



Solus Advanced  
Materials

Solus Advanced Materials Co., Ltd.  
**2022 3Q EARNINGS REPORT**

October 2022

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 3Q Earnings & Plans**

## **II. Consolidated Financial Statements**

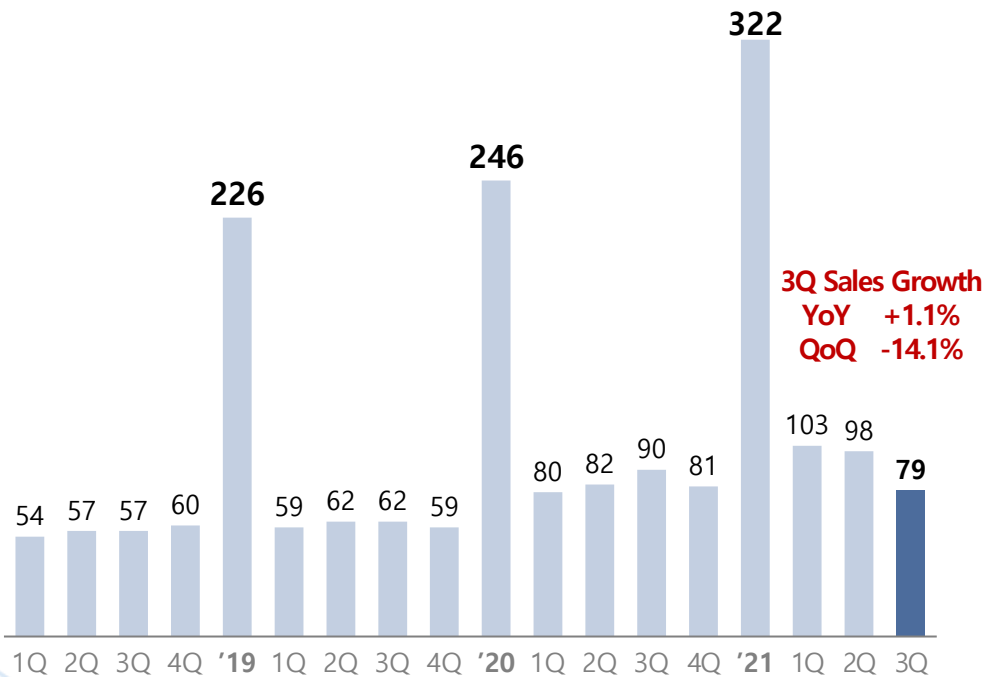
## **III. Appendix**

# 2022 3Q Earnings

- **2022 3Q Earnings:** Increased by 1.1% YoY and decreased by 14.1% QoQ because of the strong demand for OLED materials due to the effect of new product launches in front-end industries and temporary production control to improve the profitability of battery copper foil/copper foil, which was worsened by the sharp rise in power costs in Europe.
- **EBITDA:** EBITDA turned to deficit compared to the same period of the previous year and the previous quarter due to the intensified cost burden of manufacturing battery copper foil/copper foil that was caused by a sharp rise in power costs, and to reflect recall costs.

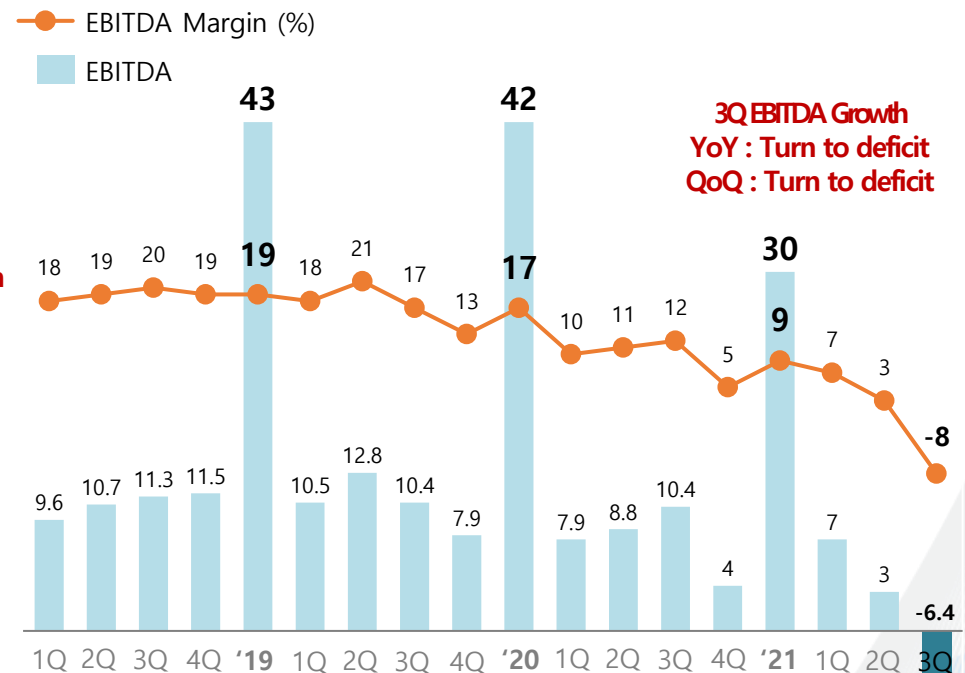
## [Revenue Trend]

USD 1M



## [EBITDA (%) Trend]

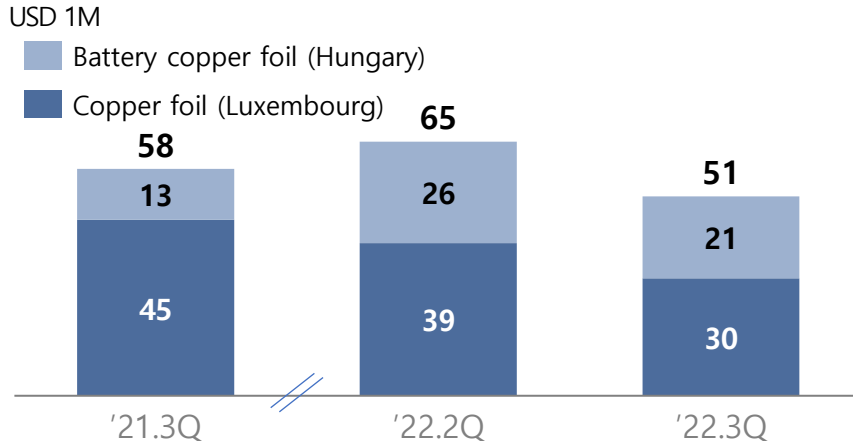
USD 1M, %



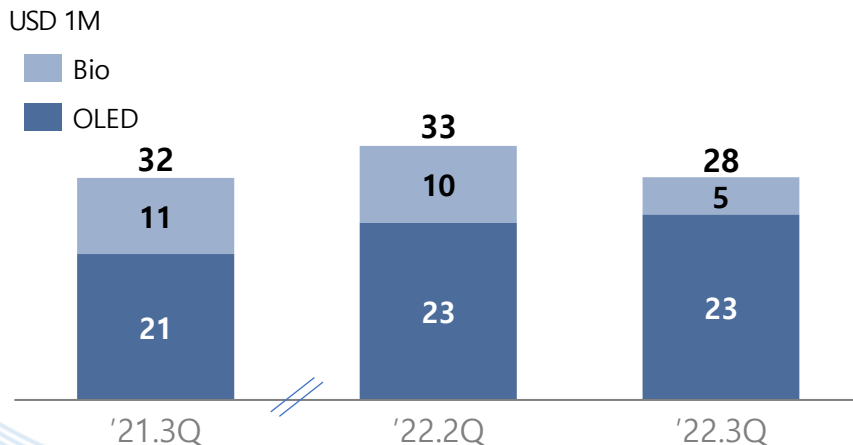
※ Sales & EBITDA growth rate based on KRW

# 2022 3Q Achievements & Plans by Division

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



## Revenue of Advanced Materials (OLED+Bio) Div.



※ Sales growth rate based on KRW

## 2022 3Q Achievements & Plans

### • Achievements: YoY 1.6% increase, QoQ 14.9% decrease

- **Battery copper foil:** Reduced sales volume due to reflection of recall and temporary production cuts to minimize decline to profitability caused by continuous increases in power costs
- **Copper foil:** Sales decline due to delayed growth of 5G communication equipment market, contraction in demand for PCB, falling copper prices, and controlling production

### • Plans:

- **Battery copper foil:** Securing stable trading lines by resolving recall issues and promoting additional supply contracts within this year
- **Copper foil:** Supply expansion tailored to recovery of customer demand and expansion of product portfolio through research on next-generation materials

### • Achievements: Same as the 3rd quarter of last year, QoQ 12.5% decrease

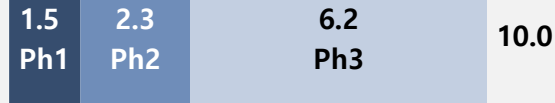
- **Electro-Materials:** Increased supply of mobile materials due to peak season and increased supply of fillers due to early mass production by customers
- **Bio:** Contraction in demand for raw materials such as ceramide due to a downturn in global cosmetics market

### • Plans:

- **Electro-Materials:** Conducting local customer audits for mass production in Chinese factories, and continuing development of new materials for product diversification
- **Bio:** Strengthening market competitiveness by discovering new major customers and differentiating formulations

# Battery Copper Foil Division\_Production Capacity Status & Plan

## Hungary (Battery Copper Foil)



- 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

### [Current status of Battery Copper Foil division]

#### • Products:

- Thickness: 8μm / 6μm
- Features: High strength / High elongation

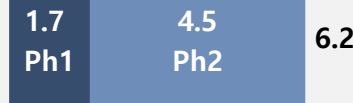
#### • Customers:

- Global top-tier battery manufacturers (Located in Poland/Hungary/France)
- Global OEM company

#### • Supply Contract signed:

- Completed orders worth about 1.3 trillion KRW (supply between 2021 and 2028)

## Canada (Battery Copper Foil)



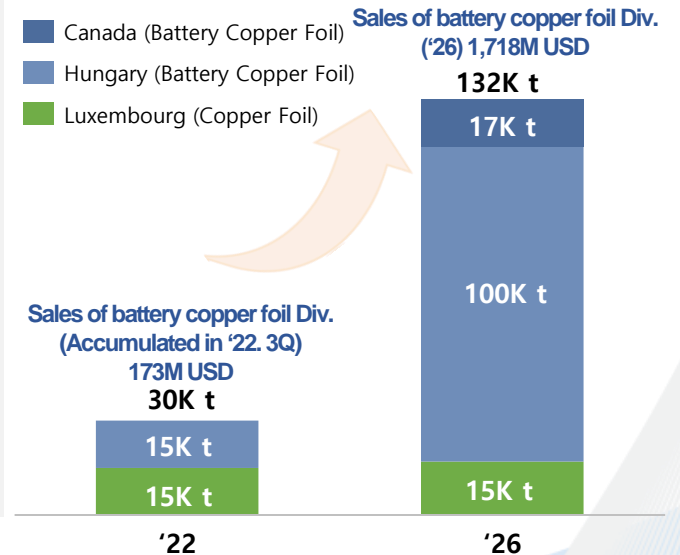
- Completed site purchase with capacity of 60K tons (Targeting North America)
- Extension/Reconstruction of factories equipped with a copper foil production infrastructure (Construction starts in July '22)
- Ph1 (17K tons): Plans to mass produce in the 2H of '24

## Luxembourg (Copper Foil)



- 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.)



※ The average monthly exchange rate of 3Q, '22 6



# Battery Copper Foil Division\_North America/Europe Production Base

Investor Relations 2022

## Maximizing the effect of early market dominance through proactive entry into North America/Europe

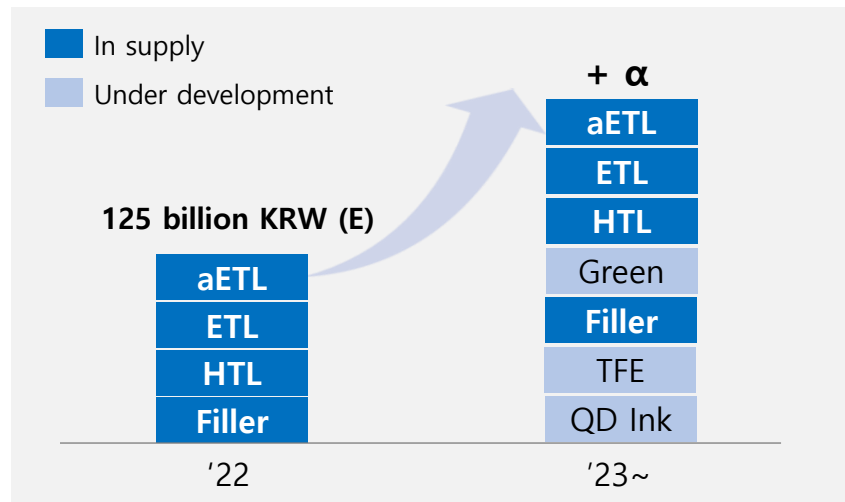
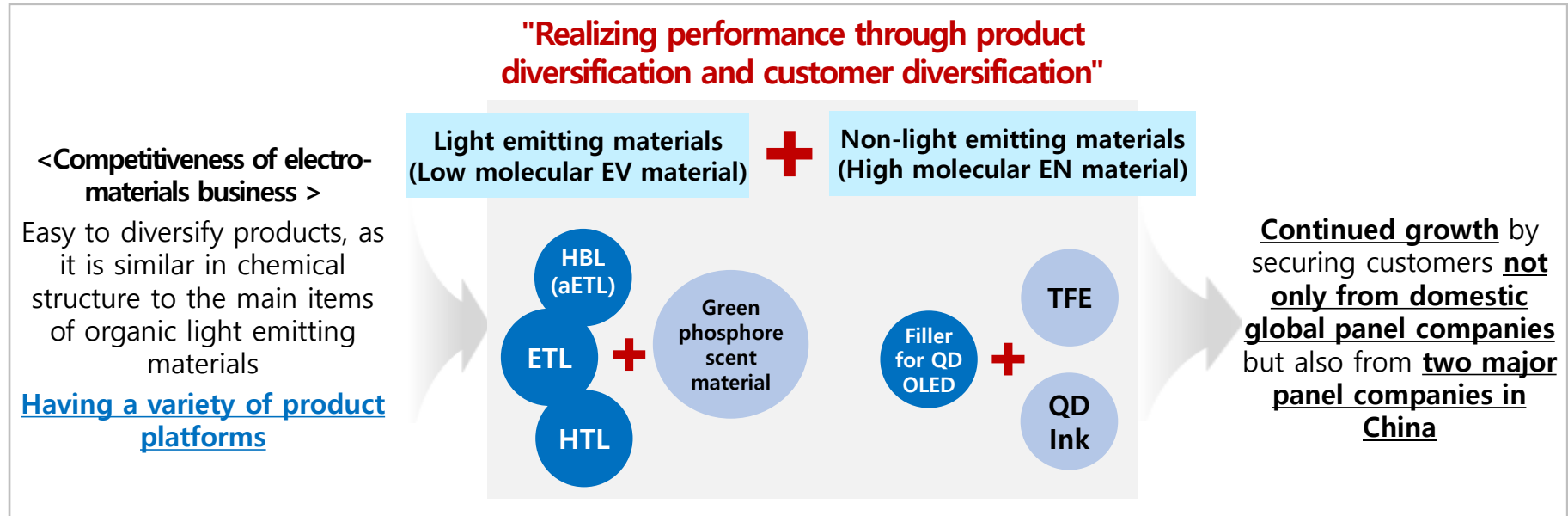
- **Early advantage in North America/Europe** by advancing before competitors
  - **Securing raw materials** and **major facilities**  
:Completed securing Canadian/European local copper sourcing sites and major machineries
  - **Tax-free** export of battery copper foil to the US for Canadian factory, USMCA<sup>1)</sup>
  - Expected benefits from the enactment North America (IRA) and Europe (RMA) policies
  - **Timely supply of battery copperfoil in line with the time of mass production of customers entering North America/Europe**
  - Maximizing geographical advantages
  - **Able to respond quickly** to the client due to close location
- 
- **US: Inflation Reduction Act (IRA, effective on 2022.08.17)**
    - More than a certain percentage of core battery minerals (lithium, etc.) shall be mined/processed in countries with US FTA agreements
    - More than a certain percentage of major battery parts shall be manufactured in North America
    - EVs using batteries/core minerals produced in countries of concern, such as China, shall be excluded from the deductions
  - **EU: European Critical Raw Material Act (RMA)**
    - Draft bill to be released in the 1<sup>st</sup> quarter of 2023
    - Plans to reduce dependence on imported raw materials, diversify the supply chain of raw materials, and strengthen production in the EU
    - When the bill goes into effect, effects similar to the US IRA are expected due to the increase in battery/EV manufacturers entering Europe.



- Solus Advanced Materials
- Battery/EV Plant (Including planned site)

1) US-Mexico-Canada Agreement (USMCA): Coming into effect in July 2020, duty-free applies to local supply and demand of more than 75% of major automobile materials/parts

# Current Status & Plan of Electro-Materials Business

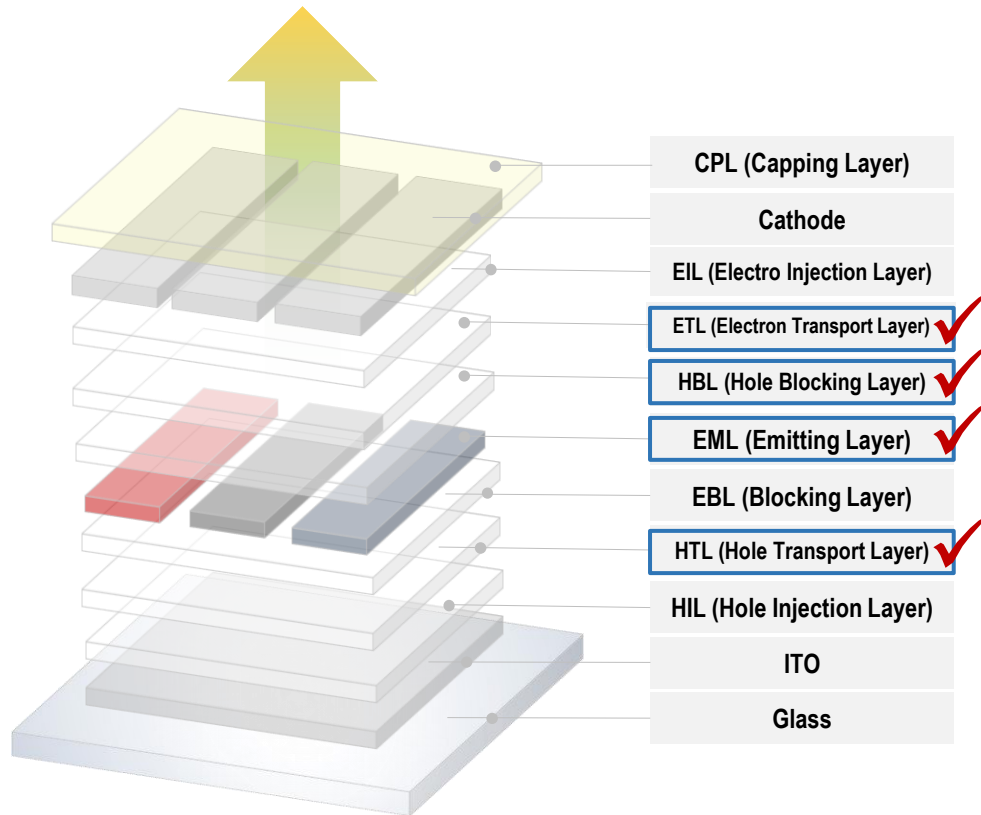


\* EV (Evaporation), EN (Encapsulation)



# Appendix\_Electro-Materials Business Light-Emitting Materials (Low molecular EV material)

<Light-emitting material business area based on OLED structure >



## ● aETL IP

→ Exclusive supply to domestic and foreign customers

### ▪ aETL(HBL) (100 billion KRW of market size in 2026)

- Allows holes started from the anode to pass through the hole transport layer (HTL) and be consumed solely in the emitting layer (EML). Only electrons are selectively moved, while holes are prevented from invading the electronic transport layer (ETL).

## ● HTL Large OLED IP

→ Exclusive supply to the new models of domestic customers

### ▪ HTL (130 billion KRW of market size in 2026)

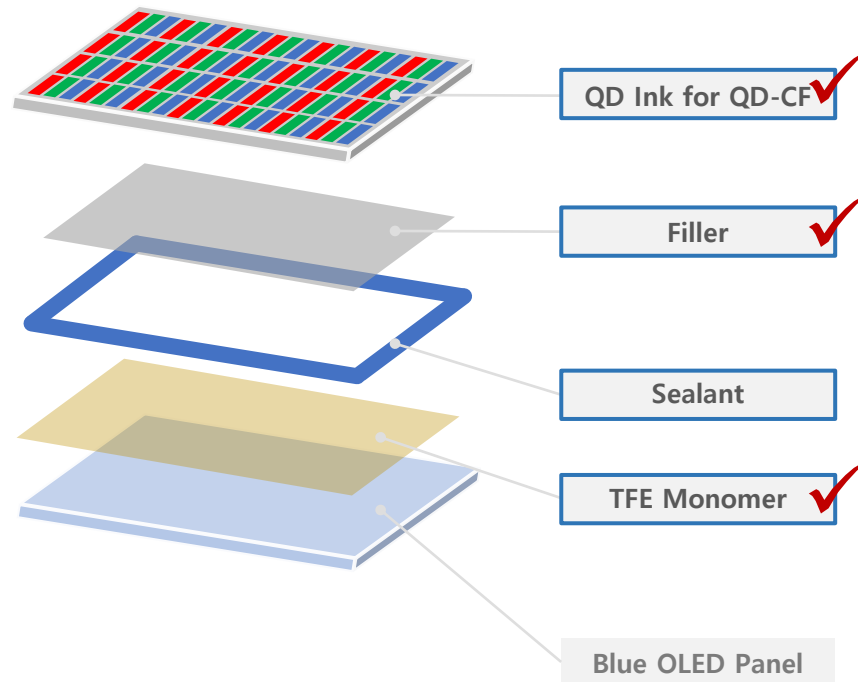
- Facilitates the formation of an Exciton by rapidly transferring holes from anode to the emitting layer through the hole injection layer (HIL). High hole mobility and thermal durability are important. Aromatic amine-based materials are applied for the expression of properties.

\* Market scale in 2026: Self investigation by Electronic Materials Sales Team

: Current major development materials of Solus Advanced Materials

# Appendix\_Electro-Materials Business Non-Light-Emitting Materials (High molecular EN material)

< Non-light-emitting material business area  
based on QD-OLED structure >



: Current major development materials of Solus Advanced Materials

- Occupying a large share of the Filler polymer EN materials market

→ Establishing a foundation for mid-term sustainable growth

- **Filler (60 billion KRW of market size in 2026)**

- Non-light-emitting material for the purpose of improving efficiency through the expansion of light extraction. Used to maximize the light extraction rate of QD OLED panels. Improving luminous efficiency; High adhesion of OLED panel and QD color filter, reliability enhancement (high refraction and high reliability are required)

- Technology development including QD ink and TFE  
→ Establishing a foundation for long-term growth

- **TFE (20 billion KRW market in 2026)**

- Thin Film encapsulation, a thin film bag material that adheres between inorganic layers (SiNx)

- **QD Ink (60 billion KRW market in 2026)**

- Maximizing optical change efficiency to maximize optical efficiency and resolution

\* Market scale in 2026: Self investigation by Electronic Materials Sales Team

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# Consolidated Financial Statements

Investor Relations 2022

USD 1M										
Items	'20. 06	'20. 09	'20. 12	'21. 03	'21. 06	'21. 09	'21. 12	'22. 03	'22. 06	'22. 09
Current Asset	151	158	414	335	331	316	332	347	541	414
Non-current Asset	292	305	359	380	441	480	520	635	691	721
<b>Total Asset</b>	<b>443</b>	<b>464</b>	<b>773</b>	<b>715</b>	<b>772</b>	<b>796</b>	<b>852</b>	<b>982</b>	<b>1,232</b>	<b>1,135</b>
Current Liabilities	135	120	154	162	211	237	241	349	287	218
Non-current Liabilities	178	212	169	110	113	113	171	204	192	193
<b>Total Liabilities</b>	<b>313</b>	<b>331</b>	<b>323</b>	<b>272</b>	<b>324</b>	<b>350</b>	<b>412</b>	<b>553</b>	<b>479</b>	<b>411</b>
Capital Stock	3	3	4	4	4	3	3	3	3	3
<b>Total Equity</b>	<b>130</b>	<b>132</b>	<b>450</b>	<b>443</b>	<b>448</b>	<b>446</b>	<b>440</b>	<b>429</b>	<b>753</b>	<b>724</b>
Debt-to-Equity Ratio	241%	250%	72%	61%	72%	79%	94%	129%	64%	57%
[Loan Payable]										
Loans Payable	207	218	228	139	180	208	253	385	308	273
Cash	55	45	281	178	166	141	118	85	296	175
<b>Net Debt</b>	<b>151</b>	<b>173</b>	<b>-53</b>	<b>-39</b>	<b>14</b>	<b>67</b>	<b>135</b>	<b>300</b>	<b>12</b>	<b>98</b>

※ The above data for 2022 3Q is based on unaudited financial statements.

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

# Consolidated Statements of Comprehensive Income

Investor Relations 2022

USD 1M

Items	'20					'21					'22			
	1Q	2Q	3Q	4Q	Total	1Q	2Q	3Q	4Q	Total	1Q	2Q	3Q	Total
<b>Revenue</b>	<b>59</b>	<b>62</b>	<b>62</b>	<b>59</b>	<b>246</b>	<b>80</b>	<b>82</b>	<b>90</b>	<b>81</b>	<b>322</b>	<b>103</b>	<b>98</b>	<b>79</b>	<b>263</b>
Battery Copper Foil	-	-	-	1	1	4	6	13	10	32	25	26	21	68
Copper Foil	37	38	34	29	140	48	46	45	39	172	43	39	30	105
OLED	15	14	20	19	69	20	19	21	24	81	26	23	23	68
Bio	7	10	8	10	36	8	11	11	8	37	9	10	5	22
COGS	40	40	41	41	164	63	66	71	65	256	88	84	73	232
Gross Profit	20	22	20	18	82	16	16	19	16	66	15	14	6	31
SG&A	12	13	14	16	56	16	14	16	20	64	17	19	20	53
<b>EBIT</b>	<b>7</b>	<b>9</b>	<b>6</b>	<b>2</b>	<b>26</b>	<b>0.4</b>	<b>2</b>	<b>3</b>	<b>-4</b>	<b>2</b>	<b>-2</b>	<b>-5</b>	<b>-14</b>	<b>-22</b>
<b>(%)</b>	<b>13%</b>	<b>15%</b>	<b>10%</b>	<b>15%</b>	<b>10%</b>	<b>0.5%</b>	<b>2.3%</b>	<b>3.6%</b>	<b>-4.3%</b>	<b>0.5%</b>	<b>-2.0%</b>	<b>-6.2%</b>	<b>-18.5%</b>	<b>-8.4%</b>
Gain/Loss on Interest	-1	-1	-1	-2	-5	-2	-1	-1	-0.3	-4	-1	-1	-1	-3
Gain/Loss on foreign currency transaction	1	0.2	-1	-6	-6	5	2	0.7	-0.2	7	0	7	4	10
Gain/Loss on foreign currency translation	1	-3	-4	-8	-14	2	-2	2	-0.2	1	2	7	2	11
<b>Earnings before Interest and Taxes</b>	<b>7</b>	<b>6</b>	<b>-1</b>	<b>-15</b>	<b>-2</b>	<b>3</b>	<b>-0.3</b>	<b>2</b>	<b>-4.4</b>	<b>0.5</b>	<b>-1</b>	<b>5</b>	<b>-11</b>	<b>-7</b>
Income Taxes	3	1	1	2	7	4	-3	2	-2.5	0.4	3	6	2	10
<b>Net Income</b>	<b>5</b>	<b>5</b>	<b>-2</b>	<b>-17</b>	<b>-9</b>	<b>-1</b>	<b>3</b>	<b>0.6</b>	<b>-2</b>	<b>0.1</b>	<b>-4</b>	<b>-1</b>	<b>-13</b>	<b>-17</b>
Income for controlling shareholder	<b>5</b>	<b>5</b>	<b>-2</b>	<b>-17</b>	<b>-9</b>	<b>2</b>	<b>5</b>	<b>2</b>	<b>1</b>	<b>10</b>	<b>0</b>	<b>4</b>	<b>-7</b>	<b>-4</b>

※ The above data for 2022 3Q is based on unaudited financial statements.

※ The above data calculated based on the corresponding quarterly FX rate

※ EBIT rate based on KRW

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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 1,135M (As of 09. 30. 2022)
<u>Employees</u>	1,196 (As of 09. 30. 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)

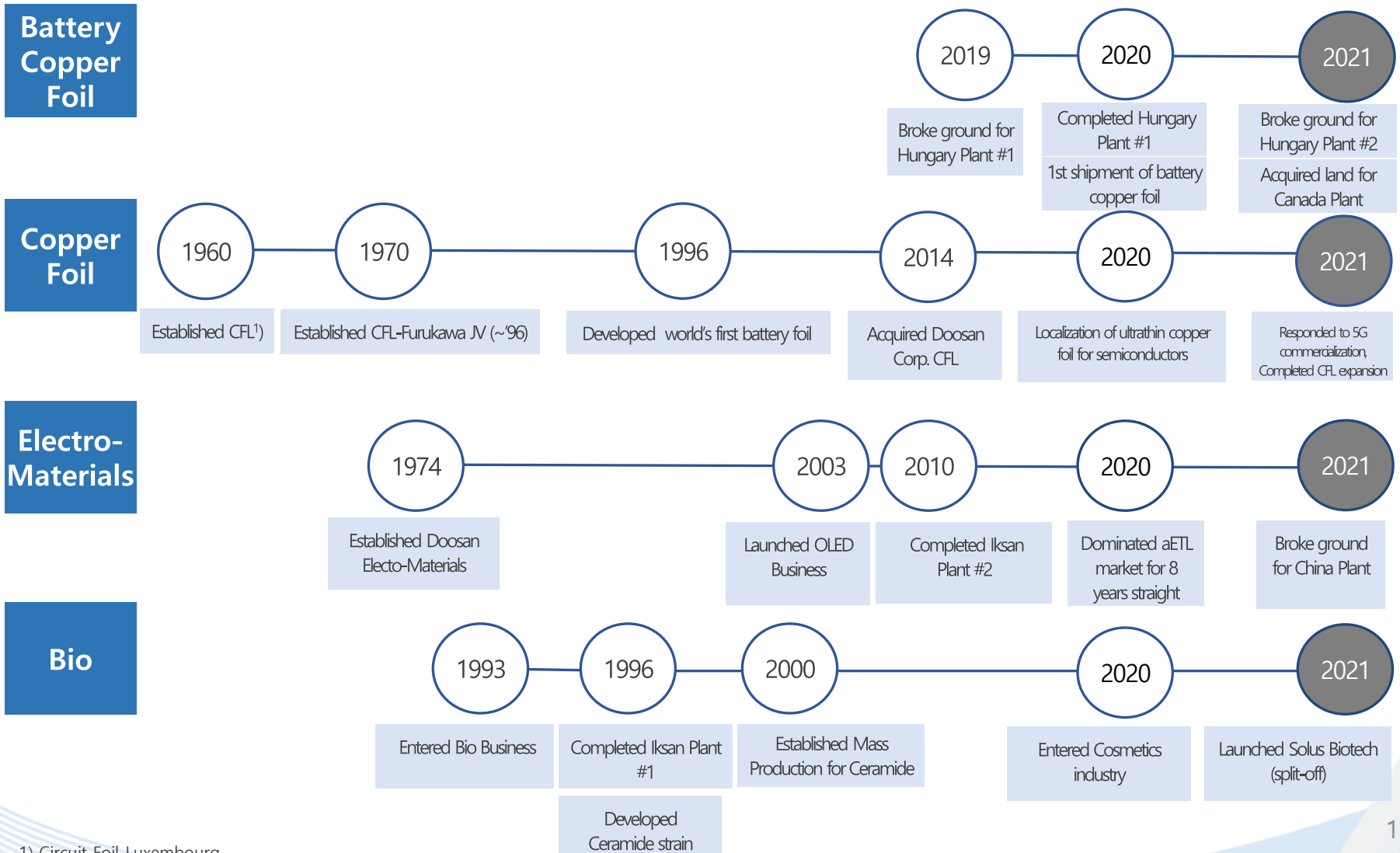
## [Business Introduction]

 Battery Copper Foil Division	<b>Battery Copper Foil</b>	Copper foil for EV batteries	
	<b>Copper Foil</b>	Copper foil for 5G Networks & electronic devices (PCB)	
 Advanced Materials Division	<b>Electro- Materials</b>	OLED and display materials for smartphone, TV, laptop, etc.	
	<b>Bio</b>	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

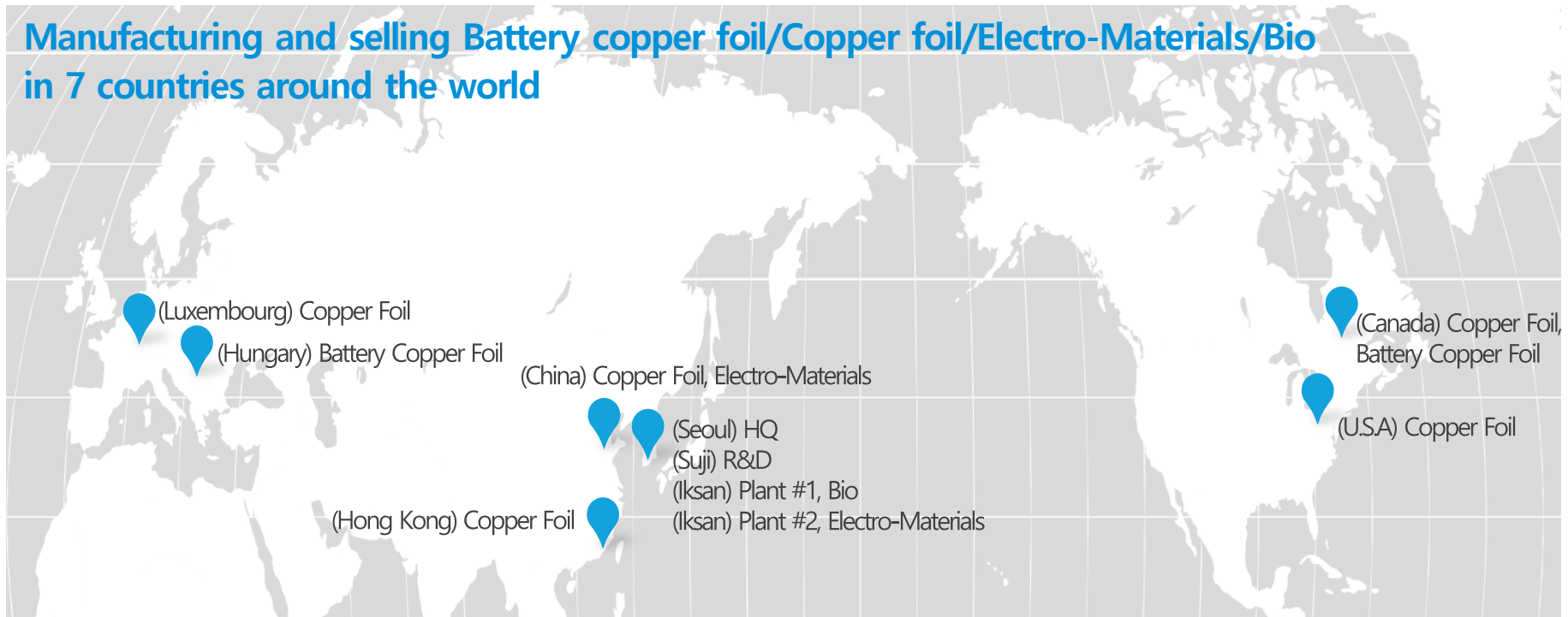
**Business expansion & growth into global no.1 material company with over 60 years of experience & know-hows**



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

## Solus Advanced Materials Co., Ltd.

### Volta Energy Solutions S.a.r.l. (LUX)

#### Copper Foil

Circuit Foil Luxembourg  
(Luxembourg)

CFT\* (U.S.A)

CFAPZH\* (China)

CFAPHK\* (Hong Kong)

Canada Branch

#### Battery Copper Foil

Volta Energy Solutions  
Europe Kft. (Hungary)

Volta Energy Solutions  
Hungary Kft. (Hungary)

Volta Energy Solutions  
Canada Inc. (Canada)

#### Electro- Materials

- R&D (Suji)
- Manufacturing & Production (Iksan)
- Manufacturing & Production (China)\*\*

#### Bio

Solus Biotech Co., Ltd.  
(Korea)

\* 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	2022(P)	2023(P)~ 2026(P)
B/S	1,133.50	1,130.00	1,184.90	1,185.50	1,210.80	1,292.90	1,434.80	1,150.00	1,130.00
I/S	1,113.62	1,121.33	1,157.95	1,183.14	1,204.46	1,259.85	1,339.14	1,150.00	1,130.00

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

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