Imperial Brands is a dynamic fast moving consumer goods company borne out of a strong tobacco heritage.

We have continually evolved to embrace changing market dynamics and develop new consumer experiences.

We are currently witnessing the biggest consumer shift in our history, with millions of smokers around the world choosing to switch to less harmful Next Generation Products (NGP).

As a result, we are increasingly focusing our attention on developing and expanding our NGP portfolio. We want to reduce the health impact of tobacco by encouraging smokers to switch to products with lower health risks.

Read on to find out how we’re creating something better for the world’s smokers.
AN EXCITING FUTURE

We have a thriving and expanding Next Generation Products (NGP) business that’s committed to creating something better for the world’s smokers.

That means offering smokers less harmful alternatives to cigarettes – a new range of products that have the potential to reduce smoking-related disease.

Our focus on researching, developing and commercialising products that reduce harm has created a strong track record in science and NGP.

In the 1950s Imperial opened its first scientific laboratory and played a leading role in developing new equipment and techniques for analysing tobacco and smoke. This paved the way for decades of research into tobacco and non-tobacco products.

Along the way we have built our knowledge and expertise, and developed an enduring relationship with the original inventor of the e-cigarette, Hon Lik.

Our NGP subsidiary business Fontem Ventures acquired Mr Hon’s global patent portfolio for vapour technologies in 2013 and welcomed him to the business as the head of our Research and Development team in China – a position he still holds to this day.

The acquisition of the pioneering blu vapour brand two years later was another important milestone. blu has since become the focal point of our NGP portfolio and is available in an ever-expanding range of formats to maximise its appeal to adult smokers and vapers.

Last year we further strengthened our NGP credentials by acquiring the Nerudia business, substantially enhancing our innovation capabilities, as well as our manufacturing and science expertise.

Vapour is the largest NGP category and offers the greatest potential for long-term sustainable growth.

CREATING SOMETHING BETTER FOR THE WORLD’S SMOKERS
Nerudia is focused on creating a compelling pipeline of innovative products and its entrepreneurial spirit is proving to be a winning addition to our own vibrant culture.

In assembling the right components for success, we have deliberately favoured the vapour (EVP) opportunity as it’s by far the largest NGP category.

With the technology and scientific insights available to us today, we have never been better placed to be able to transition smokers from cigarettes to something better.

By the close of 2018 we will have invested more than £700 million in NGP and we will continue to increase that level of investment to drive innovation, improve the smoker conversion rate and encourage smokers to switch to less harmful alternatives.

Governments, regulators and public health bodies have a key role to play here. It’s essential that NGP are regulated the right way and that consumers understand the benefits they can offer. We need a legislative framework that allows this category to flourish and gives consumers the confidence to trial and ultimately switch to these less harmful products.

The UK is particularly encouraging from a regulatory perspective; for example, Public Health England recently said:

“Vaping poses only a small fraction of the risks of smoking and switching completely from smoking to vaping conveys substantial health benefits over continued smoking. Based on current knowledge, stating that vaping is at least 95 per cent less harmful than smoking remains a good way to communicate the large difference in relative risk unambiguously, so that more smokers are encouraged to make the switch from smoking to vaping.”

I hope you enjoy learning more about our approach to NGP. We’ve made great progress so far and have big plans for the future. I’m confident that over the next few years we will have established NGP as a significant part of the Imperial Brands business.

We have never been better placed to be able to transition consumers from cigarettes to something better.”
We understand society's concerns about the health risks of smoking and recognise that we have an important role to play in reducing the harm caused by cigarettes.

Since establishing our first research and development (R&D) laboratory in the early 1950s, we have invested substantial sums in tobacco research and will continue to do so in the future. We uphold high standards, rigorously testing and analysing our products to ensure we continually build our knowledge and are able to meet our standards of care for consumers.

In recent years we have increasingly focused our innovation and R&D work on Next Generation Products, while further enhancing our capabilities with value creating acquisitions.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tbody>
<tr>
<td>1950s</td>
<td>Established our first R&amp;D laboratory, paving the way for decades of research into understanding our products.</td>
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<tr>
<td>1970s</td>
<td>Partnered with the UK Government's Independent Scientific Committee on Smoking and Health to develop a tobacco substitute called New Smoking Material.</td>
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<td>2005</td>
<td>Acquired 43.5 per cent of the shares in the Swedish snus business Skruf.</td>
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<td>2008</td>
<td>Took full ownership of Skruf after acquiring the remaining shares.</td>
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<td>2012</td>
<td>Set up Fontem Ventures to focus solely on Next Generation Products.</td>
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<tr>
<td>2013</td>
<td>Acquisition of Hon Lik’s global patent portfolio for vapour technologies from Dragonite International Limited.</td>
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<tr>
<td>2014</td>
<td>In the UK Fontem Ventures launches its first e-cigarette brand Puritane.</td>
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<td>2015</td>
<td>Acquired blu, one of the most popular and best-selling vapour brands in the world.</td>
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<td>2017</td>
<td>Acquired the UK-based vapour innovation business Nerudia.</td>
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<td>2017</td>
<td>Began trialling our own heated tobacco products in Asia and Europe.</td>
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<tr>
<td>2018</td>
<td>International roll-out of myblu begins, taking the latest and most advanced version of the brand into significantly more markets.</td>
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<tr>
<td>2018</td>
<td>Fontem Ventures acquires equity stake in Cosmic Fog Vapors, a leading innovator in high quality vapour liquids.</td>
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Cigarettes are a known cause of serious disease in smokers and many countries have stated aims for future generations to be smoke-free. Yet over a billion adults around the world still choose to smoke and will continue to do so well into the future.

NGP – particularly vapour products, which do not contain tobacco – are seen as representing a less harmful alternative to cigarettes, thereby creating a huge global public health opportunity.

Leading authorities like the US Food and Drug Administration (FDA) are increasingly applying harm reduction thinking and strategies to their public health objectives. In the UK, several highly regarded public health bodies have voiced their support for vapour products and the positive role they can play in harm reduction.

WHAT IS HARM REDUCTION?

When we talk about harm reduction, we mean encouraging smokers to switch to alternative products with lower health risks.

Tobacco harm reduction is based on a well-established public health concept that recognises that adults choose to participate in risky behaviours and focusses on modifying rather than eliminating these behaviours.

There are many examples of this approach in public policy, including the regulation of driving. Here the risk to the individual and society is shaped and reduced not by eliminating cars, but through driver education and vehicle safety standards.

Achieving harm reduction in tobacco relies on our ability to provide consumers with products that pose less risk to their health. Until recently, these have been few and far between and consisted largely of licensed nicotine replacement products, such as gums and patches, and snus, an oral tobacco product that contains lower toxicants than cigarettes but which is not widely available.

Now, a whole new generation of products is available. They haven’t been around long enough to generate epidemiological data, which looks at health impacts over decades, and we agree that more research is needed into the long-term effects of their use. In the case of tobacco-free vapour products, there’s growing consensus that the risks they pose are likely to be substantially lower than the risks posed by smoking cigarettes.

It’s important to view harm reduction through a spectrum of risk and this is set out on the following two pages.

“With careful management and proportionate regulation, harm reduction provides an opportunity to improve the lives of millions of people.”

UK Royal College of Physicians, 2017

“The wide availability of e-cigarettes as an alternative to tobacco is likely, overall, to be playing a positive role in supporting tobacco harm reduction.”

British Medical Association, 2017

“If the great majority of tobacco smokers who are unwilling or unable to quit would switch without delay to using an alternative source of nicotine with lower health risks, and eventually stop using it, this would represent a significant contemporary public health achievement.”

World Health Organisation, 2016
Smoking combustible tobacco products like cigarettes is a known cause of serious disease in smokers, including lung cancer, heart disease and emphysema.

Public health experts worldwide have concluded that it is the toxicants in cigarette smoke, not the nicotine, which is the cause of smoking-related diseases. For this reason many public health bodies have indicated NGP have a role to play in tobacco reduction.

Tobacco products that do not involve combustion are known to produce far fewer and much lower levels of toxicants compared to conventional cigarettes. This means they have the potential to be less harmful to health.

Harm reduction can only be achieved if the alternative product is less harmful than the one it is replacing and is appealing to consumers. Assessing alternative products in this context requires them to be placed on a spectrum of risk relative to conventional combusted tobacco products, such as cigarettes.

The risk spectrum indicates the level of toxicants that different products emit, based on current evidence, and highlights the range of non-combustible alternatives to cigarettes that are available to consumers.

*Including hybrid devices that combine non-combustible and e-cigarette technologies.*
THE RISK SPECTRUM

HEATED TOBACCO

Heated tobacco* products are devices that heat tobacco to release flavour and nicotine aerosol but not at a high enough temperature to burn it.

This results in significantly lower levels of toxicants, although independent research is currently limited and few products are in the market.

Heated tobacco is a smaller NGP category, growing most notably in Japan.

We currently do not sell heated tobacco products but have developed our own devices and these are being tested with consumers in Asia and Europe.

Hybrid devices that combine non-combustible and e-cigarette technologies sit within heated tobacco on the risk spectrum. We do not currently sell these products.

SNUS

Snus is an oral tobacco product manufactured using a pasteurisation process, which has a long history of use in Scandinavian countries, particularly Sweden.

Scientific data, including long-term population studies conducted by independent researchers, demonstrates that the health risks associated with snus are considerably lower than those associated with cigarette smoking.

We have a strong and growing snus business, with brands like Skruf and Knox, and see considerable opportunities for future growth in new and existing markets.

VAPOUR

Vapour products, also known as e-cigarettes, do not contain tobacco and deliver nicotine and flavour in the form of vapour. There are also vapour products that do not contain nicotine. There is growing public health consensus that these products offer a significantly less harmful alternative to smoking.

Our own research has shown that vapour products emit toxicants that are up to 99 per cent lower than conventional cigarettes. In addition, there is emerging evidence that these products encourage reduced cigarette consumption and cessation, even among those smokers who do not intend to quit or reject other support.

Vapour is by far the largest NGP category. Our pioneering blu brand offers consumers exceptional nicotine and nicotine-free vaping experiences. blu is one of the best-selling vapour brands in the world and is available in a growing number of international markets.

NICOTINE REPLACEMENT

Licensed medicinal products, such as nicotine replacement products, are authorised as medicines by relevant national regulators and scientific evidence over many years has demonstrated that these products are significantly less harmful to health than cigarettes.

However, they have limited appeal to smokers because they lack the sensorial and behavioural aspects of the smoking experience and therefore have a poor success rate at replacing smoking.

Harm reduction without consumer appeal provides little in the way of public health benefits and as a result, we do not make or sell these products.

Our own research has shown that vapour products emit toxicants that are up to 99% lower than conventional cigarettes."

Joe Thompson
Director of Product Science
These products do not contain tobacco and deliver nicotine and flavour in the form of an aerosol, popularly referred to as ‘vapour’.

THE ORIGIN OF VAPOUR PRODUCTS

The idea behind the e-cigarette was first conceived by Mr Hon Lik in 2001. A long-time smoker, Mr Hon had been using nicotine patches as a means of cutting down on his cigarette consumption. However, the patches did not provide a satisfying nicotine delivery comparable to smoking and left him with a hankering for ‘real’ cigarettes.

This prompted him to contemplate alternative ways of taking in nicotine through the lungs. Having had a fascination for electronics throughout his youth and with a pharmaceutical background, where he specialised in the removal of harmful substances from ingredients, Mr Hon began experimenting with a cylinder that contained a wire which heated a liquid containing nicotine. Rather than burning tobacco, this very first e-cigarette vaporised the liquid, which was then inhaled.

In 2003, after experimenting with several prototypes and test phases, Mr Hon filed his first patent on his invention.

A decade later, Fontem Ventures acquired Dragonite and its global patent portfolio for vapour technologies, securing the services of Mr Hon in the process. Since then our partnership has gone from strength to strength and Mr Hon continues to lead our research and development activities in China.

"Fontem Ventures was the ideal partner. Their business philosophy, dedication to innovation and high standards, combined with a start-up culture, was exactly what I was looking for."
VAPOUR PRODUCTS TODAY

Vapour is the largest and most developed opportunity within the NGP space, accounting for around 80 per cent of all NGP available today and are enjoyed by 30 million consumers worldwide.

The category has experienced phenomenal growth in recent years and is now estimated to be worth around $7 billion a year in sales. This is expected to rise to as much as $30 billion a year by 2020, as more and more smokers switch.

Vapour also provides consumers with the greatest choice of devices, with a wide range of flavours and nicotine strengths available. This optionality is integral to smokers switching to vapour, giving them the ability to change their flavour experience and control nicotine levels.

Our vapour brand is blu, one of the best-selling in the world and available in an increasing number of markets.

myblu and blu ACE are our newest devices and reflect our ongoing commitment to giving consumers the best vaping experience.

myblu is a pod format and combines a high-performance vaporiser with a simple liquid pod system. The device takes just 20 minutes to charge and lasts all day.

blu ACE is our latest open system product and the most powerful device in our portfolio. It comes in an all-in-one stainless steel housing, with a built-in liquid tank, and delivers more puffs per charge than competitor products.

Flavours are a key aspect of the vaping experience and play an important role in attracting and retaining smokers. Both myblu and blu ACE provide consumers with a broad portfolio of flavours in multiple nicotine strengths.

myblu and blu ACE are our newest devices and reflect our ongoing commitment to giving consumers the highest quality vaping experience.
Imperial Brands and Fontem Ventures frequently collaborate with independent institutions, regulatory bodies and technology leaders to conduct research that is highly relevant to our consumers, health experts and international policy-makers.

Our studies are guided and shaped by the ongoing public policy debate around vapour products and we regularly seek advice from science experts, academics and the public health community to ensure we produce relevant studies. This involves addressing research gaps, inviting third party professionals to critique our science through the process of peer reviews and regularly presenting our research at international conferences.

We have also built partnerships and testing models with a number of leading independent laboratories to support our product assessment. We share the results of our research with national and international standards bodies to help develop robust testing and manufacturing standards. We see this as critical to support consumer and regulatory expectations and to maximise the harm reduction potential of vapour products.

In recent years we have increased investment in our global vapour research programme, regularly publishing studies in leading international peer-reviewed journals.

We conduct extensive testing on each product to scientifically demonstrate that it substantially reduces the risk of harm compared to smoking.

As part of our product assessment, we analyse raw ingredients and materials to ensure they adhere to comprehensive principles of design and quality, as well as developing strict manufacturing standards. To ensure our e-liquids are of the highest industry standard, we also employ a large team of experienced toxicologists and other specialists to conduct detailed risk assessments on all of our product ingredients and components. We also make regular submissions to governments on the ingredients used in our products.
We have developed a tiered approach to product assessment, which can be employed to evaluate whether or not our products are both significantly less harmful than smoking cigarettes and are an effective alternative for smokers.

We apply innovative systems and the latest technologies to assess and analyse vaping products. We follow a three step process that incorporates non-clinical studies, clinical studies, and population impact assessment.

Research conducted by Fontem Ventures showed that blu e-cigarette vapour is over 95 per cent less toxic than smoke from a cigarette, contains over 99 per cent fewer toxicants and carcinogens and does not negatively impact indoor air quality.

Encouragingly, our clinical data has shown in biomarkers we have studied that the reductions in levels of HPHCs following exclusive use of blu e-cigarettes were almost indistinguishable from reductions in smokers who stopped smoking altogether during the same time.

Other recently published clinical research has also shown that smokers who have switched to vaping have significantly lower exposure to carcinogens and toxicants found in cigarette smoke, with reductions largely indistinguishable from complete smoking cessation or the use of licensed nicotine replacement products.

Fontem Ventures also conducted one of the first long-term vapour clinical studies, assessing the use of the Puritane brand over two years.

The findings of this study showed there were no safety concerns in smokers using Puritane for two years and no increase in body weight, something which is frequently reported by smokers who choose to quit smoking. Moreover, the use of the vaping product was associated with a reduction in conventional cigarette consumption and a reduced exposure to cigarette smoke chemicals.

We are very encouraged by the findings from our scientific research programme so far and believe it underscores the enormous potential of the category.

We are open and transparent about our research and have dedicated websites where our work can be seen:

www.imperialbrandsscience.com
www.fontemscience.com

“ In a nutshell, best estimates show e-cigarettes are 95% less harmful to your health than normal cigarettes.”

Public Health England
www.fontemscience.com
These fears are unfounded, primarily because the statistics to date do not support the view that significant numbers of non-smokers are regularly vaping. In fact the opposite is true with data showing that vapour products are actually acting as a gateway from or ‘roadblock’ to smoking, accelerating declines in smoking rates.

Our own research does not show vaping is a gateway, neither does research by numerous public health bodies. The UK Royal College of Physicians described such claims as ‘unfounded’ and Public Health England said: ‘there is no evidence so far that e-cigarettes are acting as a route to smoking for children or non-smokers.’

Other questions have been asked about the potential effects of vaping on bystanders. Fontem Ventures’ published scientific research shows that indoor vaping does not release chemicals or toxins into the air at levels that would pose any air quality issue to bystanders. This is consistent with other studies of this type which provide evidence for sensible regulation.

UK Government advice to employers encourages workplaces to adopt pro-vaping policies that make it as easy and convenient as possible for smokers to switch on the basis that there is ‘currently no evidence of harm from second hand e-cigarette vapour.”

This view is shared by the UK National Health Service, Chartered Institute for Environmental Health, Cancer Research UK and many others.

The scientific evidence to date indicates that the potential health risks associated with vaping are highly likely to be much lower than continued cigarette smoking.

However, evidence from the USA and UK suggests consumer understanding of the risks of vaping relative to smoking is not well understood. For example, research by the anti-smoking group ASH suggests that many more adults consider vapour products to be as harmful as cigarettes.

This should be concerning for all stakeholders and needs urgently addressing. Governments and public health bodies around the world have a clear responsibility to provide accurate and consistent messaging to ensure that smokers can make well informed decisions.

“E-cigarettes are not a gateway to smoking – in the UK, use of e-cigarettes is limited almost entirely to those who are already using, or have used, tobacco.”

Royal College of Physicians, 2016
As vapour products do not contain tobacco, they should be excluded from all existing and future tobacco legislation, including excise.

Vaping should be permitted in public places but vapers should be courteous to those around them. It is unjustified to apply smoke-free environment legislation to vaping products, since they are not tobacco products, do not contain tobacco, do not generate side-stream emissions and pose no known risk to bystanders based on current science.

We believe it should be up to individual establishments and business owners to decide whether or not to permit vaping inside their premises.

A growing body of research shows flavours play a critical role in attracting and retaining smokers into vaping. Flavoured e-liquids should therefore be permitted provided they meet the highest product quality standards and are not marketed or presented in a way that directly appeals to children or non-smokers.

Advertising should be permitted via TV, radio, internet, print and outdoor media. Sampling activities for adult smokers and vapers users should also be allowed in line with regulation for other adult consumer goods, such as alcohol.

Vaping products are for adult smokers, and current vapers. We fully support and advocate for legislation prohibiting sales of vaping products to children and voluntarily implement a number of youth protection initiatives, including online age-verification mechanisms and clear product labelling that states “not for sale to minors”.

Vaping products should not be subject to excise tax or incorporated into existing tobacco excise frameworks. Tobacco-based products, such as the emerging category of heated tobacco products, should be treated in the same way as tobacco.

In the absence of independent data and public health endorsement, all tobacco products, new and existing should be taxed like tobacco. Strict enforcement of existing tobacco regulatory frameworks is necessary, with no labelling or marketing exemptions.

As vapour products do not contain tobacco, they should be excluded from all existing and future tobacco legislation, including excise.

We support proportionate evidence-based regulation that encourages smokers to use alternative products that have the potential for reduced harm. We believe there should be a clear distinction between tobacco and non-tobacco products.

As vapour products do not contain tobacco, they should be excluded from all existing and future tobacco legislation, including excise.

Tobacco-based products, such as the emerging category of heated tobacco products, should be treated in the same way as tobacco.

In the absence of independent data and public health endorsement, all tobacco products, new and existing should be taxed like tobacco. Strict enforcement of existing tobacco regulatory frameworks is necessary, with no labelling or marketing exemptions.

Until clear scientific evidence is available for all NGP categories, we urge regulators to take a responsible approach and to draw clear distinctions between tobacco and non-tobacco products.
Snus is an oral tobacco product, which is manufactured using a pasteurisation process under strict quality and regulatory controls. Snus is sold in different formats, such as loose or pouched products, and is available in a wide variety of tobacco and non-tobacco flavours.

Snus has a long history of use in Scandinavian countries, most notably Sweden. Scientific data, including long-term population studies conducted by independent bodies, demonstrates that the health risks associated with snus are considerably lower than those from cigarette smoking.

Swedish males have the lowest rate of tobacco-related mortality in the EU and the lowest rate of lung cancer, as well as the lowest male death rate from smoking-related cardiovascular diseases and the lowest male death rate from other cancers that are attributed to tobacco.

Independent evidence has concluded that the oral use of snus does not seem to be linked to the risk for cancer of the oral cavity or lung, despite Sweden having the same EU average for tobacco consumption.

We believe that further comprehensive, peer-reviewed independent scientific research should be conducted to review the reduced risk potential of heated tobacco products.

In our view, unlike vapour products, heated tobacco products contain tobacco and should therefore be regulated and taxed as tobacco products.

There is a large body of evidence that shows snus use provides a viable consumer alternative to cigarettes.
At the beginning of this report Chief Executive Alison Cooper outlined our commitment to creating something better for the world’s smokers – providing smokers with a portfolio of products that are less harmful than cigarettes.

In assembling the right components to deliver this, we’ve focused on vapour, the biggest NGP category and the one that has the greatest potential.

There are currently 30 million vapers worldwide versus seven million users of heated tobacco products. We currently have half a million of those vaping consumers and we aim to increase that number to eight million by 2020.

That’s an ambitious but achievable target and exponential growth of this nature requires three things:

- Excellence in innovation: developing products that deliver the best consumer experience, and
- Strong brand equity: creating a brand that truly engages the consumer.
- Omni-channel capabilities: vapour products are sold in a broader range of channels than tobacco, such as online and specialist vape stores.

We believe we have that winning combination with the blu franchise. blu is a pioneering vapour brand. It’s consistently rated as one of the very best available and generates a real emotional connection with consumers.

This is a brand that provides more than just functional delivery; it offers ‘something better’ – a better vaping experience than competitor brands and a better risk profile than cigarettes and other tobacco-based NGP.

As you will have read earlier in the report, our own research shows that blu’s vapour is over 95 per cent less toxic than smoke from a cigarette, contains up to 99 per cent fewer toxicants and carcinogens and does not negatively impact indoor air quality.

Each time we transition a smoker to a tobacco-free blu offering we are moving them to a product that is considerably less harmful.

Historically blu’s been available in four core markets – the USA, UK, Italy and France – where it’s been steadily building a loyal following of consumers. We’re now substantially adding to those numbers as we expand the brand’s international profile.
blu is a pioneering vapour brand. It's consistently rated as one of the very best available and generates a real emotional connection with consumers.

The rollout to 2020 will continue at pace and along the way we’ll be continually improving the consumer experience with the game-changing innovations being developed by our dynamic innovation arm, Nerudia.

We’re also using innovation to simplify our products. This reduces cost, enabling us to scale and commercialise our operations more rapidly.

Our growth plans are bold and exciting. Tobacco will be our core business for many years to come, generating the funds to invest in NGP. But over time that balance will shift and you will see NGP making a material and sustainable contribution to our financial delivery, as we accelerate the transition of smokers to something better.