

Real Freight Efficiency Monitoring - RFEM

- **Global CO₂ challenge**

- Commercial transport represent a significant share
 - We also note other emissions with severe environmental impact
- Industry, authorities and politics have to join forces reduce emissions
 - There is a delicate balance between
 - CO2 reduction
 - Economy
 - Industry structure
- VECTO is one tool effective in special areas
- Further tools are needed
- An alternative means is proposed.



Real Freight Efficiency Monitoring - RFEM

- **An alternative and complementary way**
 - Effective for drivers, hauliers, authorities, logistic industry, ...
 - Applied in real time
 - Promoting efficient transport
- The tool is called “**Real Freight Efficiency Monitoring**” (RFEM for short)
 - It draws on existing technology
 - Onboard weighing (being legislated soon)
 - Fuel consumption (available now)
 - Distance travelled (available now)
 - Vehicle to infrastructure communication (available soon)
 - Vehicle mass in running order (available)

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- **An alternative and complementary way**
 - Using the available information freight efficiency is calculated
 - The calculated efficiency is available every single second
 - It can be recorded and analyzed
 - Onboard weighing equipment can be retrofitted to existing vehicles
 - A RFEM scheme can be
 - made active in short time
 - applied to all heavy vehicles

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- **RFEM potential**

- While VECTO supports the choice of motor vehicle RFEM measures actual performance real time
- Accounts for improvements applied at any time during vehicle lifetime
- Encourages good driving style
- Encourages efficient vehicle maintenance
- Enables monitoring individual vehicles as well as vehicle combinations
- Supports eco-routing
- Enables tolls or taxes that favor efficient transports
- Makes effect of road maintenance visible
- Triggers future innovations that can make visible difference right away

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- **RFEM addresses factors hard to monitor otherwise**
 - Driver behavior - potential 5% - 7% (fleet average)
 - Tyre choice through out vehicle life - potential 7,5% (fleet average)
 - Cargo capacity utilization - potential 4,1% - 7,8% (fleet average)
 - Vehicle maintenance - potential ...
 - Logistics and routing - potential ...
 - Vehicle to transport adaptation - potential ...
 - Retrofitted improvements (e.g. skirts) - potential ...
 - Platooning - potential 1,2% (fleet average)*
 - Alternative fuels - potential ...

* RFEM may present a solution to the problem to make a fair distribution of the fuel saving benefit among the vehicles in a platoon.