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Midrex and Paul Wurth Selected by H2 Green Steel
100% green Hydrogen to produce 2.1 million tons of DRI per year

CHARLOTTE, NC, USA (October 12, 2022) – Midrex Technologies, Inc. (Midrex) and Paul Wurth, an SMS Group company, announce a signed agreement with H2 Green Steel to supply the world's first commercial 100 percent hydrogen direct reduced iron (DRI) plant. The 2.1 million tons per year MIDREX H2™ Plant will be located in Boden, northern Sweden. H2 Green Steel will produce green steel, reducing CO_2 emissions by up to 95 percent compared to traditional steelmaking. By replacing coal with green hydrogen powered by renewable electricity, water and heat become the primary emissions. The plant is expected to begin production in 2025 and ramp up during 2026.

“This unique project is a ‘lighthouse’ to our industry and sets the standard for green steel. There is simply nothing like it – 100 percent hydrogen from day one to produce over 2 Mt/y of DRI with up to 95% reduction in CO_2 emissions,” says Stephen C. Montague, President and CEO of Midrex Technologies, Inc. “This is where Midrex wants to be – at the leading edge of technology."

This first-of-a-kind DRI plant will be provided by a consortium of Midrex and Paul Wurth. The plant is designed to simultaneously produce hot DRI for use in the adjacent EAF as well as hot briquetted iron (HBI). Also included is the latest innovation from Midrex, an electric heater for the recirculating hydrogen gas designed and supplied in partnership with the Tutco SureHeat business of Flex-Tek Group, a division of the UK-based engineering company Smiths Group plc.

Dr. Thomas Hansmann, Head of Metallurgy, SMS Group and CTO for Paul Wurth, said, “We are thrilled to be the forerunners in the green steel revolution. Our mission is to accelerate the decarbonization of the steel industry and thanks to the H2 Green Steel vision we are marking a milestone in the roadmap towards climate-friendly production; in 2025 the world's first large-scale green steel plant will be a reality.”

“In our steel plant, we will reduce CO_2 emissions with up to 95 percent compared to traditional steelmaking. The bulk of that reduction is achieved in the process step where we reduce the iron ore to sponge with Midrex’s technology,” adds Maria Persson Gulda, CTO of H2 Green Steel. “We started working together almost two years ago and during this time, the team at Midrex has demonstrated a capability for rapid technical development, leading to a package that wraps the world’s largest hydrogen electrical heater with the DRI process, to secure a completely green solution for iron reduction. This DRI plant will truly be first of its kind and a landmark for large scale green steel production.”

With green steel at the forefront of the steelmaking industry, this partnership further establishes Midrex, Paul Wurth and H2 Green Steel as leaders in this initiative. Over the next few years, these three companies will continue driving this project to present to the industry a remarkable and unique DRI-EAF facility.

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MIDREX is a registered trademark of Kobe Steel, Ltd.
MIDREX H2 is a trademark of Midrex Technologies Inc.

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Boden, north Sweden where the fully integrated, digitalized, and circular plant will be located.

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About Midrex Technologies, Inc.
Midrex is the world leader for direct reduction ironmaking technology and related aftermarket solutions. As developer of the MIDREX® Process, Midrex has designed, built, and serviced direct reduced iron (DRI) plants for 50-plus years. MIDREX Plants produce approximately 60% of the world's DRI and 80% of DRI from shaft furnace processes.

The MIDREX Process is highly flexible in regards to reductant sources, iron oxide feed, and product discharge options. Plants can be configured to operate on natural gas (MIDREX NG™), natural gas with hydrogen addition (MIDREX Flex™), and 100% hydrogen (MIDREX H2™). Iron oxide pellets and lump ores, regardless of their Fe content, can be transformed into either cold DRI (CDRI), hot DRI (HDRI), or hot briquetted iron (HBI). Plants can be designed for cold and hot discharge at the operator's discretion, and proven options are available for transporting and charging HDRI into an EAF.

The company's headquarters and research and technology development center are located in Charlotte, NC, USA. Midrex Technologies also has offices in the United Kingdom, China, India, and UAE(Dubai), and will execute this project through its wholly owned subsidiary Midrex UK Limited.

For more information, please visit www.midrex.com.

About SMS group & Paul Wurth
SMS group is renowned worldwide for its future-oriented technologies and outstanding service for the metals industry. The company applies its 150 years of experience and its digital know-how to provide the industry continuously with innovative products and processes – even beyond its core business – and generates worldwide sales of more than 2.7 billion euros. SMS is the right partner for challenging projects and supports its customers throughout the lifecycle of their plants, enabling profitable and resource-efficient value creation chains. Paving the way for a carbon-neutral and sustainable metals industry is the company's stated goal. As a global player with German roots, SMS takes responsibility for its about 14,000 employees.

Headquartered in Luxembourg since its creation in 1870, Paul Wurth can look back on 150 years of excellence, during which the firm has developed into an international engineering company and an established technology provider for the global ironmaking industry. As a company of SMS group, Paul Wurth is a leading market player for the design and construction of complete blast furnace and coke oven plants. Direct reduction plants, environmental protection solutions and recycling technologies complete Paul Wurth's product portfolio.

For more information, please visit www.sms-group.com and www.paulwurth.com.

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