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Innovative Continuous Minimill Technology (CMT®) for sustainable long product production

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The steel industry faces significant challenges in achieving sustainability and minimizing carbon footprints while maintaining high productivity, particularly in the production of long products. The Continuous Minimill Technology (CMT®) developed by SMS group addresses these challenges through an innovative inline endless casting and rolling process.

CMT® significantly reduces on-site greenhouse gas emissions by up to 70% through the combination of flat bath continuous scrap melting and direct rolling of rebar, compact coils, or wire rod. This significant reduction is achieved without compromising productivity.

Given the high casting speeds required by CMT®, the process involves specialized technologies such as SMS Concast Round Invex (CONREX®) for mold and strand guiding. The flexible CMT® process accommodates a wide range of products, from straight rebars to Vertical Compact Coils (VCC) weighing up to 8 tons, as well as wire rods.

Integrated Level 1 (L1) and Level 2 (L2) automation systems play a crucial role in managing the entire production process, from scrap yard logistics to mill finishing, while also overseeing plant maintenance. These systems are key to achieving efficient and cost-effective production.

This paper will examine the primary environmental benefits of CMT® technology and explore various concepts tailored to different production ranges. Additionally, this paper will also present the initial references for SMS group, highlighting the practical applications and benefits of this advanced technology.

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