



Integration of Electronically Controlled Systems (ECSS) into PTI

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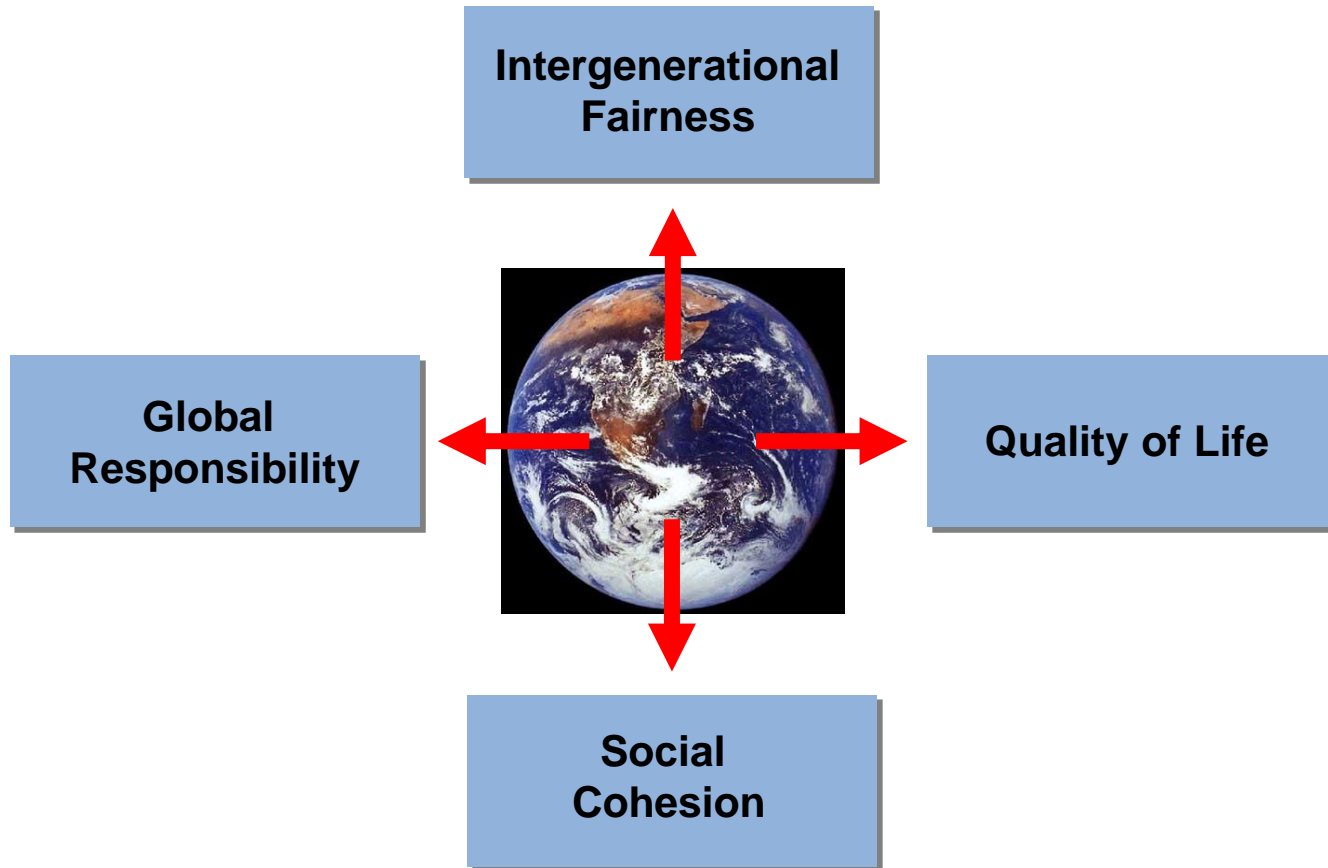
140
anniversary
1872 - 2012

 TÜVRheinland®
Precisely Right.



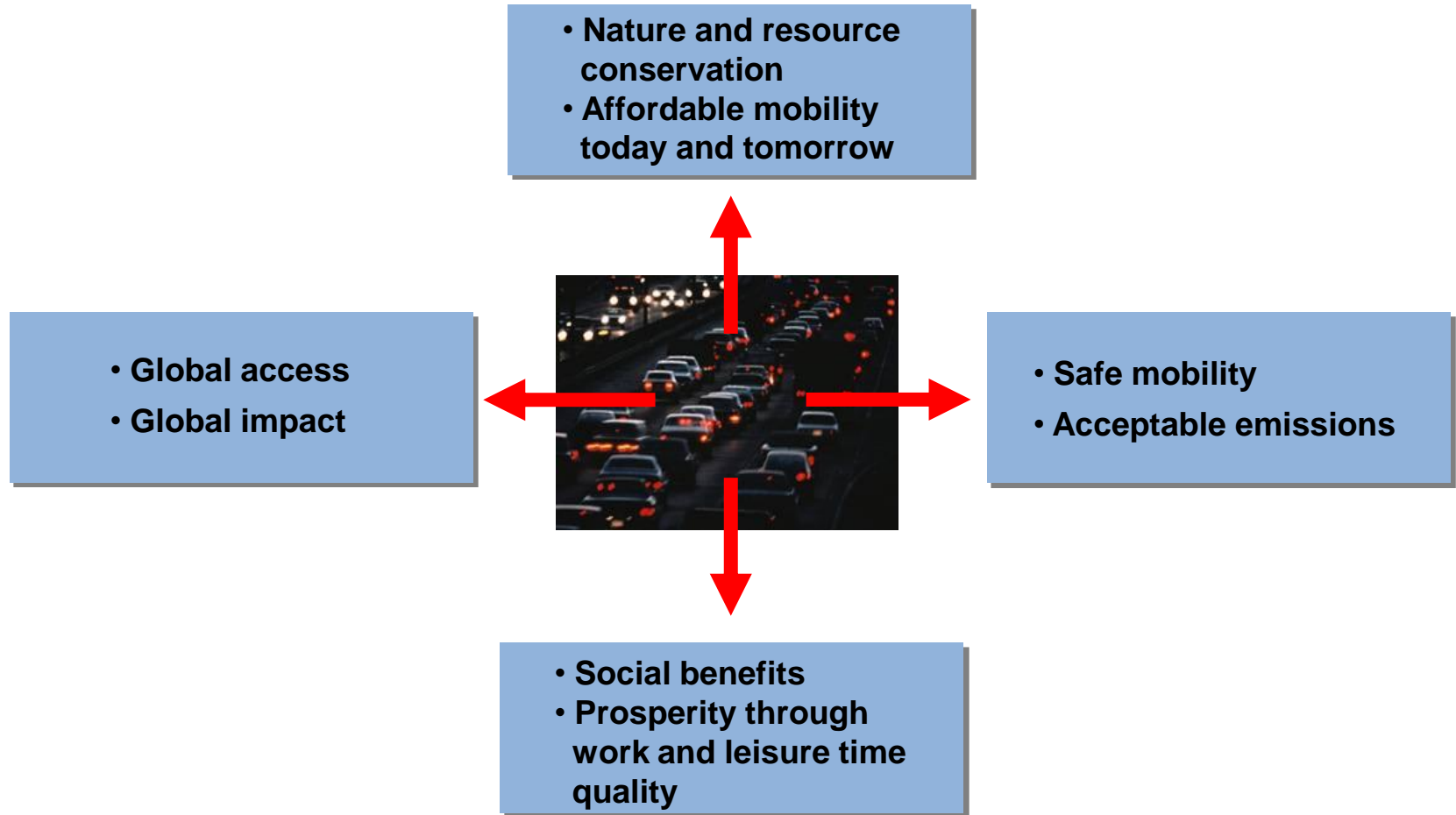
Sustainability: Definition

Four Coordinates

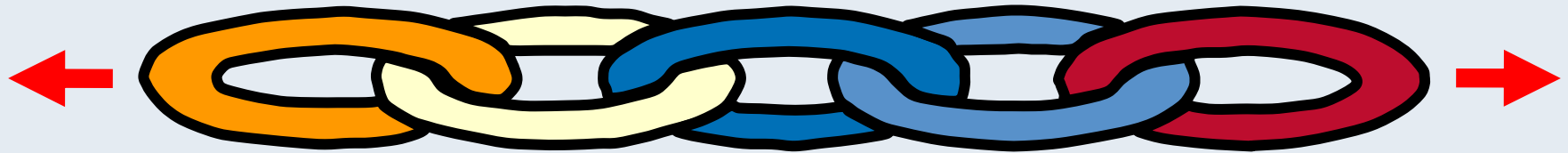


Source: Strategy for Sustainable Development (German Government)

Sustainable Traffic



Vehicle Sustainability Chain



**Active
Safety**

**Passive
Safety**

**Environmental
Quality**

Efficiency

**Driver Skills /
Responsibility**

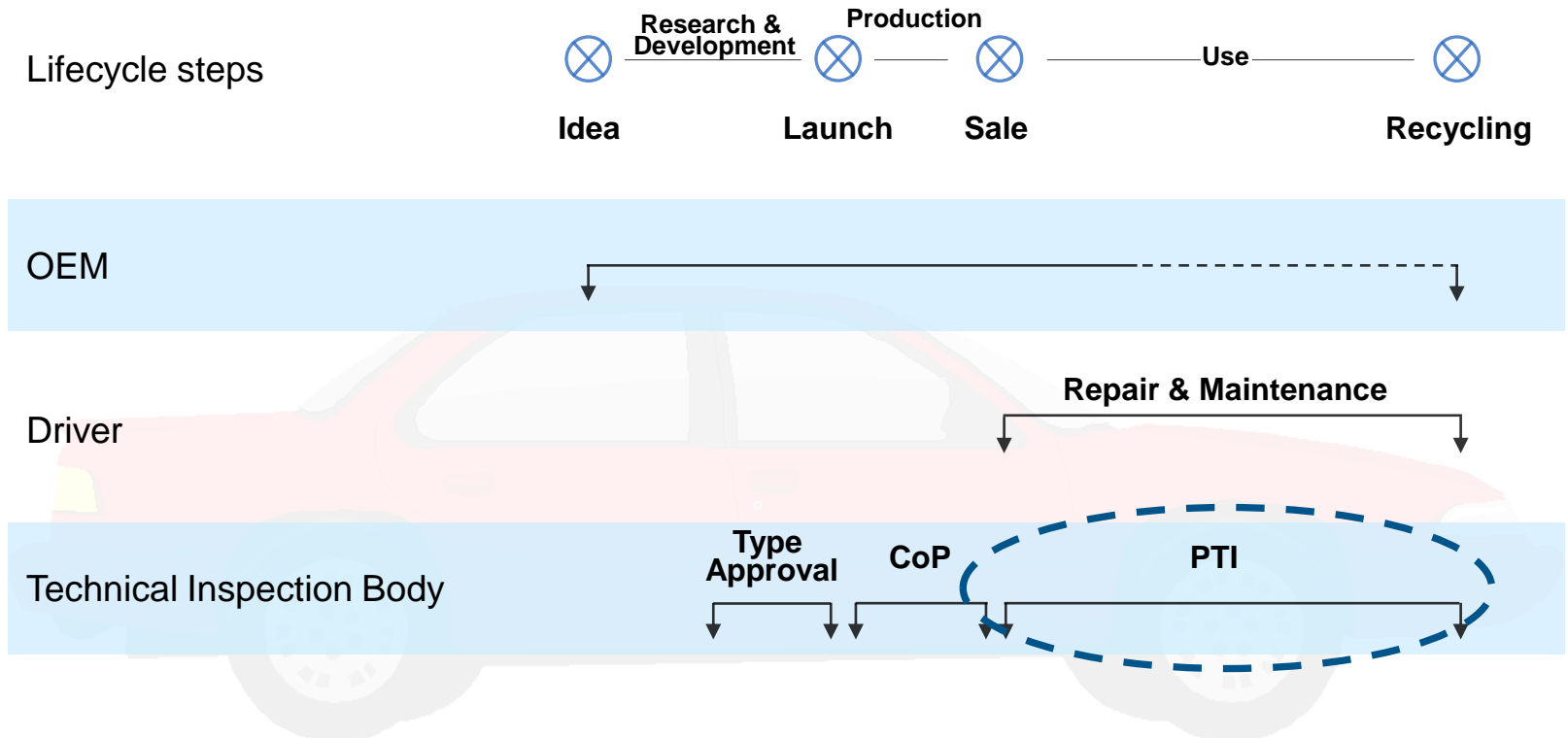


*Must be designed, produced
and maintained during service phase.*



*Permanent
learning process.*

Responsibility for Safety Steps



Vehicles "Yesterday": Mechanics



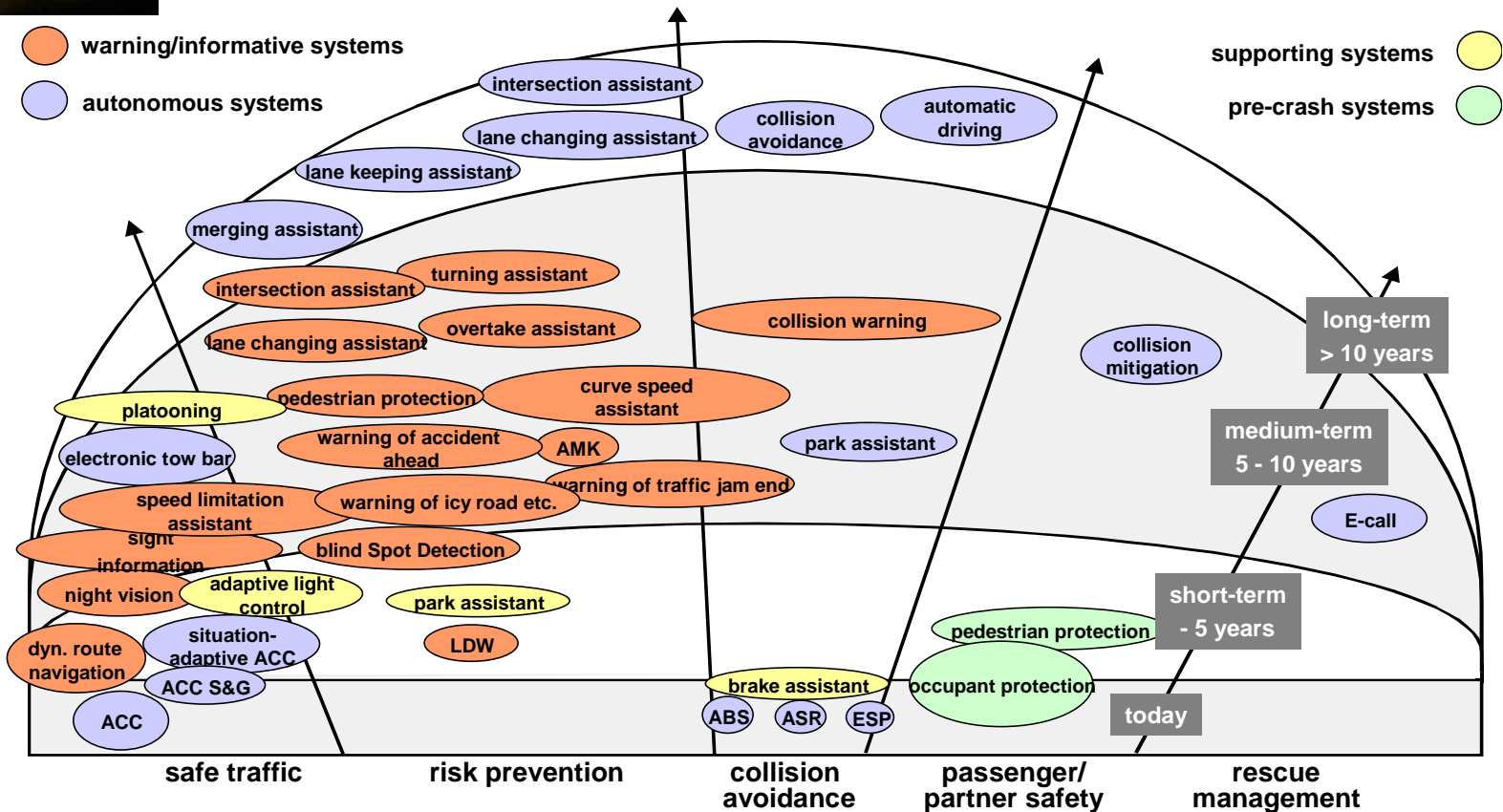
Systems

- Powertrain
- Exhaust system
- Measuring and control technology
- Control panel
- Structure
- Subsystems
- Active and passive safety systems

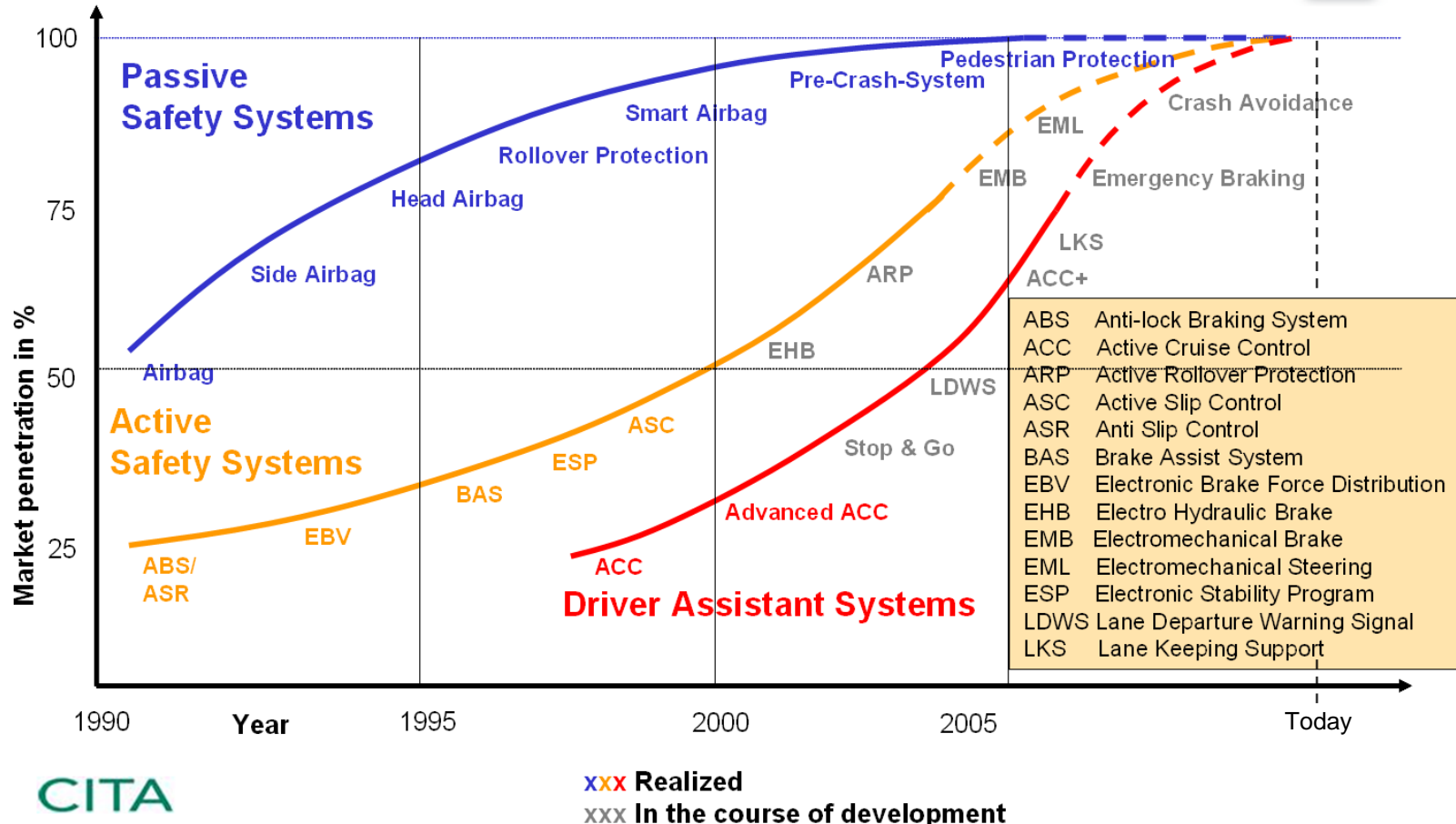
Components

- Pumps, valves, pipes
- Motors
- Data processor
- Electronic parts
- Battery
- Lamps
- Wires
- Fuel tank

Vehicles "Today": Mechanics + Electronics



ECSS: Market Penetration vs Time

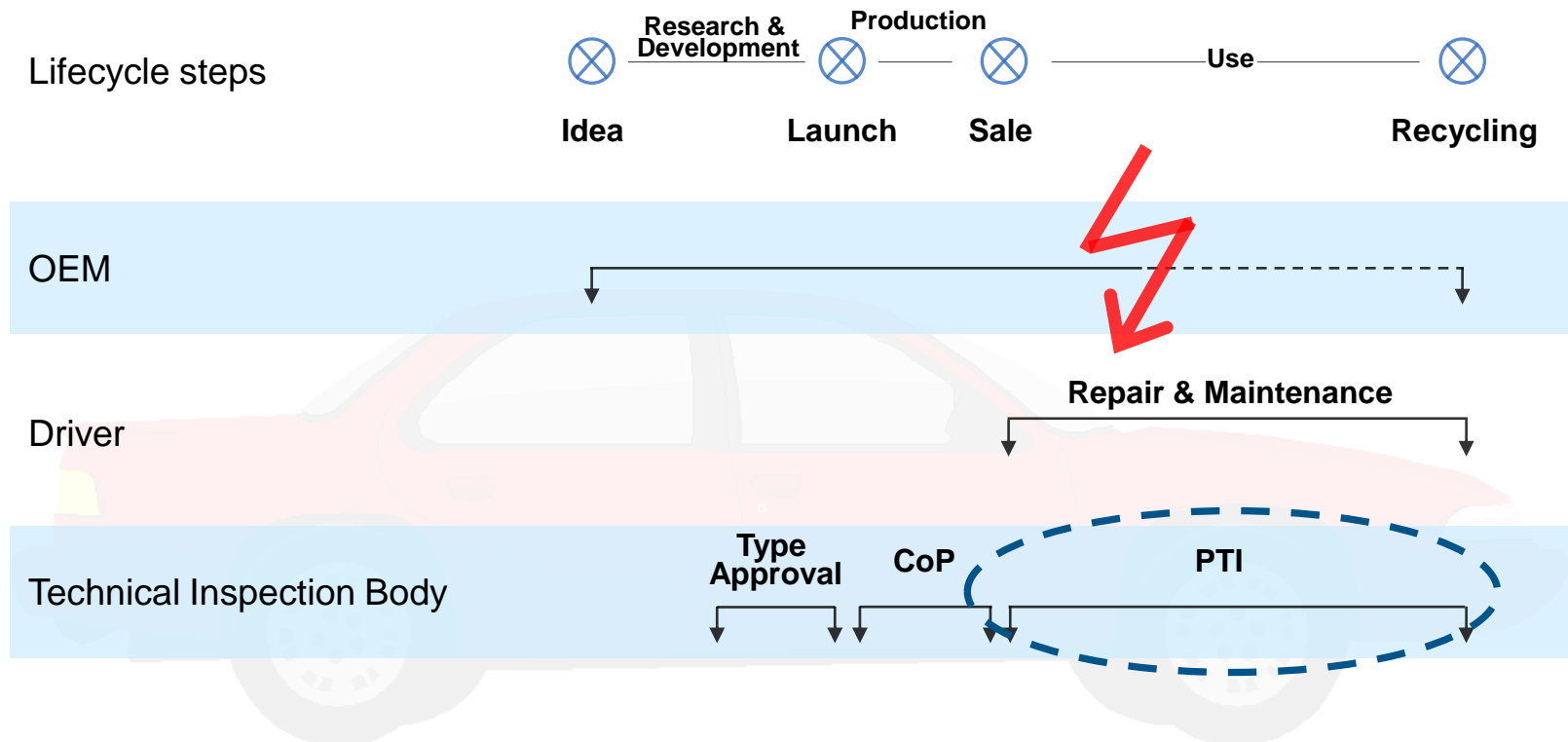


CITA

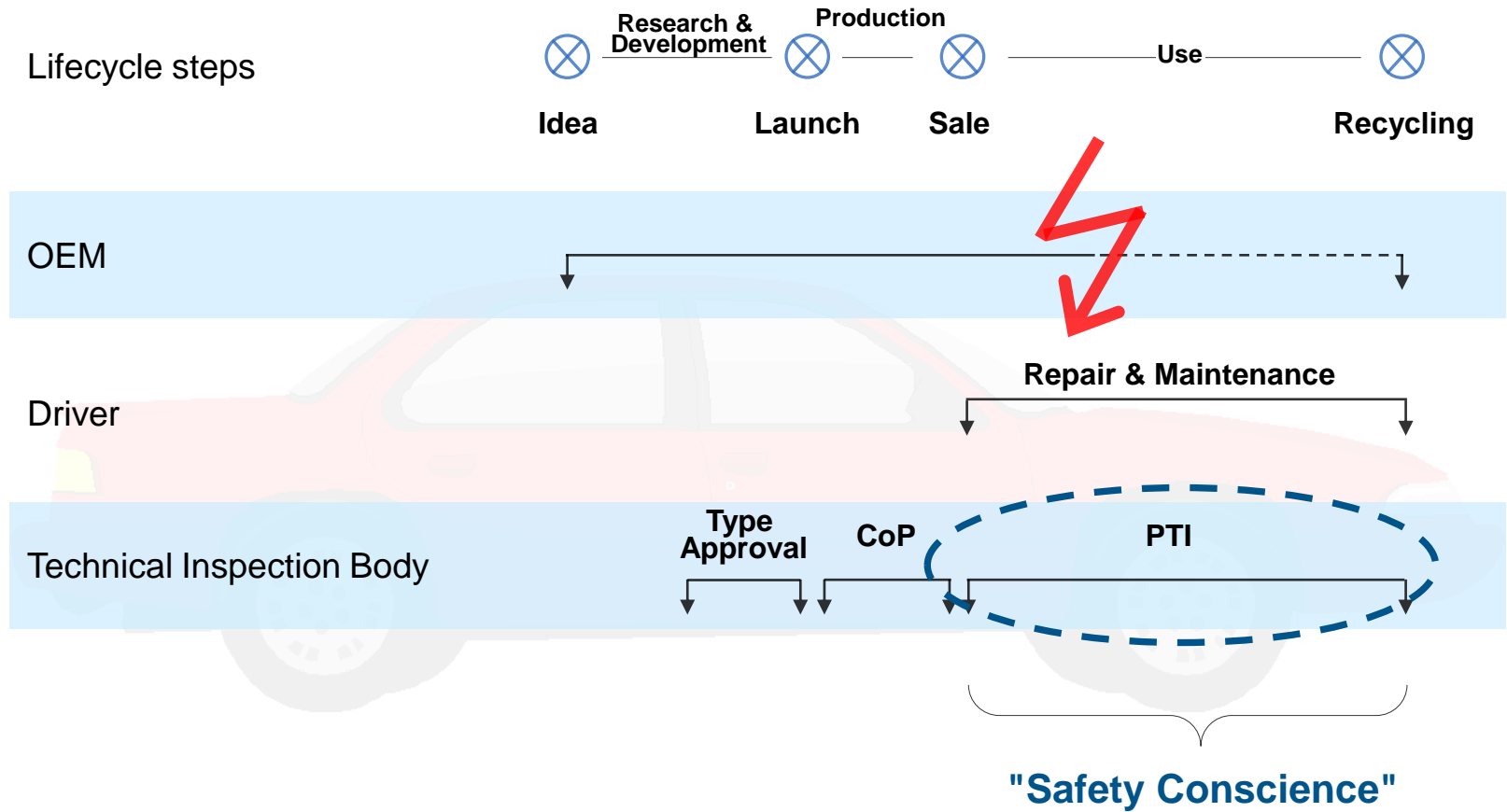
Benefits of ECSS: Accident Avoidance

| Driver Assistance System | Safety benefit. Reduction in... | Percentage reduction | Information source |
|--|---|----------------------|--|
| ESC and ABS | ...skidding accidents | 40% | Langwieder, 2003 |
| ACC (adaptive cruise control) | ...serious accidents with personal damage | 17% | BAST, 2006 |
| EBS (emergency braking system) (ABA) active brake assist | ...rear-end collisions with personal damage | 28% | GDV, 2009 (Accident research of the insurers) |
| LDW (lane departure warning system) | ...truck accidents by lane change on highways | 49% | AZT, 2006 (Allianz Zentrum für Technik) |
| Lane Change Assist (LCA) | ...collisions by lane change on highways | 26% | IIHS, 2008 (Insurance Institute for Highway Safety, USA) |
| Parking Assist | ...Insurance damages from parking manoeuvres | 30% | AZT, 2008 (Allianz Zentrum für Technik) |
| Innovative lighting system | ...fatal road casualties at night | 18% | TÜV Rheinland, 2007 |
| Night vision camera | ...fatal road casualties at night | 6% | eIMPACT, 2008 |

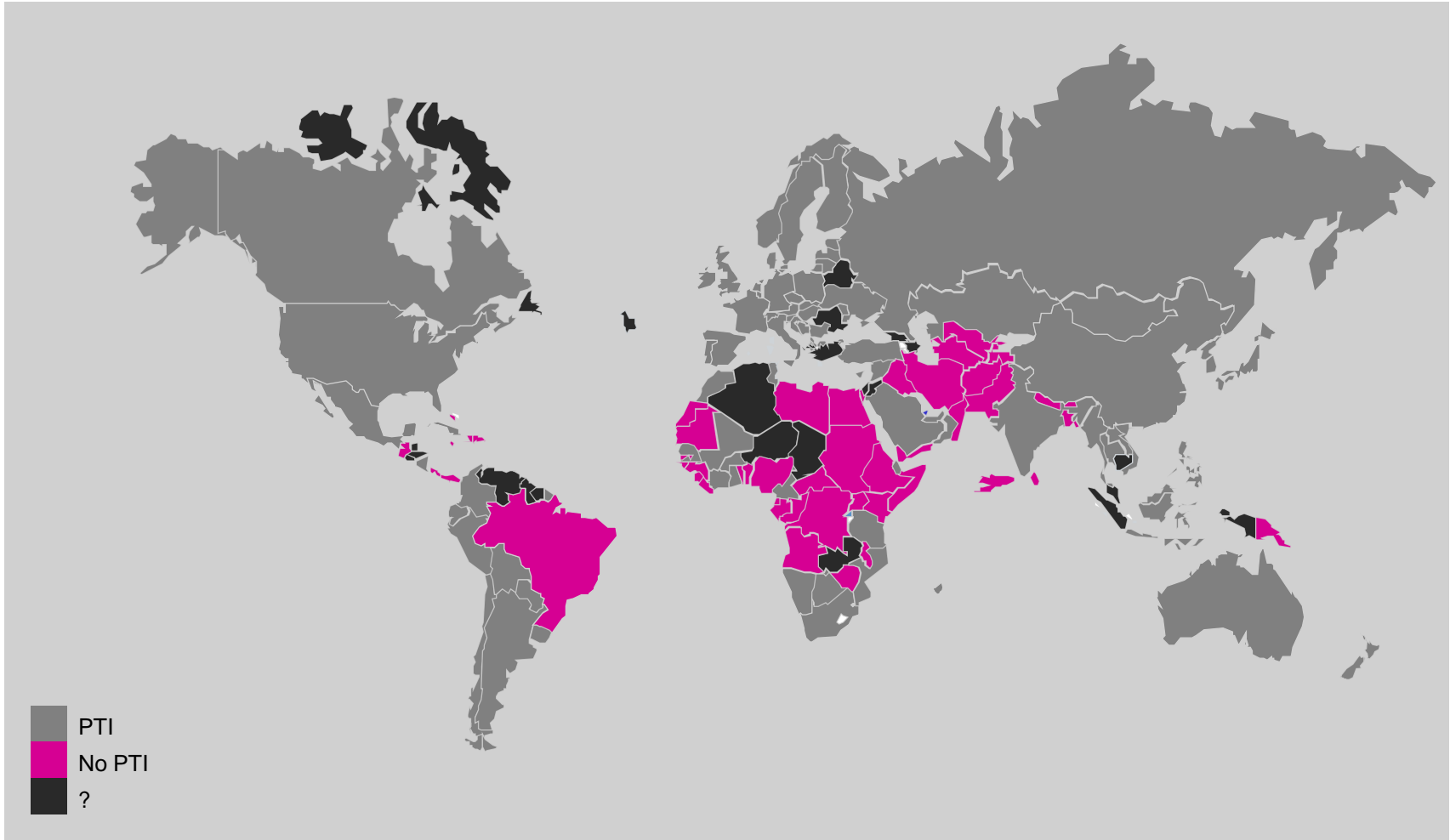
OEM loses contact to "their" vehicles



Technical Inspection Body



PTI Today - worldwide -



PTI Today

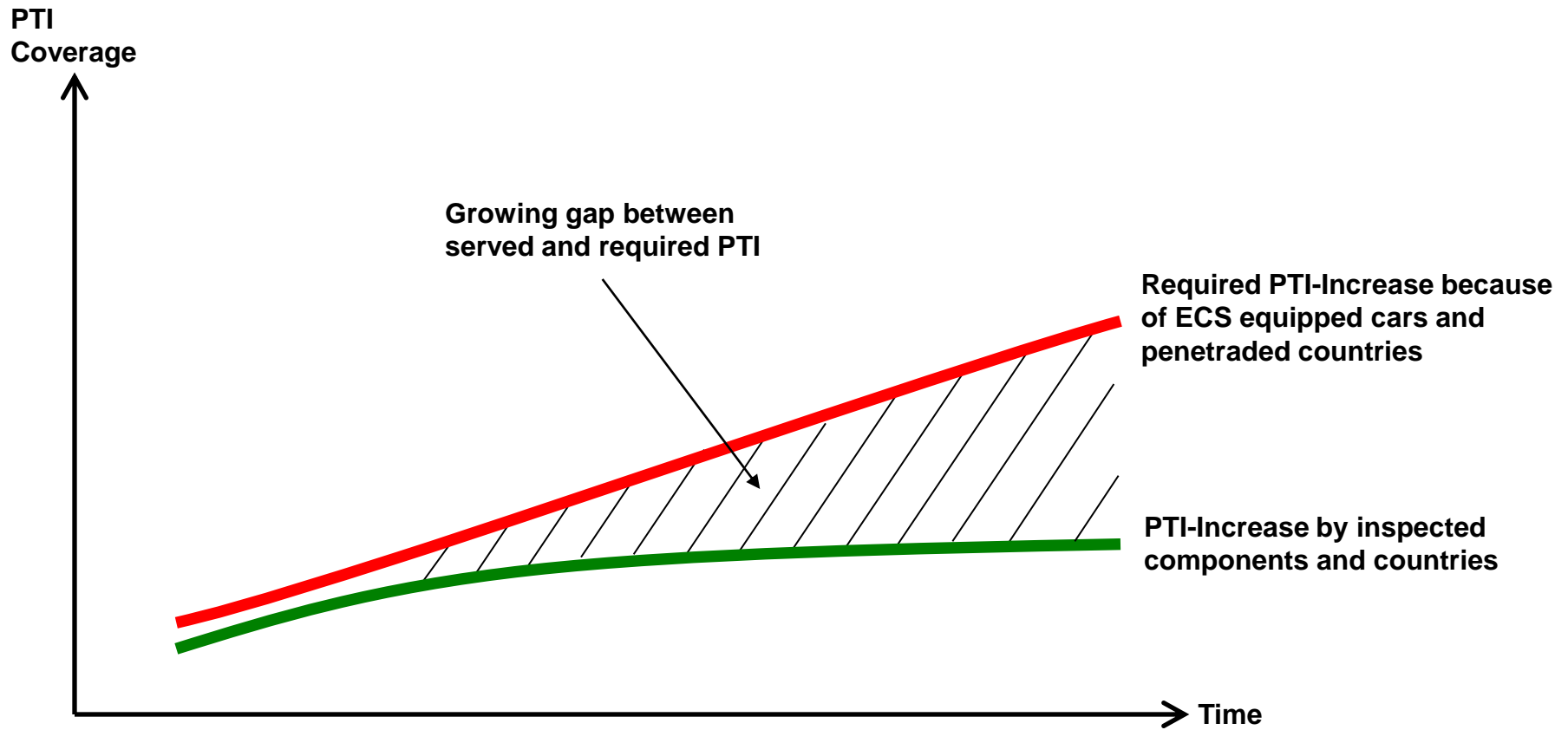


**Periodic Roadworthiness Inspection
to ensure Safety
and Environmental Quality.**

Mandatory for:

- Brake system
- Steering system
- Lighting
- Axle
- Wheels
- Chassis frame
- Electrical equipment
- Exhaust-gas system
- Noise emissions

Technical Development vs. PTI

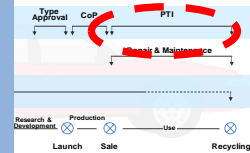


The "MUST"

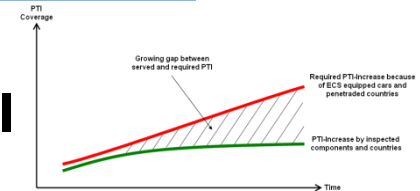
- To assure the sustainability chain of traffic safety



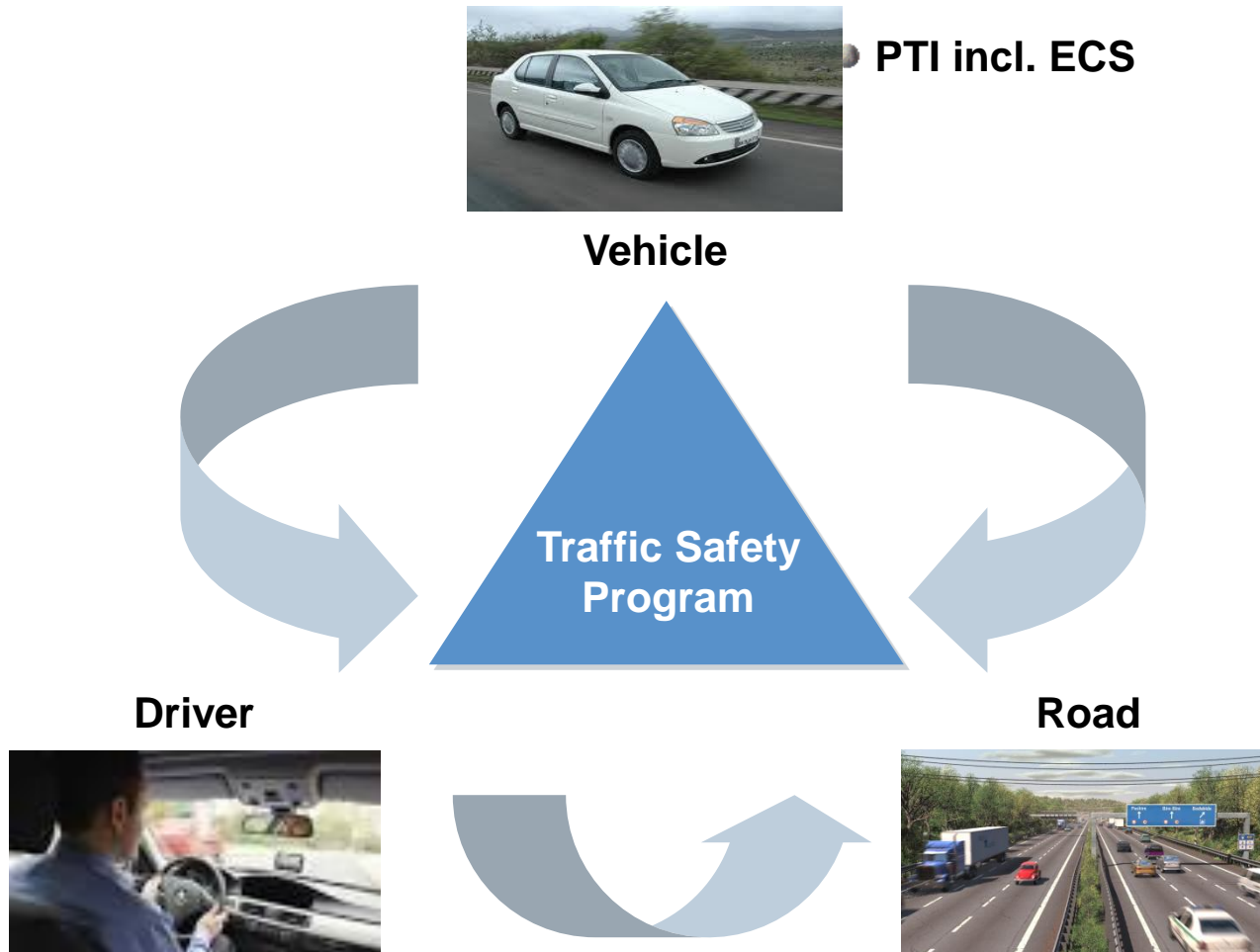
- The **The PTI of ECSS is a MUST!**



- To close the gap between serviced and required PTI



The Triangle of traffic safety



Let's battle for Traffic Safety!

