

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)



1990-98



Middle of 1990s



2000-04

Years of development



Year of commercialization

1998

Accord

in the U.S. (Richmond, Virginia)

2002

Accord

in the U.S. (Richmond, Virginia)

2006

Heatbar

in Australia, Germany and Switzerland



1999

Oasis

in Japan (Osaka)

Oasis

in Japan (Osaka, Kyoto, Kobe, and Nara)

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.

The EHCSS Series K was more sensitive in puff detection and activation, and included a superior rechargeable battery.

Modifications to the cigarette such as a highly activated carbon filter was introduced.

TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)



2007-09



2009-11



2011-13



2014-15



2016-17



2017-18



2017-18



2019



Several years



2014

IQOS 2.2

Pilot launch in Milan (Italy) and Nagoya (Japan). In 2015 in Japan and Italy, as well as in cities in Portugal, Romania, Russia and Switzerland.

2016

IQOS 2.4

The device ergonomics has been improved and the design has been developed for a **large-scale manufacturing**.

2018

IQOS 2.4 PLUS

Many **improvements** have been introduced, amongst them the **holder vibration** to indicate the beginning or the end of the experience.

2018

IQOS 3

The ergonomics and design have been changed with the introduction of a **buttonless side opening**.

Robustness and device **reliability** have been ameliorated, and the **battery lifetime** duplicated.

2018

IQOS 3 MULTI

An **integrated 1-part** pocket size device, providing 10 experiences with one charge.

2019

IQOS 3 DUO

The technology has been upgraded to provide **two consecutive uses** without the need to recharge the holder in between tobacco sticks.

Fastest charging of the holder compared to previous versions.

2021

IQOS ILUMA*

It uses the innovative bladeless **SMARTCORE INDUCTION SYSTEM™**: the induction activates the heating element inside the specially designed tobacco stick.

Tobacco is heated not burned with improved draw and taste consistency from stick to stick, without the need for cleaning and providing two consecutive uses without recharging the holder.

*Prime version

Images are not to scale.



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)

TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)

Years of development



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Middle of 1990s



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2011-13



2014-15



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2017-18



2017-18



2019



Several years

Images are not to scale.

KEY INFO

HEATING TECHNOLOGY

BATTERY



A flow sensor initiated the heating circle for each of the blades as the puff was detected.



Increased quantity of aerosol delivered due to a bigger blade.

x8

Experience limited to 8 puffs per cigarette.



Introduction of two-piece system, a holder and a charger. Significant holder size reduction.



1st industrial design prototype for consumer research.



Improved consistency of sensory experience.



New industrial design for commercialization.



Improved sensory perception, satisfaction, and puff-to-puff consistency.



Introduction of the cleaning kit.



Ergonomics improved and product designed for a large-scale manufacturing.



Improved and new cleaning kit.



Introduction of the holder vibration indicating the beginning or the end of the experience.



"Soft" latch mechanism, USB micro B on the charger.



Bluetooth enabling pairing with Android smartphones.



Autocleaning process of the holder introduced.

10-50°C

Operating temperature range for the device.

6 min or 14 puffs

Consistent puffing ensured and usage target to 6 minutes or 14 puffs.



New design with buttonless side opening, orientation-free insertion and magnetic clipping for the holder.



Orientation-free USB-C for easy charging.



From this device onwards, introduction of the ProtectPlus™ system
- robust outer shell
- new side door opening
- redesigned electronic chamber of the holder.



Autocleaning after every 15-25 experiences.



Portable and lightweight, its slender form is intended to fit into pockets and hand.



Orientation-free USB-C design for easy charging, automatic lid closure and magnetic cap.



Vibrations can be customized via the Connect App.



Daylight LED illumination.



Autocleaning after every 10-20 experiences.

0-50°C

Operating temperature range for the device.

x10

Battery size, form and inner components changed, more energy storage, x10 consecutive experiences before requiring recharging through connection to power.



Compact and ergonomic design.



Near-field Communication to access web for easy registration.



Connectivity: Bluetooth, passive.



Double LED indicator.



"Haptic feedback" tells how long is left of the tobacco experience.



No cleaning needed.

x2 - x20

Holder-Charger: Experiences without recharging.

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ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)

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Years of development



1990-98



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2017-18

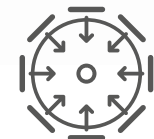


2019

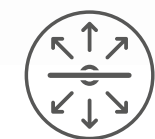


Several years

Images are not to scale.



External Heating +



Internal Heating +



SMARTCORE INDUCTION SYSTEM™



Specially designed cigarette



Cigarette design improved to provide a better smoking experience.



Addition of highly activated carbon filter



Tobacco plug made from tobacco leaves, which are ground and reconstituted into tobacco sheets, called cast leaf. These sheets are then crimped and made into a tobacco plug.



Tobacco plug made of the cast leaf tobacco material with a **susceptor** (or metal strip) incorporated in the center of the plug.

x8

The heater was equipped with an array of eight blades made from an iron-aluminide alloy, one blade for each of the eight possible puffs per cigarette.

3 mm

The heating blade measured 3 mm.

5 mm

A new heating blade design, measuring 5 mm.

4 x 12 mm

Innovative **metal heating element** of approximately 4 x 12 mm placed inside the tobacco stick.



A flow sensor initiated the heating circle of each of the 8 blades as the puff was detected.



When the tobacco stick is inserted into the holder, the **heating blade is embedded in the tobacco**. Once turned on, the heating blade heats the tobacco while also monitoring its temperature to ensure consistent taste and avoid burning.



When the tobacco stick is inside the holder and the system is turned on, an electric current flows through the coil in the holder. This current creates a **magnetic field** that heats up the heating element inside the tobacco plug, which in turn heats the surrounding tobacco.



With this design, the tobacco reached a peak temperature of approximately 500°C.



Tobacco heated within a precisely controlled temperature range to avoid burning it.

KEY INFO

USER EXPERIENCE



BATTERY

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)

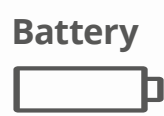


TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)



Images are not to scale.

KEY INFO



Battery

USER EXPERIENCE



HEATING TECHNOLOGY



x1

Sufficient for usage of one tobacco stick before needing recharging in the charger.



Introduction of a **new battery** for the charger.

x10

Consecutive experiences. Battery size, form and inner components changed, more energy storage.

x2

Consecutive experiences without recharging the holder.

Battery Lifetime



Up to approx. **5000** sessions

Up to approx. **7300** sessions

From this version onwards, up to approx. **14600** sessions

Charging Time*



Holder:
4:10 min
Charger:
90 min

Holder:
3:30 min
Charger:
120 min

Average
75 min

Holder:
Av. 1:50 min, 0-1 use
Av. 3:25 min, 1-2 use
Av. 5:15 min, 0-2 use
Charger:
120 min

Holder:
Av. 1:50 min, 0-1 use
Av. 3:25 min, 1-2 use
Av. 5:15 min, 0-2 use
Av. 10:05 min, full charge first time
Charger:
120 min

Battery Capacity



2900 mAh
nominal

2900 mAh
nominal

830 mAh
nominal

2900 mAh
nominal

2900 mAh
nominal

*Subject to battery performance degradation and conditions of use.

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)



ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)

The EHCSS consisted of a specially designed cigarette containing tobacco rolled into a tobacco mat, which was wrapped over with a cigarette paper. This special cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.

Years of development
Year of commercialization

1999
Oasis
in Japan (Osaka)

Oasis
in Japan (Osaka, Kyoto, Kobe, and Nara)

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.

The EHCSS Series K was more sensitive in puff detection and activation, and included a superior rechargeable battery.

Modifications to the cigarette such as a highly activated carbon filter was introduced.

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2011-13



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Pilot launch in Milan (Italy) and Nagoya (Japan). In 2015 in Japan and Italy, as well as in cities in Portugal, Romania, Russia and Switzerland.

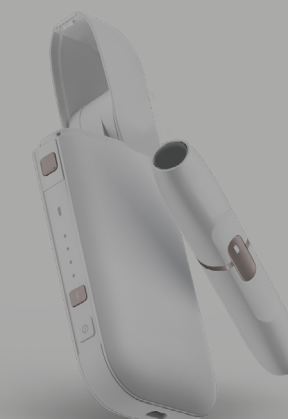


2014-15



2016
IQOS 2.4

The device ergonomics has been improved and the design has been developed for a **large-scale manufacturing**.



2016-17



2018
IQOS 2.4 PLUS

Many **improvements** have been introduced, amongst them the **holder vibration** to indicate the beginning or the end of the experience.



2017-18



2018
IQOS 3

The ergonomics and design have been changed with the introduction of a **buttonless side opening**.

Robustness and device **reliability** have been ameliorated, and the **battery lifetime** duplicated.

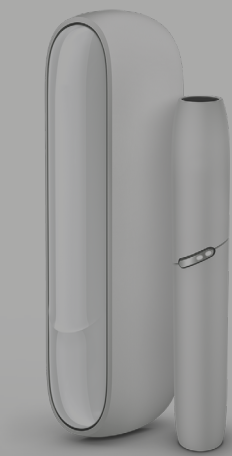


2017-18



2018
IQOS 3 MULTI

An **integrated 1-part** pocket size device, providing 10 experiences with one charge.



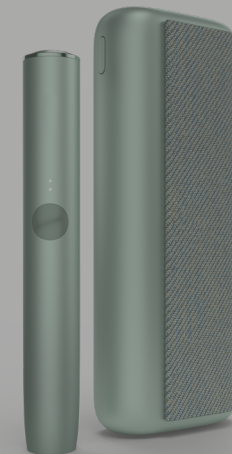
2019



2019
IQOS 3 DUO

The technology has been upgraded to provide **two consecutive uses** without the need to recharge the holder in between tobacco sticks.

Fastest charging of the holder compared to previous versions.



Several years



2021
IQOS ILUMA*

It uses the innovative bladeless **SMARTCORE INDUCTION SYSTEM™**: the induction activates the heating element inside the specially designed tobacco stick.

Tobacco is heated not burned with improved draw and taste consistency from stick to stick, without the need for cleaning and providing two consecutive uses without recharging the holder.

*Prime version

Images are not to scale.



USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)



1990-98



Middle of 1990s



2000-04

Years of development



Year of commercialization

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2002

2006

Accord

in the U.S. (Richmond, Virginia)

Accord

in the U.S. (Richmond, Virginia)

Heatbar

in Australia, Germany and Switzerland

1999
Oasis

in Japan (Osaka)

Oasis

in Japan (Osaka, Kyoto, Kobe, and Nara)

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.

The EHCSS Series K was more sensitive in puff detection and activation, and included a superior rechargeable battery.

Modifications to the cigarette such as a highly activated carbon filter was introduced.

TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)



2007-09



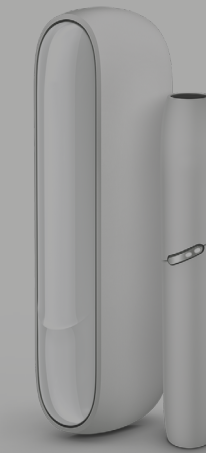
2009-11



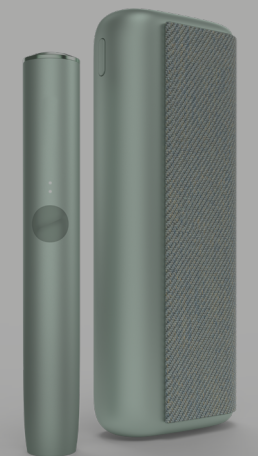
2011



2017-18



2019



Several years

TOBACCO HEATING SYSTEM (THS)

The Tobacco Heating System (THS) is a specially designed product that heats a tobacco stick without burning it.



2014

IQOS 2.2

Pilot launch in Milan (Italy) and Nagoya (Japan). In 2015 in Japan and Italy, as well as in cities in Portugal, Romania, Russia and Switzerland.

2016

IQOS 2.4

The device ergonomics has been improved and the design has been developed for a **large-scale manufacturing**.

2018

IQOS 2.4 PLUS

Many **improvements** have been introduced, amongst them the **holder vibration** to indicate the beginning or the end of the experience.

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IQOS 3

The ergonomics and design have been changed with the introduction of a **buttonless side opening**.

Robustness and device **reliability** have been ameliorated, and the **battery lifetime** duplicated.



2018

IQOS 3 MULTI

An **integrated 1-part** pocket size device, providing 10 experiences with one charge.



2019

IQOS 3 DUO

The technology has been upgraded to provide **two consecutive uses** without the need to recharge the holder in between tobacco sticks.

Fastest charging of the holder compared to previous versions.



2021

IQOS ILUMA *

It uses the innovative bladeless **SMARTCORE INDUCTION SYSTEM™**: the induction activates the heating element inside the specially designed tobacco stick.

Tobacco is heated not burned with improved draw and taste consistency from stick to stick, without the need for cleaning and providing two consecutive uses without recharging the holder.

*Prime version

Images are not to scale.



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY



ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS) SERIES E*

1998 Commercialized as

1999 Commercialized as

Accord Oasis

in the U.S. (Richmond, Virginia)

in Japan (Osaka)

Years of development

Year of commercialization



Key Info

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.



User Experience

- A flow sensor initiated the heating circle for each of the blades as the puff was detected.
- The design allowed for greater control of the available heat resulting in lower temperatures and less combustion as compared to combustible lit-end cigarettes.
- Experience limited to 8 puffs per cigarette.



Heating Technology

- External heating.
- The heater was equipped with an array of eight blades made from an iron-aluminide alloy, one blade for each of the eight possible puffs per cigarette.
- With this design, the tobacco reached a peak temperature of approximately 500 °C.



Battery



YEARS OF DEVELOPMENT
1990 - 1998

*Name in regulatory submissions



USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



PH

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS) SERIES JLI*

2002 Commercialized as

Accord Oasis

in the U.S. (Richmond, Virginia)

in Japan (Osaka, Kyoto, Kobe, and Nara)

Years of development

Year of commercialization



Key Info

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.



User Experience

- A flow sensor initiated the heating cycle for each of the blades as the puff was detected.
- The design allowed for greater control of the available heat resulting in lower temperatures and less combustion as compared to lit-end cigarettes.
- Experience limited to 8 puffs per cigarette.



Heating Technology

- External heating.
- The heater was equipped with an array of eight blades made from an iron-aluminide alloy, one blade for each of the eight possible puffs per cigarette.
- With this design, the tobacco reached a peak temperature of approximately 500 °C.



Battery



YEARS OF DEVELOPMENT

Middle of 1990s

*Name in regulatory submissions



USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS) SERIES K6 (THS 1.0)*

2006 Commercialized as

Heatbar

in Australia, Germany and Switzerland

Years of development

Year of commercialization



Key Info

A specially designed cigarette was inserted into a battery-powered heater equipped with an array of eight blades that heated the tobacco and minimized burning during puffing.

The EHCSS Series K was more sensitive in puff detection and activation, and included a superior rechargeable battery.

Modifications to the cigarette such as a highly activated carbon filter was introduced.



Battery



User Experience

- A flow sensor initiated the heating circle for each of the blades as the puff was detected.
- The design allowed for greater control of the available heat resulting in lower temperatures and less combustion as compared to lit-end cigarettes.
- Flavor, filtration, airflow and heat control improved to further reduce formation of undesirable pyrolysis and combustion products.
- Increased quantity of aerosol delivered due to a bigger blade.
- Experience limited to 8 puffs per cigarette.



Heating Technology

- External heating.
- The heater was equipped with an array of eight blades made from an iron-aluminide alloy, one blade for each of the eight possible puffs per cigarette.
- With this design, the tobacco reached a peak temperature of approximately 500 °C.



YEARS OF DEVELOPMENT
2000 - 2004

*Name in regulatory submissions



USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



TOBACCO HEATING SYSTEM (THS) 2.0*

THS 2.0

Years of development

Year of commercialization



Key Info

This was the first two-piece lab prototype with internal tobacco stick heating system and temperature control of the heating blade.



User Experience

- Introduction of two-piece system, a holder and a charger. Significant holder size reduction.
- Revised tobacco stick:
 - shredded cast leaf tobacco processing
 - new filter element.
- Experience limited to 6 minutes (continuous heating).



Heating Technology

- Internal heating.
- The heating blade measured 3 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- Battery lifetime: up to 5000 sessions.



YEARS OF DEVELOPMENT
2007 - 2009

*Name in regulatory submissions



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY



TOBACCO HEATING SYSTEM (THS) 2.1*

THS 2.1

Years of development

Year of commercialization



Key Info

This was the first industrial design prototype developed for consumer research.



User Experience

- 1st industrial design prototype for consumer research. Improved consistency of sensory experience.
- THS 2.1 (2009-11) tobacco plug manufacturing: crimped tobacco.
- Experience limited to 6 minutes (continuous heating).



Heating Technology

- Internal heating.
- The heating blade measured 3 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- Battery lifetime: up to 5000 sessions.



YEARS OF DEVELOPMENT
2009 - 2011

*Name in regulatory submissions



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2014 Commercialized as

IQOS 2.2

Pilot launch in Milan (Italy) and Nagoya (Japan). In 2015 in Japan and Italy, as well as in cities in Portugal, Romania, Russia and Switzerland.

Years of development

Year of commercialization



Key Info

A new industrial design for commercialization has been introduced.

A new heating blade design has been introduced, used from this version onwards.



User Experience

- Improved sensory perception, satisfaction, and puff-to-puff consistency.
- Introduction of the cleaning kit.
- Consistent puffing ensured and usage target to 6 minutes or 14 puffs.



Heating Technology

- Internal heating.
- A new heating blade design, measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- Battery lifetime: up to 7300 sessions.



YEARS OF DEVELOPMENT
2011 - 2013

*Name in regulatory submissions

USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2016 Commercialized as

IQOS 2.4

Years of development

Year of commercialization



Key Info

The device ergonomics has been improved and the design has been developed for a large-scale manufacturing.



User Experience

- Ergonomics improved and product designed for a large-scale manufacturing.
- Improved and new cleaning kit.
- Consistent puffing ensured and usage target to 6 minutes or 14 puffs.



Heating Technology

- Internal heating.
- Heating blade design measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- From this device onwards, introduction of a new battery for the charger.
- **Battery lifetime:** up to 7300 sessions.
- **Charging time**:**
Holder: 4:10 min
Charger: 90 min
- **Battery capacity:** 2900 mAh nominal.

* Name in regulatory submissions
** Subject to battery performance degradation and conditions of use



YEARS OF DEVELOPMENT
2014 - 2015

USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2018 Commercialized as

IQOS 2.4 PLUS

Years of development

Year of commercialization



Key Info

Many improvements have been introduced, amongst them the holder vibration to indicate the beginning or the end of the experience.



User Experience

- Introduction of the holder vibration indicating the beginning or the end of the experience.
- "Soft" latch mechanism, USB micro B on the charger.
- Bluetooth enabling pairing with Android smartphones.
- Autocleaning process of the holder introduced.
- Operating temperature range for the device: 10-50 °C.



Heating Technology

- Internal heating.
- Heating blade design measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- **Battery lifetime:** up to 7300 sessions.
- **Charging time**:**
Holder: 4:10 min
Charger: 90 min
- **Battery capacity:** 2900 mAh nominal.



YEARS OF DEVELOPMENT

2016 - 2017

* Name in regulatory submissions
 ** Subject to battery performance degradation and conditions of use



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2018 Commercialized as

IQOS 3



Key Info

The ergonomics and design have been changed with the introduction of a buttonless side opening. Robustness and device reliability have been ameliorated, and the battery lifetime duplicated.



User Experience

- New design with buttonless side opening, orientation-free insertion and magnetic clipping for the holder.
- Orientation-free USB-C for easy charging.
- From this device onwards, introduction of the ProtectPlus™ system
 - robust outer shell
 - new side door opening
 - redesigned electronic chamber of the holder.
- Autocleaning after every 15-25 experiences.
- Operating temperature range for the device: 0-50 °C.



Heating Technology

- Internal heating.
- Heating blade design measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Sufficient for usage of one tobacco stick before needing recharging in the charger.
- **Battery lifetime:** up to 14600 sessions.
- **Charging time**:**
Holder: 3:30 min
Charger: 120 min
- **Battery capacity:** 2900 mAh nominal.

* Name in regulatory submissions
 ** Subject to battery performance degradation and conditions of use



YEARS OF DEVELOPMENT
2017 - 2018

Years of development

Year of commercialization



USER EXPERIENCE



HEATING TECHNOLOGY



BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2018 Commercialized as

IQOS 3 MULTI

Years of development

Year of commercialization



Key Info

An integrated 1-part pocket size device, providing 10 experiences with one charge.



User Experience

- Portable and lightweight, its slender form is intended to fit into pockets and hand.
- Orientation-free USB-C design for easy charging, lid closure and magnetic cap.
- Vibrations can be customized via the Connect App.
- Daylight LED illumination.
- Autocleaning after every 10-20 experiences.
- Operating temperature range for the device: 0-50 °C.
- Battery size, form and inner components changed, more energy storage, 10 consecutive experiences.



Heating Technology

- Internal heating.
- Heating blade design measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Single battery sufficient for 10 consecutive experiences before requiring recharging through connection to power.
- **Battery lifetime:** up to 14600 sessions
- **Charging time**:** Average: 75 min
- **Battery capacity:** 830 mAh nominal.

* Name in regulatory submissions
** Subject to battery performance degradation and conditions of use



YEARS OF DEVELOPMENT
2017 - 2018

USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



TOBACCO HEATING SYSTEM (THS) 2.2*

2019 Commercialized as

IQOS 3 DUO

Years of development



Key Info

The technology has been upgraded to provide two consecutive uses without the need to recharge the holder in between tobacco sticks.

Faster charging of the holder compared to previous versions.



User Experience

- Compact and ergonomic design.
- Near-field Communication to access web for easy registration.
- Connectivity: Bluetooth, passive.
- Double LED indicator.
- Operating temperature range for the device: 0-50 °C.
- Holder: 2 experiences without recharging.
- Charger: 20 experiences without recharging.



Heating Technology

- Internal heating.
- Heating blade design measuring 5 mm.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- Battery has increased charging current and more capacity to allow for 2 consecutive experiences.
- **Battery lifetime:** up to 14600 sessions.
- **Charging time**:**
Av. 1:50 min, 0-1 use
Av. 3:25 min, 1-2 use
Av. 5:15 min, 0-2 use
- **Charger:** 120 min
- **Battery capacity:** 2900 mAh nominal.

* Name in regulatory submissions
** Subject to battery performance degradation and conditions of use



YEAR OF DEVELOPMENT
2019

USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY



TOBACCO HEATING SYSTEM (THS) 3.0*

2021 Commercialized as

IQOS ILUMA

Years of development

Year of commercialization



Key Info

It uses the innovative bladeless SMARTCORE INDUCTION SYSTEM™: the induction activates the heating element inside the specially designed tobacco stick. Tobacco is heated not burned with improved draw and taste consistency from stick to stick, without cleaning and providing two consecutive uses without recharging the holder.



User Experience

- New design with a wrap around flap.
- Auto-start: tobacco stick detected when inserted and device automatically turns on.
- Accelerometer tells when the device is used or not and turns the device off if needed.
- "Haptic feedback" tells how long is left of the tobacco experience.
- Holder: 2 experiences without recharging.
- Charger: 20 experiences without recharging.



Heating Technology

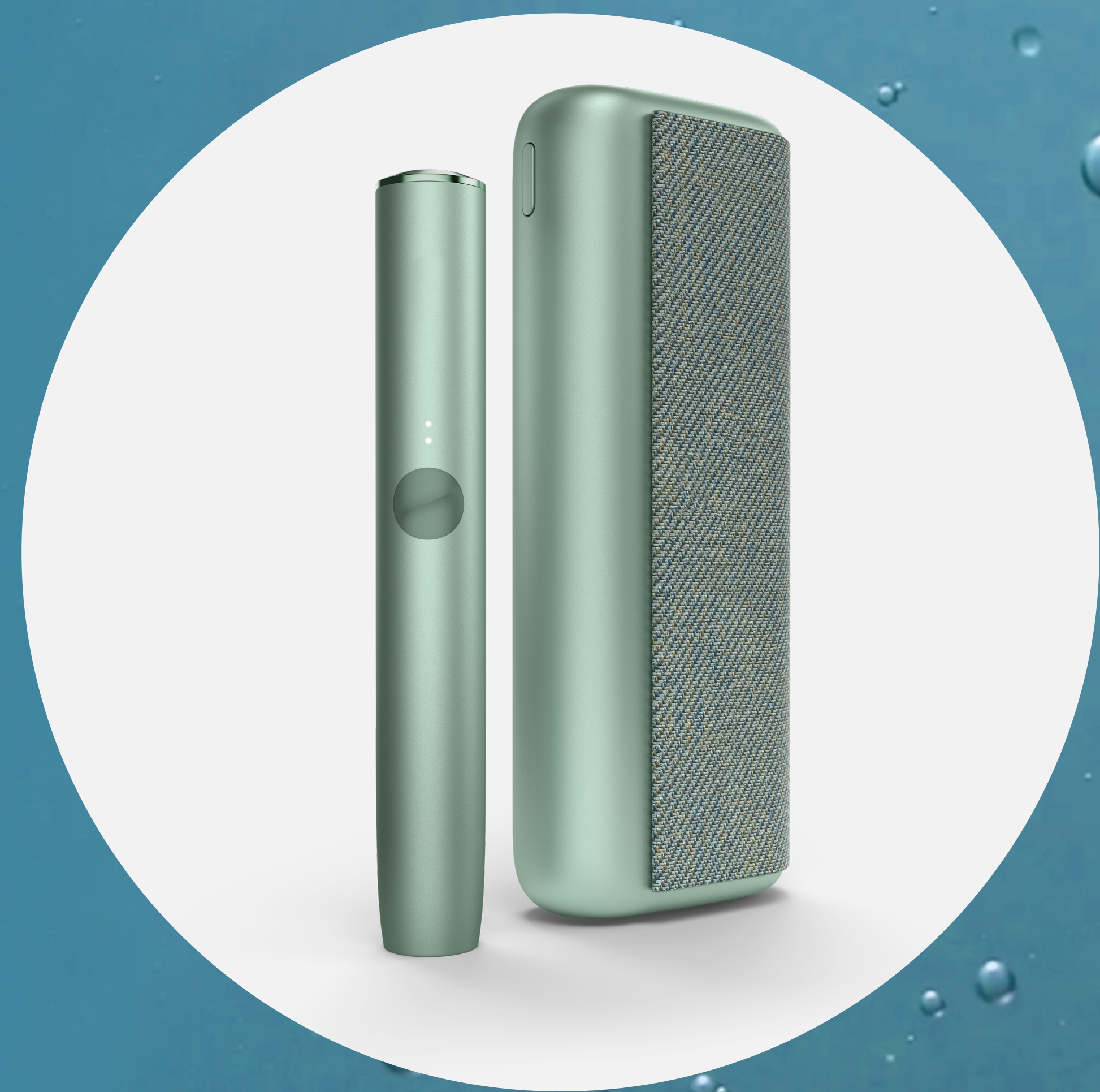
- Internal heating.
- Bladeless SMARTCORE INDUCTION SYSTEM™: the induction activates the heating element inside the specially designed tobacco stick.
- Tobacco heated within a precisely controlled temperature range to avoid burning it.



Battery

- **Battery lifetime:** up to 14600 sessions.
- **Charging time**:**
Av. 1:50 min, 0-1 use
Av. 3:25 min, 1-2 use
Av. 5:15 min, 0-2 use
Av. 10:05 min, full charge first time
- **Charger:** 120 min
- **Battery capacity:** 2900 mAh nominal.

* Name in regulatory submissions
** Subject to battery performance degradation and conditions of use



YEAR OF DEVELOPMENT
2020

USER EXPERIENCE

HEATING TECHNOLOGY

BATTERY

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)

TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)



EXTERNAL HEATING

A specifically designed cigarette containing conventional tobacco rolled into a tobacco mat was wrapped over with a cigarette paper.

This special cigarette was inserted into a battery-powered heater equipped with an array of eight blades.



Accord



HeatBar



Iron-Aluminide Blades

A flow sensor initiated the heating circle of each of the 8 blades as the puff was detected.

With this design, the tobacco reached a peak temperature of approximately 500°C.



11-13

2014-15

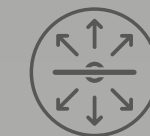
2016-17

2017-18

2017-18

2019

Several years



Internal Heating +



Tobacco plug made from tobacco leaves, which are ground and reconstituted into tobacco sheets, called cast leaf. These sheets are then crimped and made into a tobacco plug.

5 mm

A new heating blade design, measuring 5 mm.



When the tobacco stick is inserted into the holder, the heating blade is embedded in the tobacco. Once turned on, the heating blade heats the tobacco while also monitoring its temperature to ensure consistent taste and avoid burning.



Tobacco heated within a precisely controlled temperature range to avoid burning it.



SMARTCORE INDUCTION SYSTEM™



Tobacco plug made of the cast leaf tobacco material with a susceptor (or metal strip) incorporated in the center of the plug.

4 x 12 mm

Innovative metal heating element of approximately 4 x 12 mm placed inside the tobacco stick.



When the tobacco stick is inside the holder and the system is turned on, an electric current flows through the coil in the holder. This current creates a magnetic field that heats up the heating element inside the tobacco plug, which in turn heats the surrounding tobacco.

Images are not to scale.

Years of development

KEY INFO

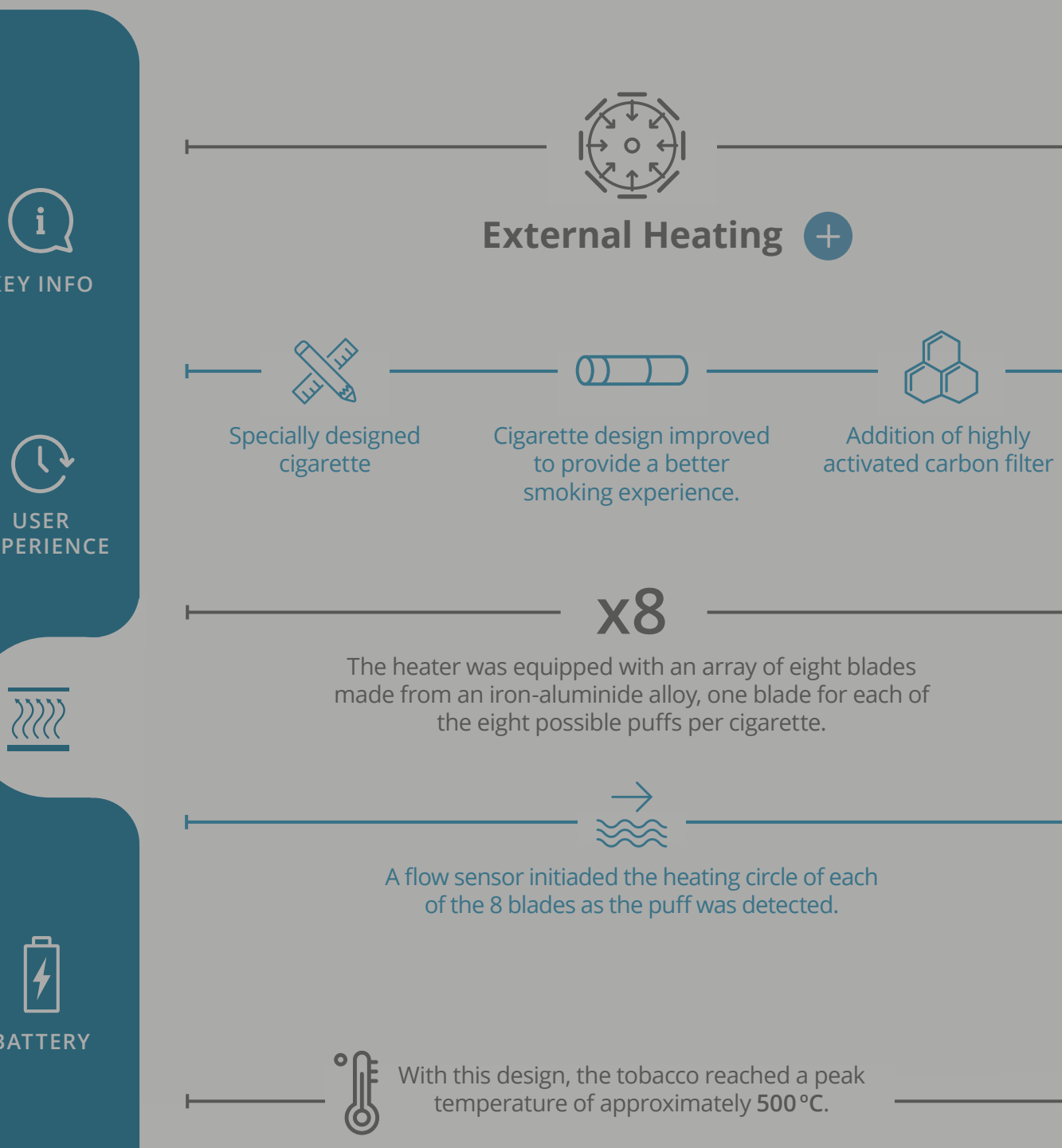
USER EXPERIENCE



BATTERY

OVER 30 YEARS OF INNOVATION

ELECTRICALLY HEATED CIGARETTE SMOKING SYSTEM (EHCSS)



TOBACCO HEATING SYSTEM (THS) IS THE COMBINATION OF AN ELECTRICALLY HEATED TOBACCO PRODUCT (EHTP) AND A TOBACCO HEATING DEVICE (THD)



INTERNAL HEATING


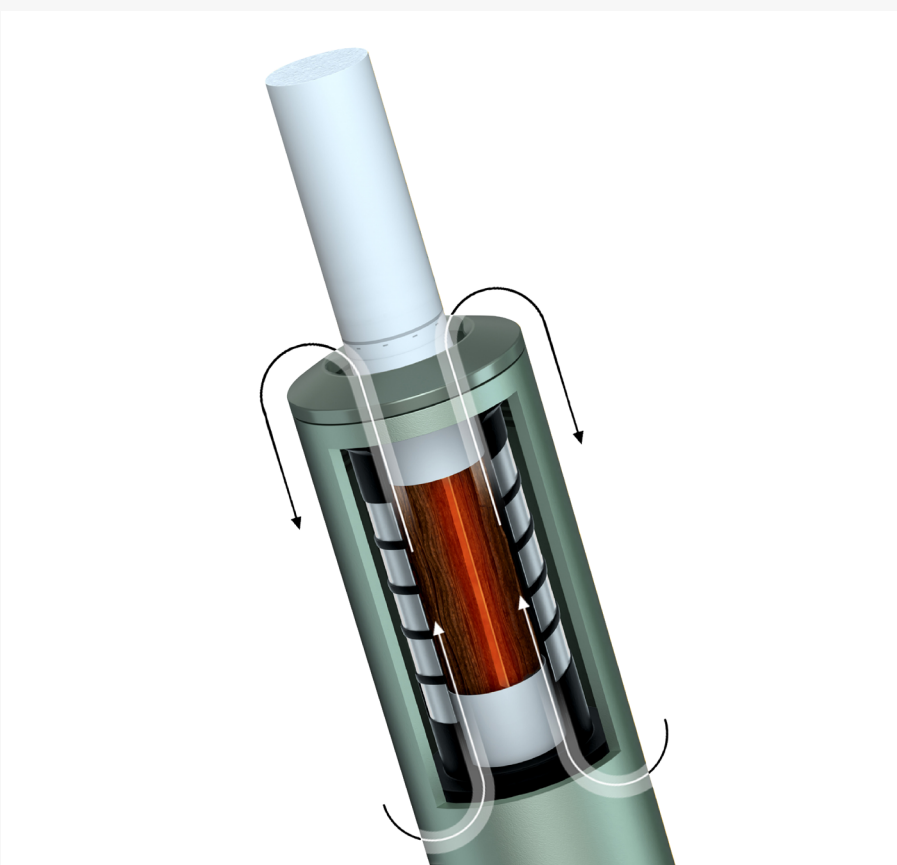
The Tobacco Heating System (THS) is a specially designed product that heats a tobacco stick without burning it. This can be achieved via:

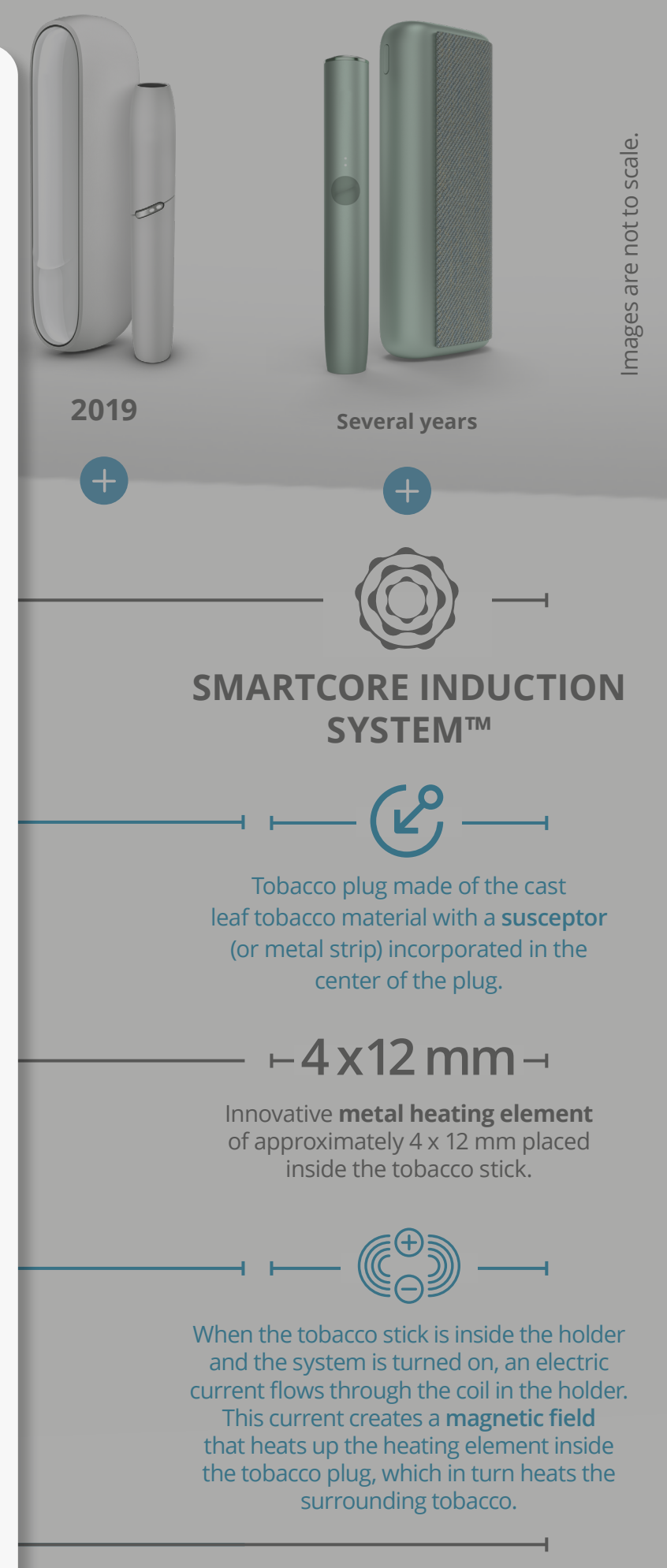
BLADE

A heating blade that heats the tobacco plug in the consumable radially outwards from the center of the tobacco plug.

INDUCTION

The induction THS uses the same internal tobacco heating principle as the blade THS, but without the blade. This means there is no direct contact between the electronics and the heating element. The tobacco is heated from within the tobacco stick through energy transfer to a heating element via a magnetic field.



Images are not to scale.

KEY INFO

USER EXPERIENCE



BATTERY