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Asia Pacific Must Strengthen Regional Biomanufacturing Ecosystems To Unlock Global Potential

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Dr David Chang, CEO of Taiwan Bio Manufacturing Corp, explains how localisation, automation, and deeper APAC collaboration can reshape the future of global biopharmaceutical manufacturing.



At the **APAC Biomanufacturing Leadership Summit 2026 in Singapore, organised by Charles River, BioSpectrum Asia spoke with Dr David Chang, Chief Executive Officer of Taiwan Bio Manufacturing Corp (TBMC).** With nearly three decades of leadership experience across Genentech, Roche, WuXi, and TBMC, Dr Chang offers a global perspective on how geopolitical shifts, regional manufacturing ecosystems, and smart automation are redefining the future of biomanufacturing. In this conversation, he discusses why Asia Pacific remains underutilised despite its growing capabilities, the urgent need for automation in advanced therapies such as cell and gene therapy, and how stronger regional collaboration could position APAC as a leading global biomanufacturing powerhouse.

Q: From Genentech to Roche to WuXi and now TBMC, what changes when manufacturing shifts from global pharmaceutical operations to regional ecosystem building?

Over the past three decades, the biopharmaceutical industry has undergone a significant transformation. In the earlier stages of my career, multinational companies primarily relied on supply chains concentrated in Western regions, particularly the United States, Europe, and Japan.

However, over the last decade, globalisation of the biopharmaceutical supply chain accelerated considerably. Companies began leveraging regional ecosystems that could offer advantages in quality, speed, and cost efficiency.

More recently, geopolitical dynamics have introduced a degree of de globalisation. At the same time, certain therapeutic modalities, such as cell and gene therapies, inherently require localisation. For example, autologous cell therapies must be manufactured close to patients. As a result, the industry is moving toward a more balanced model where global supply chains coexist with regional manufacturing ecosystems.

Q: Having led manufacturing organisations across the United States, Europe, China, and now Taiwan, where do you believe the APAC region is still underutilising its biomanufacturing potential?

In the earlier stages of the industry, many multinational companies did not recognise the full capabilities of Asia Pacific manufacturing. One reason was that most suppliers were located in Western markets, and there were relatively few established service providers in Asia.

This situation has changed significantly over the past ten years. The rise of biosimilars and increasing demand for cost effective production have driven multinational companies to explore manufacturing partnerships across APAC.

Despite this progress, I still believe the region remains underutilised. Asia Pacific not only offers strong manufacturing capabilities but also represents one of the fastest growing pharmaceutical markets in the world. Supplying the APAC market locally will become increasingly important for global companies.

Q: What are the most pressing manufacturing challenges for advanced modalities such as cell and gene therapies?

A major challenge across the industry is that many current manufacturing processes remain highly labour intensive. This is particularly true for autologous therapies.

When I previously led cell and gene manufacturing programmes for two autologous CAR T therapies that received regulatory approvals around 2020 and 2021, we quickly encountered scalability challenges. Producing therapies for thousands of patients required very large facilities and a significant workforce.

This model is neither operationally sustainable nor cost effective. Human intensive operations also introduce higher risks of error.

The solution lies in transitioning toward smart manufacturing. This includes automation combined with intelligent process monitoring and process control. By integrating advanced automation and real time data analytics, the industry can significantly improve scalability, reliability, and cost efficiency.

Q: Taiwan is increasingly positioning itself as a biomanufacturing hub. What differentiates it from other APAC markets competing for investment?

Taiwan has several unique advantages.

First, the human capital is exceptional. The workforce demonstrates strong work ethic and solid training in both science and engineering disciplines.

Second, Taiwan possesses a highly advanced medical ecosystem. The country has world class hospitals and physicians who are globally recognised leaders in several disease areas, particularly lung cancer and liver cancer.

The combination of strong human capital and an advanced clinical ecosystem makes Taiwan highly competitive as a biomanufacturing hub within Asia Pacific.

Q: With increasing global regulatory complexity, how can manufacturers remain competitive while continuing to innovate?

Any organisation that intends to serve global markets must design its manufacturing processes and facilities to meet international regulatory standards from the outset.

This includes compliance with globally recognised frameworks such as EU Annex 1 for sterile manufacturing and PIC S guidelines.

By embedding regulatory compliance into facility design and operational processes from the beginning, companies can maintain global competitiveness without slowing innovation or development timelines.

Q: If you were advising a young leader entering biomanufacturing today, what capabilities should they prioritise developing?

My advice would be to build what I call a T shaped career.

Early in your career, it is important to develop deep technical expertise. This forms the vertical foundation of the T. Strong technical grounding allows you to build credibility and a solid understanding of the science and engineering behind biomanufacturing.

Once that foundation is established, you can expand horizontally into broader areas such as cross functional collaboration, operations management, and leadership.

In short, start with deep technical strength and then broaden your capabilities across multiple functions.

Q: What role do forums such as the APAC Biomanufacturing Leadership Summit play in strengthening the global ecosystem?

Events like this are extremely valuable because they bring together manufacturing leaders not only from Asia Pacific but also from the United States and other global markets.

One of the biggest barriers to collaboration is simply the lack of familiarity between stakeholders. These forums create opportunities for dialogue, understanding, and partnership.

They help connect Eastern and Western manufacturing ecosystems and build trust across regions.

Q: Looking ahead, what is one idea that could significantly strengthen biomanufacturing collaboration across Asia Pacific?

I would like to see deeper collaboration among APAC countries.

If manufacturing leaders from regions such as Singapore, Malaysia, Taiwan, Japan, and Korea can work more closely together, we could build a highly integrated regional ecosystem capable of delivering world class manufacturing services and innovation.

There is a Chinese saying that a bundle of chopsticks is much stronger than a single chopstick. The same principle applies here. By working together, the APAC region could become one of the most powerful biopharmaceutical manufacturing ecosystems globally.