Milling Solutions for Emerging SCMs: From Concept to Commissioning

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Abstract - The cement industry is undergoing a significant transformation as it seeks to lower CO_2 emissions and reduce clinker usage through the increased adoption of Supplementary Cementitious Materials (SCMs). While traditional SCMs such as fly ash, slag, and natural pozzolans are well characterized and integrated into production, the industry is now exploring a broader and more diverse range of materials—often with unknown grinding behavior and variable physical properties.

This presentation shares experiences and approach to addressing the technical challenges involved in grinding a wide spectrum of emerging SCMs. Key parameters—such as grindability, moisture content, and target specific surface area—must be carefully assessed to ensure efficient and energy-optimized milling. Variability in raw material properties requires customized solutions, as a “one-size-fits-all” approach is often unsuitable for new SCMs.

Examples from recent European grinding facilities processing multiple SCMs will be shared, from concept to successful start-up, commissioning, and operation.