



fives

Press release – June 24, 2015

Fives and BeAM sign a partnership on additive manufacturing equipment: complementary expertise for a booming industry

Signing the deal on 17 June 2015 brought Fives into partnership with a top builder of additive manufacturing machines using metal powder deposit technology.

A partnership of complementary expertise

Fives' high precision machines meet the quality requirements for additive manufacturing

The Fives subsidiary Fives Machining designs and builds 5-axis machines, traditionally used for machining and composite processing. These machines also meet the stringent quality requirements of metallic 3D printing, because they combine a high degree of precision and rigidity with very mobile axes. These machines are also ideal for precise recoating and rebuilding repairs on worn parts, and additive manufacturing of complex parts, which are common in the aeronautics, mining, energy and medical industries.

Under this agreement, Fives will supply BeAM, a young and highly innovative start-up, with 5-axis machines built in its French workshops. They will integrate the technological materials needed for the CLAD® (Direct Laser Additive Construction) process, which is industrialized and sold by BeAM. This process is the result of 10 years of work by the IREPA LASER research center and used to build or repair metallic parts via 3D printing.

A technological and commercial partnership

BeAM and Fives will partner on machine sales and maintenance, with the support of Fives' robust commercial and service network (the Group has already installed more than 500 5-axis machines in over 50 countries).

An innovative procedure to meet the industrial challenges of the future

Additive manufacturing: a breakaway process in its early stages

In order to stay competitive, tomorrow's industrial sector will have to be more flexible so it can meet ever more precise needs faster and with a decreased environmental impact. New industrial processes will be key to rising to the challenge.

Additive manufacturing, also known as 3D printing, is a promising solution. While its use today remains on a modest scale, industrial applications are starting to emerge in the aeronautics, aerospace, defense, nuclear and medical industries, among others.

In addition to offering extremely flexible production, additive manufacturing makes it possible to manufacture close to demand centers and design products with new shapes, offering levels of performance and energy efficiency which were impossible to obtain with more traditional manufacturing methods. It also generates less waste (scrap) than traditional machining.

Fives: an innovative, open company

Fives: R&D in partnership

This partnership once again proves Fives' commitment to working with other innovative stakeholders (research teams, schools and businesses) to develop technologies with major potential.

In the same spirit, Fives recently joined the French research body IRT Jules Verne to work on two research projects, one of which involves additive manufacturing for titanium, steel and aluminum alloys for the aeronautics, automobile and energy sectors.



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About the Fives Metal Cutting | Composites business

The **Metal Cutting | Composites** offer is specialized in the supply of machine-tools and complete manufacturing solutions for a wide variety of industrial sectors. Relying on the expertise of its teams and world-famous legacy names such as **Cincinnati**, **Giddings & Lewis**, **Forest-Liné**, **Liné Machines**, **Cinetic** and **Rouchaud**, Fives offers its customers customized services and solutions.

About Fives

Fives is an industrial engineering Group with a heritage of over 200 years of engineering excellence and expertise. Fives designs and supplies machines, process equipment and production lines for the world's largest industrial groups in various sectors such as aluminum, steel, glass, automotive, logistics, aerospace, cement and energy, in both developing and developed countries.

In all these sectors, Fives designs and manufactures equipment and innovative solutions, which better anticipate and meet the needs of its customers in terms of performance, quality, safety and respect for the environment.

In 2014, Fives achieved a turnover of 1.5 billion Euros and employed about 8,000 people in over thirty countries.



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