

Flywheel energy storage manila

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MANILA, Philippines — In today's changing world where innovation and sustainability are keys to progress, companies and utilities in the energy industry are looking for solutions to bridge the long-existing gap between traditional energy generation, renewable energy generation, and energy storage systems.One company that seeks to meet this challenge is Amber Kinetics as it brings to the Philippines the world's first and only long-duration flywheel energy storage system.

Flywheel technology is an innovation that efficiently stores kinetic energy by a spinning steel rotor enclosed in a vacuum container. Amber Kinetics achieved a breakthrough with their technology by extending the duration and efficiency of flywheels from minutes to hours, thus resulting in safe, economical, and reliable energy storage. Their flywheels feature an energy capacity of 32 kWh and can be scaled up to tens or even hundreds of megawatts.

Amber Kinetics is an Energy Storage Company originating from Silicon Valley in California, USA. Since its founding in 2009, its pioneers — Dr. Seth Sanders and Ed Chiao — worked together toward their shared vision of creating a clean and sustainable energy future.

Following the company's successful trials of its technology in Lhasa Tibet, Hawaii, Taiwan and the USA, Amber Kinetics made its way to the Philippines in 2018 when the company established its manufacturing facility in Santo Tomas, Batangas. The company then expanded its presence in the country with its local partnership with De La Salle University (DLSU) in Laguna. Through this collaboration, DLSU Laguna becomes the first establishment in the Philippines to use the groundbreaking flywheel technology.

At present, the Philippines is home to Amber Kinetics' manufacturing, testing, and final configuration sites. Having this site and service locally also trailblazes the demand for higher value-added industrial activities, promoting the Philippines as a strategic destination for leading-edge innovation and development.

MANILA, Philippines — Somewhere inside the De La Salle University Laguna campus lies the product verification and demonstration facility of California-based Amber Kinetics, which is currently the world's only provider of long-duration flywheel energy storage systems (FESS).

The facility has the look and feel of a futuristic research center, with its ground-mounted solar panels from Union Solar and inverters. But what immediately draws one's attention are the dozens of dome-shaped structures protruding from the ground. Each steel cylindrical device is called the A32 FESS.

The A32 FESS is the product of Amber Kinetics and is the only FESS in the world that can store 32 kilowatt-hours of energy and discharge it for four hours. Amber Kinetics said the A32 can be configured to discharge power for a maximum of eight hours, delivering kW of constant power. To put this in perspective,



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one A32 can serve approximately five average Filipino homes for one day.

"Amber Kinetics has engineered a highly efficient flywheel that meets the energy storage needs of the modern grid." said Bobby Kanapi, Amber Kinetics Philippines Business Development director. "The transition to clean energy is happening in the Philippines. It's no longer a question of 'if', it's just a matter of 'how soon'. What Amber Kinetics offers could hasten the transition to clean energy," Kanapi added.

Flywheel energy storage company Amber Kinetics is expanding its manufacturing operations in the Philippines and the US with potential investments of up to \$400 million.

Amber Kinetics president Edgar Chua said the company was studying opening two to three manufacturing sites in the US for long-duration kinetic energy storage system (KESS) that would support the growth of renewable energy.

A flywheel is a rotating device which stores kinetic energy. The flywheel does not contain nor emit any hazardous materials over its design lifespan of 30 years. The modular system is suitable for applications such as capacity or demand reduction and ancillary services.

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