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**A Study of Automation Technologies Within the Human-Driven Road
Goods Transport Industry**

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ABSTRACT

Automation technologies are transforming the human-driven road goods transport industry, bringing significant changes in efficiency, safety, and cost-effectiveness. Technologies like advanced driver-assistance systems (ADAS), autonomous vehicles, and telematics are increasingly being integrated into commercial trucks to improve performance. ADAS features, such as adaptive cruise control, lane-keeping assistance, and automatic emergency braking, aid drivers in maintaining safety standards, reducing accidents, and minimizing human errors. The adoption of telematics enables real-time monitoring of vehicle conditions, fuel consumption, and driver behavior, optimizing route planning and maintenance schedules. While fully autonomous trucks are still in the developmental phase, semi-automated features are paving the way for a gradual shift towards automation. However, the human-driven road goods transport sector faces challenges related to technology adoption, such as the high cost of automation systems and the need for training drivers to effectively use these technologies. Moreover, the industry's reliance on human drivers, especially in complex driving scenarios and last-mile deliveries, limits the extent of automation. Although automation promises to address the driver shortage issue, regulatory and ethical considerations about job displacement need to be addressed. Overall, the integration of automation in the industry represents a balancing act between enhancing productivity and maintaining the role of human drivers.