

The 2024 State of AI Adoption in Taiwan Manufacturing Report

Exclusive Profet AI Survey Assesses the Extent of AI Implementation in 160 Leading Taiwan Manufacturers over the Last Year



Introduction

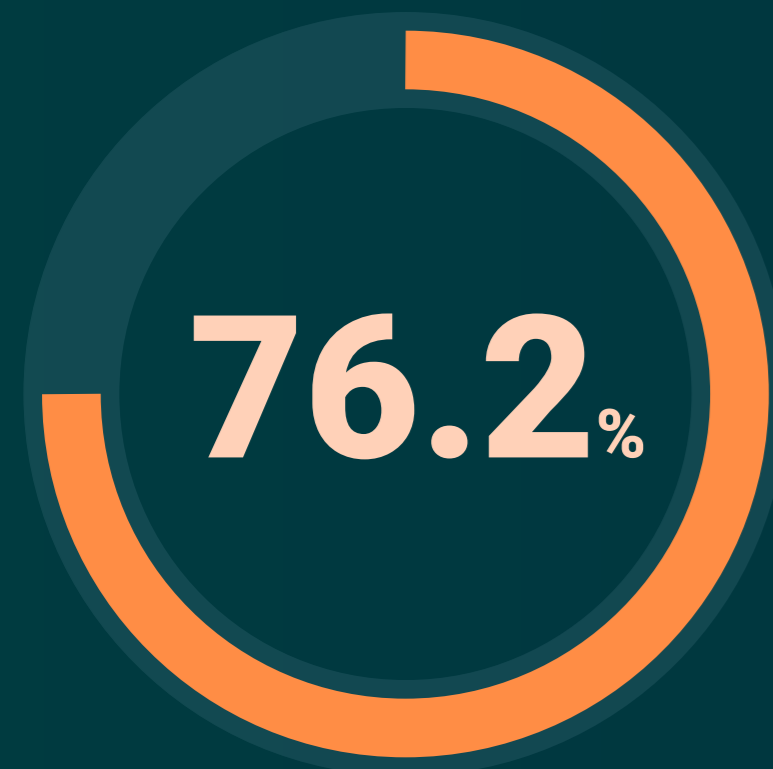
96% of manufacturers plan to invest in AI, but less than one-third have formally incorporated AI into their strategies.

In a post-pandemic world, where manufacturers face relentless pressure to reduce costs, the urgency for change is apparent and the need to adopt AI has been accepted by most manufacturers. However, while the necessity for AI adoption is not in doubt, there remains a lot of confusion regarding how and where to implement it. According to the Manufacturing Leadership Council's 2030 Industrial AI survey, only about 29% of companies have incorporated their AI initiatives into formal plans or strategies, despite 96% of manufacturers intending to increase AI investments.

This report is based on a survey conducted by Profet AI in October 2023, in which 160 manufacturers in Taiwan were asked about their level of AI adoption, the extent to which AI has been integrated into their workflows, and the impact of AI on their staff.

Taiwan is recognized as a leader in advanced manufacturing, particularly in semiconductors. It is hoped that the results of this survey will provide insights for manufacturers worldwide.

Taiwan manufacturers are ahead of the global curve in terms of AI deployments



of Taiwan manufacturing companies surveyed have successfully implemented AI in the last year

When compared with recent reports* that found 68% of manufacturers worldwide have already implemented at least one AI-powered use case or process, it is clear that Taiwan is surpassing the global average.

Source : World Economic Forum, 2023: Harnessing the AI Revolution in Industrial Operations: A Guidebook

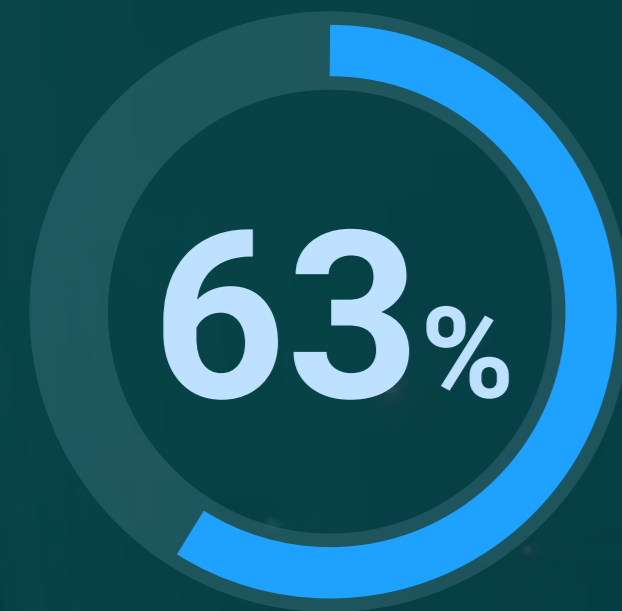


How AI is Implemented at an Organizational Level

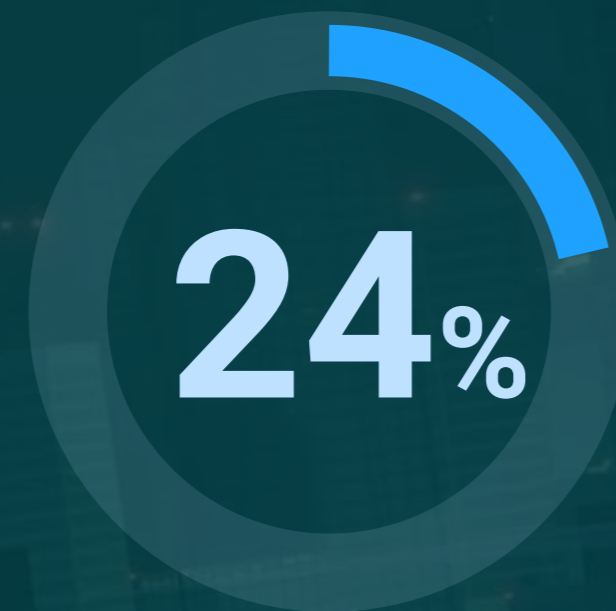
AI Use Cases

26 cases

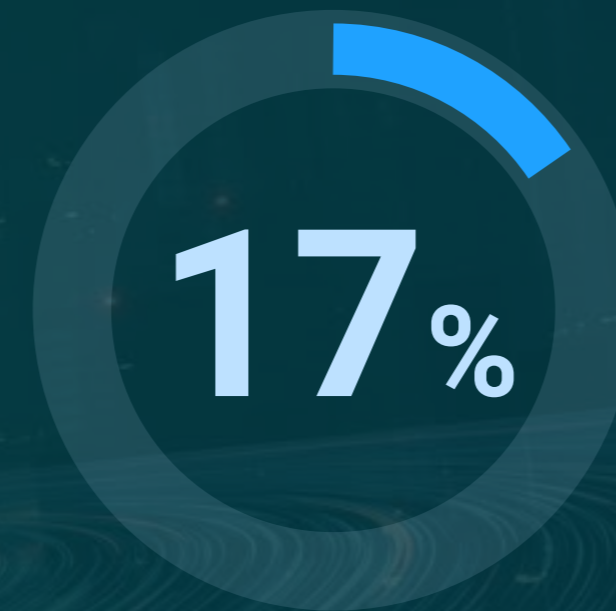
Average Number of Verified AI Use Cases Per Organization



Percentage of these use cases that were by domain experts without a comprehensive understanding of AI algorithms



Percentage of these use cases implemented with the support of technical staff who assisted with data cleaning and system integration



Percentage of these cases implemented by AI data scientists through process of model optimization

Use Case Definition

This refers to cases where AI has been successfully tested and implemented within a company

AI Models

312 Models

Average Numbers of AI Models Used Per Organization

AI Modelling Process

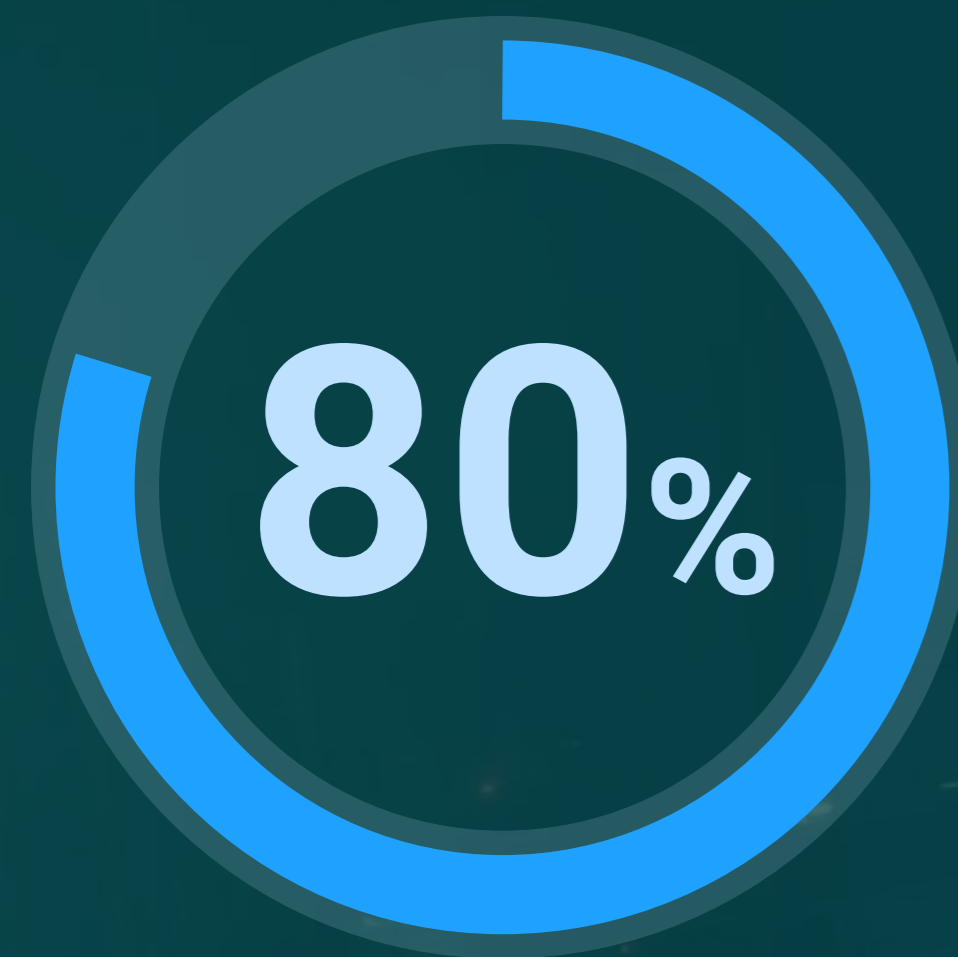
The general process involves domain experts transforming their knowledge and experience into data, which then becomes models

AI Models Definition

AI models, trained on organizational data, are used to predict outcomes and make decisions to enhance performance and achieve better results

Impact of AI on the Workplace

Transforming the Manufacturing Workforce

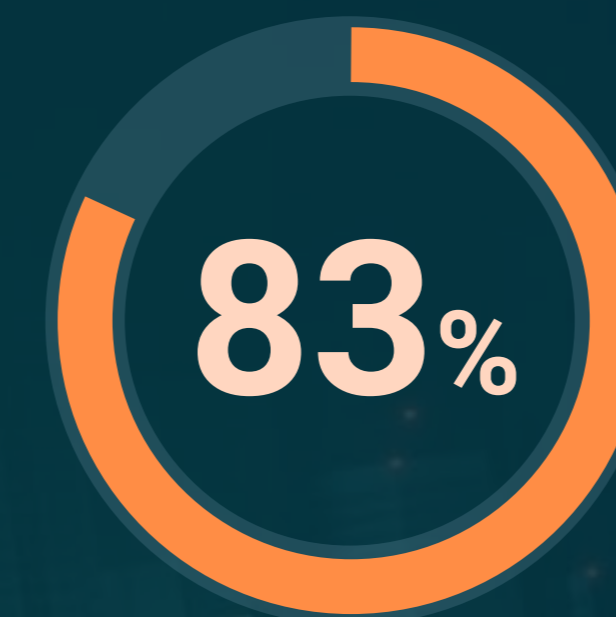


Percentage of employees in Taiwan manufacturing organizations who reported being 'empowered' by AI

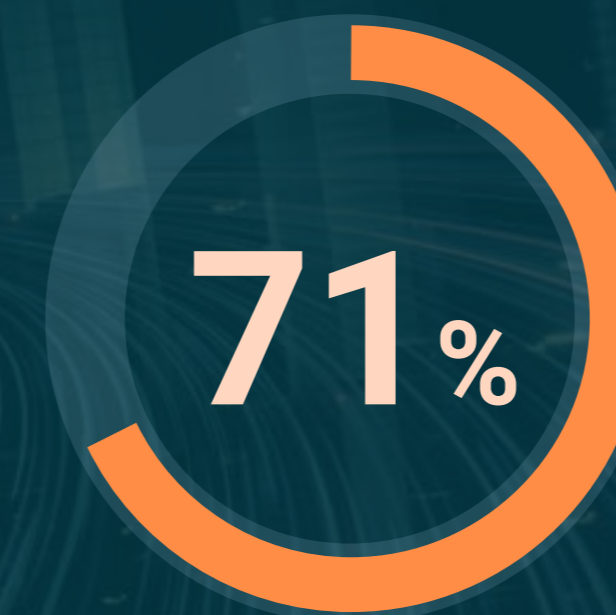
AI Staff Empowerment Process

AI Staff Empowerment Process: through workshops, domain experts within an organization receive training on AI applications. Then, these individuals become catalysts for promoting AI adoption across different units, thus empowering the entire workforce

Domain Experts Embrace AI Adoption



The percentage of domain experts that recognize AI's current and future benefits in their workflow.



The percentage of domain experts with clear goals planning to invest in data automation, integration, and AI model management over the next 3 years

How to Successfully Bring AI Into Workflows

Organizations can achieve rapid results by empowering domain experts with AI by integrating their knowledge into models, enabling them to concentrate on innovation and problem-solving. However, in more complex scenarios, collaboration with data scientists and IT teams becomes crucial. Successful deployment requires effective collaboration between both groups

Key Takeaways

What to do next

Manufacturers face many challenges in adapting to the opportunities and obstacles that AI presents. Taiwan is ahead of the curve in AI deployment, driven by bold first-movers who put in the foundation needed to cultivate an AI-oriented culture. Successful AI adoption depends on people, requiring both organization-wide mindset changes and the upskilling of key staff.

We have identified three key takeaways from this report's findings ▼

- 1 Drive AI Adoption through Domain Experts**
- 2 AI Can Supercharge Industrial Digital Transformation**
- 3 Harness AI to Standardize Judgment and Manage Core Domain Know-How**



Key Takeaways

1

2

3

Drive AI Adoption through Domain Experts

Companies must prioritize training their domain experts in AI use. This strategy facilitates a rapid fusion of their comprehensive domain knowledge with AI technology, resulting in the generation of complex models that can be applied throughout the company. This focus allows these experts to concentrate on innovation and problem-solving, while collaboratively working with IT and data scientists to tackle increasingly complex models and large-scale data integration challenges.

Key Takeaways

1

2

3

AI Can Supercharge Industrial Digital Transformation

When domain experts are equipped with AI capabilities, they can precisely define objectives that leverage AI, and, based upon these goals, devise efficient strategies for implementing various stages of digital transformation. This approach allows them to direct resources toward sectors that can deliver immediate value, and incrementally achieve digital transformation objectives in a systematic and structured manner

Key Takeaways

1

2

3

Harness AI to Standardize Judgment and Manage Core Domain Know-How

Creating a culture of AI data analysis across an organization allows for the standardization of judgment criteria, enabling the preservation and sharing of valuable experience and skills across different geographical locations. Strategically, the initial focus should be placed on those units most prepared for AI implementation to secure successful cases. These successes, visible throughout the organization, provide a strong foundation for gradually extending the strategy to other departments, thereby promoting successful, organization-wide AI adoption.



Unlock the True Potential of Your Manufacturing Business with Profet AI

Profet AI's No-Code AutoML Platform, serves as a virtual data scientist for manufacturers, enabling them to implement AI into their workflows and see real results in only one week. To date, we have partnered with over 200 of the world's biggest names in manufacturing.

In 2023, Profet AI introduced AILM, the world's first platform for managing the lifecycle of enterprise AI, specifically designed for AI governance in manufacturing.

Schedule a short conversation to discuss how your manufacturing organization can successfully and rapidly implement AI and see real improvements in performance.



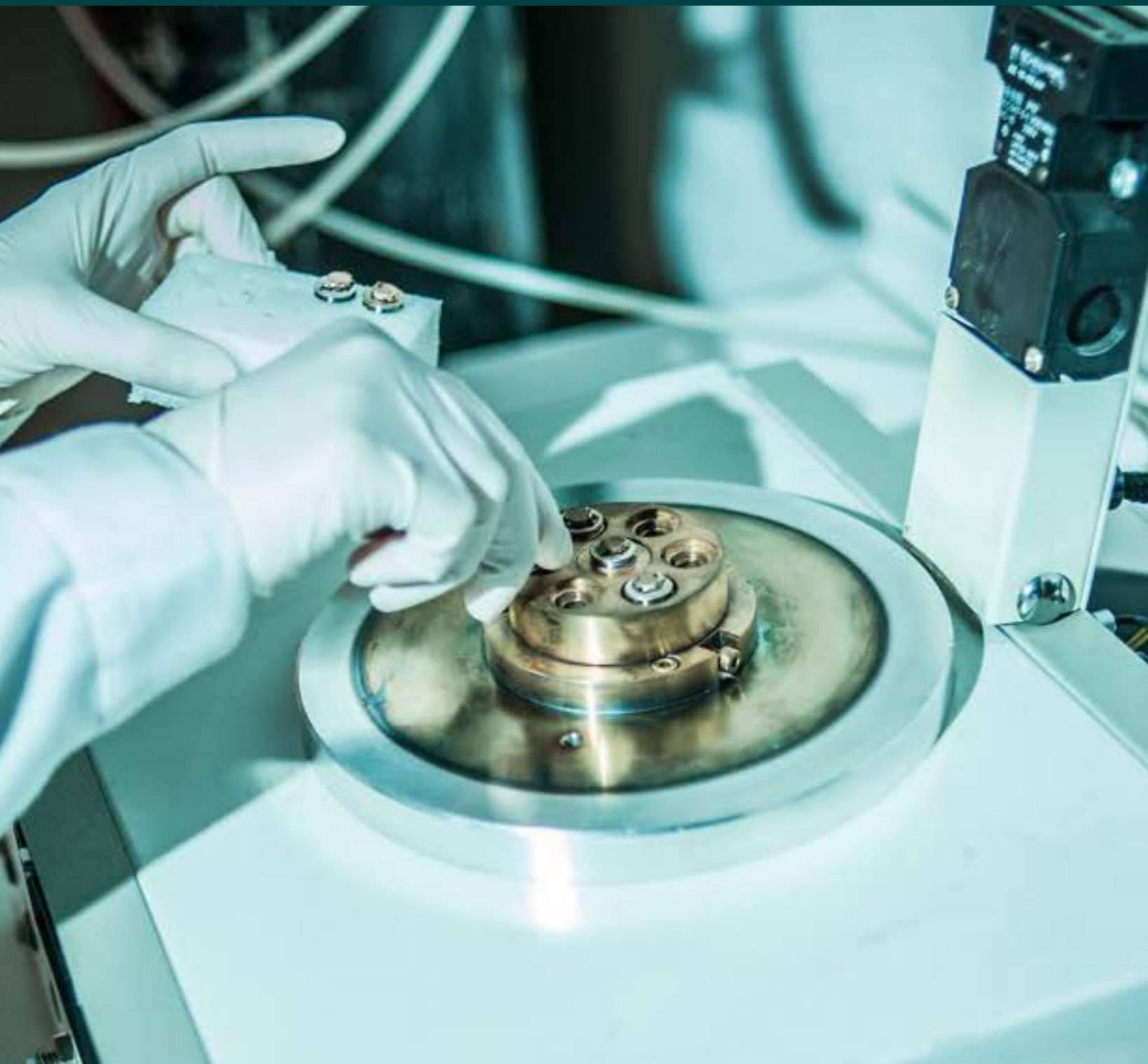
Jonathan Yu

General Manager of Global Sales at Profet AI

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Case Studies





Challenge

BenQ Materials faced issues in the production process, inefficiencies in switching production lines, and limitations in exploring new formulas. The previous systems from the United States and Japan that they had utilized to face these issues were costly and lacked flexibility.

Solution

BenQ Materials introduced the AI automated machine learning software platform from Profet AI. This system was cost-effective, flexible, and supported Chinese language options. It allowed BenQ to analyze critical factors, simulate process parameters, and explore formulas easily.

Outcomes

The introduction of AI significantly improved the manufacturing process and broke through production bottlenecks. It reduced the scrapping of production line materials, improved yield, and facilitated formula exploration for new products. It also resulted in substantial cost savings for BenQ Materials.



**Materials Science
Manufacturer**

BenQ Materials Corp.

Key Results

Improved Yields and Efficiency

20+
Projects Identified in 7 months

85%
Reduction in Systems Costs



Challenge

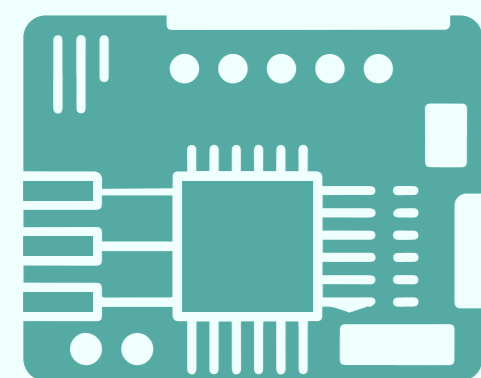
In the past, ACON faced challenges with the introduction of new tools, as they required significant time and experience for refinement. The process was slow, and it took a while before the tools could effectively enhance the company's competitiveness.

Solution

To overcome this, ACON introduced the Profet AI AutoML system, which allowed the company to quickly attain its original goal. Furthermore, ACON started collaborating with Profet AI to conduct two AutoML workshops. The initiative aimed to nurture management associates and key business talent, with the ambitious goal of equipping 1,000 digital transformation talents within three years.

Outcomes

The results of this digital transformation have been impressive. In less than a year, ACON was able to implement 677 digital projects. Interestingly, more than 70% of these projects (470 in total) were implemented through the Profet AI No-code AutoML Platform. This significant accomplishment demonstrated the effectiveness of the Profet AI system in driving ACON's digital transformation.



**Electronics Component
Manufacturer**

ACON

ADVANCED-CONNECTEK INC

Key Results

677

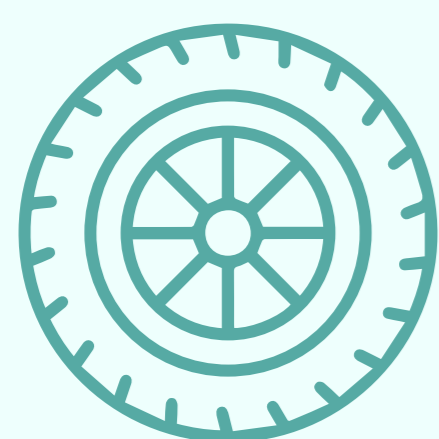
AI projects identified in a year

Built AI data-driven culture

Enhanced data analytics processes



MAXXIS®



**Tyre
Manufacturer**

Challenge

MAXXIS confronted challenges in adjusting manufacturing parameters due to diverse customer demands, and lacked a structured approach to analyze machine-collected data.

Solution

MAXXIS implemented the Profet AI AutoML system, enabling AI models to systematically analyze manufacturing parameters and apply them to overseas factories, minimizing the need for expatriate manpower.

Outcomes

After three months of Profet AI-guided training, MAXXIS effectively organized and modeled their data, identifying areas needing improvement or optimization, thereby expediting their global expansion process.

MAXXIS

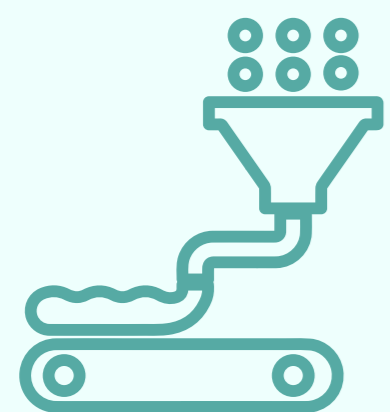
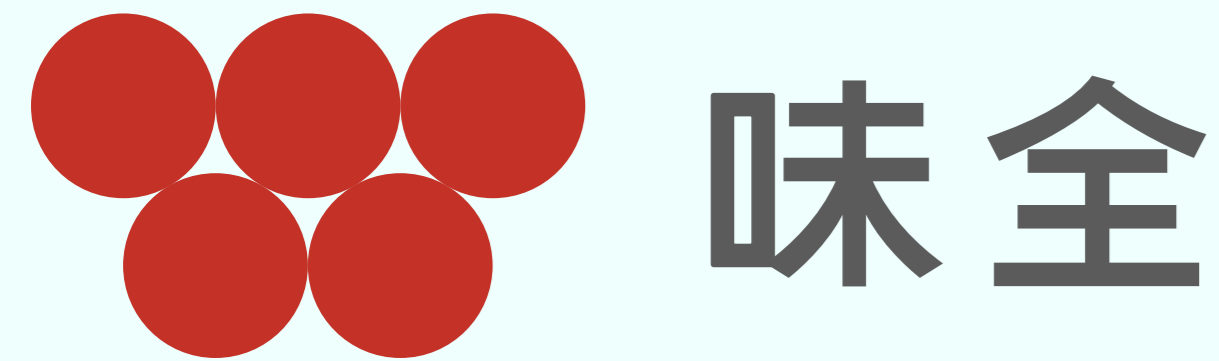
Key Results

100+

Identified
Key Production Factors

Elevated Production and
R&D Efficiency

Increased
Employee Retention Rate



**Food
Manufacturer**

Challenge

During the pandemic, Wei Chuan had to adapt quickly to the rapidly changing food and beverage industry as consumer demands significantly shifted. Digital transformation became a necessity, particularly considering the industry's short product lifecycle.

Solution

Wei Chuan adopted Profet AI's solution, transitioning from traditional e-commerce to real-time retail. They digitized their sales channels and employed AI for live streaming and sales data analysis. Marketing teams used AI to manage product and portfolio lifecycle complexities and optimize launch times.

Outcomes

With Profet AI, Wei Chuan developed AI anchors and service bots, enhancing efficiency and standardizing processes. They simplified the training and decision-making processes, extending the use of AI beyond just data science specialists.

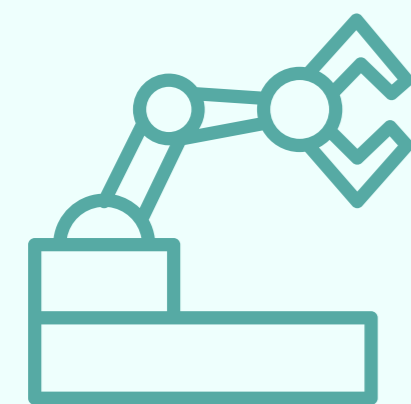
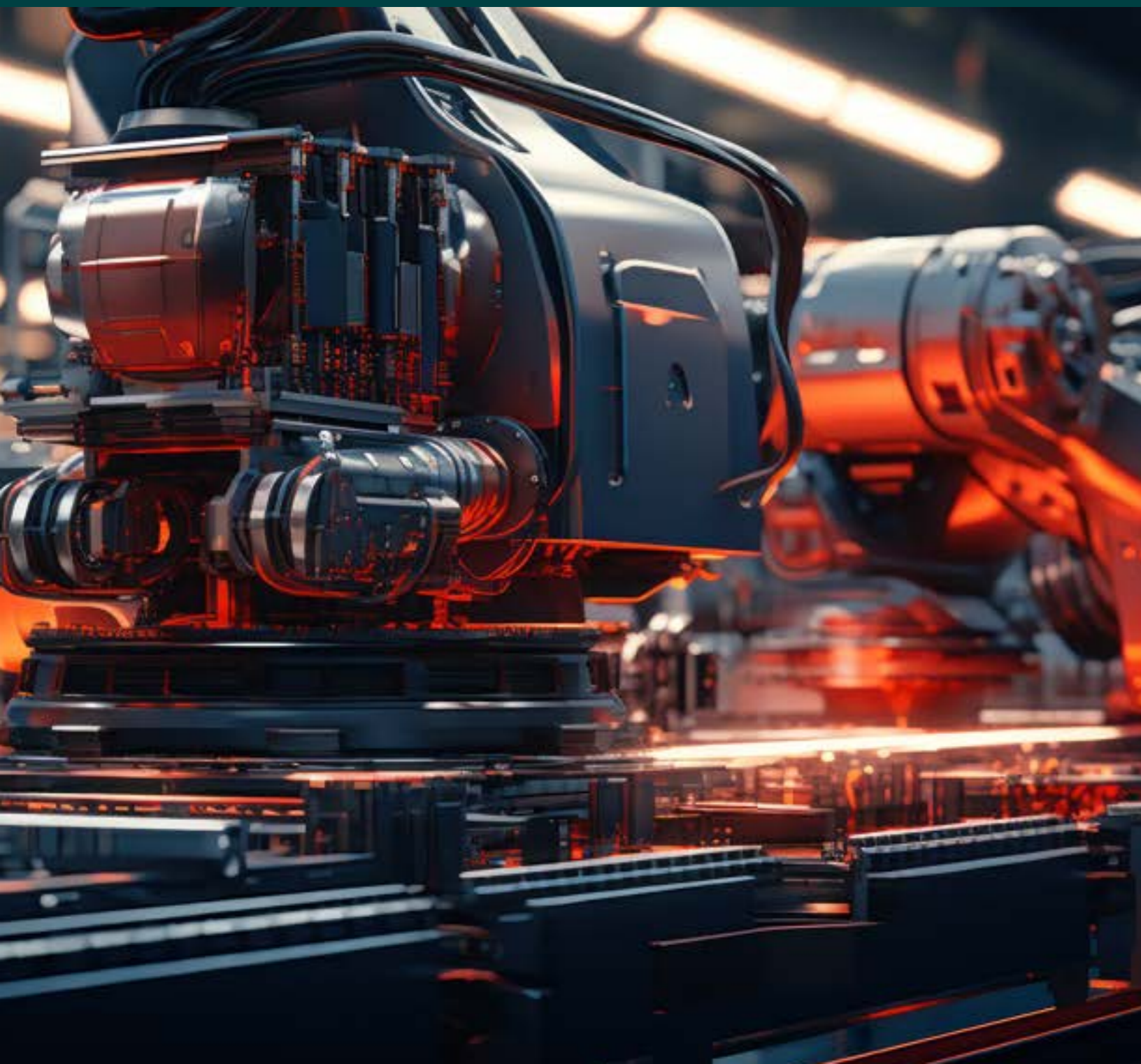
Wei Chuan Corp.

Key Results

Improved efficiency and standardization

Expedited decision making

Fast-tracked talent development program



**Equipment
Manufacturer**

Challenge

Asia Giant Engineering, a Taiwanese equipment manufacturer, was dealing with workforce challenges. Key senior staff members were facing retirement, and they had difficulties recruiting new talent. These problems were significantly affecting their efficiency and revenue.

Solution

To counter these issues, Asia Giant Engineering implemented AI and smart manufacturing. They utilized Profet AI's AutoML Platform to digitize the knowledge of their seasoned staff and integrate intelligent monitoring systems into their machinery.

Outcomes

This strategy resulted in a 30% increase in maintenance operation revenue and a 40% rise in equipment orders.

Asia Giant Engineering Co.

Key Results

30%

increase in maintenance operation revenue

40%

YoY growth in equipment orders

Optimized service efficiency