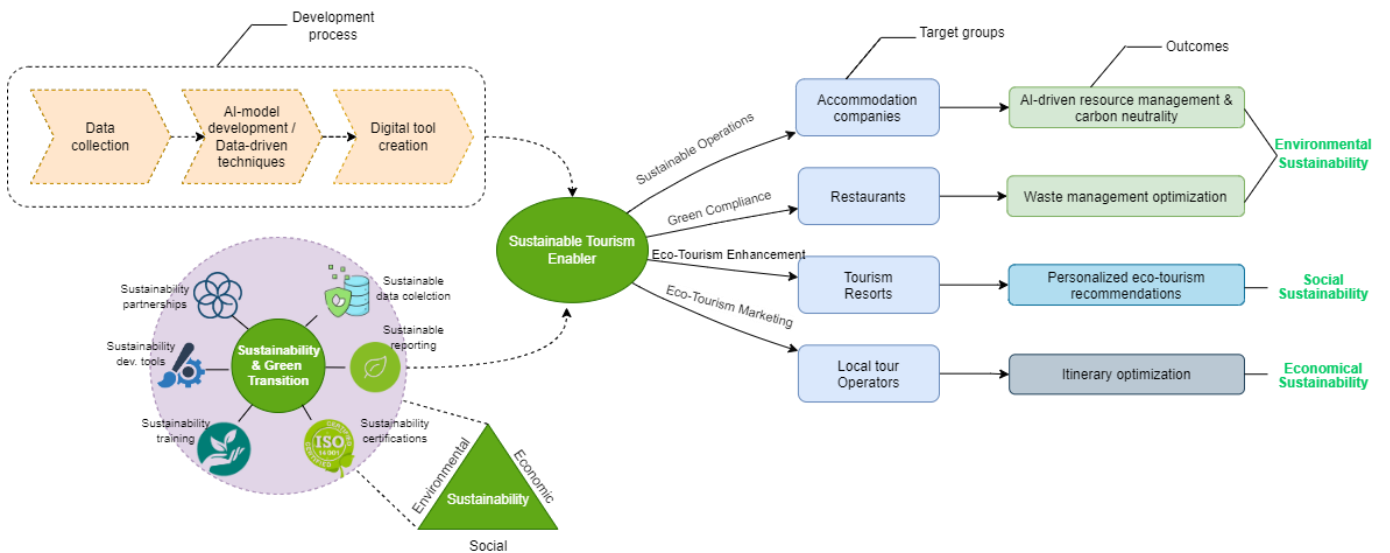


Appendix 1: A holistic approach of AI-enabled sustainability addressing the three dimensions of sustainability and different target groups



The development of an AI-driven, sustainable tourism approach incorporates several key stages. Initially, detailed operational data is gathered from the target groups, which includes a focus on factors such as resource usage, waste management systems, and eco-tourism offerings. Following data collection, AI models are developed to meet the needs of each group, leading to the creation of predictive models for resource optimization, AI-driven waste management tools, and data-driven eco-tourism enhancement strategies. Subsequently, AI models are integrated into a digital tool designed to provide actionable insights, which allows target groups to improve their sustainability practices. After the tool's development, it is implemented across all target groups. During this phase, necessary training and support are provided to ensure that the tool is utilized to its full potential. The final stage involves ongoing monitoring and evaluation of the AI models and digital tool, during which any necessary adjustments are made to guarantee optimal results. The overall framework is shown above.