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Advancing industrial processes with innovative chromatography solutions.

Chromatography has long been a critical technology across various industries for the separation and purification of complex mixtures. Recent breakthroughs in chromatography technology offer new opportunities for increased efficiency and cost savings for both new and existing industrial sites. This presentation will explore key innovations coming from the numerical world. Advanced digital tools, including AI and digital twin technology, are revolutionizing chromatography systems. These tools provide real-time data monitoring, proactive recommendations, and predictive modeling, enabling operators to optimize system performance, achieve desired outcomes, and reduce resource consumption. An industrial case study will be presented in detail to show the outcomes of the implementation of such technologies. Benefits will be measured not only in terms of operational cost savings but also from an environmental perspective. This presentation will discuss the broad applications and advantages of these innovative chromatography solutions, demonstrating their potential to enhance process efficiency, lower costs, and improve overall operational performance across various industries.