

Safety, cost-effectiveness and increased mobility by means of the tyre-pressure check from IVTM

For so-called super-wide tyres or super single tyres at the drive and trailer axles which replace twin tyres, a tyre pressure monitoring system as part of the original equipment is frequently being specified. A burst tyre can be of significantly greater consequence in the case of super singles when compared to conventional twin tyres. For this reason, vehicle manufacturers such as MAN and Volvo have since 2003, completely switched to a WABCO safety system which can in most cases prevent tyre deflation or blowout.



Of course such a system also makes sense in vehicles with conventional tyres; today, it is offered as optional original equipment not only by manufacturers of trucks but also by many trailer manufacturers.

IVTM improves safety

Faultless tyres are a necessity for driver, passengers, vehicles, and cargo. With IVTM (Integrated Vehicle Tyre Pressure Monitoring) WABCO offers a system that permanently monitors the tyre pressure in tractor vehicles, trailer vehicles, or busses by direct measurement.

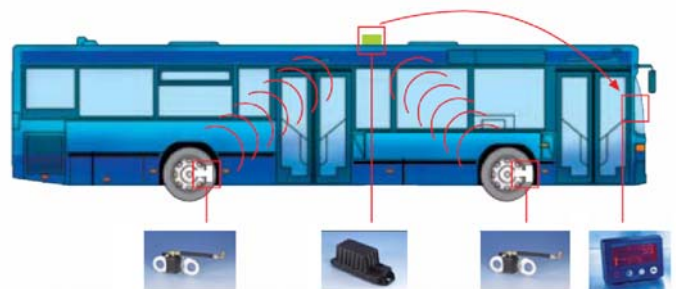
Tyre damage is the most frequent cause of breakdowns for commercial vehicles at 26%. In approximately 85% of these failures, gradual pressure loss that goes unnoticed by the driver is the cause.

IVTM detects gradual pressure loss and warns the driver in time – long before the tyre fails completely. This can prevent serious accidents, breakdowns where repairs are carried out in danger areas, or unnecessary downtime with expensive consequences.

IVTM improves mobility

Even today, haulage companies, parcel services, transport companies, and especially the tyre industry during test drives, use IVTM to achieve optimal mobility and therefore availability of their vehicles. Possible applications in the military are currently being evaluated.

Time-consuming and expensive retro-fitting of tyres for the installation of sensors in the wheel rim is not required. Pressures are measured at the tyre valve using wheel modules which are simply fastened by the means of the wheel nuts. The IVTM-ECU is mounted to the vehicle chassis and receives the pressure data from all wheels via wireless transmission.



The pressure of each tyre can be retrieved from the driver's seat. The display on the instrument panel warns the driver visually and audibly in the event of critical deviations from the set nominal pressures. In the case of some original equipment manufacturers, the display of the tyre pressures is already integrated in the instrument cluster.

Trailer vehicles are equipped with their own IVTM-ECU which transmits the tyre pressures to the ECU of the tractor vehicle via wireless transmission or CAN line. A single ECU can monitor up to 16 wheels.

The components are manufactured to withstand, dirt, water, salt, and snow. Assembly of the wheel sensors at the wheel itself not only has the advantage of easy retrofitting; it also facilitates an uncomplicated change of wheels such as is frequently expected on commercial vehicles.

IVTM is economical

How much time is required to check the tyre pressure of all the wheels of a tractor/trailer combination with 5 axles? With IVTM you can save time as the driver can check the tyre pressures at all axles in no time from his driver's seat.

It is only necessary to handle the wheel when you have to adjust the tyre pressure. In a practical context this means that the air pressure will always be correct, which not only benefits safety, but also tyre life and fuel consumption, because every second tyre on commercial vehicles today has less than 10% of the tyre pressure required. It should also be remembered that only a tyre with optimum pressure is able to guarantee the proper function of all safety systems of a vehicle.

In most cases, the investment of a WABCO tyre pressure monitoring system will pay for itself by preventing a single tyre failure.

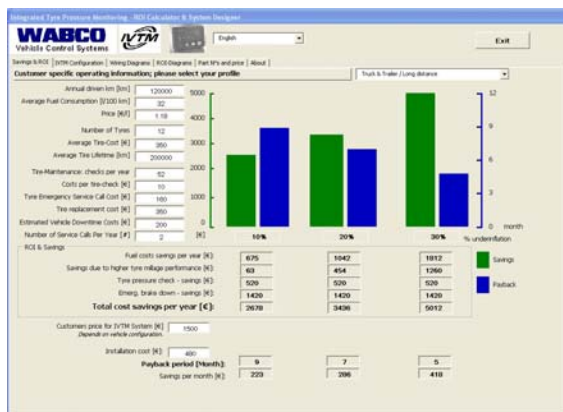
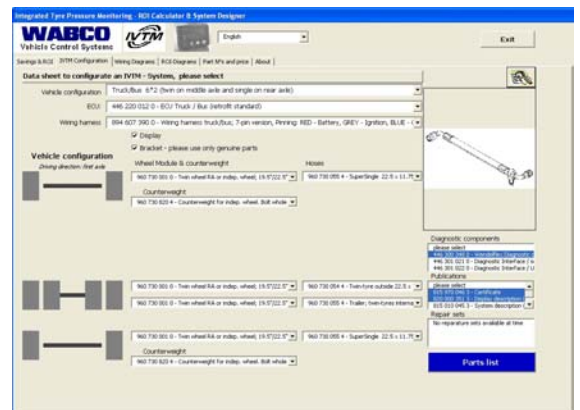


Fig.: WABCO ROI calculator



The potential costs savings due to IVTM amount to approximately 400 EUR per bus a year and approximately 500 EUR for a truck/trailer combination. Of course the figures depend on the respective field of application, but our return on investment calculator will also be able to match your particular case. Speak to your WABCO partner about that.

IVTM as retrofit

It is possible to retrofit IVTM quickly and in an uncomplicated manner. By these means it is possible to retrospectively improve road safety and cost-effectiveness of tractor vehicles, trailer vehicles, coaches, city busses, and articulated busses.

IVTM as relief for the driver

Since the introduction of ABS 20 years ago, driver assistance keeps improving. Within the limits of what is physically possible, the driver is provided with more and more assistance in dangerous situations. A significant parameter of what is "physically possible" however, is precisely the force transmission between vehicle and road, which, in turn, is where tyres have a decisive influence. IVTM as the tyre pressure monitoring system is therefore an important component in the chain of assistance systems. Additionally, IVTM is prepared for the integration into telematic and fleet management systems of the future.