



Global Laptop Restructuring Series – Part II

Why White-Label Laptops Are the New Hidden Power in Tech Manufacturing

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Geopolitical pressures have redrawn the global laptop supply chain, forcing companies to prioritize diversification over cost efficiency. For Taiwan, which accounted for 74.3 percent of global notebook shipments in 2025, this shift challenges its long-standing strategic position. As noted in the first article in this series, the China+1 strategy did not diminish China’s influence. It instead accelerated the growth of its white-label ecosystem. By serving domestic and emerging markets with speed, scale, and cost advantages, white-label manufacturers strengthened China’s position even as brands shifted production for Western markets elsewhere.

This article examines how white-label manufacturing is reshaping global competition—and why Taiwan’s response must focus on upgrading, not price-matching.

The World Moves from “Made in China” to “China+1”

Since the U.S.-China trade war began in 2018, the global PC industry has entered a prolonged restructuring cycle. Laptops were not directly taxed like many other products, but rising component costs and Section 301

tariffs on GPUs, motherboards, and chassis accelerated supply chain uncertainty. From 2019 onward, U.S. brands such as HP and Dell began diversifying production, while Apple pushed suppliers to expand into Vietnam and India. Although brands rarely announced China+1 explicitly, relocation has clearly become sustained. Dell expanded assembly

in Vietnam, and HP projected that nearly 90 percent of North America bound shipments would be produced outside China by 2025, signaling a structural shift driven more by risk management than by cost alone.

Under the China+1 trend, Vietnam, Thailand, and India have become key manufacturing alternatives. The movement intensified after President Trump's 2025 return, when the new "reciprocal tariff" policy raised import duties and pushed protectionism to the forefront. High tariffs forced not only U.S. brands but also Chinese and Taiwanese firms to relocate U.S.-bound capacity to Southeast Asia to reduce tax exposure.

For Taiwan's original design manufacturers (ODMs), the adaptation has been swift. China-based output is expected to fall from 86.5 percent in 2024 to 73 percent in 2025. At the same time, two parallel developments emerged: brands began exploring flexible capacity through Chinese white-label partners, and India gained traction as a policy-backed China+1 manufacturing base.

How White-Label Manufacturing Reshapes the Supply Chain

White-label manufacturing has done more than reduce costs—it has effectively divided the global laptop supply chain into two parallel systems.

In the U.S. market, brands pursue China+1 or non China manufacturing to meet policy pressures, while in China, companies lean more heavily on domestic supply chains and homegrown brands.

The challenge for global notebook makers is no longer just where to produce, but how to compete across two fundamentally different ecosystems.

China's white-label ecosystem offers scale, rapid customization, and aggressive cost advantages. Domestic brands such as Lenovo,

MECHREVO, and Thunderobot, alongside numerous smaller players, leverage this structure to target high price-performance segments across wide price bands. In cost-sensitive markets, white-label-enabled models have rapidly gained share, often outcompeting U.S. and Taiwanese brands.

For global brands, this shift is forcing a reassessment of product strategy. Non-China production remains essential for Western markets, but in China and emerging economies, white-label or private-label partnerships are increasingly used to preserve margins and maintain competitiveness.

White-label is no longer a secondary option.

It is increasingly a strategic tool to balance cost, risk, and market access in a divided global system.

India's Emergence as a Secondary White-Label Hub

As geopolitical risk reshapes global manufacturing, India has positioned itself as a key beneficiary of supply chain diversification. Building on its long-term push to develop Electronics System Design and Manufacturing (ESDM) capabilities, India has leveraged policy incentives to attract global brands and manufacturing partners.

The acceleration began after the launch of the National Policy on Electronics 2019, followed by subsidy programs such as the Production-Linked Incentive (PLI) scheme, PLI 2.0, and the Electronics Component Manufacturing Scheme (ECMS). These initiatives tie incentives to local production and value added activity, encouraging brands to shift assembly and component sourcing onshore.

Dell, HP, Lenovo, and other global players have expanded manufacturing partnerships in India, working with local EMS firms through joint ventures and technology transfer. While India's white-label and EMS ecosystem remains less mature than China's, it is scaling quickly.

Players such as Dixon, Syrma SGS, Kaynes, and VVDN are building capacity, and estimates suggest that India could replace 10-20 percent of notebook imports over time.

From the early development of the Noida cluster in northern India, notebook manufacturing activity has gradually extended southward to Bengaluru and Chennai. Global PC brands such as Acer, HP, and Lenovo have partnered with local EMS providers such as Dixon. Concurrently, Taiwanese ODMs including Wistron and Inventec, have entered India through local partnerships or joint ventures, together accelerating the build-out of India's notebook manufacturing base.

From a brand standpoint, India is becoming a practical China+1 diversification base, backed by strong policy incentives and a rising domestic market. PLI, PLI 2.0, and ECMS are drawing global brands such as Dell, HP and Lenovo into local manufacturing, gradually pushing supply chains onshore and reducing overreliance on China.

Partnerships with local EMS providers—through joint ventures or technology transfer—enable rapid scaling, localized SKUs, and lower entry level production costs. **India is still less mature than China's white-label ecosystem, but it now offers brands flexibility, cost control and growth potential, making it an increasingly indispensable node in future notebook deployments.**

As Supply Chains Split, White-Label Bridges Affordability

The resurgence of white-label manufacturing in 2025 is driven less by ideology than by economics.

New factory investments in Southeast Asia require significant capital outlays for SMT lines and assembly infrastructure, while emerging labor pools still face skill and efficiency gaps compared with China's workforce.

At the same time, tight supply in high-end memory and AI-grade CPUs has pushed brands to rely more heavily on one- to two-generation-old components. This shift has tightened supply further and driven up prices, raising overall bill-of-materials costs. Under these conditions, white-label manufacturing has become a practical tool for cost control, rapid regional versioning, and shorter time-to-market.

In short, white-label has moved from “optional” to “operational”—a core mechanism for brands navigating a fragmented, high-cost, geopolitically divided world.

Taiwan's High-End Advantages

China's white-label ecosystem is gaining ground amid global supply chain restructuring, especially in mid and low end segments. Leveraging localized sourcing, reference designs, and CTE component pricing, white-label production cycles can be five to six months faster than traditional ODMs. Combined with scale-driven cost efficiency, China can refresh entry models quickly and win in high price-performance segments, squeezing margins for global brands.

But the model carries structural limitations.

High-end CPUs, memory, and advanced components still rely on U.S. supply, and design depth remains insufficient for AI laptops or premium gaming models. Quality variance in CTE output also poses brand risk. Heavy reliance on reference designs leads to spec parity and race-to-the-bottom pricing—if the same brand offers a CTE-built notebook and a Taiwan-ODM notebook with similar specs, consumers may simply choose the cheaper option. Over time, this dynamic erodes brand value and profitability.

For Taiwanese ODMs, white-label competition adds pressure, but also clarifies the battlefield. Taiwan retains strengths in high-end ODM capability, CPU integration,

thermal engineering, and custom hardware design. By doubling down on premium, differentiated offerings—deep co-design, component integration, firmware and software customization, validation, and quality assurance—Taiwan can reinforce its role as the “high-end supply tier” rather than competing head on in cost driven segments.

White-label manufacturing may dominate the volume game, but innovation and differentiation will keep Taiwan at the top.



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Nora Chen specializes in notebook PC industry research and in advancing net-zero and low-carbon transition strategies for the information technology sector. She has been involved in several key initiatives commissioned by Taiwan's Ministry of Economic Affairs (MOEA), including the Low-Carbon Transformation Program for the Electronics and Information Industry and the Net-Zero Carbon Emission Promotion Program for the Printed Circuit Board (PCB) Industry, both overseen by the Industrial Development Bureau (IDB). Chen holds a Master's degree in Communication and Technology from National Yang Ming Chiao Tung University, Taiwan.