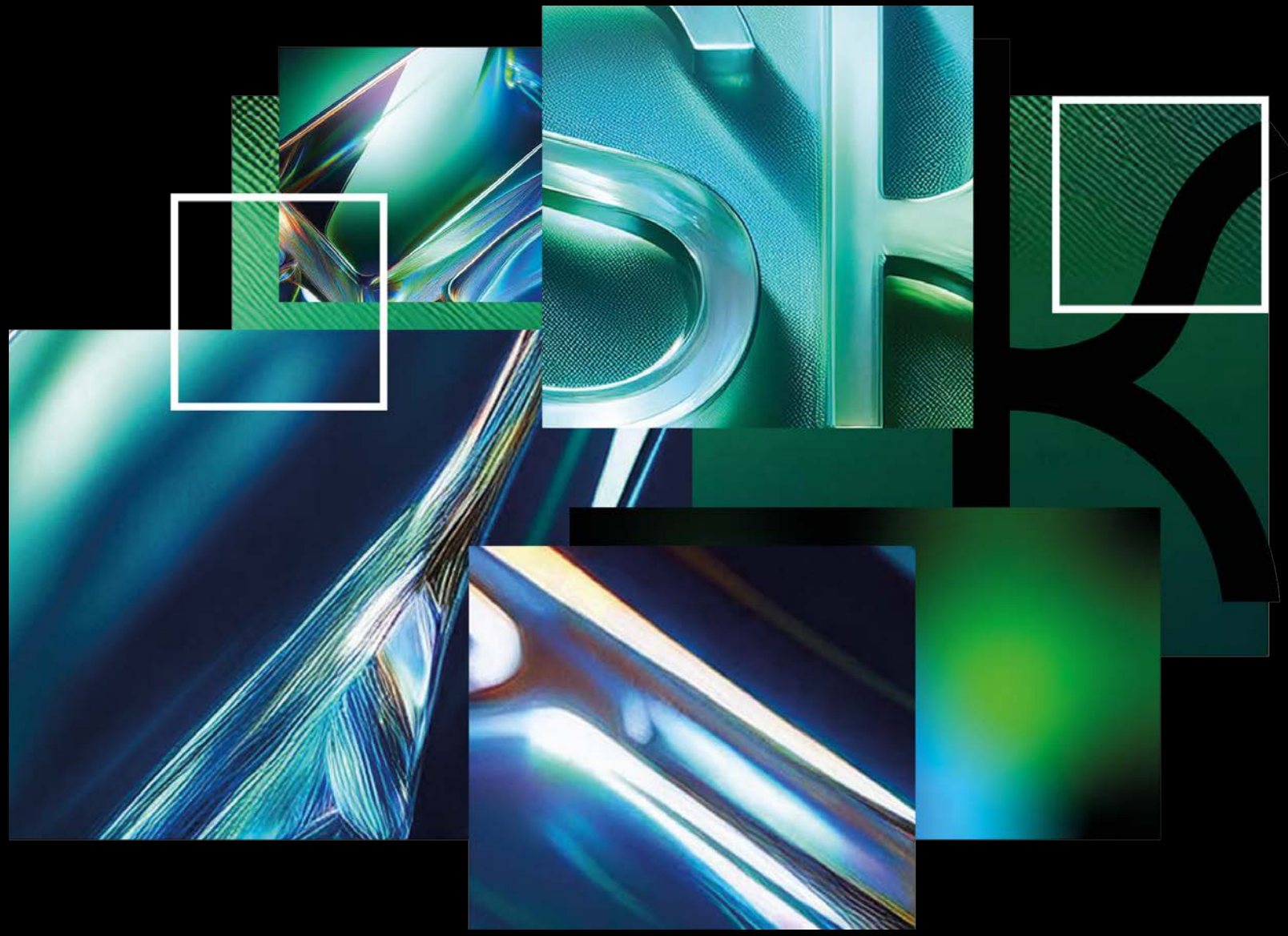
Changing the World As We See It



Smartkem

Cautionary Note Regarding
Forward Looking Statements

This presentation contains certain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933 and Section 21E of the Securities Exchange Act of 1934 and the Private Securities Litigation Reform Act, as amended, including those relating to the Company's product development, market opportunity, competitive position, possible or assumed future results of operations, business strategies, potential growth opportunities and other statements that are predictive in nature. These forward-looking statements are based on current expectations, estimates, forecasts and projections about the industry and markets in which we operate and management's current beliefs and assumptions.

These statements may be identified by the use of forward-looking expressions, including, but not limited to, "expect," "anticipate," "believe," "estimate," "potential," "predict," "project," "should," "would," and similar expressions and the negatives of those terms. These statements relate to future events or our financial performance and involve known and unknown risks, uncertainties, and other factors which may cause actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements. Such factors include those set forth in the Company's filings with the Securities and Exchange Commission. Prospective investors are cautioned not to place undue reliance on such forward-looking statements, which speak only as of the date of this presentation. The Company undertakes no obligation to publicly update any forward-looking statement, whether as a result of new information, future events or otherwise.

Enabling the Adoption and Mass Commercialization of Next Generation MicroLED Displays

artist rendering of display

What We Do

Providing new liquid semiconductor materials that enable…

- ☑ Flexible,
- ☑ Transparent &
- ☑ Lightweight

…displays with the potential to revolutionize the industry.

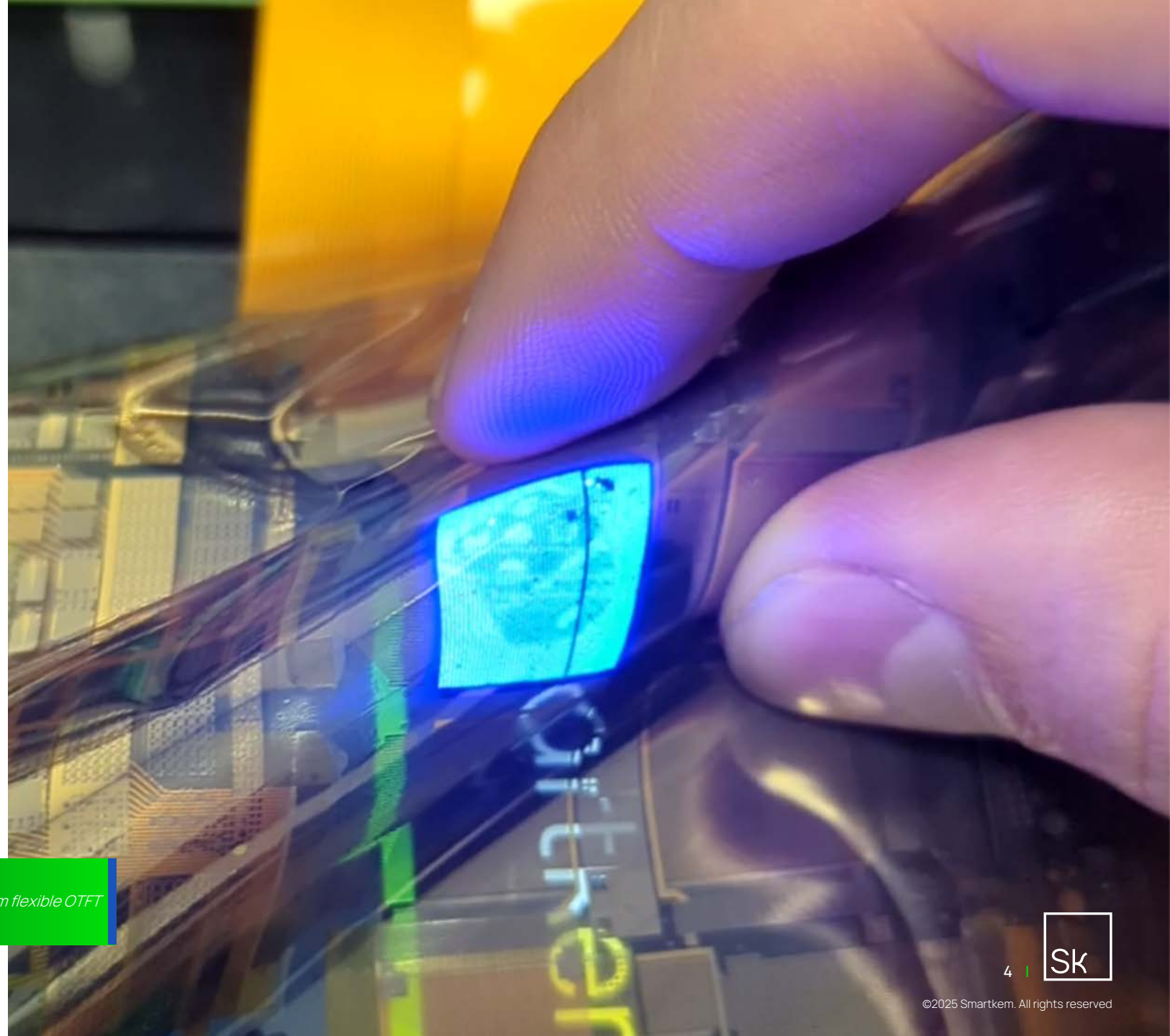


Photo of Smartkem flexible OTFT

Strategic Positioning in UK & Asia

Enabling the Next Generation of MicroLED Displays

- Seeking to enable market shift to MicroLED displays
- Targeting $4B+ microLED market by 2030, 59% CAGR from 2024 to 2030 [1]
- Improving MicroLED display scalability by introducing differentiated, proprietary semiconductor materials
- Positioning Smartkem to win as proprietary enabler with deep competitive moats (£60M invested to date)
- Responding to requests about adjacent applications, like AI packaging for which the market expected to be $28B in 2029, a 37% CAGR from 2023 [2]

[1] 2024 Omdia Report | [2] Yole Intelligence 2024

Photo is not a Smartkem Display

There is a Better Way than OLEDs: Benefits of microLED Displays

- Superior Brightness and Efficiency
- Longevity and Durability
- High Contrast and Color Accuracy
- Versatility
- Thinner and Lighter Designs

Jonghee Han, President of Visual Display Business at Samsung Electronics: "MicroLED is a next-generation technology poised to redefine the future of displays. With its self-emissive nature and modular structure, it provides stunning picture quality and near-infinite scalability. It's part of Samsung's commitment to innovation in bringing the best possible viewing experience to consumers." *(Source: CES 2020 Samsung MicroLED unveiling)*

The Market is Shifting to MicroLED Displays

CRT ››

Enabled display, albeit distorted color with large, heavy format

LCD ››
Market Size: $150B

Flat screen, improving picture & form

OLED ››
Market Size: $56B

High contrasts, high viewing angles & true blacks Less power

MicroLED
Market Size: $150M

Brighter, Longer Lasting & Better Visual Experience

Photo is not a Smartkem Display

Terry Gou, Founder of Foxconn (Hon Hai Precision Industry Co.): "MicroLED is key to the future of the display industry. As we enhance our production capabilities, microLEDs will deliver improved brightness, color accuracy, and durability, which will drive adoption across consumer electronics, including smartphones, TVs, and even smart glasses." *(Source: Foxconn announcements on microLED production plans)*

Potential Market Opportunity

CURRENT BACKPLANE MARKET

200 million square meters of backplanes manufactured annually[1]

CURRENT BACKPLANE COSTS

Approximately $100+ per square meter[2]

POTENTIAL ADDRESSABLE MARKET

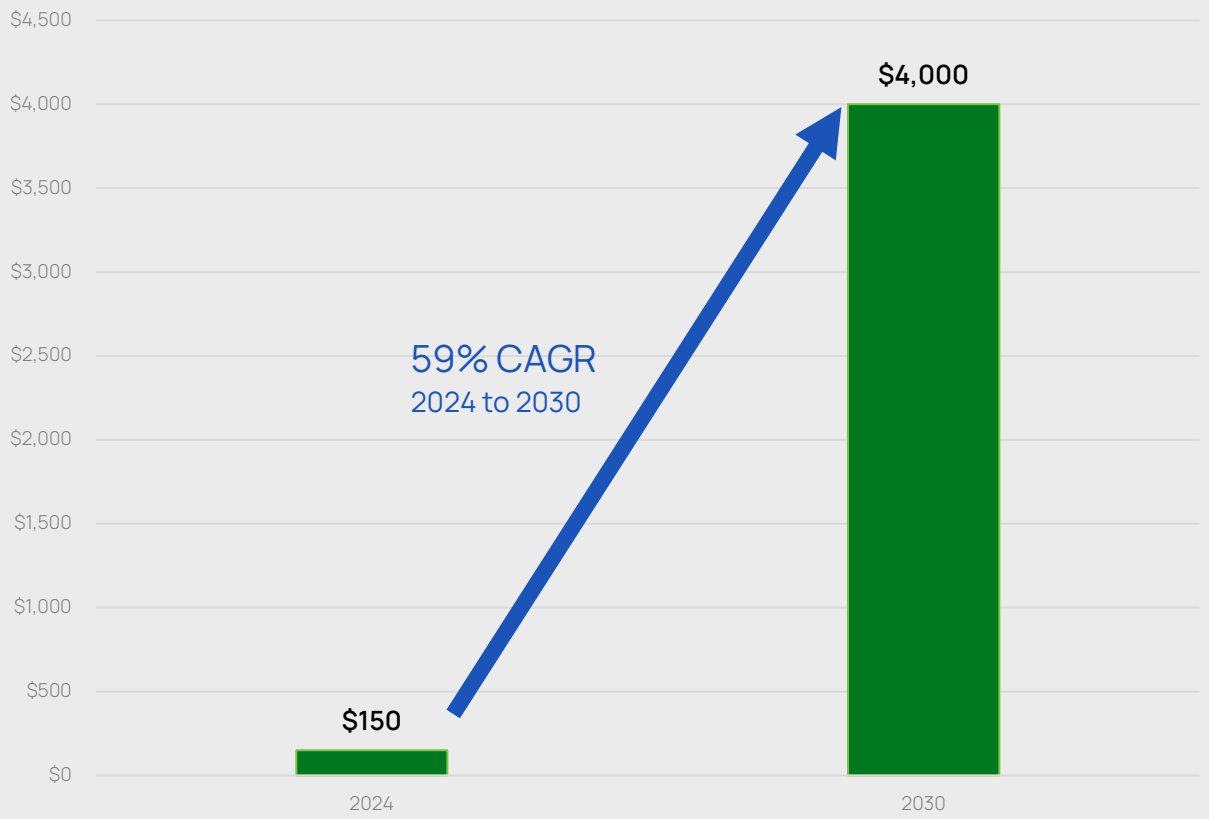
$20B+ Annually

[1] 2024 Omdia Report "Top 10 Display Topics on 2024 Review and 2025 Prospect"
[2] Hendy Consulting

MicroLED Displays Expected to Reach $4B by 2030 – a 59% CAGR from 2024 to 2030

MicroLEDs expected to be **7% - 8% of total display market** by 2030

MicroLED Display Market Size 2024 to 2030
(USD Million)[1]



[1] 2024 Omdia Report

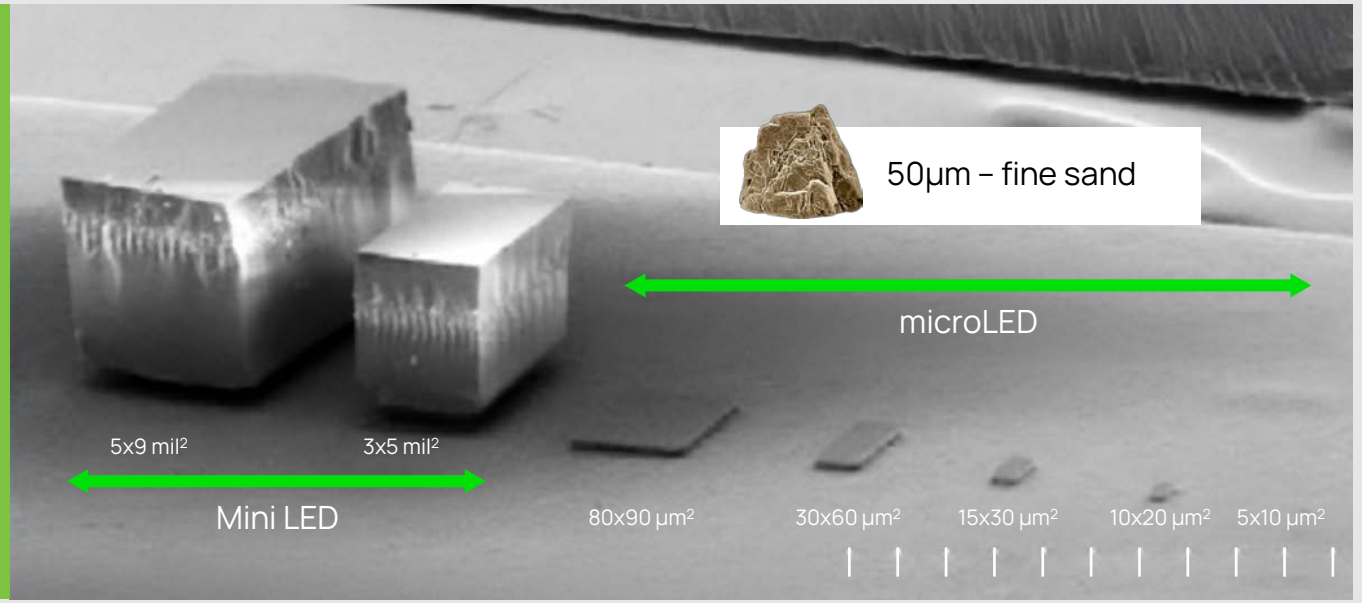
Smaller is Better; Smaller is Necessary

Smaller MicroLEDs are the key to making the next generation displays economically viable

☑ Lower cost displays

☑ Better resolution

But alignment & connecting such small components is a major challenge

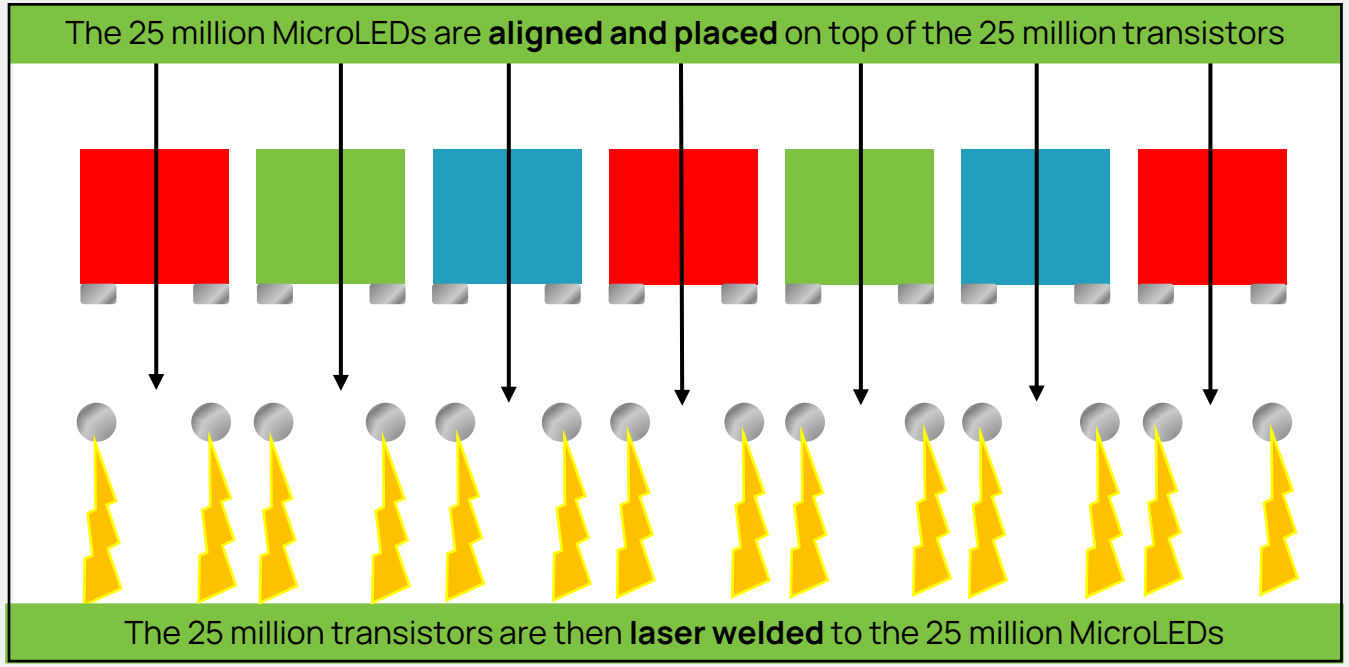


20,000th the size

The problem Smartkem is here to solve

MicroLEDs are small: 1/20,000th of the size of MiniLEDs. For a 42" TV, you need to connect 25 million MicroLEDs to 25 million transistors without defects

The existing 'Chip-Last' method to connect MicroLEDs to Transistors



Mechanical **alignment to micron precision and then laser welding tens of millions of connections without defects is extremely challenging**

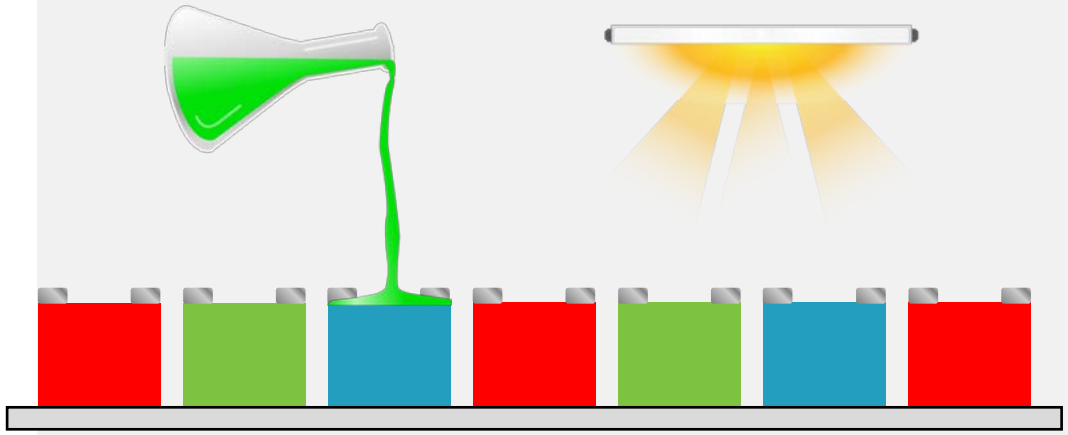
Low Yield

Costly Rework

Smaller Needs a New Approach: Smartkem Ink

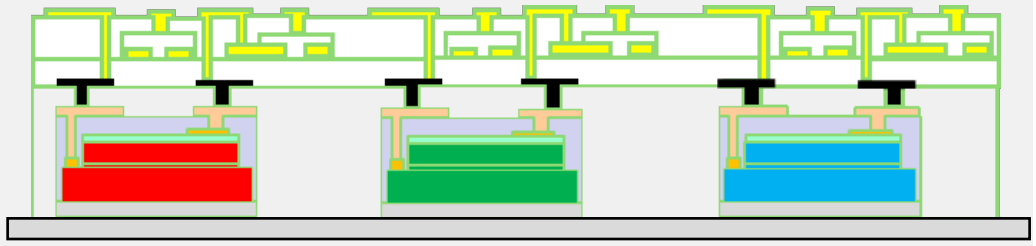
The Smartkem Chip-First approach

SMARTKEM MATERIALS + HIGH RESOLUTION PHOTOLITHOGRAPHY



Pouring liquid organic semiconductor polymer and fixed with low-temp ultraviolet light

- ☑ Connected with photolithography
- ☑ Transistors 'poured' on top
- ☑ Possible using Smartkem's low temperature process

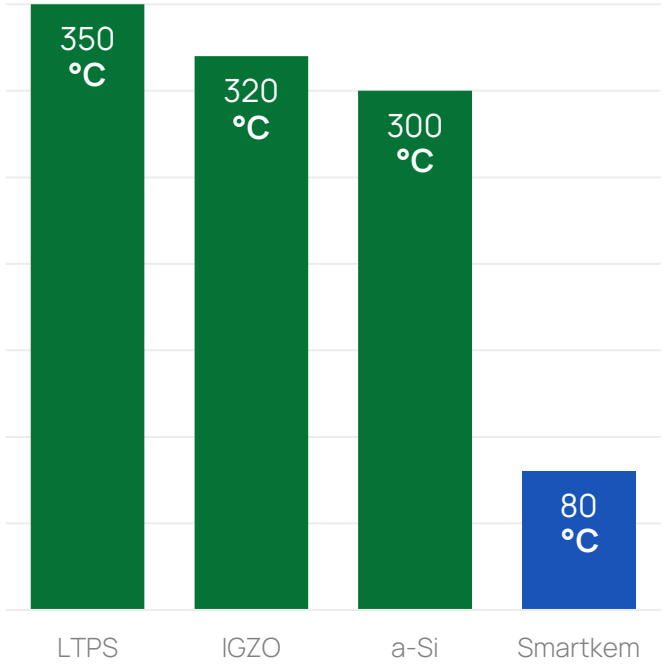


Transistor layer on top of MicroLEDs

“Shining a Light” Creates Unique Scalable Solution-based Process

Using ultra-low temperature process, less energy set with ultraviolet light

Lower Temp = Lower Cost



LTPS: Low Temperature Poly Silicon
IGZO: Indium Gallium Zinc Oxide,
a-Si: Amorphous Silicon

- Flexible and lightweight
- Compatible with industry-standard manufacturing infrastructure
- Alignment using standard photolithography
- Low-cost scalable transistor process
- Electrical connection guaranteed
- Transparent and thin
- Compatible with all frontplane technologies: MicroLED, EPD, LCD & OLED
- Solution processable on low-cost plastics
- Single glass or plastic substrate
- High yielding process

Changing the World
As We See It

Smartkem

A new class of display with MicroLEDs that are ›

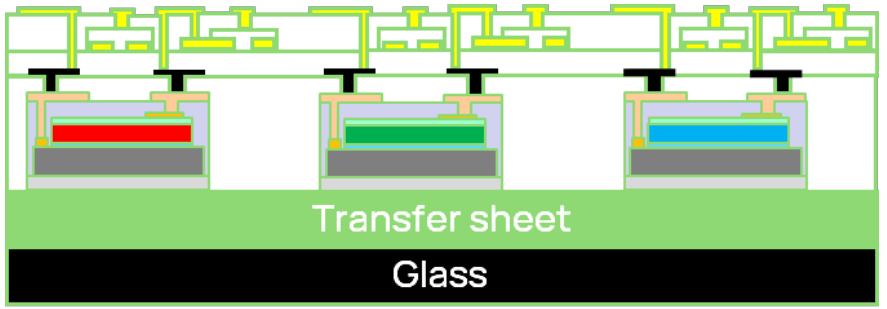
- Transparent
- Flexible
- Lightweight
- Thin

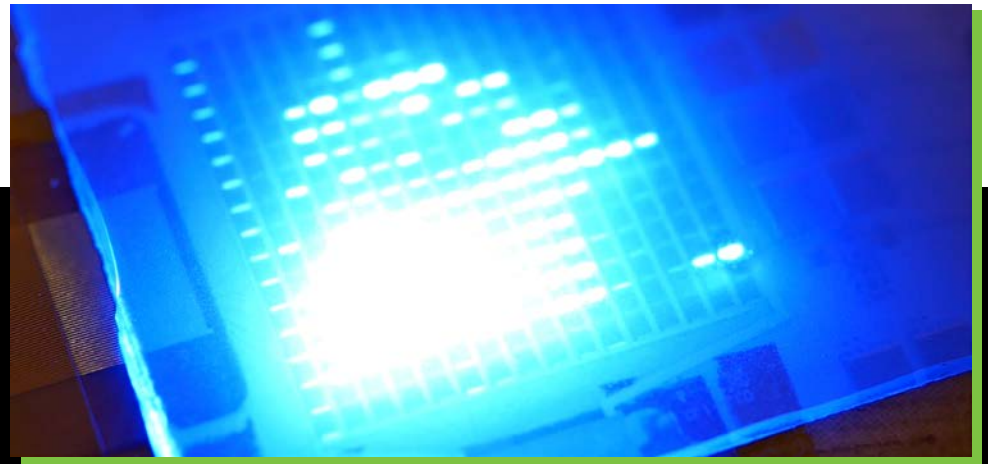
Made possible by ›

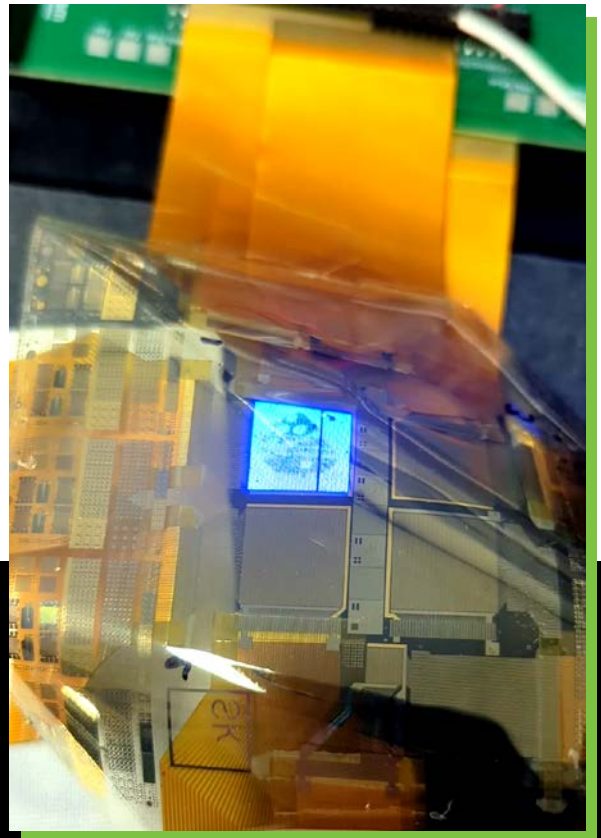
- Polymer Semiconductors
- High-yield, Low Temperature Process
- Chip-First Architecture

New Display Architecture Chip First Architecture Leads Innovation

Flexible, transparent, lightweight, brighter display solution







Dr. Zhenan Bao, Professor of Chemical Engineering at Stanford University: "The high brightness and efficiency of microLEDs, combined with their ability to offer better color accuracy and durability than OLEDs, will allow them to dominate in applications such as AR/VR, automotive, and even wearables, where performance is critical." *(Source: Stanford University research on next-gen displays)*

ITRI
Industrial Technology Research Institute

ITRI Gen2.5 Fabrication Facility in Taiwan: Technology Validated

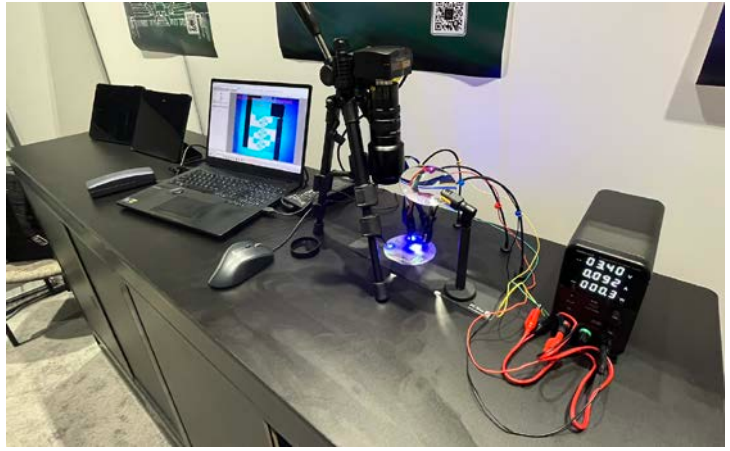
- ITRI spun out TSMC, amorphous silicon backplane.
- Necessary to enable pre-production prototyping with a reduction in defects as products approach commercialization.
- Assist in technology transfer to customers including RiTdisplay, resulting in a signed agreement with ITRI to put Smartkem process on the ITRI Gen2.5 line.
- Commercial process in development with ITRI.

Debuted Chip-First microLED Display: Huge Milestone & Well Received at Display Week 2024 & PLAYNITRIDE

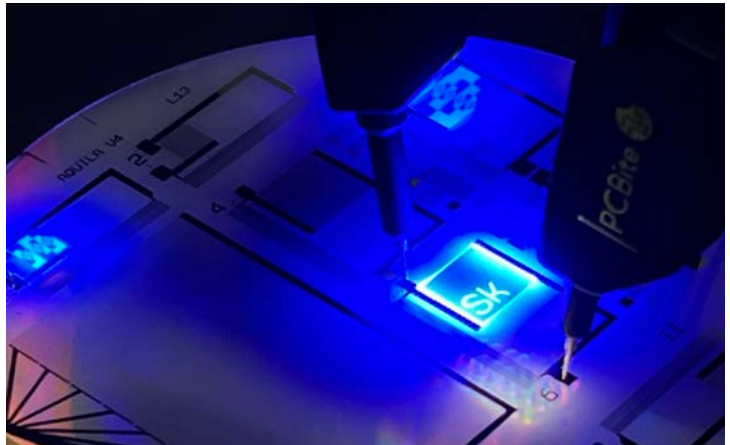
Exhibitors recognized inherent advantages and inevitability of microLED display mass adoption:

- High durability
- Extremely strong brightness
- De-coupled production processing
- High aperture ratio

All of which Smartkem's OTFT technology can deliver at a much lower cost due to its low temperature processing.



PLAYNITRIDE



Partner to Develop a New Generation Rollable, Transparent MicroLED Display

- AUO is Taiwan's largest display manufacturer
- 1st Smartkem MicroLED display in development
- To use ITRI's Gen 2.5 assembly line
- Partnership awarded grant by 2024 Taiwan-UK Research & Development Collaboration

Dr. Wei-Lung Liau, Chief Technology Officer of AUO: "… With proprietary materials from Smartkem and the OTFT production process from ITRI, we are collaboratively developing the world's first rollable MicroLED display for potential commercialization with cost advantage. We believe this will create new opportunities for the display industry and continue to expand value chain partner cooperation and influence." *(11/25/2024 press release)*

This is an artist rendering of a product in development; This is not an actual product.

Validation leading to commercialization

Core Tech

ITRI Industrial Technology Research Institute	TCA for product prototyping on its Gen2.5 line.
flexiic	Collaboration to develop low-cost, rapid turnaround custom circuits
TIANMA	JDA to develop OTFT-based microarray biochips*
Intellectual Property	138 granted patents across 17 patent families and 40 codified trade secrets.
Grant Funding	Two grant funded project by Innovate UK: • $1.1m for advanced microLED displays with AUO • $530K for active-matrix OLED displays with RiTdisplay

LED Manufacturers

PLAYNITRIDE	JDA to co-develop MicroLEDs displays (Taiwan)
芯元基半导体 CHIPFOUNDATION	DA to co-develop MicroLED backlight for LCDs – (China)

Display Manufacturers

AUO	JDA to co-develop rollable, transparent MicroLED display.
Taiwanese Panel Manufacturer	JDA to develop large scale MicroLED signage supported by MIP-enabled backlight
RITEK GROUP RiTdisplay	• 2021 JDA for the production of a full color demo of AMOLED display • 2024 TTA to prototype AMOLED display on ITRI's Gen2.5 line. • 2025 Agreement to transfer process to RiTidsplay Gen2.5 line using Smartkem's OTFT technology.

Customer/Development Announcements & Anticipated Milestones

2025 Goals

- ✓ Project commencement to develop the world's first rollable, transparent MicroLED display
- ✓ Ship first installment of Smartkem's materials to Chip Foundation to develop a new generation of MicroLED-based backlight technology for LCDs
- ✓ Extend TTA with RiTdisplay to transfer Smartkem's OTFT process from ITRI to RiTdisplay's Gen2.5 line
- Sign a JDA for a chip-first MicroLED Display
- Enter into additional collaborations and/or co-development agreements that further advance our technology toward commercialization
- Produce demonstration of a microLED display using Smartkem's OTFT technology

ITRI Asked to Leverage Smartkem to Solve AI Chip Packaging Problems

Same requirement: need for more and smaller interconnects

Smartkem enables square yards of substrate that can meet the AI chip requirements

CHALLENGES

- **300mm** wafer yields **5 to 6** chips
- Bumpy surface **curls and shrinks** when set in heat

ADVANTAGES

- **Square yard** yields **10s** of chips
- Truly **large panels** with
  - **No** shrinkage
  - **No** warp-age

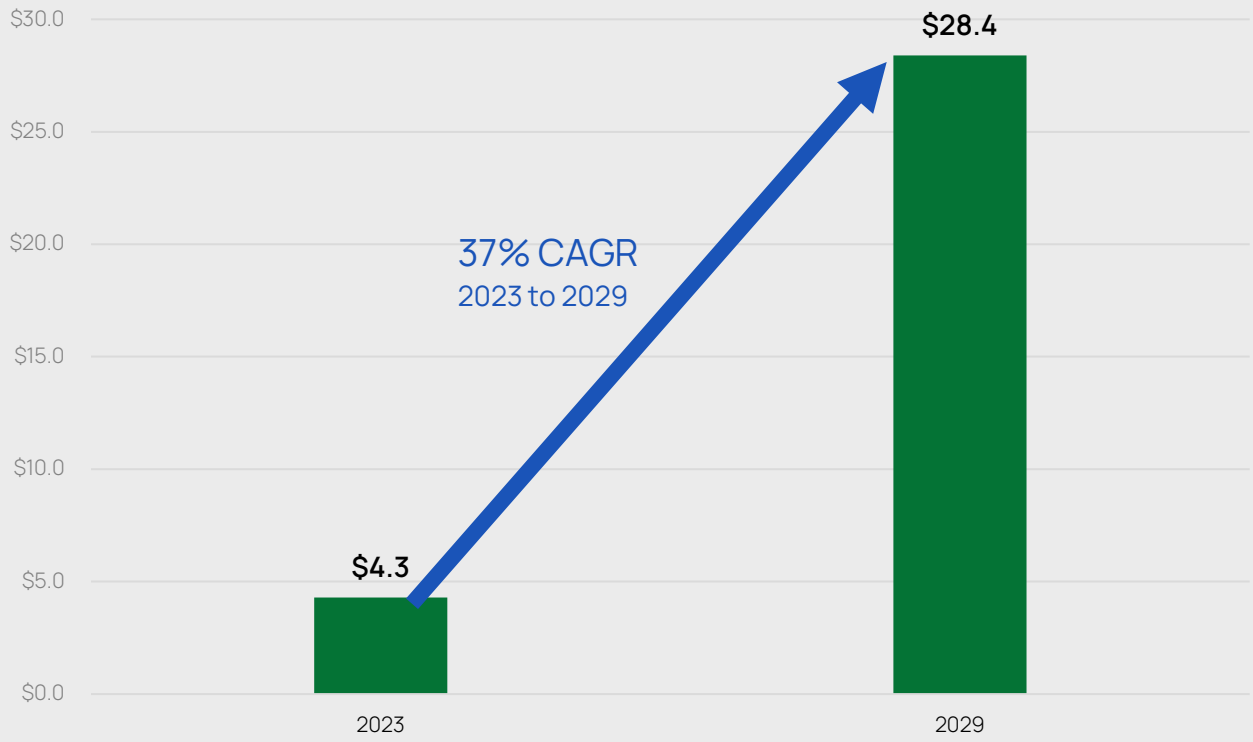
Opportunity to Capture Share of an Additional Large and Growing Market

Global advanced packaging market size is expected to grow from **~$4.3B** in 2024 at an 37% CAGR to **~$28.4B** by 2029

[1]Yole Intelligence 2024

Advanced Packaging Market Size 2023 to 2029

(USD Billion)[1]



Q1 Financial Highlights & May 7, 2025 Cap Table

AS OF MARCH 31, 2025:

BALANCE SHEET

$3.9M
In Cash

$0M
Debt

($3.1M)
Q1 25 Loss from Operations

MAY 7, 2025 CAP TABLE

in millions	
Common stock	4.4
Penny and pre-funded warrants	4.3
Total, common and penny warrants	8.7
Class A Warrants ($8.75)	1.7
Class D Warrants ($3.00)	2.7
Total, fully diluted	13.2*

*Total doesn't add due to rounding

Capturing the Opportunity

Smartkem Ink Unit Economics

MARKET OPPORTUNITY

200 million square meters of potential microLED panels manufactured annually

SMTK ECONOMICS

Potentially upwards of $100 per square meter of ink paneling

MARKET PENETRATION

1% market penetration results in 2 million square meters of panels annually

REVENUE OPPORTUNITY

$200 MILLION+ REVENUE OPPORUTNITY

Estimated cost of $25 per square meter → **75%+ gross margin opportunity**

Smartkem Team

Smartkem Officers

Ian Jenks
Chairman & CEO

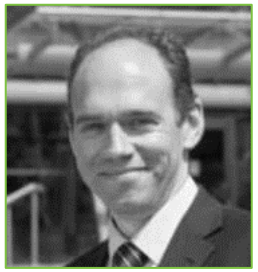
Ian is Chairman of SiPearl, an AI chip company. Ian was formerly President of Uniphase (now JDS Uniphase) in the US, a Nasdaq company that he grew from a market gap of $300m to $16bn during his five-year tenure. He was also Chairman of Oplink Communications that he took public on Nasdaq in 2000. He also served on the Board at Paysafe, a UK company that was listed on AIM before recently uplisting to the FTSE 250 and subsequently exiting into private equity.

Barbra Keck
Chief Financial Officer

Barbra served as the Chief Financial Officer of Deverra Therapeutics, Inc., a developer of cell therapies. She held positions of increasing responsibility at Delcath Systems, Inc., an interventional oncology company, starting as Controller and ultimately becoming a senior vice president in March 2015 and chief financial officer in February 2017.

Dr. Beverley Brown
Chief Scientist

Beverley has worked in R&D at Imperial Chemical Industries Ltd. ("ICI"), Zeneca Group PLC and at the Avecia Group PLC. Beverley has worked in the field of organic semiconductor technology and in printable electronics for almost 20 years.



Dr. Simon Ogier
Chief Technology Officer

Simon has previously worked at Avecia, Merck, CPI and more NeuDrive Limited. He currently manages a team of 19 engineers and scientists using the equipment for Smartkem's process development and prototype fabrication. Simon has co-authored 30 journal articles and has been co-inventor on 16 patent families.

Jonathan Watkins
Chief Operating Officer

Jonathan Watkins has over 30 years' experience commercialising and scaling novel material technologies and working across large multinational companies. He has played pivotal roles in managing complex technical product portfolios and developing global supply chains.

Smartkem Board of Directors

Ian Jenks
Chairman & CEO

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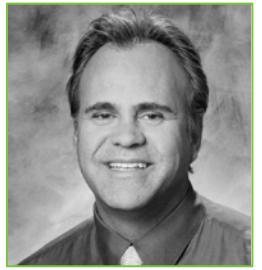
Klaas De Boer
Director

Klaas serves as the Managing Partner of Entrepreneurs Fund Management LLP. He served on numerous boards, including Lifeline Scientific Inc. and Heliocentris Energy Solutions AG. He currently chairs AIM listed Xeros Technology Group plc, and General Fusion, Inc., and serves on the boards of vasopharm GmbH and D3O Holdings Ltd.

Sri Peruvemba
Director

Sri is CEO of Marketer International Inc. Sri was previously CMO for E Ink, where he played a major role in transforming the startup to a $1Billion+ global company. With over 30 years of experience in the technology industry, Sri advises high tech firms and serves on the boards of public and private companies.



Dr. Steven DenBaars
Director

Steven is a Professor of Materials and Electrical and Computer Engineering as well as the Executive Director of the Solid State Lighting and Energy Electronics Center at the University of California, Santa Barbara. Steven has previously worked at the Hewlett-Packard Optoelectronics team. He has been a Director on the Board of several startup companies which include Soraa Laser Diode, Akoustis Technologies and Aeluma Inc.

Melisa Denis
Director

Melisa has served as a member of the audit committee and mergers and acquisitions committee of the board of directors of Hydrofarm Holdings Group, Inc. since November 20, 2020. She served as a partner at KPMG from 1998 to October 2020, including as National Tax Leader for Consumer Goods and as the leader of the Consumer and Industrial Market for Dallas.

Smartkem

Enabling Next Generation MicroLED Displays

Thank you

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