



Driving digital and innovation

David Eyton
EVP, innovation & engineering

Thank you Gordon and hello everyone.

My name is David Eyton and I lead innovation and engineering in bp.

In the course of their presentations, my colleagues have described the contributions that digital and innovation are making to their businesses.

I'd like now to pull together those threads in demonstrating how we play a central, integrating role in enabling value creation across bp.

The four main points I hope to leave with you are as follows:-

Firstly, we understand that our licence to innovate is based on our licence to operate, safely and securely, and will continue to invest in this.

Secondly, we have created a single organisation to provide 'innovation as a service' to bp and its customers, driving higher returns, and lower carbon.

Thirdly, we plan to double capital investment in digital to around \$1.5 billion gross on average per annum out to 2025. We expect this to enable around \$1 billion net reduction in bp's operating costs by end of 2023, and to provide access to a prize of around \$1 billion net in enhanced revenues by 2025.

Lastly, our aspiration is to create around 10 more, new digital businesses in the Launchpad by end 2022 – focused in intelligent sensing and intelligent commodities – each with a billion dollar potential.



Cautionary statement

Forward-looking statements - cautionary statement

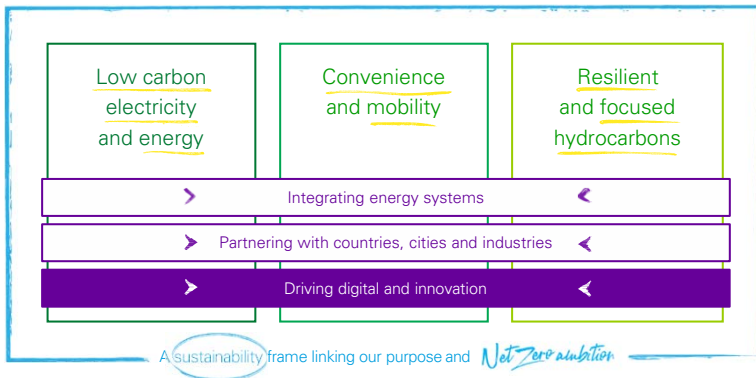
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In particular, the following, among other statements, are all forward looking in nature: bp's new strategy to focus on low-carbon electricity and energy, convenience and mobility, cost and carbon resilient and focused hydrocarbons, including statements regarding its aims to maintain focus on safety and operational reliability and security, drive capital and cost productivity up, build partnerships with customers, research institutions, start-ups and other large companies to drive innovation and to amplify value through digital and innovation; bp's plans and expectations to drive digital and innovation, including statements regarding bp's plans and expectations to spend around \$3 billion gross in innovation and engineering in 2020 and double capital investment in digital to around \$1.5 billion gross on average per annum out to 2025, reduce bp's operating costs by \$1 billion by end-2023, access to around \$1 billion net in enhanced revenues by 2025 and double that in 2030, focus capital investment on revenue enhancement in customer-facing businesses, plans to spend around \$350 million per year on research and development including to orient that spend towards reducing carbon emissions, deliver a return of more than 25% from Ventures when combined with strategic value, return net cash to bp from 2025 onwards from Launchpad and Ventures; plans and expectations with respect to Launchpad businesses, including aspirations to create around 10 more new digital businesses by end 2022, the potential for Launchpad businesses to exceed \$1 billion in enterprise value within 5 years, expectations regarding the plans and performance of Stryde, Lytt, Onyx, Fulcrum Bioenergy, Sateletics and other Ventures and Launchpad businesses; plans to transform bp digitally to enable platform business models; and plans to consolidate finance and accounting systems, integrate services and increase cross-selling; and expected returns on digital investment.

By their nature, forward-looking statements involve risk and uncertainty because they relate to events and depend on circumstances that will or may occur in the future and are outside the control of bp. Actual results may differ materially from those expressed in such statements, depending on a variety of factors, including: the extent and duration of the impact of current market conditions including the significant drop in the oil price, the impact of COVID-19, overall global economic and business conditions impacting our business and demand for our products as well as the specific factors identified in the discussions accompanying such forward-looking statements; changes in consumer preferences and societal expectations; the pace of development and adoption of alternative energy solutions; the receipt of relevant third party and/or regulatory approvals; the timing and level of maintenance and/or turnaround activity; the timing and volume of refinery additions and outages; the timing of bringing new fields onstream; the timing, quantum and nature of certain acquisitions and divestments; future levels of industry product supply, demand and pricing, including supply growth in North America; OPEC quota restrictions; PSA and TSC effects; operational and safety problems; potential lapses in product quality; economic and financial market conditions generally or in various countries and regions; political stability and economic growth in relevant areas of the world; changes in laws and governmental regulations; regulatory or legal actions including the types of enforcement action pursued and the nature of remedies sought or imposed; the actions of prosecutors, regulatory authorities and courts; delays in the processes for resolving claims; amounts ultimately payable and timing of payments relating to the Gulf of Mexico oil spill; exchange rate fluctuations; development and use of new technology; recruitment and retention of a skilled workforce; the success or otherwise of partnering; the actions of competitors, trading partners, contractors, subcontractors, creditors, rating agencies and others; our access to future credit resources; business disruption and crisis management; the impact on our reputation of ethical misconduct and non-compliance with regulatory obligations; trading losses; major uninsured losses; decisions by Rosneft's management and board of directors; the actions of contractors; natural disasters and adverse weather conditions; changes in public expectations and other changes to business conditions; wars and acts of terrorism; cyber-attacks or sabotage; and other factors discussed elsewhere in this report, and under "Risk factors" in bp Annual Report and Form 20-F 2019 as filed with the US Securities and Exchange Commission.

September 2020

Our strategy – an IEC delivering solutions for customers



Transform core operations

Extend customer access

Reduce carbon emissions

Drive adjacencies

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You have by now seen this slide a number of times. The contribution to value creation across bp from digital and innovation has four sources.

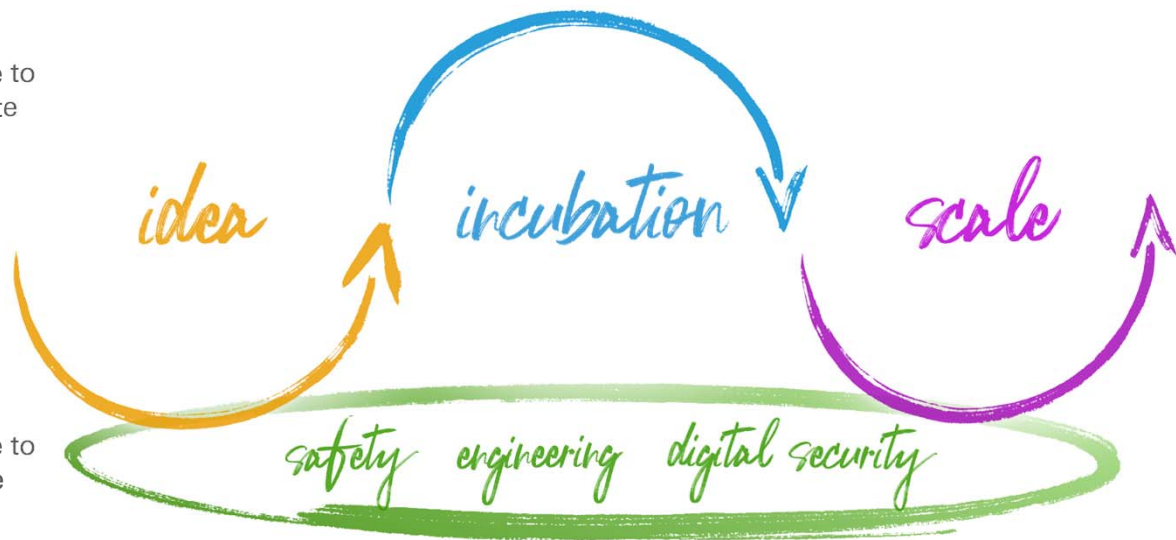
The first two relate to digital investment in existing businesses to transform core operations and extend customer access.

The third comes from reducing carbon emissions related to bp's operations and products.

And the last from investing in new digital businesses which are adjacent to bp's existing businesses.

Licence to innovate

Licence to operate



By innovation we mean:

- Capturing ideas from across bp's global innovation ecosystem
- Incubating these to create an early stage product, which can be tested and validated; and
- Finally scaling, from early adopters to the mass market, both internal to bp and external

In 2020 we plan to spend around \$3 billion gross in innovation and engineering, of which about half is the cost of operating our digital estate. The other half comprises capital and revenue expenditure - in research and development, digital systems, venture capital and new business building.

The costs and benefits of these activities are largely streamed to the businesses, and hence reflected in the presentations you have already seen.

While my focus today is on digital and innovation, the solutions we create must be safe and secure. We will continue to invest in this.

For example, our digital security team protects bp by assessing some 5 billion events per day, of many different kinds. And although such events are increasing in number, I am glad to report that to date those impacting bp have remained very low.

We are also making our infrastructure more resilient by migrating to the cloud. We have closed 2 of our 8 mega data centres and now 40% of our digital estate sits in the cloud.

Not only has this enabled our geoscientists, engineers, traders and technologists to

work productively and securely from home during the pandemic; it also enables us to collaborate across the globe – at pace. This is an integrated energy company in action.

Options for value growth

- Transform core operations and extend customer access
- Reduce carbon emissions
- Drive adjacencies

Our track record
How we compete

The remainder of my presentation focuses on the investments we plan to make in digital and low carbon capabilities, to grow value in existing and new businesses. And I will also talk about our track record of delivery, and key success factors in executing this strategy.

I'll start with the impact of digital investments to transform our core operations and extend customer access.



Firstly, we expect new digital investment to enable around \$1 billion net reduction in bp's operating costs by the end of 2023, and to provide access to a potential prize of around \$1 billion in enhanced revenues by 2025.

Through to 2025, 80% of these incremental earnings are expected to come from our resilient and focused hydrocarbon business, leveraging prior investment in digital systems.

Over time we would expect capital investment to be increasingly focused on revenue enhancement in customer-facing businesses, with the total potential prize in 2030 being double that in 2025.

In order to deliver this, we plan to double capital investment in digital to around \$1.5 billion gross on average per annum out to 2025. We believe that this investment will generate some of the highest incremental returns in bp's portfolio. We intend to deliver this through a rigorous and disciplined investment approval process, in which the benefits of investments are planned, agreed and monitored with the relevant businesses.

Sources of cost efficiency include:

- the centralisation and automation of work planning, management and monitoring in well operations, oil and gas production, and refining; and
- in our back office, consolidating digital technology platforms, and using Robotic Process Automation to automate manual processes

And the sources of revenue enhancement include the use of machine learning and advanced analytics designed to:

- optimize entire systems, from the reservoir through to refineries
- enable intervention ahead of predicted equipment failure
- optimise supply and demand functions through trading and shipping; and
- extend customer access and improve service levels



I'll turn now to value creation by reducing carbon emissions.

Whilst digital innovation can play a role in carbon reduction, bp's science and engineering capabilities are also engaged in delivering scalable new technologies that can reduce carbon emissions both in bp's operations and across the lifecycle of our energy products, and in line with bp's Aims.

Hence bp's research and development spend of around \$350 million per year will be increasingly oriented towards reducing carbon.

Examples of this include:

- Modifying our refineries to run tallow and vegetable oils, thereby lowering the carbon emissions of products, and combining these with Active technologies in our Ultimate fuels to improve engine performance
- Co-engineering lubricants and coolants designed for wind turbines, hybrid and electric vehicle drives and battery systems
- Developing conversion and carbon capture technologies which can drive down the cost of decarbonising fossil fuels, as well as reducing the cost of electrolysis to make green hydrogen competitive
- And lastly trialling and deploying a range of local, low and high-altitude sensors to detect and measure methane emissions, and then identifying the best ways of mitigating these, as part of the approach which Gordon has already mentioned

Options for value growth – drive adjacencies

An innovation engine to grow and accelerate new value



Purpose

Origination of minority investment for preferential access to technology

Focus

Core business, plus:

- Power and storage
- Advanced mobility
- Digital transformation
- Bio and low carbon products
- Carbon management

Purpose

Business-building and scale-up of majority investments

Focus

Digital adjacencies:

- Intelligent sensing
- Intelligent commodities

~\$650m

bp ventures investment fund

25%

Expected rate of return including strategic value

45

Number of portfolio companies

10-15

Number of businesses expected by end-2022

LYTT

Fotech

STRYDE

ONYX InSight

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The last option for value growth is in areas adjacent to our core businesses, which we can access through our venturing and business building capabilities. We call the latter Launchpad.

These unique components of our innovation engine give us access to high value options which we believe we can grow at pace, while also delivering short-term value to our core businesses.

Our venture capital team was established in 2006.

Like any VC we aim to deliver a healthy return on the equity investment. But we only invest if we can also extract strategic value from these investments – that is the incremental value we create by deploying products and services from these start-ups into our assets. In this way our investments act much like leveraged research and development, because for every dollar we spend others invest on average \$7.

We are investing around \$100 million per year in both our existing portfolio and new companies, focused largely on digital and low carbon. At the end of 2019 bp ventures had invested around \$650 million of which about 25% was in companies that play into our core hydrocarbon businesses.

We have received exit proceeds of around \$100 million so far and, when combined with strategic value, are well on target to deliver a return of more than 25% on this activity set.

Over the past two years we have built our new business-scaling factory, Launchpad. We are using this to scale new digitally-led businesses adjacent to bp's core; all of these businesses must have the potential to exceed \$1 billion in enterprise value within a period of five years, and have majority bp control.

Launchpad was created in 2019 and is already building a track record, focused on aggressive revenue growth which provides some early confidence in the model.

Today, there are four new companies in Launchpad, two of which have been spun out from bp, and the other two acquired from our ventures portfolio:

- Stryde offers ultra-low cost, high quality onshore seismic. It has won its first commercial contracts and has a multi-million dollar sales pipeline, including options in the mining and geothermal sectors.
- Second is Lytt, a fibre-base subsurface analytics start-up, built on bp's proprietary algorithms. In 2019, Lytt added over \$400 million of gross revenue to bp's upstream operated assets.
- More recently, we have added Fotech, which is complementary to Lytt, targeting the smart cities sector. The two companies are working together to build integrated fibre optic and advanced analytics solutions for a range of sectors.
- And lastly, Onyx Insight provides predictive maintenance for wind turbines with around 40% year on year growth to the end of 2019, and is still growing in 2020, despite COVID-19.

We expect Launchpad's portfolio to be between 10 - 15 companies by 2022, focused on intelligent sensing, that is using advanced sensing and analytics to optimise value chains and operations; and intelligent commodities – building new, virtual exchanges for differentiated emerging commodities linked to supply chain provenance.

As these companies mature, they will graduate from Launchpad, and we expect some to move back into bp as new operating businesses.

In combination, we expect the Launchpad and Ventures portfolio to return net cash to bp from 2025 onwards.

Options for value growth

- Transform core operations and extend customer access
- Reduce carbon emissions
- Drive adjacencies

Our track record

How we compete

We don't just talk about innovation in bp, we do it. And have been doing it for many years.

We have a track record that gives us confidence that we can deliver further transformational value aligned with bp's strategy.

Here are five examples from different parts of bp.

Digital upstream

\$1bn¹ unlocked

over 3 years, building common data and digital platforms

(1) Net cash impact pre-tax, before investment

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Firstly, in our upstream business, we set out a vision in 2017 to become the leading digital upstream company.

Three years later, we're certainly one of the leaders, due in large part to our collaboration with Palantir, our investment in a common data platforms, and the application of advanced analytics and data visualisation tools that we have deployed widely. Here are some examples.

ARGUS is our repository of all operated wells' historical and real-time drilling data. Integrating data for improved business insight has added hundreds of millions of dollars in value.

And in optimising production through APEX, a digital twin of our production systems, we have added hundreds of millions more.

More recently we've worked together with Palantir on upstream facilities optimisation through a new system called VERTEX.

This transformation of our core operations has delivered nearly \$1 billion of net cumulative incremental pre-tax cash over the last three years through a combination of production uplift and cost reduction.

However, it has not been an easy journey.

While Argus, Apex, Vertex are working well, we have failed with other partners. For example, we embarked on a project to deliver predictive analytics across our upstream production facilities. After two years' work, we realised that the technology was too immature and ultimately would not scale across all our production platforms.

Failures like these offer opportunities to learn. For example, we now treat digital

systems' deployment as business transformation, we have embraced agile methodologies, and scale iteratively.

Our track record
Enabling customer access
to energy and mobility in India

>10m litres sold

78% customer satisfaction score

>75,000 registered customers

 **Castrol FASTLANE**



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Secondly, we have extended customer access through several digital solutions in our retail, mobility & lubricants businesses.

As an example, we are partnering with over 75,000 business customers in India with Castrol Fast Lane. Dealers can log in to order Castrol products, access promotional schemes, and track their sales progress against targets, as well as access invoices and order history.

This is a first of a kind solution for the lubricants industry.

[Now, the next two are examples of innovations which reduce the carbon emissions from our operations, and those of our customers' operations.

Our track record

Reducing carbon emissions



Predictive wind analytics

ONYX
InSight

225 GWh pa. of wind capacity improvement

reducing 100,000 tonnes pa. of CO₂

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The first is back to Onyx, which is one of our Launchpad businesses. Onyx reduces the levelized cost of energy produced in the wind sector using predictive analytics.

Over the past year, Onyx has helped increase its customers' wind capacity and efficiency by more than 225 gigawatt hours, reducing CO₂ emissions by around 100,000 tonnes, based on grid-average carbon intensity in the relevant locations.

Our track record

Sustainable fuels production



11m gallons p.a.

of municipal solid waste to jet fuel capacity under construction

Waste to fuels



BP Biojet

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Secondly, we are leveraging our venture investment in the waste-to-fuels company Fulcrum Bioenergy.

Fulcrum uses Fischer Tropsch technology co-developed by bp and Johnson Matthey.

Fulcrum has developed and demonstrated a reliable, clean, efficient and scalable thermochemical process for producing low-cost, sustainable biojet from municipal solid waste.

Fulcrum's first plant, designed to produce 11 million gallons per year of renewable biojet fuel capacity, is under construction near Reno, Nevada; construction of the next 33 million gallon per year plant is planned in Gary, Indiana.

Sustainable fuels provide a great example of gas & low carbon energy, customers & products, trading & shipping, and innovation & engineering all working together as an integrated team to deliver low carbon, cost-effective solutions to bp's customers.

Our track record
Carbon offsetting



50mt offset

US forestry offsets delivered across
21 states, allowing several hundred
million dollars to flow into forests

Carbon trading

FiniteCarbon

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The fifth example is of an adjacency, complementary to our trading activities, in digital commodities.

bp ventures invested \$5 million in start-up Finite Carbon in 2017. Finite Carbon is now the largest supplier of forestry offsets in the USA.

Our trading business has enabled this growth by placing over 50 million tonnes in carbon offsets with customers.

Meanwhile bp ventures has just acquired a stake in another start-up, Satelytics, which specialises in analysis of satellite data, and its potential ability to accurately verify forestry density remotely could potentially complement Finite Carbon's business.

Options for value growth

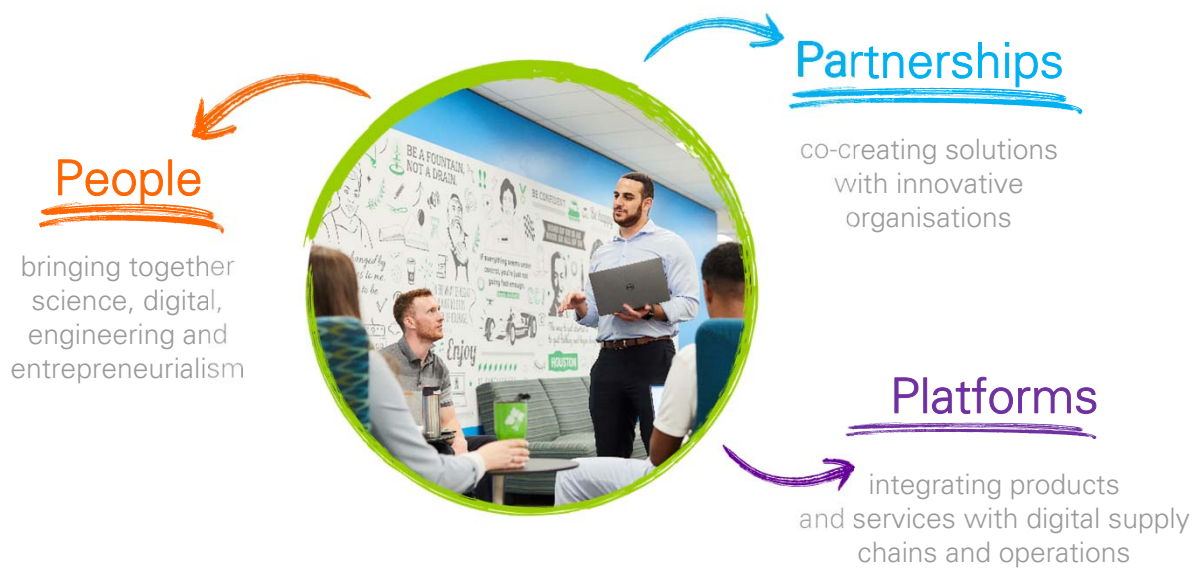
- Transform core operations and extend customer access
- Reduce carbon emissions
- Drive adjacencies

Our track record

How we compete

The last topic I want to cover is how we compete, building on our track record of value delivery from innovation.

Core capabilities augmented and integrated



Delivering on our aims requires excellence in execution.

We believe three factors are fundamental to put bp in a winning position:

- People
- Platforms; and
- Partnerships



The first P is People.

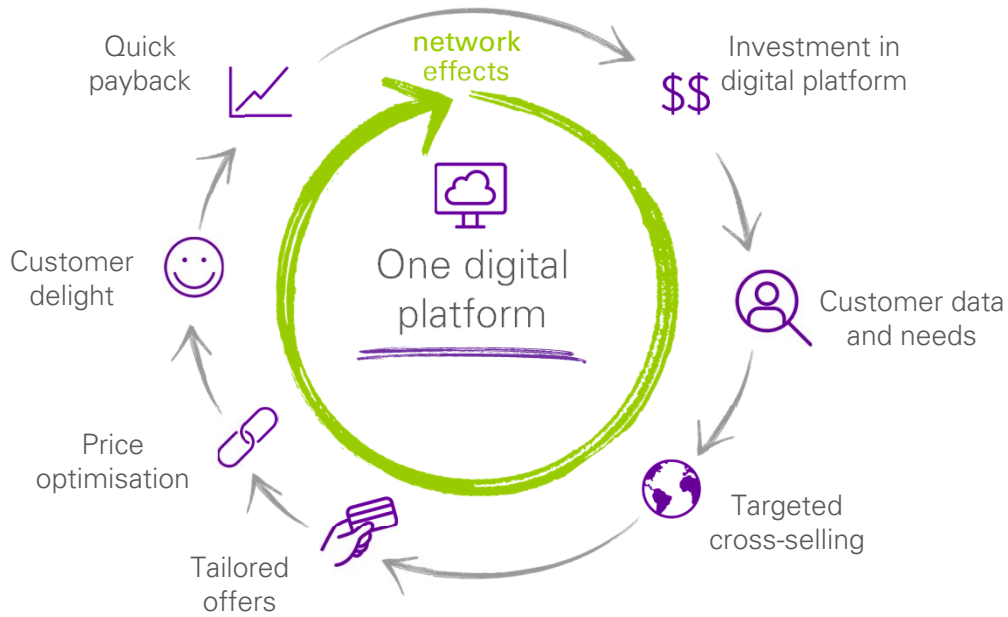
Around three thousand of bp's leading scientists, engineers, entrepreneurs and new business builders, both physical and digital, have now been brought together in a single Innovation & Engineering team that can take an idea, incubate it and scale it.

This represents a major – and very deliberate - organisational change for bp, that we believe can be differentiating. It enables us to pool capabilities, prioritise work and execute it using agile methodologies, in a way that was not previously possible, delivering integrated solutions to our customers, both internal and external.

We are building this team with world-class talent – people who can sense the game-changing possibilities, and are inspired by bp's net zero ambition and want to reimagine energy for the world.

We are also attracting talent that has worked for companies like Uber, Tesla and the start-up community, people like Marco Ryan, Fran Bell, Justin Lewis and Meghan Sharp, who have recently joined bp's leadership.

Enabling exponential growth through digital platforms



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The second P is Platforms.

Over the next five years we are going to transform bp digitally to enable platform business models.

Earlier I asked Marco Ryan, our Senior Vice President for Digital Customers & Markets, to join me to explain this.

Marco joined bp late last year from Wärtsilä – a maritime and energy company, where he built platform-based businesses.

I asked him, what does a platform-based business model look like – and how far are we on the journey?

[Marco] Thanks David.

You have heard from Emma that we expect to increase our customer touchpoints from 10 million per day to more than 20 million within a decade. And from William that partnerships are critical to our ambition. Platform thinking can enable all these objectives - expanding customer access, while reducing cost, and enabling partner solutions.

For bp, the move to single platform-based business models means that we can build modular products and services on top of cloud-based platforms which can be reused multiple times to drive integration, security, scale and cost efficiency.

As we develop products at pace, and extend them to customers, the data we collect delivers new insights about their needs. This enables us to optimise our supply chains, achieve economies of scale and offer better pricing and more tailored products built to delight customers. More users, better products, better prices, delivered at an ever

accelerated pace and lower cost to serve – the flywheel in action.

And we have already started.

We have consolidated our finance and accounting systems, from 92 in 2018 to 67 today, and with plans to reduce further to 18 by 2023.

We are progressing customer solutions - for example our bpme app and reward programme. Today we sell \$200 million of fuel per year through bpme, and we reward our consumers with access to loyalty programmes, like earning Qantas Frequent Flyer points in Australia and the redemption of Kroger fuel points in the US.

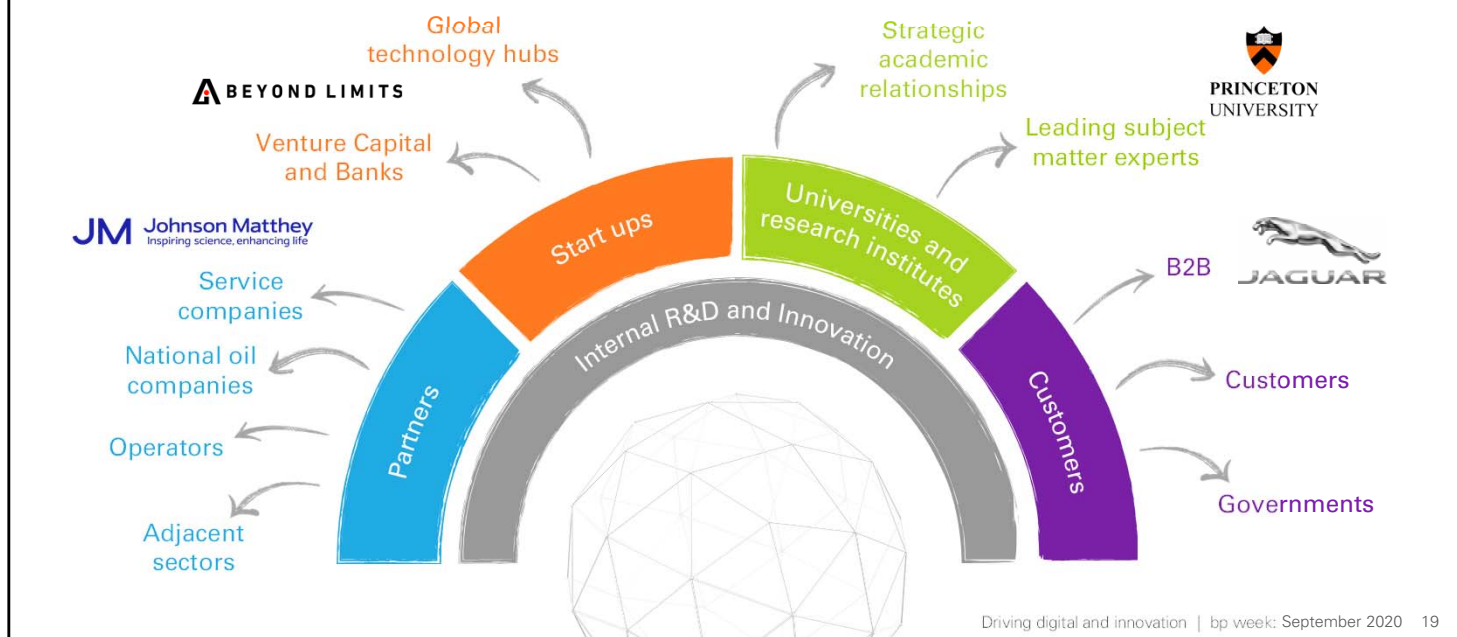
But you can expect a lot more.

As we start to integrate and reuse the services across multiple different products and solutions, it will allow us to increase the cross-selling of services across all bp's customers; something we find challenging technically today, but with which we are starting to experiment. For example, we are offering a seamless and reliable customer experience through our bp Chargemaster charging solution, to help our fuel customers to transition to electric vehicles.

And although the platform consolidation and convergence has just begun, we are just embarking on a journey that will take time. The good news is that, as with other investments in digital, the payback tends to be quick and can be significant.

[David] My thanks to Marco.

Co-creating solutions with innovative organisations



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The third P is Partnerships. bp cannot deliver its ambition by itself.

Partnerships are critical to feeding our innovation pipeline, challenging our thinking, driving pace, building capability and accessing new markets.

And the partnerships I am talking about are strategic, collaborative and mutually beneficial.

You have heard about some partnerships from my colleagues, and there are more - partnerships with customers, research institutions, start-ups and other large companies, for example: -

Johnson Matthey supplies many of bp's catalysts. Together we have co-developed the Fischer Tropsch technology being used by Fulcrum Bioenergy; and we are exploring with them other technologies related to synthetic low carbon fuels.

Beyond Limits is a leading start-up at the cutting edge of cognitive computing, which is using AI-based software to codify bp's expert knowledge.

We have funded the Carbon Mitigation Initiative at Princeton university, which Gordon mentioned on Monday, for 20 years. It is focused on understanding climate science and its mitigation.

And lastly, Castrol is working with Jaguar to enable electrification: every Jaguar I-PACE is born with Castrol e- transmission fluids on board.

While each of these factors alone are important, it is end-to-end integration across our innovation engine that will create real differentiation – and this will always be a work in progress, but I am confident that our reinvention will result in a step-change in value delivery.

- Our licence to innovate is predicated on our licence to operate
- Providing 'innovation as a service' to bp and its customers
- Doubling our capital investment to enable a \$2bn net prize
- Building new businesses in digital adjacencies

So, to conclude this section on digital and innovation, we know the world is on an unsustainable path, but bp's net zero ambition is unequivocal.

This means we must change, and innovate at pace and scale, to deliver both lower carbon and higher returns.

At the start of my presentation I said there were four messages I wanted to convey to you.

The first is that everything begins with safety and security. Our Licence to Innovate is predicated on our Licence to Operate. We will continue to prioritise and invest in this.

Secondly, we are reinventing how we provide 'innovation as a service' to bp and its customers, driving higher returns, and reducing carbon.

Our research and development spend of around \$350 million per year will be increasingly oriented towards reducing carbon emissions, for example through low carbon fuels, transport electrification, hydrogen & CCUS, and methane management.

Thirdly, we plan to double capital investment in digital to around \$1.5 billion gross on average per annum out to 2025. We expect this to enable around \$1 billion net reduction in bp's operating costs by the end of 2023, and to provide access to a prize of around \$1 billion net in enhanced revenues by 2025.

As part of this, we expect to migrate 80% of applications to the cloud by 2025; and we plan to transition bp to a platform-based business model.

And fourthly, through Launchpad we are building new businesses of the future. By the end of 2022, our aspiration is to create around 10 more new digital businesses, focused on intelligent sensing and intelligent commodities – each with a billion dollar

potential.

Let me end by saying, that bp's ambition inspires us.

Our track record gives us confidence.

As do the distinctive capabilities we are building.

Together, my team comprises digital and innovation 'as a service', enabling bp and its customers to thrive in the energy transition to net zero.

Thank you for listening. We will now take a break before Murray and Bernard come back to conclude the days presentations.