



Introducing SmartKem[®]

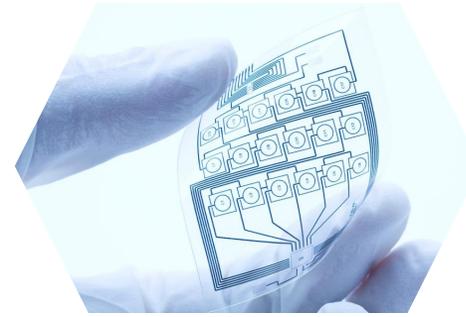
A New Generation of Displays,
Sensors and Logic

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Executive Summary

Enabling a new generation of transistors



SmartKem's TRUFLEX® Disruptive Technology

Pioneering electronic material for organic transistors

TRUFLEX® is a full transistor stack design and process platform

- Owns Chemistry, Process and Stack design rules, proven to produce logic circuits at only 80°C with performance significantly beyond amorphous Silicon (aSi)
- Validated SPICE model and Process Design Kit (PDK)
- Currently under review for multiple use cases and 2D array sensor applications

Flexible and can be produced on low cost plastic and glass

Compatible with existing manufacturing lines

World Class Technology Team

41 (11 PhDs) FTEs with 200+ combined years industrial and R&D pedigree at ICI, Merck, Philips, Kodak, CDT, Motorola, Global Foundries

Having developed the chemistry, process and the design rules, SmartKem is an outsourced manufacturer of its unique technology

Extensive, Broad and Defendable IP Portfolio

133 patents across 16 patent families – 122 granted and 11 pending

37 codified trade secrets

SmartKem Has Traction

Multiple technology companies producing OTFT based circuits including Mini-LED Backlights & sensors reviewing our technology

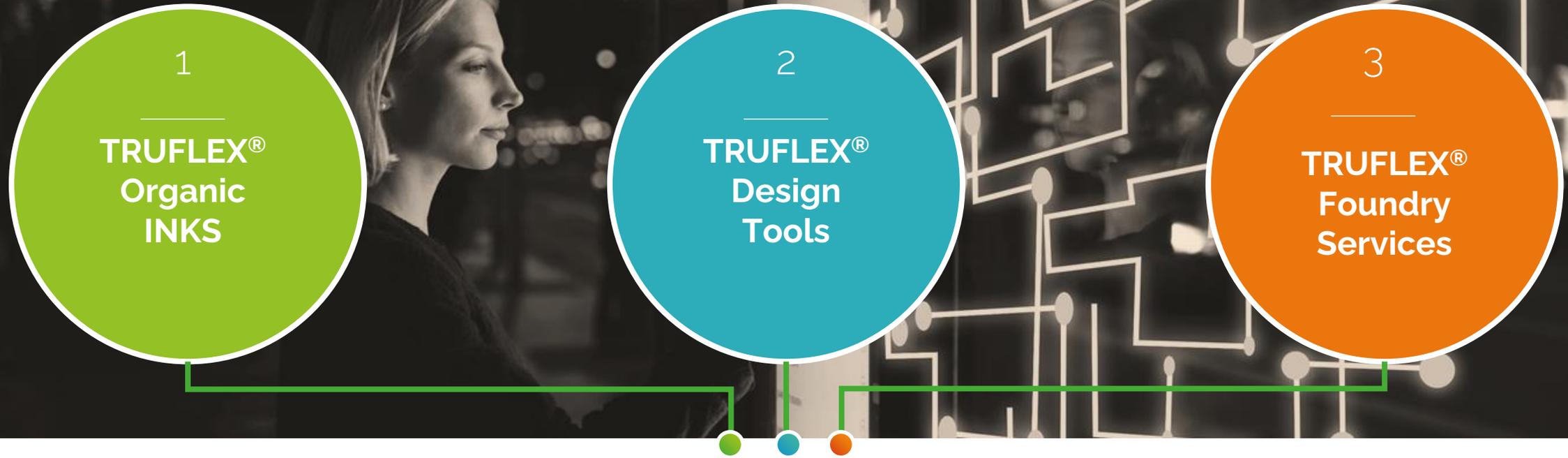
Launched first demonstrator at SID 2020

A blue-toned background featuring a financial line chart with multiple data series. A hand holding a pen is visible in the upper right corner, pointing towards a specific data point on the chart. The number '2.25' is clearly visible on the right side of the chart. A large white circle is overlaid on the left side of the image, containing the main text.

OTCQB Update

- We hope we are close to the end of the process and will make a public announcement when we are able to start trading.
- We have appointed IR partners, SRAX and Acorn Management to deliver our message to market.

Convergence Plan for **Mass Deployment** Success



Mass Deployment

1. TRUFLEX[®] Inks – Ready at Scale



High Mobility, Small Molecule

Intrinsic mobility $\geq 20 \text{ cm}^2/\text{Vs}$

Technical team has excellent understanding of formulations

In-depth knowledge of how to combine small molecule/polymer/additives to maximise the performance of OSC layer and resulting OTFT

More than 50 years expertise relating to OSC formulation



Semiconducting Polymer 'Controls'

Morphology of OSC layer

Phase segregation & uniformity of SM

Viscosity of ink



Solvents

Solubilise SM & Binder

Modify surface tension

Influence ink viscosity

Solvents for printing

Best in class performance

Compatible with existing industrial process lines

Scaled up manufacture

2. TRUFLEX[®] Electrical Design Automation Tools

– In Beta Development



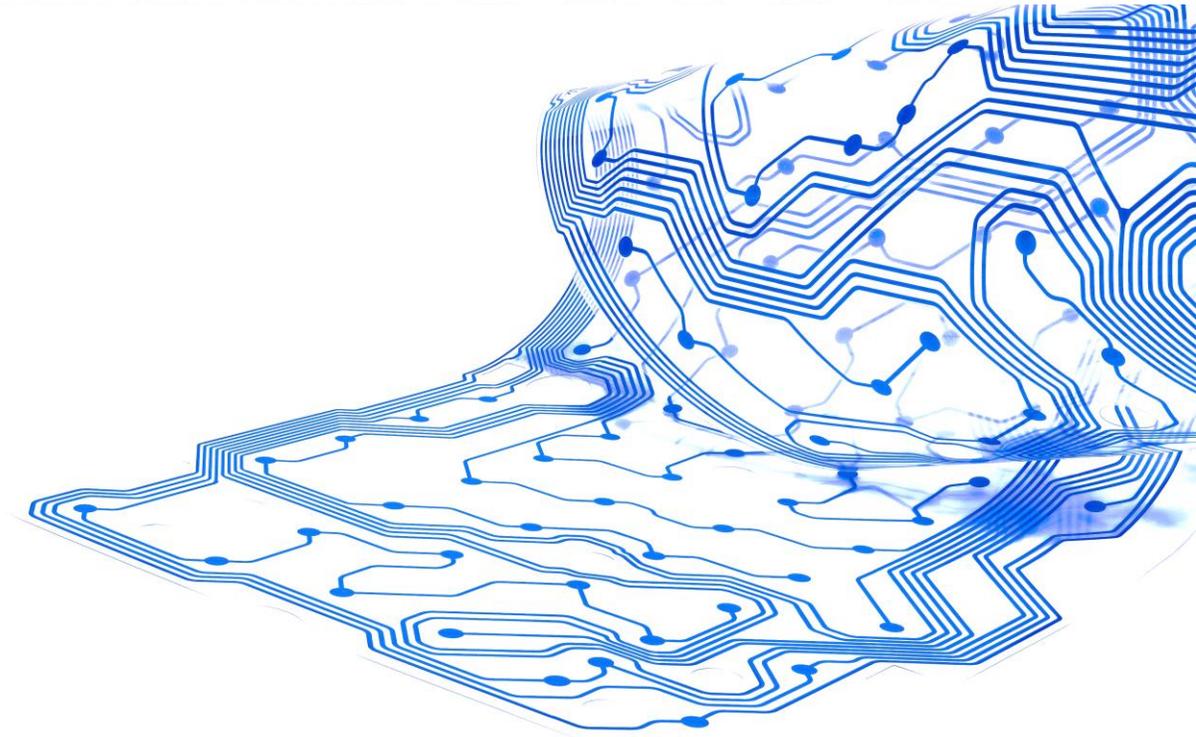
EDA Components to Libraries

Follows elements of the silicon approach for commercialisation

EDA tools establishment

PDK (Process Design Kit) establishment (at PE foundries)

- Standard cells – parameterizable cells (p-cells)
- Libraries of circuits and other PE devices (force sensor, OLED, OPD, biosensor etc)
- Gate arrays and ink-jet gate arrays (rapid customisation)



3. TRUFLEX® Foundry Services – Gen 2.5 Line



CPI G2.5 Prototyping facility for materials qualification, process development & fabrication

Adding digital lithography

for full-custom circuits
- sheet to sheet initially
and then **roll-to-roll**
in the future



Market Entry Strategy



1

Demonstrators

Mini-LED
Finger print on display
AMOLED display
MicroLED
OTFT Logic circuit

2

Joint Development Agreements

RiTDisplay for AMOLED

3

Revenue Commencement

2022



Thank You

Any questions please contact our
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