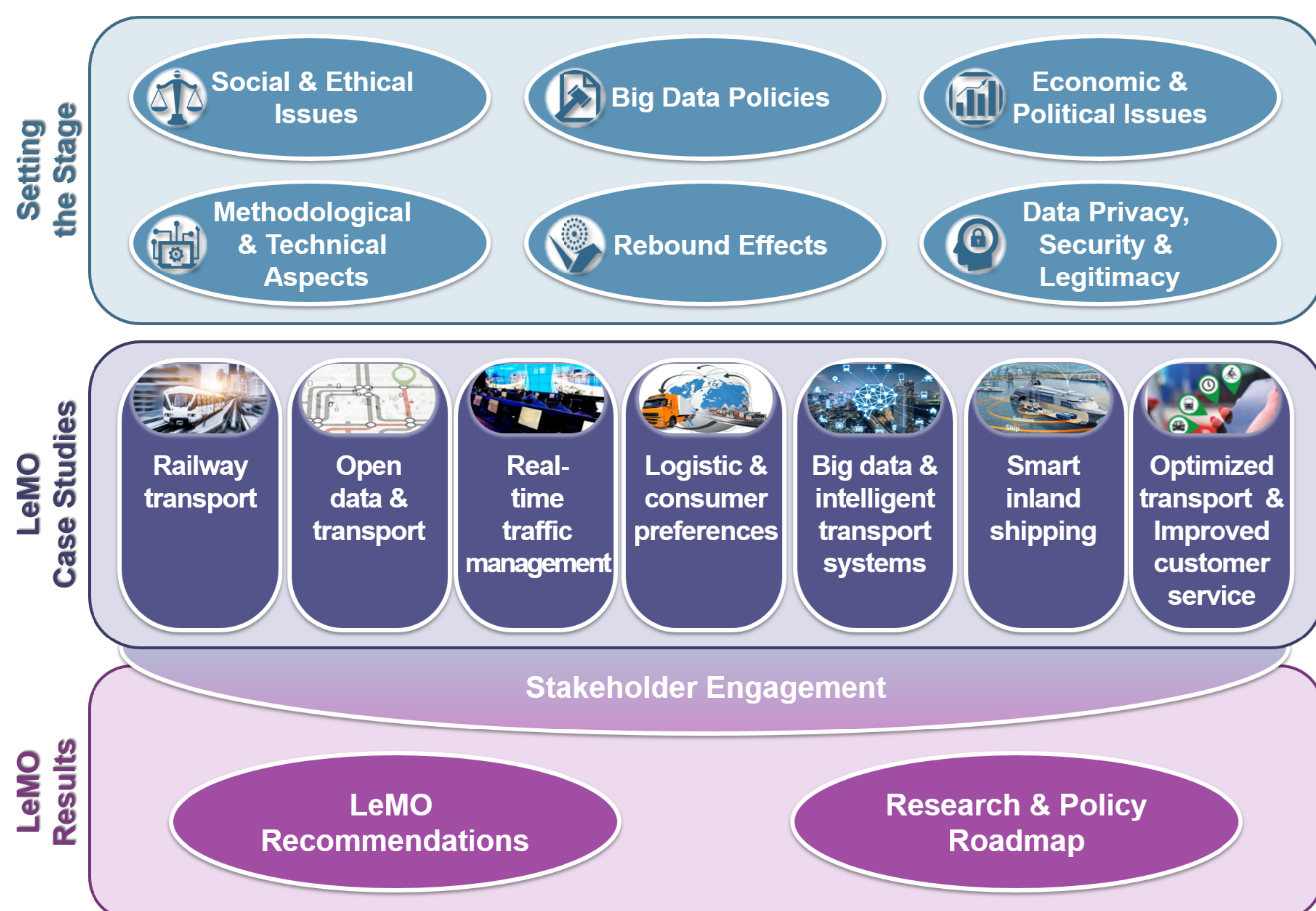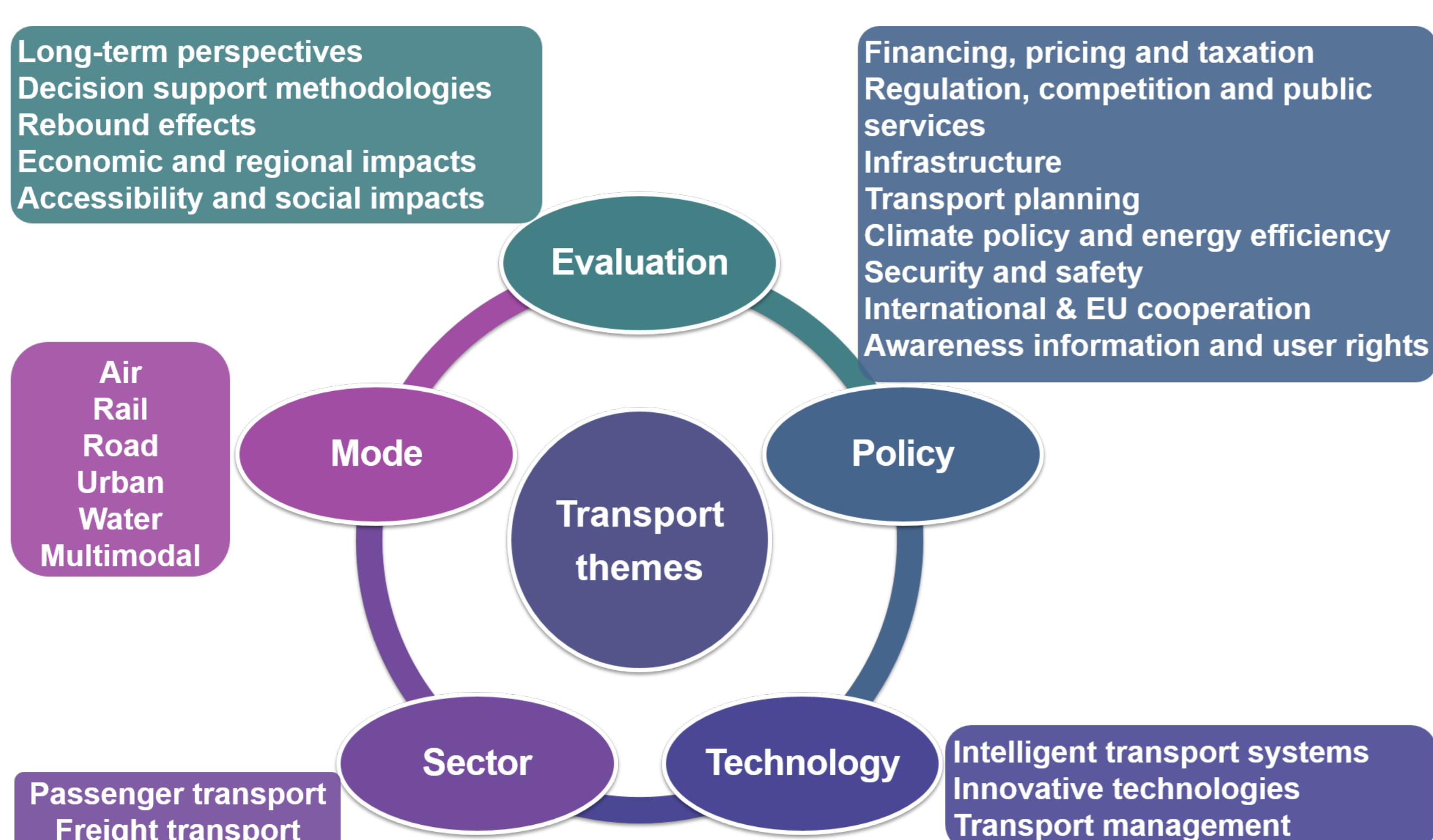# LEVERAGING BIG DATA TO MANAGE TRANSPORT OPERATIONS

What is LeMO?

The LeMO project investigates the implications of the utilisation of big data to enhance the sustainability and competitiveness of European transport. The project analyses big data in the European transport domain by conducting a series of case studies, to provide recommendations on the prerequisites of effective big data implementation in transportation.

Setting the Stage
- Social & Ethical Issues
- Big Data Policies
- Economic & Political Issues
- Methodological & Technical Aspects
- Rebound Effects
- Data Privacy, Security & Legitimacy

LeMO Case Studies
- Railway transport
- Open data & transport
- Real-time traffic management
- Logistic & consumer preferences
- Big data & intelligent transport systems
- Smart inland shipping
- Optimized transport & Improved customer service

LeMO Results
Stakeholder Engagement
- LeMO Recommendations
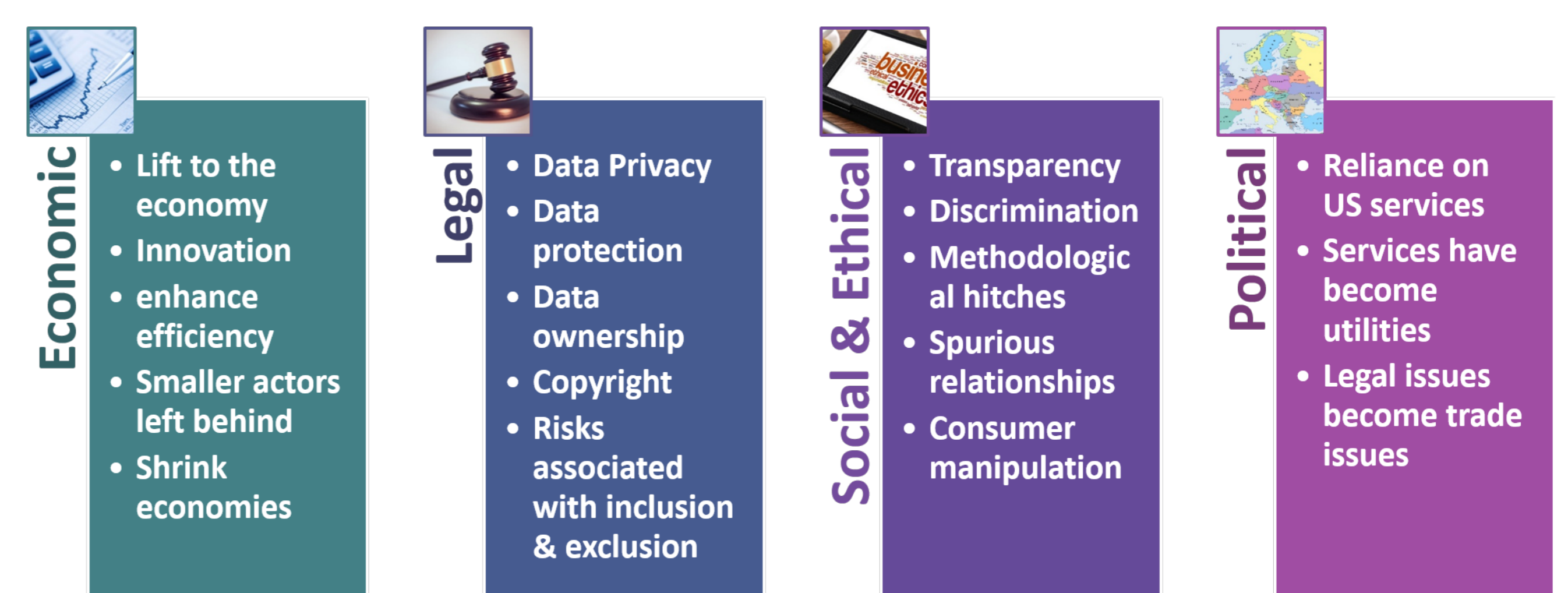- Research & Policy Roadmap

Scope

Various transport themes can be grouped within a framework of **five transport dimensions: mode, sector, technology, policy and evaluation**. While each theme focuses on specific aspects of transport research, many themes overlap. The LeMO project studies and analyses big data in the transport with respect to these five transport dimensions.

Evaluation
- Long-term perspectives
- Decision support methodologies
- Rebound effects
- Economic and regional impacts
- Accessibility and social impacts

Policy
- Financing, pricing and taxation
- Regulation, competition and public services
- Infrastructure
- Transport planning
- Climate policy and energy efficiency
- Security and safety
- International & EU cooperation
- Awareness information and user rights

Mode
- Air
- Rail
- Road
- Urban
- Water
- Multimodal

Transport themes

Sector
- Passenger transport
- Freight transport

Technology
- Intelligent transport systems
- Innovative technologies
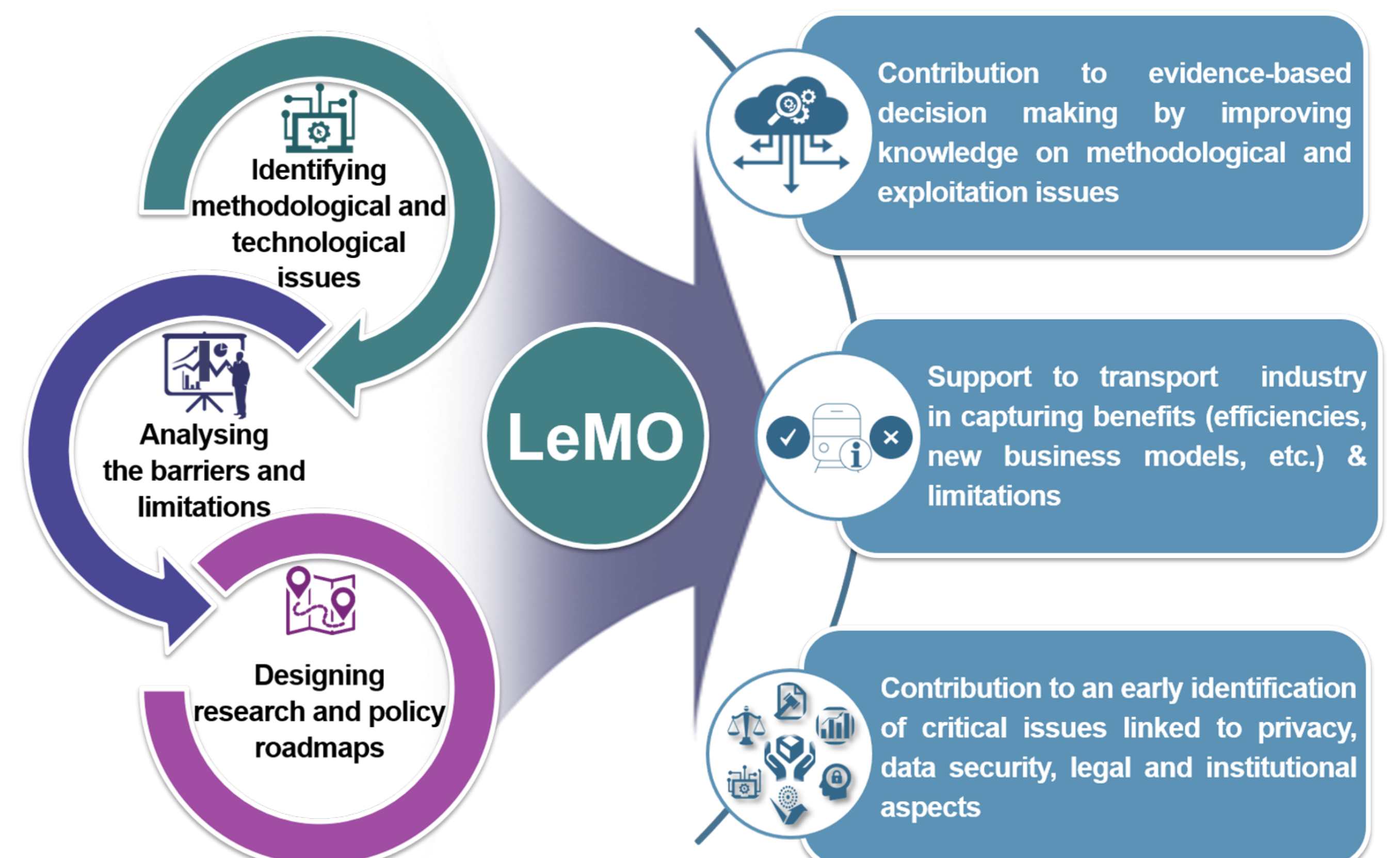- Transport management

Issues

The collection, (re-)use, sharing and linking of transport big data implicates a number of **economic, legal, social, ethical and political issues**, including those which may result in positive and negative societal impact. LeMO is considering this information as a springboard to further investigate research opportunities, challenges and limitations in relation to specific big data case studies.

Economic
- Lift to the economy
- Innovation
- enhance efficiency
- Smaller actors left behind
- Shrink economies

Legal
- Data Privacy
- Data protection
- Data ownership
- Copyright
- Risks associated with inclusion & exclusion

Social & Ethical
- Transparency
- Discrimination
- Methodological hitches
- Spurious relationships
- Consumer manipulation

Political
- Reliance on US services
- Services have become utilities
- Legal issues become trade issues

Activities and Contributions

The project is uniquely positioned to help stakeholders capitalize on the power of big data to:
- Significantly improve the customer experience
- Enhance services to increase revenue and manage capacity
- Maximize the availability of assets and infrastructure
- Improve operational efficiency

- Identifying methodological and technological issues
- Analysing the barriers and limitations
- Designing research and policy roadmaps

LeMO

- Contribution to evidence-based decision making by improving knowledge on methodological and exploitation issues
- Support to transport industry in capturing benefits (efficiencies, new business models, etc.) & limitations
- Contribution to an early identification of critical issues linked to privacy, data security, legal and institutional aspects

Partners

WESTERN NORWAY RESEARCH INSTITUTE
VESTLANDSFORSKING

GOETHE UNIVERSITÄT FRANKFURT AM MAIN

CoRTe Confederation of Organisations in Road Transport Enforcement

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