

THE FUTURE STARTS HERE



## INVENTING THE FUTURE TODAY



AT JAGUAR LAND ROVER, WE'RE NOT CONTENT  
JUST TO BE A PART OF A CHANGING WORLD.  
WE'RE HELPING TO SHAPE IT.

## A CHANGING WORLD

IN A FAST-MOVING WORLD, THERE ARE EXCITING OPPORTUNITIES AS WELL AS CHALLENGES, NOT ONLY FOR OUR FUTURE CARS AND SERVICES BUT FOR HOW WE IMPACT SOCIETY, THE ENVIRONMENT AND BUSINESS FOR THE BETTER.

### POPULATIONS AND CITIES ARE GROWING

We're continuing to invest in clean, smart, connected cars, game-changing technology and innovation projects to develop "smart" societies with improved mobility. In partnership with government, academia and wider industry, we're passionate about playing our part to help keep our cities moving and healthy.

### RAW MATERIALS AND NATURAL RESOURCES ARE FINITE

Old "take-make-waste" thinking is unsustainable. Through new "closed-loop" manufacturing processes, we're doing more with less – reducing the need for virgin material to make our cars, extending the life of our vehicles and components, maximising recycling and minimising waste to landfill.

### WHAT CAN BE DONE ABOUT CLIMATE CHANGE?

The good news is we can all do something to limit the carbon emissions each of us produces. At Jaguar Land Rover, we're focused on providing a choice of fuel-efficient vehicles with lower impacts across the board. Energy efficiency in our industrial plants is another top priority. We already use 100% renewable electricity to power our operations\*.

### THERE'S A BIG SHORTAGE OF SKILLS NEEDED TO PIONEER INNOVATION FOR THE FUTURE

We're continuing to invest heavily in inspirational programmes for children and young people, to encourage the next generation of engineering and technology pioneers. Inside our Company, innovation, research and lifelong learning are the routes to new skills, new ideas and new solutions that will shape the future.

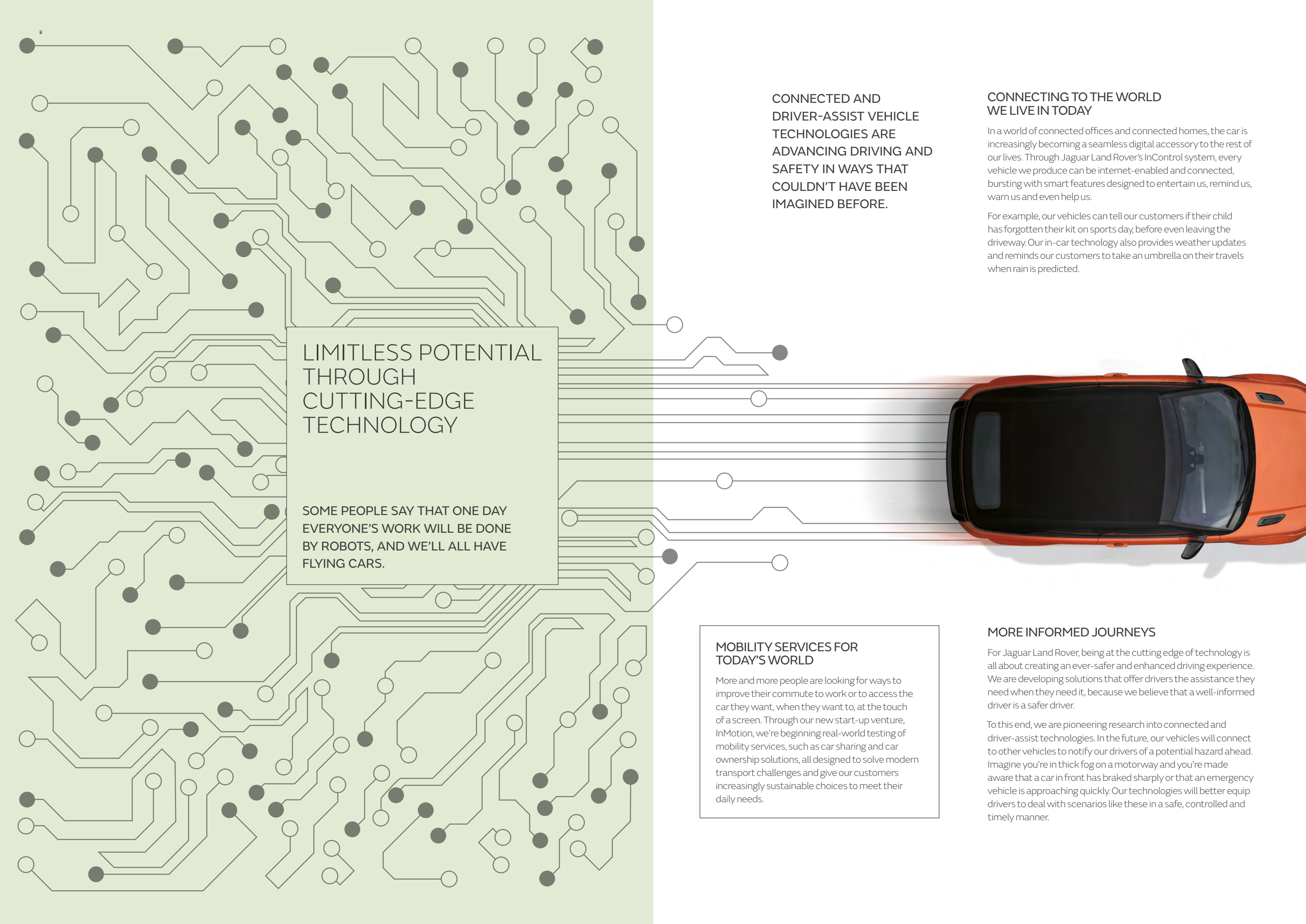
### COMMUNITIES RIGHTLY EXPECT LARGE COMPANIES TO MAKE A WIDER CONTRIBUTION

We're passionate about the power of engineering and technology to improve lives and experiences. We're not just thinking about the vehicles we make but the ways to solve major challenges facing disadvantaged people everywhere. We're targeting areas where we can apply our "people first" philosophy and engineering expertise to help create a better future for all.

AT JAGUAR LAND ROVER, WE DON'T  
CLAIM TO PREDICT EVERYTHING THAT  
TOMORROW HOLDS.

WHAT WE DO KNOW IS THAT THE FUTURE  
IS CLOSE, THE FUTURE IS EXCITING AND THE  
FUTURE DEPENDS ON WHAT WE DO TODAY.

\* Jaguar Land Rover now purchases 100% renewable electricity from EDF for its UK operations, ring-fenced specifically for the company under EDF Energy's Renewable product label.



LIMITLESS POTENTIAL  
THROUGH  
CUTTING-EDGE  
TECHNOLOGY

SOME PEOPLE SAY THAT ONE DAY  
EVERYONE'S WORK WILL BE DONE  
BY ROBOTS, AND WE'LL ALL HAVE  
FLYING CARS.

**CONNECTED AND  
DRIVER-ASSIST VEHICLE  
TECHNOLOGIES ARE  
ADVANCING DRIVING AND  
SAFETY IN WAYS THAT  
COULDN'T HAVE BEEN  
IMAGINED BEFORE.**

**CONNECTING TO THE WORLD  
WE LIVE IN TODAY**

In a world of connected offices and connected homes, the car is increasingly becoming a seamless digital accessory to the rest of our lives. Through Jaguar Land Rover's InControl system, every vehicle we produce can be internet-enabled and connected, bursting with smart features designed to entertain us, remind us, warn us and even help us.

For example, our vehicles can tell our customers if their child has forgotten their kit on sports day, before even leaving the driveway. Our in-car technology also provides weather updates and reminds our customers to take an umbrella on their travels when rain is predicted.

**MOBILITY SERVICES FOR  
TODAY'S WORLD**

More and more people are looking for ways to improve their commute to work or to access the car they want, when they want to, at the touch of a screen. Through our new start-up venture, InMotion, we're beginning real-world testing of mobility services, such as car sharing and car ownership solutions, all designed to solve modern transport challenges and give our customers increasingly sustainable choices to meet their daily needs.

**MORE INFORMED JOURNEYS**

For Jaguar Land Rover, being at the cutting edge of technology is all about creating an ever-safer and enhanced driving experience. We are developing solutions that offer drivers the assistance they need when they need it, because we believe that a well-informed driver is a safer driver.

To this end, we are pioneering research into connected and driver-assist technologies. In the future, our vehicles will connect to other vehicles to notify our drivers of a potential hazard ahead. Imagine you're in thick fog on a motorway and you're made aware that a car in front has braked sharply or that an emergency vehicle is approaching quickly. Our technologies will better equip drivers to deal with scenarios like these in a safe, controlled and timely manner.

## AUTONOMY: PUTTING SAFETY AT THE HEART OF EVERYTHING WE DO

Today's rich world of technology brings autonomous vehicles within touching distance. Already, inside our current production vehicles, assistance systems are focused entirely on safe driving. Smart technology sensors can assist a driver in a moment of potential risk or automatically take appropriate action to ensure our drivers are the safest they can be in our vehicles. We're now developing and shaping the future in this area with the UK's first real-world testing of autonomous driving. Ensuring future technology is rigorously tested is a philosophy that has been part of our heritage from the start; it's what makes us the experts we are today.



## CLEAN, CAPABLE, DESIRABLE

Reducing tailpipe emissions is one of the biggest challenges for the automotive industry. Since 2008, we have been investing heavily in the development of ultra-clean petrol and diesel engines, alongside hybrid and electric technologies. We offer customers a choice of vehicles with world-class fuel economy and low emissions. Environmental innovation is at the heart of our product and business vision as we continue to develop a range of solutions to reduce our carbon footprint and impact.

As part of this plan, Jaguar has gone back to racing in the Formula E all-electric series. This provides us with an exciting test-bed for battery and electrification technology, and a developing pipeline of learning for our electrification strategy.

## THE JAGUAR I-PACE CONCEPT CAR

This year, Jaguar announced the I-PACE concept car, its first electric sports SUV. The I-PACE concept offers daring design, luxurious interior space, exhilarating acceleration and an expansive range between charges. It is truly the art of effortless, silent and ultra-efficient performance and remains true to the spirit of every ground-breaking Jaguar that's gone before it.

When the full production version goes on sale in 2018, the I-PACE concept will offer formidable performance and a great experience. It will sprint to 60mph from a standing start in around four seconds, allied to an impressive range between charges of close to 220 miles or 500 km\*.

\* 500 km on the European driving cycle (NEDC) and 220 miles on the US driving cycle (US EPA).

# #JaguarElectrifies



## INSPIRING AND ENGINEERING THE SKILLS OF TOMORROW, TODAY

THE NEXT GENERATION WON'T JUST HAVE THE SKILLS TO GET GREAT JOBS, THEY'LL BE PIONEERS OF FUTURE INNOVATION.



THE AUTOMOTIVE SECTOR WILL SEE MORE CHANGE IN THE NEXT 10 YEARS THAN IT HAS SEEN IN THE LAST 50, WITH ADVANCED CAR TECHNOLOGIES OFFERING HUGE POTENTIAL TO CHANGE TRAVEL AND TRANSPORT FOR THE BETTER. PEOPLE WORKING WITH US HAVE A GREAT OPPORTUNITY TOO – TO ENGINEER A BETTER WORLD. YET, AS THE SECTOR LOOKS TO SHAPE THIS FUTURE, IT FACES ONE OF ITS BIGGEST CHALLENGES: A SHORTFALL IN ENGINEERING AND TECHNOLOGY SKILLS.

“BY 2022 WE’RE FACING A SHORTFALL OF 300,000 SKILLED ENGINEERS IN THE UK ALONE. WE SEE IT AS OUR RESPONSIBILITY TO HELP ADDRESS THIS IN EVERY WAY WE CAN. OUR ENTRY INTO FORMULA E WITH PANASONIC JAGUAR RACING IS A KEY PART OF OUR NEW CAMPAIGN, GIVING US A ONCE-IN-A-GENERATION OPPORTUNITY TO ATTRACT AND INSPIRE MILLIONS OF YOUNG PEOPLE INTO ENGINEERING AND TECHNOLOGY CAREERS.”

Fiona Pargeter  
Global PR Communications Director, Jaguar Land Rover

### STEM AT SCHOOL

The skills shortage can be traced back to choices made at school. The plain truth is that there aren’t enough young people studying the science, technology, engineering and maths (STEM) subjects that enable them to pursue a career in science or engineering. And, despite all the initiatives to encourage young people, the talent pipeline is still in danger of running dry.

### NOT A “SPANNER AND HAMMER” JOB

We must change outdated perceptions and show parents, teachers and children alike that engineering is not a “spanner and hammer” job for the boys. Engineering and technology are open to all and can offer a lifetime of opportunities and inventive, creative careers. This is why we’re investing heavily in programmes to encourage more children into STEM subjects.

Since 1999, Jaguar Land Rover has engaged with over two million young people in the UK through our Inspiring Tomorrow’s Engineers initiative. By 2020, we will engage with a further two million worldwide.

We’re not stopping there. The Jaguar Land Rover Academy – founded on strong links with universities and colleges – is helping to shape the educational curriculum, offering ways for bright young minds to qualify academically and step into a rewarding career.

And every year, we reach out directly to many thousands of young people through a range of inspiring programmes. Using our participation in Formula E motor racing, we’ve launched a campaign to open young minds to a world that’s literally electrifying. And through our Formula 1 in Schools challenge, we’re showing kids that STEM subjects aren’t just fascinating, they’re fun.

This year, Jaguar Land Rover was proud to welcome more than 550 graduates and apprentices to start their journey with us. That makes us the biggest recruiter of graduates and apprentices in the UK. And we’ll continue to invest in developing, encouraging and inspiring young people. They are our future.

FIND OUT MORE ABOUT  
LEARNING AND CAREERS  
WITH JAGUAR LAND ROVER  
[www.jaguarlandrovercareers.com](http://www.jaguarlandrovercareers.com)

## RETHINKING WASTE

WASTE DOESN'T CONJURE UP A GREAT IMAGE FOR MOST PEOPLE, BUT THE TRUTH IS THAT "LEFTOVERS" CAN BE VALUABLE AND WORTH TREASURING. THAT'S WHY WE'RE WORKING WITH OTHERS TO REPLACE OLD "TAKE-MAKE-WASTE" PROCESSES WITH MORE SUSTAINABLE METHODS AND MATERIALS.

### ALUMINIUM: WHEN GOING ROUND IN CIRCLES IS A GOOD THING

Using aluminium in our cars has helped us to improve fuel economy and lower CO<sub>2</sub> emissions because it's a light material as well as a strong one. Another great thing about aluminium is that it lends itself well to recycling, so it makes perfect sense to recover and reuse it where possible.

Our pioneering REALCAR partnership with Novelis, our aluminium supplier, has done just that, by completely changing the way we work and creating a circular, "closed-loop" manufacturing process. We now collect and reuse surplus aluminium from our processes to make sure that the aluminium comes back into our cars, which maximises the value of its next life.

In one year alone (to April 2016), we reclaimed more than 50,000 tonnes of press shop aluminium waste – enough to make around 200,000 Jaguar XE body shells. Giving all that aluminium another life has also prevented more than half a million tonnes of CO<sub>2</sub> from being released into the atmosphere.

### CARBON FIBRE COLLABORATION

Land Rover has joined up with Sir Ben Ainslie's team in a bid to win the America's Cup – the blue riband of sailing and the world's oldest international sporting trophy.

What Land Rover brings to the party is vast engineering capability, design expertise and pioneering technology – all focused on developing the fastest America's Cup class boat and helping the crew take the 'F1 on water' chequered flag.

The project is a rich learning ground in other ways too, with knowledge flowing in all directions.

When it comes to carbon fibre, for example, boat builders and carmakers share a keen interest. We use some carbon fibre in our vehicles but for boat designers, it's the main material. By collaborating on America's Cup boat development and technologies, we are using our recycling expertise to explore ways the team can reduce waste and manufacture in a more sustainable way.

### WE NEED TO TALK ABOUT PLASTIC

The world produces a staggering amount of plastic every year yet only around 10% is recycled. Millions of tonnes end up in landfill – or the sea. Plastics don't have as much commercial value as metals like aluminium so there are no quick or easy answers when it comes to reuse. But this isn't stopping us from joining forces with like-minded companies and leading universities to try to change things fundamentally, step by step, including prototyping components made from pioneering, more sustainable materials. One example is a felt made out of 100% recycled materials (plastics from bottles, textiles and carpets), which we use in wheel arch liners, dashboard insulation, seating and trim.

We are serious about a cleaner future, and rethinking and reducing waste is at the heart of our strategy.



OUR APPROACH

CUSTOMERS AND PRODUCTS

SUPPLY CHAIN

OPERATIONS

PEOPLE AND COMMUNITIES

# A CLOSER LOOK AT HOW WE'RE RESHAPING THE FUTURE

We've set the scene in previous pages and now we're going to report on our approach and performance over the past year. Our review focuses on the actions we're taking to create strong foundations for responsible and sustainable growth. For full data tables and trends, see the Performance and Reporting supplement to this document.

Unless otherwise stated, data is for the year ended 31 March 2016.

## OUR APPROACH

- 02 Our approach
- 03 Our vision
- 04 Whole-life thinking: Reducing impacts across the vehicle life cycle
- 04 Vehicle life cycle assessment (LCA): Jaguar F-PACE

## CUSTOMERS AND PRODUCTS

- 05 Cleaner, safer mobility
- 05 Reducing tailpipe emissions
- 06 Air quality
- 06 A cleaner future: Electric and hybrid vehicles
- 07 Turning waste into great products
- 07 Customer First: "Always on" insight
- 08 Improving safety for all

## SUPPLY CHAIN

- 09 Applying our standards: Global and local suppliers
- 10 Human rights and labour standards: Putting people first
- 10 Conflict minerals
- 10 Transport

## OPERATIONS

- 12 Carbon neutral manufacturing
- 13 Investing in energy savings and operational CO<sub>2</sub> emissions reduction
- 13 Targeting zero waste
- 14 Conserving and managing water
- 14 Designing facilities for the future: Sustainable construction

## PEOPLE AND COMMUNITIES

- 15 Lifelong learning for our people and communities
- 17 Technology for good
- 18 Health and safety

# OUR APPROACH

The challenge to build a sustainable, cleaner, greener world is one we at Jaguar Land Rover embrace with relish. Our innovative technologies don't just make better cars, they can help so many people live better lives in so many ways. That is what we are about at Jaguar Land Rover. Making the world a better place.

We are more than playing our part in shaping the future, as this report will demonstrate. It involves everything we do – from designing and engineering emission-free vehicles, to how we build them, or source materials, or eliminate waste. Reducing tailpipe emissions is just the start.

We are going further, developing electric and hybrid technologies as well as ultra-clean petrol and diesel engines. Each solution is designed around customers' specific needs.

We aim to have achieved zero waste in manufacturing by 2020. It cannot come soon enough.

Everywhere we operate, our desire is to be more than just a valued employer but also a good neighbour. To be part of the fabric of the community. Our business is not just about profit and sales. It is about people. Developing talent throughout people's lives is key. Giving them every opportunity to continue to learn and find new skills.

Our innovative technologies don't just make better cars, they can help so many people live better lives in so many different ways. That is what we are about at Jaguar Land Rover. Making the world a better place.

Please don't regard this report as a desire for plaudits or credit, although we are proud of what we do and how we do it. Instead, see it is a statement of fact and intent – of who we are and the world we will help create.

**Dr Ralf Speth**  
Chief Executive Officer





## OUR VISION

When we talk about sustainability at Jaguar Land Rover, we're talking about a better future. Our vision is to work in harmony with our natural and social environments, making a positive contribution to the world in which we operate, with a wider purpose beyond profit alone.

## OUR FRAMEWORK

We deliver our sustainability strategy through:



Shaping efficient, smart, connected and advanced vehicles for our customers



Transforming operations through energy, water, waste reductions and circular economy efficiencies



Investing in community actions that matter to us and the societies in which we operate



Working collaboratively with our suppliers and partners to drive shared sustainable value

## KEY 2020 GOALS

DESIGNED TO DELIVER VALUE

1

### INCREASINGLY SUSTAINABLE CHOICES FOR OUR CUSTOMERS

- Ensure that all our vehicles are amongst the leaders for tailpipe CO<sub>2</sub> emissions performance
- For our European fleet average, our target is to reduce tailpipe CO<sub>2</sub> emissions by 50% vs 2007 emission levels
- Introduce alternative powertrains: hybrids and electric technologies

2

### REDUCED ENVIRONMENTAL FOOTPRINT ACROSS OUR BUSINESS

- Carbon neutral manufacturing operations
- Zero waste across our operations
- Achieve 30% reduction in key environmental impacts over the life cycle of our vehicles (vs 2007 per vehicle baseline)
- Achieve 30% reduction in water use (per vehicle, vs 2007 baseline)
- Sustainable sourcing: key criteria applied to all purchasing decisions

3

### A WIDER CONTRIBUTION TO SOCIETY

- Creating jobs, training our workforce and offering learning opportunities across all our communities – through the Jaguar Land Rover Academy
- Look for ways to use our engineering expertise to solve societal issues including the availability of resources, climate change and restricted mobility – through innovative technology, recycling, waste management and emissions reduction programmes

THESE GOALS HELP US ADD SOCIAL, ENVIRONMENTAL AND ECONOMIC VALUE.

## WHOLE-LIFE THINKING: REDUCING IMPACTS ACROSS THE VEHICLE LIFE CYCLE

As part of our approach, we look at impacts across the whole vehicle life cycle, not just impacts in our own facilities. This is where Life Cycle Assessment (LCA) comes in.

LCAs study every stage of a vehicle's life cycle to identify environmental impacts, develop ways to reduce them and inform future vehicles and technologies. All of our learnings are fed back into the design, development and production of new models so that our vehicles continue to deliver step changes in environmental improvement.

Since completing the UK's first full vehicle LCA study in 2009, we have continued to use the LCA approach to actively reduce the environmental footprint for all of the vehicles we plan to produce in future.

## 30% reduction

Life Cycle Assessment techniques are helping us to reduce key environmental impacts by 30% over the life cycle vs 2007, by 2020.

## VEHICLE LIFE CYCLE ASSESSMENT (LCA): JAGUAR F-PACE

Through detailed LCAs down to component level, we have reduced the environmental impact of the Jaguar F-PACE: minimising the carbon footprint from development and manufacturing to customer use and vehicle end of life.

We know that every improvement adds up. We've used innovative processes such as 3D "virtualisation" to assess end-of-life treatment, so avoiding the need to produce physical prototypes to identify environmental impacts and efficiencies.

### RECYCLED/RENEWABLE MATERIAL

Over 44kg of recycled/renewable materials in each vehicle, of which 16kg is recycled content. Using this recycled material saves over 8,000 tonnes of diverted waste over the next six years.

### REDUCED TAILPIPE CO<sub>2</sub> EMISSIONS

A 6% reduction in life cycle emissions – from lightweighting, improved aerodynamics and new engine technology – when compared to the equivalent Discovery Sport 2.2-litre TD4.

### RECYCLED ALUMINIUM CONTENT OF UP TO 50% IN ALUMINIUM BODY STRUCTURES

Scrap metal from the body-stamping process is segregated, collected and returned to the supply chain for re-melting, reducing the need for primary aluminium. This conserves valuable energy and reduces material production CO<sub>2</sub> emissions.

### RECYCLING MAXIMISED AT VEHICLE END OF LIFE

Components such as bumpers, wheel arch liners and seat foams are designed to be easily removed so they can be sent to dedicated waste recycling streams.



# CUSTOMERS AND PRODUCTS

## SUSTAINABLE CHOICES FOR TODAY'S WORLD

Our customers' needs and lifestyles are changing, and society faces a host of challenges from climate change to population growth. We're investing in ever more sustainable vehicles, and also looking beyond traditional vehicle use by innovating in mobility.

### CLEANER, SAFER MOBILITY

#### LOW EMISSION VEHICLE TECHNOLOGY

The automotive industry has made great progress in reducing tailpipe emissions of carbon dioxide (CO<sub>2</sub>), nitrogen oxides (NO<sub>x</sub>), hydrocarbons and particulates.

Achieving further stretch emissions goals to 2050 remains one of the industry's biggest long-term challenges and Jaguar Land Rover is continuing to play its part.

We are helping to create a cleaner future through continual investment in new vehicle technologies. We're working on several fronts: optimising, downsizing and increasing the efficiency of the internal combustion engine; developing alternative powertrains (advanced hybrid and battery-electric); achieving weight reductions and aerodynamic gains; and saving energy through more efficient heating and ventilation.

### TACKLING MODERN TRANSPORT CHALLENGES

At the same time, we're dedicated to shaping the future of mobility through innovative, sustainable products and services that go beyond traditional vehicle use ([see page ii](#)). These innovations – including electrified vehicles, connected and autonomous vehicle technology, and different ways to enjoy and own a car – are opportunities for low carbon lifestyles, cleaner air, better traffic flow and safer roads.

## £3.1 billion

In 2015/16, we invested more than £3.1 billion in product development.



Our state-of-the-art Engine Manufacturing Centre (EMC) in Wolverhampton.

### REDUCING TAILPIPE EMISSIONS

In the case of a vehicle powered conventionally by an internal combustion engine, approximately 66% of the CO<sub>2</sub> emitted over the vehicle's lifetime occurs when it's being driven. Standards for NO<sub>x</sub> emissions (linked to air quality) and CO<sub>2</sub> emissions (linked to climate change) are set by governments around the world. Jaguar Land Rover complies with all current NO<sub>x</sub> and tailpipe CO<sub>2</sub> legislation.

We accept that there is a difference between lab tests and real-world tests for tailpipe emissions, and also recognise the need for the industry to show that it is delivering on air quality. We welcome the move to real-world testing and the greater clarity and transparency this will bring to our customers. We continue to actively engage with government, industry bodies and other stakeholders on the development of effective regulations.

## 32% reduction

We achieved a 32% reduction in our tailpipe CO<sub>2</sub> emissions in 2015 vs 2007 (European fleet average).

TAILPIPE CO<sub>2</sub> EMISSIONS – EUROPEAN FLEET AVERAGE  
(g/km CO<sub>2</sub> – calendar years)



## DRIVING DOWN CO<sub>2</sub>: PETROL AND DIESEL ENGINES

We have continued to expand our family of highly efficient Ingenium engines. Our new advanced four-cylinder petrol engine is at the heart of our low emissions strategy and is now in production, featuring state-of-the-art technologies to deliver outstanding performance while meeting the most stringent global emissions regulations.

Looking to the future, the flexible design of our Ingenium engines enables us to introduce low emission technologies as they are developed, such as Jaguar Land Rover's revolutionary automatic transmission. We're developing this transmission technology via

TRANSCEND, a £30-million advanced research project, which uses an ultra-wide ratio spread to integrate low-range gearbox, dual-clutch and hybrid technologies to deliver new levels of off-road performance and fuel economy improvements of nearly 10%.

We continue to invest heavily in engineering and technology – including £1 billion on cleaner engine development at our Engine Manufacturing Centre (EMC) in Wolverhampton. We've already significantly reduced our European fleet CO<sub>2</sub> average by 32% since 2007. By 2020, new technologies will help us to reduce CO<sub>2</sub> emissions by a further 25%.

## AIR QUALITY

Compared with petrol engines, diesel engines emit much lower levels of CO<sub>2</sub> as well as offering consumers better fuel efficiency for high mileage trips and lower tax bands for CO<sub>2</sub>. However, we recognise that diesel is linked to issues of air quality and health. In line with the industry standard, Jaguar Land Rover offers Euro 6 diesel engines that reduce NO<sub>x</sub> emissions by 80%, and we continue to invest heavily in advanced clean diesel technology, engineered to meet the most stringent global regulations. Across our whole diesel vehicle range, we are fitting the most advanced NO<sub>x</sub> control technology available.

Inside the vehicle, we also focus on air quality by measuring, analysing and developing materials for customer wellbeing.



Our diesel Ingenium engine achieves as low as 109g/km of CO<sub>2</sub>\* in the new Range Rover Evoque and as low as 99g/km of CO<sub>2</sub>\* in the all-new Jaguar XE, the most efficient Jaguar ever built. It is also the cleanest, using the latest low-pressure exhaust gas re-circulation (EGR) and urea selective catalytic reduction (SCR) systems to control NO<sub>x</sub> emissions, and a diesel particulate filter to reduce particulate emissions by 99%.

\*On European drive cycle.

## PUSHING THE BOUNDARIES OF ELECTRIFICATION

Our return to racing in the Autumn 2016 season of the FIA Formula E Championship provides a real-world, fast-track test-bed for future Jaguar Land Rover electrification technology, transferring innovation from track to road.



I-PACE concept car.

## A CLEANER FUTURE: ELECTRIC AND HYBRID VEHICLES

Over recent years, we have been researching and developing a range of advanced plug-in hybrid (PHEV), mild hybrid (MHEV) and battery electric vehicle (BEV) propulsion systems.

### THE JAGUAR I-PACE CONCEPT CAR

This year, Jaguar revealed the I-PACE concept car, an electric performance SUV (for further details, see page iii.) This electric Jaguar is the answer to one question but we have a lot more answers to come. Beyond the vehicle, we're working across the whole electrification ecosystem, with a clear focus on inventing products and solutions for a cleaner future – from energy usage to battery storage and recycling. We're also making sure that buying our electrified cars will be as convenient and attractive for customers as our conventionally powered vehicles.

An electric vehicle produces no direct driving emissions. In developing the I-PACE concept, we have looked ahead to the need to significantly reduce overall greenhouse gas (GHG) emissions in the future – for example, the 2008 UK Climate Change Act

stipulates an 80% reduction by 2050. This means looking at emissions across the whole vehicle life cycle, including manufacturing and charging.

### THE RANGE ROVER HYBRID

The Range Rover Hybrid is an example of how we are offering more choice to our customers, through innovative vehicle technologies that combine environmental credentials with a great drive experience. This is the first diesel hybrid SUV of its kind in the world, combining the benefits of an electric motor and conventional powertrain. The vehicle's hybrid technologies deliver impressive efficiencies, while innovative engineering ensures that energy is transmitted seamlessly between battery and engine. Regenerative braking captures and stores kinetic energy in the battery, normally lost through braking. This is then used to power the electric motor and ensures that torque is instantly available on demand. The 3.0L SDV6 diesel engine with a 35kW electric motor delivers 14% lower (27g/km less) CO<sub>2</sub> emissions when compared to the TDV6 engine at 169g/km.

\*EU market-weighted average electricity.

## TURNING WASTE INTO GREAT PRODUCTS

Through collaborating with others and taking a scientific approach to solve problems, we're working on ways to use materials more sustainably.

### ALUMINIUM AND CARBON FIBRE

As the largest user of sheet aluminium in the UK, it's important that we use this resource wisely and well. Jaguar Land Rover is a world leader in recycling aluminium. Working with our partners, including supplier Novelis, our unique closed-loop manufacturing process has reduced surplus aluminium, saving energy and cutting manufacturing emissions.

This has enabled more than 50,000 tonnes of press shop aluminium waste to be reclaimed in one year and prevented more than 500,000 tonnes of CO<sub>2</sub> equivalent (taking into account all greenhouse gases) from entering the atmosphere in the same period.

We're investigating opportunities for creating similar closed-loop processes with other materials. Through Land Rover BAR, our partnership with Ben Ainslie Racing, for example, we're thinking outside the box and exchanging ideas about carbon fibre with cutting-edge boat designers. For further details, [see page v](#).

### NATURAL OR SUSTAINABLE MATERIALS

As a member of the Lightweight And Sound consortium (LANDS), we've been involved in a three year project to find material replacements that use recycled content and that are suitable for current production methods. The work we're doing with our LANDS partners has confirmed that natural or sustainable materials can meet current automotive standards and be manufactured successfully – an important step towards further environmental improvements across the vehicle life cycle.

For example, to replace the virgin plastics commonly used to make front wheel arch liners and load space sides, one of our LANDS consortium partners, International Automotive Components, used a filled polypropylene sourced entirely from a 100% post-consumer feedstock (material discarded after consumer use). Both components were manufactured and tested at Jaguar Land Rover.



The LANDS project won the "Dare to Try" category in our annual Innovista awards.

## Lighter vehicles

The Jaguar XF is up to 190kg lighter than its predecessor, while the new Discovery is up to 480kg lighter than its predecessor.

(Full vehicle-to-vehicle comparisons.)

## 85% recyclable

At end of life, all our vehicles are 85% recyclable and 95% recoverable from a materials perspective.

## CUSTOMER FIRST: "ALWAYS ON" INSIGHT

Customer First is one of our three business passions and starts with ensuring that the customer voice is close to the business – essential for a sustainable business of the future – which helps us to respond effectively to meet our customers' needs.

Our Customer Experience Insight programme is giving us greater feedback from expanded customer surveys, which now reach into more of our markets. We've also implemented advisory boards to provide "always on" feedback that informs our product planning.



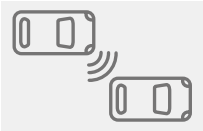
[For further details on customer experience and satisfaction, see our Annual Report, pages 32 to 33](#)

## IMPROVING SAFETY FOR ALL

Taking care of people's safety, whether drivers, passengers or other road users, is always our top priority. That's why we invest heavily in research and technologies that help drivers to safely deal with everyday situations such as crossing a junction, negotiating a blind bend or using narrow roadwork lanes.

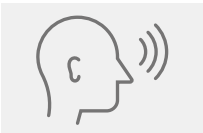
Today, in our vehicles, there are already intelligent systems focused on safety. In future, as we continue to develop semi-autonomous and autonomous technologies, drivers can expect even more help with the challenging, stressful or more tedious parts of a journey, to have a safer, better experience overall. This isn't a far-distant idea. We have a whole research team focused on Advanced Driver Assistance Systems (ADAS) to improve the driving experience and enhance safety.

### SOME OF OUR RESEARCH PROJECTS



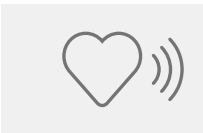
#### COOPERATIVE ADAPTIVE CRUISE CONTROL

We're using the latest vehicle-to-vehicle communications technology to develop ways for future connected cars to work together autonomously to make lane changing and crossing junctions easier and safer.



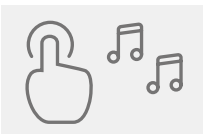
#### MIND SENSE

A research project to see if a car could effectively read the brainwaves that indicate a driver is beginning to daydream, or feeling sleepy, while driving.



#### DRIVER WELLNESS MONITORING

We're assessing how a vehicle could monitor the wellbeing of the driver using a medical-grade sensor embedded in the seat of a Jaguar XJ.



#### PREDICTIVE INFOTAINMENT SCREEN PROTOTYPE

Cameras embedded in the car are used to track the driver's hand movements, enabling the system to predict which button the driver intends to press, allowing button selection in mid-air and less time with eyes off the road.



#### HAPTIC ACCELERATOR PEDAL

We're exploring the use of haptics (applying touch sensation to interactions with computer applications) to help the driver increase the speed of their response and take the correct action.



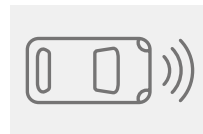
#### OVER THE HORIZON WARNING

This is part of a research project testing in-vehicle communication devices that can transmit data from vehicle to vehicle in order to warn drivers of hazards and obstacles over the horizon or around blind bends.



#### ROADWORK ASSIST

Currently investigating advanced driver assistance to guide the vehicle to the centre of narrow roadwork lanes, reducing driver workload and stress.



#### SAFE PULLAWAY

The use of stereo camera technology to scan the area immediately in front of the vehicle. If objects such as vehicles or walls are detected, the brakes are automatically applied and the driver receives an audible warning.

### BIG DATA FOR SAFER DRIVING

Each of our vehicles is capable of creating one and a half gigabytes of data a day from its sensors. This is essential for providing and developing the advanced features our vehicles are known for. Giving drivers advance warning of potholes is just one of the research topics we've been investigating. Our idea is that vehicle sensors could identify the location and severity of potholes, broken drains and manhole covers, and then share this data in real time via the cloud with other vehicles and with road authorities to help them prioritise repairs.

While connected car technology and data offer huge opportunities for safer, better journeys, customer confidentiality, security and privacy remain paramount. As we innovate and explore the possibilities, security solutions will always be our number one priority and fundamental to the design.

#### Understanding driver behaviour

1.5GB signal data collected from 3,146 data points per vehicle, every day including:



Vehicle and engine speed



Fuel level



GPS location



Longitudinal acceleration (forward/backward G-force)



Steering wheel and seat position



Door, window, wipers, headlight and turning indicator status

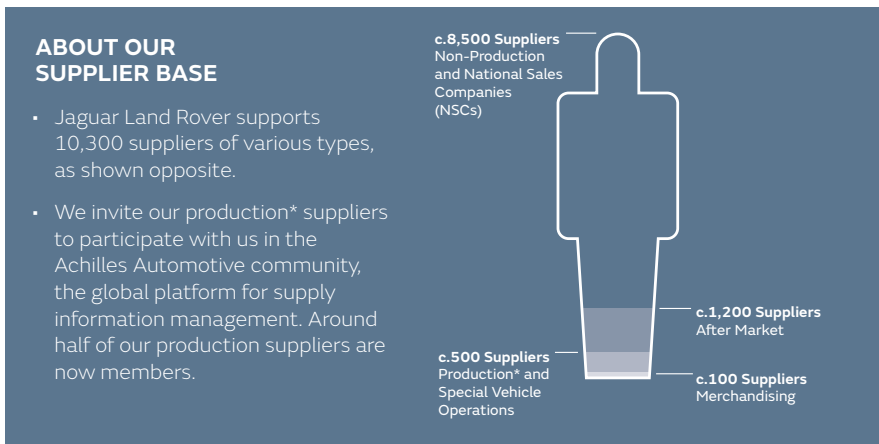


The Jaguar XE won top spot in Euro NCAP's prestigious Best in Class Cars of 2015 awards, coming first in the large family car category.

# SUPPLY CHAIN

## FIT FOR THE FUTURE

Jaguar Land Rover’s supply chain is complex and growing in line with our international expansion. We’re working to build a sustainable, resilient and ethical supply chain, wherever we operate.



We actively manage our relationships with our direct (tier 1) suppliers, and require them to agree to our Global Terms & Conditions (GT & Cs). Our T&Cs detail human rights requirements, including basic working conditions. They’re supported by our Sustainability Web Guide for suppliers, which details the minimum environmental and social standards we expect all our suppliers and business partners to uphold.

## APPLYING OUR STANDARDS: GLOBAL AND LOCAL SUPPLIERS

We’re focused on making our standards clear and collaborating on solutions around environmental management, business ethics, human rights and working conditions. One of the ways we do this is by collaborating on supply chain sustainability challenges locally, internationally and at industry level.

For example, we’re an active member of the European Automotive Working Group on Supply Chain Sustainability, which is coordinated by CSR Europe. Through this Group, we met with 200 participants, including 10 carmakers, suppliers, local sustainability experts, associations and academia, in Shanghai in January 2016 to exchange knowledge and discuss solutions. This was the second event in a series of local dialogue and capacity-building forums that started in November 2014 in Istanbul.

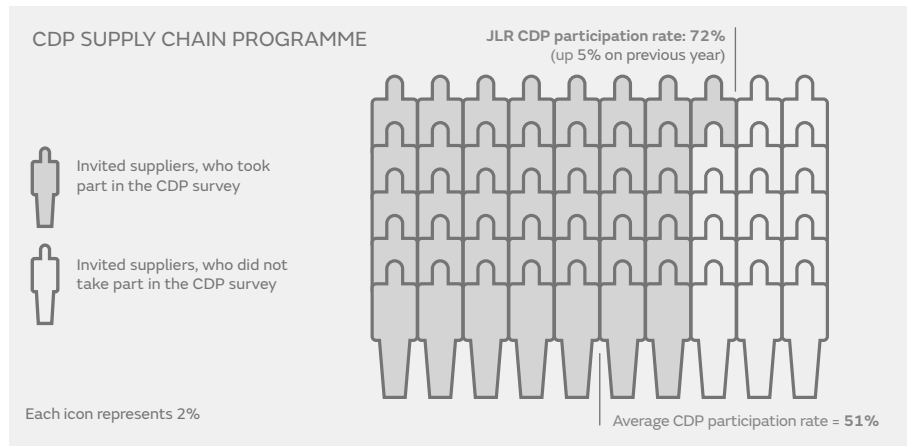
Alongside our central purchasing function in the UK, we’re also creating regional hubs in countries where we produce vehicles, so that our global standards are applied consistently and to allow us to source local content.

## ACTIVE, WIDE ENGAGEMENT

To ensure our standards are applied consistently, it’s important that we build a more complete picture beyond our direct suppliers. With this in mind, we have launched the first wave of our Achilles supply chain mapping module.

The Carbon Disclosure Project (CDP) Supply Chain programme is an important global platform for engaging with suppliers to help businesses to decarbonise and strengthen their own resilience.

We saw an encouraging rise in the number of these suppliers completing the CDP Supply Chain survey this year (111 of those participating, compared to 96 previously). Our participation rate of 72% also compares well with the CDP average of 51%. We are working towards improving disclosure, as well as widening participation among our suppliers.



OUR APPROACH	CUSTOMERS AND PRODUCTS	<b>SUPPLY CHAIN</b>	OPERATIONS	PEOPLE AND COMMUNITIES
--------------	------------------------	---------------------	------------	------------------------

## HUMAN RIGHTS AND LABOUR STANDARDS: PUTTING PEOPLE FIRST

Putting people first goes beyond the cars we build. This philosophy is never stronger than in our approach to human rights.


The principles and standards applicable to all our suppliers are enshrined in the [Jaguar Land Rover Code of Conduct](#). This states: "We expect human rights to be respected and we will not tolerate the use of child labour or forced labour in our worldwide operations or by our business partners." To reinforce this, our Human Rights Policy specifically addresses the issues of slavery, human trafficking, forced labour and child labour, and upholds the right to freedom of association.

### STRONG ACTION AGAINST MODERN SLAVERY AND HUMAN TRAFFICKING

As part of our response to the UK Modern Slavery Act 2015, we are assessing the risk of slavery and human trafficking within our direct supply chain. To date:

- We have identified 72 suppliers (spanning 12 countries) with a potentially elevated risk. We are investigating further to understand how these suppliers protect human rights within their operations; and
- 237 production suppliers have completed Achilles self-assessment questionnaires, which include questions regarding forced/bonded and child labour. No slavery or human trafficking issues have been reported to us through this process.

Companies that provide Jaguar Land Rover with outsourced services on site, such as cleaning and catering, are also subject to our Global T&Cs. We intend to seek additional assurances from these companies that they have effective procedures to protect their staff from slavery and human trafficking risks.

 *Jaguar Land Rover's Slavery and Human Trafficking Statement sets out in more detail the steps the Company has taken to address this risk, and is available at [www.jaguarlandrover.com/gl/en](http://www.jaguarlandrover.com/gl/en)*

## £20 million

We have reviewed 282 production suppliers (including all production suppliers with group sales of over £20 million).



### CONFLICT MINERALS

Our vehicles use a variety of materials and components, some requiring commonly mined minerals. In line with legislation and our parent company Tate's policy, we are committed to promoting and supporting the laws that aim to prevent the use of minerals that finance or benefit armed groups in the Democratic Republic of Congo or adjoining countries; and to sourcing minerals in a responsible manner from companies that share our values around human rights, ethics and environmental responsibility.

We use a web-based survey tool developed by the Conflict-Free Sourcing Initiative for collecting responses from our supplier base as part of the Reasonable Country of Origin Inquiry (RCOI). We have also carried out further enquiries with our suppliers to trace the source and chain of custody of the relevant minerals.

The RCOI and due diligence process is ongoing. We continue to engage with non-responding suppliers and with those whose responses aren't sufficient to enable us to determine origin and chain of custody.

For further details, see the Tata Motors Limited [Form SD filing to the US Securities and Exchange Commission](#).

### TRANSPORT

We rely on our distribution network for the vital job of delivering materials and parts to our sites and cars to our customers. Our approach is to work closely with these suppliers to drive operational and environmental efficiency.

In 2015/16, our performance is 0.73 tonnes of CO<sub>2</sub> per vehicle (vs 0.83 in 2014/15), totalling 376,085 tonnes of CO<sub>2</sub>. Manufacturing in China contributed strongly to this result, reducing shipping requirements from the UK by c.46,000 cars. The total car distance fell by 150 million miles, despite an increase in production, and absolute CO<sub>2</sub> fell by 6,300 tonnes.

Other important developments included expanded rail capacity from our Castle Bromwich railhead, inbound network improvement and ongoing driver training for greater fuel efficiency.

#### ABOUT LOGISTICS

Our UK freight team manages over 8,000 deliveries and collections in total per week. 70% of our UK parts suppliers are within a 30-mile radius of our plants, lowering the impact on the environment and the complexity of freight.



Our China facility, a joint venture with Chery.

#### LOGISTICS – TOTAL CO<sub>2</sub> (tonnes)

15/16	376,085
14/15	382,388*
13/14	356,215

\* Data for 2014/15 has been restated due to a change in the calculation methodology



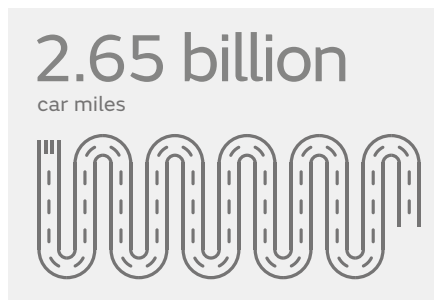
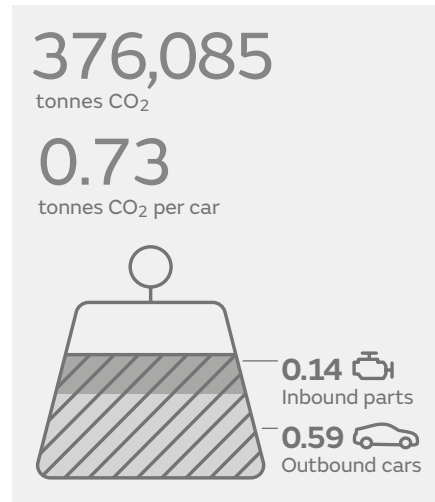
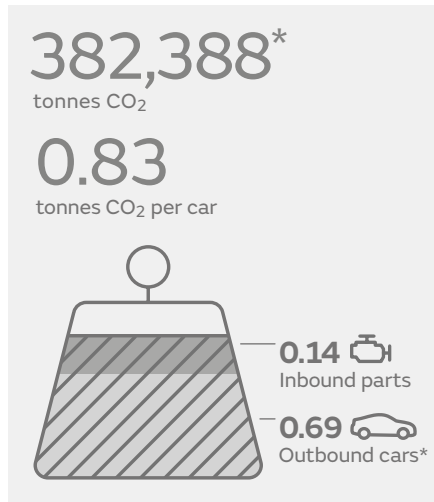
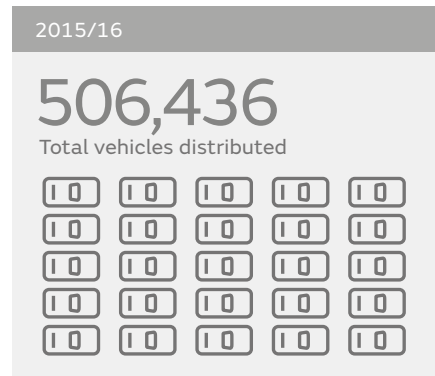
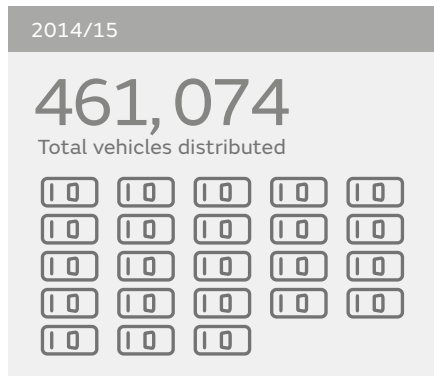
**SMARTER LOGISTICS**

As well as moving components efficiently by road, rail and freight, we're looking for opportunities right from when a component is designed – especially those items that pose a shipping challenge owing to a tricky shape or size. One example is a large bulky section of foam that sits in the boot of our vehicles as part of the loadspace trim. Until now, it has only been possible to transport three of these sections per pallet due to the complex shape of the component. After CAD remodelling, however, the component can now be interlocked and stacked, leading to more items per pallet and a saving in transport costs and environmental impact.

**LOOKING AHEAD**

As we continue our journey, we're strengthening our approach to measurement – including rolling out guidelines and key performance indicators to our transport providers and internal departments for reporting environmental performance. We'll also continue to investigate and trial technology, including gas and dual-fuel trucks, and continue to develop our transport facilities. Externally, we're assessing more collaborative opportunities for rail, sharing knowledge with UK transport carriers, and continuing to engage with industry and government.

**UK MANUFACTURING LOGISTICS**



\* Data for 2014/15 has been restated due to a change in the calculation methodology

# OPERATIONS

## RESPONSIBLE. AGILE. EFFICIENT.

As a responsible business, the way we make our cars is as important as the cars themselves. To meet our 2020 goals of zero waste and carbon neutral manufacturing, we have developed streamlined production processes and completely new ways of thinking about key materials like aluminium.

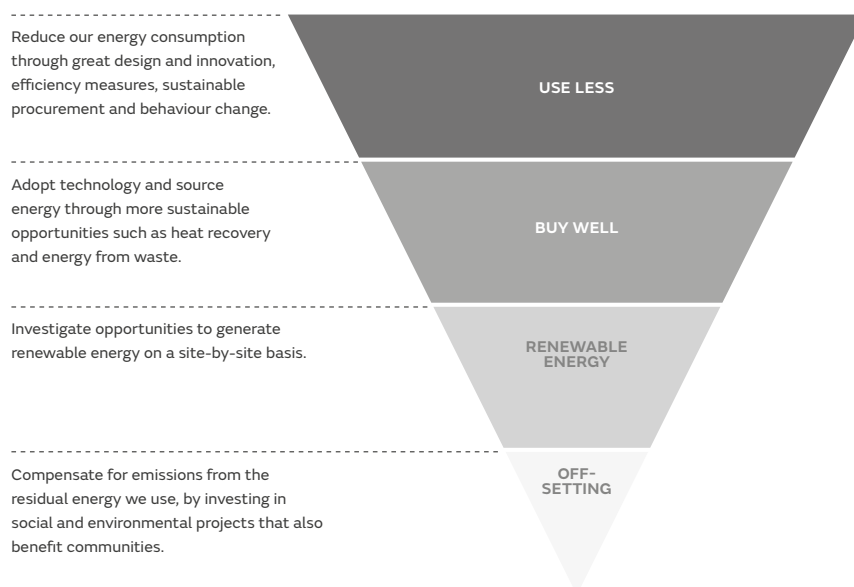
## CARBON NEUTRAL MANUFACTURING

### SMARTER, LEANER PRODUCTION

Our goal is for Jaguar Land Rover's manufacturing operations to be carbon neutral by 2020. Through a range of measures, including streamlined, closed-loop processes and energy efficiencies, we have continued to make progress and are on track to achieve our goal by implementing our energy management hierarchy.

We continue to offset 100% of our UK manufacturing assembly emissions, and invest in projects that give a dual benefit of reducing carbon tonnes and improving lives. A recent example is the LifeStraw® Community water filter project. This provides clean, safe drinking water to 372,834 people in Kenya, saves 186,705 tonnes of carbon as the water is no longer being purified through burning wood or kerosene, and significantly reduces indoor air pollution and respiratory problems.

### OUR ENERGY MANAGEMENT HIERARCHY



Identifying the right opportunities to drive energy efficiency cost effectively can be a real challenge for businesses. We take part in The Curve group, which exchanges learning and ideas on a global platform to support energy management decisions. It's based on the principle that "none of us is as smart as all of us". Using an innovative Co:create process, The Curve seeks to remove 20% of carbon emissions from business.

This year, we have extended our environmental reporting to capture data for our new Engine Manufacturing Centre (EMC) at Wolverhampton and our joint venture (JV) manufacturing plant in China.

### WHERE WE MANUFACTURE AND OPERATE

1. Three vehicle manufacturing plants, an Engine Manufacturing Centre (EMC) and two vehicle design and development centres in the UK.
2. One manufacturing plant in China (50/50 joint venture with Chery Jaguar Land Rover Automotive Co. Ltd).
3. New wholly owned factory in Brazil (opened June 2016).
4. Vehicle assembly in India (Tata facility).
5. Work under way to build a new plant in Slovakia.
6. Production being planned in Austria.



## INVESTING IN ENERGY SAVINGS AND OPERATIONAL CO<sub>2</sub> EMISSIONS REDUCTION

As of April 2016, all of our manufacturing facilities, product creation sites and the majority of our satellite sites (such as the technical academy and supporting offices) are supplied with 100% renewable electricity from our electricity provider. As well as making the transition to cleaner, sustainable sources of energy, we have been continuing our energy efficiency drive to reduce our environmental footprint.

Over the past few years, we have delivered 60 energy-saving projects, representing an investment of £23 million. These have saved more than 57,000 tonnes of annualised CO<sub>2</sub> equivalent, thanks to a mix of measures including roof-mounted solar panels, LED lighting, combined heat and power and heat distribution optimisation, building management systems, voltage optimisation, insulation and energy mapping.

While total energy use and total CO<sub>2</sub> emissions have risen in the context of higher volumes, major business expansion and wider data capture, our drive for greater energy efficiency has enabled us to decouple these rises from the full scale of business growth.

2015/16 is the first year of reporting data (total energy and CO<sub>2</sub>) from our Engine Manufacturing Centre (EMC) and our Chinese joint venture (JV), Chery Jaguar Land Rover Automotive Co. Ltd. We will look to grow data capture in future years.

Carbon emissions have been calculated using the Jaguar Land Rover Carbon Reduction Commitment scheme data and DEFRA conversion factors for electricity and gas (UK). Regional factors for China have been used.

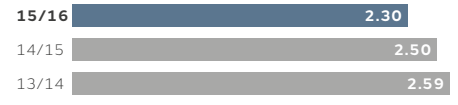


Solar array at our Engine Manufacturing Centre (EMC) at Wolverhampton.

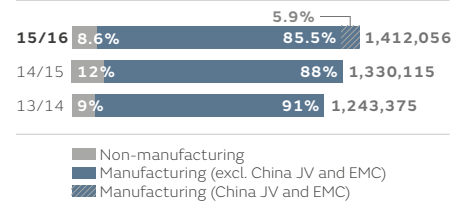
# 38% reduction

More than 38% reduction in energy per vehicle produced since 2007 (UK manufacturing).

### ENERGY USED PER VEHICLE PRODUCED (MWh/vehicle) – UK vehicle manufacturing



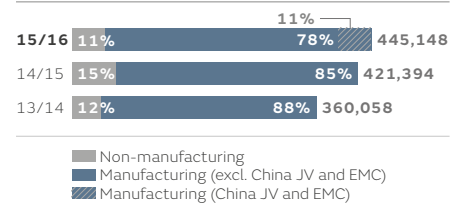
### TOTAL ENERGY USE (MWh)



### CO<sub>2</sub> EMISSIONS PER VEHICLE PRODUCED (tonnes/vehicle) – UK vehicle manufacturing



### TOTAL CO<sub>2</sub> EMISSIONS (tonnes)



## TARGETING ZERO WASTE

Our key goal is zero waste across our business by 2020, and we set ourselves the interim target of zero waste to landfill from our main manufacturing and product creation sites. Following benchmarking of best practice, we set the following definition:

- No waste sent direct to landfill from our vehicle operations, and
- 95% avoidance of landfill at second tier.

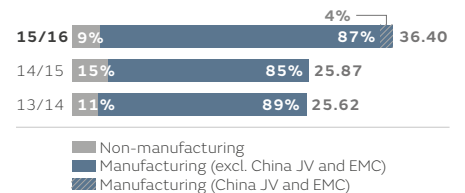
This was an important definition for Jaguar Land Rover as we did not want to simply achieve the first component of the target by sending waste to off-site facilities for processing which themselves may have had an ongoing contribution to landfill.

We excluded metals, as these are already recycled, and wastes that are not associated with the normal process of vehicle design or manufacture such as construction wastes. We also excluded any wastes that had to go to landfill such as asbestos. By March 2016, we had achieved our target.



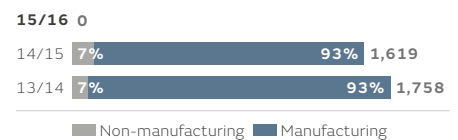
An aluminium body shell on our production line at Solihull.

### TOTAL WASTE (thousand tonnes)

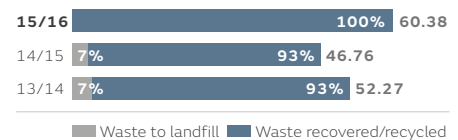


While total waste has risen in the context of higher volumes, major business expansion and wider data capture, our focus on waste reduction has enabled us to decouple this rise from the full scale of business growth.

### TOTAL WASTE TO LANDFILL (tonnes)



### MANUFACTURING WASTE PER VEHICLE PRODUCED (kg/vehicle) – UK vehicle manufacturing



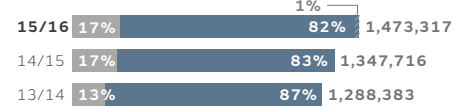
## CONSERVING AND MANAGING WATER

Since our baseline year of 2007, we have reduced our water use per vehicle produced by almost 39% – through initiatives such as “water switch-off” between vehicles on the production line.

WATER USE PER VEHICLE PRODUCED (m<sup>3</sup>/unit) – UK vehicle manufacturing



TOTAL WATER USE (m<sup>3</sup>)



Legend:  
 ■ Non-manufacturing  
 ■ Manufacturing (excl. China JV and EMC)  
 ■ Manufacturing (EMC)

While total water use has risen in the context of higher volumes, major business expansion and wider data capture, our water-saving measures have enabled us to decouple this rise from the full scale of business growth.



The Jaguar Land Rover Lookers showroom in west London.

## DESIGNING FACILITIES FOR THE FUTURE: SUSTAINABLE CONSTRUCTION

Our new facilities are designed to have a lifespan of at least 40 years. We build sustainability into the design process at the very start, so that buildings and sites are future-proofed against increasing operational costs from energy and water usage and are resilient to climate change impacts such as flash flooding and increasing temperatures.

We have developed a set of Sustainable Infrastructure standards for our new buildings and facilities based on the Building Research Establishment Environmental Assessment Method (BREEAM) and Leadership in Energy and Environmental Design (LEED) accreditations. The methods are applied to reflect local needs and the type of facility we are building; for example, a new manufacturing plant would be required to achieve the highest sustainability standards, such as BREEAM Excellent or LEED Platinum/Gold.

Our new Engine Manufacturing Centre achieved BREEAM Excellent and our new Brazil plant is on track to achieve LEED Gold.

### OUR NEW FACILITIES IN BRAZIL

Our new factory in Brazil uses cutting-edge manufacturing technologies, with sustainability at the heart of its design. Recognising the impact of climate change in the region, managing the precious resource of water is a key priority, including rainwater harvesting for reuse; the ponds we have created on site are capable of retaining a volume of water equivalent to 16 Olympic-sized swimming pools. We also worked with Aguas do Brasil to build a plant for industrial water treatment and reuse, enabling discharges of treated water to the river at a quality that is even better than the water in the river downstream of the nearby town of Itatiaia.

As part of the design and construction, we also carefully considered resource efficiency and the natural environment. When clearing the site, we stacked wood from removed scrub and bushes to create an area that

would encourage local wildlife habitat – and, instead of disposing of earth or soil off site, we retained it on site to minimise road transportation and landfills. The soil was then used for sympathetic contouring across the site, which also reduced the plant’s visibility from the wider surroundings.

### SUSTAINABLE SHOWROOMS

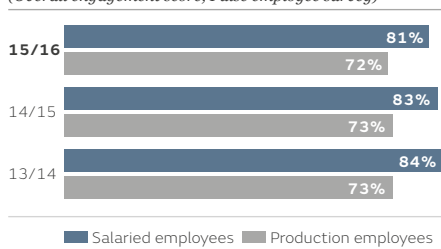
It’s important that our retailer network embodies the spirit and quality of our vehicles to provide a truly premium experience, so we’re investing heavily with retailers to rebrand and transform Jaguar Land Rover showrooms as a destination for our customers. We have developed a core set of sustainable design principles for retailers to ensure that new facilities can be created, maintained and operated to superior sustainability standards. These focus on key areas such as construction, materials, energy, water, transport, waste management, ecology and building management, covering everything from heating, lighting and glazing to furniture, materials and landscaping.

# PEOPLE AND COMMUNITIES

## PASSION AND SKILLS TO CHANGE THE WORLD

We're a company rooted in communities and in our family of employees. We share in their successes and their challenges. We know the importance of skills and we nurture them, inside and outside our workplaces. We use these skills not just to shape our own future but to make a better future for everyone. This is part of our contract with society: looking for ways to improve lives and create experiences that people will love for life.

EMPLOYEE ENGAGEMENT  
(Overall engagement score, Pulse employee survey)



### IT STARTS WITH OUR PEOPLE...

Engaged, passionate people delivering experiences our customers love, for life. This is the essence of our people vision. The way we achieve it is by having great people in every role, working exceptionally together, with everyone giving their best.

### ...BUT IT DOESN'T STOP THERE

With the industry facing a major skills shortage, we're on a mission to inspire and support tomorrow's engineers as well as develop our present workforce. This is the purpose of the Jaguar Land Rover Academy – the first in our industry.

## LIFELONG LEARNING FOR OUR PEOPLE AND COMMUNITIES

The Jaguar Land Rover Academy offers lifelong learning backed by an annual investment of £100 million. Around 10,000 of our employees are pursuing formal qualifications in this way.

NUMBER OF CENTRALLY RUN TRAINING DAYS PER EMPLOYEE



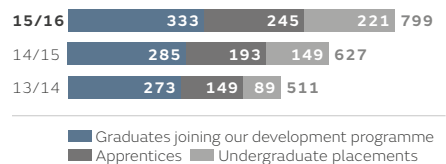
Following feedback from employees, we have revised our approach to central training. We now offer more tailored and flexible ways to learn, enabling our people to get what they need in the most efficient way to suit them – so while investment in training has been maintained, time spent training has reduced.

### JAGUAR LAND ROVER ACADEMY

The Academy reaches further than our own employees into the heart of communities, through our partnerships with higher and further education providers and our school education programme which increases engagement in science, technology, engineering and maths (STEM) subjects.

Within our Company, our employees will be able to undertake further education and training throughout their professional lives. Through coaching, mentoring and special innovation projects, participants will be able to explore new ideas, rise to new challenges and develop new skills. We offer around 400 centrally run training courses covering a wide range of topics. In addition, there is also bespoke technical training designed and delivered by subject matter experts.

GRADUATES, APPRENTICES AND PLACEMENTS



### JLR Apprenticeships

The Academy offers people opportunities to fulfil their true potential, whatever route they want to follow. Our four year Advanced Apprenticeship combines college-based study and hands-on learning, and our six year Degree Apprenticeship leads to later study for a degree from the University of Warwick.



#### ADVANCING POTENTIAL: ALEX TOMLINSON

Alex Tomlinson, 25, joined us in 2012. Since then, he has won the Apprentice of the Year award and the prestigious Best of British Engineering award at the Semta Skills Awards. Alex was recognised for pioneering a new testing technique that enables his department – Emissions Test, Powertrain Test Operations – to carry out far more tests in a fraction of the time, and at vastly reduced cost. His achievement highlights the amazing talent that we aim to nurture.

### Supporting women engineers

Around 9% of Jaguar Land Rover's engineers are women. In the UK as a whole, official statistics put the number at just 8%, in comparison to roughly 20% in other European countries. This gender imbalance speaks of a huge missed opportunity on several levels, which is why we're working hard to promote engineering as an exciting career choice for girls and women.



#### ADVANCING POTENTIAL: ORLA MURPHY

One of our rising stars, Orla Murphy, was named Young Woman Engineer of the Year by the Institution of Engineering and Technology (IET) in 2015. Orla first applied to Jaguar Land Rover for work experience through our Women in Engineering scheme, and then joined our graduate programme. In addition to her role in our Audio EQ department, Orla has been a STEM ambassador for the IET.

### Inspiring Tomorrow's Engineers

The Royal Academy of Engineering predicts that by 2022 there will be a shortfall of 300,000 qualified engineers in the UK. We are continually working with the Government and other agencies to address this issue. In collaboration with schools and colleges, our award-winning Inspiring Tomorrow's Engineers school education programme promotes learning and engagement in STEM subjects and has engaged 900,000 young people in the UK since 2013.



#### NOODLE: SPEARHEADING OUR SKILLS GAP CAMPAIGN

We need to find new ways to inspire children to pursue STEM subjects and help them see what engineering and technology can offer, regardless of gender or background. Noodle is the 21st-century Japanista and founding member of the British virtual pop band Gorillaz. She's our ambassador for a new campaign led by Panasonic Jaguar racing. Using our entry into the FIA Formula E Championship, Noodle will help to stress to young people the important role Formula E will play in developing electric vehicle technologies, and highlight the opportunities for tomorrow's engineers to be a part of the biggest change the car industry has ever seen.

### Education Business Partnership

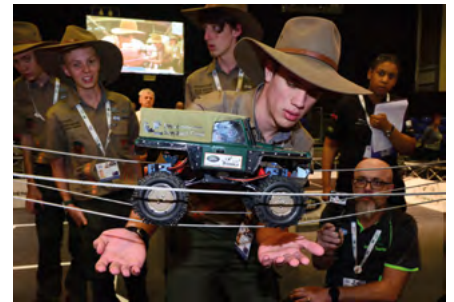
We operate seven Education Business Partnership Centres (EBPCs), providing learning opportunities for children and young people, including special projects for school pupils and work experience. The latest to open are at our Engine Manufacturing Centre near Wolverhampton and our Brazil manufacturing plant, both in 2016.

We're operating our Brazil EBPC in partnership with SENAI, Brazil's national training provider, to provide a range of classroom activities for up to 12,000 local young people each year. The Brazil centre also offers a tailored Jaguar Land Rover's Inspiring Tomorrow's Workforce training programme, launched in the local town of Itatiaia in 2015. Since then, more than 100 people have completed the scheme; 12 of this group now work at our Brazil facility, and many others have found work within the automotive industry.

### STEM Challenge projects

Special STEM Challenge projects include the Land Rover 4x4 in Schools Technology Challenge, an annual global competition for 11 to 19-year-olds to design, build and drive radio-controlled, all-terrain model vehicles. It's part of Jaguar Land Rover's commitment to introducing students to the exciting world of engineering, encouraging them to think about a career in the automotive industry and helping them to learn tailored skills.

The 2015–16 competition saw teams from Australia take first and second place. The winning "Wombat Warriors" from Pine Rivers State High School impressed with best overall performance, verbal presentation and excellent driving.



### Working with education partners

We are one of the main partners of the Warwick Manufacturing Group (WMG) Academy for Young Engineers in Coventry and Solihull – university technical colleges offering qualifications based on real-world skills and experiences needed in the advanced engineering industry. Our UK sites also participate in Business in the Community's Business Class, a government-endorsed programme that partners companies with local secondary schools in areas of high deprivation.

### Widening opportunities for ex-servicemen and women

Jaguar Land Rover is proud to be signed up to the Armed Forces corporate covenant, which supports the reintegration of the military forces into successful civilian careers. This supports our goal of sustainable growth, with a focus on developing skills and making a positive impact in our communities.

We're aiming to increase the number of ex-servicemen and women employed in skilled roles across our global operations to 1,000 by 2020 – a five-fold increase on recruitment since 2013. As part of this, we're introducing a new programme to train and recruit up to 180 veterans across our North American retail network – our first major military programme outside the UK. In the UK, Jaguar Land Rover has already recruited more than 200 ex-servicemen and women since it pledged its support to the 2014 Invictus Games – a multi-sport event for wounded, injured and sick military personnel.

## TECHNOLOGY FOR GOOD

### OUR GLOBAL CSR PROGRAMME

Our Global CSR (corporate social responsibility) programme aims to improve people's lives across the world. It supports areas that have been endorsed by, and align with, our core business. These are: education and talent; health and wellbeing; and technology and innovation.

## Jaguar Land Rover won the best International Sustainability Programme in May 2016, in recognition of the structure, principles and performance of our CSR fund.

### USING THE POWER OF ENGINEERING

One of the areas we're exploring is creating solutions for people facing daily challenges in living and getting around. For example, there are approximately 17 million cerebral palsy patients worldwide who suffer from a range of difficulties with speech and movement. Rehab can help, but it can take five years for a child with cerebral palsy to learn to walk through traditional physiotherapy. Special machines called gait trainers can cut this to a year, but they're very costly and not always available, especially in countries with less developed medical provision.

This is exactly the sort of challenge that we want to tackle – using our engineering expertise and the latest technology to design and transform vital machines and equipment such as gait trainers, walkers and wheelchairs into accessible, ground-breaking products that improve lives. We've started this year, by creating a set of hi-tech, lightweight, portable steps for eight-year-old Keeley Cullen, who has cerebral palsy.

### Designing a hi-tech solution

Keeley Cullen's riding lessons aren't just fun, they're part of her cerebral palsy therapy. Unfortunately, following an inspection, the stables where she rides were told they could no longer lift Keeley onto her horse, and Keeley was faced with the prospect of having to stop. National charity Remap identified Keeley's challenge as a potential project that would benefit from a bespoke solution and our engineering skills. Through a new Jaguar Land Rover scheme that matches our skilled employees to specific community challenges, a team of our Advanced Apprentices designed and created hi-tech steps that solve the problem.

“They're amazing steps and so easy to use. Mum won't have to lift me any more, which has been getting really hard for her as I get older. I really love my riding lessons and now I can continue to take part.” KEELEY CULLEN



Eight-year-old Keeley Cullen with our Advanced Apprentice team.

### LIFESTRAW®: COMMUNITY SUPPORT

Jaguar Land Rover launched its LifeStraw® Community water purifier project in 2015. The project will bring smart water purification technology to over 300,000 schoolchildren in western Kenya. As well as providing safe water and improving the children's health and therefore attendance at school, the project is also part of our approach to employee engagement and development.

To kick off the distribution of LifeStraw® filters, made by Vestergaard, 3,500 of our employees signed up to “Join the Experience”. Seven team leaders were selected and, following intense training from development experts ClimateCare, they travelled to the Kenyan town of Bungoma near the Ugandan border.

The team spent a week in the area, working with local Vestergaard staff in schools, installing LifeStraw® community water purifiers and explaining the importance of safe water at school assemblies. They also trained pupils and teachers on filter maintenance, use and upkeep – helping to ensure ongoing access to safe water for every school.

By the end of the week, our team had installed 69 water purifiers, meaning 5,000 children now had access to safe water at school for the first time. Three hundred thousand children are set to benefit over the five year project (to date, the project has reached 220,000 children).

ClimateCare provides robust measurement of climate and development outcomes that help ensure this investment is used to deliver the maximum positive outcomes on the ground for people and the environment.

Seeing at first hand the impact of access to safe water in Kenya, the project members and all the Jaguar Land Rover employees who were involved have returned to their day jobs with a greater awareness of this precious resource and they are now involved in Jaguar Land Rover's water efficiency initiatives and awareness events across our facilities.



The LifeStraw® Community water purifier project in Kenya.

### A CULTURE OF ENGAGEMENT

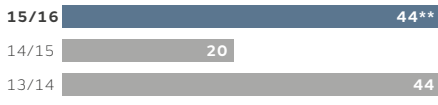
Making a wider contribution in our communities depends on engaged and passionate employees who are invested in our Company and the world around us. The latest results from our annual employee survey show a high level of engagement, with 87% of people who responded saying they are proud to work for us. Our employees are encouraged to use up to two days a year supporting community projects. In 2015/16, approximately 7,800 employees volunteered well over 132,000 hours – a significant year-on-year increase in volunteer hours per person.

OUR APPROACH	CUSTOMERS AND PRODUCTS	SUPPLY CHAIN	OPERATIONS	<b>PEOPLE AND COMMUNITIES</b>
--------------	------------------------	--------------	------------	-------------------------------

## 18%

### Improvement in lost-time case rate since 2011/12.

NUMBER OF REPORTABLE INCIDENTS (under RIDDOR\*)



\* Reporting of Injuries, Disease and Dangerous Occurrences Regulations (to the Health and Safety Executive).  
 \*\* 15/16 increase due to new processes, new facilities and a rise in headcount.

## 280,000

### Number of miles covered by our Pedometer Challenge participants.

## HEALTH AND SAFETY

We aim to provide a workplace that is not only safe, but actively promotes our employees' wellbeing.

### OUR GOAL IS ZERO HARM

Destination Zero is our journey to zero harm. The campaign is about getting everyone to understand their safety responsibilities and the role they can play in identifying and resolving issues, with full support from the Company.

In 2015/16, we continued to embed Destination Zero across the business – not only in manufacturing operations but in lower-risk, office-based areas too. Although there was a slight increase in the number of lost-time accidents (36 in 2015–16, compared to 30 in the prior year), this is in the context of better reporting, more hours worked and additional facilities, which meant that the actual rate (hours lost due to accidents as a proportion of hours worked) improved – from 0.15 to 0.14.

Nearly 36,000 hours of health and safety training were carried out across the Company in the year, reaching 3,617 employees, and we actively supported UK Health and Safety Week, staging themed activities to engage employees.

### HEALTH AND WELLBEING TO ENHANCE WORKING LIVES

During the year, we worked with NHS trusts, mental health services, cardiologists and physical activity providers to hold over 60 health and wellbeing events, attended by 3,370 employees.

At wellpoint kiosks, located around our facilities, employees can monitor vital indicators such as blood pressure and body fat on an ongoing basis. In 2015/16, 10,807 employees used the kiosks to carry out nearly 47,000 health checks.

To benchmark our performance as a healthy workplace, Jaguar Land Rover was one of 108 organisations taking part in Britain's Healthiest Company challenge. We were placed just outside the top 20 workplaces in Britain and are using the results to shape our future programmes. As part of the challenge, more than 2,500 employees completed their own survey and received a personalised report, including an estimated vitality age. The vitality age of 90% of the Jaguar Land Rover employees outscored their actual age, which was a great result. This compared to 74% for the top five rated companies in the challenge.

### Increasing physical activity

Physical activity at work is an area our employees have told us they want to increase, so we set up the Pedometer Challenge for motivation and support. This was taken up by 266 teams (up to seven people per team) who counted their steps, monitored their progress against other teams and received useful tips along the way.

### Our Wellbeing Charter

The Workplace Wellbeing Charter enables employers to demonstrate their commitment to health and wellbeing. After a successful trial in 2014/15, all of our sites achieved the Charter's "Commitment" level in 2016.



## SUSTAINABILITY REPORT 2015/16

### WHO WE ARE

Jaguar Land Rover is the largest automotive manufacturer in the UK. Under the stewardship of Tata Motors Limited, we're profitable, pioneering and expanding globally.

Our Company is founded on two iconic British car brands:

#### **JAGUAR**

Renowned for seductive design and the art of performance.

#### **LAND ROVER**

The market leader in premium sports utility vehicles, and in going above and beyond.



Our purpose is **to give our customers experiences they will love, for life**. We deliver this by putting Our Customer First, creating More Great Products and future-proofing through Environmental Innovation.

THIS DOCUMENT PROVIDES AN OVERVIEW OF JAGUAR LAND ROVER'S APPROACH TO SUSTAINABLE BUSINESS. FOR FURTHER DETAILS, INCLUDING PERFORMANCE DATA, PLEASE SEE OUR:

**Performance and reporting 2015/16**  
[www.jaguarlandrover.com/responsiblebusiness](http://www.jaguarlandrover.com/responsiblebusiness)

**Annual Report 2015-16**  
<http://annualreport2016.jaguarlandrover.com>

We welcome feedback on our approach to sustainability – please email: [SReport@jaguarlandrover.com](mailto:SReport@jaguarlandrover.com)