



## Ford Pilots Blockchain Tech to Promote Cleaner Air in City Centres; Extends Hybrid Electric Transit Trials to Cologne

- Ford pilots innovative geofencing and blockchain technology to ensure vehicles operate efficiently in city centre low-emission zones
- Transit Custom Plug-In Hybrid trials in Cologne, Germany, complement tests in London and Valencia, Spain, designed to optimise environmental benefits of such vehicles
- New plug-in hybrids target electric-only zero-emission NEDC driving range of 56 km (35 miles); 1.0-litre EcoBoost engine charges battery when needed, extending range to more than 500 km (310 miles) NEDC
- Ford Transit Custom is the first vehicle in its class to offer plug-in hybrid technology, and is available to order now with first deliveries by the end of the year; all-electric Transit anticipated in 2021

Ford today extends its European plug-in hybrid electric vehicle (PHEV) trial to Cologne. The study, which is also testing Ford PHEVs on the streets of London and Valencia, Spain, aims to better analyse and show the real-world benefits of such vehicles for the environment and for commercial vehicle owners and operators.

Working with five municipal fleets and the City of Cologne, nine Ford Transit Custom Plug-In Hybrid vans and one Tourneo Custom Plug-In Hybrid people-mover will be put to the test in a variety of real-world use cases. Ford will also investigate how innovative geofencing and blockchain technology could help to accurately track and increase the number of “green miles” driven by vehicles.

Blockchain is a data security technology that underpins some digital technologies. It creates permanent time-stamped records of data which are saved on multiple computers and which constantly grows as new records or “blocks” are added. Geofencing is creating a virtual geographic boundary defined by GPS technology.

“Ford is committed to delivering new, more environmentally sustainable vehicles that can help address the mobility challenges our cities face,” said Mark Harvey, director, Commercial Vehicle Mobility, Ford of Europe. “The plug-in hybrid electric vehicle trials with our partners in the City of Cologne build upon our ongoing electrification programmes elsewhere in Europe, and bring us all closer to meeting our combined urban air quality goals.”

In Cologne, [as in cities across Europe](#), low-emission zones are being introduced to address air quality challenges by discouraging the most polluting vehicles from driving through them. However, these zones can present difficulties both to the cities implementing and administering them, and to drivers understanding where and when restrictions are in place. That’s where Ford’s geofencing and blockchain technology pilot could help.

Each of the 10 PHEVs in the 12-month Cologne trial features the FordPass Connect on-board cellular modem, and a plug-in device which enables the geofencing and blockchain capabilities. Whenever a trial vehicle enters a controlled zone, its electric-drive mode is triggered and the zero-emission driving green miles are documented. The emissions mode and time that vehicles enter or leave a controlled zone are recorded to a secure distributed ledger – a blockchain – ensuring emissions data is safely stored and shared among relevant parties including city authorities and the vehicle or fleet owners.

The dynamic geofencing technology also means the vehicles can adapt in real time to changes in emissions zones. For example, cities may choose in the future to adjust controlled areas or create new ones based upon local weather or environmental conditions. The connected PHEVs will then automatically switch to low-emission mode when they enter these updated zones.

Trials by Ford in London have already shown how [PHEVs offer a compelling solution for commercial vehicle owners](#) in cities with low-emission zones. Ford Transit Custom and Tourneo Custom PHEVs can operate in electric-only zero-emission driving mode delivering a range of 56kilometres (35 miles) and 53 kilometres (33 miles) NEDC respectively. Longer journeys between cities are supported by a Ford 1.0-litre EcoBoost petrol engine that charges the battery to extend the overall range beyond 500 kilometres (310 miles) NEDC. \*

“The blockchain technology we are testing here in Cologne enables secure, tamper-proof tracking and logging of vehicle emissions records, which makes it ideal for the PHEV pilot,” said Gunnar Herrmann, chairman of the management board, Ford-Werke GmbH. “Security, trust and transparency of emissions data are of paramount importance to all stakeholders in this project, and are key for our vision of cleaner air in the city.”

The project also sees Ford become an official partner of [SmartCity Cologne](#). Initiated by the City of Cologne and regional energy supplier RheinEnergie AG, SmartCity Cologne is a cooperative platform for partners throughout the region to pilot technologies and services that promote climate protection and energy transition.

“Cologne will keep its drive in the future. And it will be emission-free,” said Henriette Reker, Lord Mayor of the City of Cologne. “Transforming our city fleets and using climate-fair vehicles is a matter of high priority to us. After all: if we don’t follow our own guidelines, why should our citizens? Public administration and city council have passed the climate emergency for good reason – and we will therefore consistently pursue this decision to improve the quality of air and the quality of life in our city. Our goal is to achieve the best possible solution for climate-friendly mobility in all areas.”

The Ford Transit Custom is the first vehicle in its class to offer plug-in hybrid capabilities, and is available to order now with first deliveries before the end of the year. Introduced from spring 2020 and available for retrofit to earlier vehicles, a new Geofencing module will be able to automatically switch the vehicle to zero-emission driving mode when entering low emissions zones. Operating without blockchain technology for now, it will still ensure that businesses are able to comply with regulations and avoid charges or penalties.

Ford is Europe’s No. 1 commercial vehicle brand, with the Ford Transit model range setting a [second quarter sales record](#) of 68,800, up 2.7 per cent from the same quarter of 2018. Ford earlier this year announced that a new all-electric Ford Transit van will join the Transit range – anticipated for volume launch in 2021.

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\* Transit Custom Plug-In Hybrid CO<sub>2</sub> emissions from 60 g/km and fuel efficiency from 2.7l/100km NEDC; Tourneo Custom Plug-In Hybrid CO<sub>2</sub> emissions from 70 g/km and fuel efficiency from 3.1l/100km NEDC

The declared fuel/energy consumptions, CO<sub>2</sub>emissions and electric range are measured according to the technical requirements and specifications of the European Regulations (EC) 715/2007 and (EC) 692/2008 as last amended. Fuel consumption and CO<sub>2</sub>emissions are specified for a vehicle variant and not for a single car. The applied standard test procedure enables comparison between different vehicle types and different manufacturers. In addition to the fuel-efficiency of a car, driving behaviour as well as other non-technical factors play a role in determining a car’s fuel/energy consumption, CO<sub>2</sub> emissions and electric range. CO<sub>2</sub>is the main greenhouse gas responsible for global warming.

Since 1 September 2017, certain new vehicles are being type-approved using the World Harmonised Light Vehicle Test Procedure (WLTP) according to (EU) 2017/1151 as last amended, which is a new, more realistic test procedure for measuring fuel consumption and CO<sub>2</sub> emissions. Since 1 September 2018 the WLTP has begun replacing the New European Drive Cycle (NEDC), which is the outgoing test procedure. During NEDC Phase-out, WLTP fuel consumption and CO<sub>2</sub> emissions are being correlated back to NEDC. There will be some variance to the previous fuel economy and emissions as some elements of the tests have altered i.e., the same car might have different fuel consumption and CO<sub>2</sub> emissions.

## About Ford Motor Company

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