



PHILIP MORRIS  
INTERNATIONAL

# 2018 INVESTOR DAY

Designing a Smoke-Free Future

## Investor Day

Lausanne, September 27, 2018

Mirek Zielinski  
*President, Science and Innovation*



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INTERNATIONAL

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Designing a Smoke-Free Future

## Investor Day

**Lausanne, September 27, 2018**

Video (approximately 90 seconds)

Full version can be viewed at [www.pmi.com/science-and-innovation](http://www.pmi.com/science-and-innovation)

# Our IQOS Journey: Current Business Model

## THE BEGINNING...

Building the base

- *HeatControl Technology™* to replace tobacco combustion
- Substantiated Risk Reduction
- Sensorial satisfying nicotine containing aerosols for adult smoker acceptance and switching
- IQOS pilot launch and expansion



- Unprecedented adult consumer acceptance – rapid growth
  - Present in 43 markets
  - Unrivalled conversion rate

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## ...TODAY...

Rock solid foundation

- PMI clear leader in Reduced-Risk Products (RRPs)
    - 5.8 million adult smokers have stopped smoking and switched to IQOS<sup>(a)</sup>
  - Foundation for innovation pipeline
    - Broad set of scientifically substantiated product messages
    - Emerging societal understanding of RRP category
    - New infrastructure for acquisition and retention
- 
- IQOS “innovation machine” built
  - Strong innovation pipeline

# Our IQOS Journey: New Business Model

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## ...TOMORROW

Sustainable Leadership and Growth

- Ecosystem portfolio supporting a better life for adult smokers
  - Regulatory support to enhance clear consumer understanding
    - Standards as a driver
  - Existing evidence accelerates substantiation and yields efficiency
  - Further broaden scientifically substantiated consumer benefits
- 
- IQOS portfolio offerings driving PMI performance

(a) Status at the end of August 2018. Exclusive HnB users that are using *HeatSticks* for more than 70% of their past-7 days consumption  
Source: PMI Financials or estimates, IQOS user panels and PMI Market Research

# Rock Solid Foundation for New Business Model

- **Infrastructure in place to support our new business model and deliver our IQOS promise:**

- Scientific discoveries, substantiation and portfolio innovation
- New technologies, engineering solutions and manufacturing capacity
- Regulatory recognition, product and communication standards

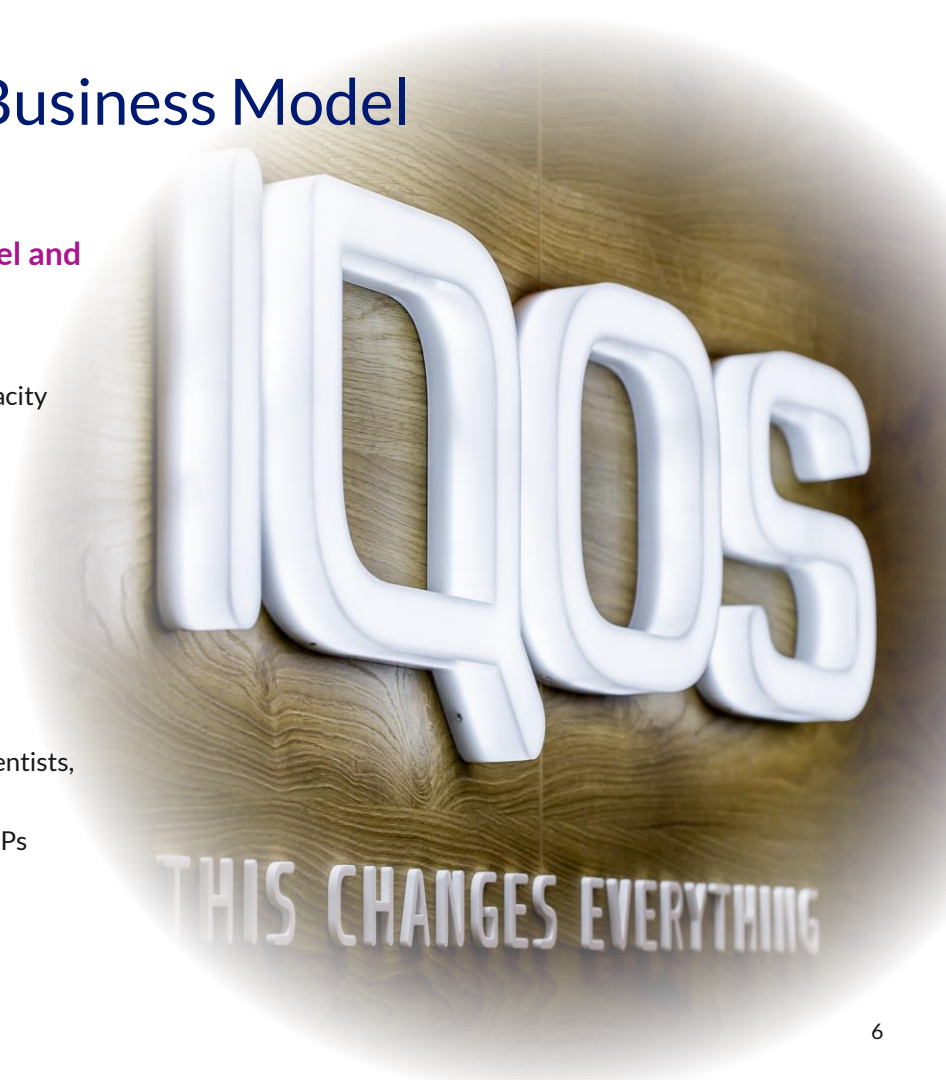
- **Consumer journey solutions:**

- All encompassing digitalization and communication
- Brand Retail: the IQOS portfolio home
- Consumer care culture and programs; e-commerce

- **Evolving channels and future touchpoints:**

- Travel retail, IQOS friendly venues, community care providers (dentists, pharmacists)
- Life insurance policies for users of scientifically substantiated RRP's under development with partners

- **Highest standards of responsibility**



# Totality of Scientific Evidence: Presents Less Risk of Harm

- Totality of evidence<sup>(a)</sup> to-date shows that switching completely to Platform 1 (*IQOS*), although not risk free, presents less risk of harm than continuing to smoke
- We are hopeful for a decision on our PMT application by year end and the scientific review of our MRTP application by the U.S. FDA is still ongoing
- We have supplemented our MRTP application with additional clinical and non-clinical studies:
  - Full characterization of the *IQOS* aerosol
  - 6-month clinical Exposure Response Study
  - First ever 18-month non-clinical animal lung cancer study on a smoke-free alternative product
- Post-market study
- We will leverage our extensive evidence database and data bridging strategies to accelerate substantiation and yield efficiencies across all our RRP platforms

(a) Based on reductions in toxic emissions, exposure, molecular changes, biological mechanism, cell and tissue changes, and disease are in comparison to the mainstream smoke from a 3R4F reference cigarette and commercially available cigarettes

Source: PMI Research & Development



# 6-month Clinical Exposure Response Study Confirms the Risk Reduction Potential of Platform 1 (IQOS)

- We have supplemented our MRTP application with the results of a 6-month clinical Exposure Response Study
- The clinical study met its primary objective:
  - **All co-primary** endpoints shift in the same direction as smoking cessation
  - **Majority** of co-primary endpoints statistically significantly different vs. continued smoking
  - Results achieved even with 30% concomitant use of cigarettes
  - Results correlate with the amount of concomitant cigarette use

| Co-Primary Endpoints linked to Smoking-Related Diseases |                      |                        |   |
|---------------------------------------------------------|----------------------|------------------------|---|
| Disease                                                 | Mechanism            | Clinical Risk Endpoint |   |
| Cardiovascular Disease                                  | Lipid Metabolism     | HDL-C                  | ✓ |
|                                                         | Clotting             | 11-DTX-B2              | ✓ |
|                                                         | Endothelial Function | sICAM - 1              | ✓ |
|                                                         | Acute Effect         | COHb                   | ✓ |
| Respiratory Disease and Cancer                          | Inflammation         | WBC                    | ✓ |
|                                                         | Oxidative Stress     | 8-epi-PGF2 $\alpha$    | ✓ |
|                                                         | Lung Function        | FEV <sub>1</sub> %Pred | ✓ |
|                                                         | Genotoxicity         | Total NNAL             | ✓ |

- ✓ in the same direction of change as observed for smoking cessation
- ✓ statistically significantly different to continued smoking



# First-Ever *In Vivo* Lung Cancer Study on Smoke-Free Tobacco Product Alternative Supporting Risk Reduction

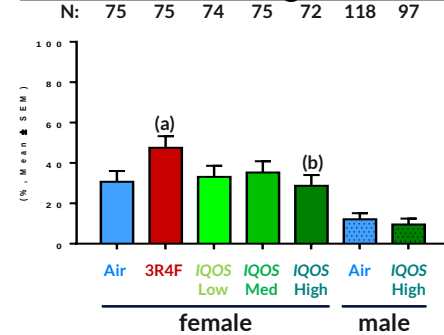
- 18-month *in vivo* A/J mouse lung cancer study showed very positive results:
  - IQOS aerosol did not cause an increase in lung inflammation or emphysema compared to air exposure in the A/J mouse model
  - IQOS aerosol did not cause an increase in occurrence or number of lung tumors compared to air exposure in the A/J mouse model

(a)  $p < 0.05$  vs. Air; (b)  $p < 0.05$  vs. 3R4F

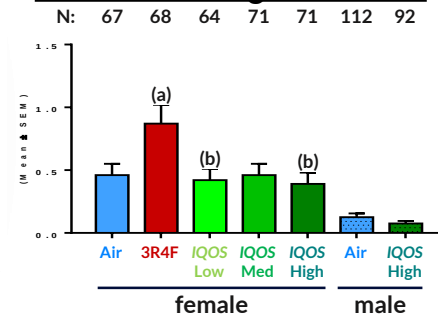
Note: "N" refers to the number of mice per group

Source: PMI Research & Development. Study Report (study number 15020)

## Occurrence of Lung Carcinoma



## Number of Lung Carcinoma



# Post-Market Studies Addressing Prevalence and Gateway Risk

## Japan Cross-Sectional Survey

Results from December 2016 (Wave 1) to July 2017 (Wave 4)

- **98%** of current *IQOS* consumers were previously using other tobacco products<sup>(a)</sup>
- **75.1%** converted to *IQOS*<sup>(b)</sup>
- **18.5%** prevalence (adult consumers who have used any tobacco product)<sup>(c)</sup>
- **~10%** of adult tobacco consumers were already using *IQOS*<sup>(c)</sup>
- **Only 0.1%** of two-year quitters started using *IQOS* in the last 12 months<sup>(c)</sup>

(a) *IQOS* user sample

(b) *IQOS* is >95% of all tobacco use

(c) General population sample – adults only

Source: PMI Research & Development. Study report on cross-sectional survey (P1-PMX-01-JP: Year 1 Results)

# Broadening Scientifically Validated Consumer Benefits

- We continue to broaden our existing catalog of scientifically validated consumer benefits that clearly differentiate the improvements from switching to RRP's vs. continued smoking. These include:
  - Hygiene
  - Indoor air quality
  - Reduced emission of toxicants
  - Reduced teeth staining
  - Less risk of harm
- We have a number of additional clinical studies that have started or are about to start:
  - Oral health (on-going)
  - Exercise capacity (to start in November 2018)
  - Cardiovascular disease (to start in December 2018)
  - Studies on other smoking-related diseases (being explored)

# Heated Tobacco Category: Increasing Recognition (U.S.)



## U.S. FDA's New Plan for Tobacco and Nicotine Regulation (July 28, 2017)

*"Looking at **ways to reduce nicotine levels in cigarettes** so that they are minimally or non-addictive, while **not altering the nicotine content of noncombustible products** such as e-cigarettes, is a cornerstone of our new and more comprehensive approach to effective tobacco regulation".*

*"I also hope that we can all see the potential benefits to addicted cigarette smokers, in a **properly regulated marketplace**, of products capable of **delivering nicotine without having to set tobacco on fire**".*

*"And we must recognize the potential for **innovation to lead to less harmful products, which, under FDA's oversight**, could be part of a solution".*

– Dr. Scott Gottlieb, U.S. FDA Commissioner. Comprehensive Tobacco Control Strategy

# Heated Tobacco Category: Evolving Regulatory Environment



**The EU TPD distinguishes Novel Smokeless Tobacco Products as a separate product category from conventional tobacco products**  
(HEETS are commercialized as a Novel Smokeless Tobacco Product in 18 EU markets)

# Critical Importance of Product Standards

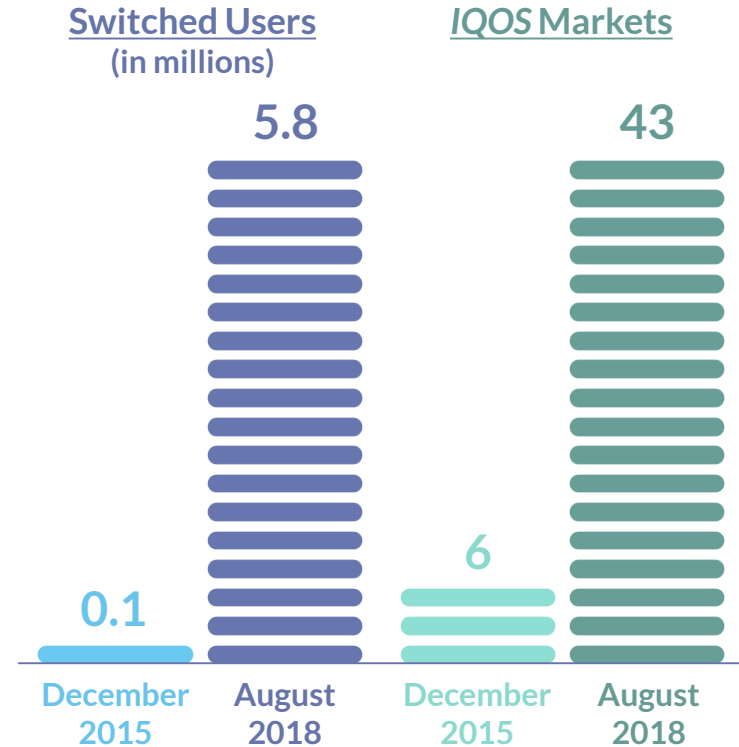


- PMI advocates for the introduction of standards for heat-not-burn and e-vapor products:
  - Smoke-free categorization (absence of combustion and smoke)
  - Product design, manufacturing controls, testing protocols and distribution
  - Substantiation of product benefits vs. cigarettes
  - Product use (post market studies)
- Standards and product categorization enable:
  - Risk-proportionate regulation (supporting adult smoker conversion to reduced-risk products)
  - Taxation regimes reflecting different risk profiles of tobacco and nicotine products
  - Consumer messages about product benefits vs. cigarettes
- Standards to protect consumers and optimize conversion to reduced-risk products:
  - Satisfy regulatory and adult consumer expectations toward product quality, safety, and performance for all products within categories
  - Provide a level playing field with clear rules for all market players



# Leverage Learnings from Switching Consumers

- Significant learnings from 5.8 million adult consumers across 43 markets who have stopped smoking and switched to IQOS<sup>(a)</sup>:
  - Consumer journey
  - Consumer delights and addressing pain points
- Consumer delights from switching:
  - Experienced benefits
  - Understanding from peer to peer referrals
  - Discovery of new needs
- Benefits to outweigh conversion challenges:
  - Understanding of relevant benefits
  - Taste and ritual changes (including technical challenges, sequential usage)



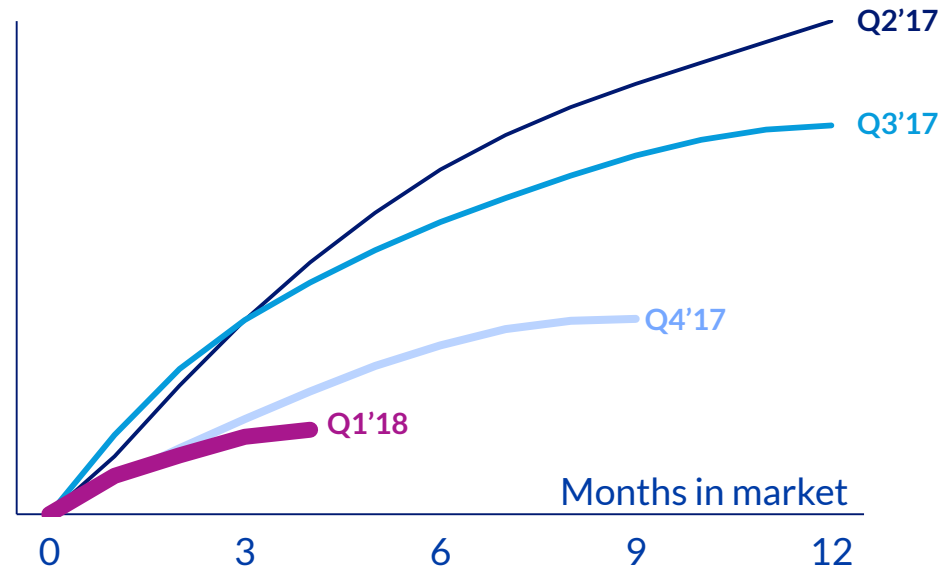
(a) Status at the end of August 2018. Exclusive HnB users that are using *HeatSticks* for more than 70% of their past-7 days consumption  
Source: PMI Financials or estimates, IQOS user panels and PMI Market Research

# Product and Quality Program Advances

- Experiences from ~ 500 billion puffs
- Product design improvements
  - Latch
  - Electronics
- Manufacturing automation and process improvements
- Introduction of *ProtectPlus™* - our quality seal

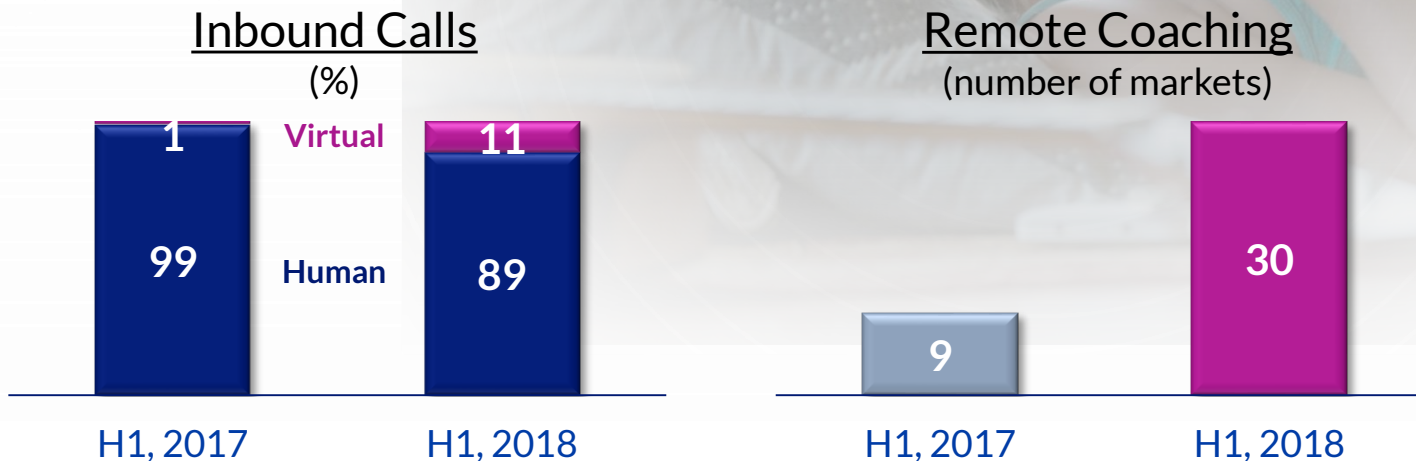


## IQOS 2.4 Plus Product Return Ratio in Japan (Index: per manufacturing quarter, per number of months in market)



# Redefined Care Program

- Building care culture and capabilities
- Strengthening of infrastructure and digital capabilities
- E-commerce capabilities and scale
- Continued focus on optimizing replacement lead-times
- Service and cost enhancements from digital and consumer care infrastructure



# RRPs: Highest Standards of Responsibility for the Category



## IQOS

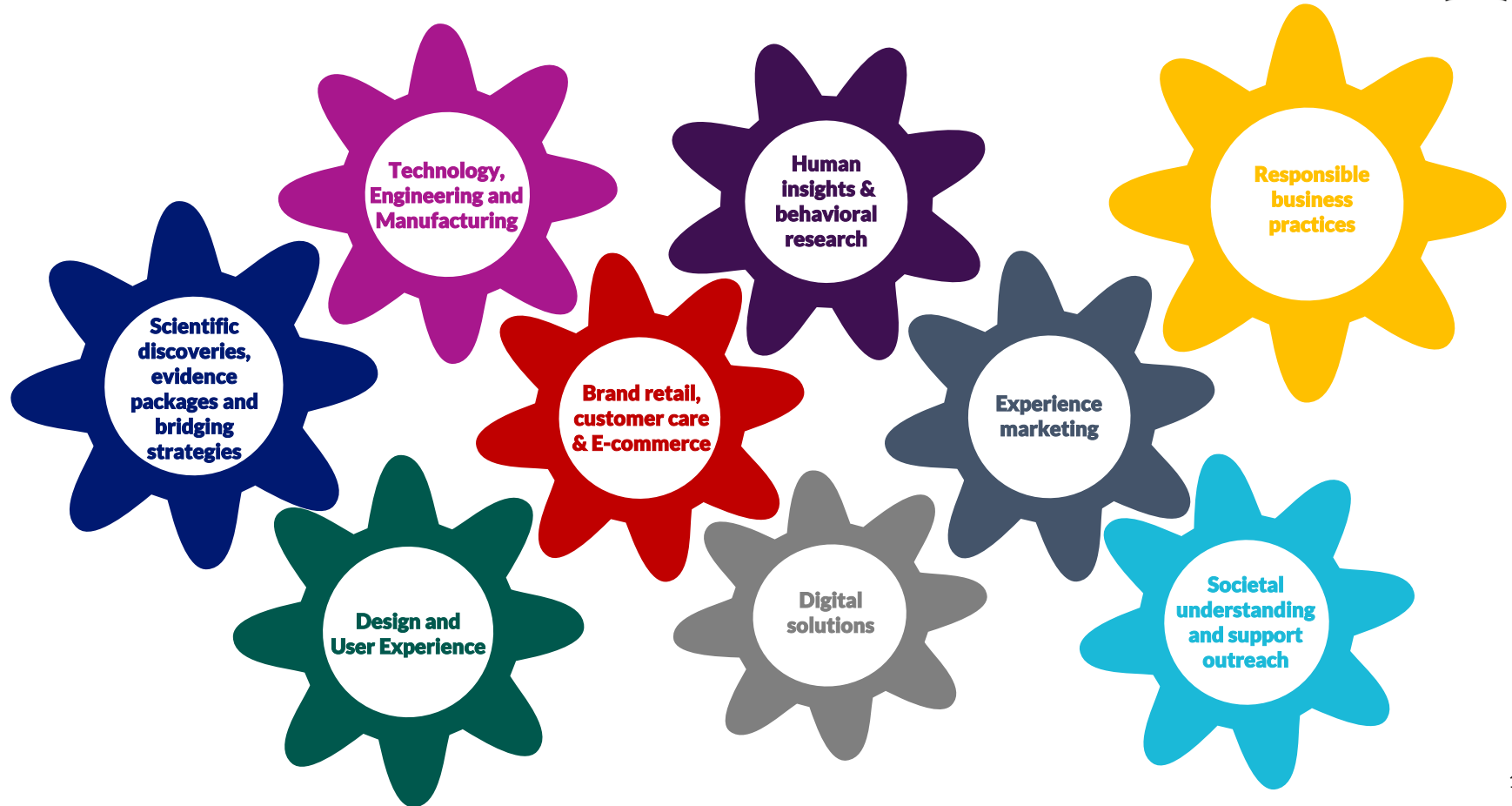
### Good Conversion Practices

IQOS is a scientifically substantiated smoke-free product that is a much better choice for adult smokers than smoking. Our vision is that smoke-free products like IQOS will one day replace cigarettes.

1. IQOS is for adult smokers who want to continue enjoying tobacco products.
2. We do not offer IQOS to people who have never smoked or who have quit smoking.
3. Our goal is to convert every adult smoker who would otherwise keep smoking to smoke-free products such as IQOS. We are committed to supporting adult smokers in their conversion journey through education and guidance.
4. IQOS is not an alternative to quitting. The best choice for consumers concerned about the health risks of smoking is to quit tobacco altogether.
5. To experience the benefit of IQOS, adult smokers should switch completely to IQOS and abandon cigarettes permanently.
6. IQOS is not risk free or a safe alternative to cigarettes, but it is a much better choice than smoking.



# PMI Innovation Machine



# Consumer Needs Continue to Inform Portfolio Innovation

- Adult consumers are looking for products to fit their lifestyle and situational needs
- Meta needs relate to hygiene and the potential of risk reduction
- Adult smokers articulate needs for different offerings:
  - Tobacco taste with a progressive ritual (electronics)
  - Tobacco taste with a ritual similar to combustible cigarettes
  - Non-tobacco flavor exploration, simple usage, flexibility of use, no vaping cloud, no smell, on-demand and no electronics
  - Non-tobacco flavor exploration, progressive ritual with electronics and on-demand experience
- Continuous enhancement in our portfolio offerings to meet individual consumer needs



# RRPs: Science and Innovation Based Brand Portfolio



**BRAND  
(4 PLATFORMS)**

# IQOS

**CURRENT  
PLATFORM  
OFFERS**



*IQOS 2.4 Plus*



*Version 1*



*IQOS MESH*

**INNOVATION  
PIPELINE**

*IQOS 3 & IQOS 3 Multi*

**2**

*Next Gen*

**2**

*Next Gen*

**2**

*Next Gen*

**2**

*Next Gen*

**CONSUMABLES**

**H=ETS™**

**T=EPS™**

**ST=EM™**

**V=EV™**

# IQOS MESH: Experience and Performance Design



**Reliability**  
**Convenience**  
**Sensorial delight**  
**Nicotine satisfaction**



**Core Collection**



**Gourmet Collection**

- Launched in London on July 30, 2018
- Co-existence of Platforms 1 and 4
- 11 signature flavors

*"You know what? I like this device. Once again IQOS have done a very good job in terms of making a device that doesn't feel crappy in your hands, and that is easy to use, not messy like traditional vapes".*

*"The vapor that comes out is very satisfying in terms of throat hit and smoothness".*

*- New IQOS MESH user, reddit online review, July 31, 2018*

# IQOS MESH: Consistent Vape, No Burnt Taste

IQOS MESH



E-cigarette  
Wick and Coil

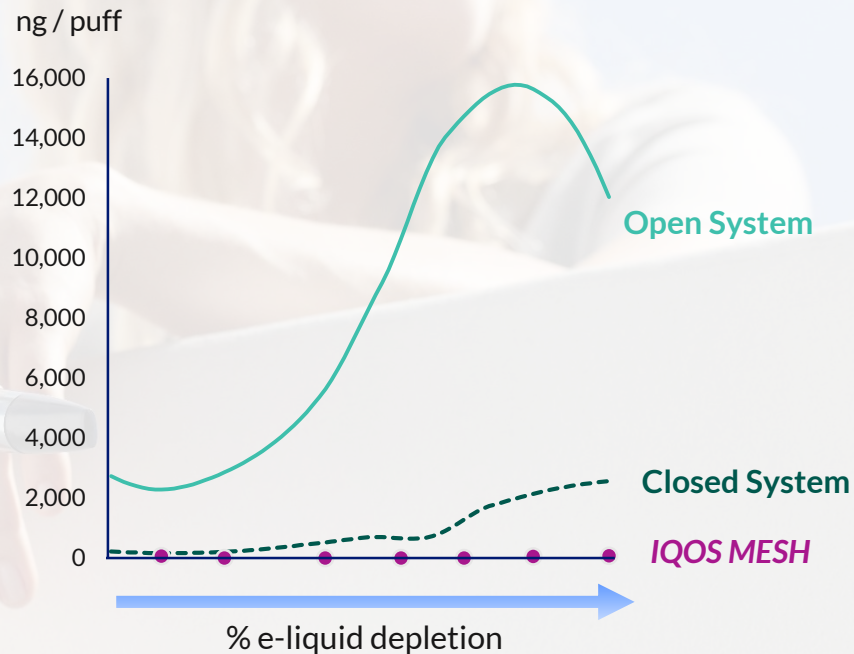


New



After 10 tank refills

Average formaldehyde level per puff



# IQOS MESH: Innovation Focus

No. of Puffs x TPM (plume)  
= Daily liquid consumption

- Balancing device size, nicotine concentration and number of puffs

Cig-a-like  
200 mAh



Target to achieve cigarette  
equivalent daily nicotine levels

Nicotine concentration in e-liquid

Note: Bubble size represents battery size

Source: PMI Research & Development, for illustration purpose only

# IQOS MESH: Innovation Focus

No. of Puffs x TPM (plume)  
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- Balancing device size, nicotine concentration and number of puffs

Coil & Wick  
900 mAh

Cig-a-like  
200 mAh

Target to achieve cigarette  
equivalent daily nicotine levels

Nicotine concentration in e-liquid

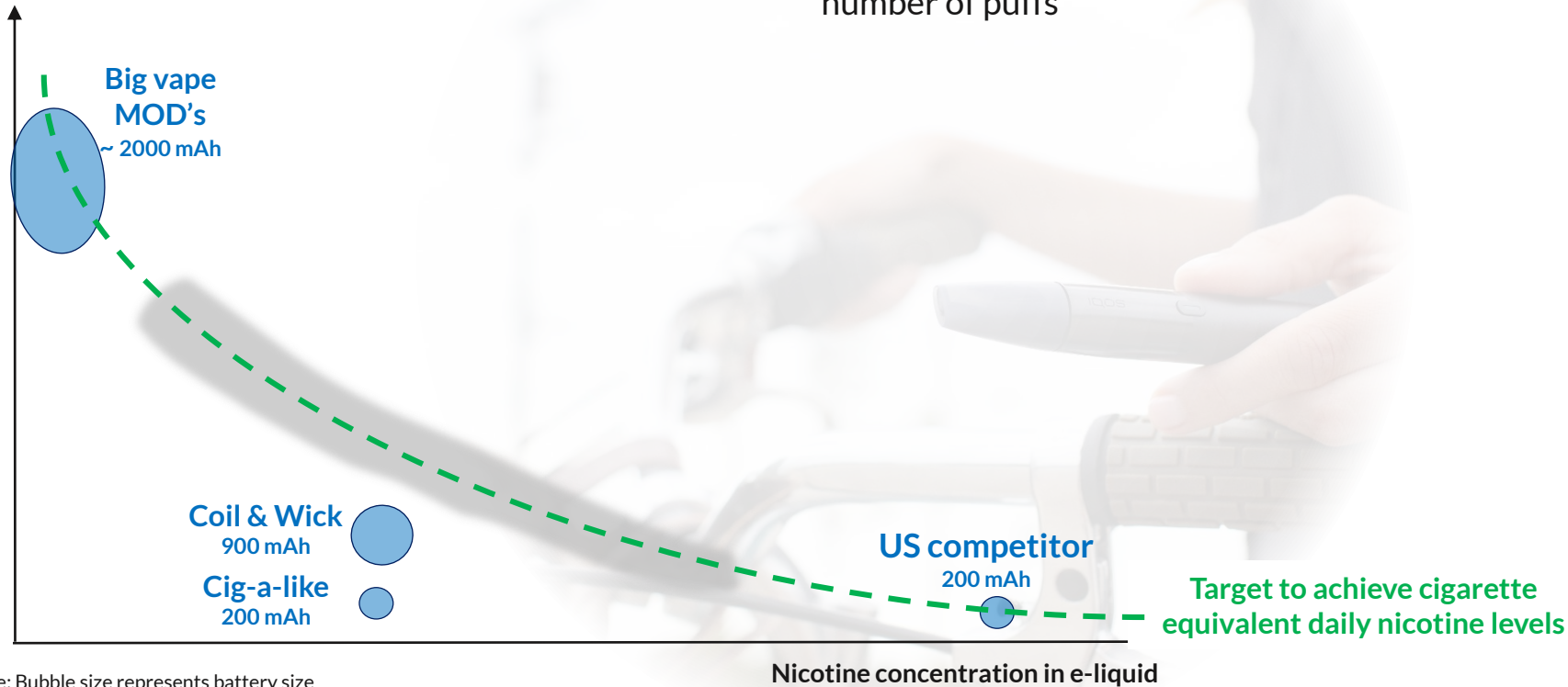
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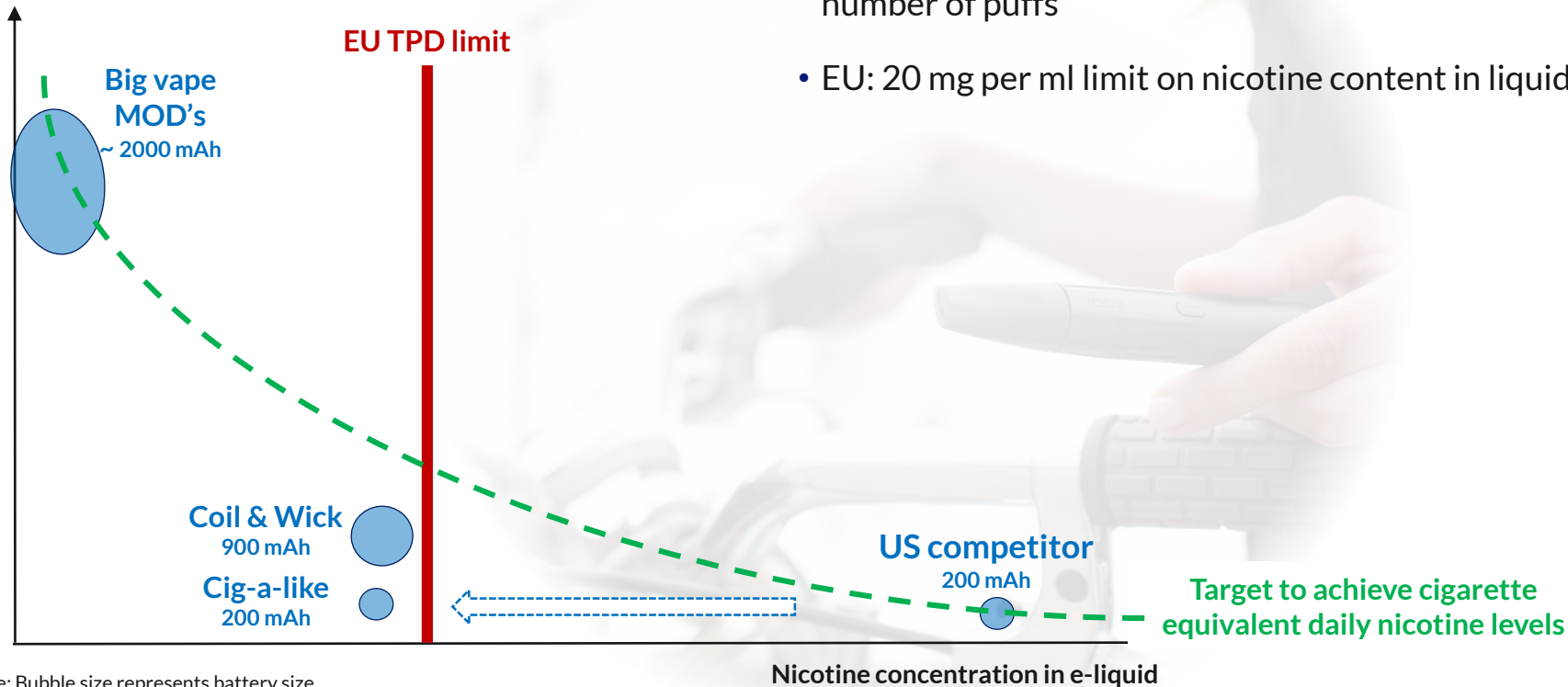
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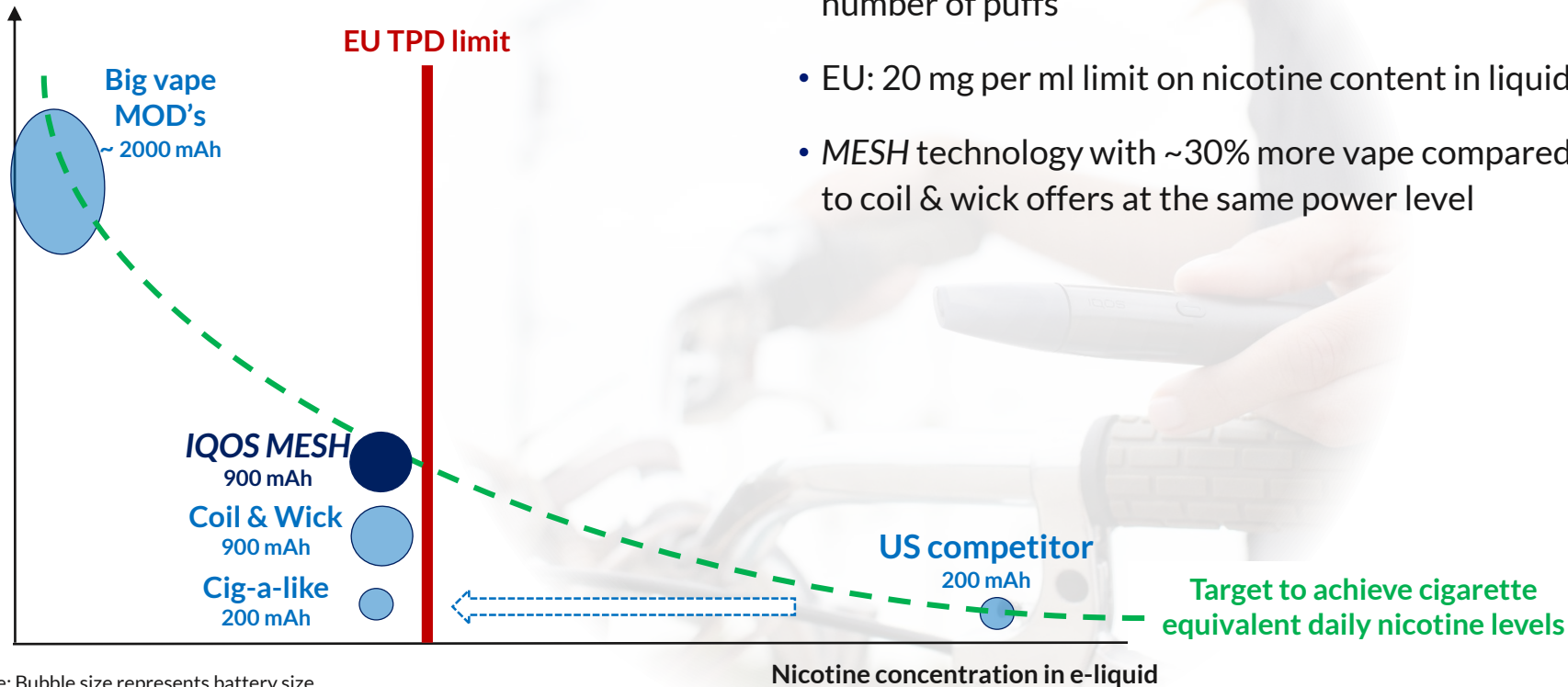
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- EU: 20 mg per ml limit on nicotine content in liquid

Note: Bubble size represents battery size

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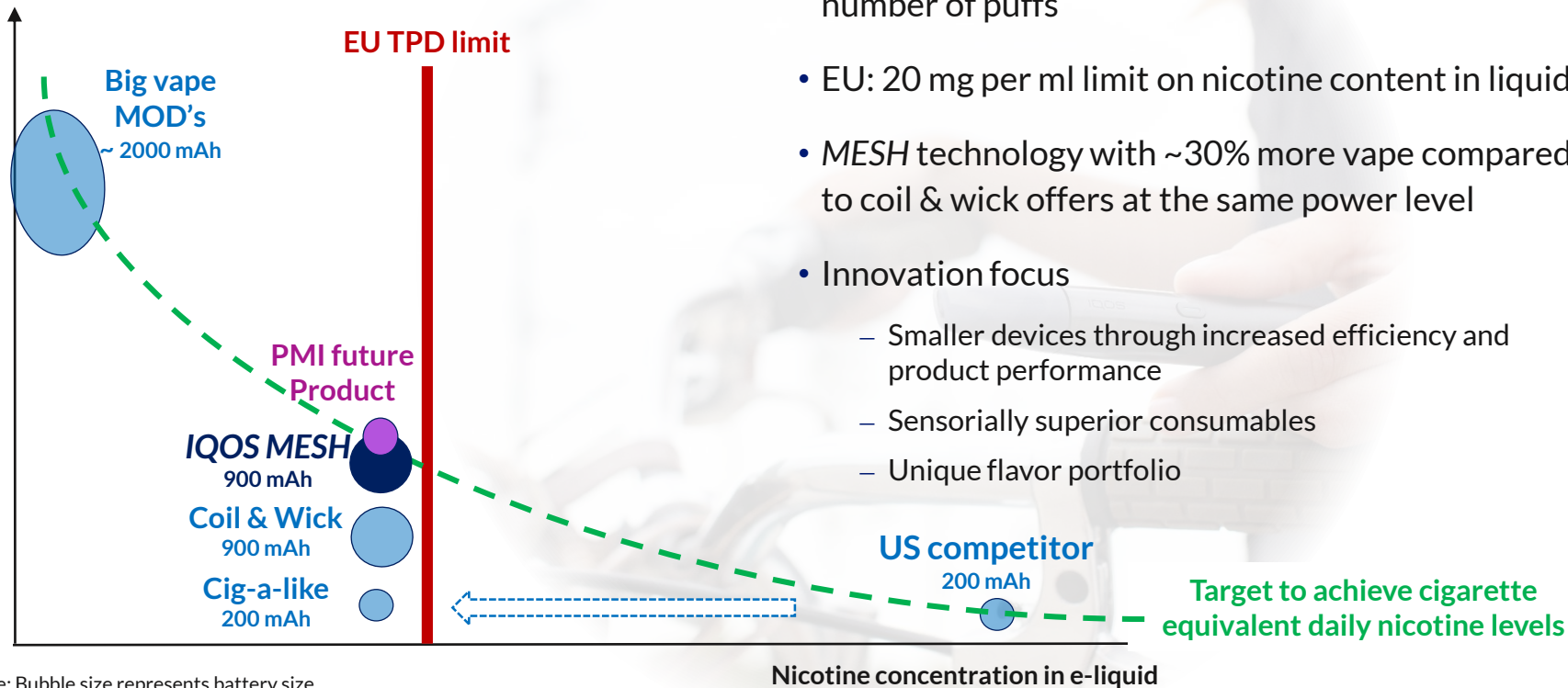
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- *MESH* technology with ~30% more vape compared to coil & wick offers at the same power level

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- Balancing device size, nicotine concentration and number of puffs
- EU: 20 mg per ml limit on nicotine content in liquid
- *MESH* technology with ~30% more vape compared to coil & wick offers at the same power level
- Innovation focus
  - Smaller devices through increased efficiency and product performance
  - Sensorially superior consumables
  - Unique flavor portfolio

Note: Bubble size represents battery size

Source: PMI Research & Development, for illustration purpose only

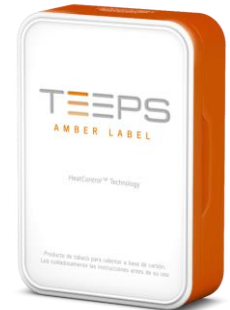
# Potential of Platforms 3 and 2

## Platform 3 (STEEM)

- Unique innovative product proposition
- Advanced novel nicotine salt technology without vaping clouds
- Seamless lifestyle integration
  - No electronics
  - Simple
  - Sensorially satisfying
  - No smell and no vaping cloud

## Platform 2 (TEEPS)

- Scientific assessment:
  - Reduced formation and reduced exposure results comparable to Platform 1
- Dominican Republic pilot confirms strong potential:
  - Similar ritual to a cigarette
  - Hygiene
  - Convenience



# IQOS Platform 1: The Journey Ahead

**A Journey of a  
Thousand Miles Begins  
With a Single Step**

**- Lao Tzu**

# Platform 1: Progressive New Product Introductions



Nagoya and Milan Pilots  
(2014)



2016

## Product Reliability and Improvements

- Aesthetics
- Automatic blade cleaning
- Easier holder insertion



2017

## Product Reliability and Improvements

- Aesthetics
- Reinforced opening
- Faster charging of holder
- Bluetooth connectivity
- Improved user interface
- Utility accessories
- Mobile App



2018 onwards

## Continued Innovation

- New design language
- More robust (*ProtectPlus™*)
- Faster charging of holder
- Sequential heating
- More intuitive
- Portfolio of accessories
- Compact
- Personalization

Base device



# Platform 1: Expanded Heated Tobacco Unit Variants



# Ecosystem of Lifestyle Experiences



## Device



## Brand Retail, PoS & E-commerce



## Customer Care & Interaction



## Portfolio of New Generation Accessories

On the go



In the car



At home



At work





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Video (approximately 90 seconds)

# Summary

- IQOS will lead the transformation of adult smokers out of combustion
- Significant category potential demonstrated by IQOS' unrivaled conversion rates
- We will continue to build consumer comprehension of relevant benefits and seek regulatory understanding and support
- Rock solid foundation and infrastructure established to enable continued innovation across platforms
- PMI "innovation machine" allows us to meet adult consumers' evolving expectations at speed and with uncompromising quality
- IQOS 3 and IQOS 3 Multi will redefine adult consumers' expectations of the category
- A strong portfolio and innovation pipeline will support sustainable growth
- We are committed to deliver better life solutions for adult smokers



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