

The background of the slide is a composite image. It features an aerial view of a city, likely Tokyo, with a prominent green and blue gradient overlay. The gradient is darker at the top and bottom, and lighter in the middle. The city below shows a mix of urban development, including buildings, roads, and green spaces. The overall aesthetic is modern and tech-oriented.

Investor Presentation



**SOLAR APPLIED
MATERIALS TECH. CORP.**
(1785 TT/TW)

April 2023

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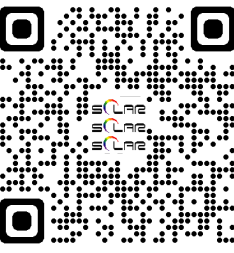
Understandings

PART 2

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Measurement



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PART 1

About SOLAR

A world-leading manufacturer of precious and rare metals for industry application

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Company Info

Organization and Executives

Policy

Milestones

SolarTech was selected to join TPEX ESG 30 Index

SolarTech was selected as a constituent stock of the TPEX ESG 30 Index, and is ranked among the top ten constituent stocks.

The TPEX ESG 30 index, compiled by TPEX and Taiwan Index Plus, recognizes the stocks that combine investability and sustainability.

Led by a strong team of experienced professionals

Chairman/President



C.F. Huang

黃啟峰

*30 of years
of industry experience*

- Vice President, Operations & Engineering, **Continental Teves Taiwan**

VP
**Thin-film & Electronic
Materials BU**



Gary Chung

鍾怡歡

*25 of years
of industry experience*

- General Manager, **Life Fusion Inc.**
- Sales Manager, **Applied Materials Taiwan**

AVP
**Functional Ceramics &
Compound BU**



Seward Hu

胡書華

*20 of years
of industry experience*

- Assistant Vice President, **Topview Optronics Corp.**

AVP
**Precious metals & Green
Management BU**



Vincent Huang

黃明山

*25 of years
of industry experience*

- Manager, **ChipMOS Technologies Inc.**
- Deputy Director, Precious Metal BU, **SolarTech**

VP
**Intelligence Operations
Center**



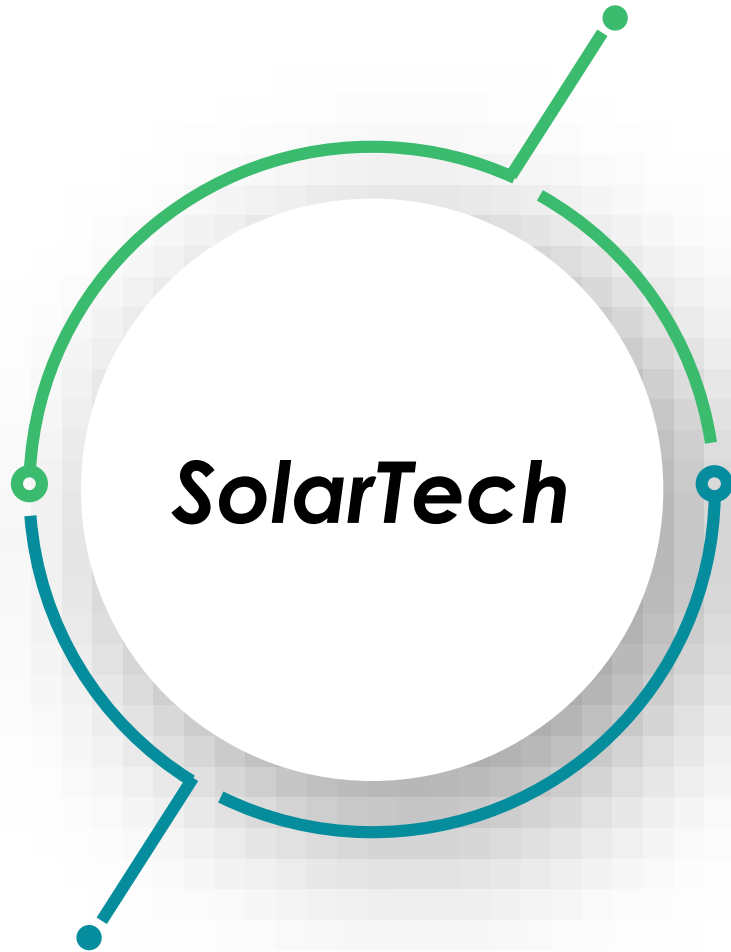
Ben Hong

洪本展

*30 of years
of industry experience*

- Vice President, **Quanta Computer Inc.**
- Executive Vice President, **Inventec Multimedia & Telecom Corporation**

Circular Economy



Advanced Material Solutions

We are

A Leading Circular Materials Technology Company

with an extensive expertise in the fields of
material science, chemistry and metallurgy

We are **UNIQUE**

because we provide truly innovative material solutions
to solve our customers' most complex
technical challenges

in the most **SUSTAINABLE** way

Company milestone

Alloy design and target manufacturing for thin film applications



PGC / PSC

Taiwan No.1



Gold / Silver
Chemicals and
Refining

1978



ODS

(Optical Data Storage)

Sputtering Target

World Leading

Sputtering target
manufacturing

1998

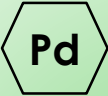


MDS

(Magnetic Data Storage)

Sputtering Target

World Leading



Complex alloy
design and
manufacturing

2004



OE (Optoelectronics)

Sputtering Target
(FPD / PV / LED)



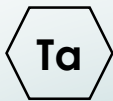
Ceramic target
manufacturing

TCO (Transparent
Conductive Oxide)
materials design

2008



SEMI



Ultra high purity
semiconductor
materials

2016



SEMI



1st in SEMI industry
**Copper Circular
Economy**

2018



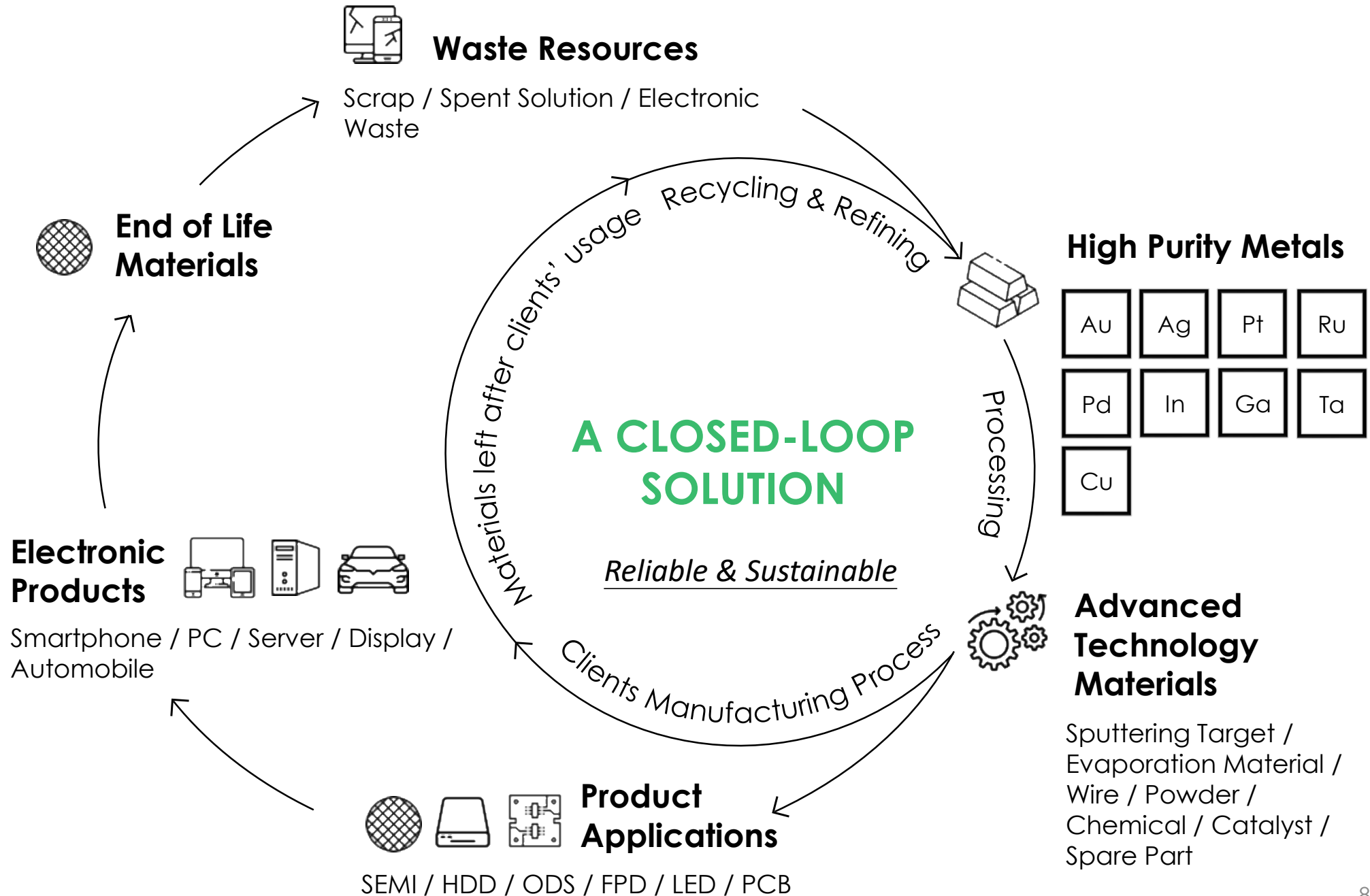
Digital Transformation

Drive Digital
Transformation to
Expand Margin

2021

**Recycling & Refining of
precious / rare metals**

Enabling circular economy



SOLAR at a glance

1978
Founded

2005
Listed (1785 TT)

1,521
Employees (2022)

Tainan, Taiwan
Headquarters



NT\$25.8 Bn

Total Sales in 2022

-17.7% YoY

NT\$22.1 Bn

US\$725 Mn

Market Cap as of Feb, 2023

NT\$5.5 Bn

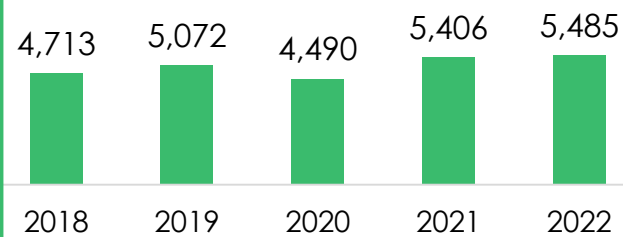
Value Added Sales in 2022

+1.5% YoY

Value Added Sales
Breakdown by Applications (FY 2022)



Value Added Sales (NT\$m)



5 Factories

Located in Taiwan
and Mainland China

Kunshan,
Jiangsu, China

Tainan, Taiwan

SolarTech's Industry
Position

World No.1

Hard Disk Drive

Data Storage Sputtering Target

Taiwan No.1

Semiconductor

Precious Metal Sputtering Target

Taiwan No.1

Precious Metals Recycling

Precious Metal recycling and
high purity refining

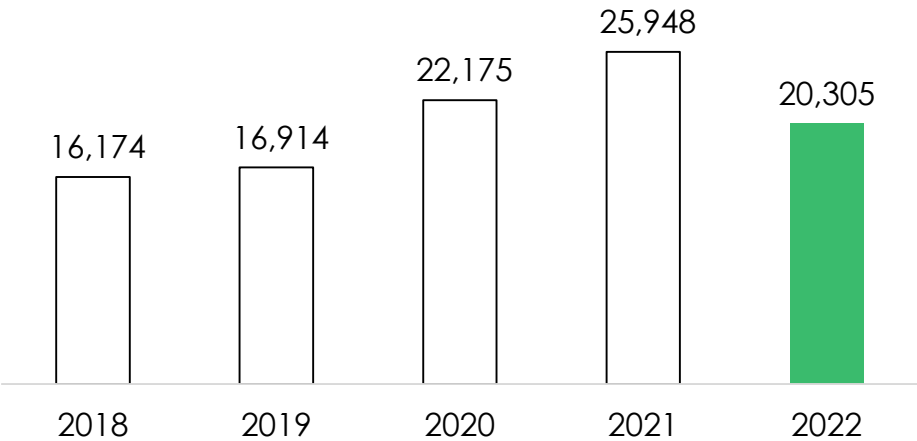
Strong track record of growth generation

Precious Metals Sales

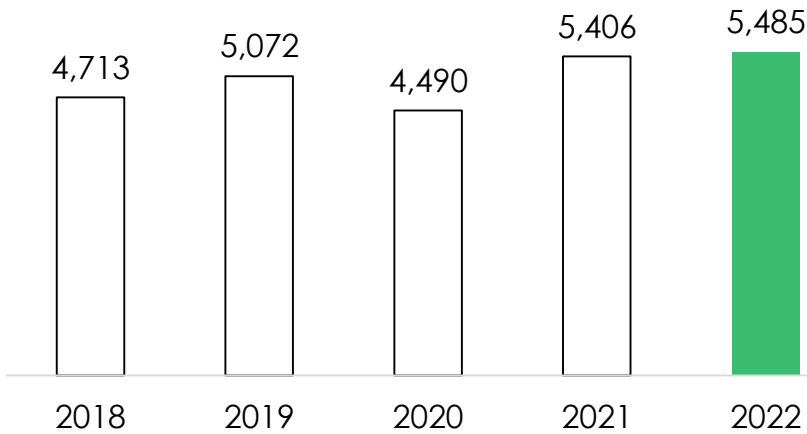


Precious metals are sold mainly as part of raw materials in products. In addition to the growth of business volume, revenue is also subject to changes in precious metal price trends (depending on if the materials are on consigned basis or not).

Precious Metals Sales (NT\$mn)



Value Added Sales (NT\$mn)



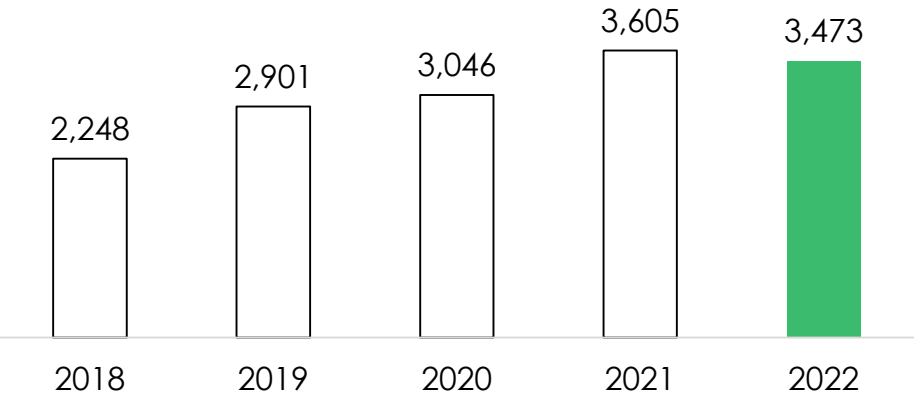
Value Added Sales (VAS)



Value-added sales (VAS) reflect the true value of the products that we deliver to our customers, regardless of the precious metal prices.

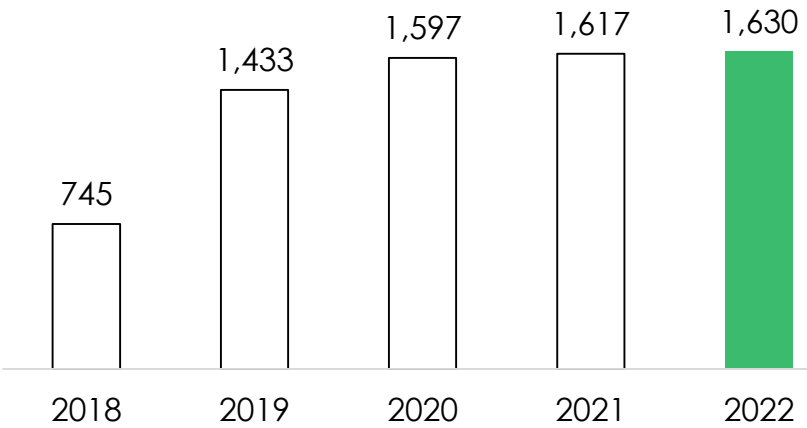
Gross Profit (NT\$mn)

CAGR: 11%



Operating Profit (NT\$mn)

CAGR: 22%



Why invest in SolarTech ?

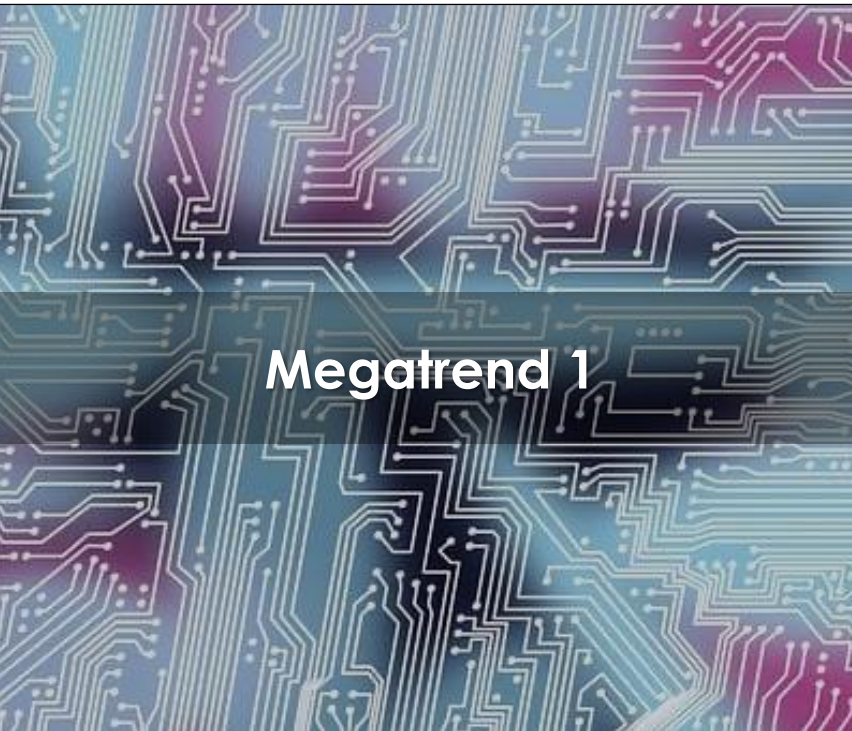
- We are a global leader in advanced materials solutions. We are the world's largest manufacturer of sputtering targets for hard-disk drives (HDD), as well as Taiwan's largest manufacturer of sputtering targets for semiconductors. Our unique foundation as a **circular** materials company and our ability to provide our customers with **mission-critical solutions** have allowed us to emerge as a preferred partner throughout our customers' technology roadmap.
- We are well-positioned to benefit from several megatrends in the industry, including
 - 1) **Increasing complexity in electronic devices requires more sophisticated chips and solutions, leading to a rise in demand for advanced materials;**
 - 2) **The growing importance of local supply chains and substitutes; and**
 - 3) **Companies' shift towards a circular economy.**These trends are expected to enhance the competitiveness of our company and will provide a significant growth opportunity for our revenues and earnings.
- In light of these factors, we aim for a **50% CAGR** in our front-end semiconductor materials value-added sales (VAS) in the next five years, which should result in **double-digit growth** in value-added sales and earnings to support further value-enhancing investments and sustained dividend payout to our shareholders.

PART 2

Trends & Technologies



Key megatrends that propel our growth



Increasing complexity of
electronic devices
requiring new solutions and
more varieties of alloy materials

More Volumes

The growing importance of
local supply chains
and substitutes

More Shares

Companies' shift
towards a
circular economy

More Needs

Scale Up

- Capacity investments synchronized to customers' expansion plans.
- Ability to tackle industry challenges & supply reliability.
- Continue localizing footprint close to customers in Taiwan and elsewhere in the world.

Optimize our Portfolio

- Commitment to relevant portfolio breadth in high-growth areas.
- Targeted expansion of portfolio into other adjacencies.

Level up in Tech

- Further sharpen focus on profitable innovation, addressing key inflection points.
- Address sustainable innovation and continue to invest in R&D.

Achieve Operational Excellence

- Digital transformation to deliver maximum value.
- Accelerating our strategy to deliver breakthrough operations performance

Responsible Business

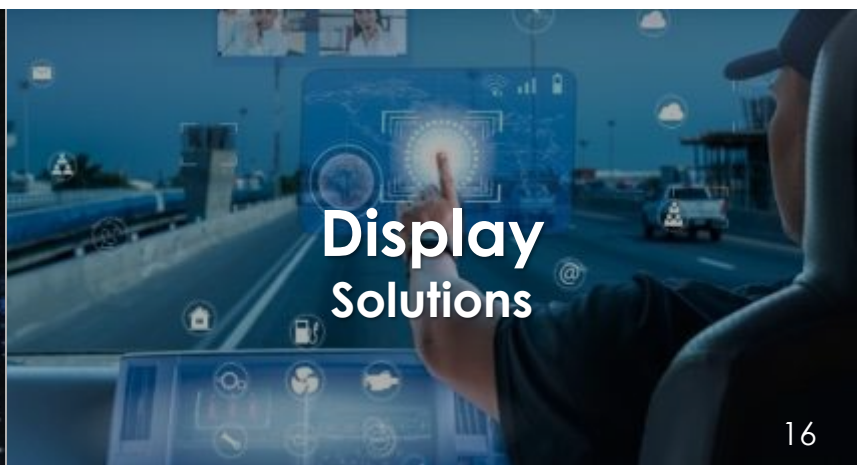
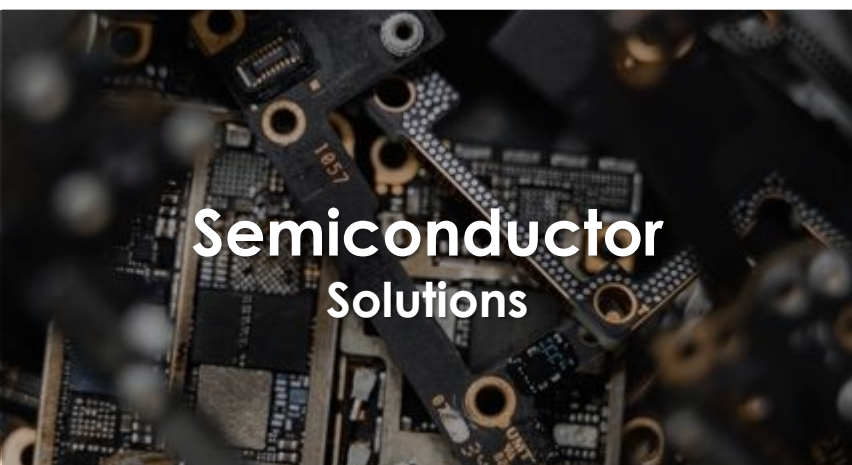
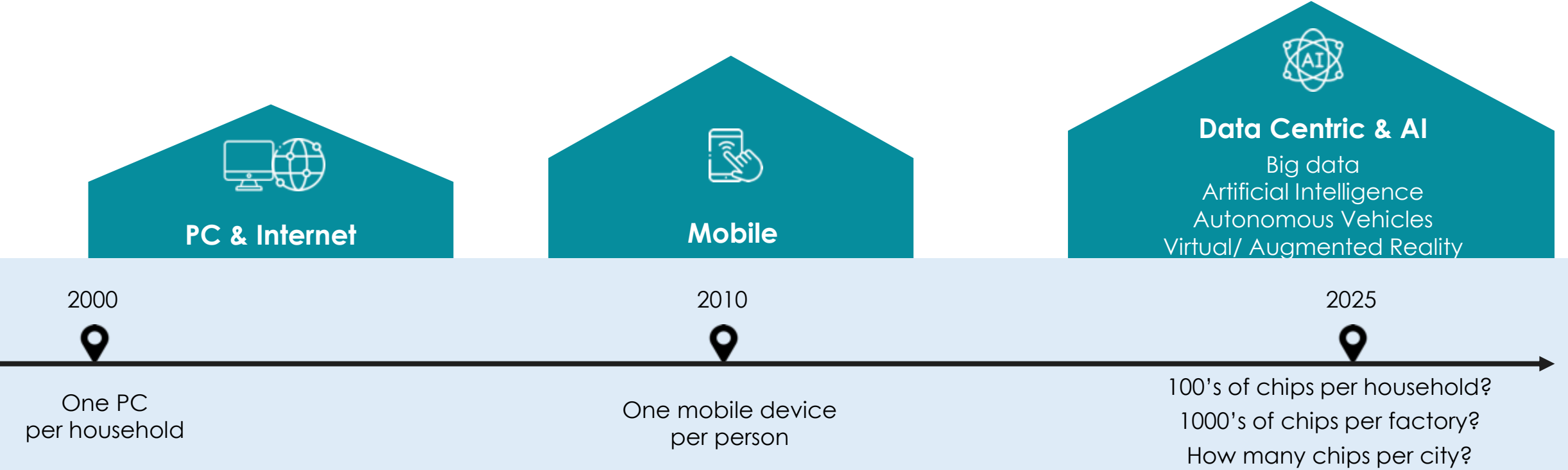
- Closed-loop metal recycling solution support climate change mitigation.
- Committed to continued advancing ESG initiatives.

Megatrend 1

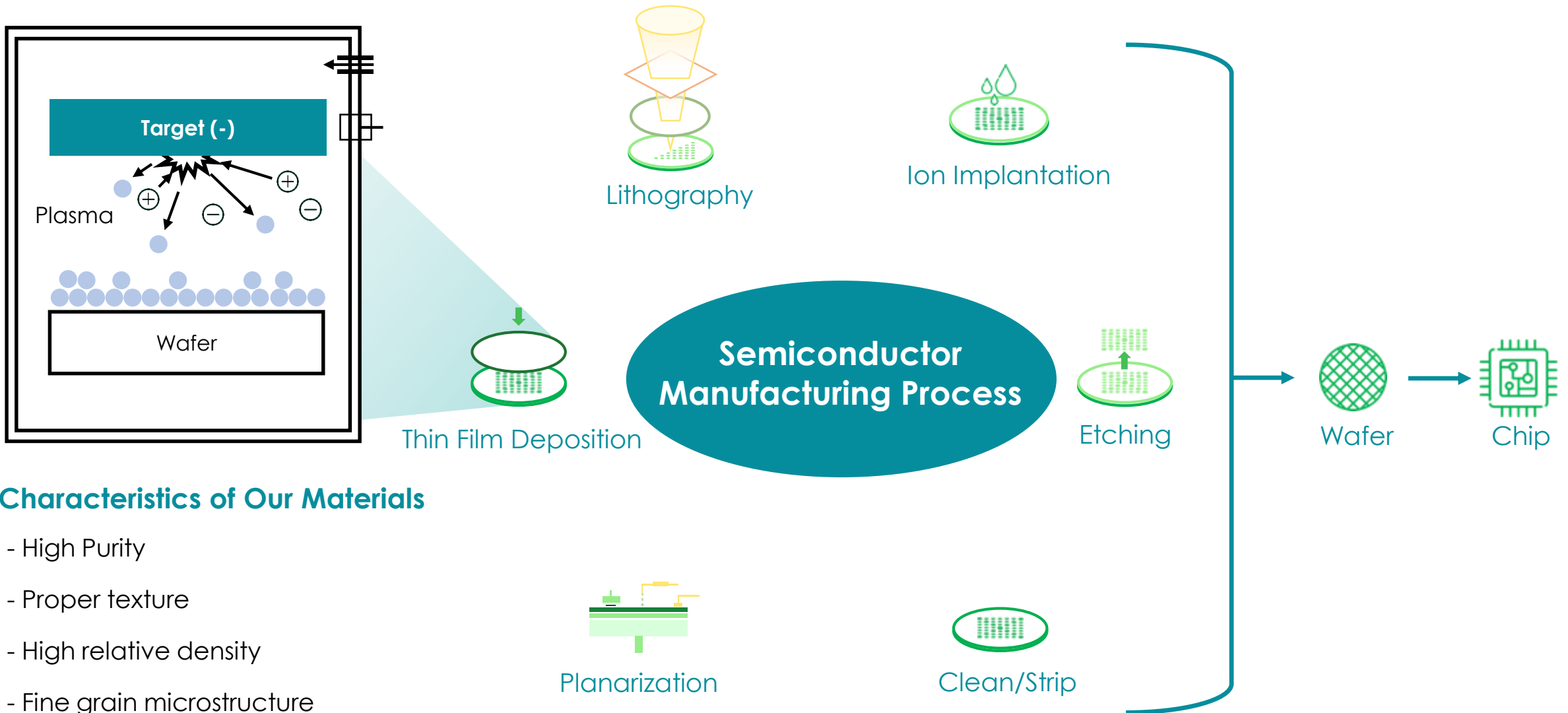
Increasing complexity of electronic devices requiring new solutions and more varieties of alloy materials

- The era of the Data-Centric Environment requires a wide range, and a large quantity of chips, storage, and display solutions to deliver the myriad functions and applications being designed.
- With these new drivers, there comes an expectation for higher-quality, higher-performing materials at a faster pace.
- As application nodes advance, increased purity and alloy varieties are essential to customers' requirements.

Industries driven by the era of the data-centric environment



Our products are used in thin film deposition processes



Characteristics of Our Materials

- High Purity
- Proper texture
- High relative density
- Fine grain microstructure
- Uniform microstructure

Establish partnership with customers to develop “designed-in” solutions

4 - We provide customers the best solution to solve function & manufacturing bottleneck

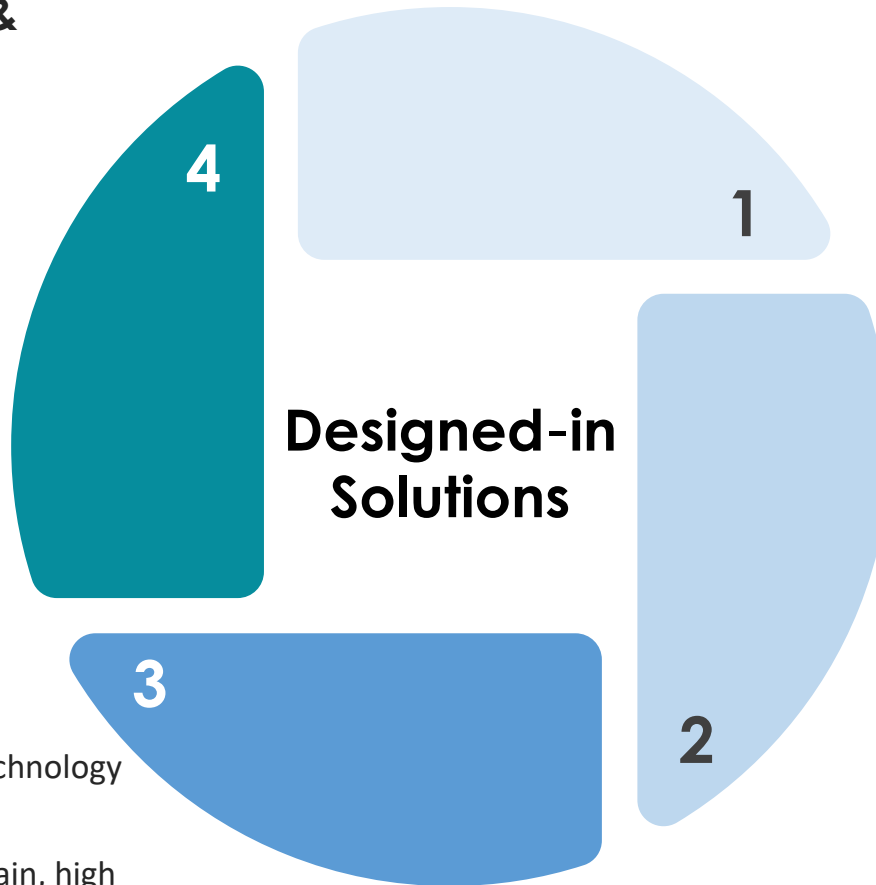
High Performance Products

Rapid Engineering Response
(Time to Market)

Value-Added Solution
(Green Circular Economy)

3 - To develop advanced materials with high-end manufacturing technology

- High purity material refining technology
- Advanced smelting, sintering and molding technology (low gas content, high density)
- Advanced texture control technology (fine grain, high uniformity, specific texture)
- High-end diffusion bonding technology
- High-end sputtering target cleaning technology



1 - We work with our customers to understand their current and future challenges



Customer
Technology
&
Product
Roadmaps

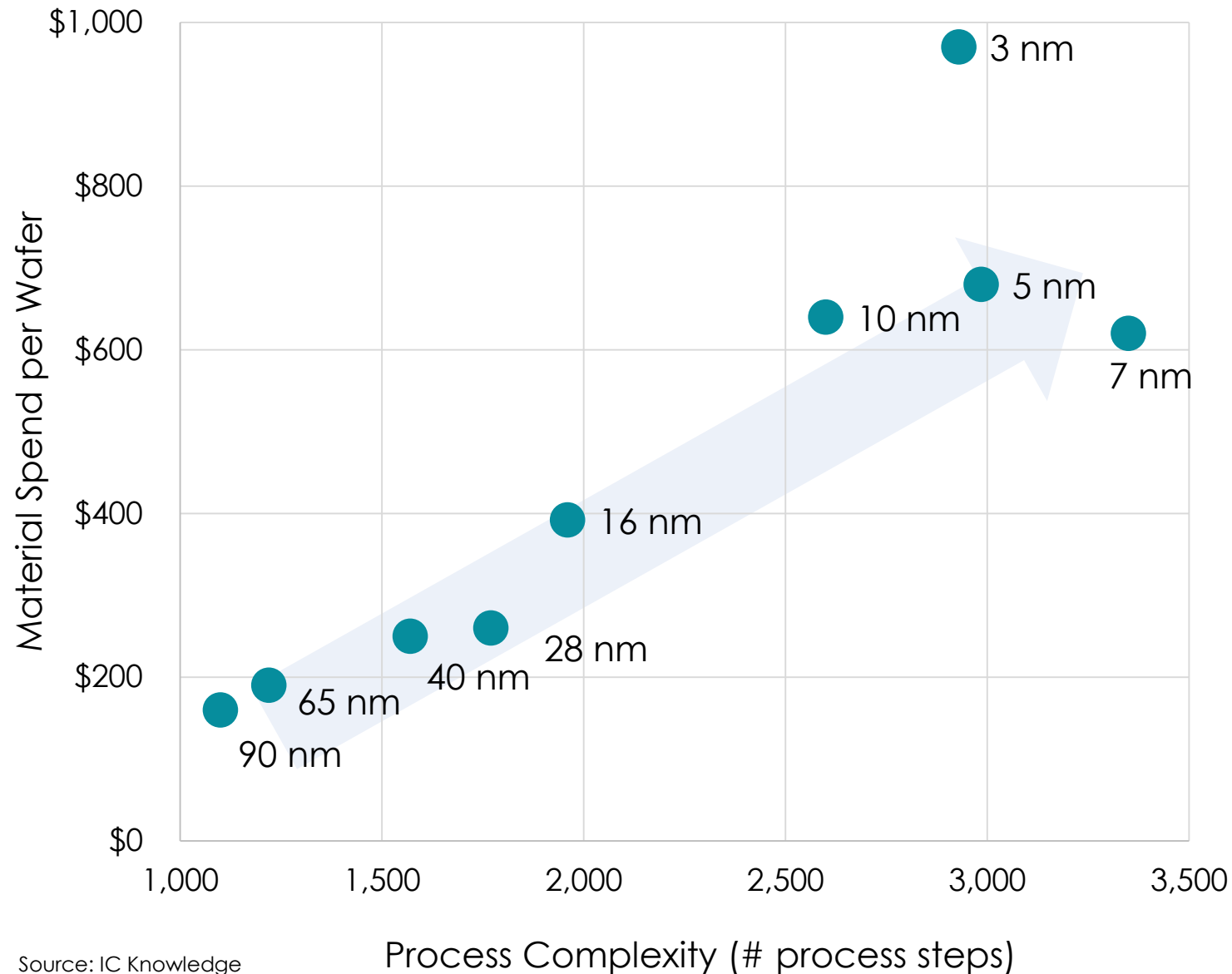
2 - Applying our core competencies and expertise

Materials Science

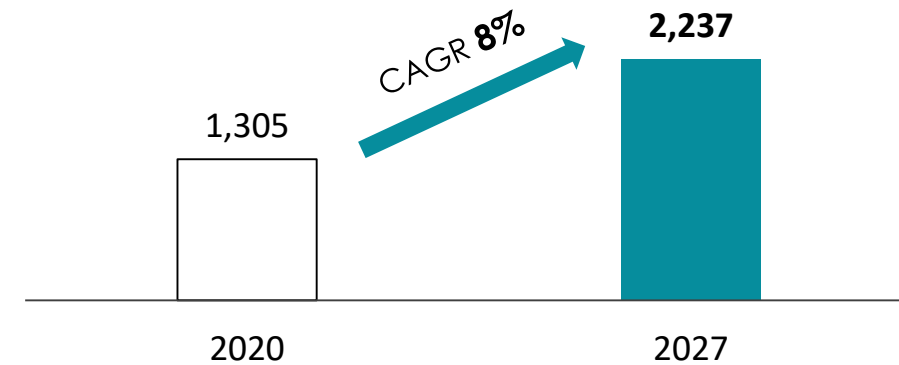
Alloy Design
> 3000 alloys

Applications and
Process Know-How

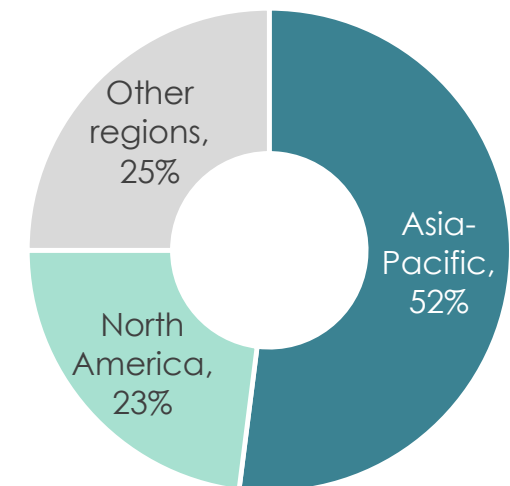
More complex chip drive more materials demand



Global Sputtering Target for Semi (Value in US\$m)



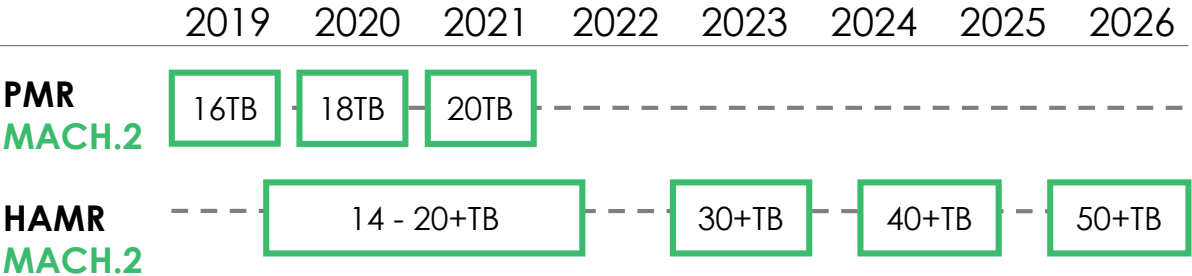
Sputtering Target Consumption



Provide Best-fit Solutions to new HAMR recording technology

- **Rising demand for greater storage capacity**
 - Data growth fuel the demand for larger HDD Capacity.
 - HDD leading company actively moves toward new HAMR recording technology since PMR technology is reaching its limit.

- **Seagate announce to launch the industry's first 30+TB HDD that uses HAMR technology in 2023Q3**



Source: Seagate 2021 Analyst Day, 2021/2

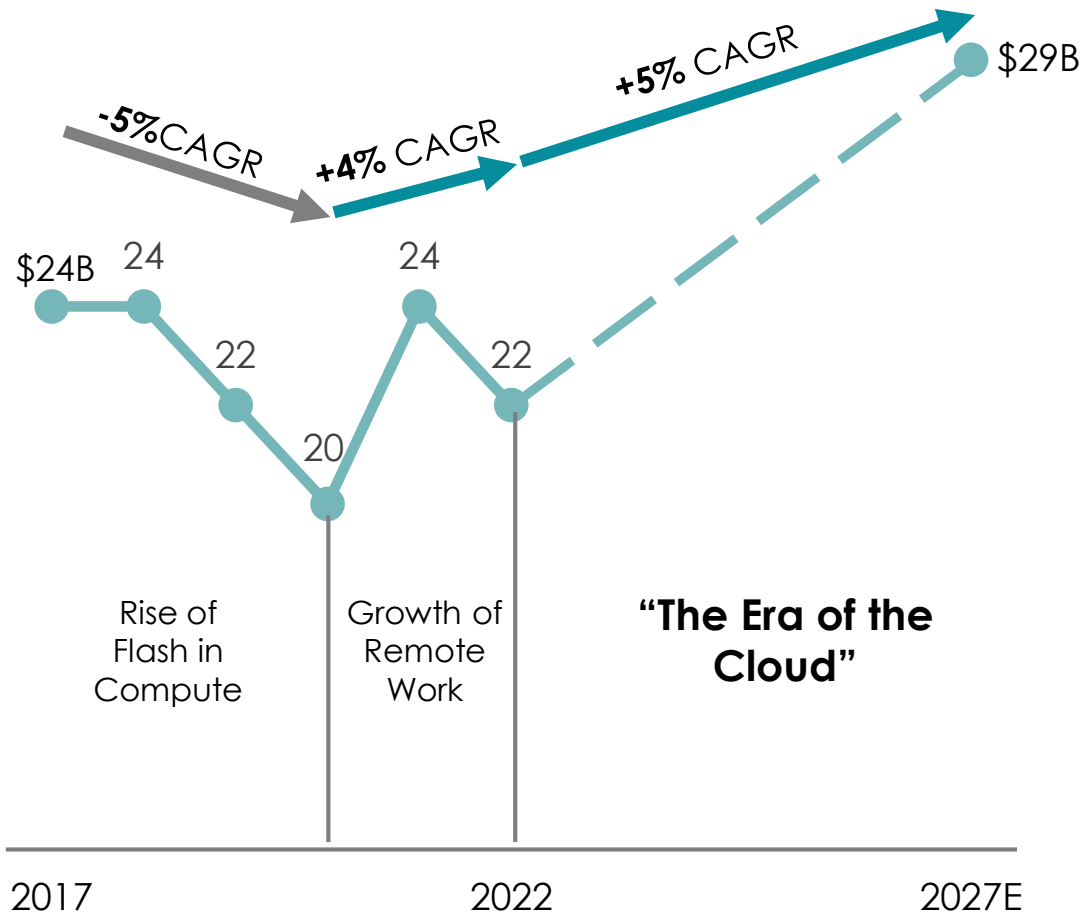
- **Western Digital will adopt HAMR technology for large capacity HDD in the future**



Data explosion drive higher HDD capacity demand

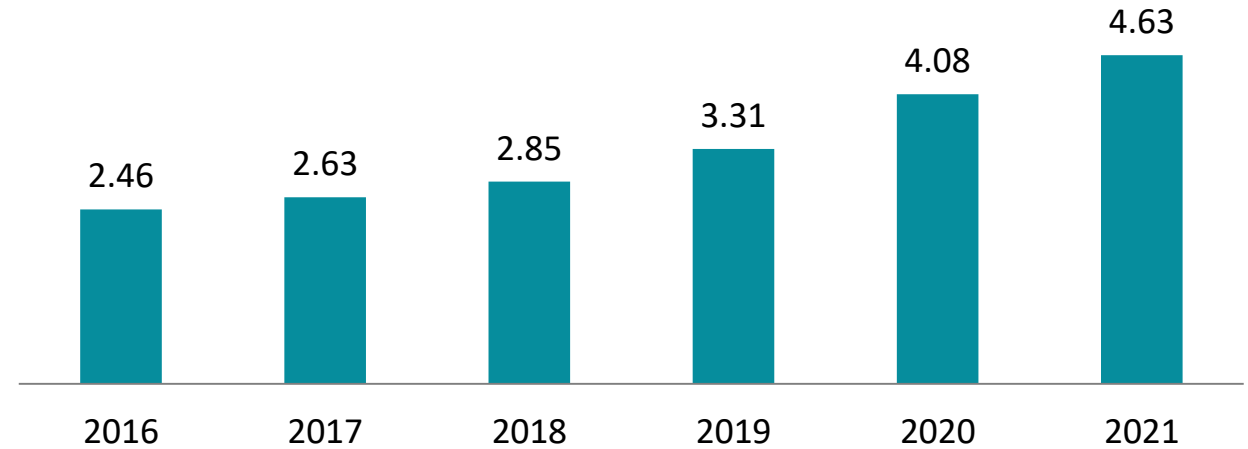
HDD Revenue TAM (US\$bn)

2017-2027E

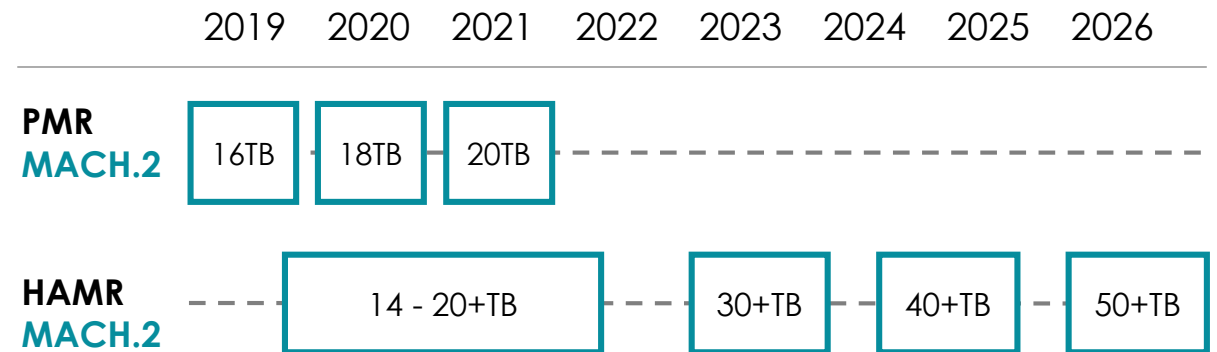


Source: WDD Investor Day, 2022/5

Average HDD platters in each drive



Seagate Product Roadmap



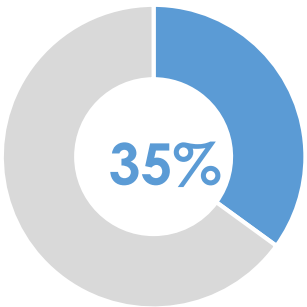
Source: Seagate 2021 Analyst Day, 2021/2

Solar is leading in HDD target supply

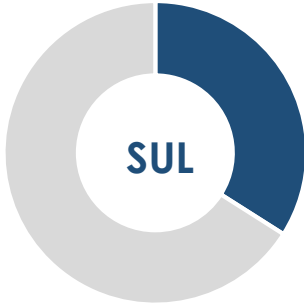
Layers layout of HDD



Solar is the **only full spectrum supplier**.
All global HDD companies are our customers
with one-third market share.



Main supplier
for different layers



Commitment to relevant portfolio breadth in high growth areas

Strong portfolio of metallurgies technologies empowering today’s application

Solutions empowering customers to make smaller, faster, more energy efficient, and more sustainable devices in various applications across the entire data sphere

And enabling tomorrow’s leading-edge technologies

High-Tech Applications

Data Processing

Logic chips: CPUs, GPUs

Critical Alloy Materials Needed



Solar’s Focus

Ultra-high purity (UHP) alloys for advanced nodes front-end process

Data Storage

Storage System: HDD, MRAM



New alloys materials for HAMR technology and critical memory platters in storage

Data Interface

Displays: TV, mobile, AR/VR, Foldable



Broad set of materials in the Mini/Micro-LED layer stack

Data Transfer

5G, Network chips, interconnects, IC substrates



New alloys for optimized chip packaging and connectivity

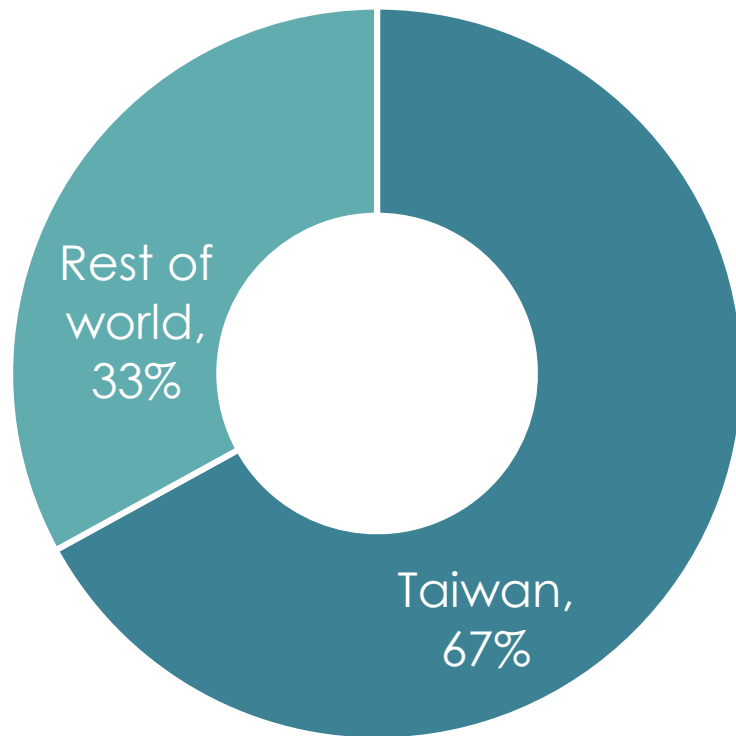
Megatrend 2

The growing importance of local supply chains and substitutes

- The pandemic and supply-chain disruption have inspired a build-out of local supply chains, particularly for critical materials and components.
- Taiwan remains the largest semiconductor hub in the world.
- Growing needs for finding local substitutes, particularly those previously dominated by foreign suppliers.
- Closer collaboration in the supply chain to develop mission-critical “designed-in” solutions.

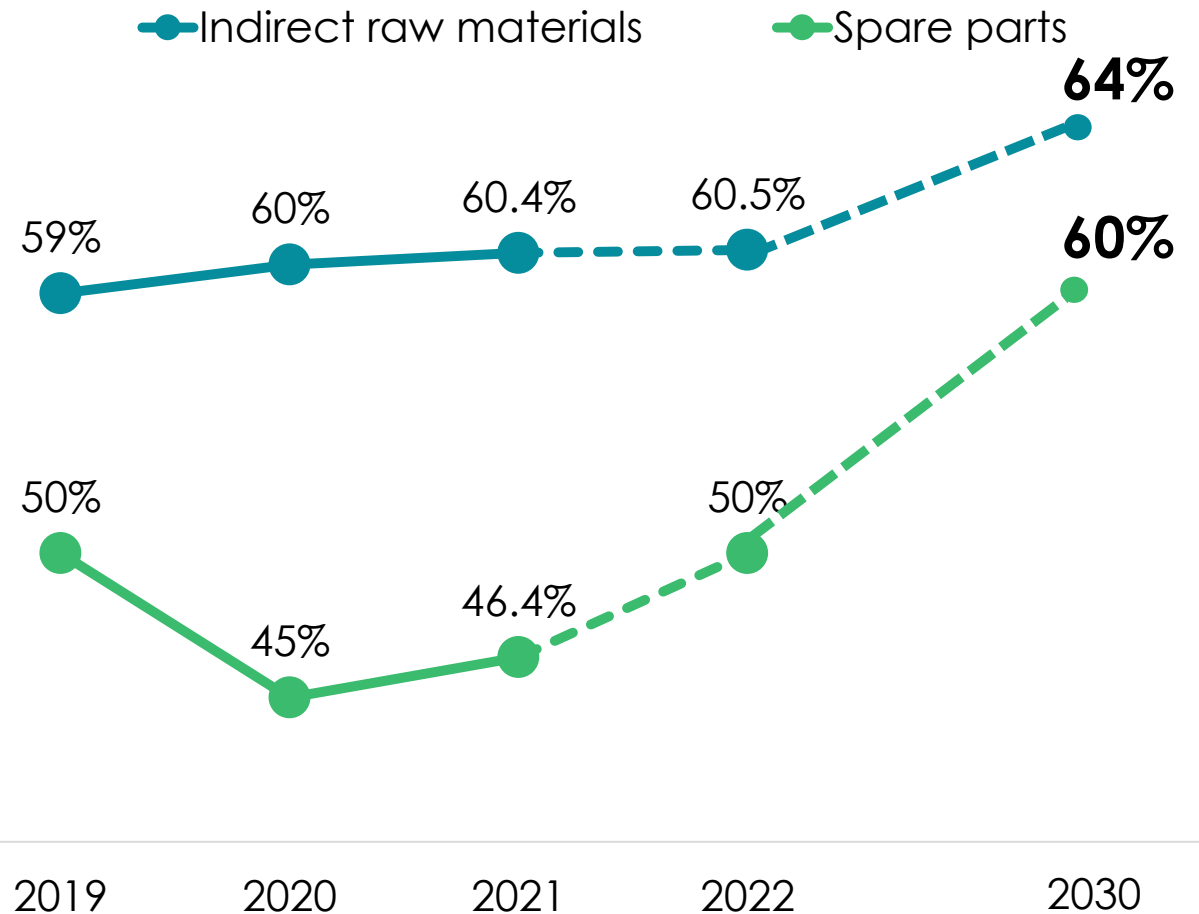
The growing importance of local supply chains and substitutes

4Q22 IC Foundry Market Share



Source: TrendForce, 2023/3

tsmc – Percentage of Local Sourcing in Taiwan



Source: tsmc 2021 Sustainability Report

Target industry at a glance – Chip Manufacturing

Upstream
Metal refining



Midstream
Target Manufacturing



Downstream
Sputtering & Coating



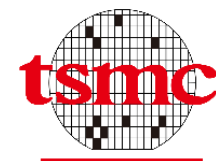
End-Customers
Application



Honeywell



Honeywell



SAMSUNG



SAMSUNG



We are gaining market share



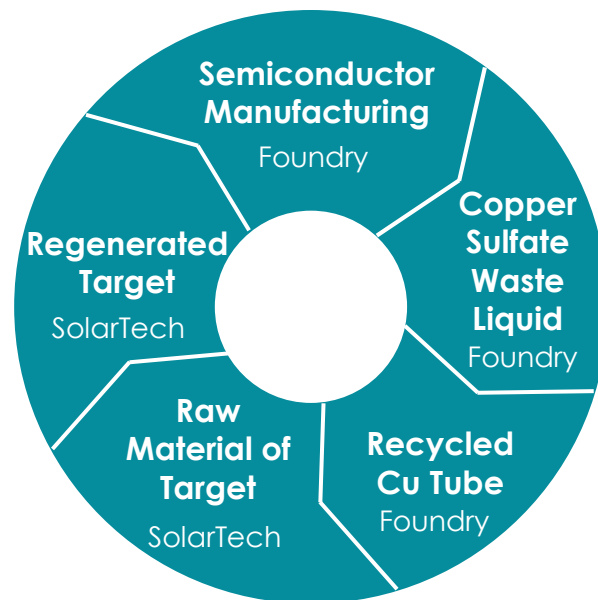
Megatrend 3

Companies' shift
towards a
circular economy

- Stricter legislation and pressure from society continue to push companies for a lower carbon footprint.
- Increasing resource scarcity and need for closing the loop.
- Growing complexity of materials to recycle, in particular end-of-life materials.
- Solutions to allow companies to provide higher recycled content and lower carbon footprint.

Collaborate with Wafer Foundry in Circular Economy

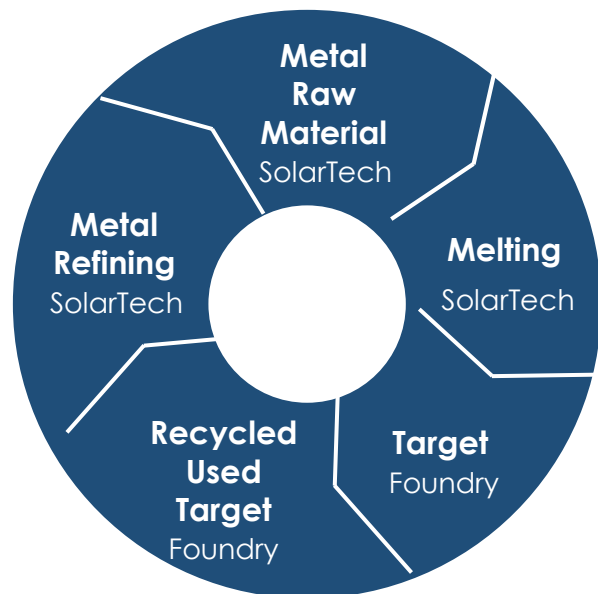
1st Copper Circular Economy for Foundry Operations



Nearly **10 tons** of regenerated target materials per year are returned to manufacturing process

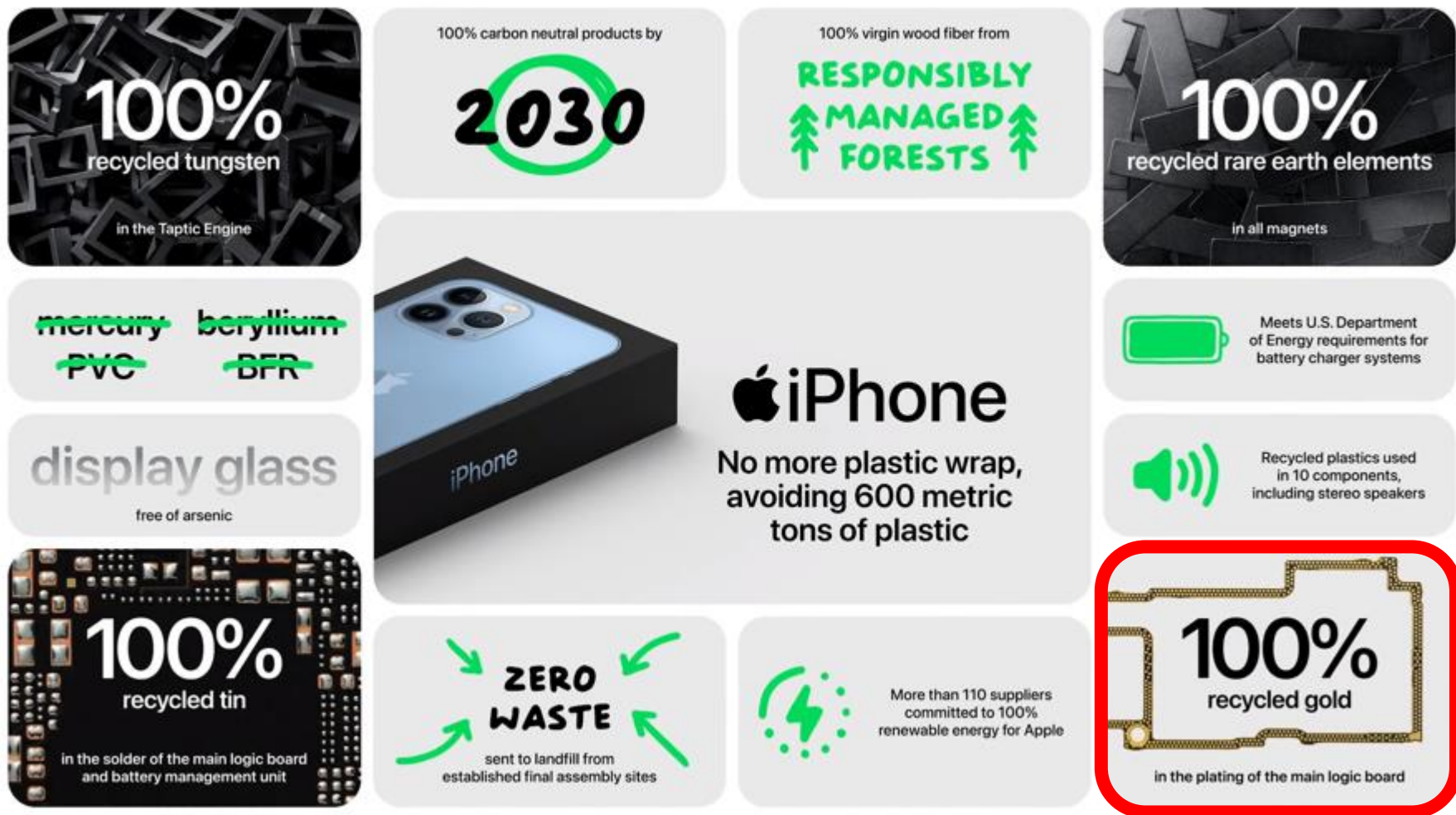
Foundry customer reduces the output of waste liquid by **1,800 tons** per year

Recycling and Refining of Precious Metal Residual Targets



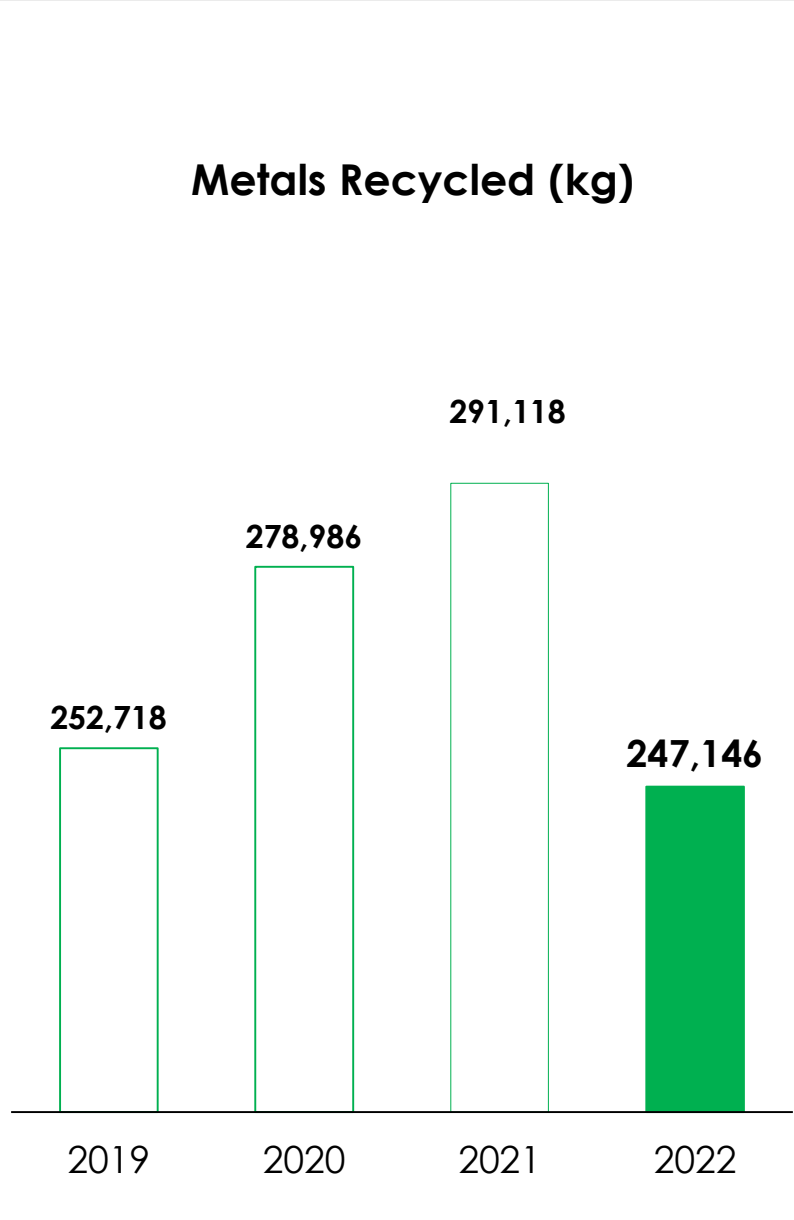
50% of precious metal targets are made from recycled raw materials every year

1st certified 100% Recycled Gold Material used in brand products



- In 2017 initiated by Brand to dialogue with SolarTech for the feasibility of the concept.
- Within 2019, several meeting with BRAND focused on the feasibility to apply 100% recycled gold material.
- As of Q2 2020 the recycled product was certified by UL2809 and Q3 released by PCB vendor for production.
- In Sept. 2021 100% recycled gold used on main logic board was reported.

Reducing carbon emissions through material recycling



441,564 tons

of carbon emissions saved
per year

equivalent to

carbon footprint generated by

98,783 people

per capita carbon emission in the
world (2019, 4.47 ton)

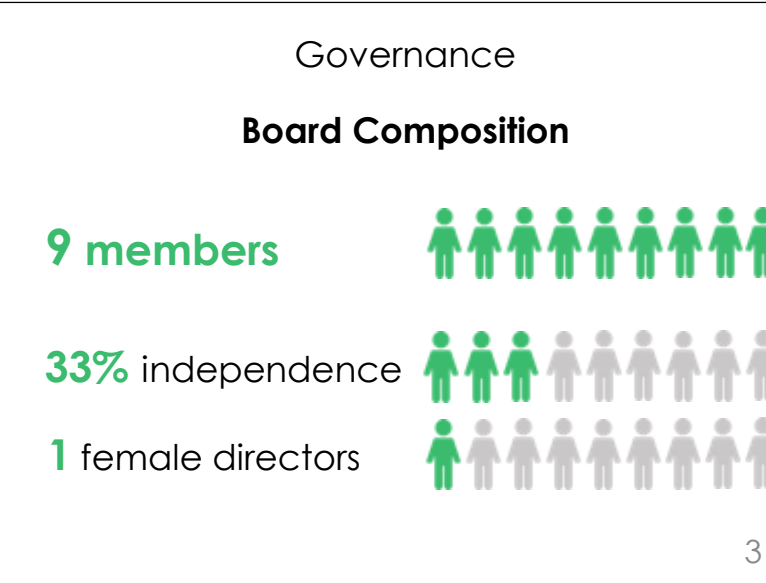
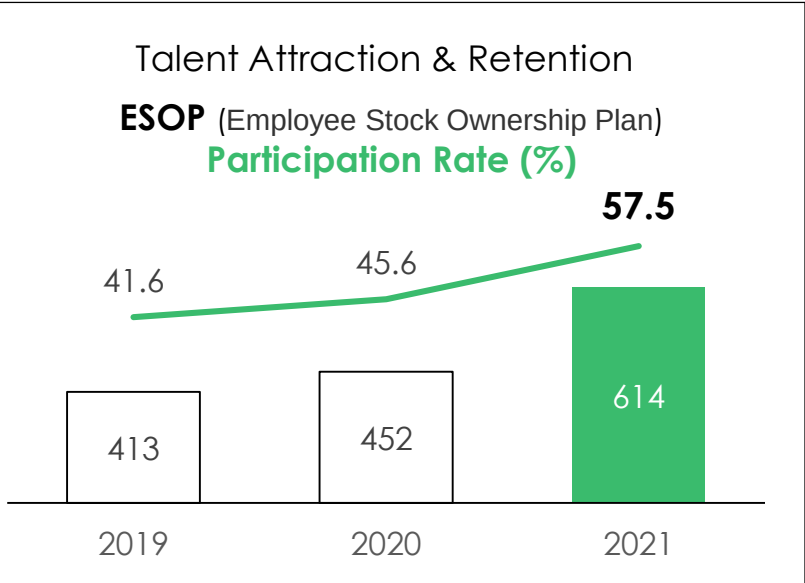
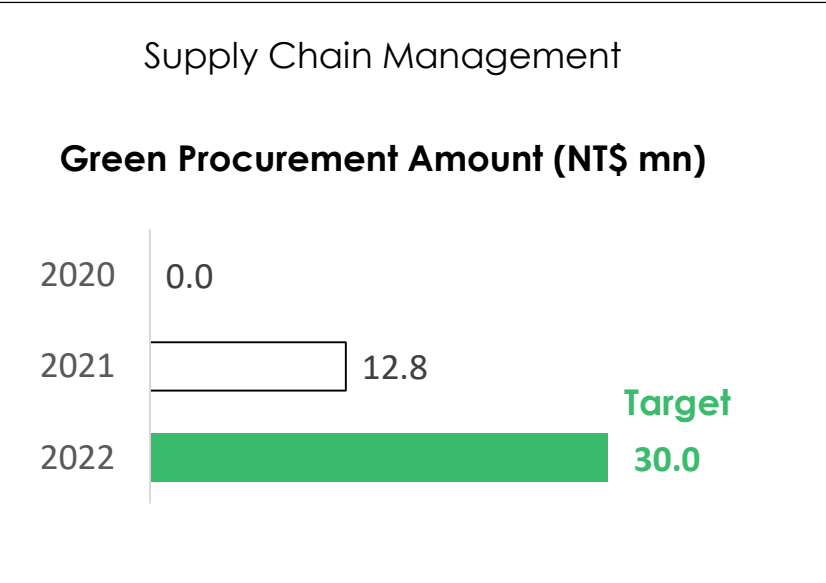
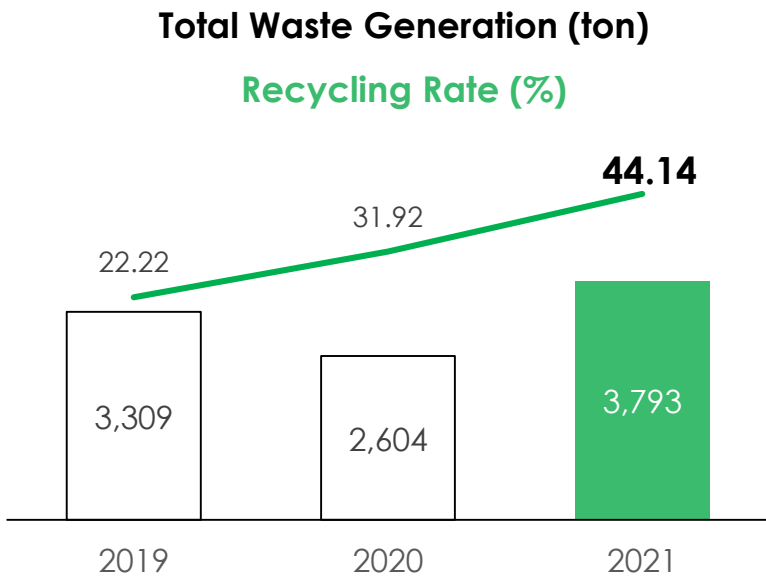
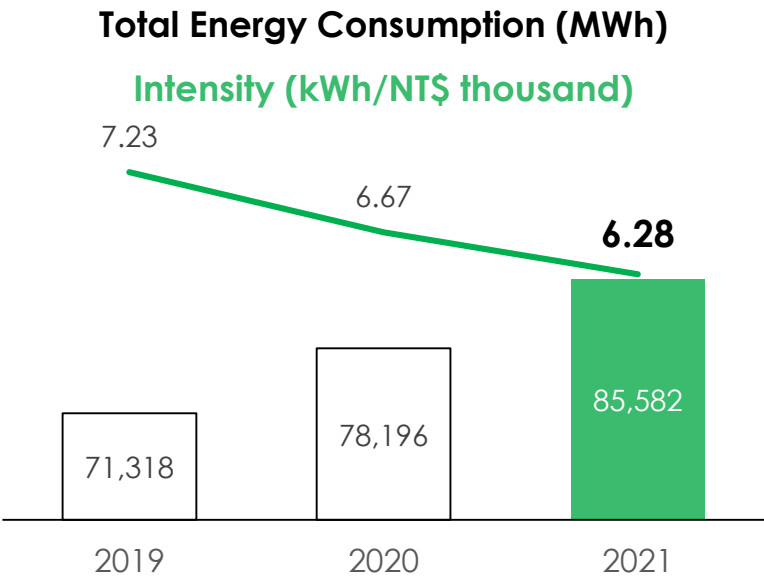
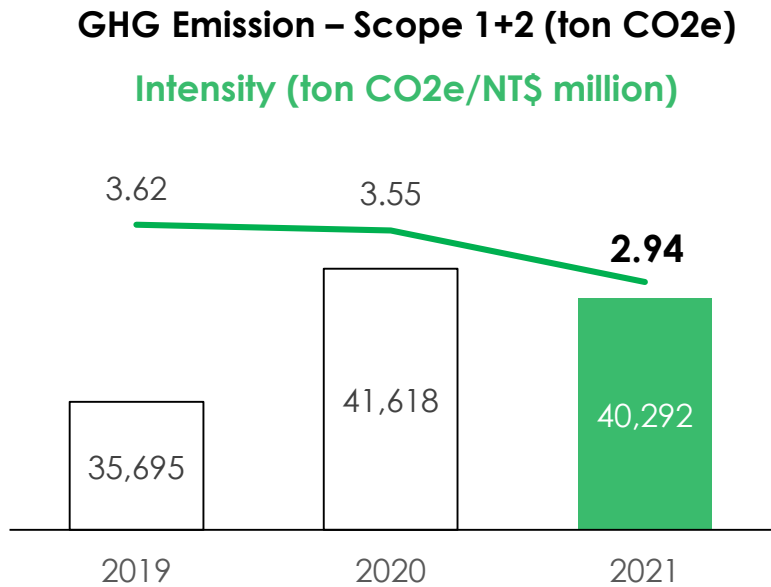
equivalent to

1,128 central park

at New York

Source: Solar ESG Report

Continued progress in ESG



Digital transformation to deliver maximum value

Connecting Our Factories...



...To Capture the Data

One Standard



... Based Upon Lean Workflow

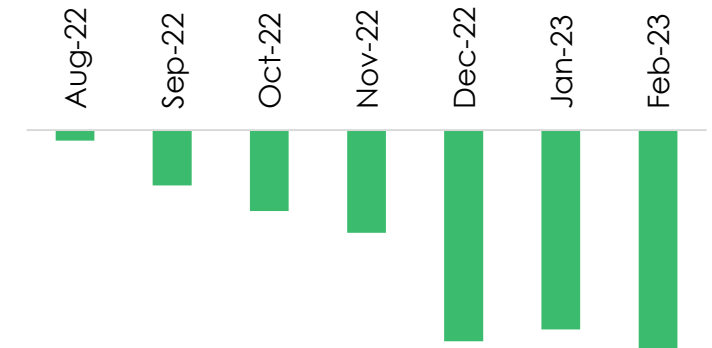
Transformed With Automation



- Yield optimization
- Predictive algorithms
- Proactive maintenance work
- Real-time fault detection & resolution
- Real-time carbon footprint monitoring
- Remote problem-solving expertise

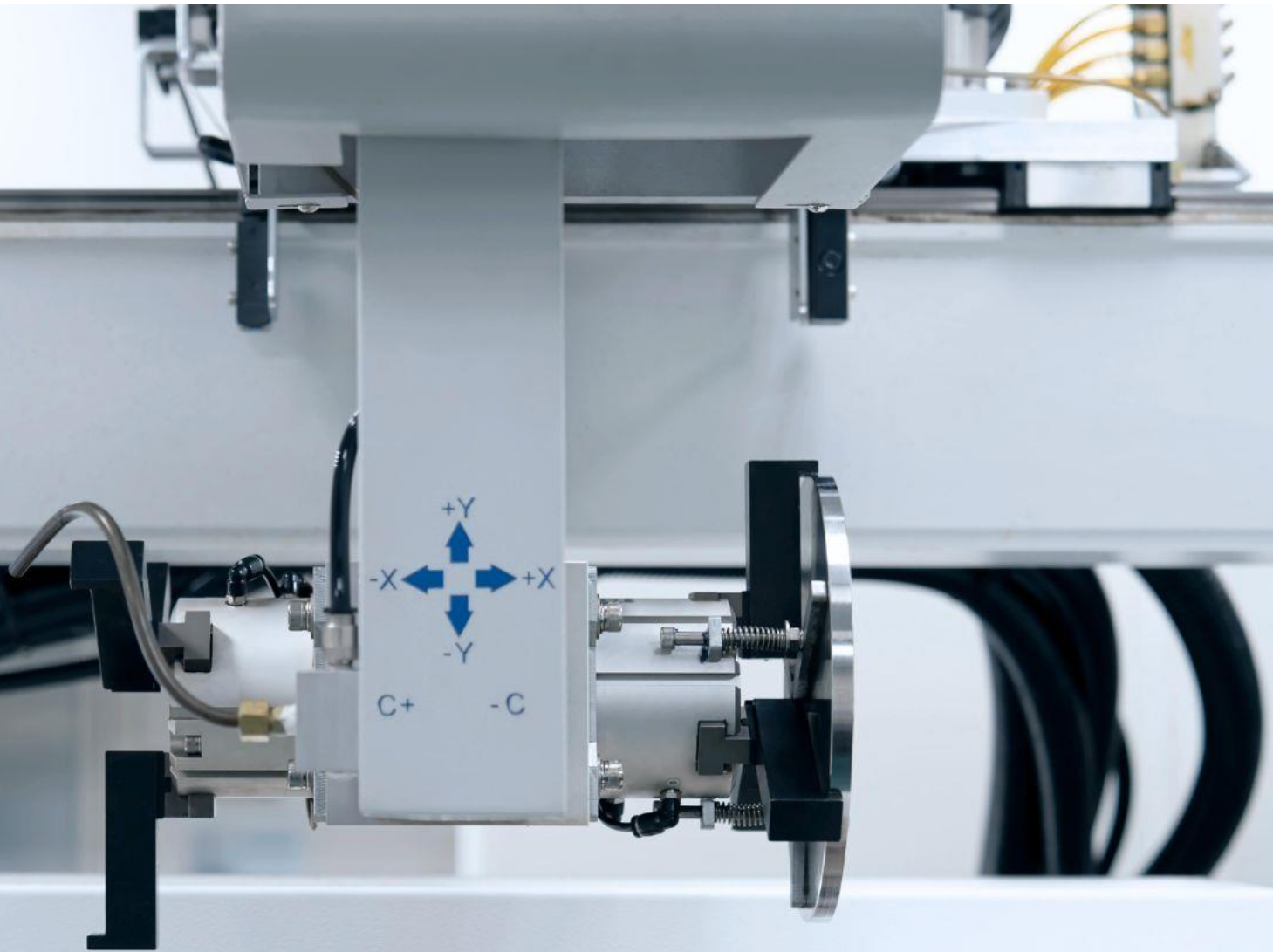
- **Efficient and reliable sourcing**
- **Better execution**
- **Leaner, simpler product line-up**

Monthly cost reduction amount (vs Jul-22)
(NT\$mnn)



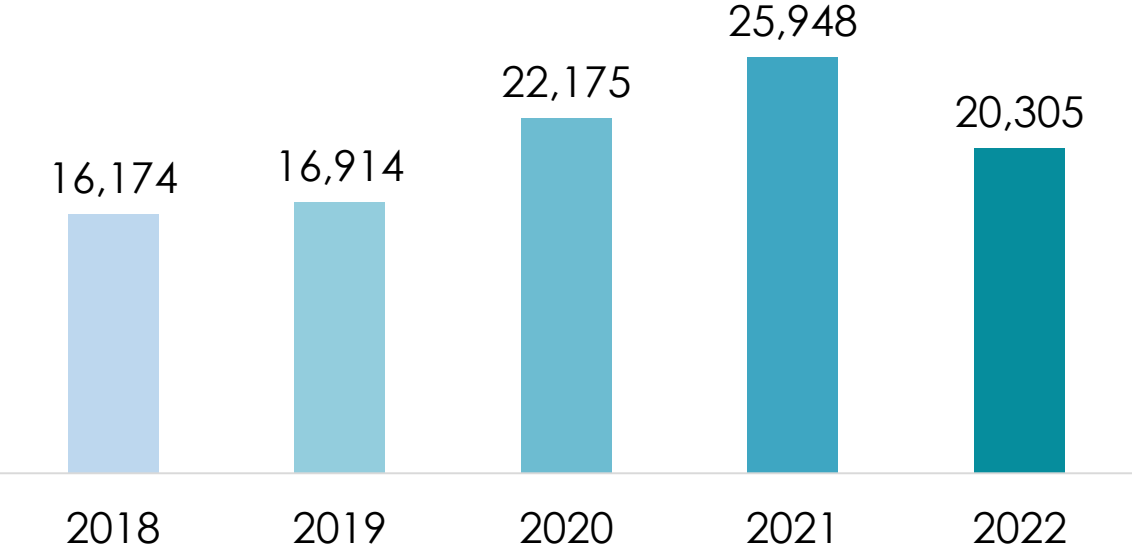
PART 3

Measurement



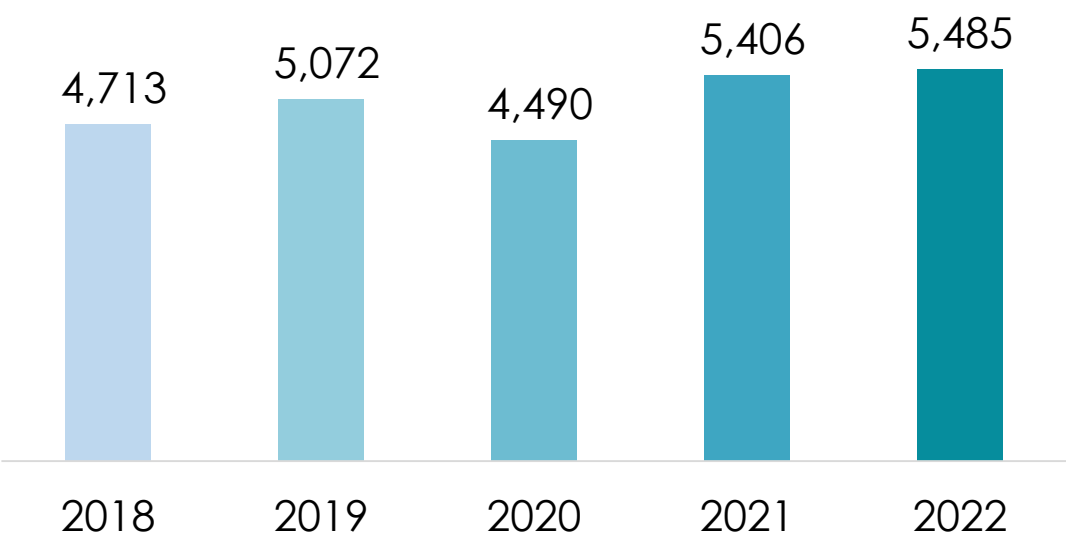
Our revenue model and trends

Precious Metals Sales (NT\$mn)



Precious metals are sold mainly as part of raw materials in products. In addition to the growth of business volume, revenue is also subject to changes in precious metal price trends (depending on if the materials are on consigned basis or not).

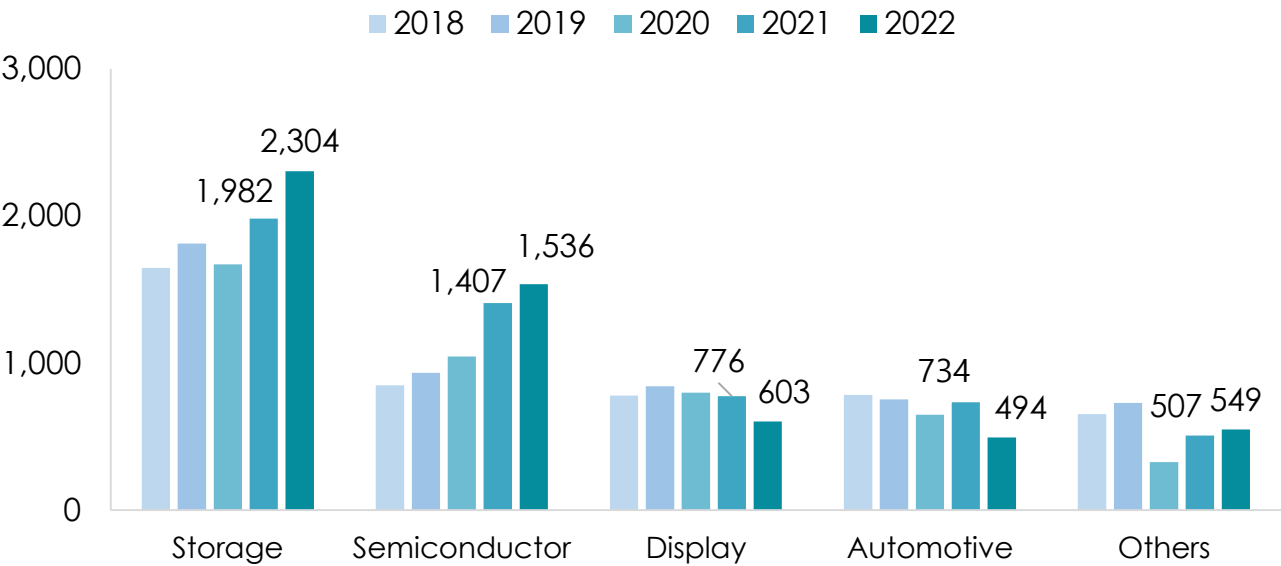
Value Added Sales (NT\$mn)



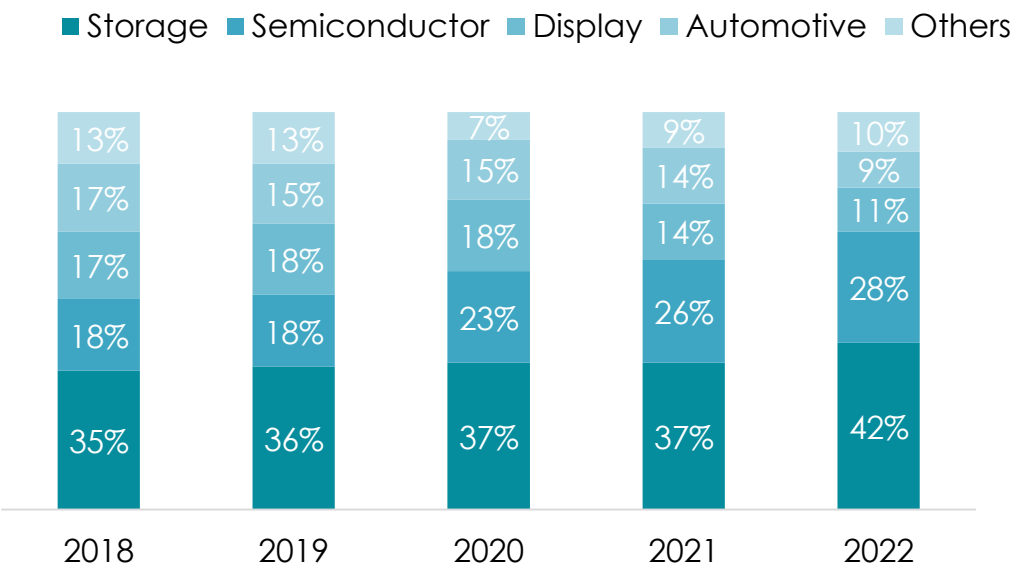
Value-added sales (VAS) reflect the true value of the products that we deliver to our customers, regardless of the precious metal prices.

Value Added Sales Break Down By Industry

Value Added Sales – By Industry (NT\$m)



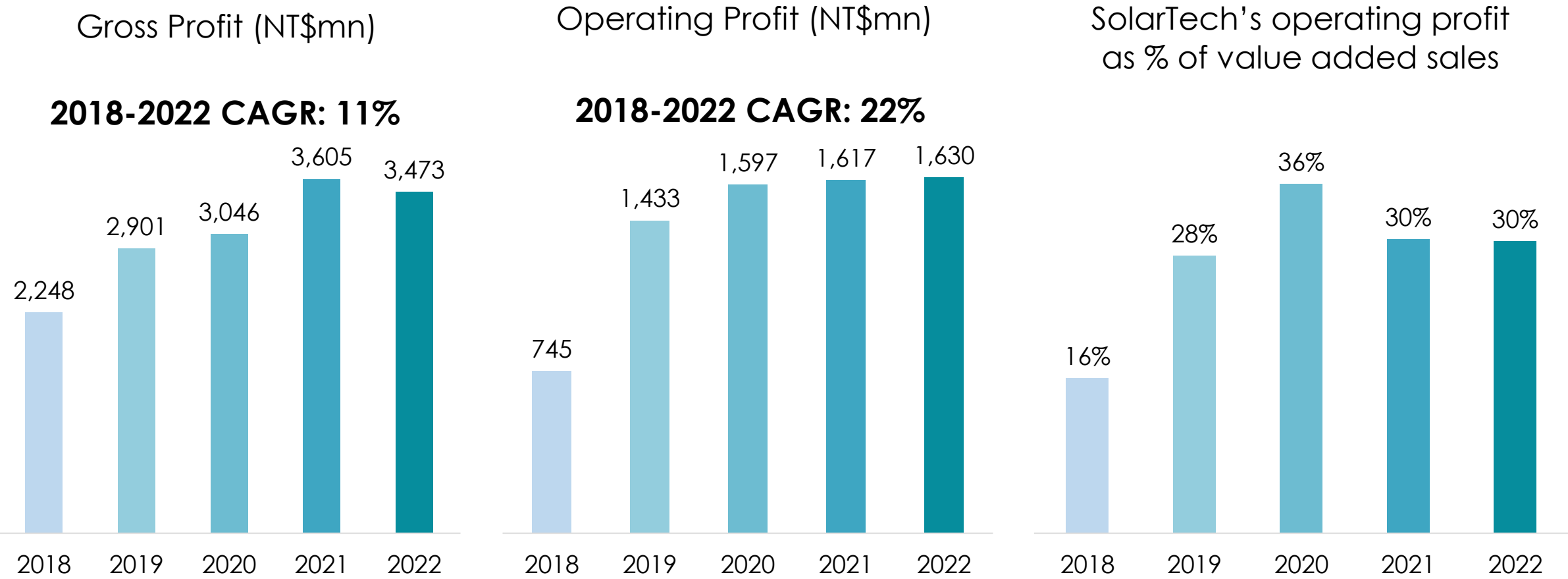
Value Added Sales Breakdown – By Industry



Value added sales : Our business model includes a significant amount of pass-through precious metal revenue that mask the true profitability. Value added sales shows the revenue without pass-through precious metal revenue can better present the company's actual business status to avoid being masked by precious metal transaction.

By Industry : Target materials for storage and semiconductor industries are the main growth drivers with 16% and 9% growth in 2022 respectively.

Strong profitability



4Q22 Income Statement

NT\$m	4Q22	3Q22	4Q21	QoQ (%)	YoY (%)
Revenue	5,165	6,029	8,065	-14.3	-36.0
Value-added Sales	1,248	1,352	1,513	-7.7	-17.5
Gross Profit	675	848	927	-20.4	-27.2
Operating Expenses	339	515	439	-34.1	-22.7
Operating Profit	335	333	488	0.7	-31.3
Non Operating Income/(Loss)	-208	273	-70	-	-
Pretax Income	127	606	419	-79.1	-69.7
Tax Expenses	2	69	85	-97.5	-98.0
Net Income to Parent	126	527	320	-76.0	-60.6
Basic EPS (NT\$)	\$0.21	\$0.89	\$0.55	-76.4	-61.8

Key Financial Ratios (%)					
Gross Margin	13.1	14.1	11.5	-1.0 pts	1.6 pts
VAS implied gross margin	54.1	62.7	61.3	-8.7 pts	-7.2 pts
Operating Expense Ratio	6.6	8.5	5.4	-2.0 pts	1.1 pts
Operating Margin	6.5	5.5	6.1	1.0 pts	0.4 pts
VAS implied operating margin	26.9	24.6	32.3	2.2 pts	-5.4 pts
Effect Tax Rate	1.3	11.4	20.2	-10.0 pts	-18.9 pts
Net Margin	2.4	8.7	4.0	-6.3 pts	-1.5 pts

Cash Flow

NT\$m	2022	2021
Beginning Balance	3,149	2,161
Operating Cash Flow	1,191	543
Capital Expenditures	(1,365)	(706)
Investments and Others	480	(526)
Cash Dividend Paid	(890)	(710)
Financing Cash Flow	(1,289)	1,695
Ending Balance	2,207	3,149

Income Statement Summary (2017 ~ 2022)

NT\$m	2017	2018	2019	2020	2021	2022
Revenue	15,754	20,887	21,987	26,665	31,355	25,791
<i>Value-added sales</i>	3,741	4,713	5,072	4,490	5,406	5,485
Gross Profit	1,649	2,248	2,901	3,046	3,605	3,473
Operating Expenses	1,226	1,503	1,468	1,449	1,988	1,843
Operating Profit	423	745	1,433	1,597	1,617	1,630
Non Operating Income/(Loss)	-257	-275	-185	-452	-40	39
Pretax Income	166	470	1,248	1,145	1,577	1,670
Tax Expenses	49	56	186	261	268	241
Net Income to Parent	115	389	1,039	843	1,256	1,389
Basic EPS (NT\$)	\$0.33	\$0.98	\$2.35	\$1.69	\$2.15	\$2.35

Key Financial Ratios (%)						
Gross Margin	10.5	10.8	13.2	11.4	11.5	13.5
<i>VAS implied gross margin</i>	44.1	47.7	57.2	67.8	66.7	63.3
Operating Expense Ratio	7.8	7.2	6.7	5.4	6.3	7.1
Operating Margin	2.7	3.6	6.5	6.0	5.2	6.3
<i>VAS implied operating margin</i>	11.3	15.8	28.2	35.6	29.9	29.7
Effect Tax Rate	29.5	12.0	14.9	22.8	17.0	14.4
Net Margin	0.7	1.9	4.7	3.2	4.0	5.4

YoY Growth (%)						
Revenue	-37.6	32.6	5.3	21.3	17.6	-17.7
Gross Profit	134.8	36.3	29.0	5.0	18.4	-3.7
Operating Profit	-	75.8	92.4	11.5	1.3	0.8
Net Income to Parent	-	239.1	167.1	-18.8	48.9	10.6
Basic EPS	-	197.0	139.8	-28.1	27.2	9.3

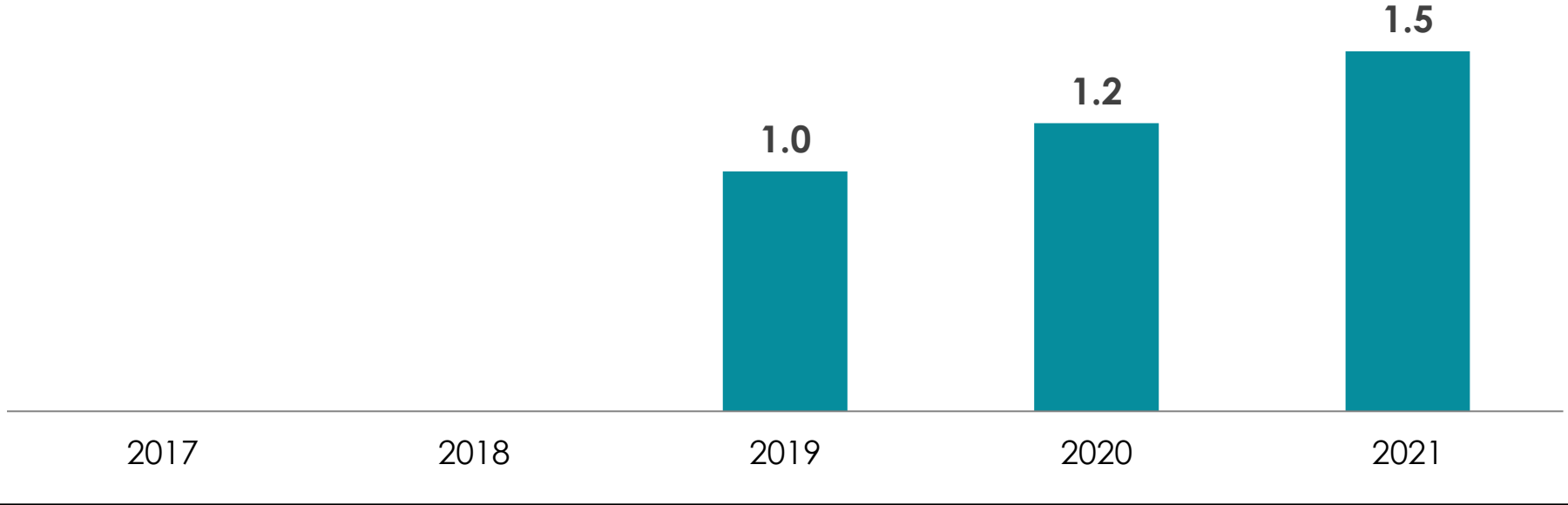
Balance Sheet Summary (2017 ~ 2022)

NT\$mn	2017	2018	2019	2020	2021	2022
Total Assets	19,055	19,832	21,274	21,259	25,422	26,601
Cash	714	795	590	2,161	3,149	2,207
AR & NR	1,615	1,465	1,594	1,820	2,099	1,729
Inventories	5,484	6,927	7,407	7,893	9,474	11,434
Fixed Assets	7,079	6,384	7,031	6,877	7,321	8,308
Total Liabilities	14,471	14,662	13,275	12,752	12,984	13,397
AP & NP	826	285	352	230	623	1,084
Total Equity	4,584	5,170	7,999	8,506	12,438	13,203

YoY Growth (%)						
Total Assets	-0.9	4.1	7.3	-0.1	19.6	4.6
Cash	151.1	11.3	-25.8	266.6	45.7	-29.9
AR & NR	-6.3	-9.3	8.8	14.1	15.4	-17.6
Inventories	10.0	26.3	6.9	6.6	20.0	20.7
Fixed Assets	-12.1	-9.8	10.1	-2.2	6.4	13.5
Total Liabilities	-5.0	1.3	-9.5	-3.9	1.8	3.2
AP & NP	-10.6	-65.5	23.5	-34.6	171.1	73.9
Total Equity	14.7	12.8	54.7	6.3	46.2	6.2

Key Financial Ratios						
A/R Days	38.7	26.9	25.4	23.4	22.8	27.1
Inventory Days	135.5	121.5	137.1	118.2	114.2	171.0
A/P Days	22.6	10.9	6.1	4.5	5.6	14.0
Cash Conversion Days	151.5	137.6	156.4	137.1	131.4	184.1
ROE (%)	2.8	8.3	16.2	10.5	12.4	11.2
ROA (%)	1.6	3.4	6.4	4.9	6.2	6.2
Debt ratio (%)	75.9	73.9	62.4	60.0	51.1	50.4

Dividend Payout and Capex (2017 ~ 2021)



	2017	2018	2019	2020	2021
Payout Ratio (%)	-	-	48%	84%	71%
Dividend Yield* (%)	-	-	2.4%	2.5%	3.8%
Capex (NT\$ mn)	142	266	991	352	706
Capex to Sales (%)	0.9%	1.3%	4.5%	1.3%	2.3%

*Note: Cash yield is calculated based on Solar's market cap on the day before ex-dividends.



Contact Information

Maggie Chin, Financial Manager

Dr. Kerry Hsieh, Investor Relations

Email: shareholders@solartech.com.tw

Phone Number: 06-5110123

