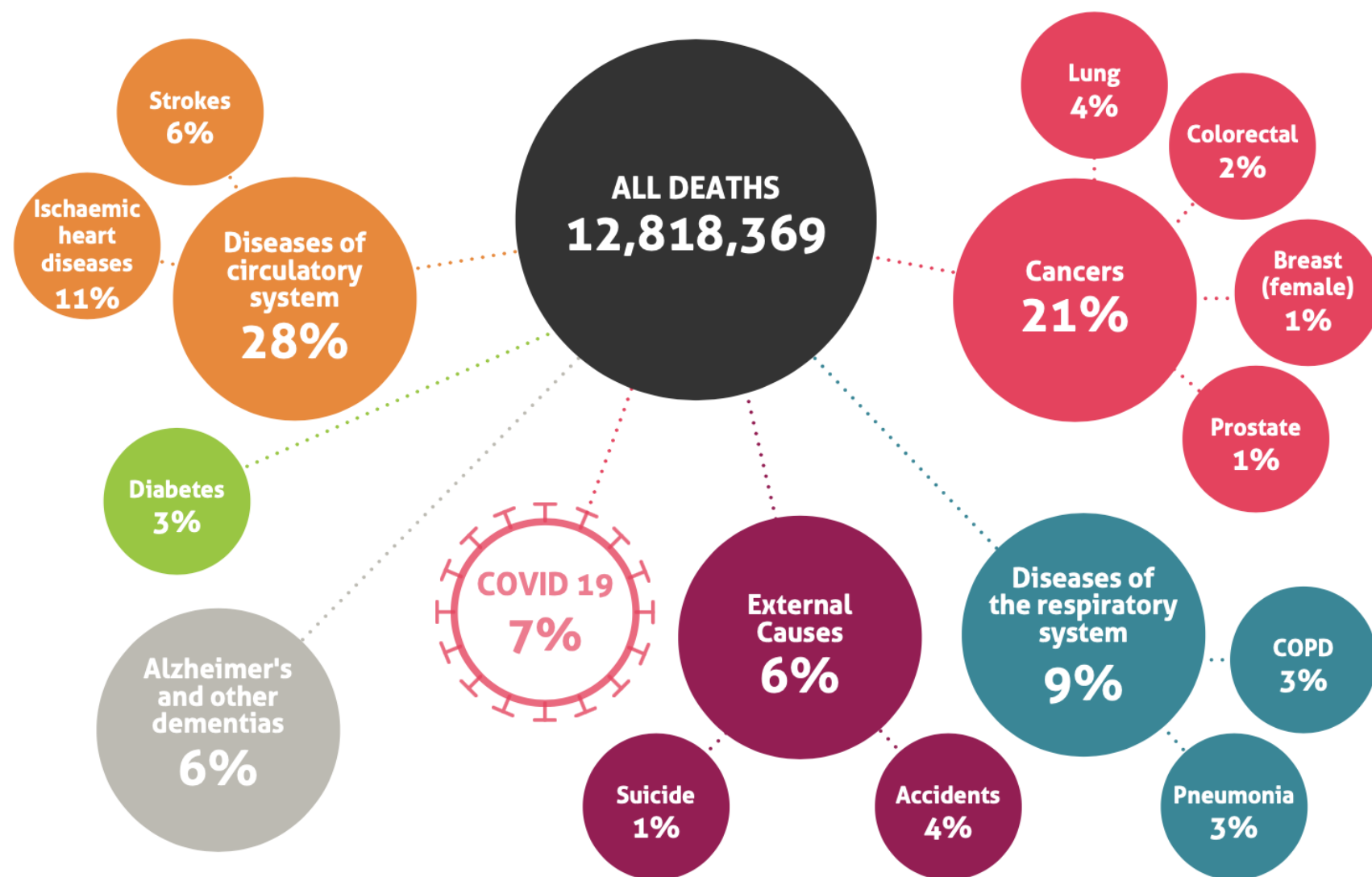
Global warming will continue despite the trillion \$ investments, caused by further poverty growth in L&MI countries

AI is being integrated at lightspeed, impacting 50+% significantly the next decade in almost every industry sector



Humanity is still licking the wounds of the \$16 trillion virus, ranked as 7th deadliest in modern times

MAIN CAUSES OF MORTALITY ACROSS OECD COUNTRIES, 2021 (OR NEAREST YEAR)



Note: Other causes of death not shown in this figure represent 21% of all deaths.

Source: OECD Health Statistics 2023.

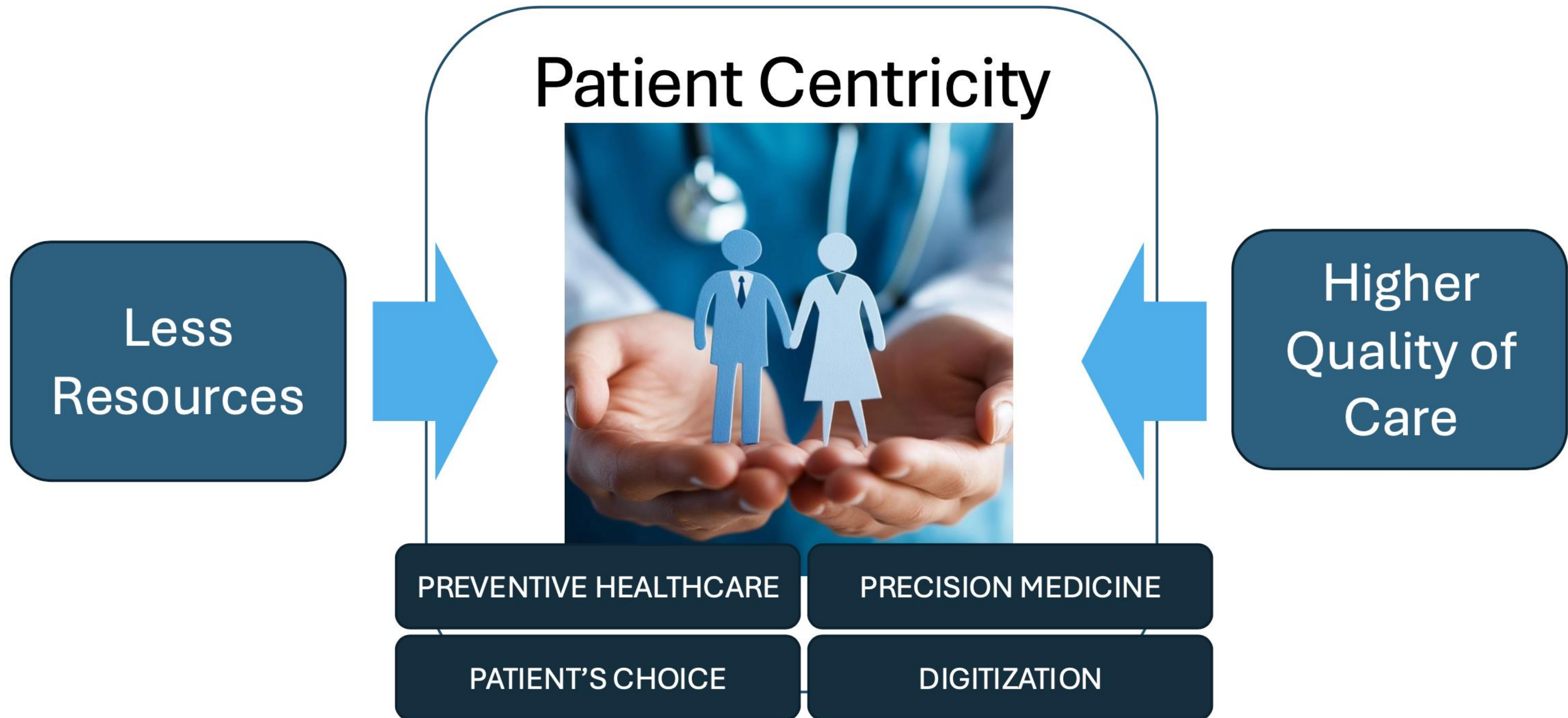
The new era of healthcare

Prevention Focus!

- Next Gen vaccines
- IoMT & distant connected patient: home wins over hospital
- Mental disease control
- Physical pre-/re-habilitation to improve elderly health status



The Healthcare Technology Acceleration

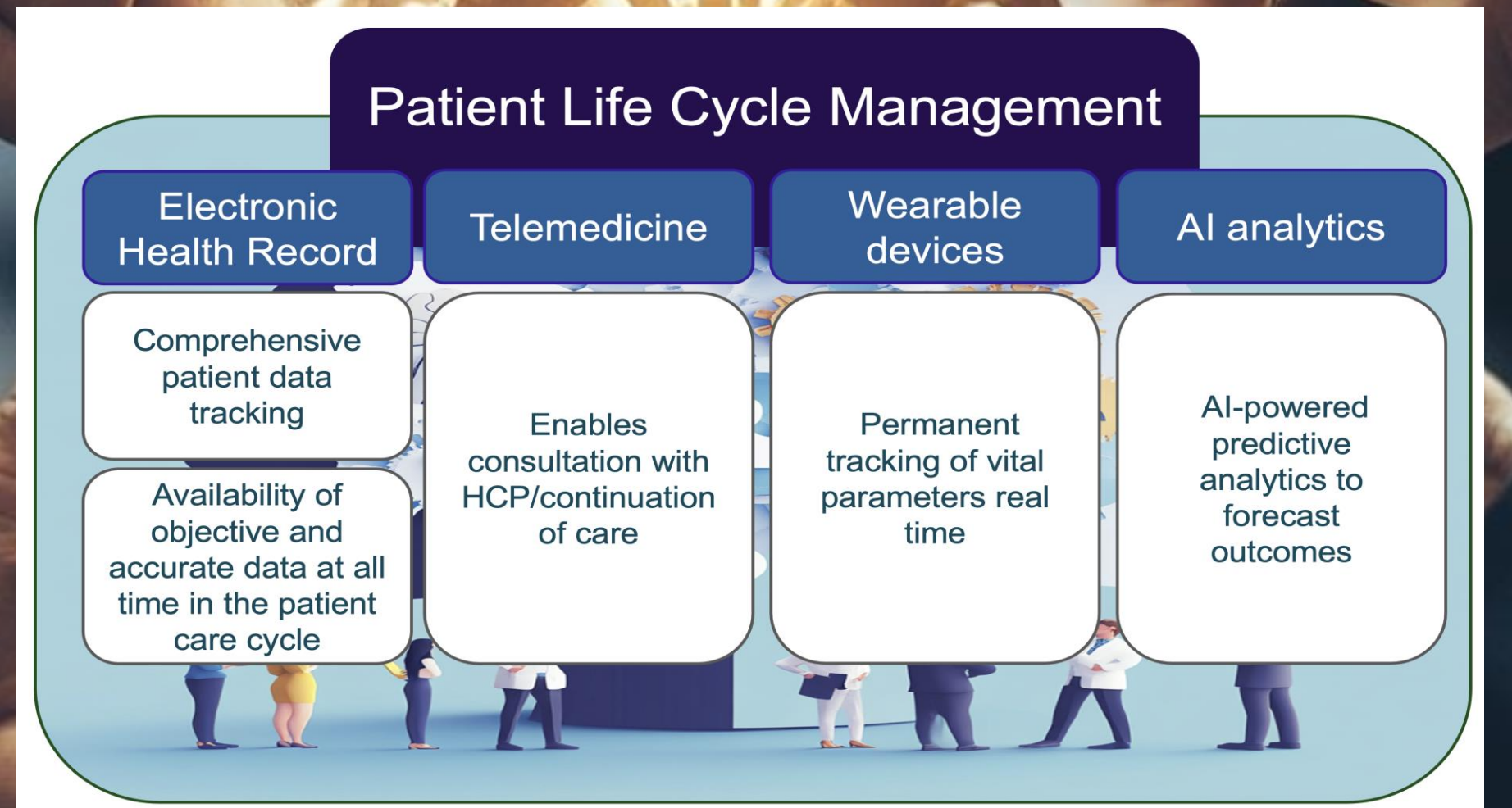
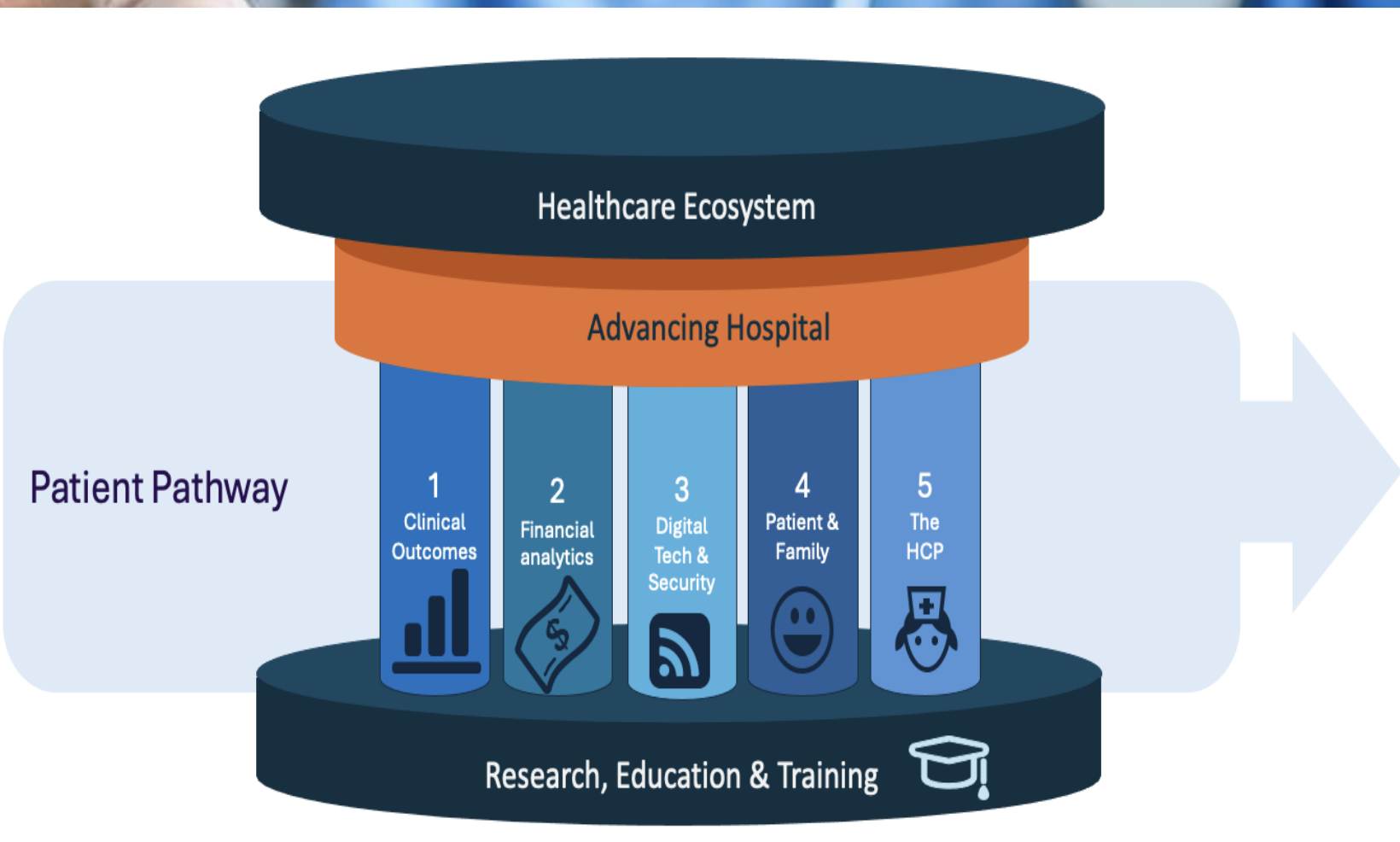




Consumers are the CEOs of their own health

Expecting more preventative and personalised products and services for a longer healthier life

The top section of the slide has a dark blue background with the title 'Consumers are the CEOs of their own health' in white. Below the title, a line of text reads 'Expecting more preventative and personalised products and services for a longer healthier life'. To the right of the text is a graphic illustration of a network of people's heads connected by lines, with a central head containing a brain and various icons, symbolizing a digital health ecosystem.



What can be the Healthcare Innovation Impact on the Supply Chain Ecosystem



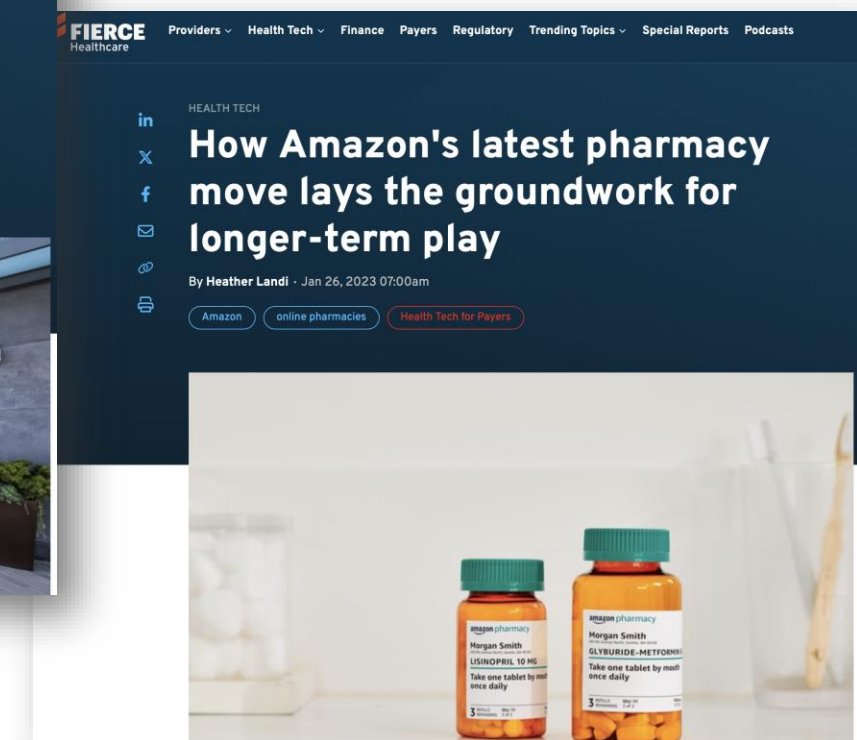
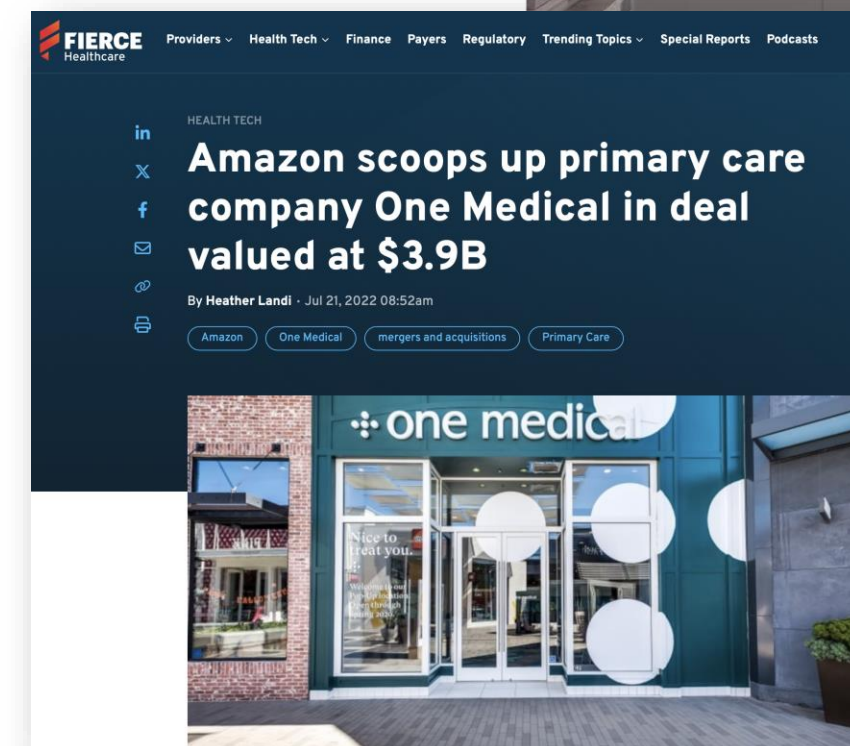
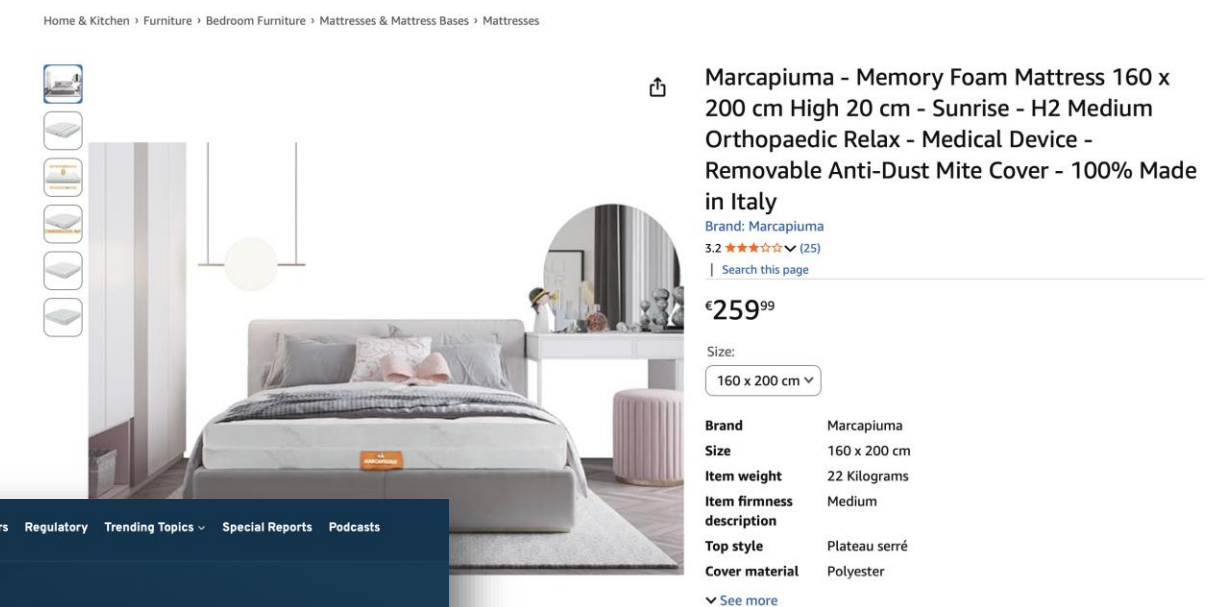
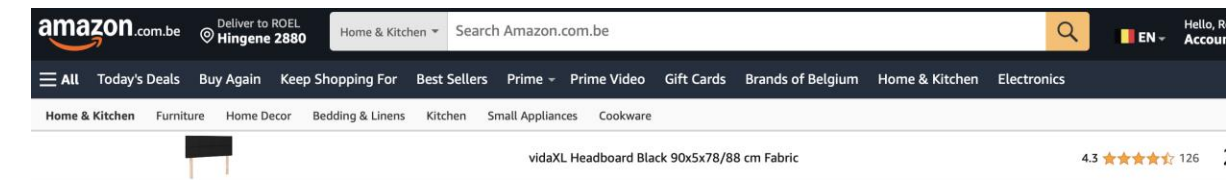
Amazonization ...



Amazonization ...

Changes in business models (B2B to B2B2C) create last-mile challenges. Pharmaceutical distribution models change rapidly.

Besides, pharmaceutical e-commerce distribution platforms make inroads into the classic distribution model. Pharma logistics companies need to adapt to this changing environment.



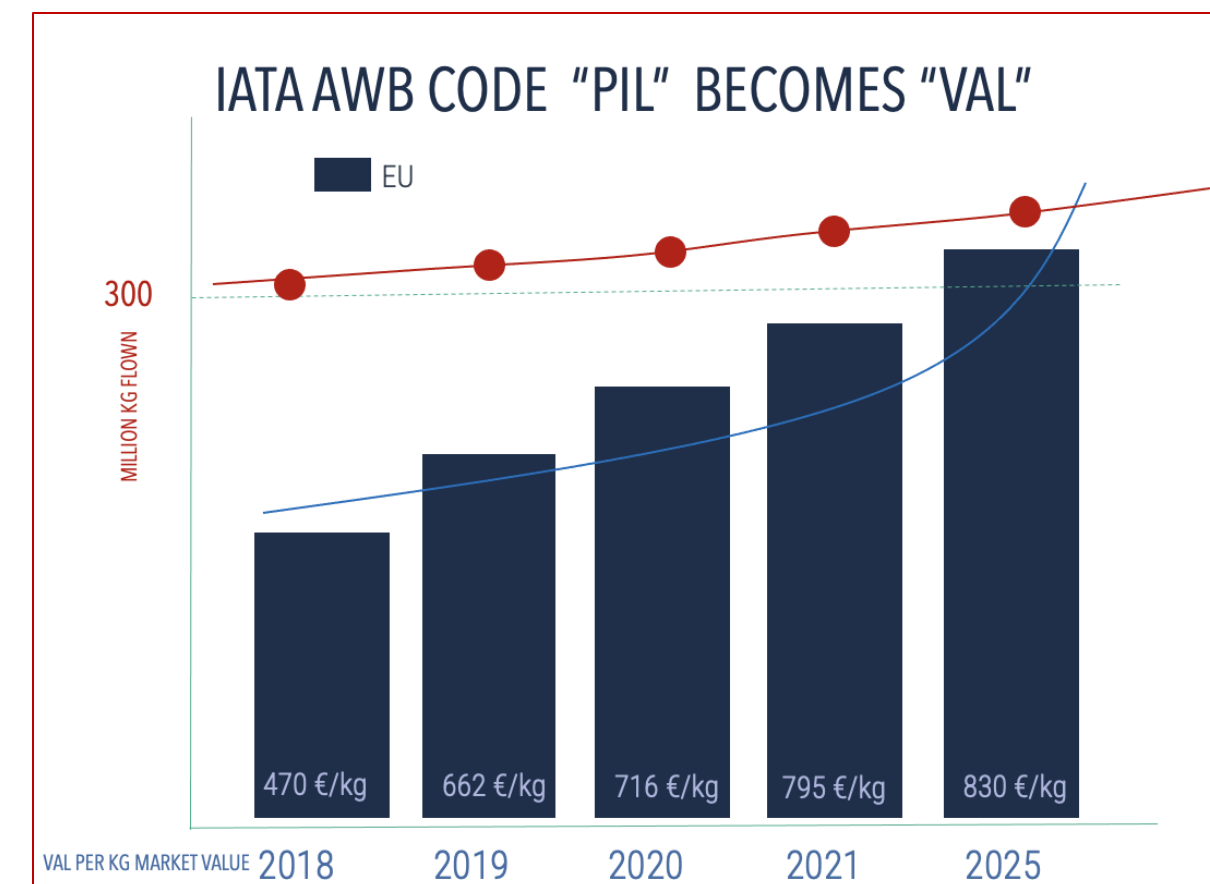
Air to Sea & will AWB PIL evolve to AWB VAL?

...

For sure

Pharmaceuticals become increasingly valuable and might need particular security handling protocols, in addition to full trace-and-track capabilities. The COVID-19 vaccines and an increasing number of high-value pharmaceuticals launched on the market demonstrate this statement.

The commercialization of “new therapy” pipelines will differentiate the current air freight pricing models as liability & risk will rise

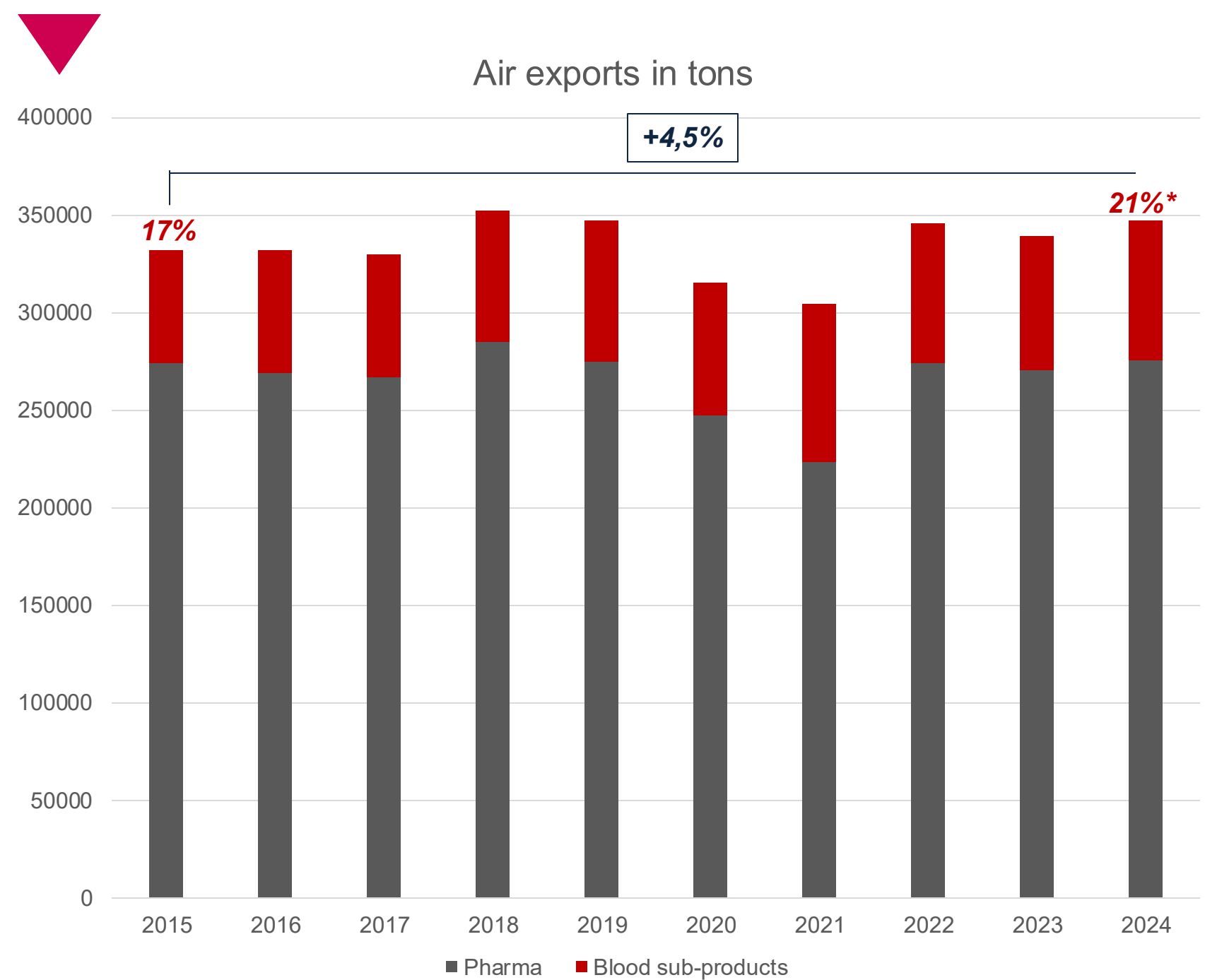
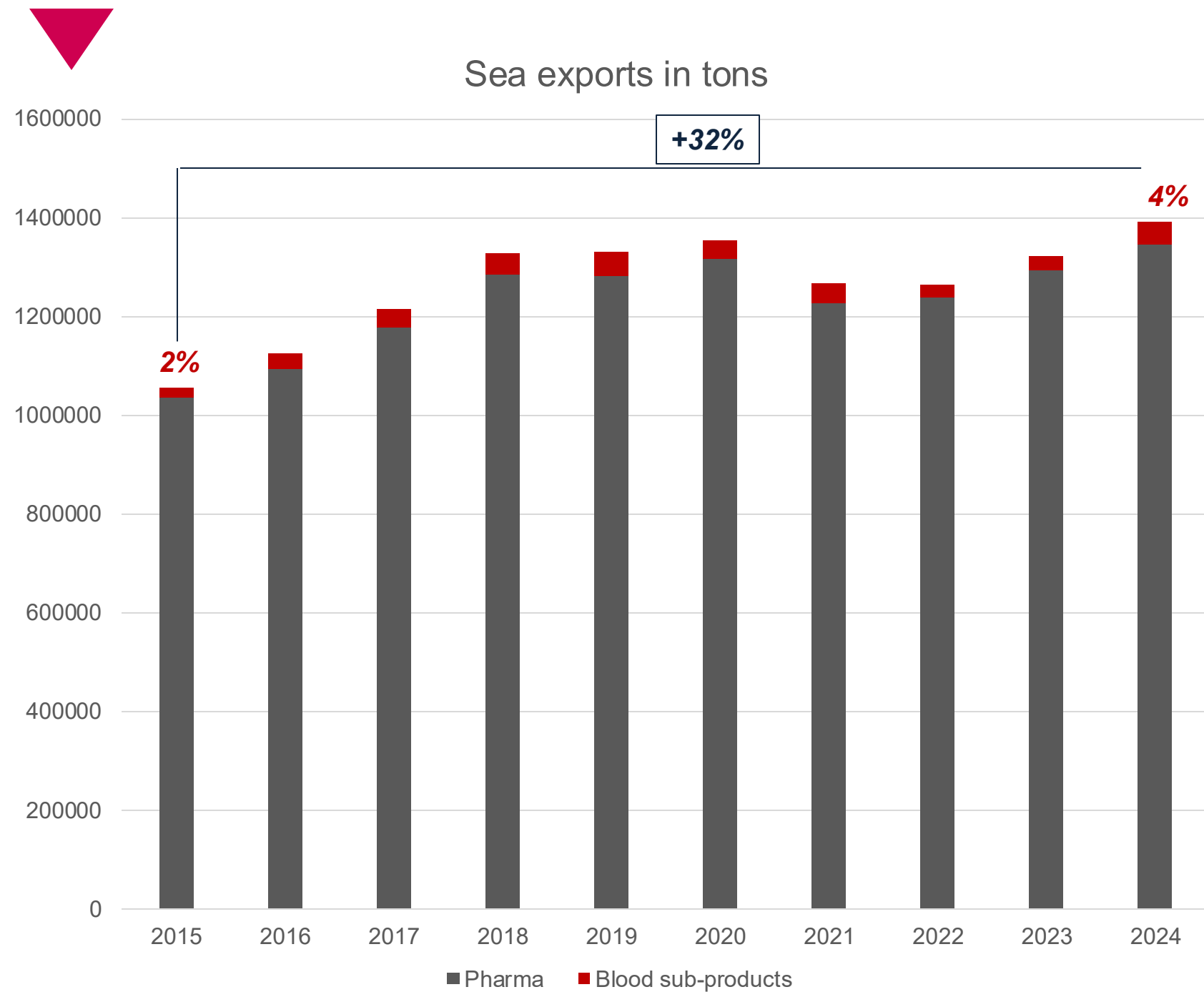


Antwerp PLMC: Setting the Scene 2021 1st Day 2021 F. Van Gelder



Past decade European Trends export Pharmaceuticals in Volume

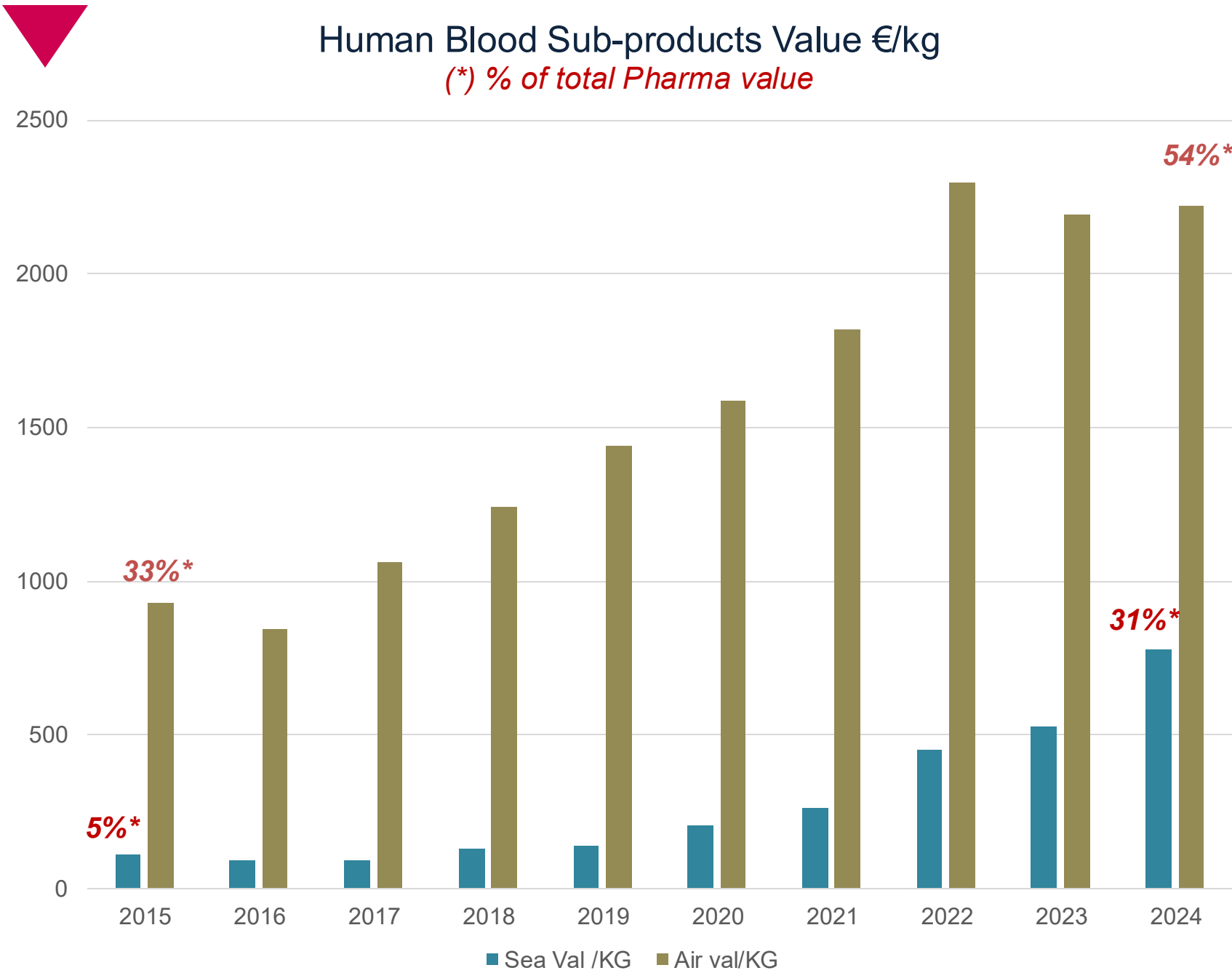
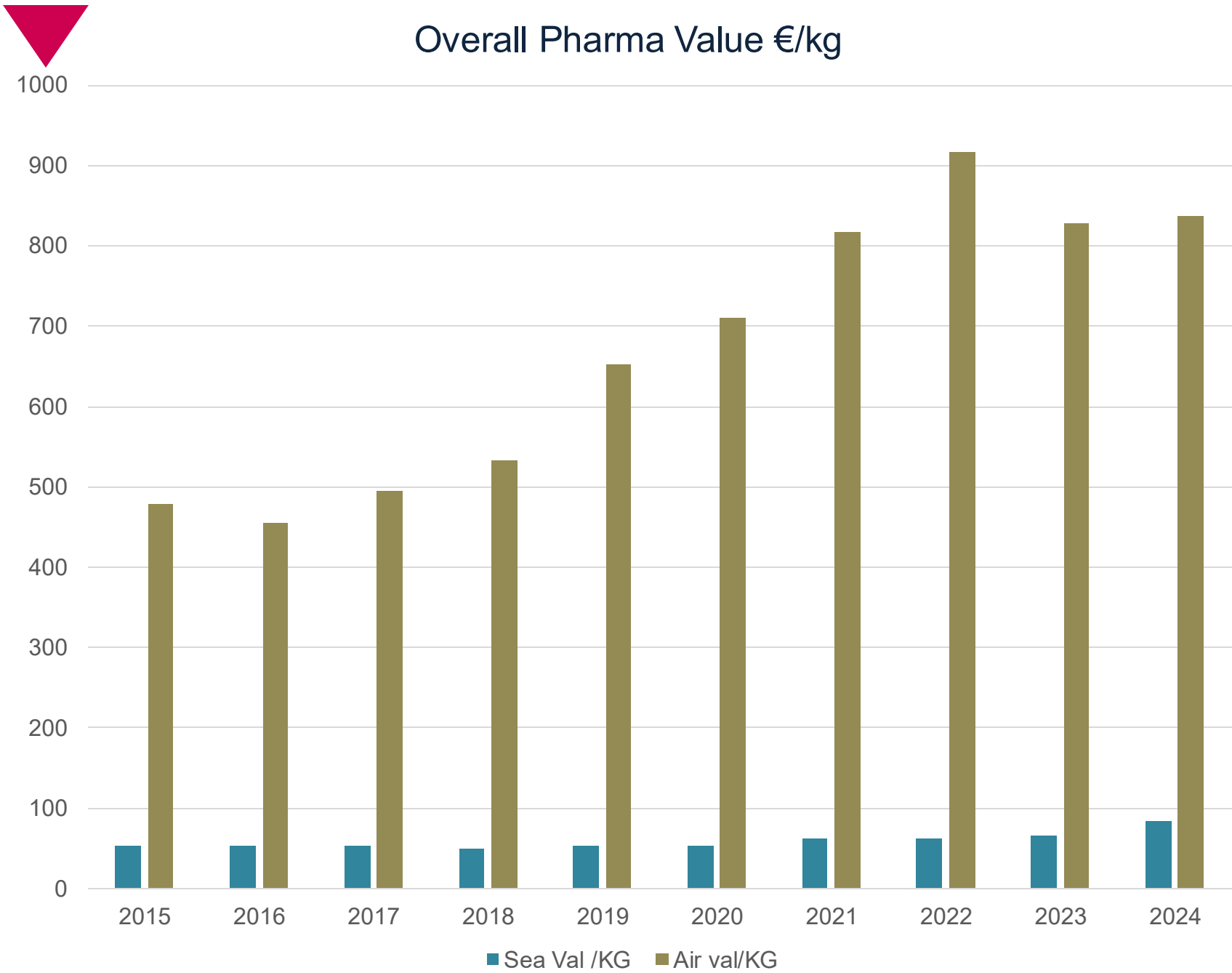
Total of Pharmaceuticals & Human Blood sub-products including vaccines & ATMP*



(*) Eurostat database International Trade by custom code and by mode of transport - Mediconed BV

Past decade European Trends export Pharmaceuticals in Value

Total of Pharmaceuticals & Human Blood sub-products including vaccines & ATMP*



(*) Eurostat database International Trade by custom code and by mode of transport - Mediconed BV

Parcel ... DIRECT to Patient ...



Parcel ... DIRECT to Patient ...

Direct to patient will grow significantly

Reducing the number of middlemen will be increasingly impacting the pharma supply chains. It will also be a method to reduce social healthcare spending.

The future healthcare ecosystem will be patient-centric, integrating linked home, community-based, and virtual care services. It will enhance self-care capabilities and be supported by efficient healthcare organizations, all seamlessly

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Willingness of healthcare professionals in China to continue participating in and recommend telemedicine post COVID-19 pandemic

[Weiyi Wang](#), [Xianying He](#), [Xu Zhang](#), [Yuntian Chu](#), [Chenchen Li](#), [Baozhan Chen](#) & [Jie Zhao](#) 

[Scientific Reports](#) **15**, Article number: 9581 (2025) | [Cite this article](#)

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Abstract

Sustained engagement and promotion by healthcare professionals are essential for the

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Pharma prepared to work with Trump on DTC drug sales: Pfizer CEO

Pfizer's Albert Bourla told investors that major drugmakers are "ready to roll up their sleeves" and build out more direct-to-consumer options for their products.

Published Aug. 5, 2025

 **Ned Pagliarulo**
Lead Editor

[in](#) [f](#) [x](#) [p](#) [e](#) [m](#)



VID-19) pandemic, the healthcare professionals' continued participation in telemedicine post COVID-19 pandemic and identified willingness to recommend telemedicine post COVID-19 pandemic. In 2023, a cross-sectional study was conducted in China, recruiting 230 healthcare professionals using a convenience sampling method. Overall, 518 healthcare professionals participated in the study, showing a willingness to recommend

Digitaal patiëntenplatform wint Zorgmagazine award

UZA@home verkozen tot 'Zorginnovatie van het jaar'

19 april 2024 [Zorg](#)

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Trump demands drug companies lower prices before end of September

US president threatens to 'deploy every tool in our arsenal' to protect Americans from 'abusive drug prices'



The S&P healthcare sector is down 2.7% this year, versus an 8% increase for the S&P 500 index © Eric Thayer/Getty Images

Patrick Temple-West in New York

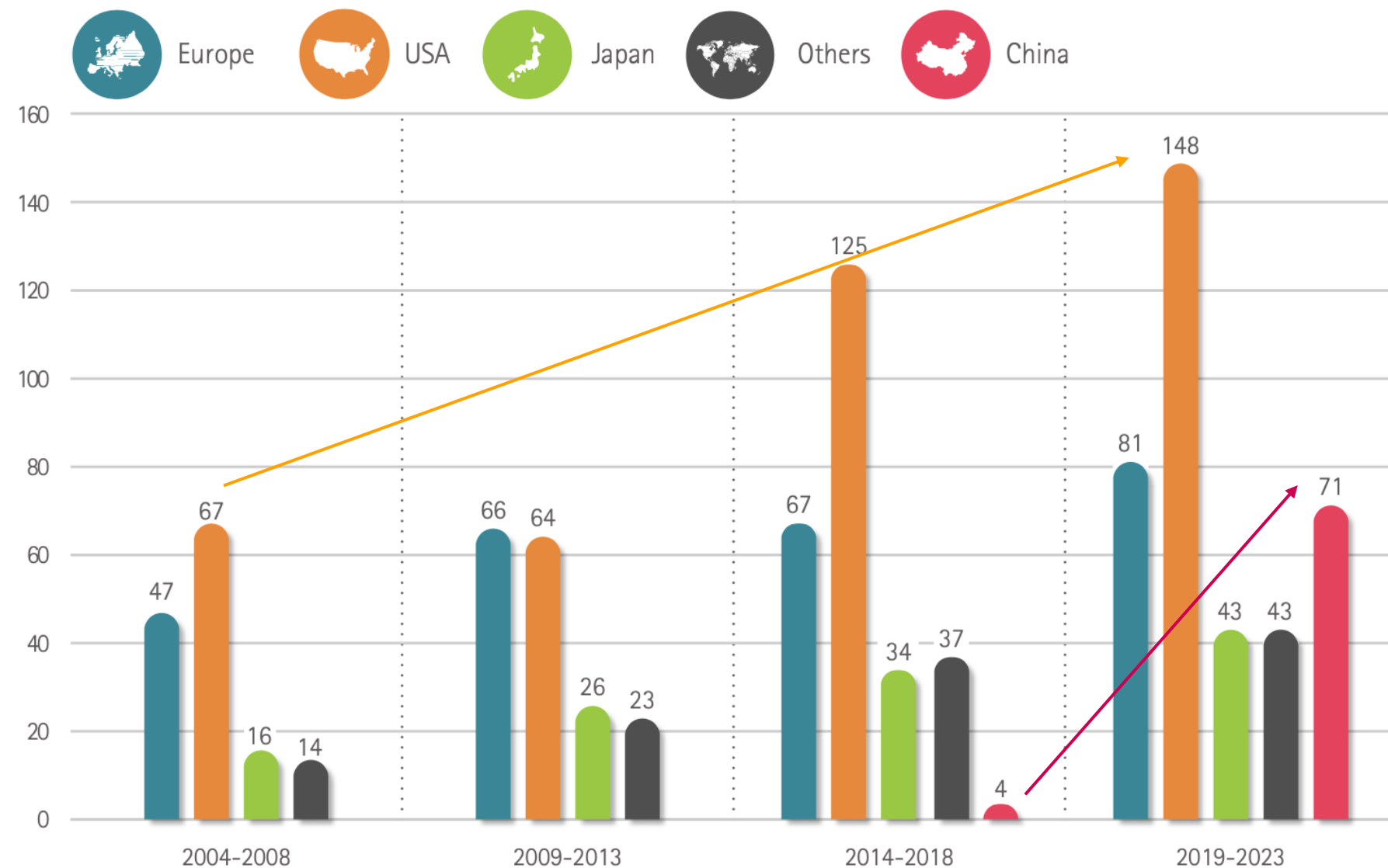
The Geopolitical stress on Regulatory...



Regulation and ethics are key themes in future pharma logistics developments.

How can these enhance and impact our business? Shift to China not only in API development but also final product

NUMBER OF NEW CHEMICAL AND BIOLOGICAL ENTITIES (2004-2023)



Source: CITELINE April 2024 & SCRIP – EFPIA calculations (according to nationality of mother company)

Note: Up to 2017 China is included under 'Others'

The AI revolutionary impact

Linear systems will transform into fully-integrated ecosystems.

Players in the pharma logistics supply chains can only survive in an integrated, resilient, responsive, and sustainable ecosystem.

+

AI is more than just a buzzword

However, it must be implemented rigorously within a well-defined operational framework.

Fangzhou Partners with Tencent to Launch AI Agent 2.0, Advancing AI-Driven Healthcare with DeepSeek Integration

📅 27 March 2025 | Thursday | News



Collaboration harnesses DeepSeek's secure, efficient LLM and Tencent Cloud's infrastructure to enhance patient services, physician workflows, and pharmaceutical logistics across Fangzhou's digital health platform.



Image Source : Public Domain

The next generation manufacturing strategies...

Pharmaceutical Supply Chain challenges

- 1 Real-time visibility and tracking
- 2 Overstocking and understocking
- 3 Cold chain losses
- 4 Counterfeit Medicines
- 5 Overreliance on a single region



- Decentralization & production shift to target areas
- AI driven accurate analytics avoiding plant downtime
- Always-on connectivity and real-time plant connectivity
- Permanent availability without stock piling



Are we ready
for the next generation
of the healthcare supply chain?



Summary & Future Focused Take Aways

Demand, Geopolitics & Resilience



- **Pharma is entering a decade of higher demand and more individualised care**, enabled by AI-driven R&D and visible supply chains.
- **Resilience now means moving from Just-In-Time to Just-In-Case** driving multi-regional sourcing, pre-qualified alternatives, buffer stocks, and multi-node air-freight networks.
- **Tariffs are shaping both contracts and footprints**, with pass-through and flexibility clauses becoming standard while sourcing and production are shifting step-by-step toward near/reshoring. Availability and accessibility will depend on risk management of “drug production”

() The Pharma Logistics Masterclass 2025 Osaka - Kyoto Executive Training Week*

Digital, DATA & AI

- **High-quality, well-governed data are the backbone of digitalisation**, powering end-to-end control towers, real-time visibility, and excursion prevention under GxP/PHI rules
- **Real AI gains require redesigning roles and decision-making** controlling risks associated with data quality, sovereignty, GDPR compliance, and supplier/provider lock-in.
- **The pressure of aging society** will drive AI deep into operational automation
- **Working with AI will request a different human intelligence and skill set**

(*) *The Pharma Logistics Masterclass 2025 Osaka - Kyoto Executive Training Week*



Sustainability & Network Design (E-pharma, 3PL/4PL)

- **Sustainability starts with smarter manufacturing and demand forecasting**, while network design reduces CO₂ by localising DCs and optimising line-haul.
- **Direct-to-patient will drive cooling choices** to be adapted to sustainable multi-stop last-mile routes based on CO₂ and external-cost analysis.
- **Patient-centric distribution applies the e-commerce playbook**: connect partners via APIs, keep GxP stocks near demand, track in real time, route dynamically, ensure first-attempt delivery, protect PHI, and enable easy returns with agile 3PL/4PL support.

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Thank You

*“Technology is a Useful Servant,
but a Dangerous Master”*

*Nobel Prize Winner
Christian Lange, 1921*