SST
STEIGERWALD STRAHLTECHNIK

ELECTRON BEAM ADDITIVE MANUFACTURING

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EBOADD
ADDITIVE MANUFACTURING

FROM THE INVENTOR OF THE ELECTRON BEAM

As a global medium-sized company, we are the leading developer and manufacturer of electron beam machines and systems.

From the automotive industries and the aerospace industries through all of the branches of electrical engineering right down to special applications, customers all over the world benefit from our engineering expertise, our reliable cutting-edge technology and many years of experience as an electron beam specialist.

We are taking a major step forward with additive manufacturing via electron beams, in other words, we are launching new R & D frontiers in the manufacturing of innovative metal components for the product industry including.

RAPID PROTOTYPING

EBOADD
ADDITIVE MANUFACTURING

STEIGERWALD STRAHLTECHNIK

THE REVOLUTION
IN INDUSTRIAL MANUFACTURING

With the electron beam and the additive manufacturing, you've made your decision for the future. The additive manufacturing enables you to build up layer by layer of highly complex metallic components directly from the CAD data in your engineering department just like the computer-supported 3D-printing. Our trail-blazing **EBO**ADD process makes it possible for you to create new geometries and new combinations of alloys and materials. This opens up undreamed-of possibilities for manufacturing your workpieces and products. Eliminating tools makes it possible for you to create new ground-breaking parts quickly, fast and flexible in just one low-cost process step.

PRECISION PRODUCTION

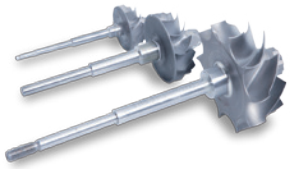
LOW-COST PRODUCTION

HIGH LEVEL OF THROUGHPUT

REDUCED PRODUCTION TIMES

REDUCED MATERIAL REQUIREMENTS

Stator blade ring



Turbo chargers

Gear parts

HIGH-TECH WITH THE ELECTRON BEAM

Additive manufacturing with the **EBO**ADD process uses an electron beam as an efficient source of energy. It is generated in the electron beam chamber machine from Steigerwald with a powerful generator of the **EBO**GEN series. The movable generators enables power flux densities of more than 10^7 W/cm^2 .

The electron beam melts the initial material during processing which makes it possible to continuously build up the workpiece.

Among other benefits, the welding process takes place in a vacuum enabling it to produce very high welding speeds.

Sample of an EBOCAM large-scale chamber machine with a 50 m³ chamber volume

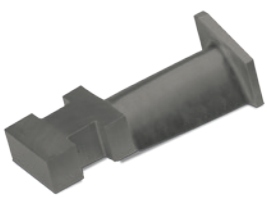
This **EBO**CAM machine is also excellent for **EBO**ADD manufacturing of large-scale and heavy component parts with a chamber volume of 50 m³ and a length of 9 meters.

EBOADD
ADDITIVE MANUFACTURING

PRECISION IN DETAIL
AND A WIDE RANGE OF OPTIONS

BLAZING NEW TRAILS
WITH THE BUSINESS PARTNERS JUST RIGHT FOR YOU

Together with Steigerwald Strahltechnik, one of the leading specialists for Electron Beam Technology in the world, and its well-known partners, you are assisted by a strong team for your challenging tasks. Jointly with them, we break the mould with cutting-edge process solutions providing totally new material combinations, component architectures and function requirements. With our engineering department, this is what always puts you one step ahead of your competitors and makes you poised for the future.



Blade of stator

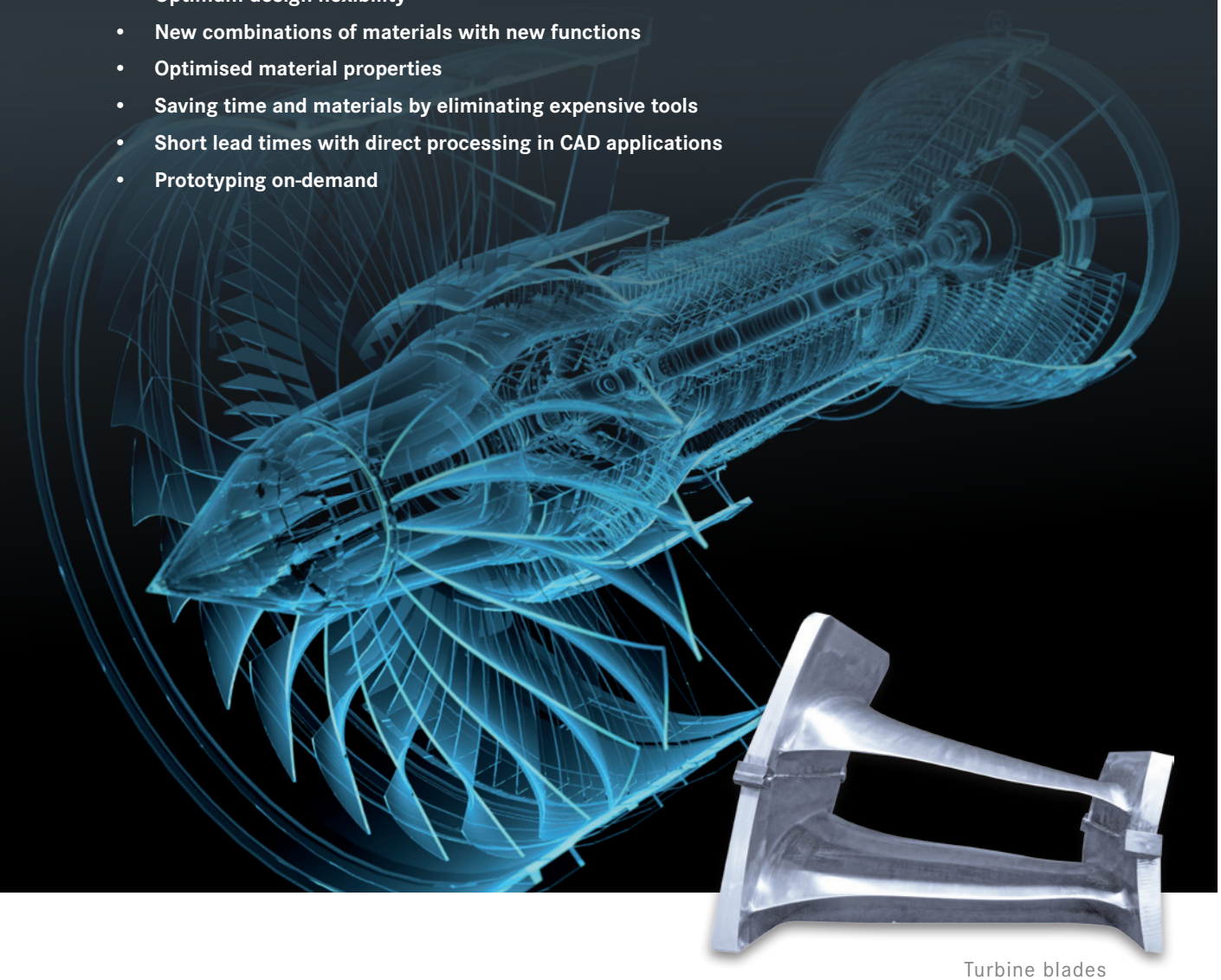
Fan blade

THE REVOLUTION
FROM THE PROTOTYPE ...

Many world-class companies delve into the key technologies to put them on track for the future.
It is necessary to engineer prototypes and advance microprototypes to a series production level for new technologies, applications and series production levels.

Additive manufacturing ensures the lowest possible development times because innovations can be tested, improved and made ready for series production.

- **Optimum design flexibility**
- **New combinations of materials with new functions**
- **Optimised material properties**
- **Saving time and materials by eliminating expensive tools**
- **Short lead times with direct processing in CAD applications**
- **Prototyping on-demand**



Turbine blades

EBOADD
ADDITIVE MANUFACTURING

... TO SERIES PRODUCTION

QUALITY + QUANTITY
IN OVERALL MANUFACTURING

The **EBO**ADD process not only ensures fast and low-cost manufacturing of prototypes and single pieces. Additive manufacturing with the electron beam is highly flexible, allowing it to be easily adapted to the production of job lots or general series production.

Since all of its benefits come here again into effect, **EBO**ADD is the process and producing technology to be the first to arrive in the future combining the revolutionary features of Industry 4.0.

EBOADD – Solutions for:

- **Aerospace**
- **Automotive/E-Mobility**
- **Renewable energy**
- **Machine and plant manufacturing**
- **Defence technology**

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