

APS 1012 Management
of Innovation in
Engineering

TEAM 3:
INNOVATION IN
TRANSPORTATION

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Executive Summary

Economical, social and technological innovations are taking place in the transport industry. Transportation needs are increasing all over the world especially in cultivated regions seeking to grow their economies while reducing carbon emissions. A call for advanced 21st-century networks of roads, airports, shipping facilities, train routes, and public transportation is resonating in urban areas, small societies, and countryside areas alike. The revolution of the global economy through digitization is driving new blueprints of transport for both goods and people. New innovative technologies could help to support the development of a sustainable mobility system. Developers and legislators need to consider that many the world's transport systems cannot meet the requirements of rapidly increasing people, and many commuters face safety, security, and accessibility issues. Furthermore, major challenges including climate change, resource scarcity, and demographic change are the key important factors making innovation in transportation a must, by the emergence of self-driving cars, electric vehicles, in-vehicle data connectivity, mechanisms for sharing rides and vehicles, and other technologies to more people, getting around cities will become safer, faster and easier.

We must incorporate new methods and new technologies if we are to create and operate transportation models that serve these objectives while performing inclusively, to the profit of all. The rapid traffic growth in metropolitan cities has put pressure on the existing road infrastructures, making traffic congestion one of the key issues in the transport industry. The innovative transportation techniques discussed in the report could be used as measures to reduce the delay at the traffic intersection, climate change, vehicle emissions and safety issues. Investors need to rethink traditional approaches to cost-benefit analysis so that investments capture as many of the different impacts of transport as possible, and do so in a way that balances consistency with innovation. This report discusses the present and the future possibilities of innovation in the transportation sector and its impact on mankind.