

Press Release

Exyte developed Factory Concept for Morrow Batteries' leading edge and sustainable Li-ion Battery Giga-Site in Norway

16 August 2021, Stuttgart

Exyte, a global leader in the design, engineering, and delivery of facilities for high-tech industries, has collaborated with Morrow Batteries ("Morrow") in the development of integrated production concepts for their new state-of-the-art Lithium-Ion battery production site in Norway.

Morrow is a battery manufacturer with a mission to develop and manufacture the world's most cost-effective and sustainable battery cells. The leading-edge concept designed by Exyte supports Morrow's goal to establish a "Battery Coast" in the South of Norway that is a sustainable battery value chain ecosystem.

The integrated manufacturing complex for Lithium-Ion battery cells will be located in the Eyde Energy Park, in Arendal in the South of Norway and spans across a total area of 100 ha on a site over 1.5 km long. The complex includes three battery cell factories with can stamp facilities, three cathode material plants, an R&D building including cell and active materials pilot lines, a visitors' center, site infrastructure and a central administration building. The construction of their first site buildings is estimated to start in 2022, with a start of operation target in late 2024. The complex, which is planned for a manufacturing capacity of more than 42 GWh, will be completed by 2026. With the availability of abundant amounts of green and competitive energy and its location close to harbor and shipping routes to Europe, Eyde Energy Park is an ideal location to realize Morrow's mission.

Exyte supported this huge production site plan with a concept study starting from Industrial Engineering and factory concept development to completion of the large-scale Site Master Plan. This included initial assessment of the specific shapes of the site and the available areas, particularly the topography, and certain landmarks that need to be maintained in place represented a specific feature of site master planning.

Exyte developed and structured the cell factories that included the tool layouts, area sizing, utility capacities, support functions, and logistics. All the buildings are embedded into the site according to the client's incremental production ramp up schedule starting from the R&D center up to the finally complete manufacturing site.

Budget estimating and 3D architectural renderings of the site including a flyover video for visualization purposes completed the requirements for the study.

"Exyte has supported Morrow Batteries in the development of a site master plan, 3D renderings, and overall plant design. Their knowledge and experience from the battery manufacturing industry was instrumental for a successful outcome. They particularly impressed us with their agile and practical approach to find the optimal solution for Morrow Batteries." commented Bård Karlsen, EVP Strategy and Operational Excellence of Morrow.

Klaus Eberhardt, Exyte's Technology Manager Battery and Director BD for Central Europe commented, "We are delighted to support Morrow from the early project phase in order to develop a smart Site Master Plan for this Green Battery Facility complex and to work out an optimized phasing of the project with focus on minimized initial invest and the flexibility to expand rapidly, depending on market requirements."



3D Impression of
Morrow Batteries'
Giga-Site in Arendal

About Morrow

Morrow's ambition is to develop and manufacture the world's most cost-effective and sustainable battery cells. The company's vision is to enable and accelerate the green energy transition through the production of sustainable batteries. Based in the southern parts of Norway, Morrow is currently in the process of establishing its 42 GWh Giga-factory which utilizes 100% renewable hydroelectric power to manufacture batteries with the lowest possible CO2 footprint. The factory will be operational from Q4 2024. To accelerate development and qualify its products for key market segments, Morrow is building an industrialization center which support the company's vision to create sustainable batteries. With these facilities, Morrow and the company's partners are establishing 'the Battery coast' – a sustainable eco system built around the battery value chain. Morrow Batteries was founded in 2020 by strong and committed owners. The two leading investors are Agder Energi Venture, a wholly owned subsidiary of Agder Energi, and NOAH, a wholly owned subsidiary of Gjelsten Holding.

About Exyte

Exyte is a global leader in the design, engineering, and delivery of facilities for high-tech industries. With a history of more than 100 years, the company has developed a unique expertise in controlled and regulated environments. Exyte has a truly global footprint, serving the most technically demanding clients in markets such as semiconductors, batteries, pharmaceuticals, biotechnology, and data centers. The company offers a full range of services from consulting to the managing of turnkey solutions – delivered to the highest quality and safety standards. Solving the most complex challenges, Exyte forges trusted, long-lasting relationships with its clients. In 2020, Exyte generated sales of EUR 4.1 billion with around 4,900 highly experienced and motivated employees. The company is ideally positioned to further strengthen its market leadership with its broad industry insight and its exceptional talents. www.exyte.net

For further information, please contact:

LengGuan Lim
Marketing Director, ATF
+65 6725 9528
+65 8138 4423

LengGuan.lim@exyte.net

Dr. Klaus Eberhardt
Technology Manager, Battery/PV
+49 711 8804 - 1877
+49 162 2097228

Klaus.Eberhardt@exyte.net