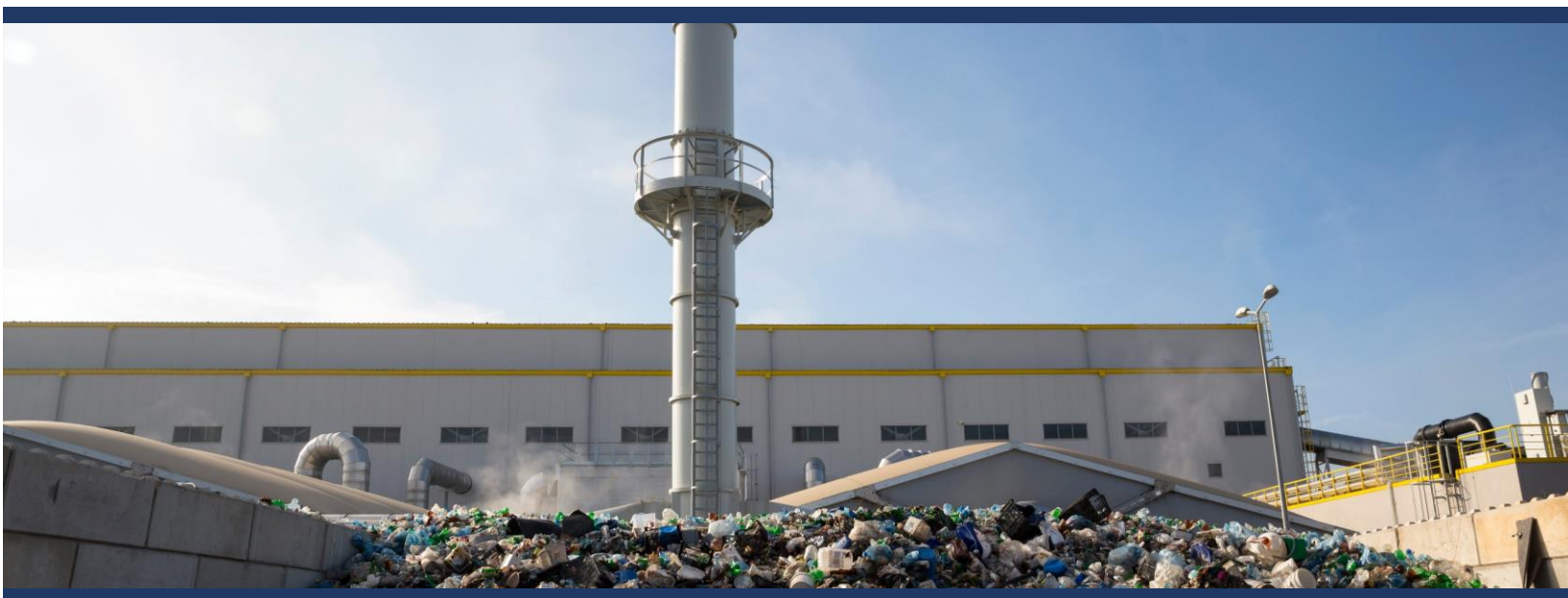


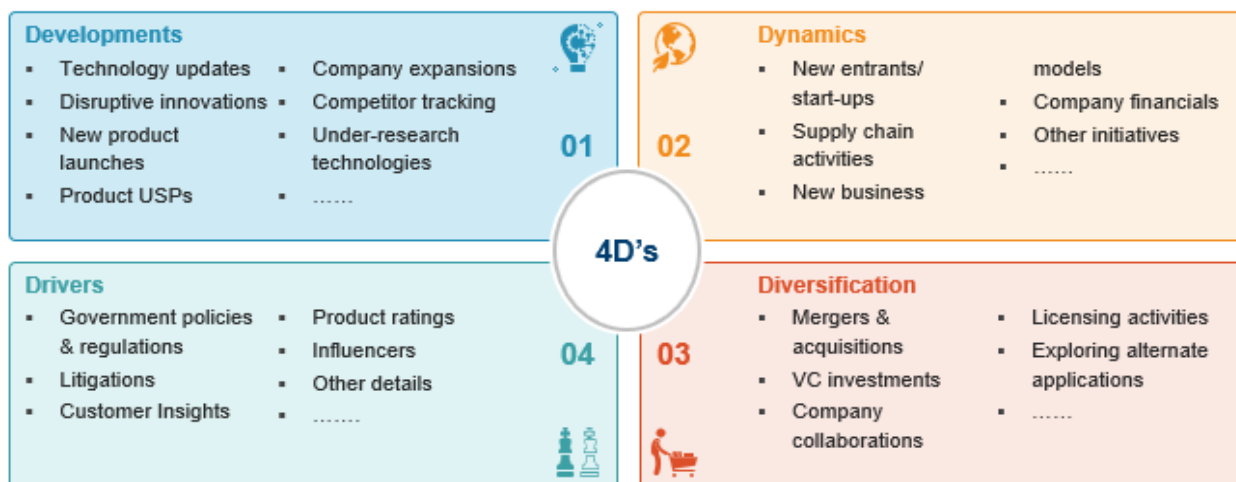
# INTELLOTRACKER

Waste to energy

April 2023














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





## DEVELOPMENTS

Technology/ Innovation	 	ELLONA, in partnership with computing and modelling company NUMTECH is adopting a system to get rid of the persistent stink at the Green Start facility. The system uses physical and virtual sensors to provide information on air quality, odor identity, intensity, and duration. <i>Source: <a href="#">Company website</a></i>
Technology/ Innovation		University of Cambridge researchers have developed a system that can transform two streams of waste such as greenhouse gases and plastic into two sustainable fuels like syngas and glycolic acid at the same time using a solar-powered reactor. <i>Source: <a href="#">Euro News</a></i>
Technology/ Innovation		A modular and scalable anaerobic digestion system for point-of-waste use, including a pretreatment process for removing inhibitory nutrients from the feedstock, an in-treatment process for providing clean renewable energy and a post-treatment process for further providing clean renewable energy for subsequent use. <i>Source: <a href="#">Patent</a></i>
Technology/ Innovation		The research is based on predictive numerical models that provide the intelligence on the combustion control systems used in state-of-the-art waste-to-energy plants for the evaluating the behavior of inorganic compounds that typically end up in waste furnaces. <i>Source: <a href="#">MDPI</a></i>
New manufacturing set-ups		The waste-to-energy power plant generates hot steam by thermally utilising rejects, or waste products from the paper industry and other industries to provide the energy needed for papermaking. <i>Source: <a href="#">Company news</a></i>
New manufacturing set-ups		PepsiCo Portugal has implemented biodigester to convert organic waste such as potato peelings, sludge, food waste into biogas in its snack food facility in Carregado. <i>Source: <a href="#">Food navigator</a></i>
New manufacturing set-ups		The Ministry of New and Renewable Energy (MNRE) is implementing seven biogas generation projects, 34 BioCNG projects, and 49 power projects under the Waste to Energy (WTE) program. <i>Source: <a href="#">Mercom India</a></i>
New manufacturing set-ups		The Ministry of Housing and Urban Affairs signed a MoU with Engineers India Limited to develop Waste to Energy and bio-methanation projects in cities with a population of million plus as a part of furthering the 'Green Growth' agenda. <i>Source: <a href="#">Live Mint</a></i>
New manufacturing set-ups		Mitsubishi Heavy Industries Environmental & Chemical Engineering has been given permission to build, operate, and maintain a brand-new waste-to-energy facility by the Owarihokubu Waste Disposal Association. It involves construction of an integrated waste-to-energy plant equipped with two stoker-type incinerators. <i>Source: <a href="#">Company Website</a></i>
New manufacturing set-ups		The Environmental Protection Department is building IPARK1, Hong Kong's first waste-to-energy (WtE) facility for treating municipal solid waste using incinerator on a man-made island in the water off Shek Kwu Chau. <i>Source: <a href="#">Hong Kong Government</a></i>



## DIVERSIFICATION

Merger & Acquisitions	 	Severn Trent Green Power (STGP) is to acquire Andigestion after the approval from the Competition and Markets Authority. The acquisition will bring an additional 45 GWh of energy generation output every year and will give STGP a new reach into Southwest England covering major cities. <i>Source: <a href="#">Company Website</a></i>
Company Collaboration	 	Raven, Chevron, and Hyzon Motors are collaborating to commercialize the operations of a green waste-to-hydrogen manufacturing facility in Richmond to provide hydrogen fuel to transportation markets in Northern California. <i>Source: <a href="#">Company Website</a></i>
Company Collaboration	 	UAE based Tadweer and US based LanzaTech is jointly researching the business opportunities to construct a sizable conversion facility for converting solid municipal waste into clean energy or a sustainable alternative fuel, strengthening the US-UAE Partnership for Accelerating Clean Energy. <i>Source: <a href="#">Zawya</a></i>
Company Collaboration	 	The GreenBillions Ltd (TGBL) alongside The Pune Municipal Corporation (PMC) constructed its first plant in India to manufacture green hydrogen from municipal solid waste and biomass. <i>Source: <a href="#">Hydrogen Central</a></i>
VC investment		Canadian pipeline operator Enbridge commits for \$1 billion to US based Divert that converts rotting food into energy for the expansion of its facilities across North America. <i>Source: <a href="#">Nasdaq</a></i>
VC investment	 	Ideation3X has received a US\$10 million Series B investment from Yokogawa Electric Corporation to expand its presence in the Indian market for producing high-quality alternative fuels from waste. <i>Source: <a href="#">PTI News</a></i>

VC investment		<p>The new Norwegian Climate Investment Fund, managed by Norfund, is investing about 500 crore INR in equity in SAEL, an Indian solar and agri waste-to-energy company. SAEL has developed a business model where crop residues are used as fuel in waste-to-energy projects.</p> <p>Source: <a href="#">Solar Quarter</a></p>
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## DRIVERS

Government Policies		<p>Philippine Senate President Juan Miguel Zubiri has filed a bill encouraging the innovations in the recovery, conservation, processing, treatment, and disposal of solid waste by using waste-to-energy technologies.</p> <p>Source: <a href="#">English.News</a></p>
Others		<p>The Waste-to-Energy Association (WTEA) was established by several businesses and local government organizations to coordinate communications regarding the more than 70 U.S. facilities that use mass burn combustion systems and related technology.</p> <p>Source: <a href="#">Waste Dive</a></p>
Others		<p>Dubai Electricity and Water Authority (DEWA) and Dubai Municipality have signed a 35-year Power Purchase Agreement in order to buy electricity from Dubai Waste Management Centre (DWMC), the biggest waste-to-energy plant in the world and a project under the Municipality's authority.</p> <p>Source: <a href="#">Zawya</a></p>

## 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?
<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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