

PRESS RELEASE

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TOPPAN GRAVITY AND PYLOTE ANNOUNCE A STRATEGIC & COMMERCIAL PARTNERSHIP TO DEVELOP ANTIMICROBIAL CARDS

First application in three fields of cutting-edge plastic cards: Banking & Payment, Transportation & Access and Commercial

TOPPAN GRAVITY, a global solutions provider of next generation virtual and physical smart cards and secure documents, and **PYLOTE**, a key player in the industrial mineral chemistry, today announced a strategic business partnership aimed at providing card users with an unprecedented innovative response to the problem of contamination and microbial transmission. These cutting-edge plastics cards activated by antimicrobial protection will apply to a variety of applications, such as Banking & Payment cards, Transport & Access cards and Commercial Cards, such as gifts and fidelity.

Through the partnership, both companies aim to protect cardholders around the world against viruses and bacteria transmitted by cards. With around 30 billion¹ plastic cards produced annually and an expected market growth rate of 8.2%² in the forecast period of 2021 to 2028, there are many plastic cards in circulation. Plastic cards, such as payment cards, gift cards, transport and access cards, and others can easily spread unwanted viruses and diseases. According to research conducted on payment cards, bills, and coins, payment cards are nearly three times more likely to carry bacteria than coins and cash³.

These new first-to-market cards will incorporate PYLOTE's mineral antimicrobial technology to help uniquely prevent the risks associated with the transmission of microbes. There are no metals or nanoparticles in this technology, and its mechanism of action is not leaching to kill microorganisms. By activating surfaces to make them "self-decontaminating", the effectiveness has been demonstrated on many micro-organisms such as gram-positive and gram-negative bacteria (>99.999% in 24h) and resistant bacteria, enveloped and non-enveloped viruses (SARS CoV-2 and its Delta variant >96% in 1h, H1-N1 influenza, gastroenteritis, herpes and conjunctivitis) as well as in real-life situations with a high frequency of contact. Numerous tests conducted by independent laboratories have measured the immediate, stable and permanent microbial decontamination action, as well as the safety of this technology (ISO 10993 medical device standards: non-irritant, non-cytotoxic).

At this stage of the partnership, the antibacterial action of PYLOTE's technology has been successfully tested: Anti-microbial analyses on cards activated with Pylote technology demonstrated an efficiency of over 99.999%, even after a wear test that reproduced the friction of a jeans' back pocket (500 cycles were performed). This concrete case demonstrates the effectiveness and robustness of the PYLOTE technology. The two companies will now define the types of cards likely to incorporate this antimicrobial technology in line with market expectations, organize their industrial

¹ Market Research by Stratview Research on Global Plastic Cards Market, Trends and Market Analysis.

² Report by Data Bridge Market Research on Global Plastic Cards Market – Industry Trends and Forecast to 2028.

³ LendEDU study on 41 different credit and debit cards, 27 different bills, & 12 different coins, June 2021.

production and aim for the marketing of activated cards, with qualified and tested cards in the first half of 2023.

Loïc Marchin, CEO of PYLOTE, commented: *"I am extremely pleased with this strategic commercial partnership with TOPPAN GRAVITY which will allow us to pursue our strategy of deploying transmission risk prevention means in new applications in order to better protect people's health, with no side effects thanks to entirely mineral technology. After plastic films, paints, protective masks or ophthalmic droppers, we continue to deploy our technology to contribute even more to personal safety, reduced expenses and waste."*

Commenting on the partnership, Michael Hrashan, VP and Head of Payment, Transport and Ticketing BU said: *"We have chosen PYLOTE as a partner due to the unique and reliable technology they are using to prevent the transmission of bacteria and viruses. It is with great pleasure that we have entered a partnership with PYLOTE and are aiming to enhance the safety of the work and living environments for cardholders together. Our collaboration will play a significant role in protecting cardholders against viruses and bacteria."*

ABOUT TOPPAN GRAVITY - Toppan Gravity is a subsidiary of Toppan Leefung, serving as the international development arm of the Toppan Group in the security domain. Being part of the most prestigious conglomerate in the industry with decades of experience and multiple well-known references, Toppan Gravity benefits from Toppan Printing's strong market position and extensive expertise. As a global solutions provider primarily focused on the payment and Identity industries, Toppan Gravity aims at developing the next generation of virtual and physical security documents. With the vision of becoming the forerunner in the secure ID and payment industry, the company focuses on driving synergies within the Toppan Group, through strategic acquisitions. Toppan Gravity empowers promising companies having state-of-the-art technology or businesses in emerging markets, including Asia, Africa, and Latin America to enhance their overall performance. Furthermore, the company enables its acquisitions to take advantage of the opportunities presented by its large, diversified group having numerous resources and extensive know-how. For more information, visit www.toppangravity.com or contact info@toppangravity.com.

ABOUT PYLOTE - Founded in 2009 and based in Toulouse (France), PYLOTE is a key player in the cleantech industrial mineral chemistry, globally recognized by its in-house breakthrough and sustainable innovation. Pylote is developing, producing and selling a unique natural protection solution patented from process to applications that solves issues faced by consumers with regards to safety, hygiene and sustainability. By focusing on market differentiation, PYLOTE supports its clients in the pharmaceutical, cosmetic, food and industrial markets for regulatory, marketing and industrial steps to generate a powerful value proposition in a quick time to market, without neither investment nor change in the current manufacturing process. Since 2016, the PYLOTE innovation, which is in compliance with the FDA, cosmetic, pharmaceutical, food, international regulations and Food contact approved, has been repeatedly and internationally awarded-winning: Pharmapack Award, CPhI Pharma Award, the Oscar of Packaging for Food Applications, Trophy of CSR Solutions, MakeUp in New York Tree Innovation Award. More information about Pylote in our website: www.pylote.com



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