

Worldline Belgium-based study confirms digital transactions are greener than cash

The report maps the path to a CO₂-optimised payment ecosystem

Paris-La Défense, 27 May 2024 - Worldline [Euronext: WLN], a global leader in payment services, has today published a landmark life cycle analysis study conducted in Belgium which shows the huge potential of digital payments to decarbonise payment systems.

The report confirms that compared with cash payments, in-store digital payments produce significantly lower levels of CO₂-equivalent (CO₂e) emissions. The report also identifies industry-wide levers to further decarbonise digital payments, starting with reducing emissions to under 1g of CO₂e per transaction.

Using the life cycle analysis (LCA) methodology, the report, which was prepared by Patrice Geoffron, Professor of Economics at Paris Dauphine-PSL University, seeks to quantify and compare the CO₂e emissions related to the different payment methods (cash, cards, phones) for in-store and online transactions in Belgium. It finds that an in-store cash transaction currently emits 14% more CO₂e emissions than an in-store digital payment transaction. An in-store cash payment generates 2.8g of CO₂e emissions, compared with 2.45g of CO₂e for an in-store digital payment, even without taking into account the individual transport activity when an individual sources cash.

If supply and sourcing are factored in when a person withdraws cash, based on a single cash withdrawal providing on average the cash for 7 individual payments, the CO₂e emissions from a cash payment are 15 times higher (at 36.8g of CO₂e) than the emissions from an in-store digital payment.

Based on an analysis of transactions in the Belgian market, where Worldline is a major payments processor, the study considered the entire payment ecosystem, including banks, network providers and terminal manufacturers. It aimed to identify potential company-specific or industry-wide initiatives which could contribute to further reduce the carbon footprint of a payment transaction, as part of the payment industry's contribution to the Fit for 55 ambition of the European Green Deal. These include low-cost measures to optimise in-store digital payments, such as eliminating paper receipts, virtualising cards, and using phone-to-phone payments, which could cut CO₂e emissions from digital payments by 70% to 0.74g per transaction, just over a quarter the level of emissions from a cash transaction.

The report also estimates the CO₂e emissions of online payment transactions at 3g and proposes measures to reduce their carbon footprint by up to 93%, primarily through the use of smartphones.

For more detailed information, see Notes for Editors.

Patrice Geoffron, Professor of Economics, Paris Dauphine-PSL University: *“The payments industry has a number of levers at its disposal to help it adapt to the decarbonisation imperative. These include eco-design, energy efficiency, decarbonised energy sourcing and circular economy mechanisms.”*

Sébastien Mandron, CSR Officer, Worldline: *“The continuous adoption of digital payments is already bringing a positive contribution to the CO₂ reduction ambitions of Europe as they are more efficient than cash from an environmental standpoint. But, beyond this intrinsic benefit of moving towards digital payments, the good news of this study based on Belgium nation-*

wide data is that there are many more levers ahead to further optimize the digital payment CO₂ footprint. To fully activate these levers, we'll need to go beyond what a single company can do by itself and also work collectively as an ecosystem. Associating industry players, banks regulators, policy makers and, of course, citizens around this common goal will allow to promote in the years to come, constantly more CO₂ efficient solutions while keeping security and convenience at the highest levels."

ABOUT WORLDLINE

Worldline [Euronext: WLN] helps businesses of all shapes and sizes to accelerate their growth journey – quickly, simply, and securely. With advanced payments technology, local expertise and solutions customised for hundreds of markets and industries, Worldline powers the growth of over one million businesses around the world. Worldline generated a 4.6 billion euros revenue in 2023.

Worldline's corporate purpose ("raison d'être") is to design and operate leading digital payment and transactional solutions that enable sustainable economic growth and reinforce trust and security in our societies. Worldline makes them environmentally friendly, widely accessible, and supports social transformation.

ABOUT PATRICE GEOFFRON

Patrice Geoffron holds a doctorate in industrial economics and is a professor at Université Paris-Dauphine-PSL, where he was interim president and international vice-president. He was also the founding director of the Dauphine Economics Laboratory (LEDa). Among other scientific responsibilities, he is a member of the Scientific Council of the CEA and Engie, as well as the Cercle des Économistes. Previously, he was a member of the World Council of the International Association for Energy Economics, and an expert on the Citizens' Climate Convention. He is co-editor of the journal Economics and Policy of Energy and the Environment and a member of the editorial board of the International Journal of Management and Network Economics.

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