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Sommario/riassunto	Based on 19 high-quality articles, this Special Issue presents methods for further improving the currently achievable recycling rate, product quality in terms of focused elements, and approaches for the enhanced mobilization of lithium, graphite, and electrolyte components. In particular, the target of early-stage Li removal is a central point of various research approaches in the world, which has been reported, for example, under the names early-stage lithium recovery (ESLR process) with or without gaseous CO2 and supercritical CO2 leaching (COOL process). Furthermore, many more approaches are present in this Special Issue, ranging from robotic disassembly and the dismantling of Liion batteries, or the optimization of various pyro and hydrometallurgical as well as combined battery recycling processes for the treatment of conventional Liion batteries, all the way to an evaluation of the recycling on an industrial level. In addition to the consideration of Li distribution in compounds of a Li2O-MgO-Al2O3-SiO2-CaO system, Li recovery from battery slags is also discussed. The development of suitable recycling strategies of six new battery systems, such as all-solid-state batteries, but also lithium–sulfur batteries, is also taken into account here. Some of the articles also discuss the fact that battery recycling processes do not have to produce

end products such as high-purity battery materials, but that the aim should be to find an “entry point” into existing, proven large-scale industrial processes. Participants in this Special Issue originate from 18 research institutions from eight countries.