



솔루스 첨단소재
Solus Advanced Materials

Solus Advanced Materials Co., Ltd. **2022 4Q Earnings Report & 2023 Plans**

February 2023

The information herein is provided for your information purposes only and contains preliminary figures which may be materially different from the final figures.

Forecasts and projections contained in this material are based on current business environments and management strategies, and they may differ from the actual results upon changes and unaccounted variables. We make no guarantees and assume no responsibility for the use of information provided.

We trust your decisions will be based on your own independent judgment.

Financial data in this presentation is based on an IFRS-basis consolidated financial statements.

I. 2022 4Q Earnings Report and 2023 Plans

II. Consolidated Financial Statements

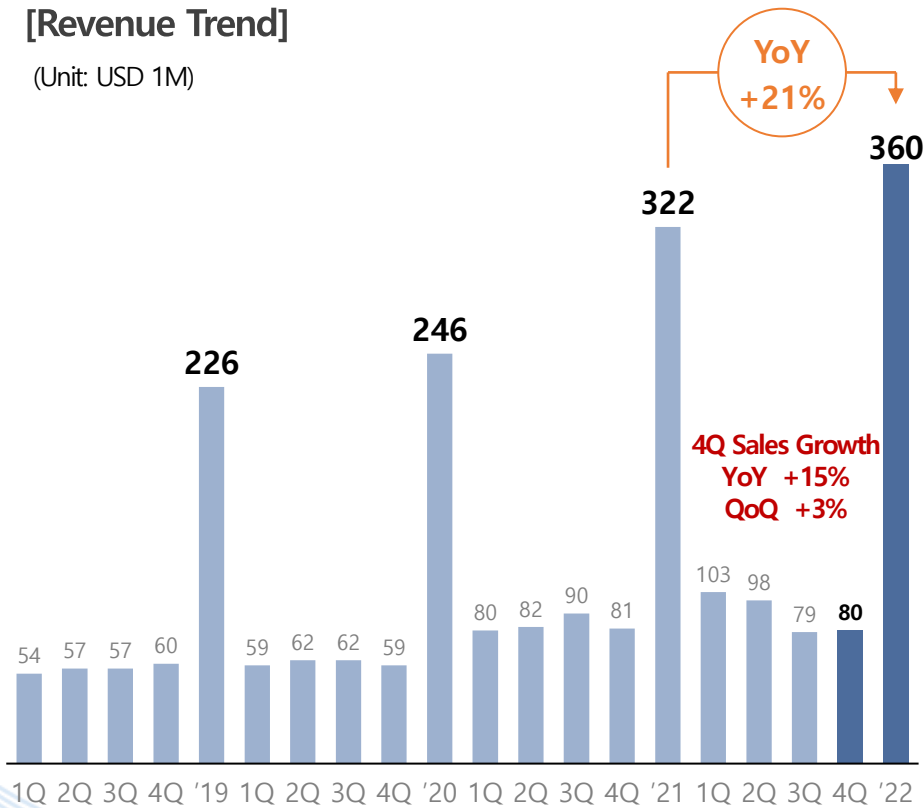
III. Appendix

2022 Annual Earnings and 2022 4Q Earnings

- **2022 annual earnings:** Increased battery copper foil supply from the commencement of the full-scale operation of Hungary Ph1, the Electro-Materials Division's solid performance in light emitting materials and full-scale mass production of non-light emitting materials, and other conditions have created a 21% sales growth over the previous year; an annual average growth by over 20% in valuation is continuing since the 2019 incorporation
- **2022 4Q earnings:** Increasing downstream industry demand is continuously increasing the mobile materials supply; biomaterials sales were the highest in this quarter, having increased by 3% from the previous quarter and by 15% year-over-year; rising power costs in the winter season are a stressor on battery copper foil and copper foil production costs

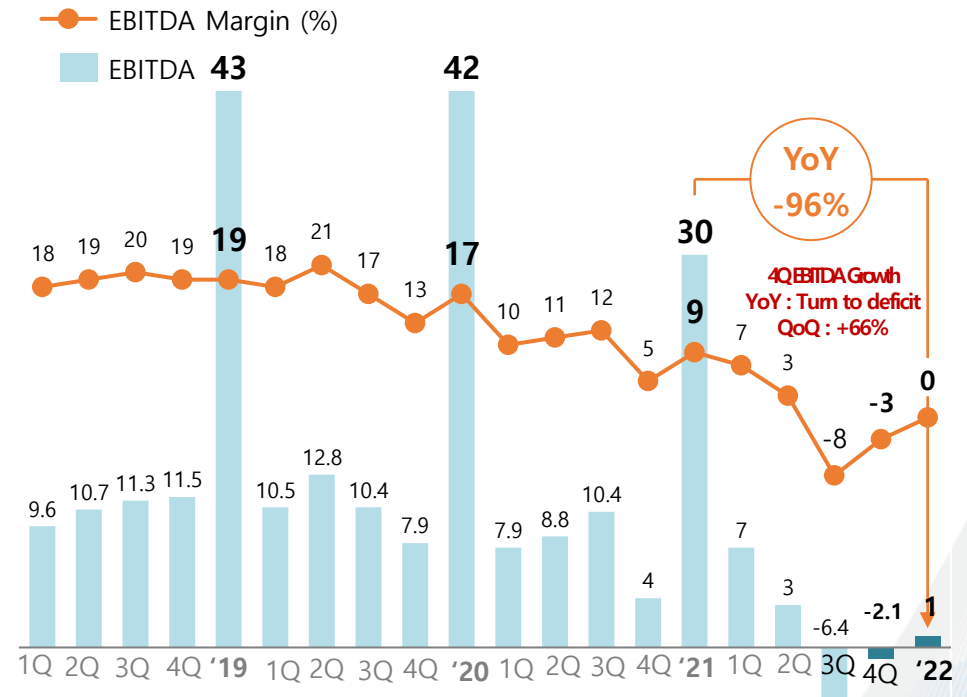
[Revenue Trend]

(Unit: USD 1M)



[EBITDA (%) Trend]

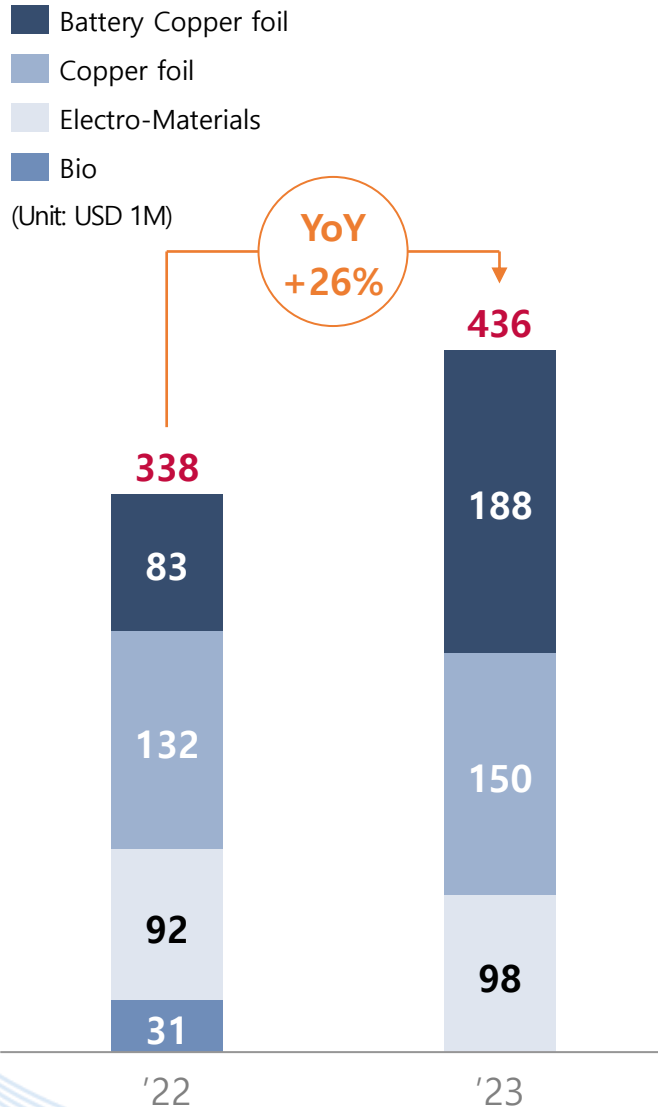
(Unit: USD 1M, %)



※ The rate of change(%) is based on KRW

2023 Sales Forecast and Mid-/Long-Term Plans

[2023 Sales Forecast and Mid-/Long-Term Plans by Division]



Battery Copper foil

- Preoccupy the North American market by 2025; stabilize mass production at European and North American plants by 2027
- Continue to secure and increase Capex capacity to increase battery copper foil plants' capacities
- Sales growth: Start mass production at Hungary Ph2 (scheduled for 1H of 2023)
 - ✓ Hungary Ph2 completed end of 2022; pilot operation completed
 - ✓ Mass production at Ph1 and Ph2 for greater production capacity and sales growth
- Continue to secure new contracts
 - ✓ Continue to secure new contracts to supply customers in North America and Europe

Copper foil

- Mass-produce approved products for the global IT market
- Mass-produce approved ultra thin foil products for the semiconductor PCB market
 - ✓ Expand high-end product lines and market share to increase profitability
- Aim for a low-loss market share
- Improve global market sales capacity
 - ✓ Restructure the global sales network to better analyze markets and improve sales capacity

Electro-materials

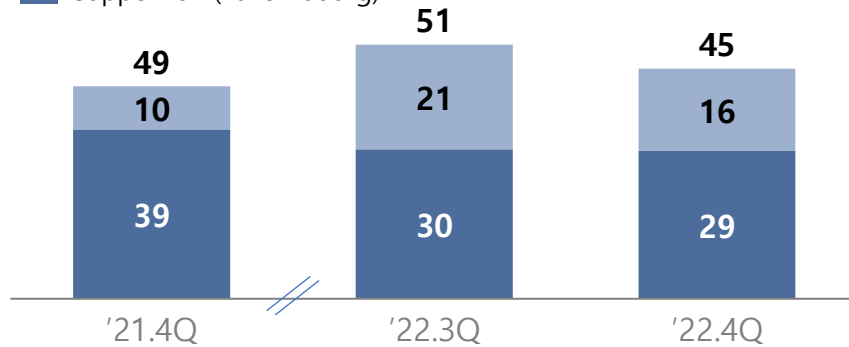
- Mass-produce new materials such as QD ink, TFE, and Green phosphorescent material
- Increase Chinese plants' capacity in mass production and new material production to increase sales

2022 4Q Achievements and Plans by Division

Revenue of Battery Copper Foil Div. (Battery copper Foil + Copper Foil)

(Unit: USD 1M)

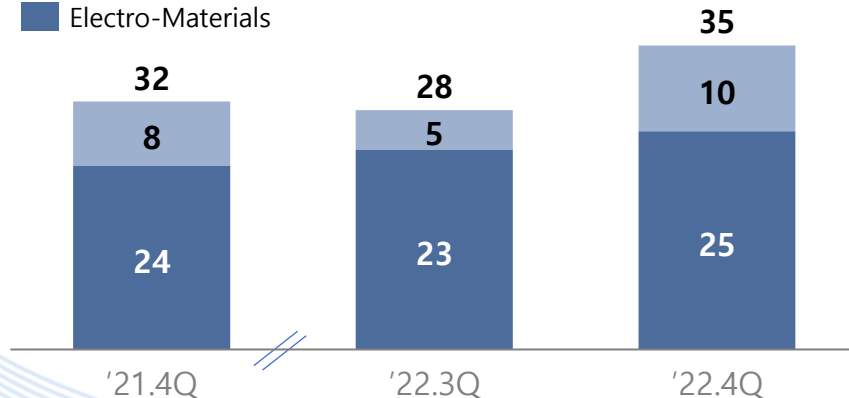
- Battery copper foil (Hungary)
- Copper foil (Luxembourg)



Revenue of Advanced Materials (Electro-Materials+Bio) Div.

(Unit: USD 1M)

- Bio
- Electro-Materials



[2022 4Q Achievements and Plans]

- **Achievements: YoY 8.2% increase, QoQ 9.5% decrease**
 - **Battery copper foil:** Production volumes adjusted to counter weakened profitability from winter's (higher) power costs
 - **Copper foil:** IT market demand and high-end product volumes fell from global economic downturn
- **Plans:**
 - **Battery copper foil:** Start mass production at Hungary Ph2; pursue Canadian production base installation to preoccupy the North American market
 - **Copper foil:** Mass-produce customer-approved ultra thin foil; win new customers with differentiated products

- **Achievements: YoY 25.0% increase, QoQ 27.0% increase**
 - **Electro-materials:** Strong demand for OLED materials in the downstream industry's peak season increased sales of both light emitting materials and non-light emitting materials and led to the highest-ever revenue
 - **Bio:** Ceramide product sales were the highest sales in the quarter
- **Plans:**
 - **Electro-materials:** Focus on development of new materials (Green phosphorescent materials, TFE, QD ink, etc.)
 - **Bio:** Embrace reopening to normalize the global cosmetics market supply network and acquire new customers

Battery Copper Foil Div.-Production Capacity Status & Plan

Hungary (Battery Copper Foil)



1.5 Ph1	2.3 Ph2	6.2 Ph3	10.0
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- Plan to hold 100K tons of capacity in Hungary (Targeting Europe)
- Ph1 (15K tons) : First shipment in Nov '20
- Ph2 (23K tons) : Plans to mass-produce in the 2H of '22
- Ph3 (62K tons) : Plans to mass-produce in the 2H of '25

[Battery copper Foil Div. - Overview]

• Products

- Manufacture of battery copper foil products to individual customer specifications
- Manufacture of a wide range of battery copper foil products, (e.g, thickness of 8μm or 6μm, high-strength or high-elongation characteristics)

• Customers

- Global top-tier battery manufacturer
- Global OEM company

• Acquired supply contracts

- Contracts totaling 2.4 trillion KRW in value acquired, to be fulfilled between 2021 and 2030
- Additional supply contracts reflecting price increases acquired
- New and additional supply contracts constantly sought

Canada (Battery Copper Foil)



1.8 Ph1	4.5 Ph2	6.3
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- Completed site purchase with capacity of 60K tons (Targeting North America)
- Extension/Reconstruction of factories equipped with a copper foil production infrastructure (Construction starts in July '22)
- Ph1 (18K tons): Plans to mass produce in the 2H of '24

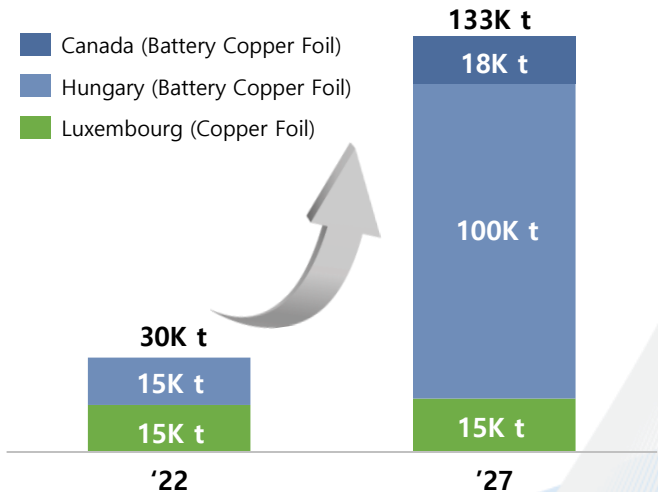
Luxembourg (Copper Foil)



1.5	1.5
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- 15K tons of capacity in Luxembourg
- Manufacturing copper foil for 5G communication equipment and semi-conductor PCB
- Plan to expand supply of ultrathin copper foil

■ Ph1 ■ Ph2 ■ Ph3
(Unit : 10K ton, Gross Capa.)

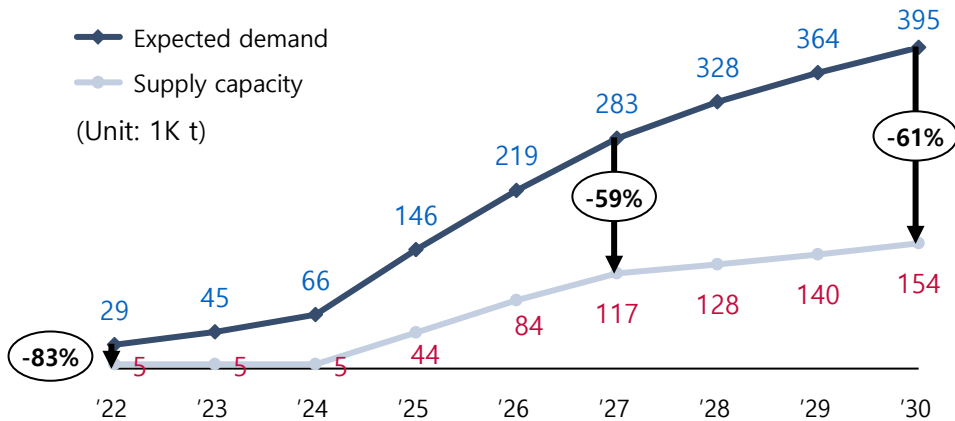


Battery Copper Foil Div.-North America/Europe Production Base

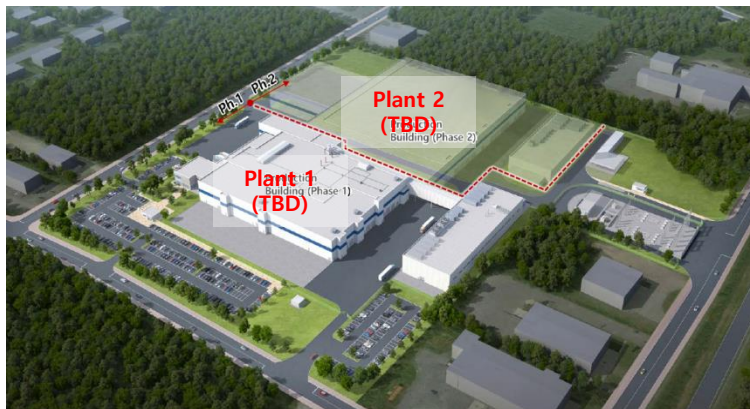
Battery copper foil shortages expected to continue in North America

- Battery copper foil demand will increase with EV/battery demand, but the battery copper foil shortages in North America are expected to continue

North America Battery Copper Foil Supply/Demand Forecast



Source: "Mid-/Long-Term Market Forecast on EVs, Batteries & Battery Foil," SNE Research, May 20, 2022.



North American production base to be constructed: Granby, Quebec, Canada

Opportune advance into North America needed to preoccupy local markets to full effect

- North American market to be claimed ahead of competitors
- **2024 2H mass production targets:** Supply to occur in time for mass production of batteries in local markets (from 2025 onward)

Capitalization on local market advantages

- Secure raw materials and key facilities: Local copper suppliers and key equipment/facilities secured in Canada
- USMCA benefits: Tariff-free export of battery foil to the U.S.

Capitalization on geographic advantages

- Proximity to customers allows for high-quality customer management

North America Production Base - Milestones

Stage 1 (2022)	Business management system established; construction commenced (July 2022)
Stage 2 (2023)	Construction and environmental permits to be acquired (Groundbreaking ceremony scheduled for 2023 Q2)
Stage 3 (2024)	Facility installation and pilot operation/mass production to take place (Mass product start scheduled for 2024 2H)
Stage 4 (2025)	Mass production to take place as per customer approvals

Electro-Materials Div. - Production Base Expansion

Solus i-Tech established for greater competitiveness in non-emitting materials

[Increased capacity for increased market dominance]

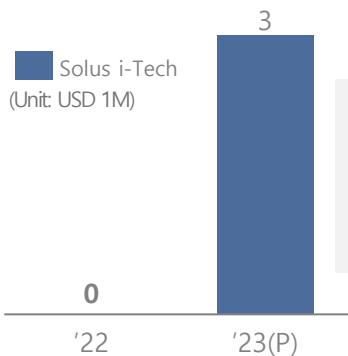
- **Purpose of joint venture establishment (Dec. 2022)**
 - Production and sale of filler for QD-OLED and TFE
 - Development, manufacture, and sale of electro-materials for foldable display products
- **Ownership structure and roles**
 - Solus Advanced Materials (stake: 51%)
Development of filler/TFE materials and technologies, supply of product recipes, supply of basic information on manufacturing process setup
 - Ildong Chemical (stake: 49%)
Design/establishment of plants, mass production process setup, etc.
- **Management strategies**
 - Obtain customer approvals and start mass production by 2023 2H
 - Filler for QD-OLED: Tap into market-leading quality to increase capacity and market dominance
 - TFE: Stabilize mass product ASAP to enjoy early mover advantages



Mass production of electro-materials commenced at Chinese plant - better response to foreign customers now possible

[Increased capacity for improved response to customers]

- **Mass production at Chinese plant (Changshu, China)**
 - Production base established Nov. 2022 for response to foreign (Chinese) customers; mass production underway
- **Products**
 - HBL: For China's major display manufacturers
 - Near-monopoly of China's HBL market currently; new products (e.g., HTL) to be added over time
- **Management strategies**
 - Real-time response to important customers
 - Quality management system focused on customers
 - Development of materials customized to Chinese customers

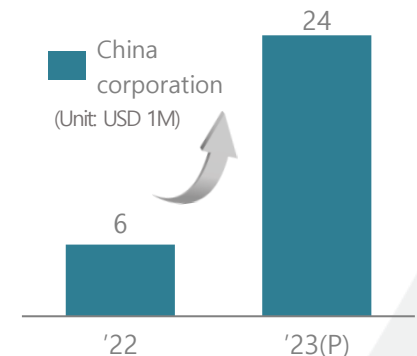


[2023 Management Targets] Solus i-Tech

- Pilot operation and customer approvals (2023 2H)
- Filler for QD-OLED mass production start (2023 2H)
- TFE mass production system setup (2024)

[2023 Management Targets] Chinese Plant

- Increased HBL supply (Main product)
- Increased sales from direct delivery to more customers from the Chinese plant



Greater competitiveness of electro-materials business and mid- to long-term growth

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Consolidated Financial Statements

Investor Relations 2022

(Unit: USD 1M)

Classification	Dec. 2019	Dec. 2020	Mar. 2021	Jun. 2021	Sep. 2021	Dec. 2021	Mar. 2022	Jun. 2022	Sep. 2022	Dec. 2022
Current assets	199	414	335	331	316	332	347	541	414	409
Non-current assets	228	359	380	441	480	520	635	691	721	745
Total assets	427	773	715	772	796	852	982	1,232	1,135	1,154
Current liabilities	159	154	162	211	237	241	349	287	218	270
Non-current liabilities	146	169	110	113	113	171	204	192	193	162
Total liabilities	305	323	272	324	350	412	553	479	411	432
Capital stock	3	4	4	4	3	3	3	3	3	4
Total shareholders' equity	121	450	443	448	446	440	429	753	724	722
Debt ratio	251%	72%	61%	72%	79%	94%	129%	64%	57%	60%
[Borrowings]										
Borrowings	159	228	139	180	208	253	385	308	273	277
Cash	82	281	178	166	141	118	85	296	175	128
Net borrowings	77	-53	-39	14	67	135	300	12	98	149

※ The above data for 2022 is based on unaudited financial statements.

※ The above date calculated based on the corresponding quarterly FX rate.

Consolidated Statement of Comprehensive Income

Investor Relations 2022

(Unit: USD 1M)

Classification	2021					2022				
	Q1	Q2	Q3	Q4	Total	Q1	Q2	Q3	Q4	Total
Sales	80	82	90	81	322	103	98	79	80	338
Battery copper foil	4	6	13	10	32	25	26	21	16	83
Copper foil	48	46	45	39	172	43	39	30	29	132
Electro-materials	20	19	21	24	81	26	23	23	25	92
Bio	8	11	11	8	37	9	10	5	10	31
Cost of sales	63	66	71	65	256	88	84	73	77	305
Net sales income	16	16	19	16	66	15	14	6	3	33
SG&A	16	14	16	20	64	17	19	20	14	67
Operating profit	0.4	2	3	-4	2	-2	-5	-14	-11	-34
(%)	0.5%	2.3%	3.6%	-4.3%	0.5%	-2.0%	-6.2%	-18.5%	14.3%	-9.8%
Gains/losses on interest	-2	-1	-1	-0.3	-4	-1	-1	-1	-2	-5
Gain/losses on foreign currency transactions	5	2	0.7	-0.2	7	0	7	4	1	8
Gain/losses on foreign currency transactions	2	-2	2	-0.2	1	2	7	2	-6	4
Earnings before interest and taxes	3	-0.3	2	-4.4	0.5	-1	5	-11	-20	-26
Income taxes	4	-3	2	-2.5	0.4	3	6	2	-2	9
Profit/loss from continuing operations	-1	3	0.6	-0.4	1.4	-4	-1	-13	-18	-35
Profit/loss from discontinued operations	-	-	-	-1.5	-1.5	-	-	-	-2	-2
Net income	-1	3	0.6	-2	0.1	-4	-1	-13	-20	-37
Income for controlling shareholder	2	5	2	1	10	0	4	-7	-7	-10

※ The above data for 2022 is based on unaudited financial statements.
 ※ The above data calculated based on the corresponding quarterly FX rate
 ※ EBIT rate based on KRW
 ※ The total amount for each business year was calculated based on the FX rate for the 4Q of each year.

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Company & Business Introduction

[Company Introduction]

<u>Company Name</u>	Solus Advanced Materials Co., Ltd.
<u>CEO</u>	Daeje Chin & Kwangpyuk Suh
<u>Established</u>	2019. 10. 01
<u>Listed</u>	2019. 10. 18 (KOSPI)
<u>Total Assets</u>	USD 1,154M (As of 12. 31. 2022)
<u>Employees</u>	1,285 (As of 12. 31. 2022)
<u>Based</u>	627 Seodong-ro, Iksan-si, Jeollabuk-do
- <u>Battery Copper Foil</u>	Hungary, Canada (R&D/Production/Sales)
- <u>Copper Foil</u>	Luxembourg (R&D/Production/Sales)
- <u>Bio</u>	Yongin (R&D/Sales), Iksan (Production)
- <u>OLED</u>	Yongin (R&D/Sales), Iksan (Production), China (Production/Sales)

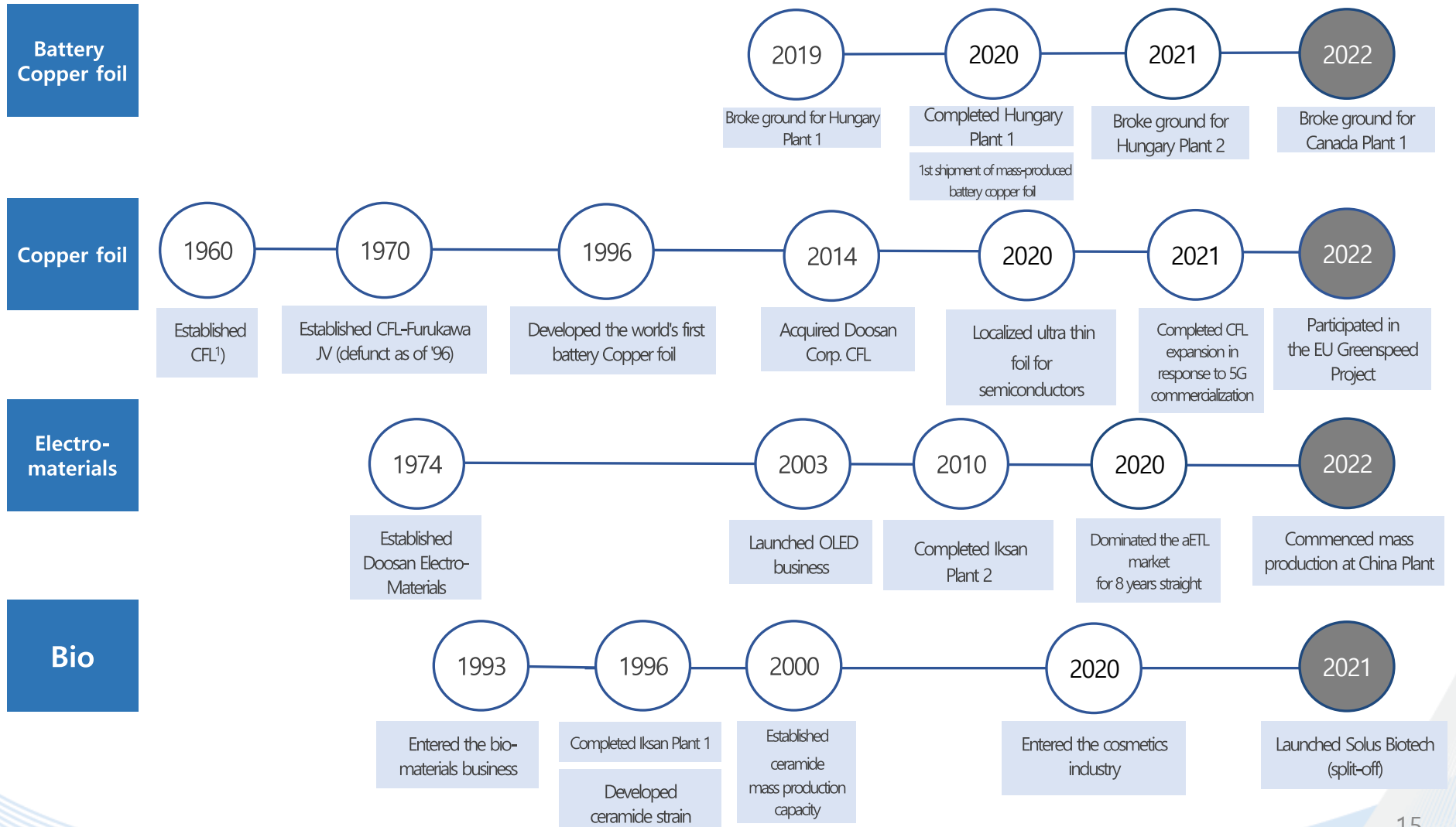
[Business Introduction]

 Battery Copper Foil Division	Battery Copper Foil	Copper foil for EV batteries	
	Copper Foil	Copper foil for 5G Networks & electronic devices (PCB)	
 Advanced Materials Division	Electro- Materials	OLED and display materials for smartphone, TV, laptop, etc.	
	Bio	Natural-based materials for cosmeceutical, pharmaceutical and nutraceutical	

※ The above data for 'Total Assets' (as of end of Sep '22) is based on unaudited financial statements.

History

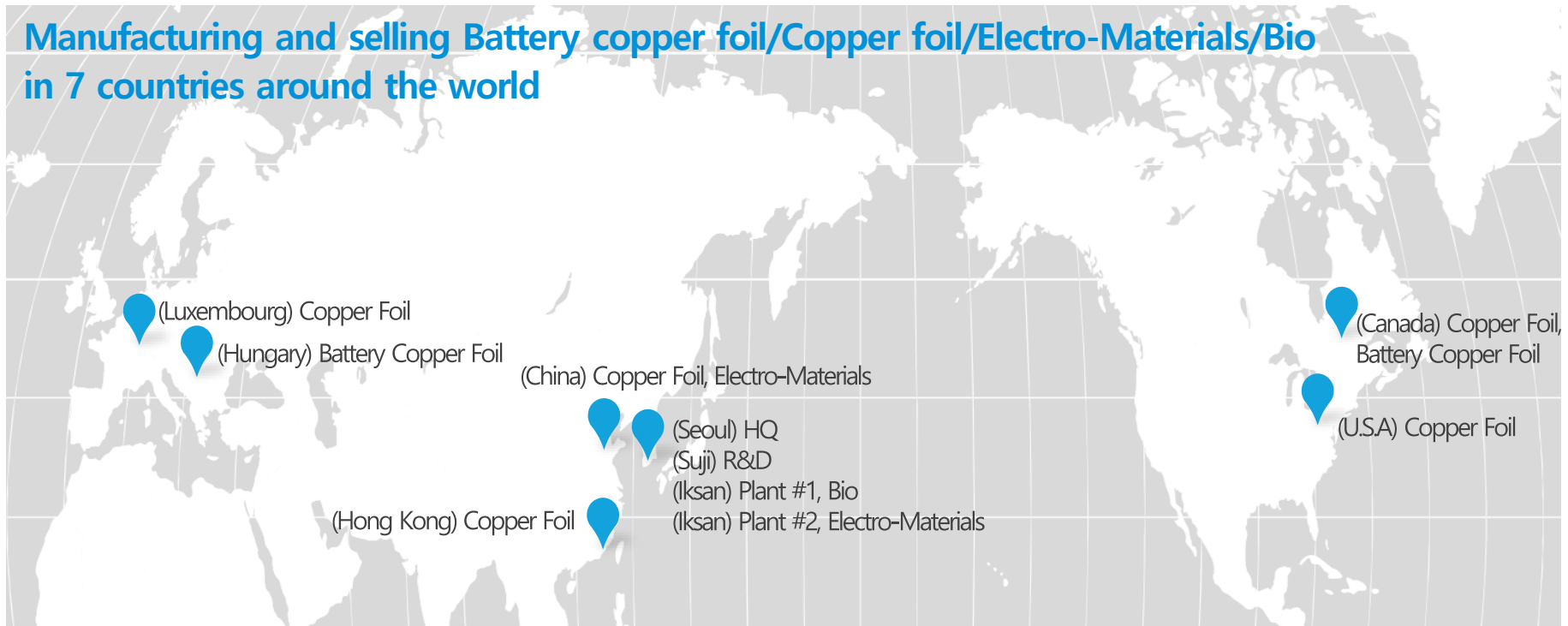
Business expansion & growth into global no.1 material company with over 60 years of experience & know-hows



1) Circuit Foil Luxembourg

Business Sites

Manufacturing and selling Battery copper foil/Copper foil/Electro-Materials/Bio in 7 countries around the world



Iksan, Korea (Electro-Materials & Bio)



Luxembourg (Copper Foil)

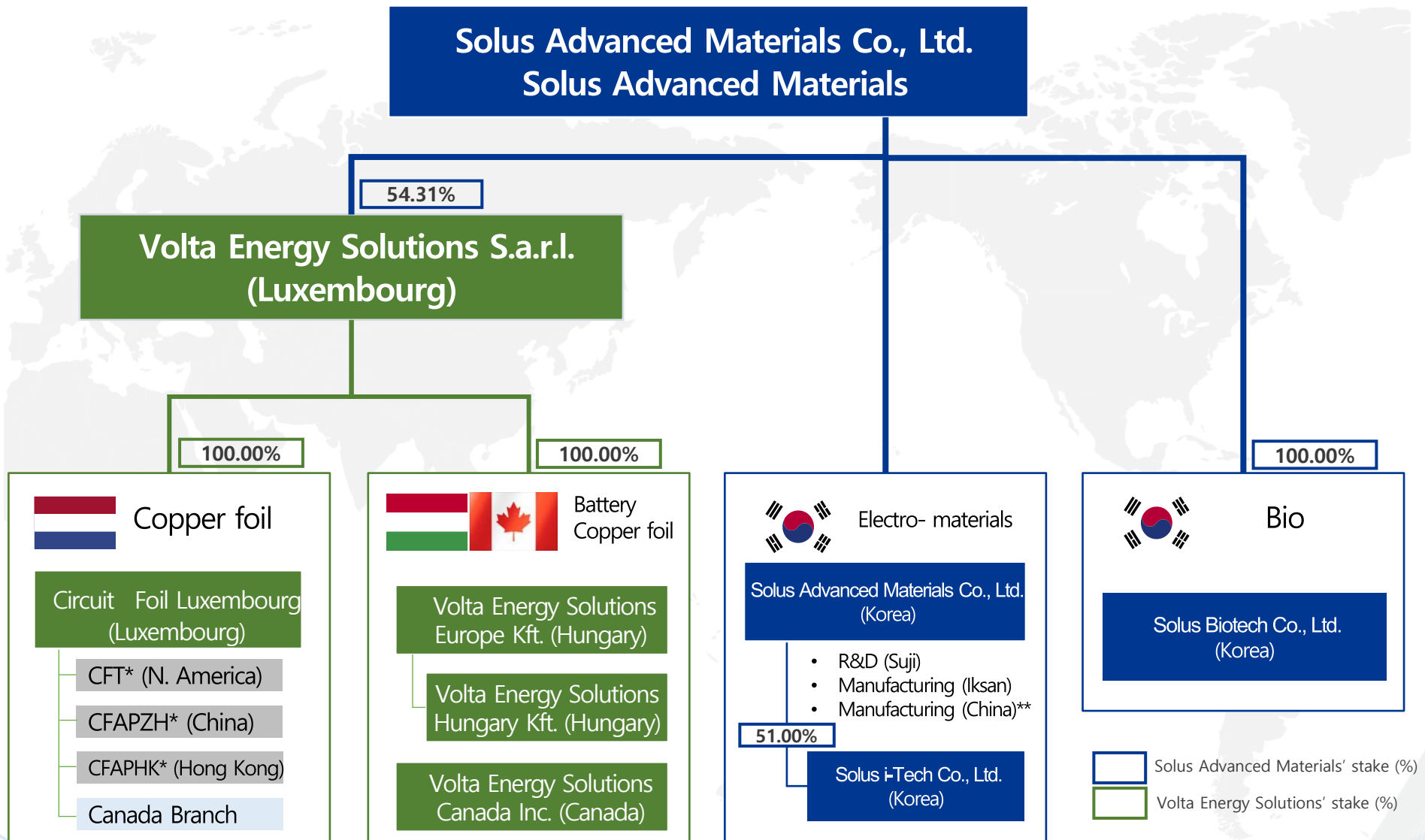


Hungary (Battery Copper Foil)



Canada (Battery Copper Foil)

Domestic & Overseas Corporations



* CFT (Circuit Foil Trading Inc.) / CFAPZH (Circuit Foil Asia Pacific Zhangjiagang) / CFAPHK (Circuit Foil Asia Pacific Hong Kong)

** Solus Advanced Materials (Changshu) Co., Ltd.

FX Rate

Items	'19.1Q	'19.2Q	'19.3Q	'19.4Q	'20.1Q	'20.2Q	'20.3Q	'20.4Q
B/S	1,137.80	1,156.80	1,201.30	1,157.80	1,222.60	1,200.70	1,173.50	1,088.00
I/S	1,124.97	1,145.78	1,161.94	1,165.46	1,193.03	1,206.70	1,200.52	1,179.96

Items	'21.1Q	'21.2Q	'21.3Q	'21.4Q	'22.1Q	'22.2Q	'22.3Q	'22.4Q	2023(P)
B/S	1,133.50	1,130.00	1,184.90	1,185.50	1,210.80	1,292.90	1,434.80	1,267.30	1,330.00
I/S	1,113.62	1,121.33	1,157.95	1,183.14	1,204.46	1,259.85	1,339.14	1,362.33	1,330.00

- Source : First notified basic exchange rate from Hana Bank
- Source : Internal materials for projections

Solus Advanced Materials Co., Ltd.
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