ERTRAC Conference
Implementing the Strategic Research Agenda

Decarbonization

Future Transport Energies

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Decarbonization of Road Transport: SRA Expectations

Decarbonization of Road Transport	Energy efficiency: Urban transport	+80%
	Energy efficiency: Long-distance freight transport	+40%
	Share of renewables	25% Biofuels* 5% Electricity

** Aligned with the European Biofuels Technology Platform*

- ERTRAC's SRA2010 focuses on the Decarbonization of Road Transport by:
  - Substantially improving the energy efficiency of road transport
    - Greater fuel efficiency of engines, vehicles, and transport systems
    - Greater use of alternative transport modes, especially in urban areas
    - Greater use of Information Technology (V2V, V2I, and V2G)
  - Substantially increasing the share of renewables in road transport
    - Greater use of biofuels in road fuels
    - Greater use of renewables in electricity generation

'Future Transport Energies' encompasses a range of enabling energy and materials technologies needed to achieve these decarbonization objectives

Outlook for 'Future Transport Energies'

- Increasing concerns for climate change and energy security driving public policy
- Ever-increasing consumer and business demand for transport and energy
- Global competition for affordable energy and resources leading to increasing diversification of energy sources, fuel types, and vehicles
- **Vehicles:**
  - Internal combustion engines (ICEs) expected to dominate road transport through 2030, especially in long distance transport modes
  - Greater diversification of vehicles and fuels in urban environments
  - Growing transport electrification with the pace of implementation dependent on energy storage capacity and cost
- **Infrastructure:**
  - Availability and effective management of existing transport infrastructure
  - Search for new, durable, and lightweight materials for diverse applications
- **Services:**
  - User-friendly, integrated, and efficient information and logistics services
- **Energy & Resources:**
  - Increasing diversification in biofuel/fossil fuel blends and other renewables
  - Continuous improvement in road transport noise and vehicle emissions

Future Transport Energies: Research Topics

- **Production, use, and long-term storage of biofuels and advanced fuel and energy products**

2015+ Fuel process and catalyst technologies to enhance production and improve efficiency

2020+ Increasing utilisation of biomass and waste for advanced biofuels and renewables

2030+ Efficient long-term energy storage: gases, liquids

- **Energy production and distribution to support vehicle electrification**

2015+ Increasing electricity from more renewable resources

2020+ Standardized and available recharging infrastructure

2030+ Smart energy and transport demand management

Future Transport Energies: Research Topics

- **Advanced materials and materials recycling for vehicles and infrastructure**

2015+ Advanced production processes & catalyst technologies

2020+ Durable and high-performing materials for vehicles and infrastructure with enhanced recycling

2030+ Vehicle components: lower cost alternatives from more readily available raw materials

- **Assessment tools for valuing alternatives**

2010+ Well-to-Wheels (WTW), Life Cycle Analysis (LCA)

2015+ Robust economic and business models

2020+ Advanced simulation tools for production design