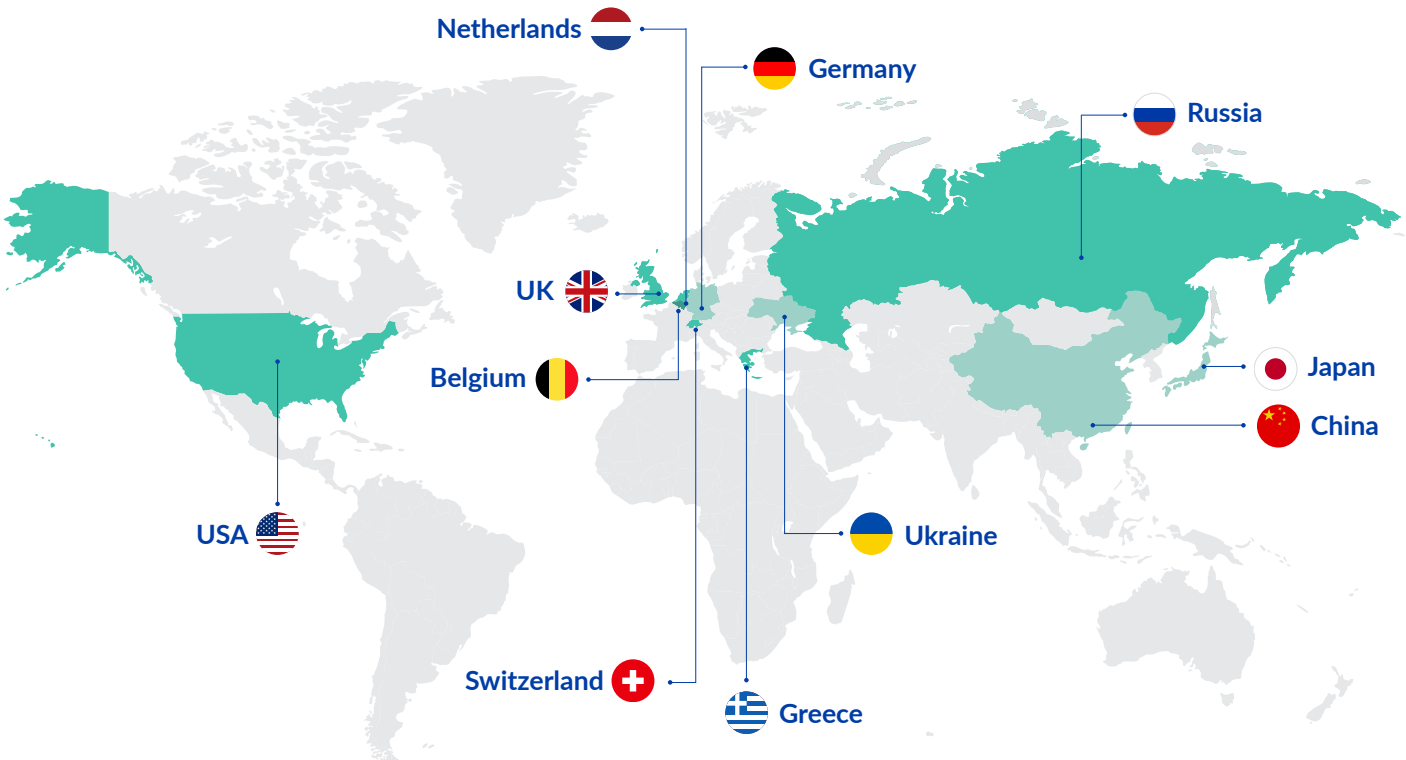
Our findings are supported by 11 government agency assessments and more than 750 independent research publications on HTPs

At PMI, we welcome and encourage independent research on our smoke-free products and our methods and results. Constructive conversations between scientists, researchers, governmental institutions and organizations are an essential part of achieving the transformation of our industry as soon as possible and building a smoke-free future.

Therefore, independent studies and research into new alternatives play a crucial role, and we believe it is important to continue to share data and results with the scientific community to ensure the advancement of technological and scientific development.

Over the past few years, a rapidly growing number of organizations and institutions have initiated studies on smoke-free products and/or the methods/results surrounding them. Health authorities around the world have begun to examine the evidence showing the potential role of smoke-free products in their harm reduction strategies when they have one. Here is an overview of government publications which touch on our Tobacco Heating System (THS) or on heated tobacco products (HTPs) in general.



Netherlands

The Dutch National Institute for Public Health and the Environment (RIVM) assessed eight carcinogens to understand the likely health impact on individuals who switch to *IQOS*, compared to those who continue smoking. In their conclusions they state that—while *IQOS* is not risk-free—it is associated with 10 to 25 times lower exposure to these carcinogens, and that this could translate into a substantially improved risk profile.

Belgium

The Superior Health Council of Belgium ("SHC") concluded that heat-not-burn products, while not safe, have a more favorable toxicity profile than cigarettes.

UK

Public Health England (PHE) stated that heated tobacco products likely reduce users' and bystanders' exposure to harmful compounds compared to cigarettes. PHE also stated that the available evidence suggests that heated tobacco products may be considerably less harmful than tobacco cigarettes and more harmful than e-cigarettes.

Committee on Toxicity noted that *"As the exposure to compounds of concern in the aerosol is reduced compared to conventional cigarette smoke, it is likely that there is a reduction in risk, though not to zero, to health for smokers who switch completely to heat-not-burn tobacco products."*

China

National Tobacco Quality Supervision and Test Centre, a member of the WHO Tobacco Laboratory Network, published an independent study comparing the harmful chemicals present in *IQOS* aerosol and cigarette smoke, which generally agree with PMI's results.

Germany

In 2018, BfR analyzed the aerosol of *IQOS* tobacco heating system and reported the following, "Our study confirms that levels of major carcinogens are markedly reduced in the emissions of the analyzed "heat not burn" product in relation to the conventional tobacco cigarettes and that monitoring these emissions using standardized machine smoking procedures generates reliable and reproducible data which provide a useful basis to assess exposure and human health risks."

In 2019, the BfR published an article titled "Heated Tobacco Products: A Review of Current Knowledge and Initial Assessments" confirming the findings of their previous study. *"The German Federal Institute for Risk Assessment confirmed in its previous study substantially reduced toxicant levels for selected HTPs and provided an initial assessment in 2017. The profound reduction (>99%) of key carcinogens according to Fowles and Dybing, such as benzene and 1,3-butandiene, as well as substantial overall reductions of toxicants is expected to affect health risks, if people abstain completely from other tobacco products. Nicotine levels are still in range of conventional cigarettes, limiting the risk to switch back to conventional smoking tobacco."*

USA

On April 30, 2019, following a comprehensive assessment of PMI's premarket tobacco product applications, the U.S. FDA confirmed that *IQOS* is appropriate for the protection of public health and has authorized it for sale in the United States. "Appropriate for the protection of public health" means that looking at population as a whole, new products cannot pose the same or greater harm to public health as smoking (i.e., they must pose less harm than combustible cigarettes). The FDA published a detailed report describing their assessment and their conclusions including results on aerosol chemistry, toxicology and unintended use.

Japan

Research by Japanese Department of Environmental Health (a branch of the National Institute of Public Health), compared selected chemicals in the aerosol generated by *IQOS* and in smoke from reference cigarettes. The research shows significant reductions in the levels of several chemicals, in line with those found by PMI's research.

Research data from Tottori University demonstrates low levels of HTP use by young people, both in absolute and relative terms, compared with cigarettes.

Switzerland

Addiction Suisse published an assessment stating that most harmful substances are a result of the combustion of tobacco, and the data obtained so far shows that heated tobacco products produce fewer harmful substances.

Ukraine

National Institute of Cardiology conducted a 6-month clinical study which was published in a prominent national medical periodical Ukrainian Health. The study was focused on *IQOS* and the risk of cardiovascular diseases based on endothelial function and its determining factors. The authors highlighted that *"The obtained results show significantly less harmful influence of ENDS/ IQOS on cardiovascular function if compared to tobacco smoke" and that it confirms " ... the possibility to consider them as harm reduction products for smokers who do not want or are not ready to quit smoking completely."*

Russia

All-Russia Scientific Research Institute for Tobacco and Tobacco Products is a government-sponsored institute that aims to improve the manufacturing and quality of tobacco products, while reducing their toxicity. In a 2016-2017 study comparing cigarettes and HTPs, the authors stated that *"As per conducted research it can be stated that tobacco heating system is a tobacco product with lower levels of toxic substances (excluding nicotine) compared to combustible cigarettes."*

Greece

Committee for the Assessment of the Degree of Harmfulness of Novel Tobacco Products.

In March 2023, following a 2-year scientific evaluation process, the Greek Ministry of Health approved the following claim (translated from Greek) for a variant of THS 2.2, **along with a disclaimer*:**[1] *"The concentration of chemical substances with known toxicity produced when using IQOS with HEETS AMBER tobacco sticks is lower compared with conventional smoking."*

Similarly, in January 2025, The Greek Ministry of Health authorized the following claim (translated from Greek) for PMI's induction-based THS 3.0 (commercialized as IQOS ILUMA) and seven TEREA heated tobacco unit variants, **along with a disclaimer*:** *"The concentration of chemical substances with known toxicity, except nicotine, produced when using IQOS ILUMA with TEREA XX tobacco sticks is lower compared with conventional smoking."*

1 - Disclaimer (for both claims): "A reduction in the concentration of chemical substances with known toxicity does not mean a corresponding reduction in risk for health. The aerosol of this tobacco product contains nicotine and other hazardous chemicals, harms your health, and is addictive. The best choice is to quit tobacco and nicotine use altogether."