Media Release

Additive manufacturing partnership for space applications

RUAG deepens cooperation with Oerlikon to achieve serial production of 3D printed components for space

- **3D printing will reduce costs by 25 percent and decrease weight by more than 50 percent**
- **Collaboration will accelerate additive manufacturing series production for space components**

Pfäffikon Schwyz, Switzerland & Zurich, Switzerland – July 17, 2018 – Oerlikon (SIX: OERL), a leading technology and engineering group, and RUAG Space, a division of the technology Group RUAG, will sign a Memorandum of Understanding today during the Farnborough Airshow to qualify and accelerate series production of 3D printed space components.

Oerlikon and RUAG Space are already working together on the qualification of a bracket that would be installed on a payload fairing. A new optimized design made possible through additive manufacturing (3D printing) will reduce costs by 25 percent and decrease weight by more than 50 percent, while doubling the stiffness of the bracket. The collaboration on the bracket exemplifies the companies' strong partnership, which will be deepened further through this initiative.

"Through our ongoing collaboration with RUAG Space, we have identified opportunities to fine-tune the qualification and certification processes, which are crucial in ensuring consistent quality in production," said Dr. Roland Fischer, CEO, Oerlikon Group. "We are confident, that our materials and additive manufacturing expertise will further grow this important partnership."

Additive manufacturing of space components
Within this cooperation, both companies intend to co-develop processes and standards for the metal-based additive manufacturing of space components, the intention being to establish standards suitable for the European space community to adopt. The partnership also will explore the refinement of existing alloys for the additive manufacturing process and the development of new metallic materials to unlock future design opportunities.

"We see this partnership as an important step in unleashing the full value of additive manufacturing in the development of new products that meet the rapidly evolving demands of the space industry," said Peter Guggenbach, CEO, RUAG Space. "We are working on standardizing additive manufacturing operations for space and are excited to collaborate with Oerlikon AM to further develop industry-leading standards and processes."

Learn more at our booth at the Farnborough Airshow (#3260) or visit: https://www.oerlikon.com/am and https://www.ruag.com/space

About Oerlikon
Oerlikon (SIX: OERL) engineers materials, equipment and surfaces and provides expert services to enable customers to have high-performance products and systems with extended lifespans. Drawing on its key technological competencies and strong financial foundation, the Group is sustaining mid-term growth by executing three strategic drivers: addressing attractive growth markets, securing structural growth, and expanding through targeted M&A. A leading global technology and engineering Group, Oerlikon operates its business in three Segments (Surface Solutions, Manmade Fibers and Drive Systems) and has a global footprint of around 15 000 employees at 186 locations in 37 countries. In 2017, Oerlikon generated CHF 2.8 billion in sales and invested CHF 107 million in R&D.

About Oerlikon AM
Oerlikon is a leading service provider in additive manufacturing, offering a full-range of integrated additive manufacturing services along the entire value chain – from metal powder production to component design, manufacturing, post-processing and quality inspection. In 2016, Oerlikon acquired citim GmbH to complement its additive production capabilities in Europe and the USA. Oerlikon is also building a state-of-the-art manufacturing facility in Michigan, USA, to produce advanced materials for additive manufacturing applications.

About RUAG Space
RUAG Space is the leading supplier of products for the space industry in Europe and has a growing presence in the United States. With 14 production sites in six countries, the RUAG Group division specializes in components for use aboard satellites and launch vehicles, playing a key role both in the institutional and commercial space market. RUAG Space has been conducting intensive work on developing and successfully flying components for spacecraft and launchers using additive manufacturing technology since 2014.
RUAG Space is a division of the international technology Group RUAG. RUAG develops and markets internationally sought-after technology applications in the fields of aerospace and defence for use on land, in the air and in space. 56% of RUAG's products and services are destined for the civil market and 44% for the military market. The Group is headquartered in Bern (Switzerland). It has production sites in Switzerland and in 15 other countries in Europe, the USA and Asia-Pacific. RUAG generates sales of approximately CHF 1.96 billion and has over 9,200 employees – 400 of whom are trainees.

Image credits
Image 1: Additively manufactured metal bracket for space applications, © RUAG

Image 2: Conventionally machined metal bracket for space applications, © RUAG

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