

Formnext 2019, Hall 12.1, booth D81

CEAD and Siemens intensify collaboration for industrial 3D printing of large fiber reinforced polymer parts

- **Successful collaboration to be showcased at Formnext 2019**
- **CEAD lightweight extruder to allow high deposition rate and large print volumes mounted on a robot**
- **Sinumerik Run MyRobot /Direct Control for precise printing with Comau robot and CEAD extruder**

CEAD, technology supplier of 3D printing equipment on the frontier of large scale polymer, glass and carbon fibers 3D printing, and Siemens intensify their collaboration and showcase their latest development the AM Flexbot at the upcoming Formnext 2019, a leading trade fair for Additive Manufacturing, on the Siemens booth D81, Hall 12.1.

The CFAM Prime is CEAD's first machine with their patented Continuous Fiber Additive Manufacturing (CFAM) technology. This gantry-based 3D printing system enables the printing of large fiber reinforced thermoplastic objects (4mx2mx1.5m) in a relatively short time due to a high output (average 15 kg/hr). The large system is controlled by Siemens' Sinumerik 840D sl for precision of movement.

Their new development, the AM Flexbot, includes Siemens' Sinumerik CNC with Run MyRobot /Direct Control, a Comau robot arm and CEAD's single screw extruder unit. With the Comau and Sinumerik Run MyRobot /Direct Control solution the robot kinematics are fully integrated into a CNC system. With this, the required precision in

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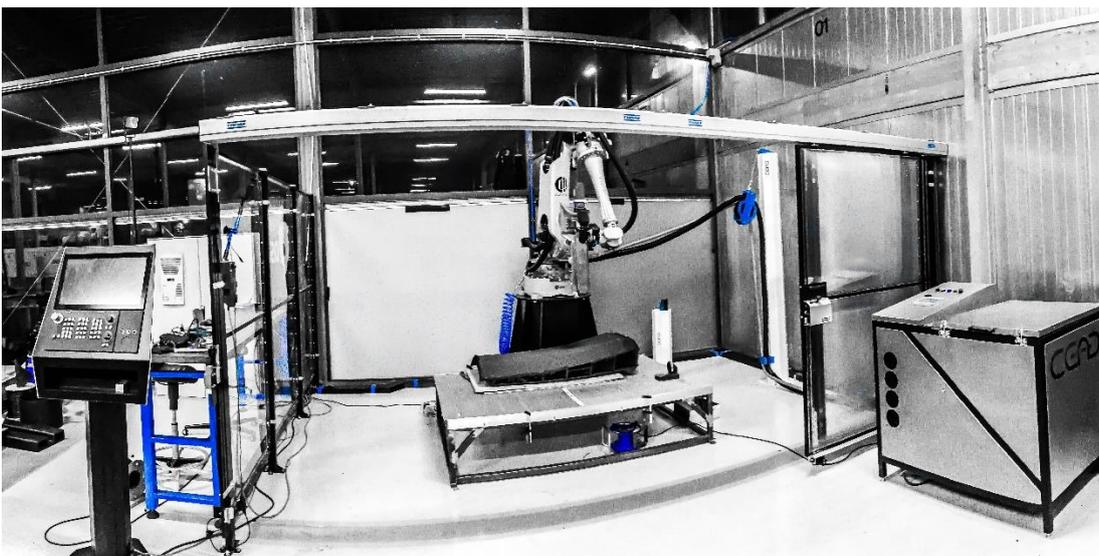
The logo for CEAD, consisting of the letters 'CEAD' in a bold, sans-serif font. The 'C' and 'A' are black, while the 'E' and 'D' are blue.

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**Joint press release
by Siemens and CEAD**

the complex robot movement can be achieved to enable not only the correct deposition of material, but also the milling of the part to a final contour. This combination is now ready for market and CEAD is looking into adding multiple other features to the solution as well. “By using Siemens’ Sinumerik Run MyRobot /Direct Control together with a Comau robot arm in our latest solution, we are able to deliver a modular system scalable to fit our customer’s needs as many different functions can be added at any time. We are very pleased to work with Siemens and their reliable products”, explains Lucas Janssen, Operations Director at CEAD and one of the founders of the company.

After Formnext, Siemens will include an CEAD 3D printing system into its Additive Manufacturing Experience Center (AMEC) in Erlangen, Germany to show the potential of large-scale Additive Manufacturing with thermoplastic composite materials. The AMEC provides an excellent insight into real industrialized Additive Manufacturing use-cases with Siemens’ seamlessly integrated digital toolchain and state of the art automation for various additive technologies. More than 4,000 customers and industry experts have been visiting the AMEC since its opening in April 2018. “We are delighted showing an industrial solution from CEAD for multi-axis composite printing combining Comau’s robotics, CEAD’s Additive Manufacturing and our best in class CNC technology. The end-to-end offering integrated with our Digital Enterprise portfolio addresses an important need for large scale, highly flexible and economically efficient industrial applications at the same time.”, explains Dr. Karsten Heuser, Vice President Additive Manufacturing at Siemens Digital Industries.



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This press release and press pictures are available at

<https://sie.ag/2QcukZS>

For further information regarding Siemens at the Formnext 2019, please see

www.siemens.com/press/formnext2019 and www.siemens.com/formnext

For further information about CEAD please visit www.cead-am.com

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Siemens Digital Industries (DI) is an innovation leader in automation and digitalization. Closely collaborating with partners and customers, DI drives the digital transformation in the process and discrete industries. With its Digital Enterprise portfolio, DI provides companies of all sizes with an end-to-end set of products, solutions and services to integrate and digitalize the entire value chain. Optimized for the specific needs of each industry, DI's unique portfolio supports customers to achieve greater productivity and flexibility. DI is constantly adding innovations to its portfolio to integrate cutting-edge future technologies. Siemens Digital Industries has its global headquarters in Nuremberg, Germany, and has around 76,000 employees internationally.

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. The company is active around the globe, focusing on the areas of power generation and distribution, intelligent infrastructure for buildings and distributed energy systems, and automation and digitalization in the process and manufacturing industries. Through the separately managed company Siemens Mobility, a leading supplier of smart mobility solutions for rail and road transport, Siemens is shaping the world market for passenger and freight services. Due to its majority stakes in the publicly listed companies Siemens Healthineers AG and Siemens Gamesa Renewable Energy, Siemens is also a world-leading supplier of medical technology and digital healthcare services as well as environmentally friendly solutions for onshore and offshore wind power generation. In fiscal 2019, which ended on September 30, 2019, Siemens generated revenue of €86.8 billion and net income of €5.6 billion. At the end of September 2019, the company had around 385,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

CEAD is a technology supplier of 3D printing equipment on the frontier of large-scale composite additive manufacturing. In 2017 CEAD started the development of their worldwide unique and patented Continuous Fiber Additive Manufacturing (CFAM) technology. Which makes it possible to 3D print large scale continuous fiber reinforced products with high speed. With passion for technology and innovation, the company is driven to find creative solutions for their clients and their applications. Helping them to transform their business activities with their technology. Further information is available on www.cead-am.com.