

THE BLOG

# Your guide to the upcoming UN ECE R141 Regulation of TPMS

Mar 14, 2022 | Automatic Tyre Inflation Systems, Regulation, Return on Investment



In 2019, the EU commission made another update to the UN ECE R141 regulation which concerns the monitoring of tyres on your commercial vehicle. In short, commercial trailers need to be **equipped** with a **Tyre Pressure Control System**. In the following guide, we provide further information following on from [our original blog post](#) in December 2020.

include the vehicle group N1 (<3.5t). This included all important definitions for the TPMS. Furthermore, the vehicle type approval process is described and regulated.

## What Is New In The Upcoming Update?

With the new update, the regulation will be enhanced by the vehicle groups M2 and M3 (passenger vehicles) N2 and N3 (goods vehicles) and O3 and O4 (commercial trailers). Furthermore, Tyre Pressure Refill Systems (TPRS) and Central Tyre Inflation Systems (CTIS) are now included in the regulation. These new systems are the equivalent to a Tyre Pressure Monitoring System (TPMS).

## When Will The New Update Come Into Force?

The updated UN ECE R141 regulation will come into effect from July 2022 with a 2-year plan. In July 2022, the regulation will apply to all new vehicle type approvals and two years later, in July 2024, the regulation will be valid for all new vehicle registrations.

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## What Does It Mean To You...

### As a Transport Company

- From the 6<sup>th</sup> of July **2024** every **new registered trailer** must be equipped with a Tyre Pressure Monitoring System (TPMS), Tyre Pressure Refill System (TPRS) and/or a Central Tyre Inflation System (CTIS) in order to comply with the R141-regulation.
- A TPMS, TPRS and/or CTIS is not required for older trailers, so no retrofit is required.
- If the trailer type approval is issued **after 6<sup>th</sup> of July 2022**, then the new trailer needs to be equipped with a TPMS, TPRS and/or CTIS in order to comply with R141-regulation.
- If the truck is not equipped with "TPMS via CANbus" functionality, then there is no requirement to have an alternative in the truck. The trailer still needs to be equipped with the system even though it is not fully operational with an older truck.
- A solution that communicates from trailer to truck can be a **wired solution** (e.g. CANbus) OR a **wireless solution** (open standard specification).

### As a Trailer Builder

- From the 6<sup>th</sup> of July **2022** every **new type of trailer** needs to be equipped with a Tyre Pressure Monitoring System (TPMS), Tyre Pressure Refill System (TPRS) and/or a Central Tyre Inflation System (CTIS) in order to comply with the R141-regulation.
- Every new trailer that is built on the basis of a new trailer type that is homologated after 6<sup>th</sup> of July **2022** must therefore have a TPMS, TPRS and/or CTIS system installed. This means that every special trailer built needs to be equipped with a TPMS, TPRS and/or CTIS after the 6<sup>th</sup> of July **2022**.

### As a system provider

- The system needs to fulfil the requirements of the **R141-regulation**.
- R141-regulation also includes the **R121-regulation**: 'The warning indication shall be by means of an optical warning signal control to UN Regulation No. 121.'

electric control line conforming to ISO 11992-1:2019 and ISO 11992-2:2014 and be a point-to-point type using the seven-pin connector according to ISO 7638-1:2018 or ISO 7638-2:2018.

- Only pressure loss needs to be communicated. Any other relevant data, if available, can be communicated further but it is not a requirement.
- The warning signal needs to illuminate after the in service operating pressure in one of the vehicle's rolling tyres in contact with the ground has been reduced by 20 per cent.

- The warning signal needs to illuminate not more than 10 minutes after the occurrence of a malfunction that affects the generation or transmission of control or response signals in the vehicle's TPMS/ TPRS/ CTIS tyre pressure monitoring system.
- For vehicles in categories M2, M3, N2, N3, O3 and O4, the system shall operate from a speed of 30 km/h or below, up to the vehicle's maximum design speed.
- The malfunction indication warning signal must be illuminated whenever the towed vehicle TPMS/TPRS/CTIS displays a malfunction indication via the communication interface.
- The warning signal shall be activated when the ignition (start) switch is in the "on" (run) position (bulb check). This requirement does not apply to tell-tales shown in a common space.
- The malfunction indication may be the same warning signal as the one used to indicate low tyre pressure underinflation.