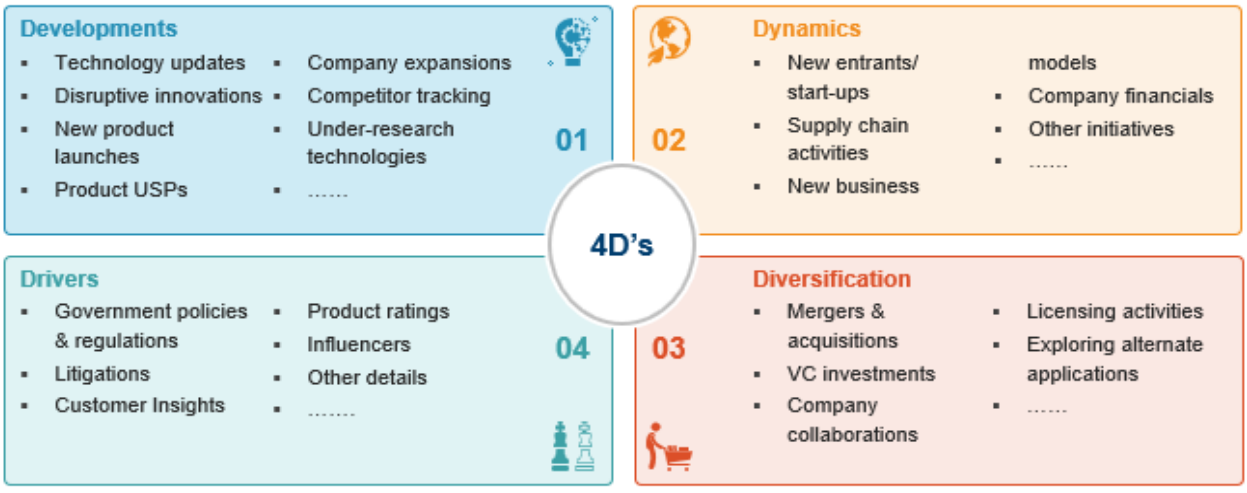
INTELLOTRACKER

Upcoming Batteries

April 2023

ARANCA'S QUARTERLY SECTORIAL UPDATE ACROSS FOUR DIMENSIONS….



DEVELOPMENTS

New Manufacturing Set-ups	TESLA	Tesla is expanding its Nevada assembly plant with a major new investment to boost production of a new, larger type of battery cell and a dedicated factory to make its Semi truck. *Source.: Forbes*
New Manufacturing Set-ups	VW	VW group's battery company PowerCo is expanding in North America for the construction of Volkswagen's first overseas gigafactory to produce sustainable unitary cells. Production is expected to begin in 2027. *Source: Volkswagen Group News*
New Product Launches	中科海钠 HiNa BATTERY	Hina Battery and Sehol, a joint venture brand between JAC and Volkswagen Anhui, have jointly built a test vehicle with sodium-ion batteries based on the Sehol E10X model. *Source: Batteries News*
Technology/ Innovations	ORIST Osaka Research Institute of Industrial Science and Technology	Osaka Research Institute of Industrial Science and Technology describes a manufacturing method for solid state batteries. The patent's claimed method is more efficient and simpler for making solid-state batteries, which might make mass production simpler. *Source: Patent*
Technology/ Innovations	Clean Technica	Researchers working on solid-state batteries at the Oak Ridge National Laboratory of the Department of Energy believe that isostatic pressing could increase energy flow while also facilitating more rapid and easy solid-state battery manufacturing. *Source: Cleantechnia*
Technology/ Innovations	SAKUÚ	According to Sakuu Corporation, a significant achievement has been accomplished in the fabrication of fully working 3D-printed batteries in custom forms and sizes. Their approach allows for low-cost, high-speed production with shape and form flexibility. *Source: Energy*
Technology/ Innovations	EML	A solid electrolyte with superionic conductivity and high elastic deformability has been successfully synthesized, this study increase the productivity of materials used in all-solid-state batteries and address the interface issue by enhancing elastic deformation. *Source: Tech Xplore*
Technology/ Innovations	EVO POWER	For larger-scale systems, new battery technology (for long-duration energy storage (LDES)) developed by Rondo Energy is approximately 98% efficient and can function at temperatures above 1000°C and up to 1500°C. *Source: Energy Storage*
Technology/ Innovations	ARAKAWA CHEMICAL	Arakawa Chemical Industries Ltd has published a patent about thermally cross-linkable binder aqueous solution. This thermal crosslinking binder allows lithium-ion batteries to operate in wide range of temperatures, which was impossible before. *Source: Patent*
Technology/ Innovations	NOCO	Patent from NOCO describes a lithium-ion rechargeable battery charging system with lithium cell balancing. This improves the discharging and charging rate of each battery in a huge group of small cells; this allows faster charging and enhanced battery backup. *Source: Patent*
Technology/ Innovations	KIMM	The development of the design and manufacturing technology for the first battery electrode in history has been disclosed by the Korea Institute of Machinery & Materials (KIMM). Battery performance and stability are considerably enhanced in electronic devices. *Source: Tech explores*
Technology/ Innovations	BERKELEY LAB	A conductive polymer coating, known as HOS-PFM, has been created by Berkeley Lab researchers that might allow for longer-lasting, more powerful lithium-ion batteries for electric vehicles. *Source: Science Daily*

DIVERSIFICATION

VC Investment		In the most recent Series B fundraising round, Ionblox received $32 million. This money will be used to finance the development of a brand-new silicon anode electric vehicle battery. *Source: PV Magazine*
VC Investment	HONDA	Honda invested $4.4 billion in Solid state lithium-ion battery plant in rural Ohio. *Source: The Economics Times*
VC Investment		Our Next Energy Inc., the Michigan battery startup founded by Apple Inc. veteran Mujeeb Ijaz, has raised $300 million to help fund the first phase of a battery cell plant it's building in the state. *Source: Bloomberg*
Company Collaboration	TESLA	Magnis Energy Technologies, a new battery technology firm with Australian roots that is developing a graphite mine in Tanzania with the intention of producing "ultra-high purity natural flake graphite," has signed a contract with Tesla. *Source: Electrek*
Company Collaboration	LG Energy Solution HONDA The Power of Dreams	Early this year, the LG and Honda joint venture will start building a new battery plant, and by the end of 2025, mass production of sophisticated lithium-ion battery cells will begin. The plant aims to have a production capacity of about 40GWh per year. *Source: Cision*
Merger and Acquisition	nubia	The Honeycomb Battery Company of the Global Graphene Group has announced a business merger agreement with the Nasdaq-listed Nubia Brand International Corp. The parties anticipate that the combined company's common stock will be listed on Nasdaq. *Source: Globe News Wire*

DRIVERS		
Government Policies		Congress tightens US manufacturing regulations in response to China receiving taxpayer-funded battery technology. The "Invent Here, Make Here Act" will be expanded under the new federal law. *Source: NPR News*
Government Policies		In response to the rising frequency of fires, the City Council of New York established legislation pertaining to lithium-ion battery safety. E-bikes, other powered mobility devices like e-scooters, and batteries that don't adhere to recognized certifications like UL. *Source: Bicycle Retailer*
Government Policies	TESLA	By the end of 2024, all electric cars (EVs) will be able to utilize at least 7,500 of Tesla's chargers, thanks to a partnership between the White House and the electric vehicle manufacturer. *Source: The Guardian*

SOLUTION PORTFOLIO – TECHNOLOGY RESEARCH & ADVISORY

IP Strategy	Technology Intelligence	Growth & Strategy
How best can we proactively manage and monetise our technical knowhow / intellectual property?	How best can we keep abreast of technology trends, competitor activity and headwinds / tailwinds in our domain?	Which technologies do we invest in? How do we ensure quick wins? Speed to market?
▪ IP Portfolio Analysis	▪ Competitor Benchmarking	▪ R&D Strategy Roadmaps
▪ IP Monetisation	▪ Tech / IP Landscapes	▪ Technology Scouting
▪ IP Valuation	▪ Technology Watch	▪ Open Innovation
▪ Prior Art Searches	▪ Market Analysis / Trends	▪ Product Development

GROWTH ADVISORY

INVESTMENT RESEARCH & ANALYTICS

VALUATION & FINANCIAL ADVISORY

TECHNOLOGY RESEARCH & ADVISORY

PROCUREMENT & SUPPLY CHAIN INTELLIGENCE