

# Nanofilm Corporate Presentation

13<sup>th</sup> Credit Suisse  
ASEAN Conference



# Important Notice

This presentation is for information purposes only and does not constitute or form part of an offer, invitation or solicitation of any offer to purchase or subscribe for any securities of Nanofilm Technologies International Limited (the “Company”) in Singapore or any other jurisdiction nor should it or any part of it form the basis of, or be relied upon in connection with, any contract or commitment whatsoever.

The information and opinions in this presentation are provided as at the date of this document (unless stated otherwise) and are subject to change without notice, its accuracy is not guaranteed and it may not contain all material or relevant information concerning the Company or its subsidiaries (the “Group”). None of the Company, its subsidiaries nor its affiliates, advisors and representatives make any representation regarding, and assumes no responsibility or liability whatsoever (in negligence or otherwise) for, the accuracy or completeness of, or any errors or omissions in, any information contained herein nor for any loss howsoever arising from any use of this presentation. Further, nothing in this presentation should be construed as constituting legal, business, tax or financial advice.

The information contained in this presentation includes historical information about and relevant to the assets of the Group that should not be regarded as an indication of the future performance or results of such assets. Certain statements in this presentation constitute “forward-looking statements”. These forward-looking statements are based on the current views of the Company concerning future events, and necessarily involve risks, uncertainties and assumptions. These statements can be recognised by the use of words such as "expects", "plans", "will", "estimates", "projects", "intends" or words of similar meaning. These forward-looking statements speak only as at the date of this presentation. No assurance can be given that future events will occur, that projections will be achieved, or that assumptions are correct. Actual future performance, outcomes and results may differ materially from those expressed in forward-looking statements and you are cautioned not to place any undue reliance on these forward-looking statements. The Company does not assume any responsibility to amend, modify or revise any forward-looking statements, on the basis of any subsequent developments, information or events, or otherwise, subject to compliance with all applicable laws and regulations and/or the rules of the Singapore Exchange Securities Trading Limited (the “SGX-ST”) and/or any other regulatory or supervisory body or agency.

# Management Panel



**Presenter**

## **GARY HO**

Group CEO

- With Nanofilm since 2018
- Previous experience: COO for several functions at Hi-P
- MBA from University of Roehampton



## **GIAN YI-HSEN**

Group CCSO

- Joined Nanofilm in 2021
- Previous experience: Singapore Economic Development Board across various roles
- Bachelor of Engineering from University of Tokyo



## **KAY LIM**

Group CFO

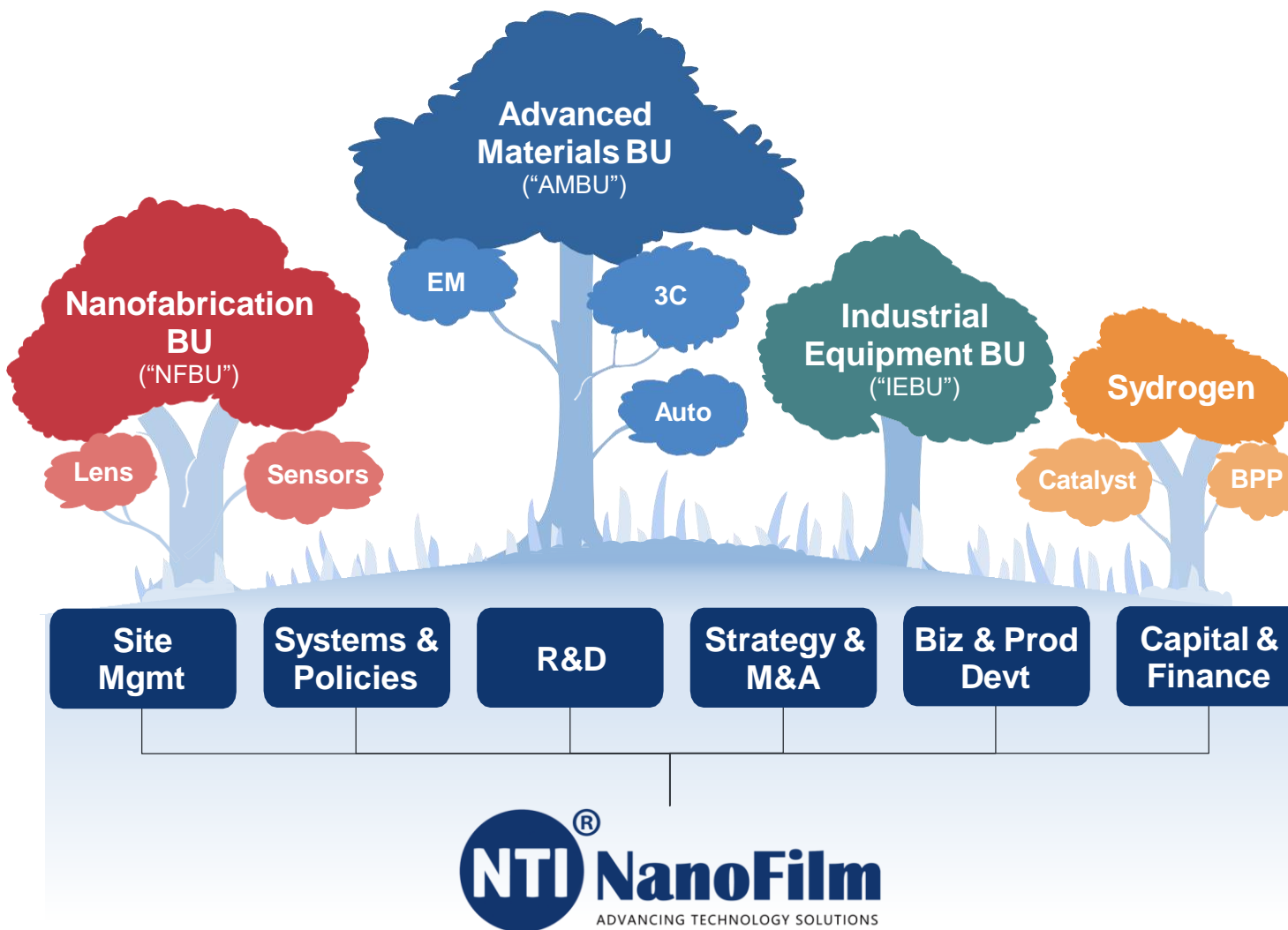
- With Nanofilm since 2019
- Previous experience: Senior investment management positions in leading FIs
- Bachelor in Accountancy and Bachelor in Finance, Summa Cum Laude from SMU

A 3D graphic of a grid of cubes, with one cube in the top right corner missing, set against a dark blue background with bokeh light effects.

**Nanofilm Group**  
Introduction

# Connecting Deep-Tech to the Commercial World

*Established track record in commercialising our deep technologies*

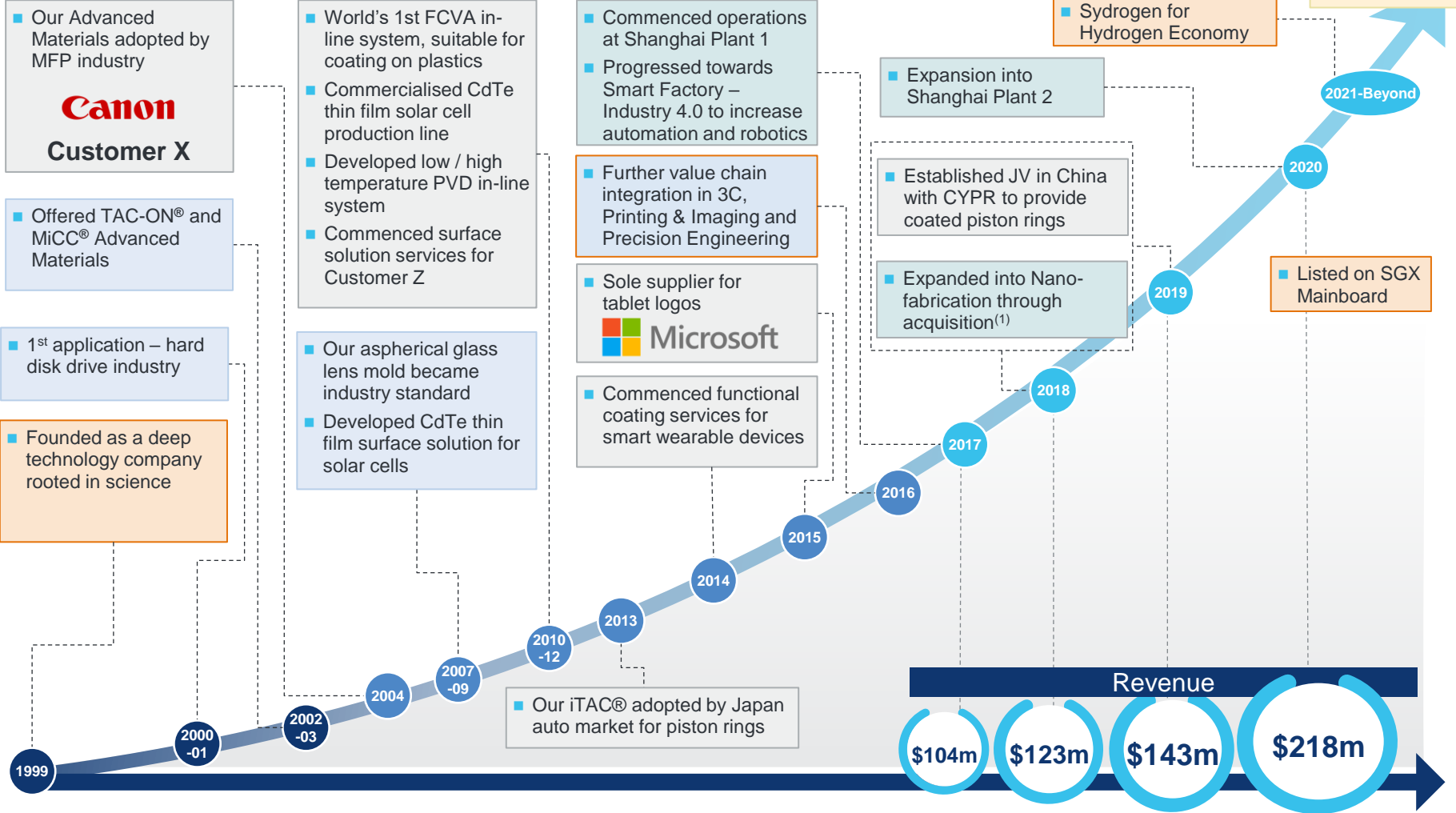


Enabling our BUs to branch out to the **Commercial World**

**Core centralised functions**  
Providing strategic support

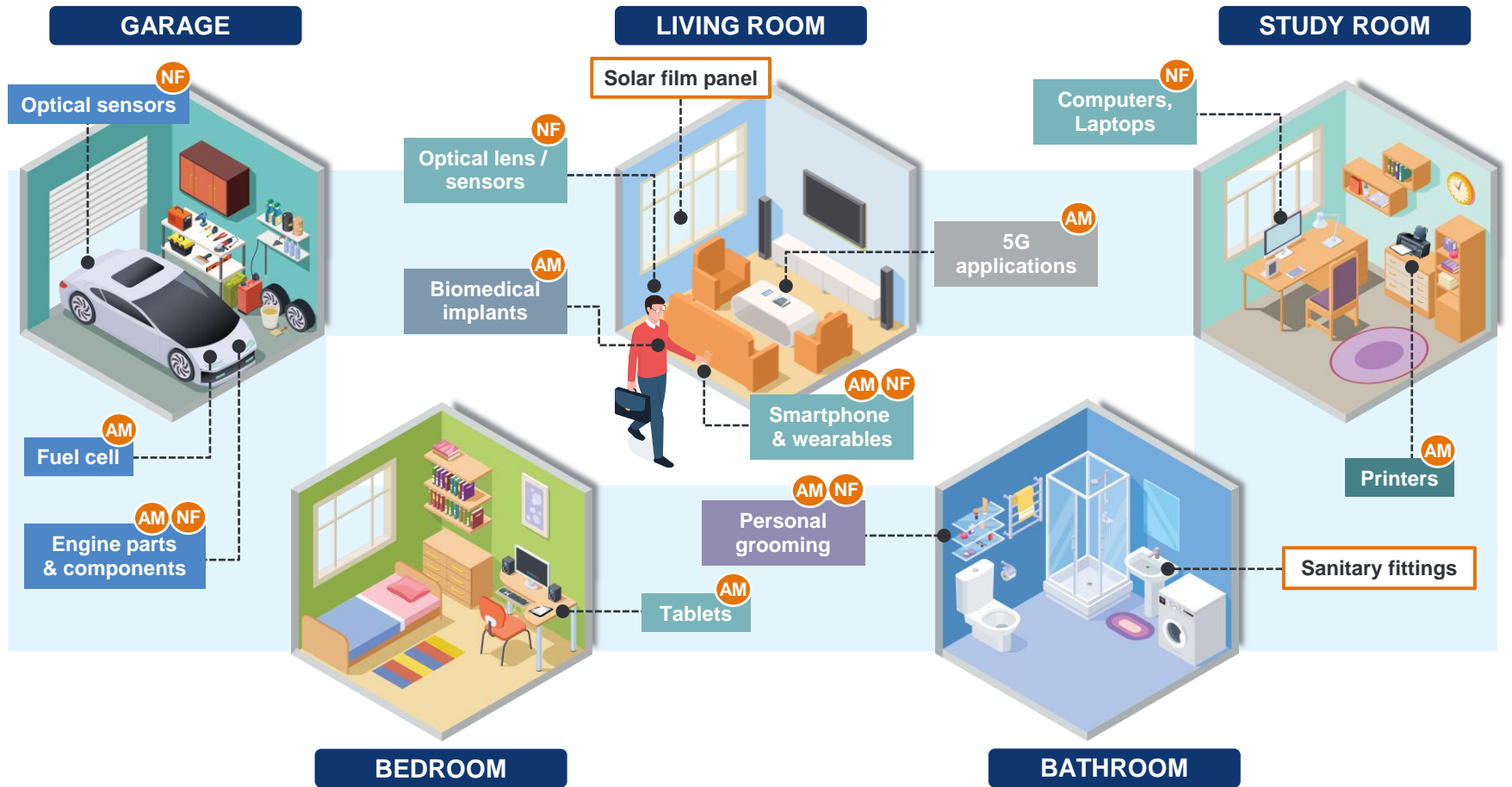
Rooted by **Nanofilm's deep technologies**

# We have Leveraged our Technology know-how to Evolve Over Time



Mass production of mission critical products / innovation
  Capacity expansion
  Corporate actions

# Company's Nanotechnology Solutions are Being Used in Our Daily Lives Across a Range of Industries



**Industries:** Automotive (Blue), Bio-medical (Grey), High Frequency Component and Equipment (Light Blue), 3C (Teal), Office automation & productivity modules (Dark Teal), FMCG (Purple), Others (Orange)

**Business units:** AM (Advanced Materials), NF (Nanofabrication)

**Our nanotechnology solutions are adaptable for use across a wide range of industries**

Source: Company information

# Sustainability Strategy

*Our approach to sustainability*



## Sustainable Innovation



## Environment



## Social



## Governance

Striving for innovation and operational excellence in a sustainable and responsible way

Protecting the environment for the benefit of future generations

Caring for our employees' well-being and providing for their training and development

Ensure a sound corporate governance structure to drive the overall strategy of the group

Continued R&D of technologies to create solutions with positive sustainability impact and improve lives

Committing to improve carbon footprint and water efficiency

Caring for the community that we operate in through various ways of community involvement

Compliance with rules and regulations to ensure the continued operation of the group



# BU's Demonstrated Strong Track Record & Capabilities

## AMBU 3C Auto Emerging



- Provides mission critical solutions based on vacuum coating technologies

## NFBU



- Combining proprietary synergistic nanofab and coating technologies

## IEBU



- Manufactures turnkey equipment systems for AMBU and for sale to selected customers

## SYDROGEN®



- Provides critical components in hydrogen fuel cell system

### Tech & Footprint

- Patented materials like TAC-ON®, iTAC® and FVCA metals, MICC®
- Singapore and China facilities

- CAM software
- Tooling)
- Japan, Vietnam facilities

- Coating systems
- Singapore and China facilities

- Proprietary Black Diamond advanced materials
- Singapore and China facilities

### Markets

- **3C** Microsoft Customer Z  
Customer A HUAWEI
- **Automotive**  
asimco TECHNOLOGIES | CYPR | ATG | TPR | RIKEN
- **Precision Engineering**  
Customer W
- **Printing & Imaging**  
RICOH imagine. change. | Canon | FUJI XEROX

- Optical Lens
- Optical Sensory Components
- Customer Z
- DAICEL
- LUMILEDS

- Precision engineering
- Aspherical Glass Lens and Plastic Lens mold
- Solar Cells
- AAC TECHNOLOGIES
- Nikon
- SUNNY OPTICAL TECHNOLOGY

- Automotive – passenger, commercial
- Ships
- Power systems

Source: Company Information

# Current Global Footprint

5

Production facilities

4

R&D centres

~110,000

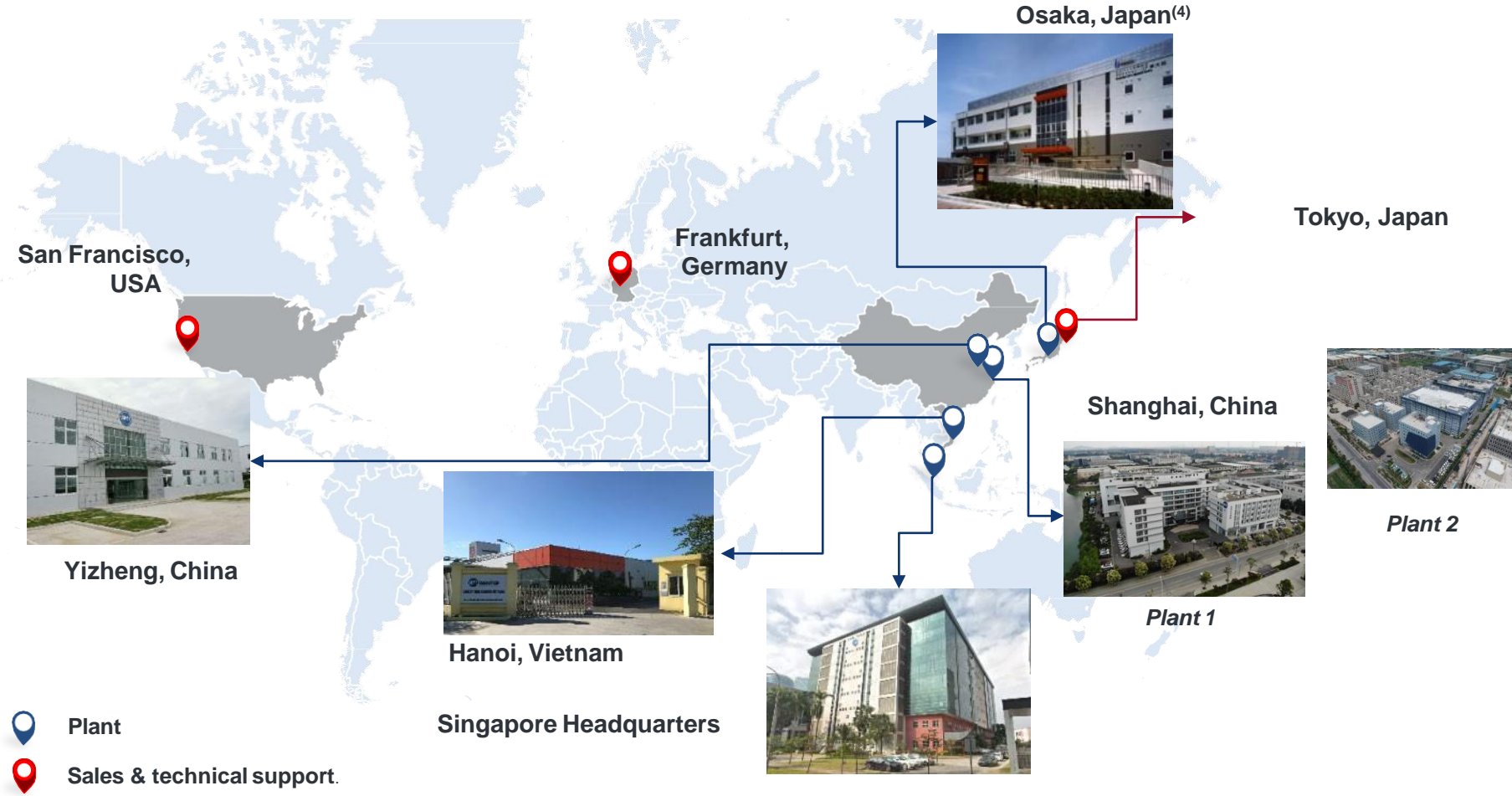
sqm total gross floor area

3

Sales & technical support offices

>3,000

Employees



Source: Company Information

# Core Management Team

## Founder and Executive Chairman



**Dr Shi Xu**

- Founded Nanofilm in 1999, as a technology spin off from NTU
- Visionary founder of NTI who developed and commercialised the Company's deep technologies
- Recipient of National Technology Award from National Science and Technology Board in 2000, Innovation Award from Economic Development Board in 2001, EY Entrepreneur of the Year (Singapore) in 2017, Businessman of the Year (Singapore Business Awards) in 2021
- Appointed the Nanyang Professor of the Practice, NTU

## Nanofilm Management Team

Name	Position	Responsibilities
 <b>Mr Gary Ho</b>	<ul style="list-style-type: none"><li>• Group Chief Executive Officer</li></ul>	<ul style="list-style-type: none"><li>• Managing overall operations and resources of the Group</li><li>• Driving strategic initiatives of the Group</li></ul>
 <b>Mr Gian Yi Hsen</b>	<ul style="list-style-type: none"><li>• Group Chief Commercial &amp; Strategy Officer</li></ul>	<ul style="list-style-type: none"><li>• Manages and drives Group's commercial strategy and development activities</li><li>• Developing Group's sustainability strategy</li></ul>
 <b>Mr Sean Tan</b>	<ul style="list-style-type: none"><li>• Group Chief Human Resources Officer</li></ul>	<ul style="list-style-type: none"><li>• Developing and executing HR strategies, managing overall HR function of the Group</li><li>• Corporate administration and global site management</li></ul>
 <b>Mr Lars Lieberwirth</b>	<ul style="list-style-type: none"><li>• Group Chief Technology Officer</li></ul>	<ul style="list-style-type: none"><li>• Implementing technology strategies</li><li>• Ensuring technological resources are aligned with business needs</li></ul>
 <b>Mr Kay Lim</b>	<ul style="list-style-type: none"><li>• Group Chief Financial Officer</li></ul>	<ul style="list-style-type: none"><li>• Leadership in financial management, corporate finance</li><li>• Strategic financial planning, budgeting, reporting and analysis</li></ul>



Nanofilm Technologies International Limited

A 3D graphic of a cube is positioned on the left side of the page. The cube is composed of several smaller, semi-transparent blue cubes arranged in a grid-like pattern. The lighting is dramatic, with strong highlights and deep shadows, giving it a sense of depth and three-dimensionality. The background is a dark blue gradient with some blurred light spots.

**Nanofilm Group**  
Core Technology

# Leading in Innovation & Uncharted Areas of Application

>70

Patents & Trademarks

>20

Pending



Patented technology

**FCVA**  Core Technology

**TAC-ON™**  
(Carbon coating)

**iTAC™**  
(Thick film  
carbon coating)

**MiCC™**  
(Chromium coating)

**Aluminium**

**Copper**

Applications across 3C, MFP and other industries

Untapped, potential future growth drivers  
from creation of new materials based on  
oxides, silicide and nitrides



**Nanofabrication**

Synergistic technology which  
expands FCVA applications



**Sputtering**



Improved coating results of conventional PVD  
methods



**Arc Evaporation**

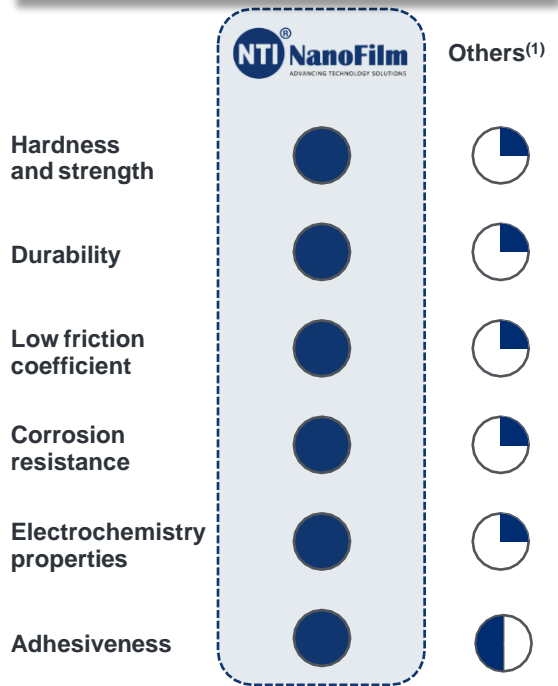
# Technological Superiority grounded by Science

Offering significant advantages compared to conventional technologies



**“Conductive Diamond”**

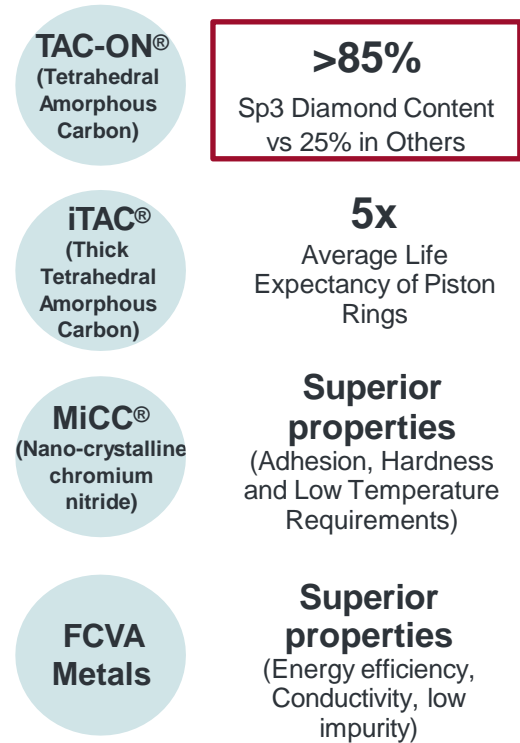
## Improved properties vs others



## Access to new substrates



## Specific technology edges



**Nanofilm technology capabilities enable deposition at room temperatures opening up new markets which others cannot access**

**Redraws Material Science Boundaries**

Source: Company information  
Note: (1) Such as PVD and CVD

# Our Deep Tech Platform

Complementary technological pillars



## Proprietary Deposition Technologies

In-house Equipment

Single & Hybrid

FCVA + PVD  
FCVA + CVD

Full Body & Select Surface



## Proprietary Advanced Materials

TAC-ON®  
(Tetrahedral Amorphous Carbon)

iTAC®  
(Thick Tetrahedral Amorphous Carbon)

MiCC®  
(Nano-crystalline chromium nitride)

FCVA Metals

## Nanofabrication Technologies

Single Point Diamond CNC



Nano Molding & Wafer Impression

CAM Fabrication Forming



## System Level Integrations

Assembly & Testing



Value Chain Integration



## Operational Excellence

Ind. 4.0 & MES



Automation

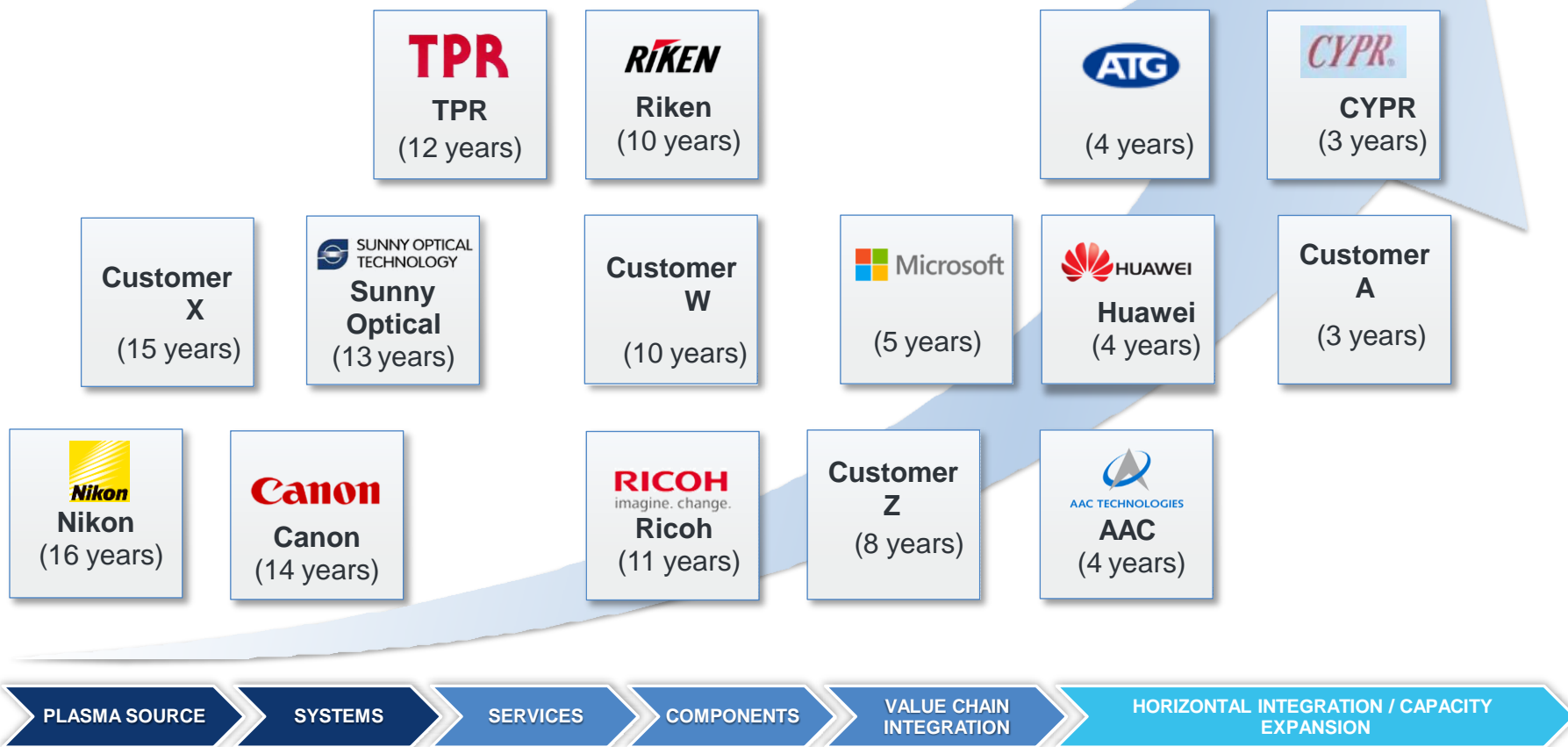


Resources Optimisation

Source: Company information

# Mission-Critical Applications for Top-Tier Global Customers

Single source supplier status to **9<sup>(1)</sup>** out of top 10 major customers for the nanotechnology solutions NTI supplies to them



(1) Including customers where Nanofilm is partially sole source  
Source: Company information



A 3D graphic of a grid of cubes, with one cube in the top right corner missing, set against a dark blue background with bokeh light effects.

**Nanofilm Group**  
Business Updates & Outlook

# Key Business Updates

## AMBU

- Saw rebound in production output following peak period commencement in 4Q2021
- Momentum expected to be carried into 1Q2022
- Beyond 3C, other segments continue to deliver strong growth with increasing adoption of our greener and functional advanced materials solutions

## NFBU

- Commenced mass production of MLA for next gen wearables
- Progressively ramping up according to schedule and on-track to contribute positively to performance of NFBU in 4Q2021 and beyond, along with other new projects under development

## IEBU

- Resumption of customer capex to expand production capacities
- Recognise robust demand from customers with visible order book going into FY2022

## Sydragen

- Building production capacities and infrastructure in Shanghai and Singapore to capture opportunities in hydrogen fuel cell market
- Enhance R&D capabilities with centres in Shanghai and Singapore for fundamental hydrogen fuel cell research and developing critical core components

# Key Business Updates (cont'd)

## R&D

- Accelerating efforts to develop core tech and new product offerings in 2022
- Driving synergistic tech solutions combining nanofabrication with advanced materials as enabling catalysts
- New exciting areas cover transformational fields and disciplines:
  - i. new classes of advanced materials through greener and sustainable composites
  - ii. engineered optics for VR and AR to revolutionise manner for persons to interact with the world
  - iii. hydrogen fuel cell technologies and components for decarbonisation through hydrogen

## M&A and Venture

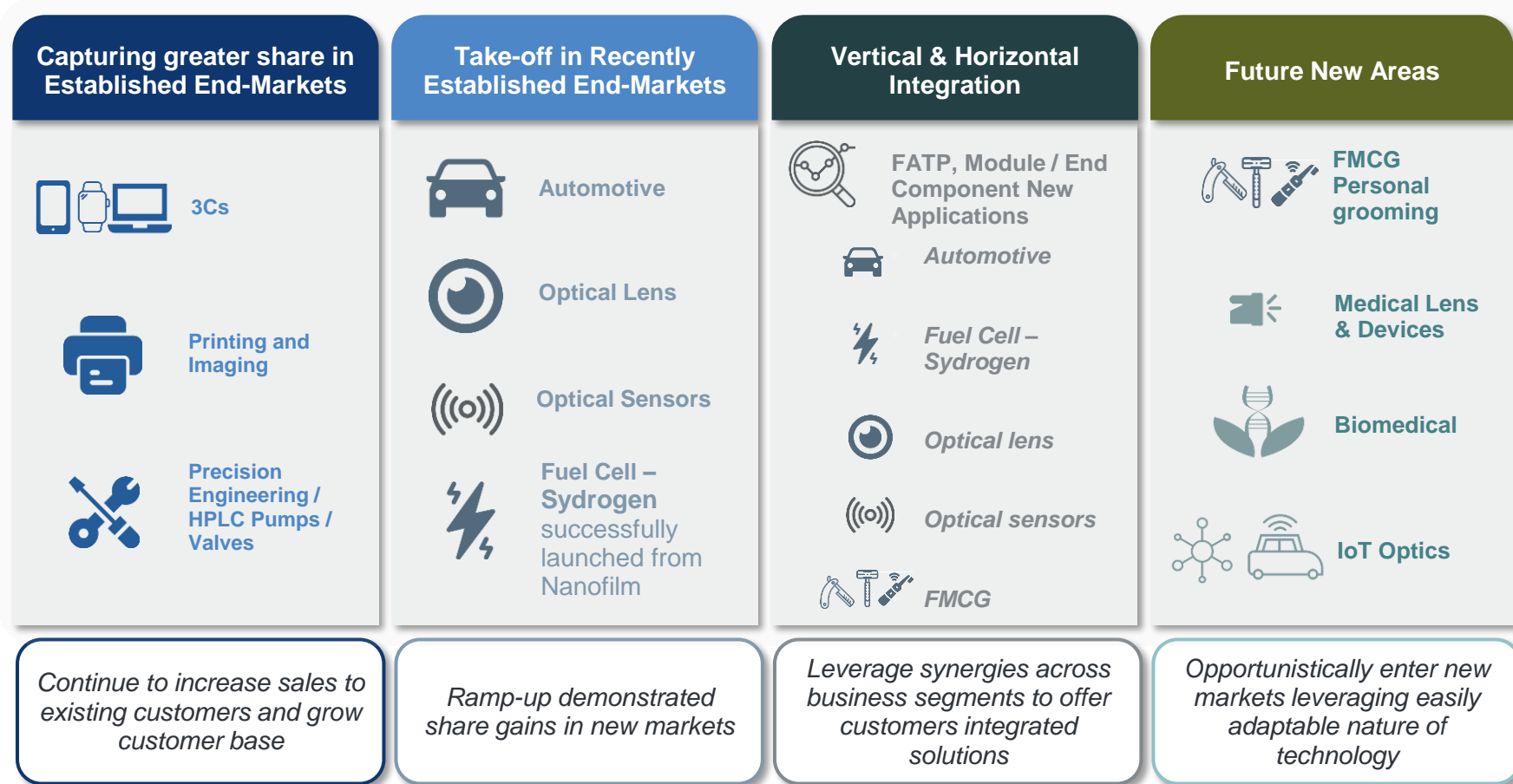
- Complement BU structure with tech ventures with strategic partners e.g. Sydrogen
- Completion of acquisition of Miller Technologies to enhance value chain capabilities
- Investing in cutting edge technology ventures that have direct synergies with core business and can leverage on, or combine with, proprietary deep tech capabilities to create new applications and products

# Outlook: Well-Positioned for Multiple Avenues of Growth

Leveraging Core Enabling Technologies in End-Market Applications and Value Chains of Strategic Partners to Achieve Sustainable Long-Term Growth

Advanced Materials Market size 2023E: US\$24.3bn<sup>(1)</sup>

Value Chain Integration - Components TAM 2023E: US\$423bn<sup>(1)</sup>



Source: Frost & Sullivan, Company Information

(1) Based on Frost & Sullivan's forecast in its report "Independent Market Research (IMR) on the Global Advanced Materials Industry"

**Thank You**

