

MANUFACTURING

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Siemens Gamesa receives 20-turbine order from Indonesia



A SWT-3.6-130 wind turbine like the ones ordered for the ‘Tolo 1’ onshore wind project. (Courtesy: Siemens Gamesa)

With the ‘Tolo 1’ onshore wind project, Siemens Gamesa has secured its first order in Indonesia for the gearless SWT-3.6-130 wind turbines. The wind farm in Indonesia will consist of 20 wind turbines. The wind-power plant developed by Equis Energy, the largest renewable energy IPP (independent power producer) in the Asia-Pacific region, will be installed by late 2017. Commissioning is planned for early 2018.

Equis Energy has signed 5-year contracts with Siemens Gamesa for engineering, procurement, and construction (EPC), as well as operations and maintenance (O&M). The Tolo 1 wind power plant will be installed in Jenepono on the south coast of the central Indonesian island Sulawesi. For the installation work, Siemens Gamesa Renewable Energy is working in consortium with one of the largest Indonesian construction companies, PT PP (Persero) Tbk.

The wind project will be connected to the Indonesian energy grid via a local substation and a purpose-built 150 kilovolt (kV) transmission line. The type SWT-3.6-130 direct-drive turbines — each with a rating of 3.6 MW and a rotor-diameter of 130 meters — will be installed on steel towers with hub heights of 135 meters.

“Indonesia is set for a period of rapid, sustained growth in energy demand,” said Equis Energy CEO David Russell. “Equis is committed to leveraging our experience and expertise in Indonesia to support these government initiatives and local community development.”

“We are proud to be awarded with this order since Equis Energy is an important and very dynamic player in the Indonesian energy market,” said Alvaro Bilbao Moran, head of the Asia Pacific region in Siemens Gamesa’s onshore business unit. “With a number of innovative,

renewable-energy projects in Indonesia, Equis Energy is really a great contributor to the country's climate protection. We are looking forward to further cooperation with Equis Energy in Indonesia and throughout Asia in the near future."

Indonesia has set ambitious energy targets with a renewable share of 23 percent by 2019. For Siemens Gamesa, Tolo 1 is the second order in Indonesia after the 75-MW Sidrap wind farm, announced earlier this year.

Besides these two Indonesian projects, Siemens Gamesa's footprint in the Asia Pacific region extends to Vietnam, the Philippines, Taiwan, South Korea, Japan, Sri Lanka, China, India, Australia, and New Zealand, having installed roughly 9 GW in these markets. ↵

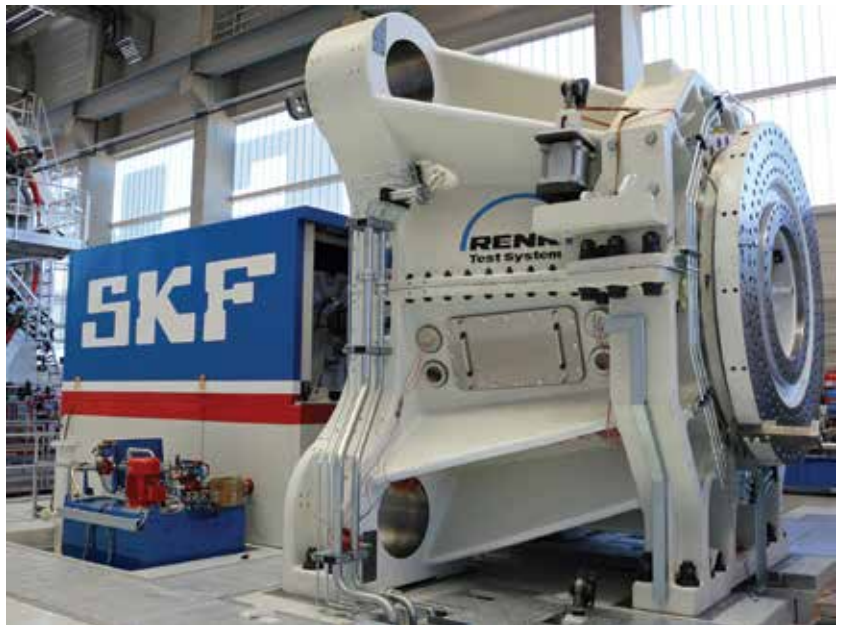
Source: Siemens Gamesa

For more information, go to www.gamesacorpc.com

Renk roller-bearing test systems delivered

Augsburg-based Renk Test System GmbH, a subsidiary of Renk AG, has delivered two unique test rigs to serve as the critical components in the world's most powerful test center for large bearings. Commissioned by SKF in Schweinfurt recently, the test rigs will help to optimize the performance of future generations of large bearings. The objective is the development of even more compact, robust, lower-friction, and longer-lasting large bearings. The bigger of the two test rigs is the world's first for testing not only the main bearing of a wind turbine up to 6 meters in diameter, but also the entire bearing assembly. The control software RENK Dynamic Data Systems (RDDS) enables the rig to test every conceivable load case occurring in wind-energy plants, e.g. in extreme storms or with a tumbling rotor.

The two test systems, the Main Shaft Test Rig (MSTR) and the Dynamic Development Test Rig (DDTR), are a thousand times bigger than a "normal" Renk test rig rated in kilonewtons. In contrast, the systems installed in Schweinfurt operate on a meganewton scale. With combined load input, the MSTR can act on the tested bearing with a bending moment of 40 MNm and a dynamic force of 8 MN both in axial and radial directions. The smaller DDTR, engineered to thoroughly test large bearings in



Assembly of the DDTR load unit. (Courtesy: Renk)

the shipbuilding, mining, paper, cement, and steel industries, can deliver a commendable performance, too. It achieves speeds of up to 250 rpm while applying loads of up to 7 MN to the bearings. Such testing of new components, geometries or materials here, too, accelerates the torture suffered by the bearings.

The sheer dimensions and weight of the two test systems are gigantic. Featuring an energy recovery system, the MSTR is approximately 9 meters wide, 11 meters tall, and 8 meters deep. It weighs about 700 metric tons. The load disk alone has a weight

of 125 metric tons and a diameter of about 7 meters. The deadweight of the DDTR, which also features energy recovery, is in the region of 300 metric tons. Both of the rigs are mounted on reinforced-concrete foundations weighing hundreds of tons, to ensure safe operation. Since the designs will facilitate extremely efficient testing and also contribute toward a resource-friendly production of future generations of large bearings, they have been sponsored to a total value of around 3.5 million euros by the Bavarian State Ministry for Economic Affairs and Media,

Oklahoma officials visit state's Terex factory

It's not very common for a governor and a congressman to brave a manufacturing factory in the middle of summer — especially when temperatures exceed 100 degrees Fahrenheit — but Oklahoma Gov. Mary Fallin and Rep. Steve Russell did just that on July 21, 2017, when they visited the Terex facility to talk about manufacturing jobs in America.

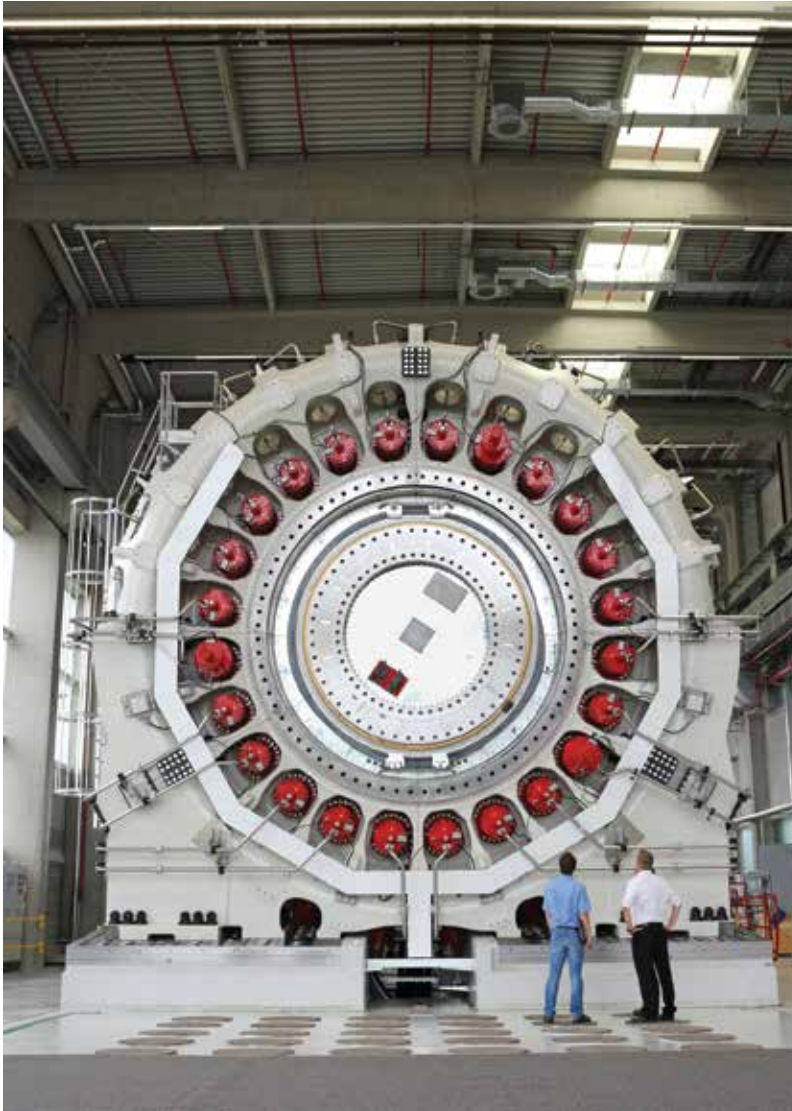
John Garrison, CEO and president of Terex Corporation, and Dennis Slater, president of the Association of Equipment Manufacturers (AEM) joined them. The visit was part of an event called “I Make America,” co-sponsored by AEM and Terex.

Terex was chosen for this visit because it recently moved a significant portion of its manufacturing operations to its plant in Oklahoma. The state-of-the-art facility boasts 700,000 square-foot of operational space. Over the past two years, Terex has invested more than \$40 million into the facility, including the renovation of a large-scale training center, as well as quality-of-life improvements, like the addition of atmospherically tuned fans designed to keep team members cool.

Terex's investment has already seen immediate positive results: It is now the only Terex facility in the world capable of producing heavy equipment for all three segments of the company. The three segments include Terex Cranes, Genie Aerial Work Platforms, and Material Processing.

“You know what I like about this place?” Russell said. “You don't just make stuff. You make stuff that makes stuff.”

After the tour of the facility, Fallin and Russell attended a rally in the new training center, where they were able to speak to all Terex team members. During the question and



Assembly of the MSTR load unit. (Courtesy: Renk)

Energy and Technology, and the Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety.

These test rigs also serve as tools in basic development work. Even the most modern simulation programs are unable to faithfully reproduce all the dynamic processes to which large bearings are submitted under actual operating conditions. This is why, until now, such bearings have been engineered with “built-in safety reserves” which cannot completely exclude premature damage. Hence,

experts assume that, under practical conditions, certain phenomena still occur that have not been adequately allowed for in today's simulation models. Test rigs are intended to help analyze such situations. Among the functions is to investigate the reciprocal effects of varying lubrication conditions and bearing designs as well as materials under highly dynamic loads. ↴

Source: Renk Test System GmbH
For more information, go to www.renk.biz



From left: George Ellis, Kyp Eidburg (AEM), Don Anderson, Rep. Steve Russell, Gov. Mary Fallin, John Garrison, Steve Filipov, Dennis Slater (AEM), and James Hooper. (Courtesy: Terex)

answer period, one of the team members asked Fallin what can be done about workforce readiness in Oklahoma — and beyond.

“Manufacturing is not what grandfather’s manufacturing was,” Fallin said. “If you want to go into a nice company like this, you have to have some education and training, and some work skills to get a job here.”

Fallin said the nation must do a better job in providing the right work skills for today’s jobs. She said the solution is filling the middle skills gap — the gap where a worker needs additional training beyond a high school diploma, but not a full college degree. She said that by 2025, 77 percent of all American jobs would require additional education beyond high school.

Russell said the Terex team

members were proving the fact that there are jobs out there for people who want to learn the skills.

“Oklahoma City has really been the beneficiary of our focusing efforts,” Garrison said. “We’re focusing our portfolio. We’re growing our business here. It’s a very important facility to Terex.”

“Hats off to the OKC team,” Garrison said. “The congressman said that ‘this team has got a lot of spirit. You can tell they’re engaged in the work they’re doing.’ With that kind of attitude and spirit, I’m absolutely confident that our team at OKC will continue to deliver for our customers.”

Source: Terex

For more information, go to www.Terex.com

“ You don’t just make stuff. You make stuff that makes stuff. ”

UEA celebrates 65 years supplying components

United Equipment Accessories (UEA), a family-owned manufacturer of slip rings, cable reels, hydraulic swivels, and shift controls, turns 65 years this year.

“We’ve weathered a lot of ups and downs to get here,” said Daniel Hanawalt, business development manager at UEA. “Economic downturns, import/export challenges, and more. But we’re proud that we’ve remained a family-owned company based in Iowa since 1952.”

For 65 years, UEA has put a focus on solving problems from the inside out — using engineering to improve performance and efficiency.

“We’ve been very purposeful about the products we do and don’t offer,” Hanawalt said. “We engineer very specific components that make an impact on our customers’ equipment quality, durability, and capabilities.”

UEA started as a supplier to the construction and utility industries, and diversified as they identified additional verticals suffering from the problems they had the expertise to solve.

“We’re still very much in the construction sector, but we’re also heavy in the wind, ag, forestry, oil and gas, and industrial equipment industries,” Hanawalt said. “Our team is great at identifying new applications for our products and finding customers willing to partner with us on engineering and testing.”

UEA’s engineering team is always working on new product ideas. Currently in the works are wind slip ring innovations, set to be finalized in the next 12 months. Additional applications for the aviation and medical industries are being investigated as well.

“We’re excited for what’s to come,” Hanawalt said. “New technology, new industries, new opportunities.”

Source: UEA

For more information, go to www.uea-inc.com