



NANOFILM TECHNOLOGIES INTERNATIONAL

Joint Venture Announcement

September 2022



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JOINT VENTURE OVERVIEW

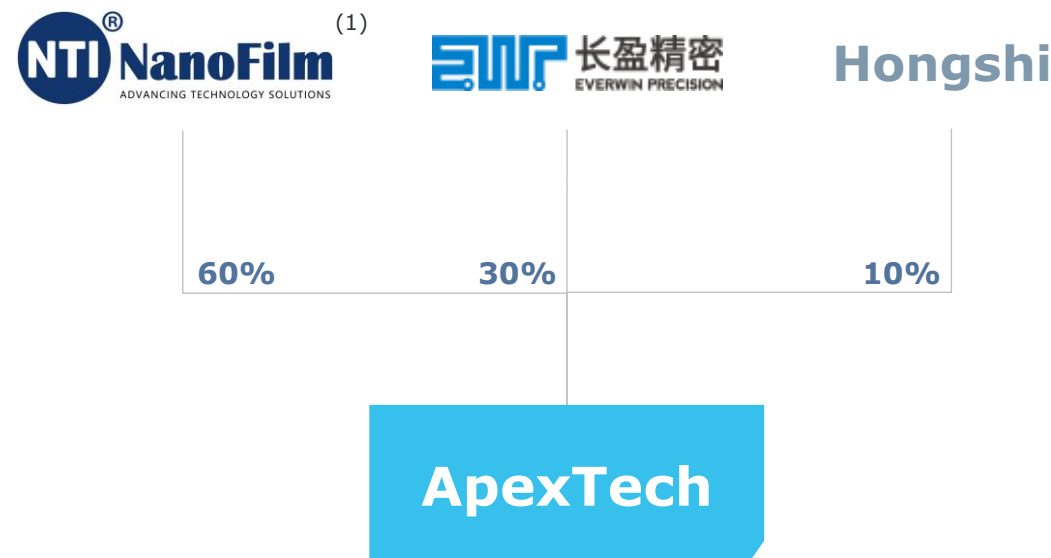


Overview of JV & Structure

JOINT VENTURE OVERVIEW

Entity Name	<ul style="list-style-type: none"> Sichuan Apex Technologies Co., Ltd (四川峰盈新能源科技有限公司) (“ApexTech”)
Capital	<ul style="list-style-type: none"> RMB 50 million (initial registered capital)
JV Partners	<ul style="list-style-type: none"> Nanofilm Vacuum Coating (Shanghai) Co., Ltd (纳峰真空镀膜(上海)有限公司) Shenzhen Everwin Precision Technology Co., Ltd (深圳市长盈精密技术股份有限公司) (“Everwin”) Shanghai Hongshi Enterprise Management Partnership (Limited Partnership (上海鸿石企业管理合伙企业(有限合伙)))(“Hongshi”)
Value Proposition	<ul style="list-style-type: none"> Nanofilm’s proprietary cost-effective coating solutions are environmentally friendly as compared to electroplating Everwin has an established customer base with leading electric vehicle players, coupled with strong volume manufacturing and metal stamping capabilities
Business Scope	<ul style="list-style-type: none"> To develop, provide, and market new vacuum coated applications, including the sale and supply of components, modules, products and services incorporating such new vacuum coated applications for the advanced battery industry

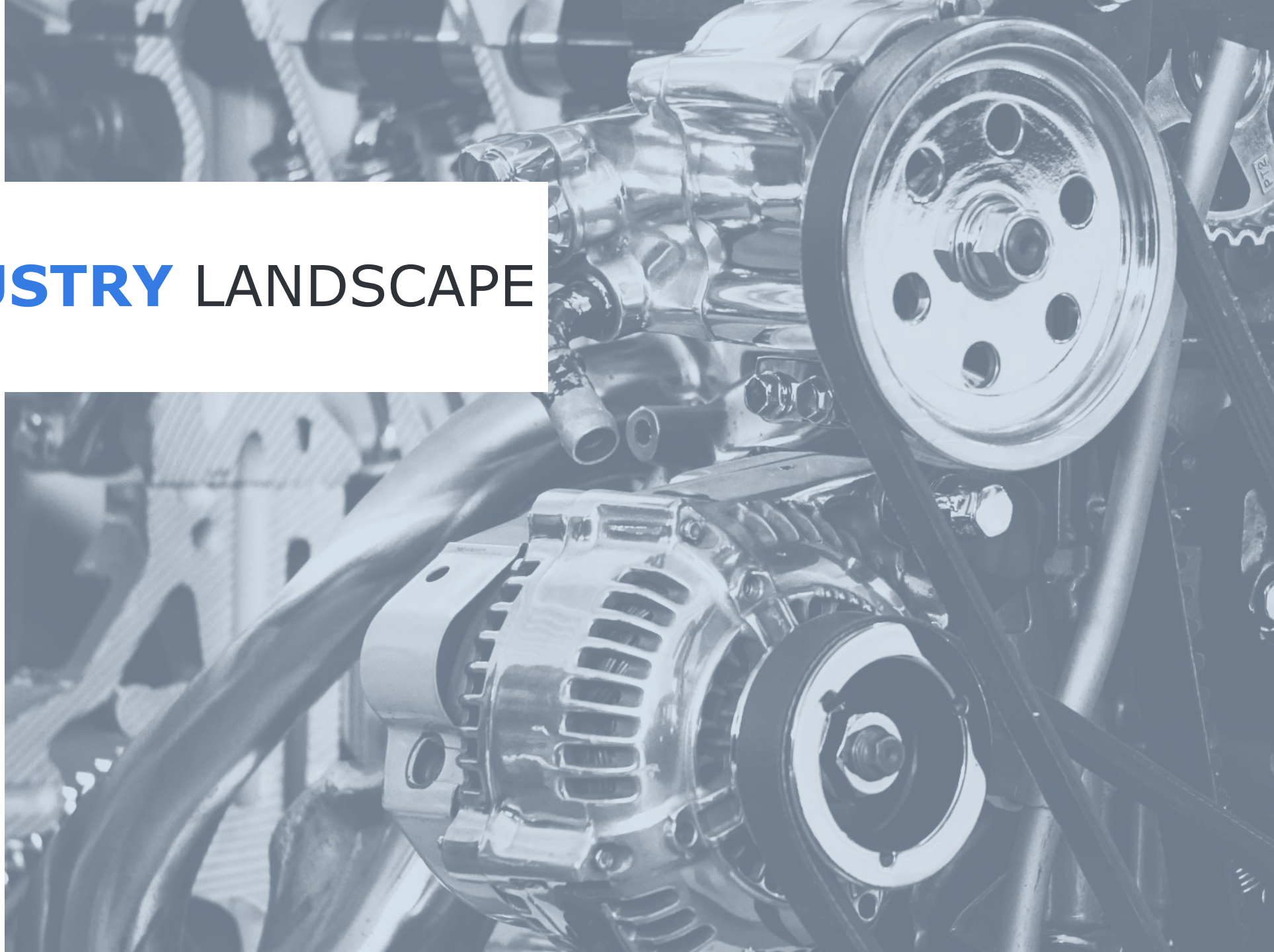
CORPORATE STRUCTURE



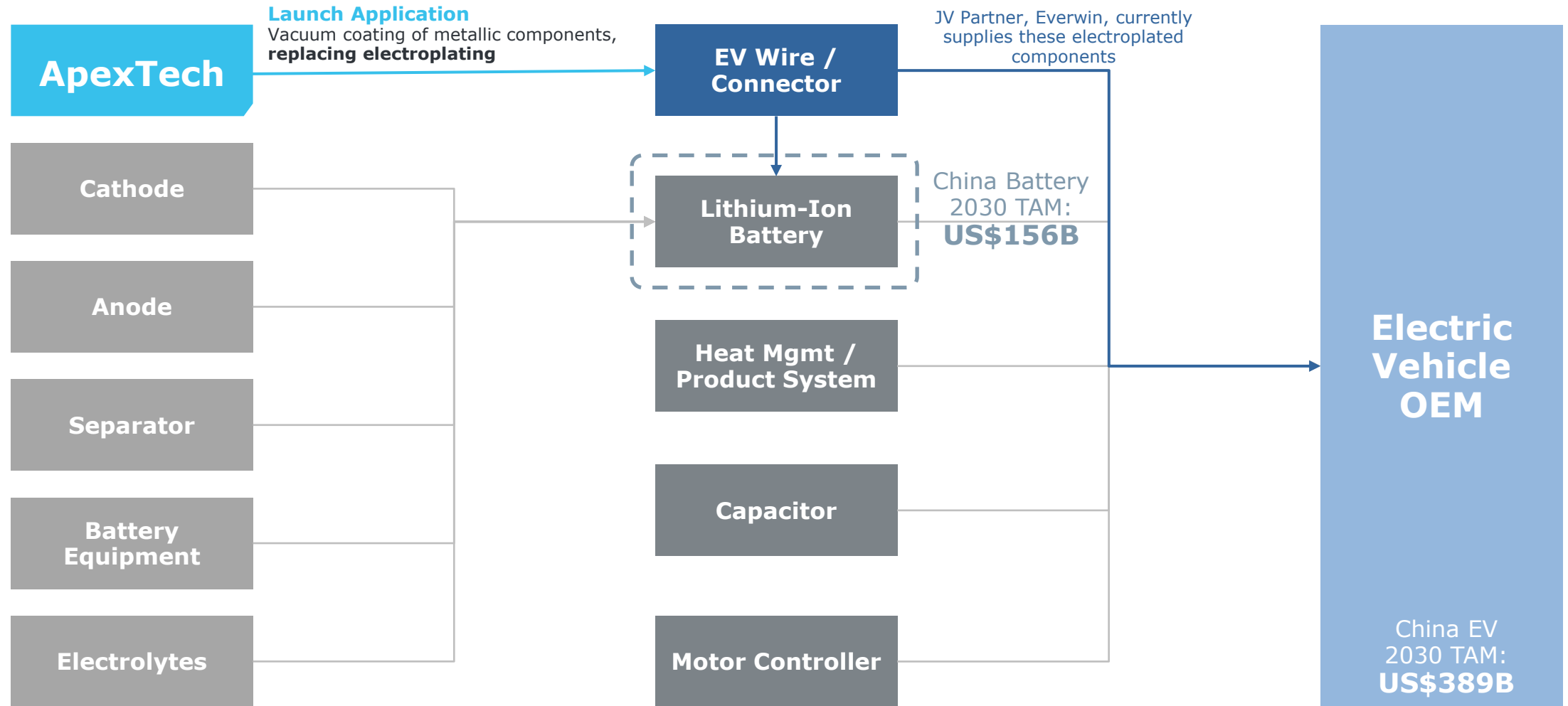
Source: Company information

(1) Through wholly-owned subsidiary, Nanofilm Vacuum Coating (Shanghai) Co., Ltd

2 | **INDUSTRY** LANDSCAPE



Value Chain of EV Manufacturing Industry

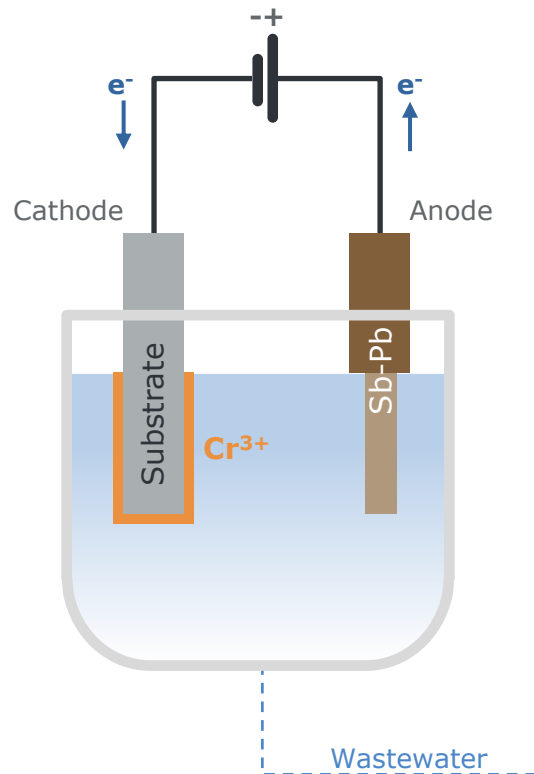


Note: Illustrating only relevant value chain components in the EV manufacturing industry and is not meant to be comprehensive

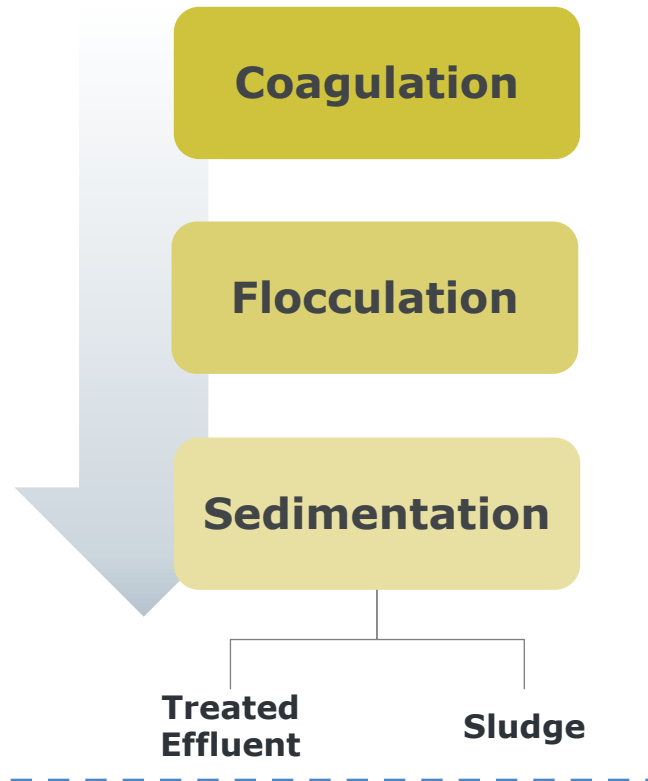
Electroplating Overview

Simplified Electroplating & Wastewater Treatment Process

Chromium Plating



Wastewater Treatment



General Purposes for Electroplating

- **Acts as a protective barrier of the substrate**
 - Reduces friction and prevents tarnishing
 - Wear and tear protection
 - Corrosion protection
- **Decorative purposes, aesthetic appeal**
 - Can make inexpensive metals look like higher-quality / expensive metals
 - Able to achieve various colours, depending on materials used

Chromium plating is typically used on the metallic components in advanced batteries

Sustainable Alternative to Electroplating

Electroplating Challenges

- ✗ **Pollutive process**
 - Chemical process, involving the use of heavy metals, acidic solutions
 - Byproducts of electroplating are hazardous substances, which need to be treated properly prior to disposal
 - Health concerns over prolonged exposure to these known carcinogens
- ✗ **Limited capacity with low chance of expansion**
 - Given the environmental concerns, many countries are phasing out electroplating
 - New licenses for electroplating workshops are tightly controlled in China; additional licenses for existing electroplating workshops are difficult to obtain
 - With demand for such functional performance on these metallic parts expected to increase, companies are actively sourcing for alternate solutions

ApexTech's Value Proposition

- ✓ **Environmentally friendly solution**
- ✓ **Vacuum coating process**
 - No chemicals utilised in the process, coating is applied via plasma
 - No wastewater from coating, ApexTech's coating is a dry process; hence, no treated byproducts¹, eliminating waste
 - No toxic air pollutants emitted
- ✓ **Similar or superior performance**
 - Able to achieve functional performance as required by customers
- ✓ **Cost-effective solution**
 - Comparable to electroplating with scale

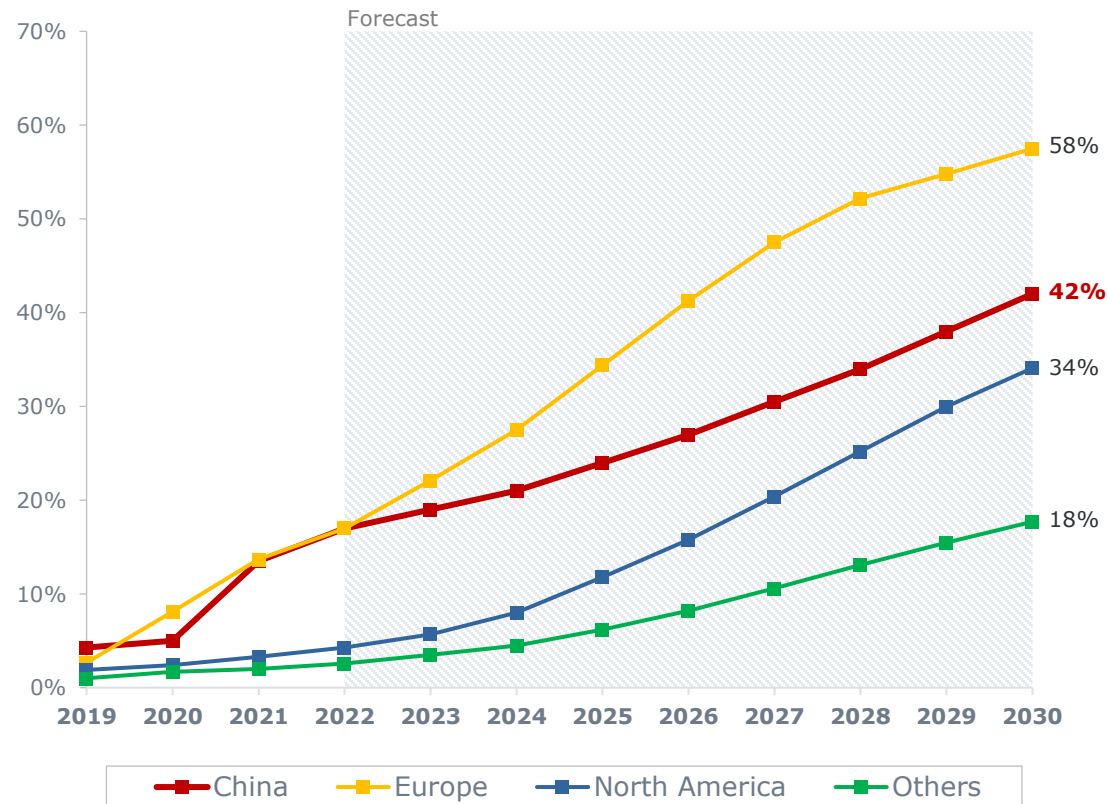
**An effective & sustainable
alternative to electroplating**

Source: Company Information

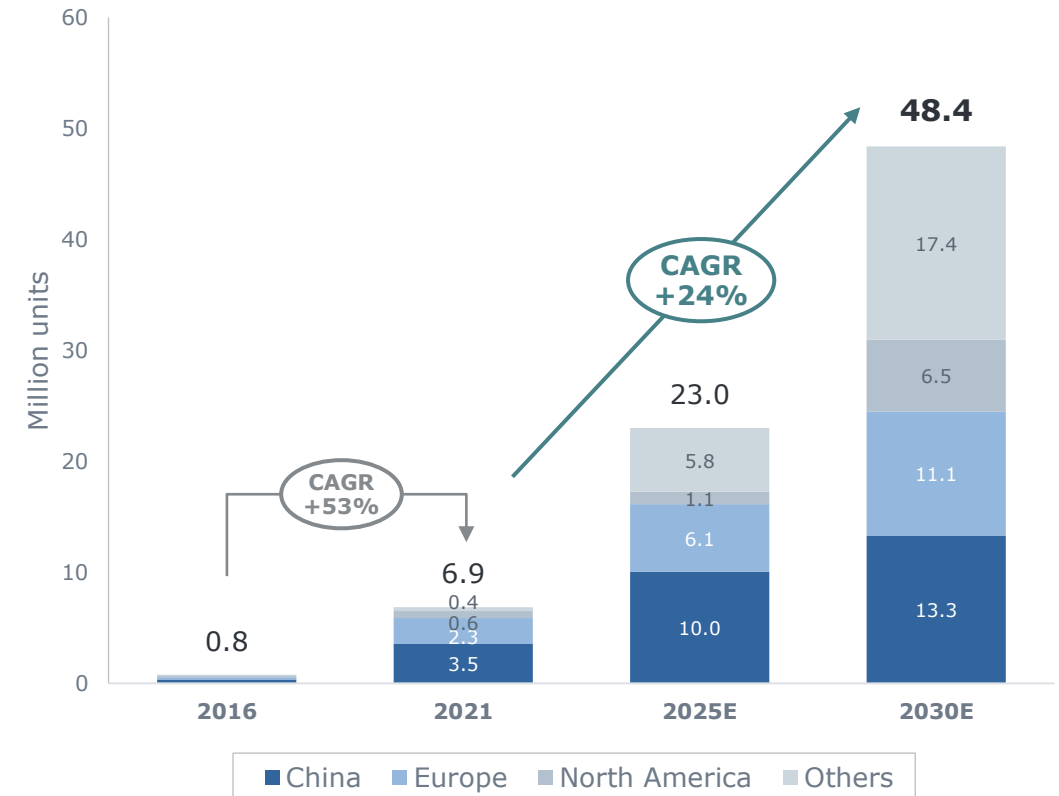
(1) Water is still used during the cleaning process, which will go through the ultrafiltration and reverse osmosis treated processes for water recycling

Market for EVs Expected to Grow: Driven by ESG focus...

Global EV Penetration Expected to Increase to ~50% over time with Rising ESG Focus

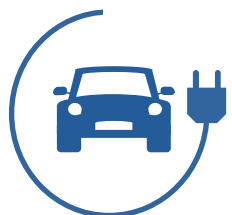


Global EV Sales has Grown Exponentially and is Expected to Reach >48M units in 2030, CAGR 24%



Source: IEA

...Offering Opportunities Beyond Launch Market



EV Sales & Market Size

GLOBAL	
2023E	2030E
14.8M units	48.4M units
~US\$597B ¹	~US\$1,954B ¹

CHINA	
2023E	2030E
6.8M units	13.3M units
~US\$198.3 ²	~US\$389.3B ²
~US\$79.3B ³	~US\$155.7B ³

ApexTech

JV Focus



Battery Costs

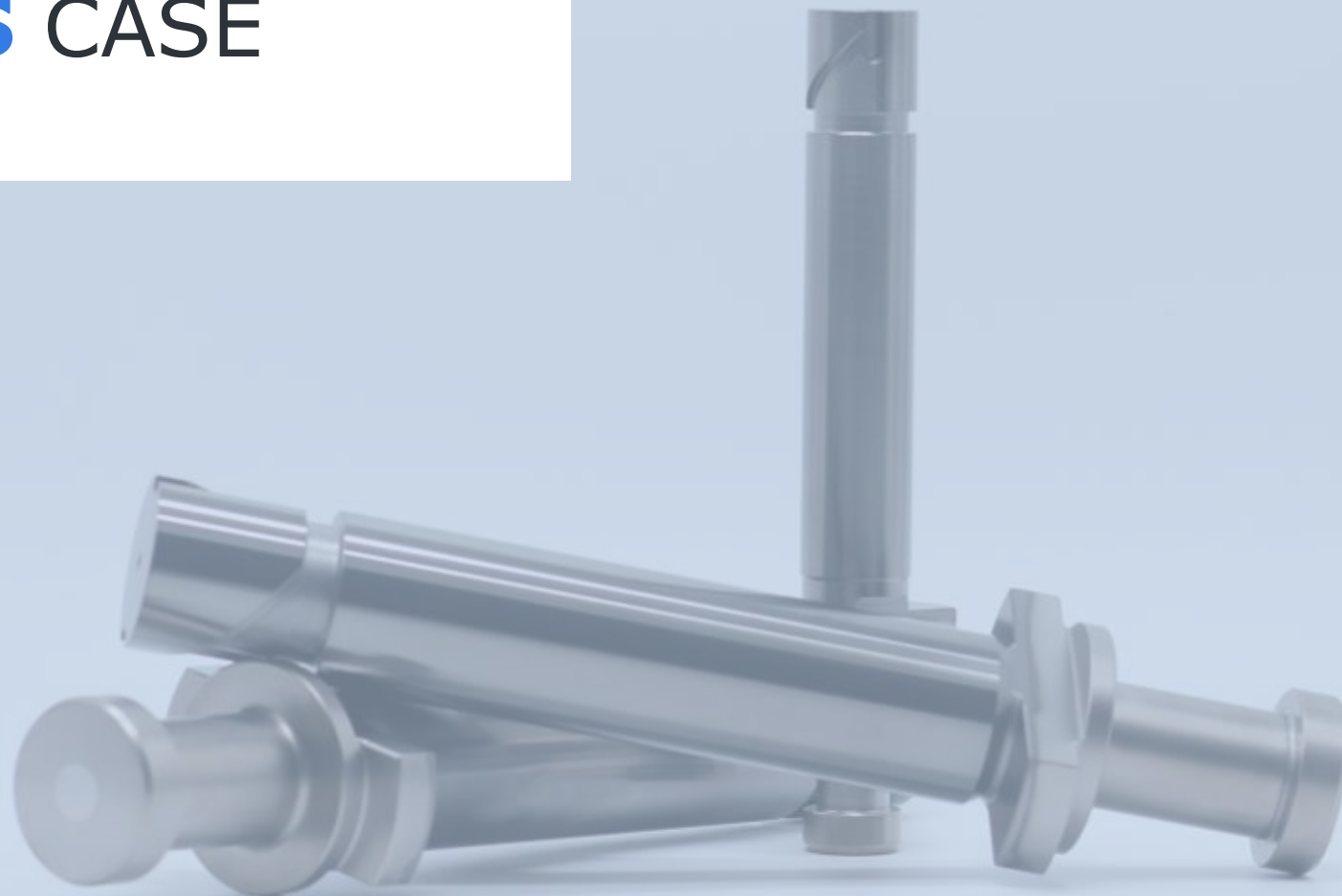
~US\$238.9B ³	~US\$781.6B ³
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Nanofilm and Everwin will hold good faith discussions on structure and go-to-market strategy

Source: IEA and internal estimates

- (1) US\$40,384 per EV, based on global sales-weighted average price of BEVs and PHEVs in 2021 by IEA
- (2) US\$29,228 per EV, based on China sales-weighted average price of BEVs and PHEVs in 2021 by IEA
- (3) Assuming battery costs makes up 40% of total costs

3 | BUSINESS CASE




Our Growth Strategy: Focused key strategic areas

GEOGRAPHICAL DIVERSIFICATION & COVERAGE

Near-term objectives:

Set up coating services facility 

Expand Nanofab production 

Expand production (current premises),
Set up HQ & Engineering Centre
(Tai Seng) 

NEW SEGMENTS WITH CAPABILITY & PRODUCT EXPANSION

Near-term objectives:

Greener solutions to replace electroplating **1**

New optical component applications **2**

Expand BPP & develop fuel cell system prototypes **3**



JOINT VENTURES / M&A

Near-term objectives:

1 Potential JV in advanced batteries components for EVs in China

2 Explore M&A opportunities to gain market access to customers in different geographies

R&D AND ENGINEERING PRODUCT DEVELOPMENT




Near-term objectives:

1 Strengthening in-house R&D and extending deep-tech platform

2 As a home-grown deep-tech company, Nanofilm embraces RIE policy and support, to substantially increase R&D efforts to drive innovation and contribute to the economic development locally

Note: Updates will be provided on a periodic basis

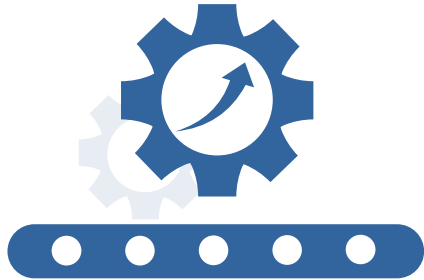
Strategic Rationale

Key Areas	Value Propositions
 Competitive Advantage/ Uniqueness	<ul style="list-style-type: none">▪ Utilising Nanofilm’s proprietary coating processes, JV can help address environmental issues▪ Cost-effective alternative to electroplating, potentially solving production capacity constraints▪ Geographically close to the supply chain for advanced batteries used in electric vehicles (“EVs”)
 Expands customer base (Revenue Synergies)	<ul style="list-style-type: none">▪ Establish new customer relationships in the burgeoning EV industry, expanding wallet share with EV customers▪ Opportunity to demonstrate capabilities and scale into other electroplated components▪ Could pave the way for deeper collaboration between Nanofilm and Everwin
 Complementary to core technology & applications	<ul style="list-style-type: none">▪ Develop valuable technical and operational know-how of the advanced batteries industry▪ Commercialisation of coating for advanced batteries would leverage Nanofilm’s demonstrated experience in volume production▪ Opportunity to expand in-line equipment development capabilities

STRATEGIC GOAL OF JV

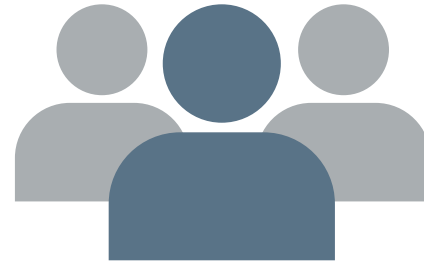
For ApexTech’s advanced materials solution to become the leading standard for metal components in EV battery systems by offering cost competitive and superior performance solutions to electroplating

ApexTech Operational Plan



PRODUCTION

- Targeting initial production in 1H2023
- Industrial scale mass production in 2024
- Coating equipment will be designed and built in-house by Nanofilm
- Leverage on Nanofilm's capabilities through provision of proprietary equipment for mass production



RESOURCES

- Governed by 5 directors, comprising:
 - 3 nominated by Nanofilm and
 - 2 nominated by Everwin
- Hiring of executive and non-executive positions to support initial production
- Progressively hire as ApexTech ramps up industrial scale mass production



LOCATION

- ApexTech will set up its production facilities in Zigong, Sichuan
- Site will be close to Everwin's facility as well as the advanced battery supply chain
- Maximise production and customer synergies with Everwin

THANK YOU

