

PRESS RELEASE

Düsseldorf, September 16, 2020

Outokumpu decides in favor of a powder automatization plant from SMS group to produce base material for 3D metal printing

Newly developed powder atomization plant for innovative business fields



Outokumpu is going to install a metal-powder atomization plant from SMS group.

Outokumpu has selected SMS group to supply an atomization plant for the production of high-quality

stainless steel powder used in additive manufacturing. This is the first ever facility SMS group is going to supply under a Subscription contract. While this agreement is new territory for both companies, it will pave the way for a long-term cooperation between the two partners.

Subscription is a business model under which SMS group will remain the owner of the powder atomization plant, while Outokumpu, as operator of the plant, will pay SMS group pro rata of the quantity of stainless steel powder produced.

The atomization plant – scheduled to become operational in early 2022 – will be designed for an annual production of up to 330 tons of stainless steel powder.

Tobias Brune, SMS group, Head of Additive Manufacturing & Powder Metallurgy: “Right from the beginning the whole project has been sailing under the flag of partnership. With this performance-based contract model we, as Leading Partner in the World of Metals, are breaking new ground jointly with our customer which will bring both of us forward. The Subscription contract provides for both companies to concentrate on their respective core competences to be successful in the market.”

Outokumpu is one of the world’s leading producers of high-grade stainless steels. With production facilities in Finland, Germany, the United Kingdom, Sweden, the U.S.A. and Mexico, and a world-spanning network of service centers, Outokumpu supplies a wide range and great diversity of tailored stainless steel products for virtually any application to customers from most different sectors, including architecture, infrastructure, automotive, heavy industries, medical engineering and domestic appliances.

Philip Salfeld, Outokumpu Manager Strategic Investments: “As the inventors of stainless steel, we are aiming to continuously advance innovation in general, and the development and distribution of this highly versatile and sustainable material. In so doing, we are always looking out for innovative applications that will

attract new customer segments to our products. Metal powder is one such innovative business field. And we are looking very much forward to developing it jointly with SMS group.”

SMS group’s scope of supply will comprise the powder atomization plant complete with the grading equipment, spare parts service over the duration of the contract, and digital solutions.

The powder atomization plant, which SMS is going to supply, includes the induction melter, the atomizer, two cyclones and filter elements. It will be designed for the complete process to take place in an inert atmosphere. This enables temperature measurements, sample taking and material feeding to be performed without causing any atmospheric variations. The atomizing nozzle is arranged below the distributor, which contains the molten metal. The metal runs through the nozzle, undergoing atomization in the atomization tower by means of inert gas. From there the resulting powder is conveyed – still under inert conditions – to the cyclone unit, separated from the inert gas and collected in containers. Then the metal powder – in its finished condition – is screened and graded.

The atomization plant will be designed to atomize powders of stainless steels, maraging steels, special steels, superalloys, nickel-based alloys, cobalt-chromium alloys and alloys on copper basis, among others.

As feed stock, lumpy material (such as metal scrap, virgin metal and master alloys) or non-specified powder (in fine and coarse fractions) can be used.

SMS digital, a company of SMS group, is going to supply the Smart Alarm system, which assures quick and straight-forward responses to alarms triggered in production plants. Thanks to intelligent priority scheduling and the direct linking of solution messages, the system supports the operator in increasing plant availability and enhancing the understanding of how the system works by sending out automated notifications.

In parallel with the installation of the plant at Outokumpu, the customer's staff will be trained at the powder atomization plant operated by SMS group in Mönchengladbach.

At the Metal Additive Manufacturing Conference taking place in Vienna from Sept. 30 – Oct. 2, 2020, our expert Yannik Wilkens will present our activity around the Additive Manufacturing.

SMS group is a group of companies internationally active in plant construction and mechanical engineering for the steel and nonferrous metals industry. It has some 14,000 employees who generate worldwide sales of more than EUR 2.9 billion. The sole owner of the holding company SMS GmbH is the Familie Weiss Foundation.