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Sommario/riassunto	<p>This Special Issue is aimed at highlighting the potentialities of membrane and membrane reactor operations in various sectors of chemical engineering, based on application of the process intensification strategy. In all of the contributions, the principles of process intensification were pursued during the adoption of membrane technology, demonstrating how it may lead to the development of redesigned processes that are more compact and efficient while also being more environmental friendly, energy saving, and amenable to integration with other green processes. This Special Issue comprises a number of experimental and theoretical studies dealing with the application of membrane and membrane reactor technology in various scientific fields of chemical engineering, such as membrane distillation for wastewater treatment, hydrogen production from reforming reactions via inorganic membrane and membrane photoassisted reactors, membrane desalination, gas/liquid phase membrane separation of CO<sub>2</sub>, and membrane filtration for the recovery of antioxidants from agricultural byproducts, contributing to valorization of the potentialities of membrane operations.</p>