

## Advocating for "Sustainable Intelligent Management Self-Evaluation Indicators for Trade Secrets"

- Using TSMC's pioneering "Sustainable Intelligent Management Center for Trade Secrets" to provide strategic and comprehensive intelligent management as an example

**Implementing the "Sustainable Intelligent Management Self-Evaluation Indicators for Trade Secret" can demonstrate a commitment to achieving sustainable innovation and sustainable operations in trade secret management. It also signifies the arrival of an era of intelligent management of trade secrets, utilizing intelligent automation, AI technology, system integration synergy, and the active use of trade secret registration data. This will elevate trade secret management services to a new and higher level of sophistication. -Fortune Shieh**



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[https://www.ttsp.org.tw/themes/zh-tw/assets/images/ESG\\_E.pdf](https://www.ttsp.org.tw/themes/zh-tw/assets/images/ESG_E.pdf)

Since 2013, TSMC has been implementing a trade secret registration system and has gradually implemented intelligent automation and artificial intelligence technologies for intelligent management. These initiatives have enhanced the quality and quantity of trade secret registrations, cultivated more innovative talents, and strengthened competitive advantages. The company is dedicated to achieving four major trade secret management visions: "Implementing intellectual property strategies, enhancing comprehensive competitive advantages, encouraging a culture of innovation within the company, and achieving sustainable corporate operations."

營業秘密管理創新**ICIS**金字塔願景  
**ICIS** Vision for Trade Secret Management Innovation



謝福源博士倡議  
Advocated by Dr. Fortune Shieh

## **Establishing the "Trade Secret Sustainable Intelligent Management Center" in 2024**

To further advance the vision of sustainable innovation and comprehensive sustainable operations, TSMC established the "Trade Secret Sustainable Intelligent Management Center" (referred to as the "Management Center") in 2024.

## **Motivation and Origin for Establishing the Management Center**

Based on the existing foundation and achievements, the motivation for establishing the Management Center is to further build a more comprehensive system integration and innovation platform. This platform aims to expand the provision of all-encompassing strategic services and continuously realize the vision of pursuing sustainable innovation and sustainable operation.

## **Specific Approaches Include:**

1. Defining the strategic goals to be pursued: sustainable innovation and sustainable operations.
2. Outlining a structural blueprint based on these strategic goals.
3. Integrating the company's existing related management systems and designing new systems. Through the interconnected and integrated operation of these systems, the synergies will be realized to achieve sustainable goals and visions.

The specific achievements of TSMC are as follows<sup>1</sup> :

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<sup>1</sup>

1. "TSMC Trade Secret Intelligent Management 2.0: Radical Innovation for Talent Development", Fortune Shieh, 2023/09/19, <https://esg.tsmc.com/en/update/innovationAndService/caseStudy/54/index.html>
2. "TSMC Implements Trade Secret Management to Fulfill its Vision of Sustainable Business", Fortune Shieh, 2023/07/15, <https://esg.tsmc.com/csr/en/update/innovationAndService/caseStudy/36/index.html>

**I. Intelligent Management of Trade Secrets Realizing the Vision of Sustainable Innovation:**

- A total of 474,631 trade secret innovations were recorded in the trade secret registration system from 2013 to August 31, 2024.
- 2,718 Golden Trade Secret Awards were issued between 2013 and 2023 to promote high-quality innovation.
- 1,653 registered Golden Trade Secret Award cases from 2019 to 2023 were submitted to the patent management system, for patent mining evaluations and assessments.

**II. Intelligent Management of Trade Secrets Realizing the Vision of Sustainable Operations:**

- A total of 1987green trade secret innovations were recorded in the green trade secret registration system from 2021 to August 31, 2024,
- 21 Green Trade Secret Awards were issued between 2021 and 2023 to encourage innovations that contribute to energy conservation, carbon reduction, and environmental management, enhancing energy usage efficiency and the circular economy with unique contributions.
- Articles introducing trade secret registration system and intelligent management were published in TSMC's ESG newsletter and shared publicly for advocacy. As a result, an additional 20 companies in Taiwan and a startup in California, USA, have implemented trade secret registration systems, including TSMC's suppliers, customers, and other technology industry companies.

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3. “TSMC Establishes the "Trade Secret Registration System Alumni Association" to Comprehensively Upgrade Industrial Competitiveness”, , Fortune Shieh, 2021/08/19,

<https://esg.tsmc.com/en/update/innovationAndService/caseStudy/46/index.html>

When a company establishes and begins to implement a trade secret registration system, it often immediately encounters three key issues and seeks effective solutions:

1. How to motivate employees to actively register trade secrets to increase the number of registrations?
2. How to improve the quality of trade secret registrations?
3. How to utilize the registered data effectively, once the number of registered cases reaches a certain volume?

Intelligent management of trade secrets focuses on using intelligent automation and artificial intelligence to enhance both the quantity and quality of trade secret registrations, offering a framework for companies to consider solutions. By effectively utilizing the data from trade secret registrations, identifying and nurturing potential innovative talents, and providing personalized guidance, the quality of trade secret registrations can be improved. Furthermore, by adhering to the principle that qualitative changes lead to quantitative changes and vice versa, an innovative upward spiral can be created, fostering a sustainable culture of innovation within the company. By leveraging the static data from trade secret registrations, dynamic and concrete contributions can be made to the company's continuous innovation.

### **The innovative service features of the Management Center include:**

#### **1. System Integration:**

Combining 11 systems, including four new systems launched in 2024: "Trade Secret Intelligent Monitoring and Matching System , " "Trade Secret Registration Innovation Index Analytics System , " "Trade Secret Registration Intelligent Reminder System," and "Trade Secret Intelligent Management App." These are integrated with seven existing systems to pool resources and generate synergies, delivering strategic and intelligent services.

**2. Data Utilization for Talent Cultivation:**

Actively leveraging trade secret registration data to identify and nurture potential innovative talents. This underscores the value and significance of registration data, helping realize the vision of sustainable innovation.

**3. Green Trade Secret Optimization:**

Enhancing the quality and quantity of environmentally-friendly trade secret registrations and improving trade secret management within the supply chain. This aligns with the vision of sustainable business operations.

**4. Expanded Service Targets:**

The scope of intelligent management services has grown from focusing solely on individual employees to now including departmental organizations, offering comprehensive services.

**5. Quality and Quantity Emphasis:**

Focusing equally on the quality and quantity of trade secret innovations to foster a robust innovation ecosystem.

**6. Balanced Approach to Misappropriation Prevention and Utilization:**

Striking a harmonious balance between preventing misappropriation and fostering the creation of trade secrets. This dual strategy aims to safeguard against misappropriation while leveraging innovations to generate more high-quality trade secrets.

## **The Management Center integrates and operates 11 Systems:**

<b>New Systems in 2024</b>	<b>Systems Established Over the Years</b>	<b>Existing Management Systems</b>
<ol style="list-style-type: none"> <li>1. Trade Secret Intelligent Monitoring and Matching System</li> <li>2. Trade Secret Registration Innovation Index Analytics System</li> <li>3. Trade Secret Registration Intelligent Reminder System</li> <li>4. Trade Secret Intelligent Management App</li> </ol>	<ol style="list-style-type: none"> <li>1. Trade Secret Registration System established in 2013</li> <li>2. Green Trade Secret Registration System established in 2021</li> <li>3. Innovation Talent Scouting Online Merge Offline Service System established in 2023</li> </ol>	<ol style="list-style-type: none"> <li>1. Employee Personal File Management System</li> <li>2. Sensitive Hiring System</li> <li>3. Contract Management System</li> <li>4. Patent Management System</li> </ol>

**Through system integration, the Management Center provides the following six strategic sustainable intelligent management services:**

## 1. Registration Intelligent Integration

- The employee personal file management system records the number of trade secrets registered by employees and the number of golden trade secret awards received. After the signing and filing of joint technology development , the contract management system actively notifies the colleagues involved in the technical cooperation projects to register trade secrets belonging to the company in a timely manner.
- The trade secret registration system automatically provides the data that have won the golden trade secret awards to the patent management system for patent mining evaluation.

## 2. Intelligent Prevention and Monitoring of Misappropriation

- Through system integration, prevent the inclusion of competitors' confidential information or trade secrets in trade secret registration cases.
- Utilize the "Intelligent Trade Secret Monitoring and Matching System" to prevent technical cooperation partners from misappropriation of trade secrets belonging to TSMC.

## 3. Intelligent Automated Services

- Utilize the "Trade Secret Registration Intelligent Reminder System" to proactively remind departments and individuals lagging in registration cases to register promptly.



- Provide the "Trade Secret Intelligent Management App " service, enabling department heads to check the number of registered cases within their own departments at any time. Employees can also check their personal registration numbers and understand the highest number of registered cases among their departmental peers.

#### 4. Leveraging Artificial Intelligence

- Utilize the "Innovation Talent Scouting Online Merge Offline (“ITS OMO”) System" to conduct online AI analysis of trade secret registration cases, discovering talents with innovative potential. Senior colleagues who have received Gold Trade Secret Awards provide offline individual guidance.
- Utilize the "Trade Secret Registration Innovation Index Analytics System" to provide comprehensive strategic intelligent management services:
  - Provide company supervisors with innovation index analysis of their managed departments.
  - Allow employees to self-assess the innovation index of their registered cases.
  - Conduct project analysis to get an overview of the innovation quality across related departments, establishing an innovation index map as a reference for trade secret strategic planning and management.

#### 5. Green Trade Secrets

- Utilize the "Trade Secret Registration Intelligent Reminder System" to proactively remind colleagues who have previously registered green trade secret cases to timely register more innovations that contribute to energy conservation, carbon reduction, environmental management, enhancing energy efficiency and making unique contributions to the circular economy.

- Analyze and assess the green trade secret innovations that are worth strategically increasing, using the "Trade Secret Registration Intelligent Reminder System" to prioritize and encourage the registration of these significant innovations.

## **6. Public Welfare and Shared Prosperity**

- Leverage TSMC ESG newsletter and the “Trade Secret Intelligent Management Alumni Association” to enhance trade secret intelligent management across the supply chain, thereby realizing the vision of sustainable innovation and sustainable operations.
- Expand public welfare sharing of trade secret intelligent management within the industrial ecosystem to achieve mutual benefit and shared prosperity.

**Trade Secret Innovation Talent Scouting**  
**Online Merge Offline Service “ITS OMO”**



**Rising Star**

**Pilot Trial**

**Quality-Quantity  
Transformation**

**Online  
Customized  
A.I. System**

**Online-Merge-Offline  
Services**

**Offline  
One-on-One  
Real Case Guidance**

# Trade Secret Sustainable Intelligent Management Center



"In a commitment to public welfare and shared prosperity, TSMC (Taiwan Semiconductor Manufacturing Company) has leveraged innovation and the “Management Center” initiative to develop a sustainable, intelligent management blueprint for trade secrets. This framework includes 15 self-evaluation indicators, grouped into three main categories: **(1) Synergy Indicators, (2) Optimization Indicators, and (3) Sustainability Indicators**. These indicators are actively promoted as benchmarks for like-minded companies, aiming to extend their influence across industries for wider adoption and mutual benefits."

## **Sustainable Intelligent Management Self-Evaluation Indicators for Trade Secrets:**

### **1. Registration Intelligent Integration**

#### ● ***Synergy Indicators:***

- Establish a trade secret registration system.
- Reward high-quality trade secret registration cases.
- Integrate the registration system with the employee personal file management system.
- Integrate the registration system with the contract management system.
- Integrate the registration system with the patent management system.

## 2. Intelligent Prevention and Monitoring of Misappropriation

### ● *Synergy Indicators:*

- Monitor and prevent trade secrets from being misappropriated by technical cooperation partners.
- Monitor and prevent trade secret registration content from any potential contamination by competitors' confidential information or trade secrets.

## 3. Intelligent Automated Services

### ● *Optimization Indicators:*

- Remind employees to register trade secrets in a timely manner.
- Allow employees and supervisors to manage the trade secret registration status via an App.

## 4. Leveraging Artificial Intelligence

### ● *Optimization Indicators:*

- Utilize artificial intelligence to analyze the quality of innovation in registered trade secret cases.
- Use artificial intelligence to identify employees with innovation potential and provide individual guidance.

## 5. Green Trade Secrets

- *Sustainability Indicators:*

- Establish a green trade secret registration system.
- Remind employees to promptly register green trade secrets.

## 6. Public Welfare and Shared Prosperity

- *Sustainability Indicators:*

- Share sustainable intelligent management of trade secrets with supply chain partners.
- Establish channels and platforms for public welfare sharing.

## Sustainable Intelligent Management Self-Evaluation Indicators for Trade Secrets

-Advocated by Dr. Fortune Shieh 2024

Service Orientation	Indicator Type	Self-Evaluation Indicator
<b>Registration Intelligent Integration</b>	<b>Synergy Indicators</b>	<ol style="list-style-type: none"> <li>1. Establish trade secret registration system</li> <li>2. Incentivize high-quality trade secret registrations</li> <li>3. Integrate the registration system and employee personal file record system</li> <li>4. Integrate the registration system and contract management system</li> <li>5. Integrate the registration system and patent management system</li> </ol>
<b>Intelligent Prevention and Monitoring of Misappropriation</b>		<ol style="list-style-type: none"> <li>1. Monitor and prevent trade secrets from being misappropriated by technical cooperation partners</li> <li>2. Monitor and prevent trade secret registration content from any potential contamination by competitors' confidential information or trade secrets</li> </ol>
<b>Intelligent Automated Service</b>	<b>Optimization Indicators</b>	<ol style="list-style-type: none"> <li>1. Remind employees to timely register trade secrets</li> <li>2. Enable employees and supervisors to manage the trade secret registration status via an App.</li> </ol>
<b>Leveraging Artificial Intelligence</b>		<ol style="list-style-type: none"> <li>1. Utilize artificial intelligence to analyze the quality of innovation in registered trade secret cases.</li> <li>2. Use artificial intelligence to identify employees with innovation potential and provide individual guidance</li> </ol>
<b>Green Trade Secret</b>	<b>Sustainability Indicators</b>	<ol style="list-style-type: none"> <li>1. Establish green trade secret registration system</li> <li>2. Remind employees to promptly register green trade secrets</li> </ol>
<b>Public Welfare and Shared Prosperity</b>		<ol style="list-style-type: none"> <li>1. Share sustainable intelligent management of trade secrets with supply chain partners.</li> <li>2. Establish channels and platforms for public welfare sharing</li> </ol>



Given the varying industry types, competition levels, and growth strategy goals, companies' approaches to trade secret management and objectives can differ significantly. A comprehensive blueprint can serve as a structured reference, providing a foundational basis for systematic and focused planning. Self-Evaluation is akin to looking in a mirror, offering a process of introspection that helps understand the current state and consider future planning directions. It represents a continuous pursuit of self-improvement and development.

Companies can establish a Self-Evaluation Strategy Committee, responsible for formulating and overseeing Self-Evaluation policies and systems, and a Self-Evaluation Working Group, tasked with planning and executing Self-Evaluation activities based on these policies and systems. By implementing Self-Evaluation indicators, companies can review their development progress, evaluate the integration of relevant resources, and further refine their trade secret management practices.

As the Self-Evaluation mechanism evolves, it will seamlessly align with the strategies and vision of trade secret management, becoming an indispensable organic component. Implementing Self-Evaluation systems allows companies to share mutual benefits, offering a chance for these organizations to re-evaluate and refine their Self-Evaluation mechanisms and execution. This ongoing process aims to achieve continuous improvement.

On September 16, 2024, TSMC hosted the inaugural meeting of the "Trade Secret Intelligent Management Alumni Association" at Hotel Royal Hsinchu, Taiwan. The event welcomed representatives from 20 companies that have already established and implemented trade secret registration systems. During the symposium, TSMC introduced its innovative "Trade Secret Sustainable Intelligent Management Center" and the "Trade Secret Sustainable Intelligent Management Self-Evaluation Indicators."



TSMC plans to continue advocating and promoting the concept of the "Trade Secret Sustainable Intelligent Management Self-Evaluation Indicators" through public sharing, aiming to add three like-minded companies each year. For companies aspiring to achieve sustainable intelligent management goals and visions but have not yet implemented intelligent automation and AI-related systems, it is recommended to start with manual operations to design ways to achieve the same goals. Gradually, they can begin to develop intelligent information systems to enhance service efficiency.

The purpose of participating in the "Trade Secret Intelligent Management Alumni Association" is to engage in public welfare sharing through the association's communication platform. Additionally, member companies can invite other association members to join in exchanging experiences on trade secret intelligent management with their supply chain partners. This collaborative effort helps to fulfill the service aspect of the self-assessment indicators, specifically the goal of "Public Welfare and Shared Prosperity."

***Implementing the " Sustainable Intelligent Management Self-Evaluation Indicators for Trade Secret " can demonstrate a commitment to achieving sustainable innovation and sustainable operations in trade secret management. It also signifies the arrival of an era of intelligent management of trade secrets, utilizing intelligent automation, AI technology, system integration synergy, and the active use of trade secret registration data. This will elevate trade secret management services to a new and higher level of sophistication.***

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