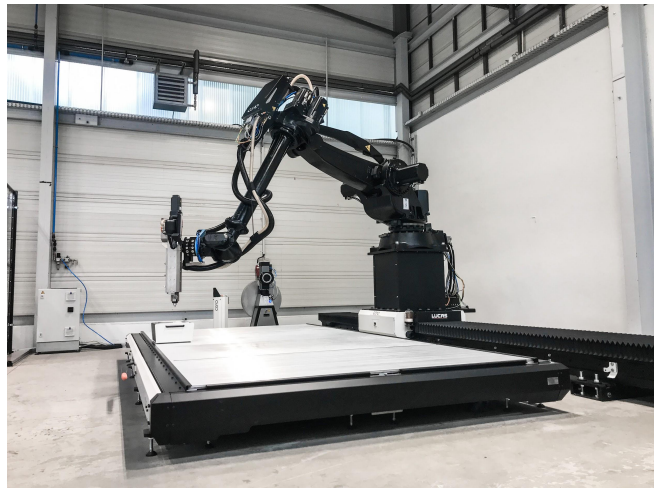


## Composite large format additive manufacturing using CEAD hybrid solutions.

CEAD is a technology supplier for large format additive manufacturing (LFAM) machines. We provide a turnkey solution for manufacturers seeking to transform and automate their current production process. Replacing traditional processes with additive manufacturing techniques allows to reduce production costs and shorten lead times while simultaneously experiencing the benefits that thermoplastic materials have to offer.

CEAD builds and implements large scale hybrid 3D printers, combining multiple manufacturing processes in one cell. The Flexbot can be used to 3D print a part to near net shape and to then post-process the part, using calibration methods to reach the required high accuracies and tolerances. Composite parts are often made from non-recyclable materials that require tools and moulds to produce them. 3D printing can be used to print parts to near net shape, including such tools and moulds but also to directly print the final (non)-structural end-part. This



significantly decreases the amount of waste during the production of a part. CEAD robot extruders can process virtually all fiber reinforced thermoplastic materials and thus the end part can have the desired mechanical properties for its purpose. The technology is therefore widely applicable to many industries. Thermoplastics can be recycled after the end of the product life cycle and can be reprocessed multiple times, decreasing the environmental footprint.

The production of most large composite parts is still a multi-step and time-consuming process, often requiring manual labour. The overall quality of the end part is mainly determined by the efficiency among these numerous steps. One of the key advantages of additive manufacturing is automating the production of parts and reducing steps in the production cycle. It also eliminates the need for labour-intensive work. At CEAD, we provide a turnkey solution: from assessing a business case, to providing advice on the implementation of additive manufacturing, installing the machine, training and establishing a lifelong partnership. This ensures successful implementation and automation of manufacturing processes of our partners. The Flexbot goes beyond large format 3D printing. Come find out more about our solutions and to meet the newest addition to our technology portfolio during the JEC 2023, hall 5, booth S41.