THIS YEAR MARKED A SERIES OF HISTORIC MILESTONES FOR JAGUAR LAND ROVER:

TEN YEARS OF TATA OWNERSHIP, DURING WHICH WE HAVE ACHIEVED RECORD GROWTH AND REALISED THE POTENTIAL RATAN TATA SAW IN OUR TWO ICONIC BRANDS;

FIFTY YEARS OF THE EXTRAORDINARY JAGUAR XJ, BOASTING A LUXURY SALOON BLOODBINE UNLIKE ANY OTHER; AND

SEVENTY YEARS SINCE THE FIRST LAND ROVER MOBILISED COMMUNITIES AROUND THE WORLD.

TODAY, WE ARE TRANSFORMING FOR TOMORROW. OUR VISION IS A WORLD OF SUSTAINABLE, SMART MOBILITY: DESTINATION ZERO. WE ARE DRIVING TOWARDS A FUTURE OF ZERO EMISSIONS, ZERO ACCIDENTS AND ZERO CONGESTION – EVEN ZERO WASTE. WE SEEK CONSCIOUS REDUCTIONS, EMBRACING THE CIRCULAR ECONOMY AND GIVING BACK TO SOCIETY.

TECHNOLOGIES ARE CHANGING BUT THE CORE INGREDIENTS OF JAGUAR LAND ROVER REMAIN THE SAME: RESPONSIBLE BUSINESS PRACTICES, CUTTING-EDGE INNOVATION AND OUTSTANDING PRODUCTS THAT OFFER OUR CUSTOMERS A COMPELLING COMBINATION OF THE BEST BRITISH DESIGN AND ENGINEERING INTEGRITY.

CUSTOMERS ARE AT THE HEART OF EVERYTHING WE DO. WHETHER GOING ABOVE AND BEYOND WITH LAND ROVER, OR BEING FEARLESSLY CREATIVE WITH JAGUAR, WE WILL ALWAYS DELIVER EXPERIENCES THAT PEOPLE LOVE, FOR LIFE.
CHAIRMAN’S STATEMENT

The global automotive industry is witnessing disruptive innovations leading to the industry being in flux and facing significant challenges. Technological changes are leading to new products and business models including shared mobility and autonomous and connected vehicles. Concerns about sustainability are leading governments across the world to push for reductions in their carbon footprints, encouraging the adoption of electric vehicles. These changes, coupled with the geopolitical trade situation, uncertainty around Brexit and slowdown in the key automotive market of China, have led to a period of uncertainty for the global automotive industry.

Against this backdrop, Jaguar Land Rover is making significant investments to develop next-generation products. It has continued to expand its global manufacturing footprint and invest in skills, training, design, engineering and mobility services. Over the past year, the Company has continued to develop award-winning products that combine outstanding performance, quality and technology. The all-electric Jaguar I-PACE has been awarded 2019 World Car of the Year, 2019 World Car Design of the Year and 2019 World Green Car, being the first car ever to win three World Car titles, along with being awarded Car of the Year at the European Car of the Year Awards 2019. This is a gratifying testament to the superior next-generation car portfolio of Jaguar Land Rover.

From an operational performance perspective, the last 12 months have been challenging for Jaguar Land Rover. The Company has faced headwinds from external factors including slowdown of sales in China and Europe along with the internal factors of high fixed-cost structures and high investment leading to cash outflows. These have resulted in the business reporting a revenue decline this year and an operating loss.

In the face of these challenges, the business has launched comprehensive programmes to improve operational and financial performance. The two major initiatives – Project Charge, which is focused on reducing costs, and Project Accelerate, which is focused on addressing the structural challenges on product launches – have started to yield results. These are critical interventions and the Company is committed to deliver cost and cash improvements.

I would like to thank Prof. Dr. Ralf Speth and the employees of Jaguar Land Rover. Over the years, they have contributed significantly to the underlying strengths of the business, and during this period of uncertainty they are once again committed to turn around the business on a path of sustainable and profitable growth.

I remain confident of Jaguar Land Rover’s potential, driven by the marque brands, superior future-generation product portfolio, technical capabilities and the quality of its talent, and fully support the continuing organic growth of the business. I wish the management and the team of Jaguar Land Rover a successful turnaround and a prosperous future ahead.

NATARAJAN CHANDRASEKARAN
CHAIRMAN
JAGUAR LAND ROVER AUTOMOTIVE PLC
31 MAY 2019
In the decade since Ratan Tata acquired Jaguar and Land Rover, we have created an outstanding, award-winning product portfolio, designed and developed to the highest standards of engineering integrity by our talented team of pioneers. Every Jaguar and Land Rover vehicle offers a stunning combination of contemporary design, cutting-edge technologies and refined driveability.

In Fiscal 2018/19, we expanded our operational footprint, both in the UK and internationally. We opened our first Industry 4.0 manufacturing plant in continental Europe, in Nitra, Slovakia. Our advanced research and engineering facilities include significant redevelopment at Gaydon and Whitley as well as additional technology hubs located in Manchester, UK; Shannon, Ireland and Budapest, Hungary. The National Automotive Innovation Centre at Warwick provides us with a critical mass of research capability in mobility technologies.

Our newly opened facilities fulfil the highest BREEAM standards. Our UK manufacturing operations even achieved Carbon Neutral status one year ahead of our 2020 sustainability targets. We maximise the talents of our workforce through the Jaguar Land Rover Academy, which provides lifelong learning from recruitment to retirement. Last year, our people completed almost 1,700,000 hours of training, building the skills to seize the opportunities that future mobility presents.

The automotive industry faces multiple regulatory, economic and geopolitical disruptions and technological challenges, unprecedented in nature, impacting us simultaneously. We have met the stringent new WLTP regulatory standards. Extensive public debate around tailpipe emissions, public health and air quality, coupled with pledges by cities to ban combustion engine vehicles and the introduction of additional taxation in some countries, has increased levels of customer confusion and reduced diesel’s market share. An increasingly protectionist global trade agenda and ongoing Brexit uncertainty impact our ambitions for sustainable competitive growth.

We have invested intensively to prepare for the move from the internal combustion engine to autonomous, connected, electrified and shared mobility – or “ICE” to “ACES” – continuing to refine our clean efficient Ingenium propulsion systems while at the same time collaborating with high-tech global partners to spearhead advances in future automotive technologies.

Our financials for Fiscal 2018/19 reflect these external challenges with lower sales. After three consecutive quarters of operating losses, we returned to profitability in the fourth quarter, achieving a high positive cash flow. Nevertheless, we had to report an overall loss for the full financial year and even write down the carrying value of capitalised assets. In anticipating all of these headwinds, we have taken proactive and decisive action through “Charge” and “Accelerate”, our turnaround and transformation programmes. We are on course to overachieve on our “Charge” targets, £2.5 billion of rapid cost and cash improvements. We took the difficult but necessary decision to reduce our global workforce. It has made Jaguar Land Rover a leaner, more resilient organisation.

Through “Accelerate”, we simultaneously drive large-scale systemic and structural change with root-and-branch reviews of all of our processes and working practices.

The next chapter in the story of Jaguar and Land Rover will be the most exciting – and demanding – in our history. We lead the ICE-to-ACES revolution in many areas. We were the first to launch a premium electric SUV, the Jaguar I-PACE, a vehicle that has won the most prestigious accolades in the automotive industry: European Car of the Year and an unprecedented hat-trick at the 2019 World Car Awards. Our product strategy is clear from 2020, all of our new vehicle models will offer our customers a choice of varying degrees of electrification, from mild and plug-in hybrid to battery electric, as well as advanced electronic architectures and ACES product features.

As we transform today for tomorrow, we have a defined vision to shape future mobility: “Destination Zero” – zero emissions, zero accidents and zero congestion. We harness new technologies to enable smart integrated mobility and improve lives in the communities we call home. We adopt circular economy principles throughout our product creation processes, with active reuse and recycling and the application of innovative sustainable materials. For example, our responsibly sourced interior options include eucalyptus textile.

Fiscal 2018/19 has been a tough year. I would like to take the opportunity to thank all who contributed to the acclaim and recognition bestowed on our award-winning product portfolio. In a volatile world, we create experiences that people love, for life.

The coming year will excite. We bring the long-awaited Land Rover Defender back into our family. We look forward with a steadfast commitment to continue delighting our customers with more of the most desirable and characterful vehicles in the world.
OUR BLUEPRINT FOR SUCCESS

The Jaguar Land Rover Blueprint represents who we are and what we stand for – our purpose, our passions and our values.

People connect with Jaguar and Land Rover, whether they are employees, customers or partners. Experiences link our two great brands, making memories for life.

DESTINATION ZERO

Our vision is a world of sustainable, smart mobility: Destination Zero – enhancing the quality of everyone’s life with zero emissions, zero accidents and zero congestion through relentless innovation.

OUR PURPOSE

Our purpose is to offer our customers experiences they love, for life.

OUR BUSINESS

OUR PASSIONS

OUR VALUES

QUALITY

INNOVATION

PROFITABILITY

CUSTOMER FIRST

INTEGRITY, RESPONSIBILITY, EXCELLENCE, UNITY, PIONEERING
HOW OUR BUSINESS MODEL CREATES VALUE

Through our proven capabilities in award-winning design and innovative engineering, we create world-class products and mobility services that inspire and excite.

We look to maximise value for all of our stakeholders by investing in our people and our partners and striving to achieve the highest standards of quality in everything that we do. Our objective is to position Jaguar Land Rover for long-term, sustainable, profitable growth as we advance our vision of zero emissions, zero accidents and zero congestion.
Jaguar Land Rover is a British company with global capabilities in manufacturing and engineering. Our broad reach helps us offer more models, deal with currency fluctuations and be competitive everywhere we operate.
Diesel engines have reduced CO₂ emissions. We remain on track to deliver a 45 per cent reduction in European fleet average tailpipe CO₂ emissions by 2020. We have introduced robust training to support our retailer network as well as online support for our customers to help them assess which fuel type – whether that be petrol, diesel, hybrid or electric – is right for them and the journeys they make.

Emissions: Changes to the European emissions tests of the Worldwide Harmonised Light Vehicle Test Procedure (WLTP) in September 2018 made non-compliant models subject to additional taxes. The changes also increased manufacturing costs and caused consumer uncertainty.

Our latest EU6 Ingenium diesel and petrol engines are among the cleanest in the world. Jaguar Land Rover was one of the few car manufacturers to meet the WLTP deadline for type approval of its vehicles, reducing the operational impact of the emissions test changes. A range of our vehicles, including the new Range Rover Evoque, the Land Rover Discovery Sport and the refreshed Jaguar XE, have all achieved compliance with stringent Real Driving Emissions Step 2 (RDE2) standards. NoX emissions tests well in advance of the 2020 introduction of RDE2 for all new models. Investing in continued refinements and improvements to our internal combustion engines remains key to our forward-looking strategy, particularly for future plug-in hybrid vehicles.

Negative perceptions of diesel have led consumers to favour petrol engines, contributing to increased fleet CO₂ emissions. We realise these opportunities.

China
The Chinese economy has been slowing, exacerbated by trade tensions between the US and China, with weaker consumer demand and the stock market down. Together, these headwinds contributed to an 8.3 per cent year-on-year decline in sales across the Chinese automotive industry. Our retail sales have also been impacted by high levels of inventory, intensified competition and low dealer profitability. In response, we launched a local turnaround programme in 2018 to reduce inventory in-market and explore ways to discounting pressures, improve dealer profitability and achieve up to 20 per cent better fuel economy. Diesel uncertainty:

Trade
Brexit: In Fiscal 2018/19, the EU region represented a fifth of our retail sales and was the source of a significant proportion of key components. We rely on free and frictionless trade. Any barriers, including tariffs and delays at borders, would adversely impact our business. Greater certainty is vital.

Our mitigations against the risks of a Brexit no-deal outcome have included factory downtime and ensuring that buffer production stock is available. US tariffs: During Fiscal 2018/19, over 20 per cent of our vehicle sales were made in the US. The US Government is considering a 25 per cent tariff on imported vehicles. Given all Jaguar and Land Rover vehicles sold in the US are imported, such a tariff would severely impact our business.

Our mitigations against the risks of a Brexit no-deal outcome have included factory downtime and ensuring that buffer production stock is available.

US tariffs:
During Fiscal 2018/19, over 20 per cent of our vehicle sales were made in the US. The US Government is considering a 25 per cent tariff on imported vehicles. Given all Jaguar and Land Rover vehicles sold in the US are imported, such a tariff would severely impact our business performance and competitiveness in the US market.

Regulatory environment
Diesel uncertainty: Diesel engine emissions significantly over the past decade. New diesel engines typically have similar levels of NOx and particulate emissions to their equivalent petrol engines, while achieving up to 30 per cent better fuel economy and up to 15 per cent lower CO₂ emissions.

However, consumer confusion, tightening emissions regulations and increasing taxation have impacted diesel’s popularity. As a result, Jaguar Land Rover’s sales of diesel vehicles in the UK and Europe fell by 10–15 per cent. In fiscal 2018/19. Growing concerns about air pollution levels in cities around the world are expected to lead to increasing restrictions and bans, and several countries have committed to phase out the sale of vehicles with internal combustion engines altogether.

Negative perceptions of diesel have led consumers to favour petrol engines, contributing to increased fleet CO₂ emissions. We remain on track to deliver a 45 per cent reduction in European fleet average tailpipe CO₂ emissions by 2020. We have introduced robust training to support our retailer network as well as online support for our customers to help them assess which fuel type – whether that be petrol, diesel, hybrid or electric – is right for them and the journeys they make.

Emissions: Changes to the European emissions tests of the Worldwide Harmonised Light Vehicle Test Procedure (WLTP) in September 2018 made non-compliant models subject to additional taxes. The changes also increased manufacturing costs and caused consumer uncertainty.

Our latest EU6 Ingenium diesel and petrol engines are among the cleanest in the world. Jaguar Land Rover was one of the few car manufacturers to meet the WLTP deadline for type approval of its vehicles, reducing the operational impact of the emissions test changes. A range of our vehicles, including the new Range Rover Evoque, the Land Rover Discovery Sport and the refreshed Jaguar XE, have all achieved compliance with stringent Real Driving Emissions Step 2 (RDE2) standards. NoX emissions tests well in advance of the 2020 introduction of RDE2 for all new models. Investing in continued refinements and improvements to our internal combustion engines remains key to our forward-looking strategy, particularly for future plug-in hybrid vehicles.

Negative perceptions of diesel have led consumers to favour petrol engines, contributing to increased fleet CO₂ emissions. We remain on track to deliver a 45 per cent reduction in European fleet average tailpipe CO₂ emissions by 2020. We have introduced robust training to support our retailer network as well as online support for our customers to help them assess which fuel type – whether that be petrol, diesel, hybrid or electric – is right for them and the journeys they make.
recently attracted new customers to both of our brands. Rover Sport, both with plug-in hybrid derivatives, have been awarded Car of the Year, and the new model year Range Rover and Range Rover Sport, newly refreshed models such as the Jaguar E-PACE, have been awarded World Car Design of the Year and World Car of the Year. We are committed to electrify every new vehicle model from 2020, and from late 2020, we will begin the manufacture of next-generation Electric Drive Units (EDUs) at our Engine Manufacturing Centre in Wolverhampton. These EDUs will be powered by batteries assembled at a new facility near Birmingham, UK. Together, they will power our future battery electric and plug-in hybrid vehicles.

The take-up of electrified vehicles is increasing. We have seen a doubling in sales of electric vehicles worldwide in the last 12 months. We expect this trend to continue as more and more car manufacturers commit to electrification

New and refreshed models globally

The take-up of electrified vehicles is increasing. We have introduced a portfolio of electrified products across our model range while continuing to offer a range of ultra-clean, efficient Ingenium petrol and diesel engines. We have committed to electrify every new vehicle model from 2020. The Jaguar I-PACE, winner of the coveted 2019 World Car of the Year, World Car Design of the Year and World Green Car awards, is the first premium all-electric SUV in the world. Newly-refreshed models such as the Jaguar E-PACE, the Range Rover Velar, winner of 2018 World Car Design of the Year, and the new model year Range Rover and Range Rover Sport, both with plug-in hybrid derivatives, have recently attracted new customers to both of our brands.

Scalability and flexibility

Jaguar Land Rover’s family of clean, refined and efficient Ingenium petrol and diesel engines is based around a modular, flexible and scalable all-aluminium design with common features, offering quality and cost efficiency. There is a choice of three-, four- and six-cylinder engines and electrification in the form of mild and plug-in hybrid technology systems.

In 2020, we will begin the roll-out of our next-generation modular architecture (MLA) across our product portfolio. MLA accommodates a range of propulsion systems comprising conventional engines, hybrids and full battery electric powertrains. This flexible architecture will streamline engineering and manufacturing processes and increase commonality of components across our model range, with the aim of improving quality, reducing cost and increasing operational efficiency.

The manufacturing flexibility offered by MLA and Ingenium gives us the speed and responsiveness to produce what our customers want at the right time.

Autonomous, connected and shared mobility

We recognise that in-car experiences must keep pace with the fast-moving technology industry, offering customers products and services that are simple, intuitive and convenient. Time will become the new luxury in a world of autonomous driving. We continue to introduce new driver assistance technologies into our vehicles and are developing more advanced self-driving technologies in response to legal frameworks permitting higher degrees of automation.

Our sustained investment in recent years into the development of new products and next-generation technologies means we are well placed to capitalise on the opportunities that a future world of mobility creates.

New and refreshed models globally

The take-up of electrified vehicles is increasing. We have introduced a portfolio of electrified products across our model range while continuing to offer a range of ultra-clean, efficient Ingenium petrol and diesel engines. We have committed to electrify every new vehicle model from 2020. The Jaguar I-PACE, winner of the coveted 2019 World Car of the Year, World Car Design of the Year and World Green Car awards, is the first premium all-electric SUV in the world. Newly-refreshed models such as the Jaguar E-PACE, the Range Rover Velar, winner of 2018 World Car Design of the Year, and the new model year Range Rover and Range Rover Sport, both with plug-in hybrid derivatives, have recently attracted new customers to both of our brands.

Scalability and flexibility

Jaguar Land Rover’s family of clean, refined and efficient Ingenium petrol and diesel engines is based around a modular, flexible and scalable all-aluminium design with common features, offering quality and cost efficiency. There is a choice of three-, four-, and six-cylinder engines and electrification in the form of mild and plug-in hybrid technology systems.

Our sustained investment in recent years into the development of new products and next-generation technologies means we are well placed to capitalise on the opportunities that a future world of mobility creates.

New and refreshed models globally

The take-up of electrified vehicles is increasing. We have introduced a portfolio of electrified products across our model range while continuing to offer a range of ultra-clean, efficient Ingenium petrol and diesel engines. We have committed to electrify every new vehicle model from 2020. The Jaguar I-PACE, winner of the coveted 2019 World Car of the Year, World Car Design of the Year and World Green Car awards, is the first premium all-electric SUV in the world. Newly-refreshed models such as the Jaguar E-PACE, the Range Rover Velar, winner of 2018 World Car Design of the Year, and the new model year Range Rover and Range Rover Sport, both with plug-in hybrid derivatives, have recently attracted new customers to both of our brands.

Scalability and flexibility

Jaguar Land Rover’s family of clean, refined and efficient Ingenium petrol and diesel engines is based around a modular, flexible and scalable all-aluminium design with common features, offering quality and cost efficiency. There is a choice of three-, four-, and six-cylinder engines and electrification in the form of mild and plug-in hybrid technology systems.

In 2020, we will begin the roll-out of our next-generation modular architecture (MLA) across our product portfolio. MLA accommodates a range of propulsion systems comprising conventional engines, hybrids and full battery electric powertrains. This flexible architecture will streamline engineering and manufacturing processes and increase commonality of components across our model range, with the aim of improving quality, reducing cost and increasing operational efficiency.

The manufacturing flexibility offered by MLA and Ingenium gives us the speed and responsiveness to produce what our customers want at the right time.

Autonomous, connected and shared mobility

We recognise that in-car experiences must keep pace with the fast-moving technology industry, offering customers products and services that are simple, intuitive and convenient. Time will become the new luxury in a world of autonomous driving.

The technological and regulatory changes in the automotive industry require significantly higher investment and other costs at a time of relatively lower returns in the early stages of adoption and customer acceptance of electrified vehicles. In this challenging environment, wider collaboration is essential to share financial and operational risks and can open up new business models and access new customers. This is why we are working with pioneering organisations such as Waymo and UK Autodrive to develop and pilot self-driving technologies.

The National Automotive Innovation Centre (NAIC), located at Warwick University, offers Jaguar Land Rover a critical mass of research capability in an environment designed to encourage large-scale collaboration with academia, supply chain partners and leading technology companies.
TRANSFORMING OUR BUSINESS: CHARGE

We have launched Project Charge in response to the unprecedented market, technological and regulatory challenges that are impacting our current financial performance. The objective of this programme is to identify and implement, at speed, short-term gains to improve cost, cash, revenue and profitability.

Positive charged
Through decisive actions, we will reduce investment spending by £1 billion, improve working capital by £500 million and make £1 billion of profit growth and cost efficiencies, all by the end of Fiscal 2019/20.

Project Charge is on track to achieve its £2.5 billion target, with £1.25 billion of benefits already delivered during Fiscal 2018/19. These comprise the following:

- £400 million of working capital improvements, with inventory reduced by £800 million since September through actions including improved production and demand management enabled by advanced forecasting and analytics; and
- £150 million of savings in costs including labour overhead savings through our workforce reduction programme.

Paving the way to a sustainable, profitable future
Reducing the size of our global workforce by 6,000 people is expected to deliver over £400 million of ongoing cost efficiencies starting from Fiscal 2019/20, with further cost savings expected as Project Charge continues its review of costs, including commercial, purchasing and marketing activities. Project Charge will also maintain a focus on investment spend and working capital to identify, deliver and sustain the additional savings necessary to meet our £2.5 billion target.

The cost and cash improvements achieved by Project Charge enable vital ongoing investment into next-generation ACEs products and services to deliver experiences that people love, for life.

TRANSFORMING OUR BUSINESS: ACCELERATE

Jaguar Land Rover’s rapid expansion over the past decade has added complexity to our organisation, operations and supply chain management. Our response is the Accelerate transformation programme.

Shaping solutions to deliver long-term sustainable change
Accelerate will make lasting systemic, structural improvements to our business, building on the short-term financial gains already being realised through Project Charge.

There are three key workstreams:

- On-time, quality programmes
  - Optimised resource planning
  - Drive consistency and commonality
  - Step-up risk and change management
  - Mindset and process discipline
  - Supplier collaboration and quality standards

- Deliver competitive material cost
  - “Should Design” and “Should Cost” with benchmarking
  - Purchase life cycle planning and sourcing
  - Customer value-driven tech standards
  - Make versus buy

- Enhance sales performance
  - Positioning, pricing and launch approach
  - Customer-centric product and features offerings
  - Customer marketing effectiveness
  - Customer service and quality perception
  - Fix right first time – rapid diagnosis and issue resolution

We are also reviewing our organisational design and business behaviours to improve role and process clarity. By evaluating and improving our core systems, our culture and the ways we work, we will create greater efficiency and drive a relentless focus on quality and competitiveness throughout Jaguar Land Rover.
OUR PRODUCTS, OUR BUSINESS

24 Jaguar: Fearless creativity
26 The award-winning Jaguar I-PACE
28 Jaguar XE: Innovative and extraordinary
30 Land Rover: Experiences that go above and beyond
32 Land Rover: An iconic brand turns 70
34 Range Rover: Peugeot - Sophisticated evolution
36 Special Vehicles and Classic
37 Jaguar XE SV Project 8
38 Range Rover Velar SVAutobiography Dynamic Edition
39 Jaguar F-PACE SVR
40 Expanding our manufacturing footprint
42 Our technology hubs
44 The road to Destination Zero
46 Experiences: people, love, for life
Industry-leading technology

Our first all-electric model, the Jaguar I-PACE, was chosen by an expert panel of 86 prominent global motoring journalists to be the 2019 World Car of the Year, World Car Design of the Year and World Green Car – an unprecedented treble. To date, the I-PACE has won more than 60 awards. Designed to take full advantage of its electrified powertrain and bespoke aluminium architecture, the I-PACE combines SUV practicality with sports car performance.

In Fiscal 2018/19, we introduced intuitive technology, the latest convenience systems and enhanced connectivity to the Jaguar XE. Smart Settings technology uses artificial intelligence to learn the preferences of individual drivers and adjusts seat, mirror, audio and climate settings automatically.

JAGUAR: FEARLESS CREATIVITY

Jaguar’s heritage of elegant design, innovative engineering and ground-breaking technology has excited and delighted the world for over 80 years.

Today’s world-class Jaguar family comprises the award-winning XE, XF and XJ saloons, the dramatic F-TYPE sports car, the F-PACE performance crossover – the fastest-selling Jaguar ever – the E-PACE compact SUV and now I-PACE, the all-electric SUV putting Jaguar at the forefront of the electric vehicle revolution.

Decades of sporting heritage

Since the reveal of the XK120 in 1948, sports cars have been integral to Jaguar’s heritage, with the F-TYPE being the culmination of this rich lineage. To celebrate 70 years of Jaguar sports cars, we introduced the F-TYPE Chequered Flag Limited Edition. Based on the F-TYPE R-Dynamic Coupe and Convertible, and available with powerful four- and six-cylinder engines, the Chequered Flag features a range of subtle visual enhancements to the exterior and to the driver-focused “1+1” cabin.

Jaguar also commemorated 50 years of its flagship XJ luxury saloon by creating a once-in-a-lifetime drive of all eight XJ generations from the Jaguar Castle Bromwich Assembly Plant to the Paris Motor Show, where the model made its world premiere in 1968. The journey was completed by 26 global media, covered 521 miles and took in significant locations such as Jaguar Classic, Goodwood Motor Circuit and Le Mans.

Design, luxury and refinement

The Jaguar E-PACE is the latest model to feature Adaptive Dynamics to improve ride comfort, handling response and body control. This technology monitors vehicle movements every 2 milliseconds and calculates the required damping force every 10 milliseconds to respond instantly to the driver’s inputs and road surface changes.

In Fiscal 2018/19, we revealed the new Chequered Flag editions of the XF Saloon and XF Sportbrake, with design elements including special side-vent badging, Gloss Black alloy wheels, R-Sport seats and Dark Hex aluminium instrument panelling. The 300 SPORT and Chequered Flag special editions have also been added to the World Car of the Year- and World Car Design of the Year-winning F-PACE range.
THE AWARD-WINNING JAGUAR I-PACE

Nothing else looks or drives like the I-PACE.

Winner of over 60 awards, including 2019 European and World Car of the Year
World’s first truly premium electric SUV
Ground-breaking cab-forward design, engineered from the ground up for electric architecture
Lightweight aluminium body and integrated battery, delivering exceptional stiffness
Leading-edge safety, connectivity and driver assistance features

The Jaguar I-PACE is one of the safest and most innovative vehicles on the road today. It offers an engaging drive, everyday usability and a unique balance of agility, refinement and comfort.

The model embodies the innovation that puts Jaguar Land Rover at the forefront of the electric vehicle revolution. In April 2019, the I-PACE became World Car of the Year at the New York International Auto Show, also taking the World Car Design of the Year and World Green Car titles.

State-of-the-art capability and charging
The Jaguar I-PACE’s 90kWh lithium-ion battery and two light, compact and efficient electric motors deliver sports car performance of 0–60mph in 4.5 seconds and a range of up to 292 miles (WLTP). It charges from 0–80 per cent in just 40 minutes using 100kW rapid charging. Extensive energy efficiency technologies including regenerative braking and battery pre-conditioning help make the most of each charge. I-PACE fleets are already in operation as taxis in Munich, where their capability is being tested around the clock. Vehicle data from every journey is logged, and this wealth of information on real-world use is helping our engineers to develop even more efficient future electrified vehicles.

The navigation system takes account of topography and driving style to plot the most energy-efficient route, while the Smart Climate feature can heat or cool just the area around each occupant to minimise energy consumption. In Fiscal 2018/19, we launched Go I-PACE, an app that helps customers to calculate potential cost savings and battery usage and includes functionality for finding charging points.

Sustainable from inception
The I-PACE’s design has sustainability at its core. The vehicle’s lightweight aluminium body with integrated battery frame delivers the highest torsional rigidity of any Jaguar yet. As we develop our recycling capability through our REALITY research and development collaboration, we will incorporate into new vehicles increasing amounts of recycled material from existing Jaguar and Land Rover vehicles, including pre-production I-PACE prototypes.

Highlights of the body design include industry-first use of aluminium forgings and Jaguar-first applications of post-form heat treatment to increase the strength of the aluminium alloys used in crash-critical areas.

The Jaguar I-PACE has achieved the maximum five-star Euro NCAP rating and offers leading-edge safety technologies including Adaptive Cruise Control with Steering Assist, Autonomous Emergency Braking with Pedestrian and Cyclist Detection and a 360° Parking Aid. A unique Audible Vehicle Alert System also warns vulnerable road users when the vehicle is approaching – a system that was tested in conjunction with UK charity The Guide Dogs for the Blind Association. Pedestrian safety is further enhanced by a deployable bonnet system.

Seamless data-driven connectivity
With InControl technology, drivers can enjoy secure 4G connectivity, while the vehicle’s hundreds of intelligent sensors improve the driving experience by learning about user preferences. Software-over-the-air updates ensure that the Jaguar I-PACE continuously improves over time and provides drivers with updates to their infotainment system, telematics unit and battery charging capability.

THE YEAR’S HIGHLIGHTS

IN FOCUS

Winner of over 60 awards, including 2019 European and World Car of the Year
World’s first truly premium electric SUV
Ground-breaking cab-forward design, engineered from the ground up for electric architecture
Lightweight aluminium body and integrated battery, delivering exceptional stiffness
Leading-edge safety, connectivity and driver assistance features

This year’s highlights

THE YEAR’S HIGHLIGHTS

IN FOCUS

Winner of over 60 awards, including 2019 European and World Car of the Year
World’s first truly premium electric SUV
Ground-breaking cab-forward design, engineered from the ground up for electric architecture
Lightweight aluminium body and integrated battery, delivering exceptional stiffness
Leading-edge safety, connectivity and driver assistance features

This year’s highlights
JAGUAR XE: INNOVATIVE AND EXTRAORDINARY

The new Jaguar XE, launched in February 2019, is a complete package of progressive design, innovative technology and extraordinary driving dynamics. It is engineered to be the best-handling compact executive saloon.

IN FOCUS
- Enhanced look with advanced all-LED headlights and tail-lights
- All-new interior featuring beautiful details and premium materials
- New technologies from all-electric Jaguar I-PACE, including self-learning Smart Settings and Touch Pro Duo infotainment system
- Segment-first ClearSight interior rear view mirror for outstanding rear visibility
- Lightweight aluminium-intensive body and efficient Ingenium engine technologies

THIS YEAR’S HIGHLIGHTS
- Available, including powerful 300PS and 250PS petrol engines and a 180PS 2.0-litre diesel engine that returns up to 57.6mpg. The diesel is also compliant with the stringent RDE2 standards.

Designed for safety, comfort and convenience
The beautifully crafted all-new interior features extensive use of soft-touch materials, premium veneers and door trims that improve usability and practicality. The Jaguar XE’s Touch Pro Duo infotainment system, shared with the I-PACE, provides instinctive control over key vehicle functions. Wireless device charging and clever Smart Settings technology also make their first appearance in the XE alongside the first-in-segment ClearSight interior rear view mirror. Unhindered by poor light or rain, the system provides a high-definition video feed to the frameless rear view mirror.

Advanced aerodynamics in a contemporary design
With all-LED exterior lights and a new bumper profile, the XE’s contemporary design lends it an even more assertive stance. At the same time, larger front apertures, bold graphics and muscular forms allude to the vehicle’s advanced aerodynamics.

Driving performance and environmental innovation
The new Jaguar XE’s lightweight aluminium-intensive body construction, with double wishbone front and integral link rear suspension, delivers agile handling, precise steering and excellent safety. Rear-wheel-drive powertrains deliver trademark Jaguar handling, feel and balance, while the advanced all-wheel drive system with Intelligent Driveline Dynamics automatically distributes torque between the front and rear axles depending on the driving style and conditions. Three clean and efficient Ingenium engines are available, including powerful 300PS and 250PS petrol engines and a 180PS 2.0-litre diesel engine that returns up to 57.6mpg. The diesel is also compliant with the stringent RDE2 standards.
**LAND ROVER: EXPERIENCES THAT GO ABOVE AND BEYOND**

Land Rover is the world’s favourite SUV brand. Since 1948, more than 7 million have been sold in over 100 countries. Each Defender, Discovery and Range Rover model in our line-up defines its sector and is testament to decades of innovation. Our pioneering spirit and industry-leading expertise in all-terrain technologies put Land Rover at the forefront of future mobility.

**Greater choice of power**

Advanced design and technology have made the world’s finest SUVs even more efficient. Alongside the Range Rover and Range Rover Sport plug-in hybrid electric vehicles (PHEVs) that went on sale last year, we have introduced a mild hybrid electric system (MHEV) combined with an all-new Ingenium in-line six-cylinder engine. The 48-volt hybrid system ensures efficiency, with the beautifully balanced straight-six format delivering seamless refinement. Effortless power comes from combining electric superchargers with turbochargers, with the electric power filling in the torque curve for immediate response. This new addition is at the cutting edge of powertrain technologies and shows the flexibility of our modular Ingenium family.

The new powertrain debuts in the Range Rover Sport HST, in 400PS guise, with customer deliveries imminent. And from 1 May 2019, the order books opened for the Range Rover 3.0-litre in-line six-cylinder Ingenium petrol engine.

Further additions to the Ingenium family will arrive later in 2019, with the addition of a three-cylinder format that will power the new Range Rover Evoque and Land Rover Discovery Sport. The new Premium Transverse Architecture (PTA) that underpins the vehicles has been engineered to make the most of the new compact and lightweight powertrain. The three-cylinder will also be available as a plug-in hybrid, making it one of the first three-cylinder PHEVs in the segment.

**Luxury and performance**

Building on the Range Rover Velar’s elegant modern design, the SVAutobiography Dynamic Edition heightens the luxury and comfort of the world’s most beautiful mid-size SUV. The supercharged 5.0-litre V8 petrol engine delivers 550PS, while enhanced SV brakes have outstanding stopping power. The special edition offers optimised aerodynamics and cooling and optional diamond-turned finish wheels. SVAutobiography Dynamic Edition retains the all-terrain capability, traditional refinement and comfort customers expect from a Range Rover, with an even more rewarding and engaging driving experience.

**Premium capability**

The latest updates strengthen the Land Rover Discovery’s status as the ultimate family SUV. The 3.0-litre diesel engine offers excellent performance and efficiency. New Clear Exit Detection safety technologies protect occupants and other road users, helping occupants to exit the vehicle safely when there is oncoming traffic or other hazards.

Customers love the world’s most versatile compact “5+2” SUV: the Discovery Sport, for its combination of unrivalled all-terrain capability, flexibility and versatility for up to seven people with 24 possible seat configurations.

The new Discovery Sport has been updated with the latest user-friendly technology and more efficient, electrified engines offering “go anywhere” enhancements. The innovative Terrain Response 2 technology ensures you can wade rivers, climb mountains and explore places other SUVs cannot reach, while the new PTA delivers greater comfort and surpasses the most stringent global safety requirements.

**Next-generation refinement**

The second-generation Range Rover Evoque, revealed in November 2018, is also based on our new PTA. Under the skin, the vehicle is a technology revolution, setting new standards in the segment for refinement, capability and sustainability. The recognisable design has evolved. A modernist exterior is combined with a luxurious technology-rich interior, with new materials crafted from eucalyptus, wool and recycled plastics.
First debuting at the Amsterdam Motor Show in 1948, Land Rover is the story of the utility vehicle that defined the world’s favourite 4x4 and pushed the boundaries of exploration. The brand connects people who have a passion for adventure with the purposeful innovation that characterises our family of vehicles.

Today’s models trace their roots directly back to the original Series I Land Rover conceived by the Wilks brothers. 70 years have equipped us to deliver the finest off-road and all-terrain capability. Land Rovers have become some of the world’s most iconic vehicles – carrying essential relief in emergencies and disasters and being at the heart of epic adventures.

Today’s models trace their roots directly back to the original Series I Land Rover conceived by the Wilks brothers. 70 years have equipped us to deliver the finest off-road and all-terrain capability. Land Rovers have become some of the world’s most iconic vehicles – carrying essential relief in emergencies and disasters and being at the heart of epic adventures.

Land Rover vehicles are designed for adventure – and few expeditions are more adventurous than the Dakar Rally. So, it was appropriate that the first car home in the inaugural Paris–Dakar Rally, back in 1979, was a Range Rover. Since inception, our vehicles have combined rugged strength, performance and go-anywhere capability, making them the first choice on countless journeys to some of the world’s harshest environments.

This original drawing has stood the test of time, continuing to be recognised as the Defender from then until today.

Celebrating Land Rover at 70 around the world
Events took place around the world, showcasing the extraordinary work our vehicles perform, including:

- Streets of Solidarity, Red Cross, Milan: Helping the homeless by carrying supplies and acting as mobile consulting rooms, Land Rovers are used by the volunteers of Milan Red Cross to provide support to those who need it most.
- The Land of Land Rovers, West Bengal, India: Dating from 1957, 42 Land Rovers provide vital transportation for the people in the remote settlement of Sandakphu, highlighting the lasting capability of our vehicles.

Land Rover Fest
A weekend-long festival in Solihull, UK saw thousands of employees, neighbours, community partners and brand enthusiasts coming together to honour 70 years of Land Rover.

Sixteen iconic Land Rovers from the past seven decades drove in procession to kick off the weekend. Among the vehicles on show was the Red Cross Land Rover Discovery, built as a disaster relief command centre, displaying the innovative technology that helps to save lives worldwide.

Within the crowds was 97-year-old Fred Bostock, who was reunited with two historic vehicles he worked on: the Series I HUE 166 and the famous missing prototype 7.
Ground-breaking mirror technology
In a world first, cameras in the front grille and door mirrors project to the central touchscreen, giving a virtual 180-degree view in front of and underneath the vehicle. The ClearSight Ground View helps navigate difficult urban or rough terrain, while the new smart interior rear view mirror can also transform into a high-definition screen, offering better visibility.

Connected everywhere
The first Range Rover with Smart Settings artificial intelligence, the vehicle remembers and predicts the driver’s preferred temperature, media settings and commonly dialled numbers according to the time or day of the week. The vehicle also has native integration with Apple CarPlay and Android Auto.

Sustainable luxury
The way we make our vehicles and the materials that go into them is of vital importance to everyone at Jaguar Land Rover. The use of recycled and natural materials in the new Evoque along with the addition of hybrid powertrains not only enhances its appeal but also underpins our approach to sustainable luxury.

Jaguar Land Rover is Carbon Neutral certified for our UK manufacturing, and we have put sustainability at the heart of the new Evoque. The Evoque is built with up to 33kg of natural recycled material from post-consumer or post-industrial sources, such as a durable wool blend by Danish experts Kvadrat, and Dinamica® sueded cloth, created from recycled plastic.

Finishes also include our first plant-based textile, Eucalyptus Melange, which is sustainably sourced and less water-intensive than similar natural fibres. In addition, the Evoque features our first technical performance material, Ultrafabrics® polyurethane, which is 50 per cent lighter than leather and has anti-microbial and -odour properties.

THIS YEAR’S HIGHLIGHTS
RANGE ROVER EVOQUE: SOPHISTICATED EVOLUTION
Designed, engineered and manufactured in Britain, the next-generation Range Rover Evoque, revealed in November 2018, sets new standards in refinement, capability and sustainability.

IN FOCUS
- New Premium Transverse Architecture (PTA) for a smooth and quiet ride
- Self-learning Smart Settings and state-of-the-art Touch Pro Duo infotainment
- Award-winning, world-first ground view technology and high-definition rear view mirror
- Available with Land Rover’s first mild hybrid electric (MHEV) powertrain, which harvests energy for improved fuel economy and reduced emissions

The capability to go anywhere
Combining all-terrain capability with on-road composure, the new Evoque delivers improved performance, safety and stability. The Evoque is based on our new mixed-metal PTA platform, which offers front- and all-wheel-drive setups and also handles petrol, diesel, MHEV and PHEV powertrains.

Smoother driving
The new Range Rover Evoque was created from the outset around electrification. Its smooth and efficient four-cylinder Ingenium diesel and petrol engines feature 48-volt mild hybrid systems, with an even more efficient three-cylinder Ingenium petrol plug-in hybrid joining the range later this year.

Road adaptability
Intelligent sensors on the new Evoque continuously monitor road conditions, adjusting dampers to give a composed ride regardless of terrain or surface, while Driveline Disconnect disengages drive to the rear wheels when cruising to reduce frictional losses and improve fuel economy.
SPECIAL VEHICLES AND CLASSIC

The passionate people at Special Vehicles (SV) produce halo vehicles that magnify the core attributes of our strongest-ever brand portfolio.

Based at SV Technical Centre in Warwickshire, UK, a team of 500 work across 40 engineering bays to deliver stunning, tailor-made and bespoke-designed vehicles, including limited-run collectors’ editions.

Our tradition of pushing the boundaries of design, engineering and craftsmanship continues with the new Jaguar XE SV Project 8.

The 600PS supercharged V8-powered saloon is the most powerful road-legal Jaguar ever made and holds fastest production saloon records at circuits worldwide, including the Nürburgring Nordschleife, Laguna Seca, Portimão and Dubai Autodrome. The Project 8 is the second Collectors’ Edition, produced in a maximum run of 300.

THE JAGUAR LAND ROVER CLASSIC TEAM IS DEDICATED TO PRESERVING AND RESTORING OUR MOToring HERITAGE. HISTORIC CAR SPECIALISTS OFFER VEHICLES, SERVICES, GENUINE PARTS AND KNOWLEDGE TO CUSTOMERS WORLDWIDE, AS WELL AS THE BEST POSSIBLE RESTORATION FACILITIES LOCATED AT CLASSIC WORKS, A 14,000M² HUB INCLUDING SPACE FOR 480 VEHICLES AT ANY ONE TIME.

WE ALSO DRAW ON OUR HISTORY TO CREATE STUNNING VEHICLES, INCLUDING REBORN RESTORATIONS, THE GROUND-BREAKING ELECTRIC JAGUAR E-TYPE ZERO CONCEPT, ALL-NEW CONTINUATION JAGUAR D-TYPES AND THE LAND ROVER DEFENDER WORKS V8 70TH EDITION.
**RANGE ROVER VELAR SVAUTOBIOGRAPHY DYNAMIC EDITION**

The Velar SVA Dynamic Edition is the newest addition to the SV line-up. Building upon the world’s most beautiful mid-size SUV, this vehicle gains more performance, luxury and exclusivity.

With a 550PS 5.0-litre V8 supercharged engine, the vehicle is capable of accelerating from 0–100km/h in 4.4 seconds (0–60mph in 4.2 seconds) and reaching 274km/h (170mph), without compromising on traditional Range Rover refinement and comfort.

The vehicle has a range of design enhancements, optimised aerodynamics and improved cooling performance. Uprated brakes and suspension sit alongside bespoke calibrations for everything including the transmission, steering, powertrain and safety settings.

**THIS YEAR’S HIGHLIGHTS**

**JAGUAR F-PACE SVR**

The F-PACE SVR joined the F-PACE line-up for the 2019 model year, featuring a 550PS, 680Nm 5.0-litre V8 supercharged petrol engine and capable of 0–100km/h in 4.3 seconds (0–60mph in 4.1 seconds), with a top speed of 283km/h (176mph).

The F-PACE SVR features bespoke suspension, aerodynamic enhancements and new lightweight 21- and 22-inch alloy wheels to accommodate uprated brakes.

A Variable Valve Active Exhaust system ensures the supercharged V8 engine delivers a soundtrack to match its performance.

Inside, the Jaguar F-PACE SVR offers slimline sports seats featuring the SVR logo, while the Sport Shift Selector underlines the SUV’s sports car-influenced character.
## Global Expansion

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>Started contract manufacturing in India</td>
</tr>
<tr>
<td>2014</td>
<td>Opened Chinese joint venture</td>
</tr>
<tr>
<td>2016</td>
<td>Opened plant in Brazil</td>
</tr>
<tr>
<td>2017</td>
<td>Started contract manufacturing in Austria</td>
</tr>
<tr>
<td>2018</td>
<td>Opened plant in Slovakia</td>
</tr>
</tbody>
</table>

### Expanding Our Manufacturing Footprint

While the heart and soul of our business is in the UK, a balanced global footprint enables us to remain competitive.

International manufacturing brings Jaguar Land Rover closer to our customers; we can tailor our vehicles according to regional requirements. For example, we designed the Jaguar XEL and XFL specifically with our Chinese customers in mind.

The opening of our factory in Slovakia is a key milestone in our globalisation programme. Our Nitra facility, the culmination of four years of planning, opened in October 2018.

**Lean, efficient and sustainable manufacturing**

This state-of-the-art plant applies Industry 4.0 principles with the introduction of smart, connected manufacturing technologies to improve process efficiency and delivery throughout.

Shop floor visualisation tools and smart-screens enable immediate problem-solving. We are also piloting the use of blockchain, a technology that has the potential to securely link every part of our supply chain to a new digital network.

Our 300,000m² Nitra operation is the first in Europe to use the Kuka Pulse carrier system, which is 30 per cent faster than conventional conveyance systems.

To ensure sustainable and efficient operations, the plant has been designed to achieve BREEAM Excellent accreditation and includes water-saving devices and LED lighting.
OUR TECHNOLOGY HUBS

Driving technological innovation is at the heart of everything we do. Jaguar Land Rover’s engineering headquarters at Gaydon collaborates with our technology hubs around the world, harnessing the specialist skills in each centre of excellence.

OUR GLOBAL ENGINEERING HQ

GAYDON, UK

The location of our design and engineering centre, Gaydon’s facilities include extreme hot and cold climate testing, on- and off-road test tracks, a large anechoic chamber and our Virtual Innovation Centre.

Since 2017, the site has undergone significant expansion and redevelopment to create an industry-leading innovation hub for future vehicle technologies. We are centralising our global design, engineering and purchasing activities at Gaydon to ensure closer functional collaboration and introduce increased efficiencies across all of our product development programmes. The modern campus will officially reopen later this year.

THIS YEAR’S HIGHLIGHTS

OUR HUBS

SHANNON, IRELAND
SOFTWARE ENGINEERING

Our Shannon hub creates the technologies to support electrification and self-driving features. The facility contains a 3,000m² engineering workshop featuring 25 individual vehicle development bays.

MANCHESTER, UK
SOFTWARE ENGINEERING

Opened in 2018, our centre in Manchester develops Jaguar Land Rover’s mobility service technologies.

WARWICK, UK
NATIONAL AUTOMOTIVE INNOVATION CENTRE (NAIC)

Opened in Fiscal 2018/19, the NAIC is a state-of-the-art collaboration hub designed to accelerate development of future automotive technologies. The building, named after the late Professor Lord Bhattacharyya, is home to our advanced engineering research function. Our experts work alongside academics, suppliers and leading technology companies to collaborate on future mobility projects. Jaguar Land Rover’s advanced design division is also located at NAIC, using industry-leading digital systems to enable faster design development and ideas sharing.

LONDON, UK
INMOTION VENTURES

InMotion, Jaguar Land Rover’s venture capital arm, works with a growing portfolio of start-ups in the urban mobility, travel and outdoor sectors. Studio 107 is InMotion’s incubator, developing own-brand mobility services.

PORTLAND, USA
SOFTWARE ENGINEERING

Our Portland facility leads research into new open software technology to enhance our connected car offering.

BUDAPEST, HUNGARY
VEHICLE ENGINEERING

In 2019, we will open a new technical engineering office in Budapest to support vehicle testing at our Nitra manufacturing facility and the management of our European supply chain.

SHANGHAI, CHINA
LOCALISATION

Our highly qualified Chinese engineering team provides deep insight into the local automotive market. Helping to deliver Jaguar Land Rover’s autonomous, connected, electrified and shared mobility (ACES) strategy, it continuously identifies pioneering ways to adapt consumer digital trends for use in our vehicles.

JAGUAR LAND ROVER TECH HUBS
1. Shannon, Ireland: Software engineering
2. Manchester: Software engineering
3. National Automotive Innovation Centre (NAIC): Warwick Manufacturing Group (WMG)
4. InMotion, London: Innovation
5. Portland, Oregon: Software engineering
7. Shanghai, China: Localisation

JAGUAR LAND ROVER AUTOMOTIVE PLC ANNUAL REPORT 2018/19
THE ROAD TO DESTINATION ZERO

Our ambition is to make our societies safer and healthier, and our environment cleaner. We call our vision for tomorrow’s mobility Destination Zero.

Zero emissions: By 2018, battery electric vehicles accounted for only 1.3 per cent of all passenger vehicle sales in Europe. It is government incentives and policies and advances in electrification technologies that will drive consumer take-up of zero emissions vehicles. However, 100 per cent emissions-free mobility requires the decarbonisation of the entire energy production process. Modern clean, efficient combustion engines have significantly reduced emissions and will continue to play a role as we transition to a future world of electric mobility.

Zero accidents: Every year globally 1.3 million people die in car accidents, equivalent to eight jumbo jet crashes per day. Autonomous technologies can prevent these deaths.

Zero congestion: Transport infrastructure across many countries is reaching its limits. Take central London, where the average speed of traffic is 7.4mph. Intelligent, networked transport systems offer the solution, with a future generation of system-level innovation.

Our self-driving future

We have built a reputation for world firsts and breakthrough innovations throughout the long histories of our two iconic brands. This gives us a competitive advantage in understanding the needs and requirements for autonomous vehicles.

Jaguar, the creator of the world’s first disc brake in 1953, is an industry leader in aluminium lightweighting and closed-loop recycling.

Land Rover is streets ahead of the competition, with 70 years of off-roading experience supported by extensive know-how and patented technologies, such as Dynamic Stability Control and the industry-leading Terrain Response.

Through the UK Autodrive collaboration, we are trialling next-stage self-driving technologies, both on the test track and on complex, busy routes in UK cities. Prototype self-driving Range Rovers can already communicate with traffic lights, handle vehicle hazards and park themselves while protecting pedestrians and other road users.

Working in partnership with cognitive psychologists, we have researched and tested “virtual eye pods” that indicate to pedestrians that their presence has been detected and beam intent information onto the road, to evidence turning, slowing or accelerating. This research looks into the trust in autonomy for our self-driving future.

We are testing the Green Light Optimal Speed Advisory (GLOSA) system, a new vehicle-to-everything (V2X) technology designed to communicate with traffic lights to find the optimum driving speed that minimises the need for vehicles to stop at junctions. Reducing harsh acceleration and sudden braking brings positive environmental benefits, improving air quality.

Through our long-term strategic partnership with Waymo, we exchange learning and expertise about autonomy and are integrating Waymo self-driving technology into Jaguar I-PACE vehicles. Currently being tested in San Francisco, CA, an initial 20,000 I-PACEs will join Waymo’s driverless fleet and serve a potential 1 million trips daily.

Environmental advances in materials science

In the world envisaged by Destination Zero, future vehicles will be constructed with sustainable self-repairing new materials, stronger and lighter than ever before. At Jaguar Land Rover, we take a “whole systems thinking” approach in the design, sourcing, manufacturing and recycling of our vehicles, balancing aesthetics with ethics to deliver the industry-leading benchmarks for future sustainable materials.

We use natural fibres and premium recycled materials to reduce the environmental impact of our processes. The new Range Rover Evoque interior features eucalyptus textile made from 30 per cent natural wood fibres alongside polyurethane fabric, providing a durable yet lightweight sustainable material.
Creating a tranquil sanctuary inside our vehicles
Smart and connected technologies within our vehicle cabins can improve our customers’ wellbeing. We offer configurable ambient interior lighting and Driver Condition Monitors, providing early warnings for drivers to take a break. We are exploring a range of wellbeing features, including the use of Ultraviolet (UV-C) light technology to help stop the spread of bacteria and harmful viruses, a prerequisite for a world in which customers will increasingly use shared modes of transport.

Over 70 per cent of travellers suffer from motion sickness. Jaguar Land Rover engineers are creating technologies that can react and adapt for optimal passenger wellness, particularly relevant to travelling in a self-driving vehicle. An algorithm-generated “wellness score” calculates susceptibility to motion sickness, enabling the system to recommend how the vehicle should be driven, as well as adjusting settings within the cabin, reducing car sickness by up to 60 per cent. We have already collected 15,000 miles of motion sickness data, which has helped us develop a baseline of requirements for self-driving vehicles.

Understanding our customers’ needs
Our goal is to meet the ever-changing demands of our customers. Increasingly, connected technologies generate data that can be mined for the benefit of our customers, whether advising to reroute through traffic or detecting potholes. We take the safety of personal data seriously. We carry out extensive research to understand the needs, routines and habits of all of our customers. Our intelligent Go I-PACE app uses artificial intelligence to help customers understand how the electric Jaguar I-PACE would fit into their lifestyle.

The Midlands: The new valley of mobility
We are a key stakeholder in the UK Faraday Challenge, established to make the UK a centre of excellence for the research, development and scale-up of future battery technologies. The new Battery Industrialisation Centre, to be located close to our headquarters in Coventry, will lead the scale-up activities, providing the opportunity to trial advanced battery manufacturing processes.

The West Midlands will be the UK’s first multi-city testbed for 5G high-speed connectivity, vastly improving access to information.

The National Automotive Innovation Centre (NAIC) is creating a collaborative environment for innovative research. We are also testing predictive algorithms for the future of autonomy in the new Smart City Mobility Centre, located at Warwick University.

InMotion Ventures: Targeting new forms of mobility
Jaguar Land Rover is passionate about smart mobility beyond our own business, which is why we are developing and supporting new ideas and services in the broader urban mobility sector.

Our venture capital arm, InMotion Ventures, backs start-ups that have the potential to change the way we travel. InMotion invests in urban mobility and travel and in Fiscal 2018/19 expanded its reach to include start-ups offering active outdoor experiences. We have seen exceptional developments and breakthroughs in these sectors.

Studio 107, InMotion’s incubator, came online in 2018. Its aim is to help Jaguar Land Rover develop own-brand mobility services that let the Company quickly trial, test and launch new products that meet evolving consumer demands. Its offerings include Carpe, an unlimited, all-inclusive car subscription model aimed at high-mileage drivers, and THE OUT, an on-demand premium car rental service.
EXPERIENCES
PEOPLE LOVE,
FOR LIFE

We put our customers first. Our commitment to excellence sits at the heart of everything we do to deliver outstanding vehicles and services.

Listening to customers at every opportunity
At Jaguar Land Rover, customer involvement begins at the earliest stages of vehicle conception:
• Our customer insights team collects and analyses feedback from our customers, which our designers, engineers, and product managers use to inform decisions and improvements. New high-level insights are shared company-wide on a weekly basis.

We gather customer service insights from our retailers in 143 markets. We also visit customers at home and at work to learn about who they are, how they live and the role their vehicles play in their lives.

Thanks to the creativity of our customers, we often co-create ideas with them. Examples include:
• Larger and smarter stowage, including door bins, hidden compartments, and compartmentalised console storage;
• Accessories for dog owners;
• Larger screens; and
• Retention of switches, buttons, and dials for customers who want physical controls.

A premium retail experience
Our ARCH retail corporate identity is designed to excite our customers and create memorable experiences of our businesses and brands.

Encompassing the entire retail space, ARCH:
• Offers crisp, modern, beautifully presented design language that enhances Jaguar and Land Rover;
• Builds brand awareness and recognition;
• Is scalable enough to support small facilities through to statement sites; and
•Uses an internal layout that supports sales, aftersales and service processes.

Focus on quality
Jaguar Land Rover is committed to delivering superior vehicles and services.

Product quality and customer service transformation are key components of our Accelerate transformation programme, designed to deliver long-term operating efficiencies and enhance customer satisfaction.

Working with teams across the Company, we have developed a new vision and purpose for quality at Jaguar Land Rover. The vision identifies strategic imperatives for achieving the highest quality throughout the product lifecycle and for maximising satisfaction and loyalty at every single customer touchpoint.

We have made significant investments into issue detection and the speed of resolution, including:
• Warranty transformation: using predictive analytics technology to detect customer issues faster;
• Complex issues analysis: opening a new Diagnosis Centre within MIRA;
• Escalation of priority issues: gaining insights from “Voice of Market” reports issued by our Customer Service department; and
• Faster resolution: establishing engineering support presence in key markets. These measures have enabled Jaguar Land Rover to meet Real Driving Emissions (RDE2) standards ahead of time for several of our vehicles.

APPLYING CUSTOMER FIRST INSIDE OUR BUSINESS

Our employees are our customers too, so we have adopted our Customer First Principles as business behaviours throughout Jaguar Land Rover. These principles are the following:
• Transparent
• Personalised
• Make me feel special
• Easy to do business with
• Dependable
ACTING WITH RESPONSIBILITY

Our customers care about the world around them. As do we. Our company and our portfolio of vehicles have never been more sustainable. From our impact on the environment and use of the world’s precious resources, to the way we engage with communities and individuals across the globe, responsibility is at the core of who we are and what we do.

It is this commitment that drives our continuous investment into our people and our wider communities. We know the value of the resources within our cars and our operations. It is our goal to make sure we use those resources to help build a better society, a cleaner environment and to drive sustainable, profitable growth. It is a belief we share entirely with the Tata Group.

PROGRESS TOWARDS OUR 2020 GOALS

INCREASINGLY SUSTAINABLE CHOICES FOR OUR CUSTOMERS

<table>
<thead>
<tr>
<th>Goal</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ensure our vehicles are among the leaders for tailpipe CO₂ emissions</td>
<td>All-electric Jaguar I-PACE launched with zero tailpipe CO₂ emissions</td>
</tr>
<tr>
<td>Reduce European fleet average tailpipe CO₂ emissions by 45% vs 2007 levels</td>
<td>On Track</td>
</tr>
<tr>
<td>Introduce electrified powertrains</td>
<td>From 2020 all our vehicles will have the option of electrification, including full battery electric, plug-in hybrid and mild hybrid variants</td>
</tr>
</tbody>
</table>

REDUCED ENVIRONMENTAL FOOTPRINT ACROSS OUR BUSINESS

<table>
<thead>
<tr>
<th>Goal</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Carbon Neutral manufacturing operations</td>
<td>Gained Carbon Neutral certification at our UK manufacturing and product development sites</td>
</tr>
<tr>
<td>Zero waste across our operations</td>
<td>Achieved zero waste direct to landfill from our UK manufacturing sites</td>
</tr>
<tr>
<td>30% reduction in key environmental impacts over vehicle life cycles vs 2007</td>
<td>Delivered a 29% reduction in the global warming potential of our global vehicle fleet over the product plan life cycle vs 2007</td>
</tr>
<tr>
<td>Reduced water use by 23% per vehicle built in the UK vs 2007 levels</td>
<td>All tier one suppliers are expected to be compliant with the ISO 14001 environmental management standard, or equivalent</td>
</tr>
<tr>
<td>Key sustainable sourcing criteria applied to all purchasing decisions</td>
<td>All Tier one suppliers are expected to be compliant with the ISO 14001 environmental management standard, or equivalent</td>
</tr>
</tbody>
</table>

A WIDER CONTRIBUTION TO SOCIETY

<table>
<thead>
<tr>
<th>Goal</th>
<th>Progress</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create jobs, train our workforce and offer learning to our communities through the Jaguar Land Rover Academy</td>
<td>Jaguar Land Rover remains the UK’s biggest car manufacturer, employing just over 40,000 people globally (at 31 March 2019)</td>
</tr>
<tr>
<td>Deployment of our engineering expertise to solve societal problems through technology, recycling, waste management and emissions reduction programmes</td>
<td>This year our employees committed over 75,000 hours through our volunteering programme, supporting a diverse range of charity and community partners</td>
</tr>
</tbody>
</table>

DEVELOPING TECHNOLOGY FOR GOOD

Tackling key challenges facing society and changing the future through technology.

ADVANCING ENVIRONMENTAL INNOVATION

Reducing the environmental impact of our business across the product life cycle.

embracing the circular economy

Efficient resource consumption, to do more with less by closing the loop on precious materials, recycling and reusing our waste and materials whenever we can.

enhancing education, skills and wellbeing

Our future depends on our people, which means attracting and retaining the best, developing talents and skills, and supporting inclusion and diversity.
CREATING VALUE BEYOND OUR BOUNDARIES

Our global social impact programme delivers environmental and social benefits, from far-reaching education programmes to supporting disaster resilience.

Jaguar Land Rover China Children – Youth Dream Fund

Since 2014, the Jaguar Land Rover China Children and Youth Dream Fund has helped hundreds of thousands of young people to realise their potential. Launched in partnership with the China Soong Ching Ling Foundation, the Dream Fund is designed to build brighter futures, especially for underprivileged children. In 2018, we launched the programme’s second phase, which focuses on creative education, social care and China–UK cultural exchanges, extending the projects reach to more than 500,000 young people.

Volunteering our time

This year our employees committed over 75,000 hours through our volunteering programme, supporting a diverse range of charity and community partners.

In Fiscal 2018/19, 22 per cent of Jaguar Land Rover employees donated their time and skills to a range of local community organisations. In total, they donated 75,318 hours.

This year, Jaguar Land Rover supported over 2.2 million people through our projects, volunteering hours and gifts in kind totalling over £7.4 million.

Helping grow healthy food for the community

Jaguar Land Rover Solihull has partnered with Gro-Organic, an award-winning social enterprise, to create an allotment producing food for the local community. Now in its second year, the project brought together 30 of our volunteers, who contributed 270 hours of work to clean and prepare the land. Company-branded moss boards are removing carbon monoxide from the atmosphere, and young people receive valuable employability and life skills training. The project has already provided 20 boxes of fresh food to the local community and will continue to contribute through food banks, schools and churches.

Delivering shared value in Nitra

During Fiscal 2018/19, Jaguar Land Rover employees donated almost 500 volunteering hours to complete a series of social impact projects in Nitra, Slovakia, the home of our newest manufacturing facility. Working with the city council, they helped renovate public spaces and buildings. This included creating Nitra’s first-ever therapeutic sensory room, where children with visual impairments and other disabilities can play, relax and enhance their wellbeing. We have also delivered education programmes, including our Jaguar Primary Schools Challenge and Land Rover 4x4 in Schools Technology Challenge, to inspire the next generation of engineers. We have also created an endowment fund that will ensure our long-term support for local projects to benefit the city and its people.

Responsible business verification

This year we received a Silver score from EcoVadis for our sustainability performance, including the impact of our supply chain. The business sustainability ranking measures environmental, social and governance activities, supporting our overall third-party verification plans.

Helping improve the natural environment in Brazil

In Brazil at the commencement of manufacturing operations, Jaguar Land Rover planted an area of trees covering 1 hectare on its land, as part of efforts to recreate the natural Atlantic forest of the area. We are now embarking on planting another hectare of trees on land we own. Collectively this will cover an area the size of approximately three football pitches. Jaguar Land Rover is embedded in the state refugee of the middle Paraiba do Sul River working group, supporting the protection of endangered species, maintenance of water resources, ecological restoration and management of land use and educating local inhabitants of its importance.

Working with our suppliers

Close collaboration with our suppliers is vital to the success of Jaguar Land Rover. We maintain a sustainable, resilient supply chain wherever we operate, and all our suppliers are expected to be ISO 14001 certified, or equivalent. We uphold the highest environmental and social standards as identified in our Supplier Sustainability Guide and make this clear to all of our tier one suppliers in our guidelines.

Like other automobile manufacturers, our supply chain is highly complex. We will build on the knowledge we have developed through the 75 per cent of our component suppliers who submit their sustainability performance measures to the Achilles data management system.
Both Jaguar and Land Rover have long histories of innovation. At the heart of the Jaguar Land Rover business is Destination Zero, our vision for a future world of zero emissions, zero accidents and zero congestion. We are channelling our talent, ideas and innovation to use technology to drive improvements and tackle some of the key challenges facing society – from pollution and climate change to the revolution in mobility.

Supporting Red Cross disaster relief projects
Land Rover’s global strategic partnership with the International Federation of Red Cross and Red Crescent Societies (IFRC) is one of the world’s longest-standing humanitarian partnerships. We have supported the organisation for more than 60 years, through disasters and in some of the world’s harshest and most remote locations.

Our rich history of capability has proved to be the perfect match for the IFRC’s needs. The proven all-terrain technologies inherent to Land Rover vehicles help the organisation to carry out its vital work in some of the world’s toughest conditions. Recently joining the support line-up is our unique Land Rover Discovery, designed as a mobile command centre and added to the Austrian Red Cross emergency response fleet in 2018. The Discovery is equipped with state-of-the-art communications equipment and an advanced drone with thermal imaging camera. It can reach remote disaster zones in all conditions, immediately improve response times and support emergency coordination.

Our worldwide partnership with the Red Cross has funded 20 humanitarian projects in 25 countries since 2013, reaching over 1.1 million people.

Designing for disability
One sixth of the global population is registered with a disability, while medical advances and extended lifespans mean many global populations are ageing. Our vehicles already include features that can dramatically improve usability for people with limited mobility.

Taking that further, our engineers have developed a door that opens automatically when the driver approaches. The prototype is being tested on the Range Rover Sport and uses motion sensors and existing keyless entry to detect the driver and open automatically as they approach. On-board radar sensors stop the door swinging into objects.

Once inside, the driver can close the door using a button, without needing to lean back out to reach the handle, or control doors from the infotainment system. The door, which can also be programmed to close and lock as the driver leaves, will benefit many disabled people as well as those with children or carrying heavy loads.
ADVANCING ENVIRONMENTAL INNOVATION

Our future relies on finding ways to be more environmentally efficient. We continue to systematically reduce our impact by assessing our footprint across the whole life cycle and value chain of our products. Globally, we have already doubled production while halving emissions from our manufacturing sites.

This focus on improvement has delivered significant milestones, most recently our Carbon Neutral status in the UK.

To future-proof our business, we are using science and data to define our sustainability goals beyond 2020, aiming to deliver more targeted improvements in our environmental performance by 2025 and beyond. We report our progress transparently, informed by leading sustainability frameworks such as the GRI (Global Reporting Index) Core standard.

Decarbonising our operations and portfolio

Working with carbon experts the Carbon Trust, we have verified our UK manufacturing and product development sites as Carbon Neutral from April 2017 to March 2018.

We have reduced our global operating CO₂ emissions per vehicle by 50.7% per cent versus 2007.

We continue to purchase 100 per cent renewable, zero carbon electricity at our UK sites**, as well as our manufacturing plant in Slovakia. Solar panels at our UK engine and product development plants and our Changshu, China plant provide over 1.3MW electricity-generating capacity annually. In addition, our Itatiaia plant in Brazil benefits from purchased electricity generated from renewable sources, primarily hydro power.

Reducing vehicle emissions

Through the introduction of more electrified products and the relentless innovation of our Ingenium petrol and diesel powertrains, we continually seek to reduce tailpipe CO₂ emissions. We are on track to deliver a 41% per cent reduction in European fleet average tailpipe CO₂ emissions by 2020 versus 2007.

Between 2007 and 2017 we reduced our European fleet average tailpipe CO₂ emissions by 36.1 per cent.

All Jaguar and Land Rover models comply with the standards required by the Real Driving Emissions (RDE) testing procedure, and some new models, such as the latest Range Rover Evoque in its D150 manual front-wheel drive trim, already meet the stringent RDE2 specification. From January 2020, RDE2 will require vehicles to emit 80mg/km NOx or less. The Evoque is the first luxury compact SUV to achieve this standard.

Since 2010, low-friction engine designs have helped cut real-world NOx emissions by 90 per cent, reducing emissions during warm-up, while the exhaust injects AdBlue fluid into exhaust gases, converting them into harmless nitrogen and water. Combined with efficient Diesel Particulate Filters that trap 99.9 per cent of soot, our current Ingenium engines comply with the strict Euro 6d-Final standard.

The introduction of mild hybrid electric vehicle technology further reduces emissions by capturing energy during deceleration. We have also added smart Active Vanes to the Range Rover Evoque, which help the engine reach operating temperature sooner and when cooling is not required, such as in steady-state cruise, to reduce drag by up to 14 per cent. Active Vanes will soon be rolled out to other Jaguar and Land Rover products.

Increasing water efficiency

We know the importance of water security to our business, suppliers and communities – we all rely on good-quality fresh water. We are reducing our water use, to 2.79m³ per car, versus our 2007 baseline.

For each car we build in the UK, we have already delivered a 23 per cent reduction in operating water use, to 2.79m³ per car, versus our 2007 baseline.

CO₂ emissions for overseas manufacturing (tonnes)

| N/A | 75,692 | 83,897 | 80,658* |
| FISCAL 2016/17 | FISCAL 2017/18 | FISCAL 2018/19 |

Data is based on our operations in Brazil and Australia. Operational CO₂ emissions have decreased over the plan period primarily due to improvements in external grid factors and reduced volumes.

CO₂ emissions for UK operations (tonnes)

| 380,362 | 364,325 | 337,370 | 268,909 |
| FISCAL 2015/16 | FISCAL 2016/17 | FISCAL 2017/18 | FISCAL 2018/19 |

Data is based on our operations in Solihull, Halewood, Castle Bromwich, Gaydon, Whitley and our Engine Manufacturing Centre.

Operational CO₂ performance includes purchased gas, electricity and steam.

Operational CO₂ performance includes purchased gas and electricity.

* Europe only in China.

** Due to volume increase, cleaning of the grid mix and efficiency improvements in UK, Austria, China joint venture and Brazil plants.

*** Including our small, leased office facilities.

* Excluding our small, leased office facilities.

Data is based on our operations in Solihull, Halewood, Castle Bromwich, Gaydon, Whitley and our Engine Manufacturing Centre.

Operational CO₂ performance includes purchased gas, electricity and steam.

Operational CO₂ performance includes purchased gas and electricity.
EMBRACING THE CIRCULAR ECONOMY

As early adopters of circular economy principles, Jaguar Land Rover has long recognised that “take, make, waste” processes threaten the availability of natural resources and materials upon which we all depend.

Aluminium is a key component of our manufacturing process and vehicle design. Our latest project, REALITY, builds on long-standing work such as 2016’s REALCAR initiative and finds pioneering ways to recover aluminium from end-of-life vehicles to build next-generation models. The process, developed in conjunction with Innovate UK, is currently being tested on Jaguar I-PACE prototypes. Bringing circularity into the vehicle life cycle, we are recovering and reforming aluminium from used vehicles and giving it a second life in new models.

We are a sector leader in the application of aluminium closed-loop production. Working with our suppliers, we reuse up to 75 per cent recycled content in our aluminium alloy grades, from the scrap generated from body pressings.

Between September 2013 and March 2019, 316,000 tonnes of closed-loop scrap were reprocessed into lightweight aluminium-intensive architectures. This year alone, 74,215 tonnes were reprocessed, and we continue to use this approach across all applicable car lines.

Moving towards zero waste
We do not send any waste direct to landfill from our UK manufacturing and product development sites. This year we have reviewed our global packaging requirements, to clarify the opportunity for waste reduction in each region.

Tackling the issue of single-use plastic
Plastics pose one of the biggest challenges, but also opportunities, for the wider adoption of circular economy thinking. To date, we have removed 14 million single-use items from across the business, including disposable cups and vehicle part packaging. We have replaced customer magazine plastic bags with biodegradable polylopes.

Sustainable materials in our vehicles
Life cycle assessment helps us compare performance characteristics of a range of raw materials and understand the full environmental impact of our vehicles. We have developed a range of high-tech, high-performing materials for our interiors, including a durable wool blend by Danish experts Kvadrat and Dinamica® suede cloth created from recycled plastic bottles.

Crates to Classrooms
The brainchild of Jaguar Land Rover employees at our Pune facility, Crates to Classrooms has donated more than 700 desks to seven schools local to the plant. Now in its fourth year, the team enlists the help of a local carpenter to upcycle used pallets and crates into desks for disadvantaged children. The project contributes towards our circular economy objectives and has so far benefited more than 1,000 students.

* Data applies to UK manufacturing, Engine Manufacturing Centre, Gaydon, Whitley, Changshu, Itatiaia and Graz facilities.
ENHANCING EDUCATION, SKILLS AND WELLBEING

Jaguar Land Rover Academy
The Jaguar Land Rover Academy is founded on the principle of lifelong learning. All employees, regardless of age, background or career stage, can take advantage of the Academy, and 340 of our employees are currently being sponsored to achieve an academic degree or higher qualification.

Education programmes
Our science, technology, engineering and maths (STEM) education programmes offer pupils and teachers the opportunity to demonstrate their creativity and skills and learn about engineering:
- The Jaguar Primary School Challenge, enabling 6–11-year-olds to research, design and create model cars;
- The Land Rover 4x4 in Schools Technology Challenge, for 11–19-year-olds to build advanced all-terrain radio-controlled vehicles and code autonomous vehicles;
- Apprenticeships leading to NVQ3 qualifications and University of Warwick Applied Engineering degrees;
- 12-week and 12-month paid placements for degree students; and
- Two-year graduate programmes across the Company.

Furthering Futures
This is an exciting new campaign, launched by Jaguar Land Rover in Fiscal 2018/19, to inspire talented female STEM students to pursue innovative, creative careers. Challenging outdated stereotypes, the campaign presents young women with an in-depth look at careers in the automotive sector, as well as opportunities to meet pioneering women from the business and hear their inspirational stories.

<table>
<thead>
<tr>
<th>JAGUAR LAND ROVER ACADEMY PERFORMANCE IN FISCAL 2018/19</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>JAGUAR LAND ROVER ACADEMY PERFORMANCE IN FISCAL 2018/19</strong></td>
</tr>
<tr>
<td><strong>1,689,147</strong></td>
</tr>
<tr>
<td>Total hours spent on learning</td>
</tr>
<tr>
<td><strong>28,955</strong></td>
</tr>
<tr>
<td>Number of people trained</td>
</tr>
<tr>
<td><strong>1,112</strong></td>
</tr>
<tr>
<td>Average number of hours spent learning by each employee</td>
</tr>
<tr>
<td><strong>286</strong></td>
</tr>
<tr>
<td>Number of graduates recruited</td>
</tr>
</tbody>
</table>

340 People currently on academic sponsorship programmes for bachelor’s degrees or higher
110,863 E-learning courses completed
44,937 Classroom sessions completed
The Furthering Futures event attracted 80 female A-level and undergraduate students from across the UK. This was followed by the launch of our apprenticeship application route for female A-level students.

Promoting diversity in engineering
We are committed to fostering a diverse, inclusive culture that is representative of our customers and the society in which we live. We believe in a culture where every employee is comfortable being their authentic selves and have made significant progress in the past year.

Our work to build a diverse workforce includes:

- **Employee networks** – eight employee-led networks are now active, including our Gender Equality Network, LGBT Network, and BAME and Black Professionals Networks;
- **Supporting LGBT employees** – our LGBT Network attended Birmingham Pride in May 2018, and in October, we were proud to mark the 30th National Coming Out Day across all our UK sites;
- **Unconscious bias training** – launched to help employees identify and understand their own biases; and
- **Increasing gender diversity** – we run specific education, apprenticeship and undergraduate programmes to encourage more women to study STEM subjects and pursue engineering careers.

The proportion of female managers at Jaguar Land Rover has tripled to 17 per cent since 2011. We invest in leadership development for women in senior positions through our partnership with The Pipeline. In the past four years, seven employees have completed the Top Flight programme and 53 have attended the Leadership Summit. A new alumni network, launched in December 2018, enables those who attended the Summit to share best practice and ideas and to support other women in the business.

2018 GENDER PAY GAP REPORT – KEY POINTS

- More early-career females have been recruited.
- 15 per cent of Jaguar Land Rover’s engineering apprentices are female, compared to the national average of just 4 per cent.
- 36 per cent of total apprenticeship recruits were female and, for the first time, we recruited more women (55 per cent) than men to our advanced apprenticeship programme.
- Our female workforce has increased by 18.5 per cent.
- A 1.3 percentage point increase to our gender pay gap and a 0.6 percentage point increase to our gender bonus gap.

* All figures referenced during the 2018 Gender Pay Gap period, April 2017 – April 2018.
RISK MANAGEMENT

68  Our approach to risk
70  Our principal risks
OUR APPROACH TO RISK

We endeavour to manage and monitor risk factors that could impact our plan for long-term sustainable growth.

Defining risk
Risks are uncertain events that could materially impact organisational objectives — negatively for threats and positively for opportunities. We recognise that risk is inherent in all business activities and must be balanced when assessing returns. Successfully managing risk is therefore key to realising our strategic objectives and the long-term sustainable growth of our business. Enterprise risk management (ERM) is used as a system to identify, assess, manage and continually monitor and report on key risks that could affect our business.

Responsibility for risk
The Board of Management is ultimately responsible for the management of risks within Jaguar Land Rover, while the wider organisation is responsible for the proactive day-to-day management and control.

• The Board of Management reviews our key risks to monitor the progress of remediation actions.

• The Risk Management Committee provides oversight of current and emerging risks at a detailed level, which are reviewed against acceptable levels of exposure.

• Principal risks and exceptions are regularly reported to the Audit Committee, to assist in the decision-making process and ensure adequate controls are in place to protect the organisation.

Risk management
We work to achieve an informed understanding of our tolerance for risk when delivering our overall business plan and pursuing value-enhancing opportunities. In doing so, we are mindful that the objective of risk management is not necessarily to eliminate risk, but to ensure that exposures fall within predetermined levels of acceptability and control. The ultimate goal of risk management within Jaguar Land Rover is to continually assess the control environment to prevent and build resilience against any internal or external uncertainties, both anticipated and unforeseen.

OUR FRAMEWORK FOR RISK MANAGEMENT

Creating and sustaining value through ERM
The ERM framework helps us to identify new and evolving risks and opportunities so we can understand and manage uncertainties that may materially impact our business objectives. This supports informed decision-making to enable future value creation and preserve value through routine operations. The ERM framework is also an effective communication tool used by senior management to monitor and gain consensus on how to effectively manage and control risks enterprise-wide.

The environment in which we operate is dynamic, as are the risks we face. We plan for certain known changes to the industry and the external environment while remaining sufficiently flexible for unknown events that are inherently difficult to anticipate. Managing the changing operating environment and being resilient to sudden unforeseen challenges supports the long-term sustainability of the business and healthy, profitable growth.

ORGANISATION AND COMMITMENT
Risk management is integrated into organisational activities and underpinned by corporate policy. A cross-functional network of risk champions coordinates the identification, monitoring and management of risks within their respective functional areas. A central ERM team consolidates, monitors and reports on risk information, maturity and appetite to the Risk Management Committee, Board of Management, Audit Committee and Jaguar Land Rover Automotive plc Board.

PROCESS AND IMPLEMENTATION
We embed structured and systemised risk management processes and procedures into routine activities enterprise-wide, from both an internal and external context. This standardisation supports the creation and preservation of business value through functional engagement and a consistency in approach when addressing uncertainty.

EVALUATION AND REPORTING
The ERM framework is periodically evaluated for its effectiveness, using key risk and key performance indicators. Risk reporting to stakeholders is structured to inform and support key business decisions and initiatives. Departing taxonomy classifies and categorises risks to enable appropriate stakeholder working groups to evaluate relevant risks and to ensure the selection of high-quality inputs and appropriate remediation strategies and responses.

OUR RESPONSIBILITY FRAMEWORK
Risks are identified, assessed and rated against a defined set of criteria, considering the probability of occurrence and potential impact to the business. Plotting our principal risks helps to visualise overall exposure from a corporate perspective.

Changes to our principal risks during Fiscal 2018/19:
Our principal risks change as our business evolves in a dynamic external environment. In Fiscal 2018/19, we have focused more emphasis on the potential impacts within the global economic and geopolitical environment – in particular, relating to Brexit and the downturn in the China market.

One new principal risk has been introduced into the top 10 listing:
10. Human capital

The more challenging market conditions and recent workforce reductions have put pressure on our human capital resource. There is a risk that the retention of key skills and attracting key resource become more challenging in the present environment, so maintaining an engaged workforce with a high level of core skills is essential to the success of our transformed organisation.

One principal risk has moved out of the top 10 listing:
• Exchange rate fluctuations

A significant proportion of our revenue is derived from North America, China and other international markets, and we source a significant proportion of our components from Europe. The movement in exchange rates relevant to these currency exposures can cause significant financial volatility in our business; however, we have an established hedging policy in place to mitigate the majority of this volatility.

Jaguar Land Rover classifies risks into four broad categories to facilitate efficient risk management and formulate effective response strategies. Our risk register details our principal risks as well as other notable risks that are reported to and monitored by the Risk Management Committee and Board of Management.

We recognise the need to anticipate and prepare for future challenges and trends that may develop and that could materially affect our long-term business success. Our risk horizon scanning enables us to proactively anticipate forthcoming potential issues to inform our strategy creation process and strategic objectives.
Global economic and geopolitical environment

Our continued global presence increases our exposure to changes in the global economic and geopolitical environment as well as to significant internal factors (e.g. Brexit, China’s political instability, migration restrictions, war, terrorism, natural disasters) that may negatively impact our business.

Given our global distribution of sales, changes in the external environment could have a significant impact on the global demand for our vehicles. Our global sourcing strategy and supply chain resilience could be negatively affected by disruption caused by external factors beyond our control.

We continue to maintain our international manufacturing footprint and a balanced sales profile across our key sales regions. We also continue to closely monitor and risk-assess global developments that may require us to implement mitigation plans where appropriate (e.g. Brexit—no-deal scenario).

Global economic growth in developed and emerging markets presents opportunities to increase sales. Global growth and rising market demand also continue to drive electrification, digital connectivity and new disruptive entrants evolve.

Our potential inability to successfully position, maintain and articulate the strength of our brands as well as failing to develop new products/technologies that meet customer preferences, or suffering delayed product launches, could impact demand for our products.

Recent successful model launches (e.g. Jaguar i-PACE, Jaguar E-PACE, Range Rover Velar), have broadened our product range to existing and new customers in established and emerging segments. In addition, we regularly monitor the perception of our brands to quickly identify and address uncertainties that may arise to determine our brand values to customers.

We continue to invest in R&D and we also continue our strategic focus on key technology areas, including autonomy, connectivity, electrification and shared mobility (ACES), with the aim of launching pioneering products ahead of our competition.

Substantial changes to the market (e.g. ACE2) enable us to focus on launching industry-defining products and services ahead of our competition as well as strengthening partnerships with global technological organisations.

We continue to invest in R&D and also continue our strategic focus on key technology areas, including autonomy, connectivity, electrification and shared mobility (ACES), with the aim of launching pioneering products ahead of our competition.

We have invested substantially in the development of our next-generation modular architecture, the in-house manufacturer and continuous refinement of internal combustion engine and electrification technologies, including mild and plug-in hybrids as well as battery-powered models. We retain an EU derogation permitting alternative fuel average CO2 targets.

The Code of Conduct sets out the behaviours that we expect of our staff, including conforming to the highest moral and ethical standards and complying with applicable laws, including those relating to anti-bribery and corruption, data protection, fair competition, sanctions and export controls.

We are committed to conducting business in an ethical manner in order to instil a reputation of trust and reliability. Such qualities foster greater business relationships with suppliers, retailers, governments, and partnerships with other third parties.

Environmental regulations and compliance

We are subject to a rapidly evolving regulatory landscape with associated legal, regulatory and policies that all impact the vehicles we produce and our manufacturing facilities (e.g. CO2 emissions, fuel economy and noxious/quality emissions).

We incur additional compliance costs, including incremental investment, to avoid facing significant civil and regulatory fines, and our competitors may gain an advantage by adopting new emissions-reducing and fuel-efficient technologies before us.

We were the first premium manufacturer to introduce a battery electric vehicle into mainstream production with the Jaguar I-PACE and we have introduced the Range Rover and Range Rover Sport PHEV models. From 2020 we will offer an electric option on each of our models.

The continued refinement of our internal combustion engines and production flexibility within our Engine Manufacturing Company allows us to compete on the front foot by delivering clean, sustainable propulsion technologies—whether diesel, plug-in and mild hybrids or electric vehicles.

Our international activities expose us to increasingly diverse and complex legal and other frameworks (e.g. GDPR) in a variety of countries and as such, we need to maintain legal and ethical standards across the global locations in which we operate.

Non-compliance with ethical and/or legal practices may materially impact our reputation and could result in investigations being placed on our operations, causing business disruption.

Our Code of Conduct sets out the behaviours that we expect of our staff, including conforming to the highest moral and ethical standards and complying with applicable laws, including those relating to anti-bribery and corruption, data protection, fair competition, sanctions and export controls.

We are committed to conducting business in an ethical manner in order to instil a reputation of trust and reliability. Such qualities foster greater business relationships with suppliers, retailers, governments, and partnerships with other third parties.

Compliance with business efficiency

Delivering on operational efficiency objectives is key to sustaining profitable growth. Unintentionally relating to the achievement of the projected benefits needed to be managed to a minimum.

If we are unable to deliver the desired efficiency benefits our business results may be adversely impacted and our ability to compete successfully over the longer term could be affected.

We have launched certain initiatives (e.g. Project Charge and Project Accelerate) to reduce costs and increase operational efficiency. Furthermore, from 2020 we will be introducing our next-generation modular architecture, which will streamline engineering and manufacturing processes and reduce complexity with the aim of reducing costs and improving quality.

The transformation of our business presents us with a unique opportunity to engage in meaningful business success around the world. Jaguar Land Rover and to participate in a more sustainable and impactful way, it needs to be enabled to create the changes to help build an economy capable of providing for the future.
GLOBAL SALES
Jaguar Land Rover retail sales were 578,915 vehicles in Fiscal 2018/19, down 5.8 per cent year on year, primarily reflecting weaker market conditions in China offset by growth in the UK and North America.

RETAIL SALES BY REGION
Retail sales in China were down 34.1 per cent year on year (including sales from our Chinese joint venture, Chery Jaguar Land Rover Automotive Company Ltd. Wholesales represent vehicle sales made to dealers.

Similarly, new and refreshed models supported significant sales growth of 8.1 per cent in North America, where Jaguar Land Rover outperformed the market, which saw a modest decline year on year, impacted by higher interest rates and a slowing economy. Retail sales also grew 2.4 per cent in Overseas markets.

Retail sales in Europe declined 4.5 per cent year on year on account of continuing diesel uncertainty, Brexit and the change to the more stringent World Harmonised Light Vehicle Testing Procedure (WLTP) emissions testing regime.

In the UK, retail sales were up 8.4 per cent year on year, beating the industry, which was down 3.7 per cent given Brexit uncertainty and diesel challenges. Jaguar Land Rover outperformance was driven by import duty changes. This resulted in lower retail sales of most models, including the Range Rover Evoque ahead of its replacement in Fiscal 2019/2020. Sales of the new products did, however, improve year on year, with sales of the long-wheelbase Jaguar XEL, Jaguar E-PACE and the refreshed Range Rover and Range Rover Sport up.

In Overseas markets, retail sales were down 5.8 per cent year on year, primarily reflecting weaker market conditions in China offset by growth in the UK and North America.

Note: Jaguar Land Rover retail sales represent vehicle sales made by dealers to end customers and include the retail sale of vehicles produced from our Chinese joint venture, Chery Jaguar Land Rover Automotive Company Ltd. Wholesales represent vehicle sales made to dealers. The Group recognises revenue on wholesales. (See note 3 of the financial statements on page 130.)

RETAIL SALES BY BRAND
Retail sales declined by 5.8 per cent in Fiscal 2018/19 as the introduction of new and refreshed models led by the Jaguar E-PACE, award-winning Jaguar I-PACE, Range Rover Velar and the refreshed Range Rover and Range Rover Sport were offset by lower retail sales of more established models, mainly in China, and the run-out of the first generation Range Rover Evoque in the third quarter ahead of the launch of the new Evoque, which is now available.

Jaguar retail volumes were 180,198 vehicles in Fiscal 2018/19, up 3.2 per cent year on year, as increased retail sales of the E-PACE and the introduction of the award-winning all-electric I-PACE were partially offset by lower sales of other models, primarily F-PACE and XF.

Land Rover retailed 398,717 vehicles in Fiscal 2018/19, down 9.3 per cent year on year reflecting the weaker China performance and run-out of the first-generation Evoque, and despite strong retail sales of the Range Rover Velar as well as the refreshed Range Rover and Range Rover Sport.

Note: Volume data includes retail sales from unconsolidated Chinese joint venture of 57,578 units.
In Fiscal 2018/19, the auto industry experienced unprecedented challenges, with the weak-market conditions in China and signs of weaker industry conditions in other markets; geopolitical uncertainty with rising populism, tariff and trade tensions; and in the UK Brexit remaining an uncertainty. At the same time, the industry is confronting rapid technological changes relating to electrification, autonomy and connectivity, and increasing regulatory requirements, reduced diesel demand following “dieselgate” and government policies and taxation.

Jaguar Land Rover’s financial performance has been adversely impacted by these developments. The business is taking action with Project Charge to improve costs, profitability and cash flow over £2.5 billion through Fiscal 2019/20 as well as Accelerate to make longer-term structural improvements. At the same time, Jaguar Land Rover continues to execute its product and technology plans, including the successful launch of the Jaguar I-PACE, the all-new Range Rover Evoque with hybrid options and the forthcoming new Land Rover Defender.

Jaguar Land Rover retail sales were 578,915 vehicles in Fiscal 2018/19, down 5.8 per cent year on year. The lower year-on-year sales are more than explained by a significant drop in China sales, reflecting weak-market conditions. This was partially offset by stronger sales growth in North America and the UK, while sales in Europe were somewhat lower, reflecting continuing reduced consumer diesel demand. Sales of newer models such as the Range Rover Velar, Jaguar E-PACE, Jaguar I-PACE and 2018 model year Range Rover and Range Rover Sport were up, while other models were down with the lower China sales. Wholesale sales (excluding sales from our China joint venture) were 507,895 vehicles, down 6.9 per cent year on year, generating revenues of £24.2 billion, £1.6 billion lower than last year.

The loss before tax and exceptional items was £358 million, down £1.4 billion compared to Fiscal 2017/18. The loss reflects the lower wholesales, particularly in China, higher incentive spending, higher depreciation and amortisation and higher warranty costs, partially offset by c.£150 million of cost savings achieved under Project Charge and favourable foreign exchange.

The loss before interest and tax (EBIT) was £180 million (-0.7 per cent margin) in Fiscal 2018/19 compared to £971 million EBIT (3.8 per cent margin) in Fiscal 2017/18.

As a result of the weaker sales and profitability, Jaguar Land Rover recorded an exceptional £3.1 billion write-down to the carrying value of previously capitalised investments in Q3. After this and a £149 million exceptional charge for a separation programme in Q4, the loss before tax was £36.8 billion.

Free cash flow was negative £1.3 billion after total investment spending of £3.8 billion. Jaguar Land Rover raised £1.2 billion of funding in the year with a €500 million seven-year bond and a £1 billion syndicated loan maturing in 2022 ($200 million) and 2025 ($800 million). Jaguar Land Rover also completed a £700 million committed receivables discounting facility, with the first drawing in April 2019. Total cash and financial deposits at 31 March 2019 was £3.8 billion and total liquidity was £5.7 billion, including a £1.9 billion undrawn revolving credit facility, with debt totalting £4.5 billion.

Looking ahead, we anticipate that the challenges facing the automotive industry will continue. However, we expect Project Charge, Accelerate and a strong pipeline of new products to produce improvements in business performance in Fiscal 2019/20 and beyond.
Capital structure
At 31 March 2019 we had £5.7 billion of total liquidity, comprising cash and financial deposits of £3.8 billion and an undrawn committed revolving credit facility (RCF) of £1.9 billion. Total debt outstanding at 31 March 2019 was £4.5 billion, giving a net debt position of £736 million at the fiscal year end.

Debt maturity and liquidity at 31 March 2019 (£ millions)

### LIQUIDITY AND NET DEBT
Total cash and financial deposits at 31 March 2019 was £3.8 billion, comprising cash and cash equivalents of £2.8 billion and financial deposits of £1.0 billion. This compares to total cash and financial deposits of £4.7 billion at the end of Fiscal 2017/18. The majority of cash at 31 March 2019 was held in the UK, with £262 million held in subsidiaries overseas.

Including our £1.9 billion revolving credit facility (fully undrawn but committed until July 2022), total liquidity stood at £5.7 billion at 31 March 2019 compared to the £6.6 billion of liquidity at the end of the previous fiscal year.

Considering total cash of £3.8 billion and net of total indebtedness of £4.5 billion, net debt was £736 million at 31 March 2019. This compares to a net cash position of £926 million at the end of Fiscal 2017/18.

### LIQUIDITY AND NET DEBT
Total cash and financial deposits at 31 March 2019 was £3.8 billion, comprising cash and cash equivalents of £2.8 billion and financial deposits of £1.0 billion. This compares to total cash and financial deposits of £4.7 billion at the end of Fiscal 2017/18. The majority of cash at 31 March 2019 was held in the UK, with £262 million held in subsidiaries overseas.

Including our £1.9 billion revolving credit facility (fully undrawn but committed until July 2022), total liquidity stood at £5.7 billion at 31 March 2019 compared to the £6.6 billion of liquidity at the end of the previous fiscal year.

Considering total cash of £3.8 billion and net of total indebtedness of £4.5 billion, net debt was £736 million at 31 March 2019. This compares to a net cash position of £926 million at the end of Fiscal 2017/18.

### BORROWINGS AND INDEBTEDNESS
At 31 March 2019, we had £4.5 billion of debt outstanding, comprising £3.6 billion of unsecured bonds (including £1.6 billion of capitalised fees), a £755 million (1% billion) unsecured loan (including £2.8 million of capitalised fees), £114 million equivalent of total short-term discounted receivables and £311 million of finance leases. Of the £3.6 billion of bonds, £1.5 billion are denominated in US Dollars, (of which £748 million have been designated as foreign currency hedges), £1.1 billion are denominated in Pounds Sterling and £987 million are denominated in Euros. We also have a balanced profile of maturing debt, with 32 per cent maturing after five years, 48 per cent in one to five years and the remaining 20 per cent maturing within one year.

In September 2018, we issued a €500 million (£431 million equivalent) unsecured 7.5-year bond with a coupon of 4.5 per cent, maturing January 2026. In October 2018, we arranged and drew down on a $1 billion (£755 million equivalent) unsecured syndicated loan with a $200 million maturing in October 2022 and $800 million maturing in January 2025. Furthermore, in March 2019 we entered into a new $700 million (£538 million equivalent) two-year committed invoice discounting facility to be drawn from April 2019, to replace the maturing $295 million uncommitted invoice discounting facility, noting also that per the new facility funded receivables will be accounted as sold, rather than debt. Please see note 25 on page 151 for further disclosure on our loans and borrowings.

### Maturity of debt at 31 March 2019

1 FY (Fiscal Year) refers to a 12-month period ending on 31 March. CY (Calendar Year) refers to a 12-month period ending on 31 December.

2 The face value of outstanding bonds and loans is reflected and excludes £14.4 million of deferred fees capitalised on the balance sheet.