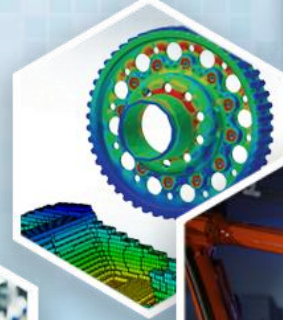


# IACMI Future Mobility/Vehicles Technology Working Group *Sustainability Discussion*

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Convene. Connect. Catalyze.

# Framing the Mobility WG: objectives/outcomes



*Among the WG objectives and desired outcomes are:*

- Identify existing or emerging technologies
- Identify opportunities to address gaps
- Identify priorities to focus WG activities
- Identify potential WG projects
- Identify project participants

# Sustainable Mobility - Motivation for Sustainability

## Financial

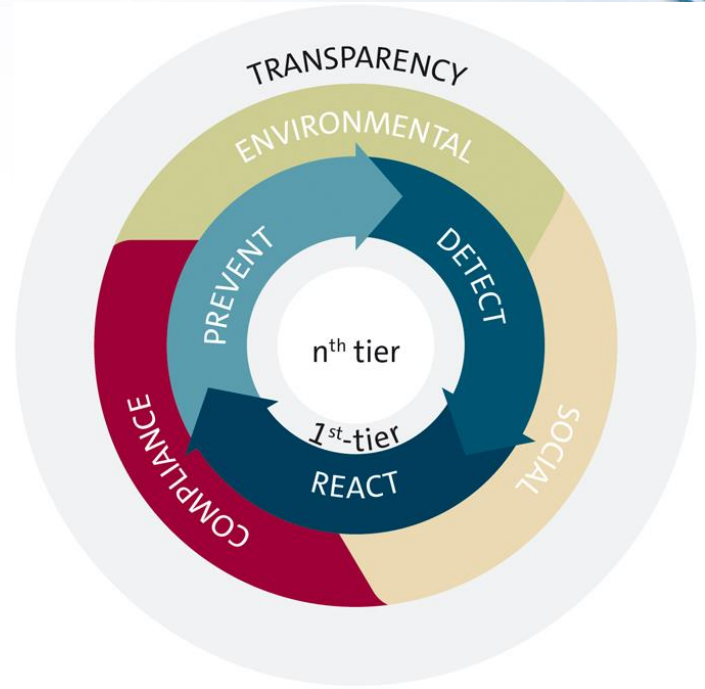
- different stakeholder perceptions

## Resource/National Security

- Reduction of petroleum use
- Security of resources
  - Energy, water, materials/chemicals

## Environmental

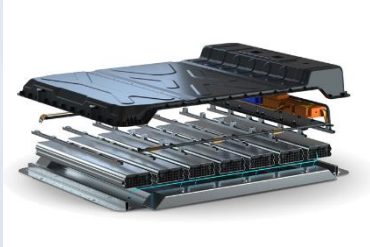
- Reduce carbon emission
- Reduce impact on natural resources



# Sustainability from vehicle technology perspective\*

\*versus system perspective (e.g., mass transit, system efficiency, etc.)

## Electrification



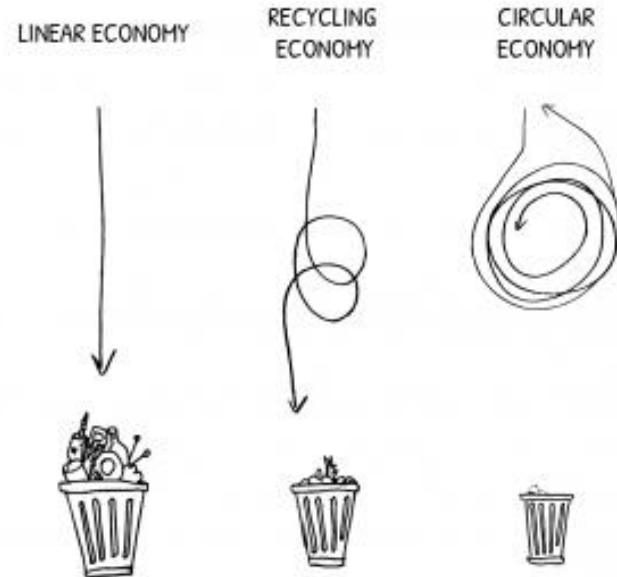
Source: [www.compositesworld.com](http://www.compositesworld.com)

## Bio-based Materials



Source: [cordis.europa.eu/](http://cordis.europa.eu/)

## Circular Economy



<https://zone.recycledevon.org/circular-economy-resource-box/>

# Sustainability: Electrification Pathway



◆ **Poll E1:** Are there specific attributes that enhance the value proposition for composites in EVs?

- ◆ E.g., EMI Shielding?
- ◆ E.g., Multi-Functionality/Sensor Integration?
- ◆ ...?

◆ **Poll E2:** What applications best reflect composite's value for EV?

- ◆ Battery boxes
- ◆ ...?

◆ What are the most significant technical gaps to address?

- ◆ E.g., Robustness of integrated features?
- ◆ ...?

# Sustainability: Biobased Materials Pathway



- ◆ **Poll B1:** What applications are best candidates for bio-based materials?
- ◆ **Poll B2:** What challenges hinder the adoption of bio-based materials?
- ◆ What are the most promising bio-based resin technologies/polymers?
  - ◆ Biomass derivatives
  - ◆ Micro-organism derivatives
  - ◆ Synthetic bio-polymers
- ◆ What are the most promising bio/natural fibers?
- ◆ Are new processes/equipment required to accommodate?

# Sustainability: Recycling Pathway



- ◆ **Poll R1:** Where is the largest opportunity to impact waste creation?
  - ◆ Design?
  - ◆ Process scrap/Offal?
  - ◆ End of use recycling?
  - ◆ ...?
- ◆ **Poll R2 :** What promising recycling technologies exist or are emerging?
  - ◆ For mixed waste?
  - ◆ For segregated streams?
  - ◆ For extraction/reclamation?
- ◆ What is a rational target for waste minimization?
- ◆ Design for disassembly - What are the major challenges?

**Thank you for  
attending!!**

