

Industry Collaboration between CZ Republic and Taiwan to Make a Better World

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Co-Founder & Executive Board Director, Advantech



ADVANTECH

Mission **Enabling an Intelligent Planet**

Revenue

USD \$1.73 Billion (2020)

Market Cap

USD \$9.7 Billion (April 28, 2021)

Worldwide Employees

8,300

Service Field

Industry 4.0, Industry IoT,
Embedded Computing,
Smart City (Medical, Retail, Logistics)

Serve Worldwide IoT Solution Integrators



Worldwide Presence

3 Manufacturing Sites

4 Logistics Centers

14 Service Centers

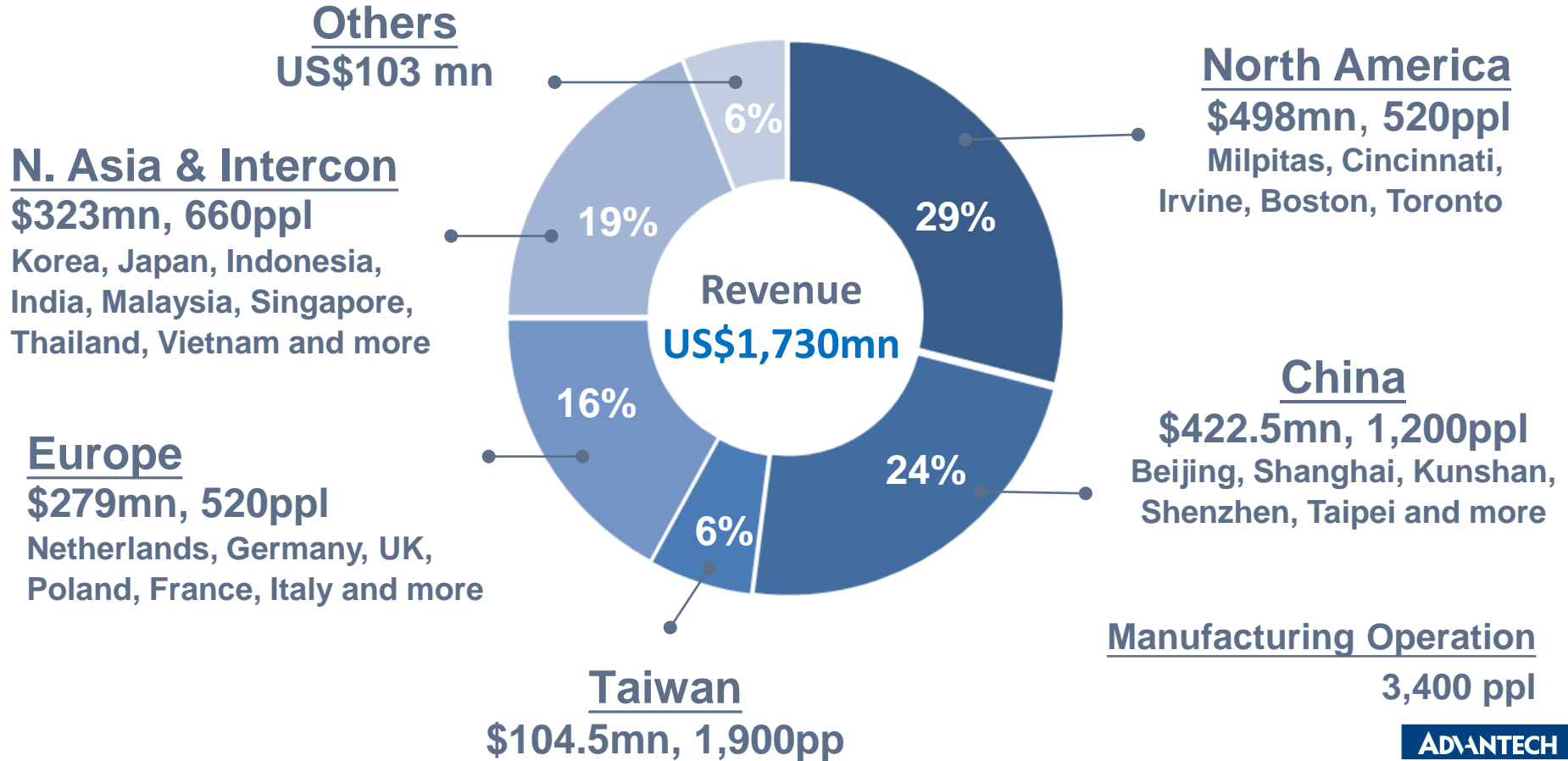
27 Countries



● Regional Service center

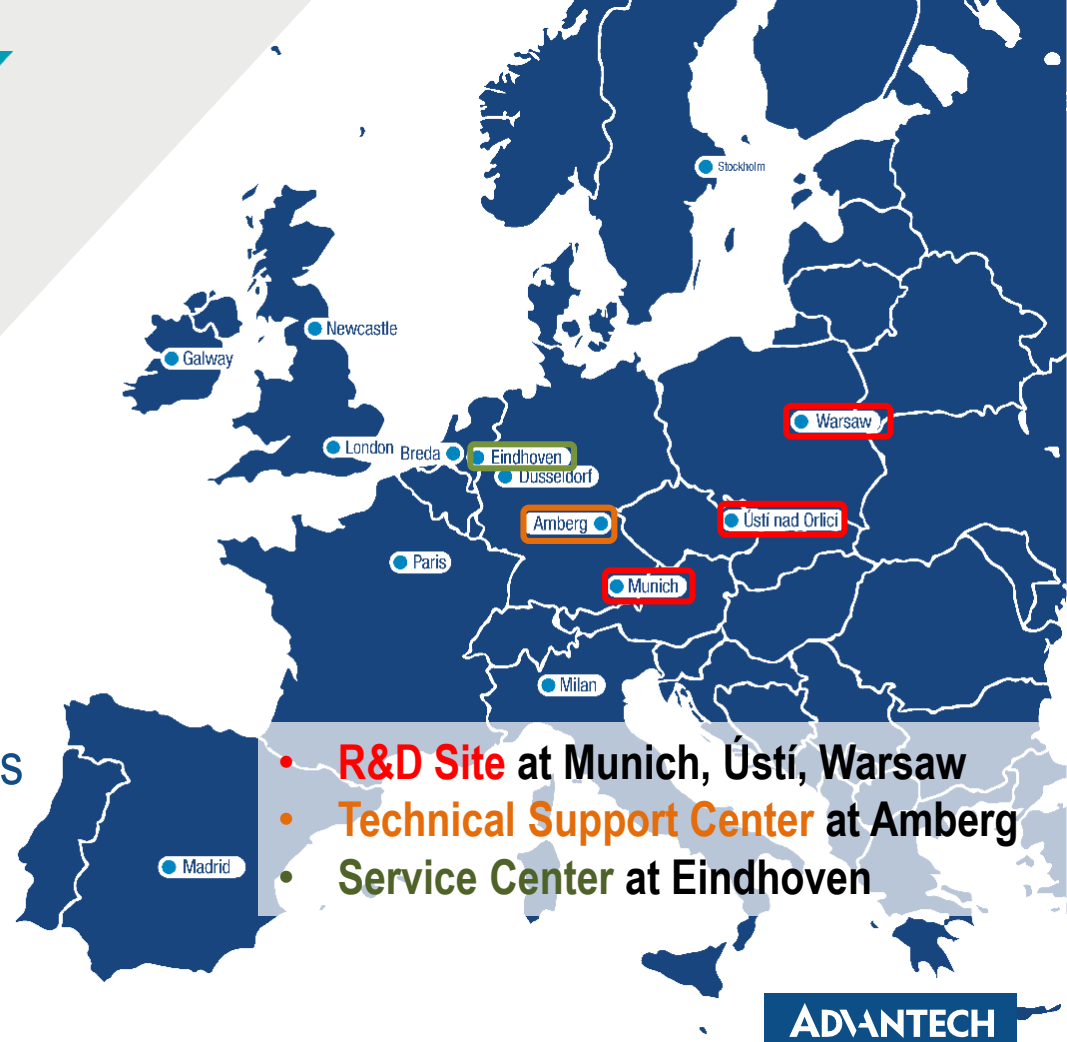
● Branch Office

2020 Global Geo-Region Sales Distribution (USD)



Advantech Europe

- First office opened in 1993, in Germany
- European HQ located in Eindhoven, the Netherlands
- 1 Service Center
- 14 Offices in 10 different countries
- Over 520 Employees



Europe Service Centers

Eindhoven, the Netherlands

Standard BTOS/CTOS



- Standard BTOS
 - Customized
 - CTOS Processes
 - Control
- Flexible, Fast, Quality delivery

Area
7,500 M²

CTOS Capacity/month

- **System: 9,000 sets**
- **SBC: 5,000 sets**

W/H Capacity/month

- **2,500 pallets**
- **Handling 3000 Delivery Notes**

Warsaw, Poland

ODM/OEM Project



- Project Management/ Engineer services
- SLA (service level agreement) Management
- Customer Focus Team setup

Area
2,300 M²

CTOS Capacity/month

- **500 sets / Max Capacity: 2,500 sets**

W/H Capacity/month

- **360 Pallets**
- **Max. 1,000 Pallets**

RMA

- **1,300 RMAs**

Munich, Germany

Standard BTOS/CTOS



- Standard BTOS
- Customized CTOS
- Processes Control
- Flexible, Fast, Quality delivery
- Innovation Hub

Area
4.900 M²

CTOS Capacity/month

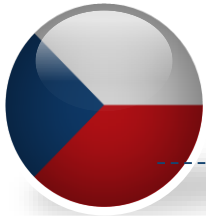
- **System: 1.800 units**

W/H Capacity/month

- **50 pallets intern**
- **Out: Truck/Air: 5 shipment/week**
- **In: Sea/Air/Truck: 2-3 shipments/week**

Advantech Czech Republic

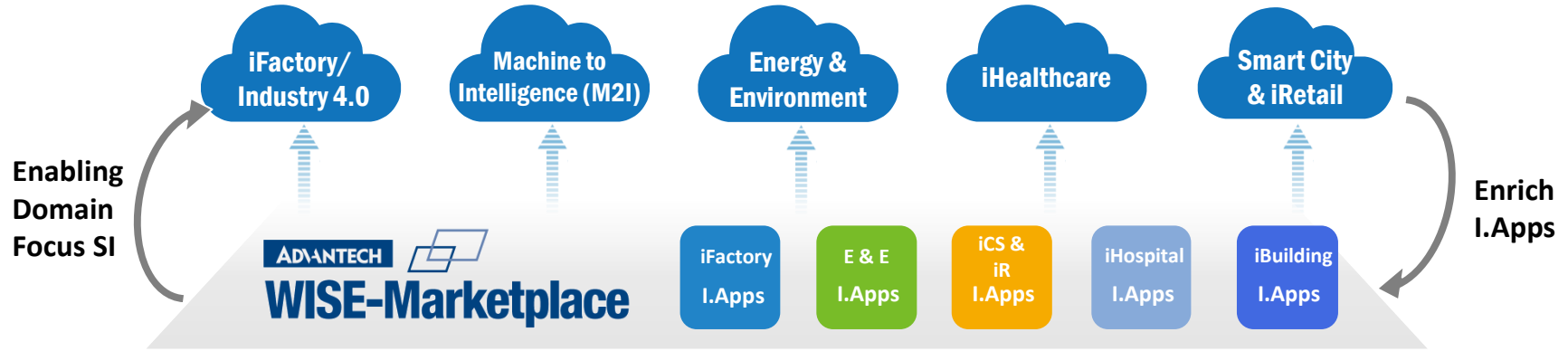
- Y2021 revenue : **350 mil CZK (USD\$16 million)** with **25% growth**
- **75 employees** including **40 Engineers and IoT Experts**
- Focusing on **4G LTE & 5G Cellular Routers** and **Gateways**
- Founded in **1991**



Sales Office (35 Employees)
in Usti nad Orlici

R&D Center (40 Engineers)
in Bruno

Advantech Ecosystem Co-Creation for AIoT Success



WISE-DeviceOn



Sensing Devices



Gateway



Embedded Boards



Edge Computers



IPC/ Servers



Intelligent Service and Logistics

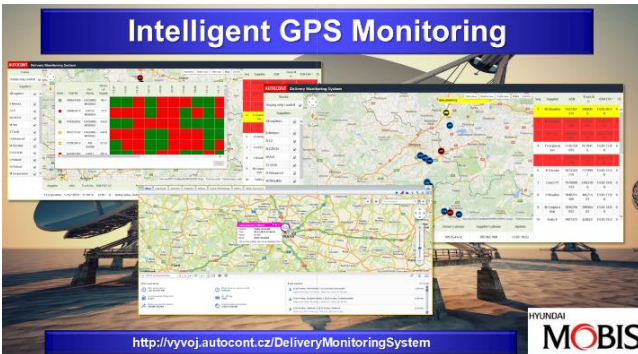


Medical Computers

Industry 4.0 in CZ

Project Implementations

- **Production Line Control System**
- **Online Monitoring of Production Process Quality**
- **Intelligent GPS Monitoring**
- **Hyundai Motor Manufacturing Czech s.r.o. – OS&D + AWIS System**
- **Application for RFID Technology**



Notable Customers in Advantech CZ

- **Automation CP** : FCC Prumyslowe Systemy, Autocont IPC
- **iConnectivity CP**: Smart Con, Bluecom

Key Accounts:

- **Energy**: Siemens, ABB
- **Automotive**: Hyundai, Kia, Nexen Tier, Continental, VW SK, Miele, HANWHA Machinery, Skoda Auto
- **Smart Infrastructure**: Passengera, Simac, Ceske Drahy, Certicon, Stadler, Skoda Transportation
- **System Integrator**: CES EA, Simac

IPC
AutoCont

FCC PS
PRŮMYSLOVÉ
POČÍTAČE
A KOMUNIKACE
PRŮMYSLOVÉ
SYSTÉMY

smart-CON
be connected

BLUECOM

ABB

Schneider
Electric

SIEMENS

Passengera



STADLER

Czech WISE-PaaS Partners

**Transportation
Connectivity and
Infotainment Solution**



Main references : MAV, Hungary /PKP Intercity & Alstom, Poland

- New Electrical & Mechanical Design
- Thermal Simulation
- Software Integration
- 3rd Party HW Development
- Laboratory Tests
- Field Test

**Machine Builder Platform
to inspect machines remotely** **Cleverlance**

- Connected Shopfloor
- Selective and Secure Interconnection
- Functional Local Data
- Preset Solution Package



Blockchain Notarius at WISE-SaaS

The screenshot shows a web browser window with the URL `wise-paas.advantech.com/en-us/marketplace/product/ela.blockchain-notarius?tab=product-details`. The page header includes the ADVANTECH WISE-Marketplace logo, a search bar, and links for Login and Contact Us. A navigation menu contains Products, Solutions, Resource, Partners, and Membership. The main content area is titled "Blockchain Notarius" and features a sidebar with "Product Details", "Service Architecture", and "System Information". The main text includes an introduction and feature highlights.

Product Details

Service Architecture

System Information

Product Details

Introduction

Blockchain Notarius® is a blockchain-based application for the simple registration of digital property ownership. It is installed on every node of the EIA blockchain network.

The Blockchain Notarius® application provides the service of registration of data files on the blockchain (save file hash), and the service of verification of whether a submitted copy of a file is identical to the registered original of a file (verification of presence of an identical hash in the blockchain).

It is possible to register any type of digital file: digital photos, audio files, video clips, etc. Even binary files created by machine, such as the data log files of technical equipment, or records of communication among machines, can be registered.

Blockchain Notarius® then provides a proof of identity of a digital copy of a document (contract, agreement, medical documentation), evidence of status at a particular moment (photos, media files, operator logs), verification of authorship, or fact checking.

Blockchain Notarius® is the simplest of applications using the EIA blockchain; a unique project built by a community of private companies as a reliable platform for industry and trade, and also as a public authority.

Feature Highlights

- Based on an independent blockchain network; the list of node owners is public

Blockchain API with Advantech Wise-PaaS

Blockchain Application

Data Anti-counterfeiting

Data Tamper-proof

Data Fraud Prevention



InsightAPM Blockchain Module

InsightAPM Portal

Blockchain Component



Blockchain API



Blockchain Service



Edge Data Collection

WISE-PaaS Cloud Platform



WebAccess/SCADA

WISE-PaaS/EdgeLink

WISE-PaaS/DeviceOn

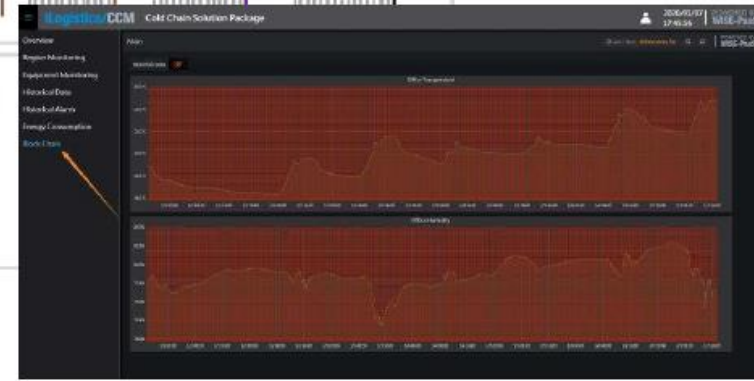
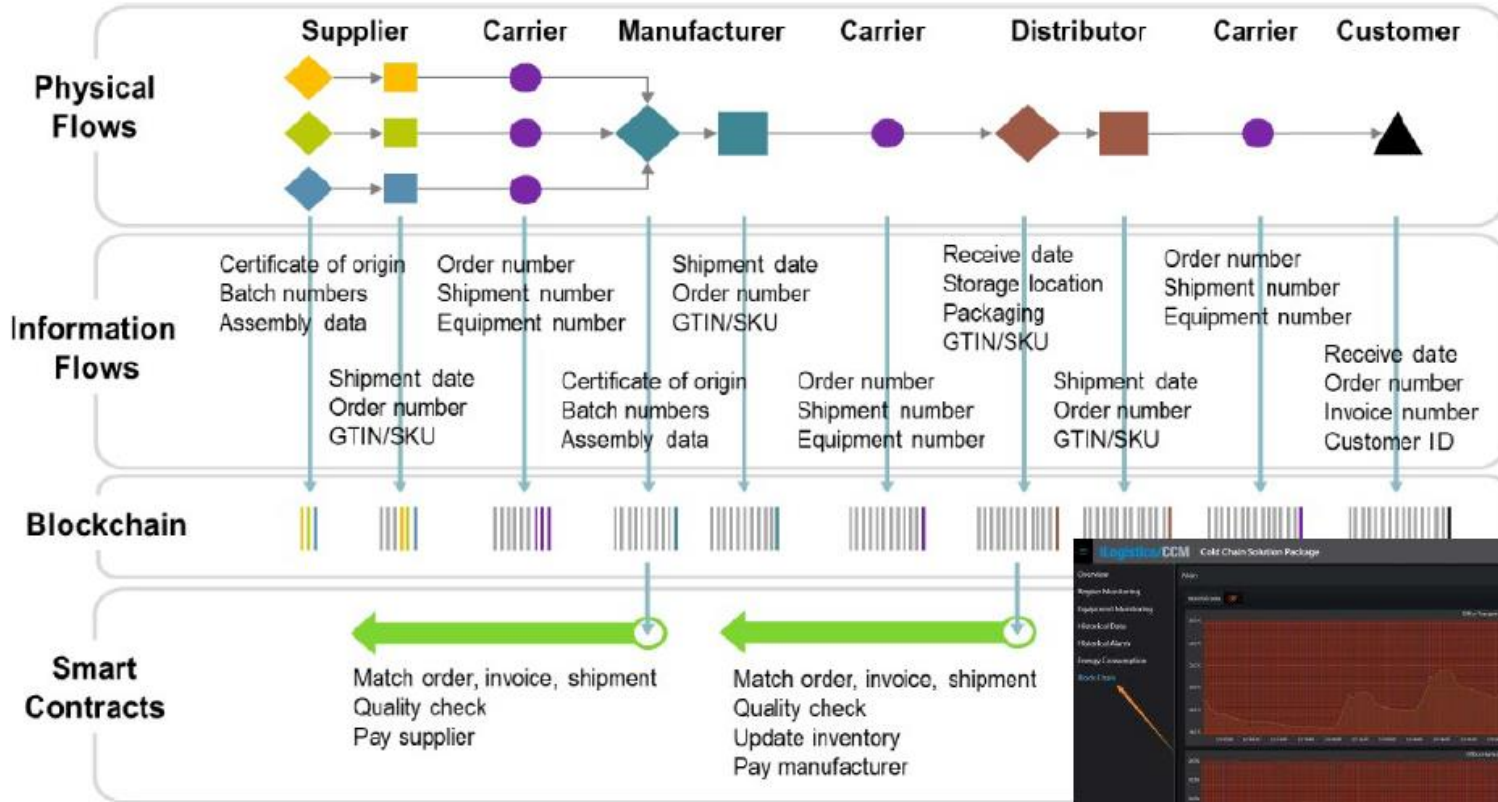
WISE-PaaS/VideoSense

WISE-PaaS/LwM2M

WISE-PaaS/OTA2.0

DataHubEdge SDK

Blockchain Services to Vaccine Cold Chain Data Integrity



Strategic Focus of Taiwan Industry

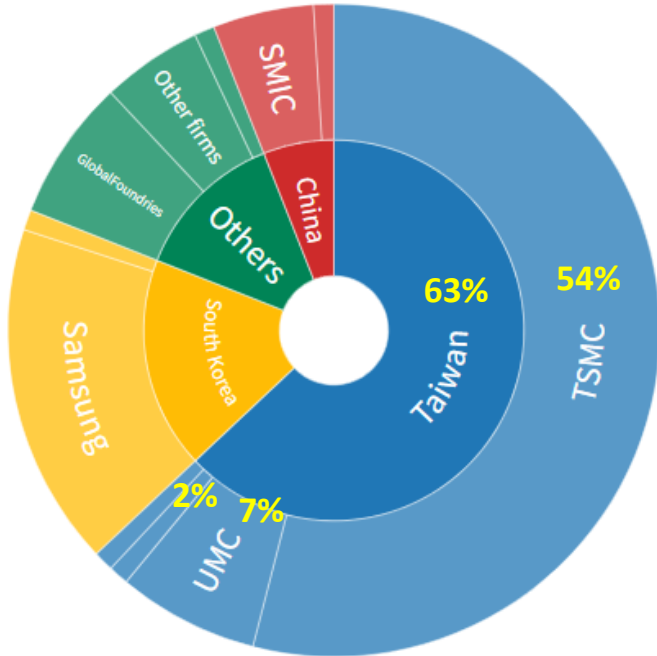


- **High Mix, Low Volume . Highly Customization**
IPC 、 IoT 、 AI 、 Precision Machinery
- **Complicated Process Industry**
Semiconductor 、 LCD 、 IC design
- **Advanced Technology**
AI 、 EV Car 、 Autonomous Drive

Taiwan Leading Industry - Semiconductor

Semiconductor contract manufacturers by market share

Total foundry revenue stood at \$85.13 billion in 2020



Taiwan could claim **63%** of this amount, the leading contract manufacturers on the island remain **TSMC** with **54%** of the market and **UMC** with **7%** of the market, **PSMC** and **VIS (Vanguard)** each receive **one** percent.



Taiwan Leading Industry – ICT Communications

WLAN

76%

No.1



4G Terminal
& Module

46%

No.1



Cable
Terminal

77%

No.1



IP STB

41%

No.1



xDSL
Terminal

52%

No.1



Mobile
Phone

52%

No.4



Taiwan Leading Industry – Machinery

Wood
Working
Machinery
No.4

Machine
Tool
No.4

Textile &
Sewing
Machinery
No.8

Plastic &
Rubber
Machinery
No.7

Taiwan
Machinery
No.15

Export ranking in the world

Total Output of Taiwan Machinery:
USD 365 Billion

70%-80%

of Taiwan machinery products are exported



Taiwan's Future Industry – EV Market

“Aside from engines and complete gearboxes, Taiwan can produce all the other components,” Shen said. ”

David Shen, CEO, Hota Industrial Mfg. Co., Ltd.
the sole supplier of reduction gears to Tesla



Tesla is Building an EV Ecosystem in Taiwan

75% of its Suppliers are Taiwanese Companies



Taiwan's Future Industry – Offshore Wind Energy

become the green energy development center of Asia



WINDSIGHTS

Offshore Wind Tenders
and Auctions of Taiwan

”

In the next five years, **5.5GW** of offshore wind energy will be developed in Taiwan. Another **10GW** between 2026 - 2035 is in plan now.



Strong Industrial Innovation Program

Biotech and Pharmaceutical Industry

- Bolster the R&D capabilities of firms in Taipei's Nangang Software Park, Hsinchu Biomedical Science Park, Central Taiwan Science Park and Southern Taiwan Science Park, all connected via the high-speed railway system

- Utilize Taiwan's grasp of genetic structures, life science, living environment medicine, and other fields to become the world's biotech hub

- Enhance cooperative efforts with the three major US biomedical hubs of Boston, San Francisco and San Diego, and European countries such as Belgium, the Netherlands, Sweden and Switzerland

Smart Machinery

- Boost the development of the machine tools and smart machinery industries in and around Taichung City by providing assistance in technology, talent and financing, and investment acquisition

- Spur innovation in sectors such as aviation, submarines, precision medicine and the Internet of Things components, smart machinery

Green Energy Industry

- Build a sustainable energy system in the Shaolin area
- Facilitate energy saving through coordination among equipment suppliers, ICT businesses and energy service providers

- Promote energy saving in various energy sources, including solar, wind, biomass, etc.

- Cultivate efficient energy storage through the promotion of lithium battery, fuel cell and hydrogen power use by local companies

- Help foster the creation of local businesses specializing in green energy system integration

National Defense Industry

- Provide support to the information security industry cluster in northern Taiwan's Taipei, the aviation industry in central Taiwan's Taichung and the shipbuilding industry in southern Taiwan's Keelung

- Make defense-related purchases that have social and economic benefits, such as employment, technological innovation and talent training, and cooperate with applications in the military and civilian sectors

Silicon Valley

- Develop Taoyuan City into a smart technologies R&D hub

- Foster the growth of firms involved in producing Internet of Things technologies

- Enhance ties between local businesses and companies in California's Silicon Valley with a focus on technology, capital and talent

- Build an innovation and research talent exchange center near Taoyuan Taoyuan International Airport that will maintain close ties with similar facilities in Silicon Valley

New Agriculture

- Protect farmers, foster agricultural development and ensure environmental sustainability

- Safeguard product safety and quality and build a trustworthy label certification system consistent with international standards

- Make the industry profitable and sustainable, diversify domestic and external sales channels and increase the added value of agricultural industries

Circular Economy

- Allow the circulation and reutilization of energy, improving resource efficiency, reducing carbon emissions and ensuring the waste energy and materials of a factory become the input resources of a neighboring one

- Ensure new industrial parks are designed according to the concept of the circular economy

• **Biotech and Pharmaceutical Industry**

• **Smart Machinery Industry**

• **Green Energy Industry**

• **National Defense Industry**

• **Asia Silicon Valley**

• **New Agriculture**

• **Circular Economy**



Taiwan AI Academy's goal is to help industries in Taiwan gain a competitive edge in the AI revolution and open doors of infinite opportunities for industrial development. We look forward to a future where professionals across fields can solve problems in their domains through AI, ultimately becoming the driving force that takes industries to new heights.

The Cradle of AI Nurturing AI Talent in Taiwan



Opportunity of Taiwan in 5G Era

Open System

Virtualization

Diverse
Application

- **Chip Set Design and Fab : TSMC, Mediatek**
- **5G Small Cell Base station**
- **5G Antena , Microwave, Power Supply**
- **5G Module/ 5G Gateway**
- **5G Devices (Handset, Terminal.....)**



Why Taiwan? Why not Taiwan!

- Excellent **Labor** Force
- Strong **Industrial Clusters**
- Government **Incentive** Program
 - Industrial Innovation Program
 - **AI & 5G** Industrial Development Program



Facts of Czech Republic

- Population: 10.69M (45% of Taiwan)
 - Area : 78,867 Square KM (Double of Taiwan)
 - 2020 GDP: USD 242 Billion (5.1% Growth)
 - Highly Industrialization
-

Common and Complimentary



- Small Democrat Country
- High Quality And Innovative of Talent
- Leading in Industry 4.0
- Automotive 、 Machinery 、 Wireless Technology
- IC Production as Next Focus of EU
- Tourism

Possible Collaboration Between CZ and Taiwan

- **AIoT** : Industry 4.0 、 Smart Manufacturing 、 Smart Healthcare 、 Covid-19 Protection
- **Machinery and EV key Parts 、 MotorBike**
- **Semiconductor Echo System** : IC Design 、 Packaging and Testing 、 Materials
- **CZ-TW Start-Up Soft-Landing Program**



**The World Will Become Better
Together with Taiwan**

