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Autore	Schönmayr David
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Nota di contenuto	Preface -- Acknowledgements -- 1. A transdisciplinary journey into sustainability science -- 1.1. Transdisciplinarity – why is it so important? -- 1.2. Geographic society and environment research -- 1.3. Systems sciences -- 1.4. Sustainable development -- 1.5. Ecology -- 1.6. Economy -- 1.7. Society, ethics, psychology, politics, and technology -- 1.8. In a nutshell: controversial sustainability as a challenge -- 2. Sustainability and automotive plastics - a controversial industry reality -- 2.1. Plastics -- 2.1.1. Definition and development of plastics -- 2.1.2. The life cycle of plastics -- 2.1.3. Environmental and social impact of plastics -- 2.1.4. Waste treatment technologies for (automotive) plastics -- 2.1.5. Environmentally sound solution: circular life cycle of plastics -- 2.1.6. Plastics are a blessing and a curse - a summary -- 2.2. Automotive plastics -- 2.2.1. Automotive and automotive plastic trends -- 2.2.2. Environmental impact of automotive

plastics and cars in general -- 2.2.3. The car life cycle, ELV management, and recycling -- 2.3. In a nutshell: Holistic controversy of automotive plastics -- 3. What do the experts say? The survey results. -3.1. Validation of survey data through expert workshop -- 3.2. Demographic data and details about the survey participants -- 3.3. Automotive plastics recycling and recycled plastics -- 3.4. Special information from the survey groups -- 3.4.1. The survey - automotive group -- 3.4.2. The survey - recycling group -- 3.4.3. The survey - plastics group -- 3.5. In a nutshell: The survey results -- 4. A SCOT analysis, future perspectives and scenarios -- 5. Concepts for solutions to advance automotive recycling -- 5.1. A solution ranking by experts -- 5.2. Solutions for politics, companies, and independent institutions -- 5.3. Elements of a roadmap to ecologically sustainable automotive plastics -- 6. Today's illusion: true sustainability -- 7. Today's chance: the recycling renaissance -- 8. Why automotive recycling is an opportunity – an executive summary -- Bibliography.-Appendices -- Glossary -- Methods of the empirical research -- The original survey, and expert interview.

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#### Sommario/riassunto

This book provides transdisciplinary analyses of the automotive plastics production and recycling system, including prognoses, scenarios and solutions for corporate sustainability management. A book on plastics, not written by a plastics guy. But a sustainability guy. Plastics schizophrenia and the automotive abyss: The industry is facing a severe challenge. It is the inevitable and promising change towards a sustainable economy. However, the automotive industry is primarily concerned with the CO<sub>2</sub> emissions from cars when driving, while the rise of lightweight plastics, electric drive and heavy batteries make the production and end-of-life phase ever more important. Therefore, the currently increasing use of non-sustainable virgin plastics in cars has to be tackled. The plastics and the automotive industry now have a chance, and this chance is the Recycling Renaissance. This book offers:

- Holistic and transdisciplinary overview on sustainability and automotive plastics from all angles including economy, ecology, technology, and politics with a focus on Europe
- Concise analyses, prognoses, tools and a roadmap with solutions for companies, developed together with international experts from industry and academia
- Strong scientific basis and independent research including a Europe-wide survey, expert interviews, and workshops
- More than 80 illustrations and 15 tables including a SCOT analysis
- Executive summaries after each chapter for fast reading

"The uniqueness of this book lies within the different point of view on this topic from a critical, outstanding scientist." - Univ.-Prof. Dipl.-Ing. Dr.mont. Pomberger, Montanuni Leoben.

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