Intro

Welcome to the ISPE podcast, shaping the future of pharma, where ISPE supports you on your journey, fueling innovation, sharing insights, thought leadership, and empowering a global community to reimagine what's possible. Hello, and welcome to the ISPE podcast, shaping the future of pharma. I'm Bob Chew, your host. And today, we have another episode where we'll be sharing the latest insights and thought leadership on manufacturing, technology, supply chains, and regulatory trends impacting the pharmaceutical industry.

You will hear directly from the innovators, experts, and professionals driving progress and shaping the future. Thank you again for joining us. And now let's dive into this episode. Our topic today is Hepalink's 2026 Facility of the Year award category-winning Pingshan new prefilled syringe manufacturing facility.

To share more about this topic, we have an interview with Mr. Wei, Vice President of Manufacturing and Operations, Global Industrial Affairs at Hepalink. Welcome to the podcast.

Question #1: Your Pingshan facility won a FOYA Award for innovation. What makes this facility special?

The Pingshan facility is special because it addresses capacity, sterility assurance, quality control, and digital coordination as one integrated system. Within limited land resources, it delivers an annual capacity of 330 million units, and uses automated warehousing, isolator filling, AI inspection, 5G, and digital systems to improve space use, efficiency, and supply stability. FOYA recognizes this practical, system-level innovation built around real manufacturing needs.

Question #2: What was the biggest challenge in making high-viscosity prefilled syringes? And how did your team solve it?

The main challenge was building a pre-filled syringe manufacturing facility that could meet large-scale capacity needs, international quality standards, and sterility assurance requirements at the same time.

The team combined vertical facility design, automated storage, isolator filling, AGV-assisted transfer, AI inspection, and 5G-enabled digital coordination to address space, capacity, quality, and efficiency together. The project is not about one single technology, but a stable and replicable intelligent manufacturing model.

Question #3: 5G is a key part of this facility. How has it improved manufacturing operations?

5G provides the connectivity layer for digital coordination on site. The localized 5G-MEC setup supports AGV dispatching, AI image transmission, equipment monitoring, and MES/SCADA data collection. It helps production, logistics, and quality data connect faster, improving response speed and operational stability.

Question #4: The facility uses automated guided vehicle-assisted automated transfer in key material flow steps, with operators responsible for scheduling, process handover, and exception handling. What benefits has this brought to logistics efficiency, production, coordination, quality, and safety?

The project introduced AGVs and conveyor lines for items and totes into material-transfer operations, enabling automated transfer.

Operators are released from frequent manual handling and focus more on scheduling confirmation, process handover, and exception handling. This improves logistics efficiency and production coordination, while reducing unnecessary manual contact and supporting quality and safety management.

Question #5: How is AI helping improve product quality and manufacturing performance?

AI is mainly used in visual inspection and shop floor management. With multi-camera image capture and AI recognition, the system helps identify defects such as bubbles, particles, scratches, and cracks, improving inspection consistency and critical defect detection.

AI is also used to support behavior management in critical areas, helping identify quality risks earlier and shifting quality control from post-event detection toward in-process monitoring.

Question #6: The Pingshan and Nanshan sites are digitally connected. How does this help Hepalink respond faster and ensure supply reliability?

Digital collaboration between Pingshan and Nanshan improves supply responsiveness and operational resilience. Through system integration, the two sites can share inventory, production plans, quality data, and operational information more promptly. This helps coordinate resources and capacity faster, improving the stability of global supply.

Question #7: Instead of a traditional layout, the facility was built vertically. Why was this approach important, and what advantages has it delivered?

The facility uses a vertical layout because land resources in Shenzhen are limited, while the project also needs to support large-scale sterile product manufacturing under international

standards. By vertically integrating the automated warehouse, filling lines, packaging lines, and material-flow systems, the project improves space use and shortens material routes. This design supports higher capacity and better overall efficiency.

Question #8: What lessons from this project can other pharmaceutical manufacturers apply, and what do you think is the next big innovation for the industry?

The lesson from Pingshan is that pharmaceutical manufacturing innovation should start from real production needs: increasing capacity, strengthening sterility assurance, reducing process variability, and improving supply stability.

The future is not only a higher automation rate, but the integration of automation, digitalization, AI, quality systems, and human expertise. The most valuable technology is technology that solves real manufacturing problems.

Question #9: Looking back on this project, what achievement are you most proud of?

I am most proud that our team integrated multiple technologies into one reliable manufacturing system. It enables large-scale, high-standard sterile production while improving quality, efficiency, and supply reliability.

Question #10: Ultimately, how will the innovations implemented at this facility benefit patients?

For patients, the most direct benefits are more consistent product quality and a more reliable supply.

Stronger sterility assurance, process monitoring, and defect detection help reduce risks in clinical use and support timely access to reliable medicines.

Closing

I'd like to thank Mr. Wei for his time with us today. It is great to hear more about Hepalink's Pingshan new prefilled syringe manufacturing facility, the winner of the 2026 ISPE Facility of the Year Awards in the Innovation Novel Technology category. That brings us to the end of another episode of the ISPE podcast, shaping the future of pharma.

Please be sure to subscribe so you don't miss future conversations with the innovators, experts, and change makers driving our industry forward. On behalf of all of us at ISPE, thank you for listening, and we'll see you next time as we continue to explore the ideas, trends, and people shaping the future of pharma.