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Smartkem

## **SMARTKEM, INC. MICRO-LED DISPLAY PAPER PUBLISHED IN LEADING SCIENCE JOURNAL, NATURE COMMUNICATIONS**

MANCHESTER, England, Nov. 7, 2023 /PRNewswire/ -- SmartKem, Inc. (OTCQB: SMTK), a company seeking to reshape the world of electronics with its disruptive organic thin-film transistors (OTFTs) that can drive the next generation of displays, announced the publication of a scientific paper by the UK's leading peer reviewed science journal, Nature Communications (having a 2-year impact factor of 17.7 in 2021).

The paper, titled "Wafer-scale organic-on-III-V monolithic heterogeneous integration for active-matrix micro-LED displays" was a collaboration between SmartKem and Prof. Xiaojun Guo's group at Shanghai Jiao Tong University. The paper was co-authored by SmartKem's Chief Technology Officer, Dr. Simon Ogier, and SmartKem engineers Dan Sharkey, Andrew Baker, and Alejandro Carreras who were also responsible for the display backplane fabrication and display testing using SmartKem's patented TRUFLEX® OTFT technology with its benefits of low temperature processing and high charge mobility.

Such low temperature (<150 °C) organic last integration processes can thus be compatible with micro-LED processes for direct fabrication of the active-matrix OTFT array on top of the LEDs without affecting the micro-LED performance. The first OTFT-driven active-matrix micro-LED displays are demonstrated with highest brightness of 150,000 nits and highest resolution of 254 pixels-per-inch. This work would open a route for realizing active-matrix micro-LED displays through direct fabrication of high-density OTFT arrays onto the micro-LED plane with fully compatible processes.

An open-access link to the paper can be found here:

<https://www.nature.com/articles/s41467-023-42443-8>

SmartKem's OTCQB information can be found on the OTC Markets website:

[www.otcmarkets.com/stock/SMTK/overview](http://www.otcmarkets.com/stock/SMTK/overview)

### **About SmartKem**

SmartKem is reshaping the world of electronics with its disruptive organic thin-film transistors (OTFTs) that have the potential to drive the next generation of displays. SmartKem's patented TRUFLEX® semiconductor and dielectric inks, or electronic polymers, are used to make a new type of transistor that could potentially revolutionize the display industry. SmartKem's inks enable low temperature printing processes that are compatible with existing manufacturing infrastructure to deliver low-cost displays that outperform existing technologies. The company's electronic polymer platform can be used in a number of display technologies including microLED, miniLED and AMOLED displays for next generation televisions, laptops, augmented reality (AR) and virtual reality (VR) headsets, smartwatches and smartphones.

SmartKem develops its materials at its research and development facility in Manchester, UK, its semiconductor manufacturing processes at the Centre for Process Innovation (CPI) at Sedgefield, UK and retains a field application office in Taiwan. The company has an extensive IP portfolio including 125 granted patents across 19 patent families and 40 codified trade secrets. For more information, visit: [www.smartkem.com](http://www.smartkem.com) and follow us on LinkedIn and Twitter [@SmartKemTRUFLEX](https://twitter.com/SmartKemTRUFLEX).

### **Forward-Looking Statements**

All statements in this press release that are not historical are forward-looking statements, including, among other things, statements relating to the SmartKem's expectations regarding its market position and market opportunity, expectations and plans as to its product development, manufacturing and sales, and relations with its partners and investors. These statements are not historical facts but rather are based on SmartKem Inc.'s current expectations, estimates, and projections regarding its business, operations and other similar or related factors. Words such as "may," "will," "could," "would," "should," "anticipate," "predict," "potential," "continue," "expect," "intend," "plan," "project," "believe," "estimate," and other similar or related expressions are used to identify these forward-looking statements, although not all forward-looking statements contain these words. You should not place undue reliance on forward-looking statements because they involve known and unknown risks, uncertainties, and assumptions that are difficult or impossible to predict and, in some cases, beyond the Company's control. Actual results may differ materially from those in the forward-looking statements as a result of a number of factors, including those described in the Company's filings with the Securities and Exchange Commission. The Company undertakes no obligation to revise or update information in this release to reflect events or circumstances in the future, even if new information becomes available.

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