

Media release

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McLaren unveils all-new, next-generation High-Performance Hybrid supercar – the McLaren Artura

- The all-new Artura is revealed as McLaren's first-ever series-production High-Performance Hybrid (HPH) supercar
- The distillation of more than half-a-century of McLaren's expertise and experience in race- and road-car engineering
- Blends thrilling performance, driving dynamics and engagement with EV driving capability
- First model to be built on all-new McLaren Carbon Lightweight Architecture (MCLA), uniquely optimized for HPH powertrains and built in-house at the McLaren Composites Technology Centre (MCTC) in the Sheffield region
- Lightweight body featuring superformed aluminum and carbon fibre has perfect supercar proportions; 'form follows function' design philosophy gives 'shrink-wrapped' pure and functional look
- Class-leading power-to-weight ratio of 481bhp/ton* (at lightest dry weight of 3,075lbs*)
- Super-lightweight engineering makes the Artura lightest in its class with curb weight (DIN) of just 3,303lbs*
- Powertrain comprises all-new twin-turbocharged 3.0-liter V6 petrol engine with an E-motor and energy-dense battery pack, producing combined outputs of 671bhp and 531lb ft
- 577bhp – approaching 200 horsepower per liter – and 431lb ft from all-new V6
- 94bhp E-motor delivers instant torque of up to 166lb ft, ensuring sharpest-ever throttle response from a McLaren supercar and ferocious acceleration: 0-60mph in 3.0 seconds*; 0-124mph in 8.3 seconds*; and 0-186mph in 21.5 seconds*
- The Artura is the most fuel-efficient McLaren ever produced (50+mpg 129g/km CO₂ in combined EU WLTP*); 7.4kWh battery supports 19 mile* electric-only range
- Five-year vehicle warranty; six-year battery warranty and 10-year body warranty
- All-new lightweight eight-speed transmission integrates McLaren's first electronic-differential
- New rear suspension concept, updated electro-hydraulic steering and Proactive Damping Control enhance agility, stability and dynamic performance
- Next-generation Pirelli P ZERO™ CORSA tires with innovative Pirelli Cyber Tyre® technology offer grip levels comparable to the extreme P ZERO™ Trofeo R tires of the 600LT
- Completely new interior with all key controls accessible with hands on the wheel; new 8-inch HD touchscreen infotainment system enabling configuration of advanced driver assistance systems

(ADAS); and smartphone mirroring support for Apple CarPlay® and Android Auto™

- Ground-breaking electrical architecture enables Over-The-Air (OTA) updates and future upgrades
- Available to order now; choice of four specifications with US pricing from \$225,000 including vehicle nose lift, power folding mirrors, soft close doors, power adjustable comfort seats and Homelink as standard on all trims

The all-new McLaren Artura is revealed today, marking the beginning of both a new chapter for the pioneering luxury supercar company and a new era in supercar technology and performance.

McLaren's first series-production High-Performance Hybrid supercar focuses more than half a century of the company's racing and road-car experience and expertise into a next-generation supercar that blends groundbreaking technology with McLaren's dedication to pure driver engagement.

Underpinned by the McLaren philosophy of super-lightweight engineering, the all-new Artura is the distillation of every attribute inherent in a McLaren – distinctive design, unrivalled performance, dynamic excellence and engineering innovation – with electrification now bringing the additional benefits of even faster throttle response, lower emissions and being able to run in pure EV mode for emissions-free journeys of up to 19 miles*.

All-new from the ground up, the Artura presented McLaren engineers and designers with new opportunities to innovate, chief among these being how to preserve McLaren's super-lightweight engineering philosophy when adding hybrid powertrain elements including an E-motor and battery pack.

A demanding program of weight reduction, encompassing every area of the Artura from the chassis platform – this is the debut of the new McLaren Carbon Lightweight Architecture (MCLA) – through to the uniquely compact HPH powertrain system and the weight of cabling used in the electrical systems (where a 10% reduction was achieved), resulted in the Artura having a lightest dry weight of 3,075lbs*. The total weight of the hybrid components is just 287lbs (which includes an 194lb battery pack and 34lb E-motor), resulting in a DIN curb weight of 3,303lbs* which is on par with comparable supercars that do not have hybrid powertrains - giving the Artura a super-lightweight advantage.

"Every drop of McLaren's experience and expertise has been poured into the Artura. Our all-new, High-Performance Hybrid delivers all of the performance, driver engagement and dynamic excellence for which McLaren is renowned, with the additional benefit of EV driving capability. The introduction of the Artura is a landmark moment – for McLaren, for our customers who will appreciate and enjoy this car on every emotional and rational level, and for the supercar world." Mike Flewitt, CEO, McLaren Automotive

At the heart of the Artura's powertrain is McLaren's all-new, 2,993cc twin-turbocharged V6 petrol engine. With a power output of 577bhp – nearly 200bhp per liter – and 431lb ft of torque, the dry-sump aluminum engine is compact and lightweight; at just 353lbs it weighs 110lbs less than a McLaren V8 and is significantly shorter, enhancing packaging efficiency.

Designed to run with a Gasoline Particulate Filter to optimize emissions performance, the M630 engine is also extremely refined. The 120° v-angle of the engine, which allows the turbochargers to be positioned within the 'hot vee', delivers further advantages in packaging as well as contributing to a lower center of gravity. The 120°

layout increases engine performance by reducing the pressure losses through the exhaust system and allows for a stiffer crankshaft that enables a rev limit of 8,500rpm, maximizing performance and driver engagement.

Working in harmony with the new V6 is the Artura's compact axial flux E-motor, located within the transmission bell housing. Smaller and more power-dense than a conventional radial flux E-motor, it is capable of generating 94bhp and 166lb ft and boasts a power density per kilo 33% greater than the system used in the McLaren P1™. The instantaneous nature of the motor's torque delivery – known as 'torque infill' – is key to the car's razor-sharp throttle response. Exhilarating 'off-the-line' performance sees the Artura achieve 0-60mph in just 3.0 seconds*, with 0-124mph taking 8.3 seconds* and 0-186mph 21.5 seconds*. Top speed is limited to 205mph.

The dual propulsion systems are integrated via an engine disconnect clutch, driving an all-new, twin-clutch transmission, which has been developed specifically for the Artura. Despite having one more ratio than the existing McLaren transmission – to optimize power and torque delivery – the lightweight, short-ratio gear cluster is 1.6 inches shorter in length. It also requires no reverse gear – the E-motor takes care of reversing by literally rotating in the opposite direction.

The E-motor is powered by a battery pack comprising of five lithium-ion modules, offering a usable energy capacity of 7.4kWh and a pure EV range of 19 miles*. The battery is refrigerant cooled using cooling rails, and the assembly – including a power distribution unit which transfers battery power from the rear of the vehicle to the ancillaries in the front – is mounted on a structural carbon fibre floor. This assembly is then bolted onto the rear base of the monocoque, optimizing stiffness, weight distribution and crash protection.

The Artura is designed with full Plug-in Hybrid (PHEV) capability and can be charged to an 80% charge level in just 2.5 hours with a standard EVSE cable. The batteries can also harvest power from the combustion engine during driving, tailored to the driving mode selected.

"From the very beginning of the project, designing and engineering the Artura has been all about challenging ourselves to innovate, pushing and pushing to achieve everything we knew a next-generation, High-Performance Hybrid McLaren supercar had to be. As a result, the Artura is all-new; the carbon fibre monocoque, electrical architecture and the body and interior are new. So too is the V6 engine, the transmission – which also integrates a new type of electric motor for the industry – as well as the rear suspension concept and our first-ever electronic differential." Geoff Grose, Chief Engineer, McLaren Artura

The McLaren Artura is the first model to have the new McLaren Carbon Lightweight Architecture (MCLA) at its core. Designed and manufactured at the McLaren Composites Technology Centre (MCTC) in the Sheffield region, MCLA sets a new standard for McLaren's advanced flexible chassis design. Optimized for high-performance hybrid applications, it includes a bespoke battery compartment and introduces a ground-breaking domain-based ethernet electrical architecture, along with an electrical heating, ventilation and air-conditioning (eHVAC) system.

The ethernet architecture reduces cabling by up to 25% as well as speeding up data transmission. This also facilitates access to advanced driver-assistance systems (ADAS) including Intelligent Adaptive Cruise Control, LaneDeparture Warning, Auto High-Beam Assist and Road-Sign Recognition as well as Over-The-Air (OTA) software updates.

The engineering artistry beneath the Artura's skin is complemented by its exterior design. The low-nose, cabforward, high-tail stance is pure supercar, the drama underlined by the signature McLaren dihedral doors – which open closer to the body and house mirrors that fold in more tightly – and further enhanced by the short wheelbase and low stance.

The overall effect gives the Artura an almost 'shrink-wrapped' appearance, evolving a McLaren design approach seen in recent models to a new level. The lithe, technical sculpture has only minimal body shutlines and panel joints, assisted by features such as an entire rear clamshell engineered and superformed as one panel. The shape of the Artura, sculpted to optimize performance and manage airflow for aerodynamic performance and cooling, is driven by the McLaren design principle of 'everything for a reason' that is in evidence throughout the car. The center of the front splitter is an example of this, being the intake for the eHVAC system and also housing the front-mounted radar that forms part of the optional ADAS package.

Inside, the Artura is no less of a revolution, with the cockpit centered more than ever around the driver. The driving mode selection – which retains separate Powertrain and Handling controls – has been moved to the instrument binnacle, which is in turn mounted to the steering column and adjusts with the steering wheel to further enhance driving ergonomics. Consequently, the steering wheel is kept clear of unnecessary switches, however, the driver is still able to adjust driving modes without taking their hands away from the wheel.

The driver can choose from four Powertrain modes, including an E-mode for 19 miles of emissions-free, electric-only driving. Designed for mixed driving conditions, Comfort mode maximizes range and efficiency, with the combustion engine shut off under 25mph with the use of an extended stop and start mode but phased in for greater speed and power requirements. In Sport and Track modes, electric power is deployed in an increasingly aggressive manner for low-end response and acceleration ('torque infill'). Separate handling mode choices adjust damper firmness and the degree of Electronic Stability Control intervention to suit driver preference and weather and road conditions.

At the outset McLaren designed the Artura to be not only a technological game-changer, but also to stay true to the core McLaren attributes of being incredibly engaging to drive and displaying the highest levels of dynamic ability. Designed to excel on both road and track, the Artura also boasts the dynamic refinement to make serene progress through urban streets in EV mode.

McLaren engineers focused on stability under braking; rear-end controllability; increased grip and optimized aerodynamic downforce – as well as enhanced driver engagement across the board. Key to hitting these goals is McLaren's first-ever deployment of an electronically controlled differential (E-diff), to independently control torque moving across the rear axle. Lighter, more controllable and smaller than a mechanical locking diff (it fits within the transmission), the E-diff locks and unlocks individual rear wheels to improve traction out of corners.

The innovative rear suspension system, which pairs a top upper wishbone with two lower links and a tie rod in front of the wheel center, maximizes vehicle stability and precision, and reduces understeer out of a corner while accelerating. The wider tires allow additional stability and better traction performance while the combination of a short wheelbase, E-diff and the physical downforce provided by the integrated rear spoiler and diffuser ensure both incredible agility at low speed and a high level of stability at high speed. The E-diff in

particular increases performance and driver confidence when cornering, enhancing traction and reducing levels of understeer.

Dynamic precision is additionally enhanced by Pirelli Cyber Tyre® technology. Comprising hardware and software integrated with the Artura's electronic systems and featuring an electronic 'chip' inside each tire, Pirelli Cyber Tyre® generates real-time data and relays it to the car's stability control systems to optimize tire performance.

One feature that is unashamedly not new on the Artura is McLaren's trademark hydraulically-assisted steering. Proven on generations of McLaren supercars, it remains the ultimate system for providing feedback. In the Artura, the system has been fully redesigned to reduce weight and is combined with an updated and bespoke version of McLaren's Proactive Damping Control system that further supports exceptional ride and handling characteristics.

Braking performance is also exceptional, thanks to the Artura being fitted with carbon ceramic brakes and lightweight aluminum calipers from the same family as the systems that feature in McLaren's latest LT models. Together with the new rear axle kinematics, they deliver superior high-speed braking power and stability.

Driver and passenger comfort overall have been an imperative throughout the development of the Artura, with NVH refinement high on the agenda – as befits a supercar that will spend time running in near-silent Electric mode. Innovations that benefit refinement include the stiffness of the MCLA, fluid-filled mounts for the powertrain and the new rear suspension design and settings. Pirelli's patented Noise Cancelling System (PNCS), which uses a sound absorbing device on the inside wall of the Pirelli P-ZERO™ tire to reduce vibration and noise, also features.

Customers in the US further benefit from the fitment of the luxurious power adjustable and heated Comfort Seats with a memory function and lumbar adjustment as standard. As an available option, the McLaren Artura also debuts an all-new Clubsport seat, which uniquely combines the range of motion expected of a moveable backrest with the light weight and support of a bucket seat. Innovative yet uncomplicated, the whole seat pivots as one through an elliptical arc when adjusted, combining under-thigh support, seat height and backrest in one movement.

The seats locate in an ergonomically optimized cockpit, its carbon fibre shell combining with slim fascia and doors to allow a 97.5th percentile (6ft 4in) driver to stretch out with generous knee- and leg-room, even with the backrest significantly reclined. Shoulder room is equally capacious, allowing a driver to get appropriately comfortable to enjoy the Artura's performance and dynamic abilities.

An all-new McLaren infotainment and connectivity system (MIS II) utilizes two high-definition screens. The interface is built on all-new software and bespoke hardware to deliver a smartphone level of responsiveness and is also capable of smartphone mirroring to support Apple CarPlay® and Android Auto™. MIS II includes updated versions of familiar McLaren apps including McLaren Track Telemetry and Variable Drift Control, and also features a redesigned navigation map in the instrument cluster which focuses on key information to minimize driver distraction. A stealth mode on the main binnacle hides non-essential content, reducing distractions and promoting full concentration on the road ahead.



MIS II also optionally enables a number of ADAS driver assistance features, including Intelligent Adaptive Cruise Control with Stop/Go; Lane-Departure Warning; High-Beam Assist and Road-Sign Recognition. These and the infotainment features can all be enhanced using OTA update technology. The Artura also features a Bluetooth lowenergy vehicle key which detects when the driver is heading towards the vehicle and powers up systems to welcome occupants. This includes ambient, 'hidden-until-lit' lighting in the doors, also acting as puddle lamps.

Befitting a car that is all-new and the distillation of more than half a century of McLaren's expertise and experience in race- and road-car engineering, the Artura introduces a number of technologies for which McLaren has patents pending. These include filings for multiple elements of the MCLA; a patent relating to the use of the E-motor in lieu of a mechanical reverse gear to enable rearwards travel and also allows gearbox length to be reduced; and a patent that covers the innovative yet refreshingly easy to use lightweight adjustment mechanism of the all-new optional Clubsport seat.

Available to order now from McLaren retailers, with first deliveries to customers commencing in Q3 of this year, the

Artura is priced in the US market from \$225,000 for the standard specification which includes the power-adjustable Comfort Seats, smartphone mirroring function and a Practicality Pack featuring vehicle nose lift, power folding and heated door mirrors, soft close doors and Homelink all as standard fitment.

There are three further core specifications: Performance, which has a sporting, functional aesthetic; TechLux, where the focus is on the technical luxury that the name suggests; and Vision, which displays a more avant-garde and adventurous look and feel.

Every McLaren Artura comes as standard with a five-year vehicle warranty, a six-year battery warranty and 10-year body warranty.

Further information about the McLaren Artura is available at: <http://cars.mclaren.com/en/artura>

*value to be confirmed – pending final validation

Ends

McLaren Artura technical specification

Engine configuration	M630 V6 engine, 2,993cc twin-turbocharged, hybrid powertrain with axial flux electric motor
Drivetrain layout	Longitudinal mid-engined, RWD
Power PS (bhp/kW) @ rpm	680PS (671/500): 585PS (577/430) @ 7,500rpm from petrol engine; 95PS (94/70) from electric motor ¹
Torque Nm (lb ft) @ rpm	720 (531): 585 (431) @ 2,250-7,000rpm from petrol engine, 225 (166) from electric motor ¹



Transmission	8-Speed SSG (reverse using electric motor) with electronic locking differential (E-diff). Electric, Comfort, Sport and Track modes
Steering	Electro-hydraulic; power-assisted
Chassis	MCLA carbon fibre monocoque with aluminum front and rear frames and chassis structures
Suspension	Independent adaptive dampers, front: dual aluminum wishbones, rear: upper wishbone and lower multi-link setup. Proactive Damping Control (PDC). Comfort, Sport and Track modes
Brakes	Carbon Ceramic Discs (390mm front; 380mm rear) with forged aluminum brake calipers (6-piston front monobloc; 4-piston rear)
Wheels (inches)	Front: 19 x 9J; Rear: 20 x 11J
Tires	Pirelli P-ZERO™, Pirelli P-ZERO™ Corsa and Pirelli PZERO™ Winter™ tires with Pirelli Cyber Tyre® technology Front: 235/35Z/R19 91Y Rear: 295/35/R20 105Y
Length, mm (inches)	4,539 (179)
Wheelbase, mm (inches)	2,640 (104)
Height, mm (inches)	1,193 (47)
Width, with mirrors, mm (inches)	2,080 (82)
Width, mirrors folded, mm (inches)	1,976 (78)
Width, without mirrors, mm (inches)	1,913 (75)
Track (to contact patch center), mm (inches)	Front: 1650 (65); Rear: 1613 (63.5)
Lightest dry weight, kg (lbs.)	1,395 (3,075)
DIN Kerb weight [fluids + 90% fuel], kg (lbs.)	1,498 (3,303)
Fuel tank capacity, liters (UK/USA gallons)	72 (15.8/19)
Usable Battery capacity	7.4kWh
Battery charge time	2.5 hours to 80% charge (via EVSE cable)
Electric-only range (km/miles)	30/19*
Electric maximum speed	130km/h (81mph) *
Luggage capacity, liters	160

Performance data

0-60mph	3.0 seconds*
0-62mph	3.0 seconds*
0-124mph	8.3 seconds*
0-186mph	21.5 seconds*



¼ mile	10.7 seconds*
Maximum speed	205 mph – electronically limited
124mph-0 braking, ft	126*
62mph-0 braking, ft	31*

Efficiency

CO2 emissions, g/km WLTP EU (combined)	129*
Fuel consumption, WLTP EU l/100km/UK MPG	
Combined	TBC/>50*
Low	TBC/>50*
Medium	TBC/TBC
High	TBC/TBC
Extra-high	TBC/TBC
Fuel consumption, US mpg	
City	TBC
Highway	TBC
Combined	TBC

Warranty

Vehicle (years/km)	5/75,000
Battery (years/km)	6/75,000
Roadside assistance (years/miles)	5/unlimited
Body (anti-perforation) (years/miles)	10/unlimited

*value to be confirmed – pending final validation

¹ Power is 94bhp (70kW) transient and 49bhp (37kW) sustained (4.6 kW/Kg). Peak torque utilized is 166lb ft. Torque distribution from the V6 internal combustion engine and the E-motor is managed to optimize powertrain drivability characteristics, not simultaneously at maximum – hence 531lb ft overall.

The McLaren Artura: in detail

Every drop of McLaren’s technical expertise and experience has been channeled into making the all-new Artura extraordinary to drive and wonderfully enjoyable to own. Ever since the 12C revolutionized the supercar segment a decade ago, McLaren Automotive has continued to push the boundaries of supercar innovation. The McLaren P1™ brought McLaren hybridization to the hypercar sector as long ago as 2012. The Speedtail introduced astonishing new levels of hybrid performance, its 250mph maximum speed making it the fastest-ever McLaren.

The brief for the Artura was even more challenging: to create a series-production High-Performance Hybrid supercar that excels on every level, with performance, engagement and efficiency sharing equal top-billing. The engineering and design team approached the challenge holistically – no single part of the process was



undertaken in isolation – with ambitious targets set in every area: weight; performance; driver engagement; efficiency; agility; refinement; quality and usability.

Every target was met – and in most cases, surpassed – heralding the arrival of the Artura as a next-generation McLaren High-Performance Hybrid that introduces a new supercar era.

"The way we design cars at McLaren is different. We use a holistic approach comprising both technical design and studio design, areas that in the automotive industry are often separated and sometimes even compete; McLaren sees these pillars as integrally linked and working towards common goals."

Dan Parry-Williams, Director of Engineering Design, McLaren Automotive

Super-lightweight engineering

McLaren Carbon Lightweight Architecture (MCLA)

- The Artura is the first McLaren to use MCLA, which is designed and produced at McLaren Composites Technology Centre in Sheffield, UK
- Optimized for High-Performance Hybrid models, MCLA comprises three elements: carbon fibre monocoque, electrical architecture and chassis and suspension structures
- Carbon fibre monocoque is safer, stronger and like-for-like lighter than previous McLaren monocoques

"The new McLaren Carbon Lightweight Architecture (MCLA) is quite literally at the core of the super-lightweight engineering philosophy that is inherent throughout the Artura. We developed this all-new, High-Performance Hybrid supercar with all of our learnings from decades of working with advanced composite and other lightweight materials, using world-first processes and techniques to deliver weight savings that offset heavier hybrid powertrains, ensuring greater energy efficiency and maintaining the outstanding agility and dynamic performance our customers expect." Jamie Corstorphine, Director of Product Strategy, McLaren Automotive

To achieve the very specific aims of the Artura program, McLaren started right at the core of its new supercar - with a completely new carbon fibre architecture. This had to not only be true to the company's philosophy of superlightweight engineering for dynamic and performance reasons, but also crucially offset the extra weight of a hybrid powertrain, as well as being tailored to accommodate the battery pack.

The new architecture – called McLaren Carbon Lightweight Architecture (MCLA) – features three elements: an allnew carbon fibre monocoque occupant structure, a new chassis with aluminum crash beams and rear subframe, and a first-to-market domain-based ethernet electrical architecture.

Four years in the making, MCLA is the first architecture to be manufactured at the McLaren Composites Technology Centre (MCTC), a new, state-of-the-art facility in the Sheffield region of the UK. Flexible in application (but physically incredibly stiff and strong) this scalable platform architecture heralds the beginning of a new era of McLaren supercars.

Carbon fibre monocoque

At the center of the new platform is the carbon fibre monocoque. McLaren pioneered composite technology in Formula 1™ racing nearly 40 years ago and first transferred it to the road in the carbon fibre chassis and body of the McLaren F1. When the 12C was unveiled in 2009 it introduced a unique one-piece molded carbon fibre chassis that was 25% stiffer than an equivalent all-metal structure and 25% lighter than a comparable aluminum chassis. McLaren's revolutionary technologies also allowed carbon fibre monocoques to be productionized in volumes never before achievable.

The McLaren Artura marks another revolutionary leap. No McLaren monocoque, whether designed for the road or race track, has ever had to do more: the carbon fibre structure now additionally provides a safety cell for the battery pack and integrates further crash and load-bearing functionality. Yet it remains incredibly lightweight, weighing just 181lbs including battery compartment, aero surfaces, B-pillars and door-hinge fixings, contributing to the low overall weight of the Artura, despite its 287lbs of hybrid components.

At first glance, the MCLA monocoque may appear similar to other McLaren carbon fibre structures, but the geometry of every surface is new, and it is constructed from four new carbon materials, a new resin system and a new structural core material. These new properties accommodate both the platform requirements and new, bespoke mechanized production processes now on stream at MCTC.

The in-house approach ensures McLaren can constantly innovate monocoques to accommodate new technologies or new models, without compromising the qualities that ensure its chassis are the lightest, stiffest and strongest in their class.

The MCLA monocoque is taller around the A- and B-pillars than previous McLaren monocoques, as it integrates additional strength and load-bearing functionality into the carbon structure, replacing bonded metal parts. The windscreen surround is also carbon fibre. To achieve the requisite battery and fuel-tank safety cell, the sides of the monocoque extend back beyond what would traditionally be seen as the rear bulkhead. This provides side impact protection for the battery pack and also the fuel tank.

There is an exacting tolerance to the monocoque dimensions of +0.03 inches across the structure with the tightest tolerances between machined features down to +/-0.001 inches. This is fundamental to factors such as the accuracy of the suspension geometry control. Additionally, the high torsional rigidity of the monocoque ensures less compromise for the flexibility of the suspension itself, further enhancing the unique balance between supple ride and precise handling.

The structure also plays a role in aerothermal optimization. Chamfered corners at the trailing edge of the front wheel arches guide airflow out of the arches and along the underside of the doors. The extended outer skin of the doors traps the air in this channel and it is driven rearwards into intakes that feed the lower portion of the high-temperature radiators (HTRs).

Chassis structure

Situated at either end of the carbon fibre monocoque are aluminum subframes that provide the Artura's deformable crash structures. Designed to absorb impacts, the structures can be repaired or replaced easily and very cost effectively. Cars with a full aluminum or steel chassis use their entire structure to absorb and crumple on impact, causing more damage to the whole structure, often including the passenger cell.

On the Artura, the front upper wishbone is mounted to the carbon monocoque, while the lower wishbone is attached to the aluminum crash subframe. The rear subframe is bolted to the monocoque, with the carbon fibre floor beneath the battery bridging the lower cross members transversely across the vehicle, ensuring the required torsional stiffness and optimizing the rear frame weight. The length of the lower portion of the frame is shortened to accommodate a bespoke rear diffuser, and the geometry of the new multi-link wishbone rear suspension concept is particularly aggressive.

Electrical architecture

Just as the carbon fibre monocoque incorporates greater functionality than any previous McLaren structure, so too does the electrical system. The Artura debuts an array of firsts for McLaren, including advanced driver-assistance systems (ADAS), Over-The-Air (OTA) software updates and Pirelli Cyber Tyre® tire-monitoring technology. These are all made possible by the new electrical architecture, which also supports an all-new McLaren Infotainment System (MIS II).

Additionally, the complex powertrain necessitated an electrical architecture that can control McLaren's first gasoline direct injection (GDI) fuel system at 350 bar; completely new transmission software; the E-differential and e-reverse functionality; battery management and implementing the different types of driving experience via the integration of the electric drive and engine drive.

To achieve all of this, McLaren is one of the first-to-market with a zonal domain-based ethernet architecture as the core backbone of the vehicle. The technology is the stepping point towards the industry trend of vehicle architecture redesign.

The domain-based ethernet system utilizes four controllers, each positioned in a key area within the vehicle to optimize data rates and cable lengths. Placed in the same zones as the loads they control, the controllers are connected, via ethernet, through a central gateway. Linked functions at the front, rear or across the vehicle don't need independent wiring and control systems, but instead transfer data via this central 'backbone'.

By moving to a single standard, all communications can coexist on the same ethernet network. Spreading outwards from each domain, data transfer still occurs via LIN (Local Interconnect Network) and CAN (Controller Area Network) for subsystem communication but processing power has increased. The use of the domain-based technology has reduced the length of cabling in the vehicle by 25%, reducing weight by more than 10%.

This has been achieved while at the same time significantly upgrading the electrical capability of the vehicle – and adding new technologies such as the advanced driver-assistance systems (ADAS) features that debut in the Artura. The processing tools are integrated, with centralized software that can be constantly scaled and upgraded as new functionality becomes available, creating a platform that can adapt to future legislation and technology.

The advantage of this will most immediately be obvious to the owner because it allows for Over-The-Air (OTA) updates. When connected via wi-fi, either at home or via a hotspot, the vehicle is able to download new software when it becomes available. Updates related to vehicle safety will require a visit to a McLaren retailer, but OTA updates mean the customer can spend more time in their vehicle and instantly enjoy the benefits of newly downloaded functionality.

eHVAC system

The new Artura platform also incorporates a new electric heating, ventilation and air-conditioning (eHVAC) system, designed to work with or without the assistance of the internal combustion engine. The compact unit, incorporating electric compressor, condenser and evaporator, is located in the front of the car to improve weight distribution, without the need for 'pipework' to run forward from the engine. Not using the internal combustion engine to drive the compressor allows optimal control of compressor speed for better cooling in arduous conditions.

The eHVAC system is able to heat or cool quicker than a conventional HVAC system, and provide greater precision between chosen temperatures. It uses a diffused vent that runs horizontally across the dashboard. This design increases flow into the cabin at lower velocities and with consequently improved occupant comfort and reduced system noise.

High-Performance Hybrid powertrain

The benefits of a High-Performance Hybrid powertrain are already in evidence in McLaren's current range with the Speedtail – and of course previously from the McLaren P1™. The Speedtail has the greatest power and torque of any McLaren road car, with a combined 1,055bhp and 848lb ft and even though it is an ultra-limited hypercar, the exhaustive development that produced it – and the philosophy of greater efficiency and lower emissions without compromising performance – helped to define the Artura's unique attributes of hypercar innovation in a seriesproduction supercar.

The Artura's hybrid powertrain combines an all-new twin-turbocharged six-cylinder petrol engine together with an industry-leading axial flux electric motor (E-motor) integrated within an all-new eight-speed transmission, and a lithium-ion battery pack.

The combined output of the High-Performance Hybrid powertrain is 671bhp and 531lb ft, with the torque of the Emotor ensuring instant throttle response. Straight-line acceleration of 0- 60mph is achieved in 3.0 seconds and 0– 186mph in just 21.5 seconds; yet at the same time the Artura is capable of driving up to 19 miles on battery power alone, making the car fully zero- emissions capable for most urban journeys. The cleanest and most efficient McLaren road car ever, the Artura returns more than 50mpg and 129g/km CO₂ on the EU WLTP cycle*.

The McLaren Artura has four Powertrain modes, covering every driving requirement: E-mode, Comfort, Sport and Track. E-mode is the default for silent start-up and zero-emissions, fully-electric driving. In Comfort mode, the V6 petrol engine runs in tandem with the E-motor, with maximum assistance for fuel saving. In Sport model, the Emotor provides torque infill at lower revs, while the V6 targets maximum performance. Track mode delivers the same blend of hybridized power, with transmission software delivering faster shifts.

All-new V6 petrol engine

- 2,993cc twin-turbocharged V6; 120° v-angle with turbos in 'hot vee'
- Develops 577bhp – a specific output approaching 200bhp per liter – and torque of 431lb ft
- Light and compact: 110lbs lighter and 7.5 inches shorter than McLaren V8 engine

"Our all-new V6 engine is compact, light, powerful and extremely efficient. The dimensions aided packaging of the hybrid system and enabled a lower center of gravity for the Artura, while the 120° vee design allowed us to have a very short and stiff crankshaft, which means the engine can rev all the way to 8,500rpm, delivering the drama and excitement you expect from a McLaren supercar."

Richard Jackson, Head of Powertrain, McLaren Automotive

Designed by McLaren engineers to set new standards for smaller capacity V6 turbocharged engines, an all-new 3.0-liter V6 is at the heart of the Artura's powertrain. Generating 577bhp and 431lb ft of torque, the M630 produces more bhp per liter than any McLaren engine except for the 4.0-liter V8 of the Elva and McLaren Senna. Lightweight – at just 353lbs it weighs 110lbs less than a McLaren V8 – and extremely fuel efficient, its unique wide-angle configuration and compact size enable a High-Performance Hybrid powertrain package that is shorter than McLaren's V8 engine and seven-speed transmission. That's all the more impressive given the addition of an eighth gear, as well as the inclusion of McLaren's first electronically controlled differential.

Mounted longitudinally and driving the rear wheels, the engine is a 2,993cc dry-sump V6 with an 84.0mm bore and 90.0mm stroke. Valve timing is continuously variable. Peak power of 577bhp is produced at 7,500rpm, with the redline at 8,200rpm (8,500rpm intermittent). 431lb ft of torque is generated from 2250-7000rpm. Gasoline direct injection (GDI) operating at 350bar pressure ensures precise fueling for increased power and reduced emissions, with one central injector per cylinder, while Gasoline Particulate Filters (GPFs) and catalytic converters ensure all legislative requirements are met.

The engine employs a 120° 'hot vee' layout. This configuration allows shared crank pins enabling a very short and stiff crankshaft appropriate for high power, high-revving engines. The wider angle brings advantages that include a lower center of gravity and the creation of a cavity within the vee to house the twin turbochargers. This is one of the factors that makes the engine 8.7 inches narrower than McLaren's twin-turbocharged 4.0-liter V8, its compact nature assured by additional advantages in length and weight.

The 'hot vee' configuration additionally optimizes performance and emissions. This enables short, equal-length exhaust runners feeding the turbos, allowing faster spooling with very close-coupled catalysts feeding straight to the rear with minimal pressure drops.

Unusually, the compact mono-scroll turbochargers are symmetrical, removing the performance compromises usually seen in the exhaust and intake systems of twin-turbo vee engines. The system uses ball-bearing technology to reduce friction within the turbo, allowing it to spin up faster. Combined with electronically actuated wastegates that can instantly adjust position regardless of system pressure, turbo-lag and response time are minimized. This – together with the power from the E-motor – gives the Artura extremely rapid response to throttle inputs.

A series of complex heat shields tightly surround the 'hot vee' to cool it efficiently. These enclose the engine to stop heat diffusing through the rear of the vehicle, with nozzles fed from the back of the high-temperature radiator (HTR) fans to blow air at high speed between the top of the 'hot vee' and the underside of the heat shield. This heated air is funneled out through the powertrain chimney, an opening in the heat shield in the center of the rear deck mesh.

The lightweight engine block, cylinder heads and pistons are all aluminum. The block has directly coated parent bores rather than separate coated liners. This technology allows the engine to be significantly shorter. The cylinder head and block utilize 3D printed cores, a technology more typically used in Formula 1™ than road cars, allowing uncompromised precision cooling, for example a micro-compact 0.08-inch cooling passage between the cylinders.

Another innovation – this time benefitting refinement and packaging – is the location of the chain drive at the rear of the engine. This reduces NVH intrusion into the cabin, as well as torsional vibration. Overall, the new V6 produces very little mechanical noise, either from the engine itself or associated pump and valvetrain sounds. Intake noise has also been optimized for refinement.

The combination of enhanced refinement and instant driver engagement under throttle enables the Artura to fulfil its dual role as a vehicle that can be driven every day in normal urban traffic and an incredibly immersive supercar on road or track.

The advances in refinement have allowed McLaren to tailor a unique exhaust sound when the throttle is depressed. The delta between on- and off-throttle sound is the greatest of any McLaren to date, acknowledging the differing demands of the High-Performance Hybrid powertrain's driving modes. This has been achieved through a number of routes, including the reduction in length of the exhaust system itself – the exhausts exit straight back from the 'hot vee', reducing weight and allowing for the creation of a full-width rear diffuser. The lightweight exhaust system has optimized resonators to enhance the Artura's harmonic and full-bodied exhaust note.

All-new eight-speed transmission

- Newly designed and developed specifically for the Artura
- Lightweight and compact, with E-motor integrated within the clutch bell housing
- Short individual gear ratios optimize power/torque delivery and driver engagement ▪ No mechanical reverse gear – E-motor runs in reverse instead

"With eight forward gears, all with short individual ratios, the all-new, twin-clutch transmission encourages the driver to keep the V6 engine in the power and torque band for more of the time and fully enjoy the Artura driving experience. The transmission is lightweight and very compact, especially when you consider that it has the powertrain's E-motor – which also fulfils the role of a mechanical reverse gear – integrated into the clutch bell housing." Geoff Grose, Chief Engineer, McLaren Artura

The McLaren Artura has a completely new and technically advanced eight-speed seamless-shift transmission. Designed to integrate the E-motor yet still be very compact, the technically advanced transmission offers high performance and significantly improved CO₂ figures. Despite an extra gear over the seven-speed transmission on McLaren's V8-powered vehicles, the length of the gear cluster has been reduced by 1.6 inches, helped by use of a nested clutch rather than a parallel clutch.

The transmission acts to transfer torque from both the E-motor and the V6 engine. This allows the vehicle to operate in a zero-emissions mode using only the E-motor after the internal combustion engine is disconnected.

The use of eight gears allows the ratios to be more closely stacked, giving lightning fast gearshifts – close to 200 milliseconds – while twin clutches enable the continuous transfer of torque from the input to the driveshafts during each change of gear. The E-motor’s torque can also be utilized during gearshifts, particularly those at low vehicle speeds and low engine rpms, to smooth the transition from one ratio to the next. The eighth ratio is used as an overdrive to improve consumption characteristics on freeways.

Both electric and mechanical oil pumps feature; the electric pump is necessary whenever the engine is disconnected from the transmission, but it can also be used to supplement the mechanical pump which, as a result, is smaller than would otherwise be the case.

Cooling for the transmission is provided by two new medium-temperature radiators (MTR). A feed is taken from the high-temperature radiator (HTR) circuit and each MTR is fed by an air intake at the base of the roof buttresses, precooling the water to enable clutch cooling to lower temperatures than the engine and transmission.

E-motor and battery pack

- Compact, high power density E-motor generates 94bhp and up to 166lb ft
- Five-module Lithium Ion energy dense battery
- Usable energy capacity of 7.4kwh; 19 miles of electric-only range

“The compact, high power density axial flux E-motor and energy dense Lithium Ion battery pack that comprise the electric element of the Artura powertrain bring 94bhp and up to 166lb ft to the total power and torque outputs of McLaren’s new High-Performance Hybrid. This contribution is key both to the electrifying supercar performance and the 19 miles of emissions-free, EV driving capability.”

Sunoj George, Head of Electric Drive Technology, McLaren Automotive

So much innovation has been concentrated into the compact dimensions of the all-new petrol V6 that it’s easy to overlook the other driving force inside McLaren’s High-Performance Hybrid powertrain – the electric motor and battery pack that comprise the electric element.

The E-motor is truly ground-breaking, being the first application of an axial flux motor in a series-production road vehicle. Most E-motors in the automotive world use radial flux technology, where magnets are positioned around a rotor. An axial flux motor is fundamentally different, featuring a stator sandwiched between two rotor hubs and able to deliver exceptionally high power and torque density, while also being smaller and lighter.

The Artura’s E-motor weighs just 34lbs including the transmission interface, which is less than half the weight of the 84lb radial flux E-motor in the McLaren P1™. It generates 94bhp – a power output that is 33% higher in terms of power density than the unit in the McLaren P1™ – and maximum torque of 166lb ft. The E-motor is capable in conjunction with the battery pack of propelling the Artura in pure EV mode for up to 19 miles, and to a maximum speed of 81mph. The torque delivery profile of the E-motor is different to that of the V6 petrol engine; the peak of each does not occur simultaneously, hence the Artura’s 531lb ft maximum overall.

The short axial length of the E-motor fits neatly inside the bell housing of the Artura’s bespoke eight-speed twinclutch gearbox. By packaging the E-motor in line with the engine and transmission, its power and torque

are transferred directly to the main transmission shaft, improving response. By contrast, with an offset radial flux motor, additional gearing is needed to transfer its outputs to the main transmission shaft. The E-motor also fulfils the role of a reverse gear by spinning backwards when required, meaning that there is no need for a reverse gear in the Artura's transmission.

The Artura's battery pack is another example of McLaren honing its hybrid expertise. Whereas both the McLaren P1™ and the Speedtail have 'power batteries' akin to those found in motorsport, the Artura features an 'energy battery' that enables both impressive acceleration performance and a practical 19 mile zero-emissions range when fully charged. Usable battery energy is 7.4kWh.

The battery pack consists of five lithium-ion modules, which sit on a cooling manifold. The battery management unit sits alongside the modules, and the power distribution unit (PDU) is integrated into the battery to save space. The battery is indirectly cooled via refrigerant in the cooling rails of the manifold; the refrigerant circuit runs from the front of the monocoque where the new electric heating, ventilation and air conditioning system is located.

Optimized cooling of the battery delivers greater power and supports consistency of the zero-emissions range.

The entire battery assembly is enclosed within a fireproof cover and mounted on a structural carbon fibre floor that is bolted as one piece into the rear section of the carbon fibre monocoque. The floor, which features aluminum inserts and a structural foam core, provides crash protection below the battery pack. Protection from the side and above comes from a bespoke cavity engineered into the monocoque, shared with the fuel tank which sits above the battery. The engine, transmission and rear frame shield from any rear impact, meaning the battery pack is incredibly well protected. It is also located as low as possible in the vehicle, benefitting the Artura's center of gravity.

From the battery pack, a high-voltage DC supply runs to the integrated power unit (IPU) at the front of the car. It is a combined DC/DC converter, on-board charger and front power distribution unit, and the sharing of power electronics in this unit reduces weight. The DC/DC converter changes the high-voltage DC current from the battery to low-voltage DC current that is used in the vehicle's 12v system. The electronics also convert AC taken from the plug-in vehicle charger to the DC that charges the battery.

Artura customers can maintain charge in the battery pack through the use of the engine, including via a 'set charge to 100%' function that prioritizes using the internal combustion to recharge it, for instance ahead of entering an urban area. However, you can also plug in – a charge from zero to 80% takes around two and a half hours via a standard EVSE cable. The batteries can also harvest power from the combustion engine, with the driver able to influence this behavior from the cockpit.

The battery is never allowed to completely discharge, thanks to a number of power reserve functions. These include a reserve to crank the engine on vehicle start-up, a reserve to power reverse 'gear' and a reserve for when the car remains parked for extended periods.

The power distribution unit located inside the battery gives its distribution to the state-of-the-art, super lightweight motor control unit (MCU), which converts the high-voltage DC current of the battery to the AC current that the Emotor needs under acceleration. As further evidence of the pace of development at McLaren, the MCU weighs around 68% less than the equivalent unit in the McLaren P1™.

Driving dynamics

"The Artura is super-lightweight, with the entire powertrain packaged centrally in the vehicle and as low down as possible. The rear suspension is a clever multi-link wishbone system that's designed to be significantly stiffer than anything we've used before, and advanced Proactive Damping Control is also a central part of the car's dynamics. We wanted to make a thrilling, engaging supercar that asks very few compromises of the driver or the passenger and the Artura truly delivers on the McLaren promise of class-leading driving dynamics and cutting-edge technology." Geoff Grose, Chief Engineer, McLaren Artura

The Artura's engineering credentials are guaranteed to excite anyone who values incredible driving dynamics. The only supercar in its class to offer the combined attractions of super-lightweight carbon fibre construction, a midengined, rear-wheel drive configuration, the purity of electro-hydraulic steering, the instant torque of an E-motor (which helps to deliver throttle response that is twice as rapid as any non-hybrid McLaren) and the advanced handling benefits of an E-differential, the Artura has been designed to engage and delight in the way that only a McLaren can.

McLaren engineers have ensured that the Artura has two distinct characteristics that would ordinarily be diametrically opposed: increased agility and increased stability. This has been possible because of a combination of actions and innovations beyond the core advantage of a carbon fibre monocoque structure, notably a completely new rear suspension concept and McLaren's first electronically controlled rear differential, which together allow the enjoyable accessibility of the car's dynamic behavior to be separated from its high-speed stability.

Chassis settings can be adjusted electronically with three Handling modes: Comfort, Sport and Track. Each setting has its own distinct set of parameters for the dampers, for example a compliant ride for urban driving when in Comfort mode or enhanced dynamic response through tighter damper control when in Track. The settings for the E-diff are also altered as the driver cycles through the Comfort, Sport and Track settings.

More experienced drivers can utilize the expertise of the Electronic Stability Control (ESC) system, where conditions allow. The 'ESC On', 'ESC Dynamic' and 'ESC Off' settings are distinct from the Handling and Powertrain modes, offering the driver full control over the level of vehicle intervention available.

Along with throttle response, steering feel is the most immediate and pure connection between car and driver and the most tactile way to maximize driver engagement. McLaren has always favored electro-hydraulic assistance over a fully electric steering set-up and has maintained this with the Artura, to best deliver the immediacy, on-center feel and detailed feedback for the driver.

The Artura also features a new steering column. A fundamentally different design concept that enhances modal stiffness, the column is mounted directly onto a super-stiff, cross-car beam behind the fascia. There is also a bespoke torsion bar in the steering rack to create a more nimble and agile dynamic experience, with a greater weight build up away from center, and a more natural and unassisted feel.

Suspension

The McLaren Artura features an all-new, completely redesigned rear suspension. The upper link is a unique wishbone, but what would ordinarily be a lower wishbone has been split in two to become a multi-link component. Viewed from above, rather than connecting to the upright through one central joint, it now features two joints that are farther apart. At the same time, the toe control arm has been positioned much farther from the wheel hub than is usual, in an extreme location almost at the inner rim of the alloy wheel.

By splitting the wishbone and maximizing the distance between the toe control arm and upright, there is a much greater separation between the connecting points. The result is significantly increased toe stiffness on the rear axle. Additionally, the large, forged uprights deliver stiffer camber, which allows load to be taken off the suspension links, in turn aiding weight reduction.

The lighter, more compact V6 engine and the geometry of the rear aluminum frame gave McLaren engineers greater freedom in choosing the inboard pick-up points of the suspension. The lower link points in particular are much farther forward than is usual. By aggressively using the kinematics in this way, the weight of the rear suspension was able to be reduced by 5.3lbs of unsprung mass on each side of the car, benefitting both ride and grip levels. The toe control arm is also located in front of the wheel, rather than behind it, moving the weight distribution towards the center of the vehicle.

The result is a rear axle that is considerably stiffer around the z-axis, with stiffness of both camber and toe also significantly increased. This gives greater control under braking and acceleration, with stability improved overall across the board and grip levels during cornering enhanced.

The front suspension, which features dual aluminum wishbones, is similar to the system developed for the McLaren 600LT. This combination of lightweight uprights and double wishbones delivers enhanced steering and precise vehicle reactions, with faster responses to driver inputs and heightened feel.

Grip is enhanced by continuously variable, twin-valve hydraulic dampers that feature individual compression and rebound characteristics. Single-stiffness springs and mechanical anti-roll bars are used, in combination with a new iteration of McLaren's Proactive Damping Control system. Developed from the technology pioneered on the McLaren GT, PDC II is the most sophisticated example yet of the Optimal Control Theory software algorithm first developed for the 720S.

The Proactive Damping Control system uses inputs from sensors to 'read' the road rather than reacting to camera-based information. Feedback from four wheel accelerometers, three body accelerometers and two pressure sensors per damper – as well as multiple sensors that measure steering angle, vehicle speed, yaw rate and lateral acceleration – is processed in less than two milliseconds to ensure the vehicle state is optimized for outstanding levels of control.

As acceleration, braking and cornering continually alter, and the road surface constantly changes, so Proactive Damping Control interprets data and uses its digital models to predict the perfect damping response. The regulation of the body's movement is tailored for occupant comfort, but the vertical load and contact patch variation is optimized to enhance grip levels by ensuring each tire remains more consistently in touch with the road surface.

E-differential

The Artura is the first McLaren to have an electronically controlled differential (E-diff). Smaller and lighter than a mechanical locking differential, the E-diff is integrated into the all-new eight-speed transmission, optimizing packaging and weight.

The adoption of an E-diff brings the enhanced levels of control required to manage torque moving across the rear axle of the Artura, with the immediacy needed to respond to the instant delivery by the E-motor. A mechanical differential would not be able to react with sufficient speed or precision to ensure the behavior of the car is always proportional to throttle inputs.

The calibration and tuning of the E-diff encompasses values including corner radius, vehicle speed, damping characteristics and torque split across the differential. This in turn allows levels of understeer and oversteer to be precisely calculated and controlled, constantly fine-tuning the Artura's agility/stability attitude to benefit a driver drifting the car on a track or controlling yaw gain with the throttle. Traction when coming out of corners is also enhanced by the closer control parameters.

The Artura also features McLaren's innovative Variable Drift Control (VDC), which allows the driver to adjust the level of traction control assistance – and therefore the limit of oversteer – using a slider control on the Central Infotainment Screen.

Braking

The brakes on the Artura are the latest-generation carbon ceramic brakes and lightweight aluminum calipers from the same family as the system used in the McLaren 600LT and 720S. The carbon ceramic discs measure 15.4 inches at the front and 15 inches at the rear and, working in conjunction with the kinematics of the new rear axle design, deliver superior high-speed braking power and stability.

In addition to the discs and forged aluminum calipers (6-piston front monobloc, 4-piston rear), the Artura adopts a version of the Formula 1-inspired integrated caliper cooling ducts seen on the 765LT. This technology delivers cooling air to the front calipers and discs, reducing brake pad temperatures during track driving.

The McLaren Artura features a bespoke brake booster and electrically driven vacuum pump, to ensure pedal pressures remain consistent whether the car is running on its internal combustion engine or electric power alone. There is no function to regenerate the battery through the vehicle's braking system because the engine can provide sufficient charging, and this ensures feel through the brake pedal is entirely consistent.

Tires

McLaren's tire partner, Pirelli, has delivered three bespoke tires designed to maximize the Artura's dynamic characteristics and performance. The tires - 235/35Z R19 at the front and 295/35 R20 at the rear – are all marked 'MC-C' to indicate they are a Pirelli Cyber Tyre® tailor-made for McLaren.

The P ZERO™ tire, fitted as standard, features an asymmetric tread pattern that improves braking and enhances handling and control across a wide range of road conditions, with particular focus on wet weather performance. The compound developed for the Artura ensures maximum grip and stability, while the structural integrity of the tire improves steering response.

Two optional tires are available. The P ZERO™ CORSA tire is designed for use on both road and track and features racing-type compounds and unique tread patterns, achieving higher grip levels as well as improved braking and traction. The P ZERO™ WINTER™ is the tire of choice for winter, its bespoke compound and tread pattern maintaining the levels of control of the P ZERO™ summer tire.

The Artura also features the innovative Pirelli Cyber Tyre® system. Consisting of hardware and software integrated into the vehicle electronics, the system has an electronic 'chip' in each tire and generates a stream of high-value data based on tire specific conditions that is relayed to the control systems of the Artura to deliver the best tire performance.

Able to recognize whether a P ZERO™, P ZERO™ CORSA or P ZERO™ WINTER™ is fitted, Pirelli Cyber Tyre® produces accurate, real-time monitoring of temperature and pressure and a broader data set than a wheel rim sensor. With this information, drivers can set tires to the recommended levels to optimize performance; a 'park mode' refreshes the information when the driver returns to the car.

Additionally, by using a 'track mode', tire pressure thresholds can be changed on the infotainment display to a performance configuration that further enhances circuit driving enjoyment.

Driver assistance systems

The Artura is the first McLaren to offer Advanced Driver Assistance Systems (ADAS). These extend to Intelligent Adaptive Cruise Control with Stop/Go, Road-Sign Recognition, Lane-Departure Warning and High-Beam Assist. Intelligent ACC automatically decreases or increases the speed of the Artura to keep pace with the car in front, including in stop-start traffic conditions, with the driver able to set the distance between the vehicles. Additionally, the speed limit, which is recognized by a front-facing camera, is displayed on the digital screen and prompts the driver to adjust the cruise control.

The Lane-Departure Warning system is designed to warn the Artura driver when the vehicle begins to move out of its lane. High-Beam Assist recognizes oncoming vehicles at night, switching the Static Adaptive Headlights between main and dipped beam automatically. This enhances night driving by better illuminating the road ahead while removing the need for the driver to manually adjust the headlights.

Design

- All-new body, all-new interior; design principles guided by purity, technical sculpture and functional jewelry
 - Perfect supercar proportions – 'cab-forward' stance; long, low sleek nose; long roofline, very fast windscreen angle
- Organic, 'shrink-wrapped' bodywork, following philosophy of 'everything for a reason'

"Our mission was to create a piece of pure technical sculpture, where technology doesn't distract but enhances the visual experience. We were guided throughout by three key phrases – purity, technical sculpture and functional jewelry. The purity is not only purity of line, but also in the integration of components; technical sculpture references the need to be stunning to look at, but there for a reason, like the forms you see in nature; while functional jewelry is best explained by the fact that we don't decorate, we do what is needed and make it beautiful." Rob Melville, Design Director

The McLaren Artura's pure, minimalist aggressive beauty appears almost effortless, but nothing could be further from the truth. The design mission was as sharply focused as every other aspect of this game-changing supercar program.

The Artura has perfect supercar proportions – a long, low sleek nose, long roofline, very fast windscreen angle and very 'cab-forward' stance. Coupled with a compact wheelbase, 19-inch and 20-inch wheels and high fenders and haunches, the result is a superb dynamic feel overall, enhanced by the extremely compact rear overhang.

Viewing the Artura head-on, the signature hammerhead line is clearly visible running forward across the front, dissecting the airflow down into the radiators or accelerating it over the bonnet. The line 'kicks up' in the outboard corners, leading your eye into the eye-socket features that house the deeply rebated static adaptive headlamps. The lights are so deeply recessed that they alone give the Artura a mean, menacing look, contributing to the overall appearance of a car that displays a rare combination of both beauty and aggression. The large side intakes also help to endow the Artura with a striking visual character, captured in a pinched waist, powerful nose and particularly curvaceous rear haunches linked by a tightly packed core.

The Artura's sense of purity is achieved partly through the reduction in shutlines, which creates a visual cleanliness that emphasizes the bold form language. The air intakes in the nose and doors cut deeply into the body, while the elegant flying buttresses appear to 'pool' where they fall from the single-piece aluminum roof to meet the bodywork, creating a graceful visual effect in the remarkable one-piece rear clamshell.

Every vent, duct, fold, even the door mirrors, have a specific purpose in managing airflow, cooling radiators, optimizing downforce and enabling onboard technology. Vented louvres on the front fenders, for example, reduce pressure in the wheel arches and guide 'dirty' air away from the side intakes; while 'clean' air is guided into those intakes via a complex aero path involving sculpted door channels.

The side intakes conceal the discreet inlets that feed air to the intake manifolds, along with the high-temperature radiators (HTRs) which cool the powertrain. The HTRs, which feature a new core technology, are a complex elliptical shape to ensure the maximum surface area is placed within the airflow. They are also much smaller, having less engine capacity to cool.

The intake for the eHVAC system (along with the ADAS radar if optioned) is located in the center of the front splitter. The radar's offset location creates an asymmetrical intake, maintaining maximum intake volume rather than artificially closing the opposing side for the sake of styling.

The organic 'shrink-wrapped' bodywork contrasts with the sheer sides of the dihedral doors. These vertical surfaces play a distinct aerodynamic role while their shape, which transforms into the curvature of the air intake, allowed McLaren engineers to optimize the weight and rigidity of the aluminum doors.

The complex technical areas where air enters and exits the Artura – including the front splitter, rear deck mesh, and open rear end – are dark in color, while the bodywork that guides and controls the flow contrasts in body color. The roof and flying buttress can be painted either in exterior body color or specified in gloss black, offering a customer two distinct personalities. The Artura is also available with a full optional Black Pack, which

applies a gloss black finish to the door mirror casings, exhaust, hot vee finishers and front fender louvres, as well as to the roof and buttresses.

The full LED headlights feature 21 LEDs apiece, with four LEDs providing the main beam, five delivering the dipped beam, and the remaining 12 utilized for McLaren's Static Adaptive functionality. The system moves the dipped headlight beam according to steering movements, allowing both the road ahead and surrounding areas to remain illuminated while turning. The system is fully digital, utilizing an array of LED lights with variable intensity which become brighter or dimmer in relation to the direction of turn. They also dip automatically via Auto High-Beam Assist when ADAS systems are optioned.

The LED rear lights continue the ultra-slim design concept, combining three functions into one unit: tail lights, brake lights and indicators. Each rear light blade is made up of only nine components and a single blade of LEDs, minimizing both component count and overall weight – and as a result, each blade weighs half of those on a 720S, a car widely recognized as a champion of super-lightweight engineering.

The central-exit exhausts are set between the two light blades. Positioned high within the center of the rear mesh, the twin tailpipes exit straight out from the engine's 'hot vee', having passed through the catalysts and gasoline particulate filters (GPFs). Positioning the exhausts this high allows for the Artura's full-width, dual-level diffuser, which functions by the expansion of air across its full span, especially at the outboard corners.

A new seven-spoke cast alloy wheel design that is unique to the Artura is the standard specification, in a silver finish. Five-spoke lightweight flow-formed cast alloy wheels and 10-spoke super-lightweight forged alloy wheels are options, available in a range of finishes and delivering both a different visual dynamic and reducing unsprung weight by up to 22lbs. Black, cast aluminum brake calipers with a white printed McLaren logo are standard, with six further caliper color choices as options.

The Artura is available in 15 exterior paint colors, including three – Flux Green, Ember Orange and Plateau Grey – that are unique to the vehicle at launch. A further 16 MSO Defined exterior colors are also available through McLaren Special Operations, which also offers the opportunity for virtually any color to be specified as an MSO bespoke commission.

Customers can also specify components from a range of MSO carbon fibre body parts, either individually or as a pack. The MSO Carbon Fibre Pack sees the front splitter, diffuser, rear bumper and door mirror casings finished in gloss finish visual carbon fibre, while gloss finish carbon fibre front fender louvres can also be selected as a standalone option, as can an MSO rear spoiler, which is available from September 2021.

Interior

An Artura driver and passenger are both able to enjoy an environment that blends revolutionary ergonomics, technology, design and refinement. An increased feeling of space is created by all surfaces being as far outwards as possible in order to maximize the interior volume, and the materials used throughout – from leathers to machined switchgear – create a technical and contemporary ambience.

The interior design has been driven by the same principles of purity, technical sculpture and functional jewelry that dictated the exterior of the Artura; the upper fascia rises up to meet the wide and deep windscreen, which is

bordered by a carbon fibre structure that ensures particularly slim A-pillars; the fascia seems to almost float, creating a sense of calm focus with no visual interruptions in the driver's eyeline and complementing the unmatched visibility.

Every McLaren cockpit is built around the driver, but the Artura brings a new level of meaning to that principle. This is achieved by mounting the Digital Instrument Cluster to the steering column, so it moves in conjunction with the steering wheel. As a driver adjusts the column to their preferred position, perfect visibility of the instrumentation is maintained – and better still, the rocker switches for the Powertrain and Handling modes are at their fingertips, being mounted either side of the binnacle.

There are no controls on the steering wheel, a clear signal that its sole function is to steer the car and provide feedback to the driver. Additional key controls such as the Drive/Neutral/Reverse switches are close to the driver's field of view, reducing distraction while driving.

With all controls centered on the binnacle, the vertically mounted, 8-inch high-resolution Central Infotainment Screen has the center of the fascia virtually to itself. As the primary hub for vehicle convenience, comfort and connectivity functions, the screen displays audio, media, navigation and other convenience features, with all key applications just a tap or two away in the same style of operation as a smartphone. The climate control function always remains visible at the bottom of the screen, enabling optimum usability at all times.

The new MIS II uses an Android-based platform that allows for continual advancement and additions. The system works through a series of apps, just like a smartphone. Multiple applications can be run simultaneously and scrolled through on an app list or activated using voice control. Support for Apple CarPlay® and Android Auto™ also integrates a mobile phone into both the instrument cluster and central display screen.

The Artura driver's interaction with MIS II begins as they approach the car, using a new vehicle key that transmits via Bluetooth to unlock the car and commence booting the system. The system also works in reverse, shutting the system down and locking the doors when the driver exits the car and walks away at the end of a journey.

As with all McLaren models, the touchscreen is mounted in portrait, rather than landscape, mode. This reduces the width of the screen, enabling vehicle occupants to be positioned closer together while still enjoying generous space. Bringing them closer to the center of the car also helps further optimize the Artura's response and agility.

Fully electric 10-way adjustable heated sports seats with memory function and comfort entry/exit are standard on the Artura in the US offering a high degree of luxurious comfort and support.

Available as a cost option, the all-new Clubsport seats were developed specifically for the Artura. These single-shell seats uniquely combine the light weight and support of a bucket seat with the range of motion expected of a seat with a moveable backrest. The innovative method of adjustment is simplicity itself: the driver sets their relationship to the pedals with the fore and aft adjustment, and then uses a singular control that tilts the whole shell elliptically around the same H-point to achieve the perfect driving position. With the recline and height combined, the seat moves upright as it comes higher, or reclines as it lowers, with an occupant's thighs always supported. This adjustment enables a swift transition between an upright vehicle maneuvering position and a

lower, driving focused one, and removes the need for driver or passenger to alter their seat incrementally using multiple controls.

As with the super-lightweight carbon fibre racing seats developed for the McLaren Senna, the upper portion of the seat is wide but thickly padded, giving equal support to broad-shouldered and wiry drivers alike. The new seats are compatible with an optional MSO Defined Harness Bar and MSO Defined six-point harnesses, and the single-shell construction and single electric motor reduce weight, to the extent that each Clubsport seat is up to 20lbs lighter than the standard Comfort seat.

Interior refinement

McLaren engineers worked tirelessly to enhance cabin refinement in the Artura, building on lessons learned during the development of the GT and Speedtail. A car that will run for part of the time in silent mode faces more complex challenges than a vehicle powered only by an internal combustion engine.

Engine refinement has a major influence on both the cabin sound levels and ride comfort of a car. Factors such as the engine chain drive being located at the rear of the all-new V6 reduces NVH intrusion into the cabin, as well as torsional vibration. Fluid-filled mounts for the powertrain help to separate and 'tune out' certain mechanical frequencies of the V6 that would otherwise pass to the carbon monocoque and subframe.

The monocoque itself plays a key role in refinement, not only through its structural consistency and stiffness but also in the way it is integrated; in the McLaren Senna, for example, the carbon fibre chassis was used to amplify the lowfrequency sounds into the cabin, while in the Artura specific work was undertaken to actively eliminate this effect in order to maximize refinement during everyday use.

To assist driver comfort, the Artura tire is equipped with the Pirelli Noise Cancelling System (PNCS), a Pirellipatented technology that reduces road noise by using a polyurethane sponge inside the tire to absorb vibration and minimize noise transmission into the cabin.

New suspension bushes, particularly large on the rear axle, also improve NVH performance, as do the designs of the front and rear aluminum subframes and suspension spring stiffness. McLaren technical partner, Pirelli, also plays a major role in cabin refinement. The Artura is fitted with P ZERO™ tires featuring Pirelli's patented noise cancelling system (PNCS), which absorbs vibration, minimizing noise transmission into the cabin.

The Artura's electrically driven heating, ventilation and air-conditioning (eHVAC) system also brings multiple refinement advantages. Able to heat or cool quicker than a mechanically driven system, it is also more controllable and enables cabin pre-conditioning, either for cooling or defrosting. A new diffused air vent spans the fascia of the Artura and, in combination with the foot, face and windscreen vents, this increases mass flow into the cabin – but at lower velocities, meaning that desired cabin temperatures can be better maintained without an increase in blower noise. Dual-zone climate control and air-conditioning are standard on the Artura, with the system allowing fully automatic and independent settings for both the driver and passenger.

Model range, specification and ownership

Beyond standard trim, three further levels – ‘Performance’, ‘TechLux’ and ‘Vision’ – offer a variety of interiors carefully curated by the design studio at the McLaren Technology Centre (MTC). And as with every McLaren, customers seeking further personalization can explore the realm of McLaren Special Operations (MSO), which makes almost anything possible.

In standard trim, the seats are finished in lightweight Alcantara® – along with the dashboard, headlining, central armrest and door armrests, ensuring that all primary surfaces feature highly aesthetic finishes in a tactile and technical material. A leather-trimmed steering wheel with a power-adjust steering column is standard.

Decorative elements around the window switch surrounds, center tunnel, instrument binnacle and cast aluminum gearshift paddles are finished in Satin Black. The Central Infotainment Screen and overhead console have a Dark Titanium finish. The shift paddles are upgraded to extended, machined and brushed in TechLux, Performance and Vision.

The Performance, TechLux or Vision trims feature either Alcantara® or supple Nappa leather on almost every surface, with the Extended Nappa Leather specification covering the whole cabin, including the doors, rear parcel shelf, central tunnel and lower dashboard.

Sporty, aesthetic and technical, the four Performance interiors available all feature lightweight Alcantara® on the seats, headlining, doors and dashboard, alongside Nappa Leather throughout the rest of the interior. The ambience is sporty, functional and aesthetic, with Performance stitching and contrasting color accents throughout. Dark Carbon Black, Graphite and Ink Blue hues dominate, contrasting with a hint of color from Ember Orange or McLaren Orange accents.

The four TechLux interiors epitomize technical luxury and style, creating a sporty yet refined ambience. The Extended Nappa Leather interior sees the entire cabin indulgently trimmed in the natural hide, the leather color being paired with vibrant highlight accents and finished with a stitch pattern bespoke to the TechLux trim. Interior components are finished in Brushed Dark Titanium, featuring Extended Brushed Metal gearshift paddles.

Avantgarde and sporty, the two Vision interiors available combine lighter hues of dual-tone Extended Nappa Leather and Alcantara® with simple, bright and off-piste accents. Unique stitching highlights the details of the sophisticated environment. A vivid, reflective Zest accent unique to the Vision interior highlights the attention to detail, or alternatively a more restrained Vision Orange accent creates a darker, more subtle effect.

Hidden-until-lit ambient lighting, which McLaren introduced on the new GT, adds a further touch of elegance to the Performance, TechLux or Vision models. This innovative technology features subtle chrome trim highlights around the door cards; cold-to-the-touch and seemingly solid metallic, a distinct lighting pattern becomes visible within them when the vehicle ignition is engaged, casting a subtle and soft glow across the cabin. Each Performance, TechLux and Vision interior features a specific 12-color ambient lighting scheme, complementing the three trim themes.

The Artura is equipped as standard with a generous suite of comfort and convenience features, including a McLaren five-speaker audio system and satellite navigation that includes turn-by-turn instructions and simplified map displayed in the Digital Instrument Cluster alongside a full map on the Central Infotainment Screen. There is also DAB/FM radio, Bluetooth telephone, iPod/iPhone Integration, USB-C and USB-B fast-charge connectivity.

Additionally, in the North American market, a Practicality Pack comes as standard equipment and includes Vehicle Lift, power-folding heated door mirrors with 'Dip in Reverse' functionality, four front and four rear parking sensors, rear-view camera, Homelink® and soft-close doors. The driver-controlled vehicle lift system raises the nose of the car, for instance over speed bumps or when entering or exiting car parks, while Homelink® allows for remote opening of up to three electric garage doors or house gates.

The McLaren Track Telemetry app has also been enhanced with a preloaded track database, while a new key features Bluetooth technology to wake the car up sooner – enhancing welcome and start-up experience – and commercial-grade cryptography software to combat against potential relay attack.

A world-class Bowers & Wilkins audio system can be specified as part of an optional Technology Pack. McLaren and Bowers & Wilkins worked together to develop and tune the system to the Artura's cabin architecture and acoustics.

This includes QuantumLogic Surround technology to accurately identify and redistribute audio streams, Dynamic EQ processing to more accurately adjust for external sounds and Clari-Fi for real time restoration of low-quality audio signals. The 12-speaker system incorporates Continuum™ cones for better damping and response than Kevlar, with a dual subwoofer integrated into the front of the Artura's carbon fibre monocoque to provide an extremely stable location from which to deliver undistorted bass.

Further features of the Technology Pack include Full Adaptive LED Headlights Plus with Auto High-Beam Assist, Road-Sign Recognition, Intelligent Adaptive Cruise Control with switchable follow mode, 360-Degree Park Assist, and Lane-Departure Warning.

Ownership & warranty

Peace of mind – on quality, durability and cost – were as important in the design, engineering and development of the Artura as any of the other core considerations, such as performance and driver engagement. With the car being all-new – including the High-Performance Hybrid powertrain – and the distillation of more than five decades of McLaren experience and expertise in race- and road-car engineering, it is no surprise that the test and development program undertaken by McLaren was its most rigorous ever.

The Artura comes with a five-year/50,000-mile vehicle warranty, outstripping the three-year cover offered by most rivals. The battery is warrantied for six years/50,000 mile. A 10-year body (anti-perforation) warranty is also included, as is a five-year roadside assistance package.

*value to be confirmed – pending final validation

Ends

Notes to editors:



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RICHARD MILLE





A selection of high resolution images accompanying this release is available to download from the McLaren Automotive media site – cars.mclaren.press

About McLaren Automotive:

McLaren Automotive is a creator of luxury, high-performance supercars.

Every vehicle is hand-assembled at the McLaren Production Centre (MPC) in Woking, Surrey, England.

Launched in 2010, the company is now the largest part of the McLaren Group.

The company's product portfolio of GT, Supercar, Motorsport and Ultimate models are retailed through over 85 retailers in 40 markets around the world.

McLaren is a pioneer that continuously pushes the boundaries. In 1981, it introduced lightweight and strong carbon fibre chassis into Formula 1 with the McLaren MP4/1.

Then in 1993 it designed and built the McLaren F1 road car - the company has not built a car without a carbon fibre chassis since. As part of the Ultimate Series, McLaren was the first to deliver a hybrid hypercar, the McLaren P1™.

2019 saw McLaren launch the 600LT Spider as well as the new GT, the track-only Senna GTR and unveiled the 620R and the McLaren Elva.

In 2020, McLaren launched the 765LT. In addition, it unveiled the all-new lightweight architecture innovated and manufactured at the £50m McLaren Composites Technology Centre opened in the Sheffield region in the North of England that will underpin the next decade of McLaren's electrified future.

AUTO SPIES

