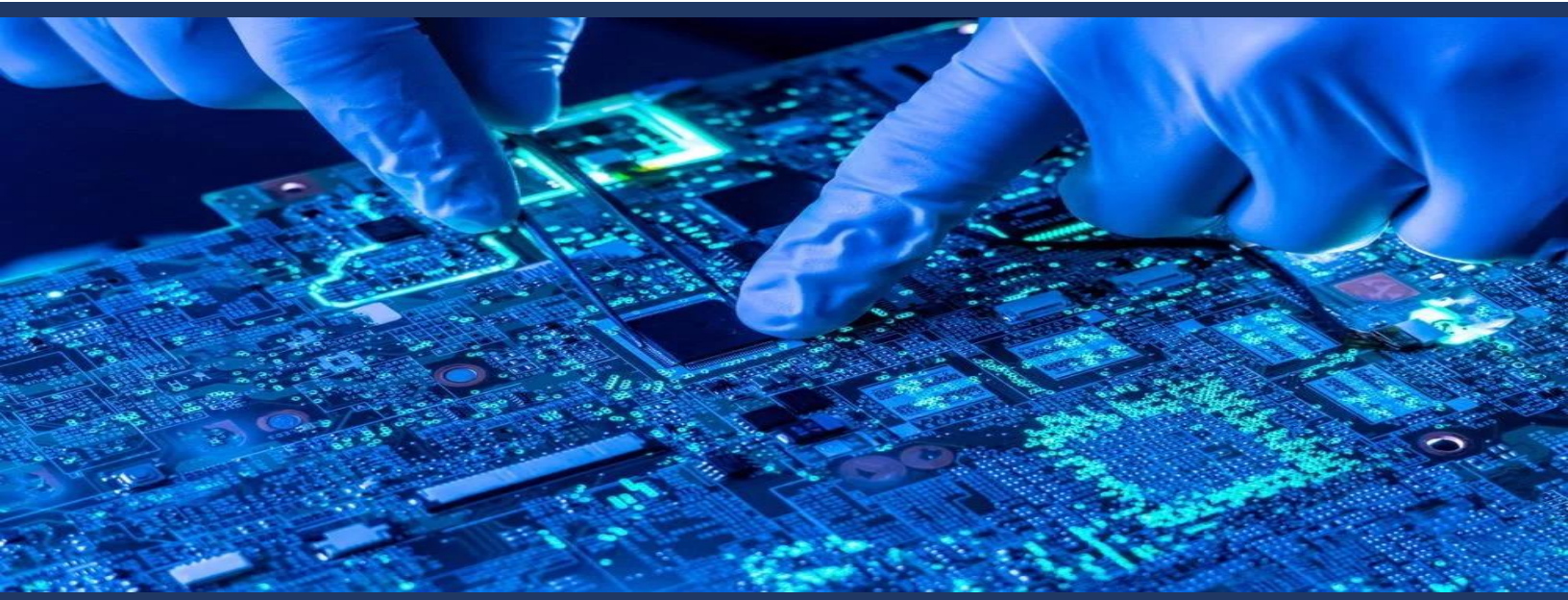


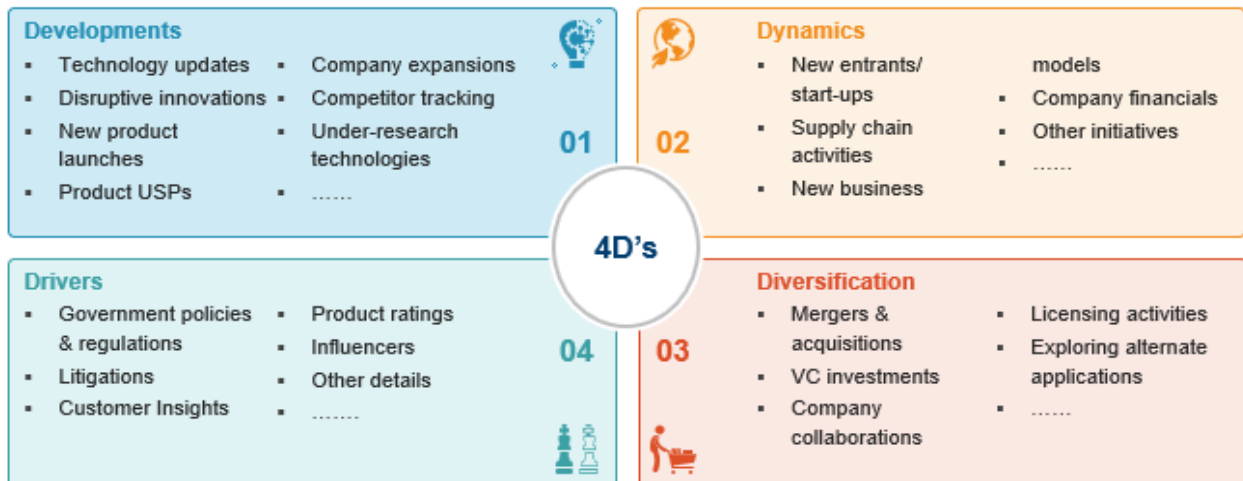
# INTELLOTRACKER

## LITHOGRAPHY & FABRICATION TECHNIQUES

JUNE 2023



### ARANCA'S QUARTERLY SECTORIAL UPDATE ACROSS FOUR DIMENSIONS....





## DEVELOPMENTS

Under-research technologies		Research is being carried out on Nanowire-based integrated photonics for quantum information and quantum sensing in the context of semiconductor nanowire-based light detectors. <i>Source: <a href="#">De Gruyter</a></i>
Technology updates		A research team at Pohang University of Science & Technology developed semiconductor devices for high-performance AI operations by applying IGZO materials widely used in OLED displays. <i>Source: <a href="#">ScienceDaily Blog</a></i>
Technology updates		SmartKem, Inc. created the world's first monolithic micro-LED display using their patented core chemistry allowing its semiconductor inks to be processed at the low temperature of 80°C, eliminating the mass transfer and laser welding processes. <i>Source: <a href="#">SmartKem Press Release</a></i>
Technology updates		Archer Material's CQ chip development advances wafer-scale quantum electronic device fabrication using foundry-compatible UV optical and E-beam lithography. <i>Source: <a href="#">Archer Materials Press Release</a></i>
Disruptive innovation		Applied Materials recently unveiled their Centura Sculpta patterning system which will enable chipmakers to print a single EUV pattern, saving the capital cost of approximately \$250 million per 100K wafer starts per month of production capacity. <i>Source: <a href="#">Analytics India Magazine</a></i>
Company expansions		Merck is gearing for expansion by setting up a new integrated production facility for specialty gases and semiconductor materials for thin-film and patterning solutions and analytical capabilities in the OLED materials field. <i>Source: <a href="#">Merck Press Release</a></i>
New product launches		Canon Inc. announced the launch in Japan of the MS-001, a high-precision wafer alignment measurement device for semiconductor lithography systems. <i>Source: <a href="#">Canon Press Release</a></i>
New product launches		Canon announced that the company will release the FPA-5550iX i-line stepper semiconductor lithography system for front-end processes that realizes a large exposure field of 50 x 50 mm and a high resolution of 0.5 micrometers. <i>Source: <a href="#">Canon Press Release</a></i>



## DYNAMICS

New entrants/start-ups		Zelooof has partnered with engineering veteran Jim Keller to found Atomic Semi, a startup that is using "radically" simplified and miniaturized semiconductor fabs and prototyping integrated circuits to produce "much more affordable" chips in hours. <i>Source: <a href="#">TechCrunch Blog</a></i>
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## DIVERSIFICATION

Company collaboration		Merck and Intel Corporation are enabling more sustainable semiconductor manufacturing solutions by funding a new academic research program in Europe by leveraging artificial intelligence (AI) and machine learning technologies. <i>Source: <a href="#">Chemical Industry Digest</a></i>
Company collaboration		NVIDIA announced a breakthrough that brings accelerated computing to the field of computational lithography, enabling semiconductor leaders like ASML, TSMC and Synopsys to accelerate the design and manufacturing of next-generation chips. <i>Source: <a href="#">NVIDIA Press Release</a></i>
VC investments		AlixLabs announced that the company has closed a funding round of SEK 10 million. The capital injection shall be used to commercialize the company's innovative Atomic Layer Etching (ALE) Pitch Splitting technology (APS). <i>Source: <a href="#">Cision News</a></i>



## DRIVERS

Government regulations		Minister of state (MoS) for electronics and IT Rajeev Chandrasekhar that the government will soon approve two proposals, one of them being India's first semiconductor fab project and clearly laid out policies for investors. <i>Source: <a href="#">Financial Express</a></i>
Influencers		Boaz Eidelberg, CTO of SAAR Inc., suggests U.S. funding should support AI/ML-driven innovation in universities and semiconductor-equipment manufacturers to rival overseas fabrication. <i>Source: <a href="#">DesignWorld Blog</a></i>
Others		NIST's CHIPS for America NOFO (America Notice of Funding Opportunity) offers incentives to bolster US semiconductor manufacturing and supply chain via the \$39 billion "CHIPS for America" incentive program. <i>Source: <a href="#">Morgan Lewis Blog</a></i>

## SOLUTION PORTFOLIO – TECHNOLOGY RESEARCH & ADVISORY

IP STRATEGY	TECHNOLOGY INTELLIGENCE	GROWTH & STRATEGY
<p>How best can we proactively manage and monetise our technical knowhow / intellectual property?</p>	<p>How best can we keep abreast of technology trends, competitor activity and headwinds / tailwinds in our domain?</p>	<p>Which technologies do we invest in? How do we ensure quick wins? Speed to market?</p>
<ul style="list-style-type: none"> <li>▪ IP Portfolio Analysis</li> <li>▪ IP Monetisation</li> <li>▪ IP Valuation</li> <li>▪ Prior Art Searches</li> </ul>	<ul style="list-style-type: none"> <li>▪ Competitor Benchmarking</li> <li>▪ Tech / IP Landscapes</li> <li>▪ Technology Watch</li> <li>▪ Market Analysis / Trends</li> </ul>	<ul style="list-style-type: none"> <li>▪ R&amp;D Strategy Roadmaps</li> <li>▪ Technology Scouting</li> <li>▪ Open Innovation</li> <li>▪ Product Development</li> </ul>



GROWTH ADVISORY



INVESTMENT RESEARCH & ANALYTICS



VALUATION & FINANCIAL ADVISORY



TECHNOLOGY RESEARCH & ADVISORY



PROCUREMENT & SUPPLY CHAIN INTELLIGENCE

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