

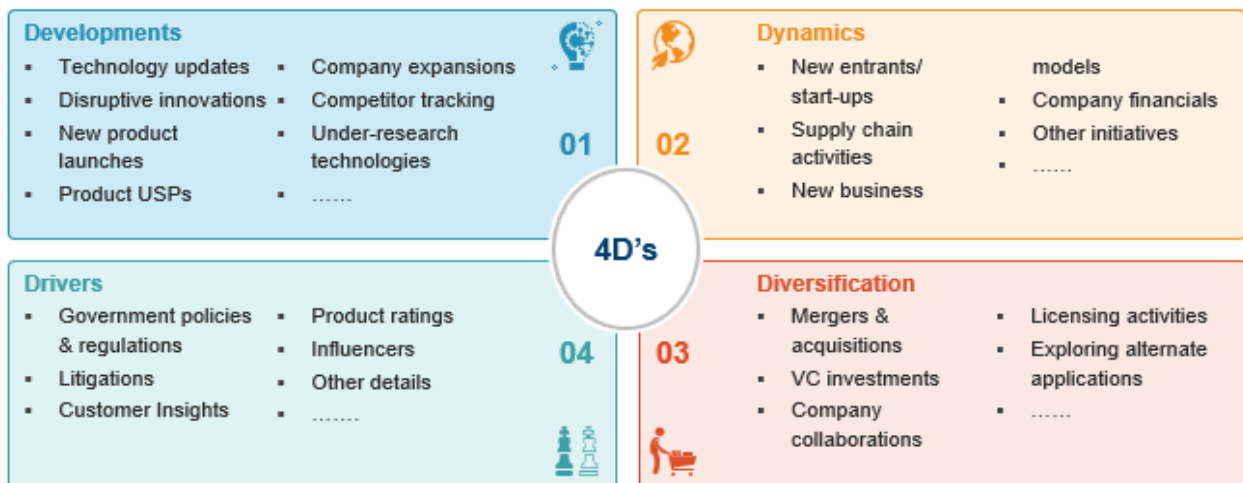
INTELLOTRACKER

Green Cement and Concrete

May 2023



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





DEVELOPMENTS

New Product Launch	adani Cement	Adani Cement has introduced ACC ECOMaxX, a green concrete solution with significantly lower embodied carbon content (30-100% less) compared to conventional concrete made with OPC (Ordinary Portland Cement). <i>Source: Businessworld</i>
Technology/Innovations	MIT Massachusetts Institute of Technology	MIT engineers have discovered new additives that can transform concrete into a carbon sink without compromising its mechanical properties. <i>Source: Mit.edu</i>
Technology/Innovations	BRIMSTONE	Brimstone is developing a new type of cement, which absorbs more carbon dioxide during its production than it emits, making it carbon-negative and environmentally friendly. <i>Source: Greenqueen</i>
New manufacturing set-ups	HOLCIM	Holcim has launched Europe's first calcined clay low-carbon cement operation, aiming to reduce CO2 emissions in cement production by utilizing innovative technology and incorporating calcined clay as a key ingredient. <i>Source: Worldcement</i>



DYNAMICS

New Business Models	FLSMIDTH	FLSmidth has introduced a new long-term cement strategy, GREEN'26, with a focus on improving profitability through operational and service business model transitions, while driving the green transition in the cement industry. <i>Source: Miningweekly</i>
New Entrants/Start-ups	Carbonaide	Finnish startup Carbonaide has raised €1.8 million in funding to advance its mission of enabling carbon-negative concrete manufacturing. Carbonaide is a spin-out from VTT Technical Research Centre of Finland. <i>Source: Eu-startups</i>
New Entrants/Start-ups	PROMETHEUS	Prometheus Materials, a sustainable building materials startup, has obtained key certifications for its bio-cement, ASTM C129 and ASTM C90. <i>Source: Businesswire</i>
New Entrants/Start-ups	Sublime Systems	Sublime Systems, a start-up from MIT, secured \$40 million in a Series A funding round led by Lowercarbon Capital. They have created a low-carbon alternative for energy-intensive aspects of cement production, with strategic investment from Siam Cement Group. <i>Source: Placetech</i>



DIVERSIFICATION

Company Collaborations	HOFFMANN GREEN CEMENT ALKERN	Hoffmann Green Cement Technologies has signed a contract with the Alkern Group, committing to supply 14,000 tons of its decarbonated cements for low carbon construction methods until the end of 2027. <i>Source: Businesswire</i>
Company Collaborations	JK LAKSHMI AMPLUS SOLAR	JK Lakshmi Cement has partnered with Amplus Solar to establish a solar power plant. The collaboration aims to enhance sustainability and reduce the carbon footprint of JK Lakshmi Cement's operations. <i>Source: Livemint</i>
Company Collaborations	SOCOCIM IFC	Sococim Industries, Senegal's top cement manufacturer, has collaborated with IFC to enhance low-carbon cement production, generate employment, and address the housing deficit. IFC has arranged a €242 million financing package for Sococim. <i>Source: Pressroom.ifc</i>
Company Collaborations	CEMEX ETFUELS	CEMEX and ETFuels have partnered to convert CO2 from CEMEX's Alicante cement plant into green fuels. ETFuels will combine up to 450,000tpa of captured CO2 with green hydrogen to produce more sustainable fuels in the form of green methanol (e-methanol). <i>Source: Cemnet</i>
VC Investments	nexe	Croatian cement plant Nexe is planning the CO ₂ NTESSA project, worth EUR 400 million, to achieve carbon-neutral cement production using oxyfuel technology. The company is seeking up to EUR 200 million from the EU's Innovation Fund. <i>Source: Balkangreenenergynews</i>
VC Investments	Heidelberg Materials	Heidelberg Materials will receive around US\$8.9m from the US Department of Energy for a carbon storage project at its cement plant in Mitchell, Indiana. The funding aims to study the geology for CO2 storage suitability. <i>Source: Cemnet</i>
VC Investments	TITAN CEMENT GROUP	Titan Cement has acquired a stake in Aegean Perlites in Greece to gain access to pozzolan reserves. This move aligns with Titan's goal of reducing CO2 emissions and increasing the share of green products in its portfolio. <i>Source: Globalcement</i>



DRIVERS

Government Policies		The US Department of Energy has granted \$540,000 in funding for the development of an innovative method that utilizes 3D-printed concrete to capture and store industrial carbon emissions. <i>Source: Innovationnewsnetwork</i>
Government Policies		New Jersey Governor signed a bill offering tax credits for construction projects using low-carbon concrete, aiming to reduce the industry's 7% contribution to global carbon emissions. The state will establish standards for embodied carbon reduction. <i>Source: Smartcitiesdive</i>
Government Policies		The Australian government aims to align its CO2 emissions Safeguard Mechanism with its net-zero target. Industrial plants, including cement plants, may need to reduce emissions by 4.9% annually until 2030. <i>Source: Globalcement</i>
Government Policies		The US General Services Administration (GSA) has established carbon limits for concrete used in federal projects, as part of efforts to reduce environmental impact. GSA manages \$75 billion in annual contracts. <i>Source: Scientificamerican</i>
Government Policies		The UK government is providing £30 million in funding for seven regional projects aimed at decarbonizing highways. Initiatives include carbon-capturing cement and utilizing green waste in asphalt production to reduce emissions. <i>Source: Gov.uk</i>

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

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