4FLOW
Your supply chain solution

Success story high-tech industry

How Infineon and 4flow created an efficient foundation for future growth in China with a new distribution center in Shanghai

Customer: Infineon Technologies AG

> Global semiconductor leader in power systems and IoT

> Over €16 billion revenue in 2023 fiscal year

> 58,600 employees as of September 2023

> 69 research and development sites in 25 countries and regions

Project scope:

Concept design for a new distribution center in Shanghai, China, including layout, technology, operating model and overall business case

Partnering to develop a state-of-the-art distribution center

Infineon Technologies AG is a global semiconductor leader in power systems and IoT, driving decarbonization and digitization with its products and solutions. Infineon enables game-changing solutions for green and efficient energy, clean and safe mobility, as well as smart and secure IoT. Infineon designs, develops, manufactures and markets a broad range of semiconductors and semiconductor-based solutions, focusing on key markets in the automotive, industrial and consumer sectors. The products range from standard components to special components for digital, analog and mixed-signal applications, all the way to customer-specific solutions and the appropriate software.

A partnership for state-of-the-art automation and strategic growth

To respond to rapid business growth in China and the global trend towards warehouse automation, Infineon partnered with 4flow to develop a state-of-the-art, highly automated distribution center (DC) in Shanghai. This new 20,000 square meter facility, located in the Shanghai Free Trade Zone, will handle finished goods and engineering samples.

Together with 4flow, Infineon designed a concept for the new DC. This included creating a shortlist of appropriate technology, designing the layout, selecting an operating model and calculating an overall business case to determine the sizing and construction requirements.

Best-fit technologies lead to a 40% improvement in labor efficiency

Designing the new DC began with mapping as-is processes and collecting data to create a planning database. The team examined key data on throughput, inventory and costs, for example, to create a quantity structure and high-level operation processes for the future DC. These findings served as a basis for the concept design.

Next, the project team established key principles and guidelines for the new DC in collaboration with top stakeholders at Infineon. Automation technology scenarios were then developed and evaluated with a focus on ensuring capacity, efficiency, flexibility and scalability. Based on FTE requirements calculated for the future DC, these scenarios indicated a 40% improvement in labor efficiency thanks to automation technology. The best-fit scenarios were identified and examined further in the next step.

An optimal layout with 4flow's proven methods

Using the best-fit technology scenarios that were identified, alternative building layout and material flow scenarios were developed. In particular, the size and positioning of functional areas were considered, as were both inbound and outbound goods flow. These scenarios were evaluated quantitatively and qualitatively to determine the optimal layouts and maximize the use of space.

Building requirements and basic design elements such as the building shape and dimensions, number of floors and dock locations were agreed on with the landlord and other relevant stakeholders. Fire zone requirements and fire prevention measures for automated warehouses were fully considered throughout the layout design.

Operating model and business case paves the way for continued success

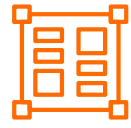
While the business case was critical for decision-making, alternative business

operating models were evaluated and selected based on 4flow's extensive experience. These alternatives were compared through a detailed business case analysis with long-term financial impact assessments. A favorable business operating model with a short payback period was selected and agreed on with internal and external stakeholders. The concept design and building master plan were finalized, leading to the next phases, including detailed design and implementation of the new DC.

"Working with 4flow has been an exceptional experience. Their expertise in DC design and commitment to excellence have been instrumental in the successful development of our new distribution center in Shanghai", said Monica Shen, Logistics Director of Infineon China. "We are extremely satisfied with the results and look forward to continued cooperation throughout the detailed design and implementation phases."

Results

Best-fit technology and layout scenario selected for the new warehouse



Layout designed based on different business requirements

Best-fitting business operating model recommended

Efficient processes established as global reference for future warehouse operations

Labor efficiency increased by 40%

About 4flow

4flow is a leading provider of supply chain consulting, software and fourth-party logistics (4PL) services. With more than 1300 team members, 4flow is a global partner for its customers at more than 20 locations in Europe, Asia, North America, and South America. 4flow completes more than 300 projects a year in cooperation with customers on 5 continents, in more than 40 different countries and regions. 4flow is headquartered in Berlin, Germany.

20+

offices in Europe, Asia and the Americas

1,300+

team members globally

400+

customers globally

300+

projects annually around the world

4flow | Hallerstrasse 1 | 10587 Berlin | Germany | +49 30 39740-0
4flow.com

Follow 4flow on LinkedIn

> **“Working with 4flow has been an exceptional experience. Their expertise in DC design and commitment to excellence have been instrumental in the successful development of our new distribution center in Shanghai”**

Monica Shen,
Logistics Director of Infineon China