

PRESS KIT – POLESTAR 2

INTRODUCTION

Polestar 2 is the first Battery Electric Vehicle (BEV) from Polestar, the electric performance brand of the Volvo and Geely Car groups. Designed as a premium vehicle within its segment, the Polestar 2 began production for global markets in mid-2020. With convenient online ordering, its mission is to provide every bit of the performance, feel and driving enjoyment of a great internal-combustion engine (ICE) vehicle with none of the previous downsides of owning an electric vehicle, including range anxiety. To suit, the twin-motor Polestar boasts a combined 408 hp (300 kW) and 487 lb-ft (660 Nm) torque. Polestar 2 can sprint from 0-60 mph in 4.45 seconds (4.5 sec 0-100 kph), reach 125 mph (200 kph), and cover 291 miles (470 km) on a single charge of its 78 kWh lithium-ion battery, per Worldwide Harmonised Light Vehicle Test Procedure (WLTP) certification.

Pricing and Options

With a starting price of \$59,900 (\$69,900 Canadian), the Polestar 2 debuts as a 2021 model-year vehicle. Initially available in only a single fully-loaded “launch edition” version, it includes a high level of standard features such as Pilot Assist, Pixel LED headlights, WeaveTech interior textiles, the world’s first inner-side airbags, premium Harman Kardon audio, and the world’s first embedded usage of Android Automotive, a native operating system that dramatically enhances the digital lifestyle with Google apps and services built-in. In the future, many of the 2021 Polestar 2’s standard features will be grouped in separate Plus Package and Pilot Assist packages. Six paint colors and three interior colors are available.

The 2021 Polestar 2 options include:

- The Polestar 2 is available in just the right number of color combinations to create a curated, personalized configuration. Void paint is standard while Magnesium, Midnight, Moon, Snow and Thunder are available for \$1,200 (\$1,200 CDN in Canada). Customers may choose between Charcoal and Slate interior colors at no charge.
- Nappa leather interior, available in Barley only, is priced at \$4,000 (\$5,000 Canadian).
- The Performance Pack, priced at \$5,000 (\$6,000 Canadian), adds adjustable Öhlins dampers, gold four-piston Brembo front brake calipers, 20-inch lightweight forged aluminum wheels, bespoke Continental SportContact™ 6 tires, upgraded spring and stabilizer bar rates, a high-gloss black roof panel, along with gold seatbelts and tire valve caps.
- Three different wheel and tire packages are available, including standard 19-inch diamond-cut aluminum wheels and 245/45R19 tires, optional 20-inch diamond-cut aluminum wheels and 245/40R20 tires priced at \$1,200 (\$1,200 Canadian), and the forged 20-inch wheels and 245/40R20 tires of the Performance Pack.

Key Specifications

2021 Polestar 2	
Power	408 hp (300 kW)
Torque	487 lb-ft (660 Nm)
Battery capacity	78 kWh

Range	291 mi (470 km) WLTP EPA mi TBD; est mid-200s
Acceleration	4.45 sec 0-60 mph (4.5 sec 0-100 kph)
Top speed	127 mph (201 kph)
Overall length	181.3 in (4,606 mm)
Overall width	71.2 in (1,859 mm) w/o mirrors
Overall height	58.2 in (1,479 mm) 58.0 in (1,473 mm) with Performance Pack
Wheelbase	107.7 in (2,735 mm)
Track, F/R	63.1/63.0 in (1,602/1,601 mm)
Weight	4,680 lbs (2,123 kg)
Cargo capacity	15.5 cu ft (440 liters) 38.7 cu ft (1,095 liters) w/rear seats folded

Environmentally Responsible

Polestar aims to accelerate the change to more sustainable mobility and the Polestar 2 represents another step in that journey. Polestar requires rigorous environmental and ethical demands of its suppliers, and is always looking to challenge materials and manufacturing processes. An example of how the brand applies new thinking to drive improvement is the use of blockchain to provide improved traceability of cobalt used in its batteries. The system helps ensure only responsibly mined cobalt is used, limiting environmental impact while guarding against exploitation in any labor force. Only two cobalt suppliers worldwide proved able to take on this approach, and both are now Polestar partners.

The interior of the standard Polestar 2 is entirely vegan, meaning that zero animal products are applied. One of the key developments to enable this vegan commitment is Polestar 2's WeaveTech interior textiles. Significantly lighter than leather, WeaveTech utilizes a high quotient of recycled materials in its construction, wears durably and cleans easily. The material almost entirely eliminates the harmful phthalates (a substance also known as a plasticizer which increases material flexibility) found in the vinyl commonly used in automotive interiors.

Top User Experience

Environmental factors aside, Polestar 2's mission for customers is to provide the simplest, most intuitive and enjoyable overall driving experience possible. Its exterior and interior designs, reflective of the clean, simple forms of Scandinavian architecture, start with the all-LED exterior lighting. New Pixel LED headlights, with 84 individual pixels, and a full-width taillight with 288 ultra-bright LEDs, combine to create vivid, effective lighting with a dramatic and unique design signature. Elsewhere, Polestar 2's five-door fastback body exhibits crisp and decisive lines and establishes a robust presence on its standard 19-inch wheels and tires, while being almost entirely devoid of brightwork. The result is a vehicle whose proportions transfer the comfort and utility of an SUV or crossover, whose looks inspire sport-sedan imaginings, and whose mechanical and electric underpinnings deliver on Polestar's performance promise.

The user experience starts as soon as the driver approaches the vehicle, as it immediately and prominently displays the battery state of charge and available driving range. Once seated, the driver needs only to close the door, press the brake pedal and select the desired driving direction in order to drive. From here on, Polestar 2's "one pedal drive" system allows driving in day-to-day conditions using the throttle pedal only:

press the pedal to accelerate and cruise; release the pedal to brake the vehicle. Both the level of regenerative braking that occurs when the pedal is released – along with the steering weight or feel – may be easily adjusted in the vehicle's settings.

Volvo's Safety DNA

Polestar 2 carries an abundance of active and passive safety features in its Advanced Driver Assistance System (ADAS), a direct result of Polestar's relationship with Volvo Cars. From Lane Departure and Lane Keeping Aid functions to driver attention monitoring, plus pre-collision warnings and interventions, the vehicle not only warns, but can intervene with steering and braking if it determines that a collision is imminent. Polestar 2 has a forward-facing camera that detects other vehicles, pedestrians and cyclists, and reads road signs and shows them on the 12.3-inch (312 mm) driver display.

Safety is enhanced by the premiere of new inner-side airbags. Built into the inside of each front seatback, the inner-side airbags will deploy in the event of a side impact and are designed to contain the front occupants from both sides, supported of course by traditional side airbags. In total, Polestar 2 has nine airbags with dual front, side, inner-side and curtain airbags included.

Intuitive Operation

Polestar 2 uses an 11.15-inch (283 mm) center display to replace nearly all of the switches, buttons and knobs found in a traditional vehicle. It is also the first car in the world to feature an infotainment system powered by Android Automotive OS with Google apps and services built-in. All vehicle functions, including navigation, entertainment, vehicle settings and climate control are controlled from the center display.

Although multiple layers of settings, choices, functions and apps are available on the center display, accessing them is the easiest process to-date. Android Automotive represents a giant step forward, bestowing Polestar 2 with the speed, accuracy, pair-ability and functionality of the driver's smartphone. Whereas in typical phone-mirroring interfaces, wherein a driver's smartphone apps, music, phone functions and navigation and voice recognition are simply mirrored from the device to the car's native infotainment system, Polestar 2's embedded Android system is a standalone automotive system. This means no more physically plugging in your phone, although a telephone must connect via Bluetooth to make calls or send text messages. Additionally, the system integrates Google Assistant for voice assistance, Google Maps for navigation, and Google Play for access to your favorite media apps.

The key to a truly personalized digital experience in Polestar 2 is via a connected Google account. By connecting a Google account to the car, the user allows Polestar 2 to tailor their navigation and voice assistant experiences to their preset preferences. This includes favorite Google Maps destinations or restaurant preferences and, thanks to Google Assistant's learning capability, a deep understanding of the user's conversational tone and accent.

Of course, users who do not wish to log into a Google account in the car are free not to, and they will still enjoy the fully connected and advanced Android HMI (human-machine interface) in Polestar 2 – albeit without this added layer of true personalization and adaptability.

Natural Voice Recognition

A major advancement in the vehicle environment is the inclusion of Google Assistant with its natural voice recognition abilities, far superior to the voice recognition found in traditional vehicles. The backbone of this leap forward in voice recognition is that Google's worldwide ecosystem of voice recognition is in operation 24 hours a day, and every command that occurs serves to improve the system's functionality. This also means that multiple user dialects are more easily understood, enabling more accurate responses. Moreover, with Android Automotive, if the user also uses other Google-enabled speech recognition items such as Google Home, their Google account system already understands and has adapted to their speech patterns, allowing Polestar 2 to respond more accurately from day one of the relationship.

Performance Dynamics

From a dynamic standpoint, Polestar 2 seeks not just to stand out in the EV space, but to be a great driver's car overall, even amongst the most rewarding of internal combustion engine vehicles. The body is created from five different types of steel, including hard-to-form ultra-high-strength boron steel, for superior torsional rigidity. The battery case and Front Lower Load Path (FLLP) are made of extruded aluminum, which safeguards the 27-module, 324-cell battery, stiffens the body, and directs front, side and rear crash loads to specific parts of the body that are engineered to absorb and attenuate them.

This stiffness creates a premium platform to which the MacPherson strut front and multilink rear suspension systems combine to provide a high-quality ride and excellent handling characteristics for all weather and road conditions. At launch, Polestar 2 features all-wheel drive as standard with a maximum power bias of 50/50 front and rear. The optional Performance Pack heightens the dynamic experience even further with the addition of Öhlins dampers, Brembo brakes, forged aluminum wheels and bespoke performance-oriented tires.

EXTERIOR

The exterior of Polestar 2 is modern and minimalistic, incorporating top-rated safety performance, innovative lighting, and user-friendly features. Altogether, Polestar 2's exterior advances the standard for electric vehicles in its segment.

Based on the Volvo Car Group's proven CMA platform, Polestar 2 is a dynamic five-door fastback that enhances the user experience through a combination of intelligent ergonomics and expert packaging. The appearance is taut and modern, and nearly entirely free of bright trim. Instead, the dynamic proportions, which include a high rear roofline and tailgate for rear-seat passenger roominess and enhanced cargo volume, merge with standard 19-inch and optional 20-inch alloy wheels. Optional Brembo brake calipers and cross-drilled brake discs in the Performance Pack create an even more powerful visual stance. A panoramic glass roof is standard, and the Performance Pack further adds a high-gloss black roof panel.

Exterior lighting is a high point of Polestar 2 design. High points include Pixel LED headlights and dynamic LED front fog lights, LED indicators that incorporate Volvo Car Group's "Thor's Hammer" daytime running light signature, and LED taillights with a signature full-width, wraparound design unique to Polestar 2.

Key Polestar 2 exterior features include:

- Five-door fastback body style
- Avant-garde modern design
- Standard 19-inch wheels (5 V-spoke)
- Optional 20-inch wheels (4 V-spoke or 4 Y-spoke forged)
- Pixel LED headlights
- Active Bending Lights and Active High Beam
- LED fog lights (with cornering function), turn signals and taillights

Design Theme

A product of Scandinavian design ethos, minimalism and modernism, Polestar 2 establishes a new path for electric vehicles. Simultaneously assertive and minimalist, responsible and efficient, the body design brands Polestar 2 as a practical daily driver that rewards customers with striking and unique visual appeal, practical and useful proportions, and outstanding functionality and usability.

Encompassing themes found in both architecture and automotive design, Polestar 2 emphasizes its form – a strong stance thanks to a long 107.7 in (2,735 mm) wheelbase and standard 19-inch wheels and tires, innovative and rakish LED lighting, and an absence of gratuitous brightwork and trim that add visual complexity. The result is a contrast of crisp sheet metal, an airy and windswept greenhouse, and dynamic lighting instantly distinguishing Polestar 2 from all other cars – no matter their powertrain.

Body Structure

The Polestar 2 body structure utilizes more than five types of steel, from mild to ultra-high-strength boron, to achieve an uncompromised combination of stiffness, safety, durability and weight optimization. Aluminum extrusions are additionally used for the front bumper beam and battery case.

The boron steel (ultra-high-strength) is selectively used in key areas where resistance to bending and torsional rigidity is crucial, or where the mitigation of collision forces is required. Boron steel is challenging to work with and requires special processes to form; however, its high rigidity and low weight proved crucial to ensuring Polestar 2 met the expected standards. The material thus ensures the handling, ride comfort, low interior noise, vibration and harshness (NVH), and collision safety of Polestar 2 move the vehicle's class standards forward.

Aerodynamics

Aerodynamic efficiency and design merge seamlessly in Polestar 2 to yield both form and function. Following in the spirit of the limited-production Polestar 1 performance hybrid GT, Polestar 2 adopts certain design features from different types of vehicles to create a striking – and expertly functional – exterior form that is also aerodynamically efficient, proven by its 0.278 drag coefficient (Cd).

For instance, the Polestar design team sought a high seating position and ample headroom for good visibility and versatility, and countered this with a long, tapered fastback roofline and Kamm-inspired tail to help the vehicle slip through the air as efficiently as possible. The frameless mirrors also contribute to improved aerodynamics, with their 30-percent reduction in size compared to conventional mirrors, reducing drag and improving range.

Pixel LED Headlights

The new Polestar 2 LED headlights incorporate 84 individual pixels per lamp, among the highest of any current automotive headlight array and a leading design feature in the segment. An incorporated feature, Active Bending Lights, automatically illuminate the curve ahead by following steering inputs from the driver. Additionally, a camera at the upper edge of the windshield detects the headlights of oncoming vehicles or the taillights of a vehicle directly ahead.

Exterior Lighting

Bright, distinctive LED arrays are used all around the exterior of Polestar 2, including the Pixel LED headlights, fog lights, indicators, taillights and brake lights. The design of these lighting arrays is distinctively Polestar 2, identifying it at a glance at night, as well as in daylight conditions. Helping in this regard, the broad rear LED light bar uses a total of 288 LEDs to achieve the desired visual affect – while also improving the vehicle's visibility to other drivers. Bold and yet simultaneously minimalistic, the arrays complement the Polestar 2's other exterior and interior design themes.

Selected details include:

- At up to 25 mph (40 kph), the LED fog lights' cornering function illuminates the area up to 15 degrees around the front of the vehicle, assisting the driver in parking, turning or driving through gates or parking structures.
- If the brakes are applied quickly and strongly in a panic stop, the brake lights will flash four times per second, imparting a clear message to following traffic that a potential hazard lies ahead. Once the Polestar 2 slows below 6.2 mph (10 kph), the brake lights remain illuminated and the hazard lights automatically activate.

LED lighting offers other unique advantages to traditional bulbs, including the ability to create seamless and stylistic arrays that offer uniform lighting, long lifespan, low energy usage, along with bright, crisp and quick illumination.

Optional Tow Package

Polestar 2 offers the highest towing capacity in its segment for electric vehicles. The optional tow bar is semi-electric, folding away neatly below the rear of the car at the press of a button. A maximum towing capacity of 2,000 lbs (USA) 900kg (Canada) makes Polestar 2 as practical and useable as traditional cars of its size, and clearly elevates it in the EV realm. This is enough for a small boat, a lightweight camping trailer, or a trailer carrying ATVs, personal watercraft or bikes. Furthermore, Polestar 2 can safely launch and retrieve boats on a typical ramp – including immersing the rear portion of the vehicle in the water – as the battery and controller are sealed and protected.

INTERIOR

To create the interior of Polestar 2, designers targeted a theme that is modern with lightweight proportions, and two dynamic key-lines bisecting the space. The result is a contemporary, clean interior that combines crisp Scandinavian architectural themes together with dynamic proportions and a sporty presentation. Joining this refreshing design execution is a total commitment to user-friendliness, from the 11.15-inch (283 mm) center touchscreen to the driver's concise 12.3-inch (312 mm) instrument panel. Sound ergonomics make every facet of entering and exiting, driving and riding in Polestar 2 a pleasure. Additionally, Polestar 2 represents another step on the journey to more sustainable mobility, in terms of both materials and processes, and uncompromised fit and finish.

Top Polestar 2 interior features include:

- Modern Scandinavian design
- Free-floating center display
- Sustainable vegan materials
- Recycled wood decor
- Optional perforated leather upholstery

Design Theme

Devised to shake up and redefine automotive design, propulsion, production and responsibility, it's little wonder why Polestar 2's interior intentionally breaks new ground. Stylistically, the approach of the interior matches the approach of Polestar 2's exterior design – modern and clean, simple and decisive in form, Scandinavian-influenced, and, most of all, focused on the user experience.

Two “key lines” define the Polestar 2 interior. An upper key line, represented by the front panel (the traditional dashboard or instrument panel), stretches across the width of the car's interior and atop the door panels. This formally separates the upper from the lower interior areas, imparting a sense of openness, spaciousness and freedom above, and a sense of snugness, solidity and security in the seating area below. The second key line is vertical; stemming from the center console and projecting upward, it adds dynamic visual energy and partitions the driver and front passenger's seating areas into personal-feeling spaces.

Fit and Finish

Through the use of carefully engineered and crafted materials, and exacting component design, manufacturing and assembly, the interior of Polestar 2 aims to lead the segment in quality. An extreme focus on gap control, fit, finish and feel of every visible and accessible interior ensures a truly premium environment.

Center Console

Over many decades of automobile design, seemingly unwritten rules have defined where certain items and controls are placed – a prime example being cupholders. But with Polestar 2, designers consciously decided to revisit – and in certain cases intentionally break or reprioritize – those rules. In a prime, example: one front cupholder is traditionally placed in the center console, while the other is hidden within the center arm rest, which can be lifted to reveal the cup holder when required. This difference is modest within the greater

design context, but it serves to remind occupants that Polestar 2 is unique, and seeks to challenge the deeply rooted status quo.

Free-Floating Center Display and Digital Driver Display

Inside Polestar 2, the 11.15-inch (283 mm) center display appears to float, detached, above the center console. The effect is a display that is at once a part of the open, airy and free upper area of the interior, and simultaneously – like the passengers’ experience – secured solidly and safely to the base of the interior. Free to fly and yet safe and sound – this is the theme. Besides adding an element of dynamism to the interior design, the display’s position helps focus the driver’s (and as needed, the passengers’) attention on the required information, without other distracting input.

The center display is designed to be visible from even the most extreme side angles, rendering a centrally located navigation and infotainment display that is as useful to passengers as it is to the driver. Strong, clean and quickly interpreted fonts and graphics define both the driver display and center display, while orange and yellow highlights attract and focus attention without being overdramatic.

Geometry and Finish

As a new car brand, Polestar is free – and in a larger sense obligated – to differentiate itself from the norms of the industry. Even within the lower console, where the center tunnel that cradles the infotainment display uses strong geometric shapes with gloss-black finishes and black ash- or reconstructed wood- inlays, there is a hint of an architecturally designed room. The effect is light, unexpected, new, intellectual and – hopefully for the user – stunning. Illuminated and accented from below by white LED lighting, the upper portion of the console appears to “float” above the base.

Ease of Use

Of primary interest for Polestar 2 designers was making the new car as simple and easy to drive and use as it is unassuming and modern in design. The start-up sequence, from which Polestar has removed various traditional elements that are no longer needed in an electric vehicle, is a great example of this.

After approaching the car and unlocking the doors by simply pulling the door handle, the driver automatically “wakes up” the Android HMI (human-machine interface) and the car recognizes that activity is about to begin. A sensor in the seat replaces the traditional start button, recognizing that the driver is seated, and is likely to begin driving. Applying the brake pedal initiates the start sequence; the driver only needs to simply close their door and select drive or reverse to begin driving.

Polestar 2 is supplied with two key fobs and one “activity key” – a waterproof key tag that can be safely incorporated into sports or adventurous activities. Digital Key functionality, which utilizes the driver’s smartphone in place of the key fobs or activity key, will be available later in 2020.

Vegan Interior as Standard

As standard, Polestar 2 features no animal-derived products of any sort in its materials or construction. This inspiration takes its lead from the fashion and sportswear industries, which have been moving in this direction for some time. A key development in this endeavor is the WeaveTech upholstery. Lighter than leather, it is also more durable and easily cleaned than most vinyl materials. WeaveTech also reduces the concentration of a certain chemical compound used in vinyl, called phthalates, to just 1-percent from a typical 45-percent. WeaveTech is also recyclable and represents the leading edge of Polestar’s commitment to improve recycling in the automobile industry.

Optional Leather Upholstery

Ventilated Nappa leather upholstery is available in Polestar 2 for customers who want this traditional luxurious feature – perforated for enhanced breathability with a unique and complex “broken chevron” pattern exclusive to Polestar 2. The leather is chrome-free in a nod to sustainability.

Dual-zone Climate Control

Polestar 2's dual-zone climate control system can be operated from the center touchscreen, via voice commands through Google Assistant, and also via the Polestar app on the user's smartphone prior to entering the vehicle. In summer months, this enables pre-cooling Polestar 2 to a comfortable temperature, and in winter, warming the interior before driving.

Air Filtration

The air filtration system of Polestar 2 is far advanced from the typical home or office heating, ventilation and air conditioning (HVAC) filtration systems. This means that practically, the air breathed by the driver and passenger inside Polestar 2 is likely cleaner – as defined by its onboard air filtration system – than would be found outdoors or inside a typical building. This capability begins with the environmentally responsible and ecologically friendly materials used in the creation of the Polestar 2 interior. Efficient door and window seals are a second layer of protection against air pollution and particulates. The third and final protection mechanism offered by Polestar 2 is the air filtration system engineered into the vehicle's HVAC system.

Illumination

Interior illumination plays an important role in Polestar 2's functionality, thematic design, user-friendliness and fun-to-drive character. When the car unlocks, Polestar 2 begins the illumination process, both outside and inside the car. This sequence is part of the Polestar 2 "waking up" and welcoming its occupants, and includes illumination of the ambient lighting inside the vehicle, such as in the doors, the floating tunnel in the center console, and on the instrument panel and center display. The headlights and tail lights also execute welcome sequences, using the LED arrays to create a unique and appealing pattern both when unlocking and locking the car.

Simultaneously, a Polestar logo projects from the overhead console onto the glass panoramic roof, where it is visible from both outside and inside the vehicle. This is a metaphoric - as well as literal - touch, because in real life, no matter where in the northern hemisphere people live, the North Star is always visible in the night sky. Since this "pole star" is a guiding light for mariners, Polestar mimics this in its desire to guide the auto industry.

Personalized Lighting

Polestar 2 allows its users to adjust and play with the color balance of light inside the vehicle. The standard color is 5,000 Kelvins – intentionally the color of the North Star, from which Polestar derives its name. This interior light color temperature was chosen to compliment the Polestar 2's minimalistic, simple, modern and elegant design theme. However, Polestar 2 allows individual users to change the color temperature to their liking. Upon doing so, the vehicle always recognizes them with their preferred illumination color balance when their driver profile is activated.

Welcome and Home Safe Lights

Enhancing security when the driver approaches the Polestar 2 at night, the welcome light feature illuminates the interior lighting, ground lighting, parking and rear lights for 30 seconds. The illumination then continues for up to two more minutes after a door is opened. The driver can engage the Home Safe Light feature, which illuminates this same lighting by activating the headlight stalk as they leave the car.

Cargo Storage

Polestar 2 offers 15.5 cu ft (440 liters) of combined front and rear cargo volume, including 1.2 cu ft (35 liters) in front and (14.3) 405 liters in the rear; with rear seats folded, the total cargo volume grows to 38.7 cu ft (1,095 liters). The tailgate can be opened electrically via the key fob, Polestar App or by using the included foot sensor – which spans the width of the rear of the vehicle for increased user friendliness. Polestar accessory roof racks can carry up to 165 lbs (75 kg).

INFOTAINMENT

Polestar 2 is the first car in the world to feature an infotainment system powered by Android Automotive OS (operating system) with Google apps and services built-in. Developed in collaboration with Google, the system features Google Assistant, Google Maps and Google Play seamlessly integrated into the car. Always connected and always up to date, the infotainment system represents a revolution in the digital connectivity of a car and the integration of a car into the digital lifestyle.

With its Android backbone, infotainment in Polestar 2 features a user experience and interface that has been designed in-house. This makes the Android HMI (human-machine interface) in Polestar 2 unique and specifically Polestar, with Polestar's own typeface and color scheme. Large fonts, strong color contrasts and large, easy-to-find buttons ensure that the user experience is easy, intuitive and safe, with minimal driver distraction.

Top Polestar 2 infotainment features include:

- World debut of Android Automotive OS (eliminates need to plug in phone)
- Google Assistant
- Google Maps
- Access to additional media apps in Google Play
- Google keyboard
- Natural voice recognition
- 11.15-inch (283 mm) touch display
- Harman Kardon 600-watt premium audio system with 13 speakers
- 15-watt inductive phone charger
- Over-the-air (OTA) updates (later in 2020)
- Polestar App
- Full Apple iPhone compatibility

Android Automotive OS

Compatible with both Android and iPhone smartphones, Android Automotive OS delivers the most advanced automotive infotainment platform to date. Resulting from three years of cooperative development between Google and Polestar, the Android HMI significantly expands and improves the user experience of automotive infotainment, making its global debut as a built-in platform with Polestar 2.

One of its primary benefits is familiarity. Many users are already familiar with Android and Google apps from their daily digital lives. By integrating this familiarity in Polestar 2, the learning curve is almost entirely removed and users find themselves instantly at home. As a native operating system, Android Automotive means Polestar 2 drivers will never have to plug in their phone to achieve full mirroring.

Google Assistant

The continuous learning function of Google analytics that occurs 24/7 worldwide results in a dramatic improvement for Polestar 2's natural speech recognition. There are multiple reasons for this, which explains why Polestar 2 is so adept at understanding voice commands and prompts using natural speech patterns and a variety of accents. First is that Google uses its worldwide ecosystem of voice-prompt enabled apps and products to continually learn and improve, and every time a Google device fails to interpret a command, the analytics refine the software. Second is that Google may already know a Polestar 2 driver's voice if they use another Google device such as Google Home or Android TV. Therefore, the natural speech capability in Polestar 2 is faster and more accurate than any previous automotive voice-prompted control system.

The Google Assistant is accessible in Polestar 2 by simply saying "Hey Google," "Okay Google," pressing the voice control button on the steering wheel, or tapping the microphone icon on the center display when it's shown in specific places. Not only can it be used to check the weather, navigate to a destination, find charging stations, play music, read messages from a connected smartphone or even tell jokes, but Google Assistant can also be used to control vehicle functions like climate control.

Service connectivity for Google functions including Google Assistant, Google Maps and Google Play Store is included in Polestar 2 for three years.

Further information about Assistant from Google:

Polestar 2's home screen includes a dedicated Google Assistant tile where, with a signed-in Google account, you can find personalized, contextual and proactive notifications and recommendations for your drive all in one place. Depending on what you've shared through your Google account, this might include suggested destinations for your routine or commute, missed calls or new messages, and media.

Thanks to its advancements in natural language understanding, you can have a natural conversation with Google Assistant to do many things in Polestar 2 from changing temperature settings and adjusting your seat heater, to how much range you have left. Get started with "Hey Google", press the voice control button on your steering wheel, or tap the microphone icon on the center display to ask Google to send a message or answer a call, find the nearest coffee shop, play your favorite radio station and more. With Google Assistant in Polestar 2, you can even control compatible smart home devices on the go with voice, simply talk to Google to adjust the temperature before you arrive home, or check to make sure you turned the lights off once you've left. By signing into your Google account, you'll also be able to access more personalized information from Google Assistant, including upcoming agenda items or recently played media.

Google Maps

Polestar 2 features Google Maps as its native navigation platform. With its advanced and always updated map technology, *and real-time ETAs based on live traffic information*, Google Maps offers the best possible navigation experience in Polestar 2. The portrait-oriented center display is perfect for displaying a map, which in Polestar 2 features a unique color scheme.

Google Maps in Polestar 2 is also optimized for electric vehicles, incorporating battery status and range information to allow for charging opportunities to be integrated into the programmed route. Regardless of route programming, Google Maps can also help drivers find suitable charging infrastructure. "Hey Google, show me charging stations nearby," is an easy and efficient way to find a charging station. The system shows the number of charging points, what type of connections they include, and in some cases whether they are currently available.

The map is also mirrored in the driver display. When in navigation mode, a full-screen map is visible, with turn-by-turn instructions shown when a route is set. If the vehicle's calm mode or car-centric driver display modes are activated, minimalistic turn-by-turn instructions are also displayed.

Google Maps also intelligently downloads and stores map information locally to ensure the experience works smoothly even during times of poor cellular connectivity. This offline map data is used to support safety-related driver assistance features such as Road Sign Information & Adaptive Cruise Control.

Google Play Store

Just like on a smartphone, downloadable apps for Polestar 2 are found in the Google Play Store. At launch, the app suite includes media apps. These apps are developed for automotive use, will increase in number over time, and are always kept up to date. The Android platform also means developers are now able to develop apps specific to in-car use cases.

Apple Compatibility

Both Apple iPhones and Android smartphones pair and work seamlessly in the Polestar 2 via Bluetooth. The vehicle will also feature Apple CarPlay, which enables access to apps, music, phone contacts and podcasts while driving.

Center Display

The 11.15-inch (283 mm) center touchscreen is the primary physical interface between the driver (or front passenger) and Polestar 2 infotainment features, such as apps, navigation, phone, vehicle settings, climate control and more. Designed to be simple and intuitive to operate, like the rest of Polestar 2, the display conveniently arranges its home screen into four quadrants or tiles. These four tiles can be customized by the driver to display whichever apps they prefer to see and use by default. Familiar swipe, tap and drag gestures are used to rearrange apps and change content of the tiles.

The tiles sit below two other information areas. At the top of the screen, the status bar presents information like the time, Bluetooth connectivity status, wireless phone charging status, internet connectivity and location service. The notification panel also occupies the top of the screen and, just like the smartphone icon, can be pulled down to reveal any notifications.

Below the status bar is a quick-access bar providing shortcuts to four main user areas. These include:

- 360-degree camera view
- Car functions
- Apps and other settings
- Profiles

Over the Air (OTA) Updates

Polestar 2 will be able to update the Android HMI wirelessly and automatically whenever updates become available. As with smartphone OS updates, with which Polestar 2 customers are most likely already familiar, the user is given the choice of whether to allow an update to occur at the time it is pushed to the vehicle, or at a later stage when the vehicle is parked. Running an update does not restrict driving.

However, OTA extends further than just the Android HMI. Polestar is also able to update vehicle software remotely, allowing drivers the peace of mind that they always have the latest vehicle software, rather than having to wait for their next service for an upgrade.

Vehicle OTA updates are also covered by the Polestar data plan for the life of the car.

Polestar Connect and SOS

Polestar Connect lets drivers reach a Polestar call center 24 hours a day. The center is staffed by trained Polestar employees who know the Polestar vehicle line-up and can help with a wide range of user needs, from assistance with vehicle settings to navigating through menus or technical or service issues with the product. The Connect call center is accessible by pressing the “Connect” button on the overhead console.

An emergency SOS button is also located on the overhead console. Pressing this button in the event of an emergency connects the vehicle directly to an emergency call center where emergency personnel can assist occupants both via voice and by analyzing critical data from the vehicle such as its GPS coordinates.

Inductive Phone Charger

Located in the front of the center console is a 15-watt inductive phone charger. For a smartphone capable of inductive charging, the user can simply place their phone on the inclined console and the phone charges automatically. Charging is indicated by an icon in the status bar of the center display.

USB-C Connectors

Four USB-C connectors (two in the front and two in the rear) allow the driver or passengers to plug in devices to charge without utilizing the inductive charge pad.

Audio system

The Harman Kardon premium audio system is engineered to produce audiophile-quality tonal accuracy and clarity, and with its 600-watt output and 13 speakers, including an air-powered subwoofer, to deliver precise sound imaging.

Control Simplicity

The debut of Android Automotive OS and the commitment of Polestar product planners, engineers and designers to simplify the operation of Polestar 2 overall results in a nearly unprecedented reduction of traditional buttons, switches and knobs in the vehicle's control network. Aside from the vertical electronic drive selector lever on the center console – a respectful and appreciative nod to “driver's cars” of the past – only an audio volume control knob, defroster and hazard light switchgear, and driver-operated steering wheel switchgear are evident. Most other vehicle functions are controlled via voice commands and/or the center display. Auxiliary buttons are available for the windows, sideview mirrors, display brightness adjustment, powered tailgate and driver's seat memory.

Driver Display

The 12.3-inch (312 mm) driver display, housed behind the steering wheel, provides a crisp, minimalistic and highly-informative environment for “now” information – like speed, battery status, power or regeneration levels, driver assist and safety functions, navigation and warning symbols.

Three display modes are available:

- Calm mode, which displays only speed, battery status, and power and regeneration levels in large and clear graphics.
- Car-centric mode, which builds on the calm mode with the addition of a central car graphic and related safety and assistance functions like Lane Keeping Aid and Pilot Assist.
- Navigation mode, which minimizes the speed, battery, power and regeneration elements to the lower corners of the screen and present a large and clear map view.

When a route is programmed into Google Maps, the map view presents this same route with route guidance instructions. If the calm or car-centric modes are active when a route is programmed, minimalistic turn-by-turn instructions are also presented in these modes.

Sleep Modes

Polestar 2 software designers created a “sleep schedule” for the vehicle based on the most likely patterns of typical owners. For instance, on Mondays through Fridays, when the vehicle is typically used for commuting to and from work, the Polestar 2 falls into a suspended state where its security features are activated overnight once parked, and will wake up instantly the next morning when unlocked by the driver. Then on Friday night, it will fall into a deeper sleep approaching 72 hours (e.g., over the weekend), enabling a quick wakeup on Monday morning, while also devoting less energy to its readiness state. And then, after 72 hours – such as if the Polestar 2 is left at an airport while the owner is on a trip – the vehicle will enter a deeper sleep stage to further minimize energy usage. In this case, a few seconds will be required for the vehicle to awaken upon the driver's return.

POWERTRAIN

Polestar 2 comes equipped with a twin-motor drive system as standard. The front and rear motors are identical in size and output, delivering a combined 408 hp (300 kW) and 487 lb-ft (660 Nm) of torque through planetary gearsets to all four wheels. The vehicle's operating software coordinates the front and rear motors' functions for acceleration, cruising and regenerative braking, and there is no physical connection between them.

Top Polestar 2 powertrain features include:

- Two identical motors, one per axle
- 408 hp (300 kW) and 487 lb-ft (660 Nm) of torque combined output
- Front and rear sealed planetary gearsets (8.57:1 reduction)
- All-wheel drive
- 78 kWh lithium-ion battery

- One pedal drive
- Regenerative braking
- Advanced ECU motor controller
- Liquid-cooled motors and controller
- 4 years/50,000 miles (80,000km in Canada)full vehicle warranty
- 8 years/100,000 miles (160,000 km in Canada) Hybrid System Warranty
- Individually repairable battery modules
- 11 kW on-board charger
- Up to 150 kW DC fast charging capability

Twin-Motor Drivetrain

Polestar 2's identical front and rear motors produce 204 hp (150 kW) and 243.4 lb-ft (330 Nm) of torque each, for a total output of 408 hp (300 kW) and 486.8 lb-ft (660 Nm) of torque. They are liquid cooled via a cooling system shared with the lithium-ion battery and controller, and drive through planetary gears to all four wheels.

Based on numerous operational parameters, such as throttle position, vehicle speed, steering input, cornering forces and other factors including the activation of traction control or electronic stability control, the Polestar 2 controller automatically and seamlessly distributes power to the front or rear wheels. No individual torque vectoring is needed or provided. Traction control and electronic stability control functions are provided by the motor controller and, as needed, the automatic activation of individual hydraulic brakes, as per traditional vehicle systems.

The planetary gearsets are lubricated and cooled with a special lifetime lubricant that has no scheduled service interval.

Driving Range

The certified driving range of Polestar 2, starting with a fully charged battery, is 291 miles (470 km) on the combined Worldwide Harmonised Light Vehicle Test Procedure (WLTP) cycle. The certified US Environmental Protection Agency (EPA) driving range is still to be confirmed, but it is estimated to approach the mid 200-mile level. Actual driving range may vary based on weather, road and driving conditions and driving style.

Charging Performance

Polestar 2 comes equipped with an 11-kW onboard charger and may be charged at home via a standard 120 or 240-volt AC power outlet. For fast charging at public charging infrastructure, Polestar 2 can accept up to 150 kW of DC power. For best results at home, Polestar recommends the installation of a wall box, and will assist customers in sourcing a suitable option for their needs upon purchase.

Estimated charging times for the 78-kWh battery depend on the type of charging structure used, typical examples as follows:

Charger	Charging kW	Charging Time
Standard outlet, 1-phase AC, SAE 120v/12Amp/1.4Kw or SAE 240v/40Amp/9.6Kw	Up to 11	Up to 22 hours for 0-100% charge
Wall box, 3-phase AC, Type 2	Up to 11	Up to 8 hours for 0-100% charge

Public fast charger, DC, CCS	Up to 150	As little as 40 minutes for 0-80% charge
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Polestar 2 comes with two charging cables suitable for use with a standard home outlet and Type 2 charging infrastructure. CCS fast charging cables are provided by the charging station.

One Pedal Drive and Creep

With the one pedal operational capability of Polestar 2, the driver is able to control the acceleration, speed and braking with the accelerator pedal only. To provide this simplified functionality, the vehicle's ECU software interprets the driver's desire for either acceleration, steady-state cruising or braking, and then manages the motors' output and regenerative braking functions to suit. Simply put, pressing the accelerator pedal moves the Polestar 2 ahead at the desired rate; releasing the pedal slows the vehicle to a complete stop.

Three modes are available to suit the driver's desire for regenerative braking. The standard level presents the highest rate of regeneration, while the low setting reduces this somewhat. Both modes will bring Polestar 2 to a complete stop. The third mode deactivates the regenerative function, and will require the driver to use the brake pedal in order to slow or bring Polestar 2 to a stop.

Creep mode, which can also be deactivated according to driver preference, determines whether Polestar 2 begins to creep forward when the brake pedal is released (akin to a traditional car with an automatic transmission) or remain in place until the driver presses the accelerator pedal.

Regenerative Blended Braking

Releasing the accelerator pedal activates the motors' regenerative braking capability to slow and stop the vehicle, helping to recharge the battery in the process. Unless the driver activates the accelerator pedal again the Polestar 2 will brake to a stop (at a rate determined in the vehicle's settings), and then remain stopped when creep is not activated. This is the ideal, most convenient way to operate Polestar 2 in mixed traffic conditions, such as in town or during busy commutes.

Regenerative braking can direct 100 kW of energy back to the battery at its maximum rate. Braking above and beyond the battery's capacity to handle recharging at any point in time is provided by the hydraulic braking system. This so-called "blended braking" mixes both regenerative and hydraulic braking seamlessly and intuitively so that the driver feels confident in their driving at all times.

Due to this advanced electric-biased braking system, the hydraulic brakes are not typically used in normal daily operation of the Polestar 2. They are, however, always at the ready and are instantly utilized during harder braking (braking force of 0.3 G or greater), or the intervention of traction control, electronic stability control or ABS. This advanced operating capability is crucial to fulfilling Polestar 2's fun-to-drive personality, as well as its high driving range per charge, while using both motors for acceleration and regenerative braking helps maximize tire and brake life.

Battery Science and Capacity

Housed safely inside an underfloor case made of aluminum extrusions, Polestar 2's lithium-ion battery contains 27 separate modules, each with 12 cells for a total of 324 cells, arranged in two levels. The modules weigh 849 lbs (385 kg) and the battery modules and box together weigh just under 1,100 lbs (499 kg), with the weight centralized and positioned low for maximum safety, handling and interior roominess.

The battery is rated at 78 kWh, providing Polestar 2 with a 291-mile (470 km) WLTP driving range – and an estimated mid-200 mile range in upcoming EPA certification. The total driving range is reduced in very cold temperatures, but Polestar 2's performance is unaffected by altitude, in contrast to a typical internal-combustion engine vehicle.

The battery is designed and built in two layers to optimize weight distribution, maximize interior room, and improve front and rear passenger ergonomics. The bottom layer of the battery is H-shaped, positioned beneath the front and rear seats and the center tunnel of the body. The top layer of the battery is T-shaped, located beneath the front seat and the central tunnel of the body. This unique two-level design allows Polestar 2 to provide a clear advantage in seating roominess in its segment, specifically in the rear where the top layer of the battery does not intrude on the rear passenger footwells.

Aluminum Battery Case

The battery case is created from aluminum extrusions which are first bonded together, and then welded to an extruded aluminum bottom plate.

Liquid-Cooled Electronics

Liquid cooling keeps the battery at an optimal temperature for the conditions, with the cooling system operating in tandem with the cooling of the twin electric motors and controllers. The cooling system is optimized to keep the battery operating temperature below 104 degrees F (40 degrees C). This is achieved through the liquid cooling, in addition to air gaps between the battery modules, between the battery and case lid, and between the battery case and the vehicle's underbody. Finally, the battery modules rest on special cooling plates that absorb heat.

Warranty, Service Life and Repair

The battery warranty is 8 years/100,000 miles (160,000 km), or 70-percent state of health (SOH). In practical terms, Polestar expects the useful life of the battery to be the lifetime of the vehicle – depending on how the vehicle is used.

Repairs to the battery, if ever needed, will be handled by Polestar. The reparability of the battery reduces potential out-of-warranty ownership costs, but more importantly, also reduces Polestar 2's environmental footprint since the battery can be repaired rather than simply replaced.

CHASSIS

Polestar 2's rigid body structure provides the ideal platform for the vehicle's precise and responsive suspension system. From driving feel to ride comfort, and from handling accuracy and stability to adaptability and even tunability, Polestar 2's suspension, electric power steering and regenerative and hydraulic braking systems contribute to fulfilling its overall mission as a "driver's car" – while further complementing its crisp, modern design ethos.

Top Polestar 2 chassis features include:

- MacPherson strut front suspension
- Multilink rear suspension
- Electric Power Steering (EPS) with adjustable resistance
- Aluminum front subframe
- Compliance bushings
- 19-inch aluminum alloy wheels with 245/45R19 Michelin Primacy 4 tires
- Optional 20-inch aluminum alloy wheels with 245/40R20 Michelin Primacy Tour All Season tires
- Optional Performance Pack with adjustable Öhlins dampers, Brembo front brakes, cross-drilled brake discs and forged 20-inch wheels with 245/40R20 Continental SportContact™ 6 tires
- Front and rear stabilizer bars
- 51/49-percent front/rear weight distribution

Chassis Development

Dynamically, the low center of gravity of Polestar 2 takes the vehicle beyond where it could be as an internal-combustion engine (ICE), hybrid (HEV) or plug-in hybrid (PHEV). Another reason is Polestar 2's

51/49-percent front/rear weight distribution. This is made possible by the twin front and rear motors and drivelines, the centrally mounted battery, and the balanced proportions of the five-passenger fastback body style with front and rear storage compartments.

The low center of gravity of the battery – located in a protective aluminum case beneath the passenger cabin floor – gives Polestar 2 a purebred dynamic character, including direct steering feel and responsive, balanced, stable and predictable handling. Polestar 2 drivers get what they expect – predictable, concise, logical, responsive, intuitive, stable and most of all, fun handling in all conditions.

Whereas in some ICE vehicle platforms, engineers stretch to optimize weight distribution by measures such as moving the 12-volt battery to the trunk, the Polestar 2 engineers were greeted by a much more favorable proposition: getting to decide the exact weight distribution they desired. A significant asset was designing the 27-module high-voltage battery in two levels. Here, the lower level extends across the vehicle width and from front to rear in between the wheels in an essentially even plane, uninterrupted by a conventional vehicle's driveshaft or exhaust system. Then, the upper level of the battery is localized under the front seats and center tunnel. This simultaneously optimizes the weight distribution, passenger and interior volumes, and seating ergonomics.

Wheels and Tires

Developed in conjunction with Polestar, the tires are manufactured to the specifications of the Polestar 2. Doing so reinforces and best preserves the driver-friendly DNA and driving experience of the vehicle, including ride quality, interior quietness, low levels of noise, vibration and harshness (NVH), steering response, steering feedback, rolling resistance and road-holding in all conditions.

All tires featured on Polestar 2 have been specially created for the vehicle through cooperation with Michelin and Continental. Each tire sidewall is marked with the letters "POL," making them distinguishable as Polestar tires at a glance. Besides long life and grip in all road conditions, the unique specifications of these tires amplify and enhance the feel of Polestar 2's electric power steering (EPS), providing a more accurate and engaging driving experience under acceleration, turning and braking and no matter the conditions – wet, dry or snowy. In doing so, these bespoke tires directly contribute to Polestar 2's fulfillment of being a fun-to-drive, "driver's car."

19-Inch Tires

For the base 19-inch tires, engineers worked with Michelin to create a unique Primacy 4 that features low rolling resistance that contributes to Polestar 2's long driving range. With relatively tall sidewalls, these 245/45R19 tires also offer a premium level of ride comfort.

20-Inch Tires

Available to order on Polestar 2 are 245/40R20 Michelin Primacy Tour A/S tires. These tires are the same width as the standard 19-inch tires but feature a lower 40-series profile. A stronger sidewall means there is less deflection – and more road feel and grip – when the Polestar 2 driver turns into corners and traces cornering lines, while still providing comfort and range.

The Performance Pack also features unique 20-inch tires (see below).

Electric Power Steering (EPS) System

The electric power steering system provides the driver with quick, linear, natural steering response and excellent steering feel. Three steering feedback levels – heavy, standard or light – can be selected to suit the driver's preference, and are stored in their profile in the car. In all cases the steering ratio remains the same, so that no matter what the driver's preference for feel, the vehicle will always respond the same to the amount of steering input.

Blended Braking System

The Polestar 2 electric motors, a dedicated ECU and software system, and four-wheel hydraulic disc brakes with ABS seamlessly integrate regenerative and hydraulic braking. In the majority of anticipated driving environments, when the driver applies the brake pedal, the Polestar 2 provides brake-by-wire operation through an electronic control unit and a servo system. When the driver pushes the brake pedal, a sensor interprets the pressure and speed, or urgency, of this action.

This information is then processed by the ECU, which switches the electric motors into regenerative braking mode, slowing the vehicle through electromagnetic resistance, or under more extreme situations, by hydraulic braking. When the latter occurs, the switchover is nearly instantaneous, and the braking sensor activates the hydraulic braking system. As a safeguard in the event of electronic failure, the brake pedal always maintains a direct physical link to the hydraulic master cylinder, allowing manual braking to occur.

Optional Performance Pack

Consisting of premium adjustable Öhlins Dual Flow Valve (DFV) dampers or shock absorbers, lightweight 20-inch forged aluminum alloy wheels and Continental SportContact™ 6 tires, specially refined spring and stabilizer bar rates, Brembo brakes with cross-drilled discs and gold calipers, the Performance Pack meaningfully augments Polestar 2's fun-driving character and visual appeal.

In conjunction with the 20-inch forged wheel and tire package, and specially tuned springs and stabilizer bars, the Performance Pack's adjustable Öhlins DFV dampers provide a clearly defined boost in handling response and performance. In keeping with Polestar 2's minimalist, driver-centric design and engineering, they are by intention a purely mechanical damper.

For hands-on performance drivers, the Öhlins DFV dampers may be manually adjusted through 22 different combinations of compression and rebound damping. Although 22 settings are available, three easy-to-discern settings are recommended, including low, medium and high damping. Each setting helps the Öhlins DFV dampers deliver customized ride and handling characteristics tailored to the driving that enthusiasts most like to do. Damper adjustment is recommended to be done by Polestar.

The minimalist approach and engineering of Polestar 2, along with this unique Öhlins DFV damper tunability, broadens its bandwidth for a wide range of drivers, while inconveniencing none and requiring no added costs or complexity where it is not necessary.

Details of the Performance Package include:

Öhlins DFV Dampers

Polestar and Swedish high-performance suspension manufacturer Öhlins began cooperating on engineering in 2012 – years in advance of Polestar 2 production. The result in the new Polestar 2 Performance Pack is the Öhlins Dual Flow (DFV) damper system. Designed for road and track use, the dampers incorporate an additional hydraulic bleed valve in both the compression and rebound circuits. This allows the damper to almost instantaneously bleed off the spike in hydraulic pressure that can occur when the vehicle encounters a bump or road irregularity at high speed, or the driver turns the steering quickly to negotiate a turn, avoid a road hazard, or similar. The high-performance Öhlins dampers are able to utilize higher damping values for sporty handling response while still remaining comfortable under arduous conditions, while in all cases providing a flat ride (reduced body roll and pitch) and an agile feeling.

Brembo Brakes

Developed and supplied specifically for Polestar 2, the Performance Pack brakes include four-piston Brembo aluminum front calipers. Finished in heat-resistant gold paintwork, the calipers were also aesthetically shaped in collaboration with the Polestar 2's design team, lowering drag and adding to the athletic appearance of the Performance Pack.

As Polestar 2 is likely to be driven more aggressively and at higher speeds, the Brembo brakes offer the driver a greater safety net when aggressive braking is activated, surpassing a braking force of 0.3 G. They deliver swiftly, accurately, and with exacting pedal feel and fade resistance. The Brembo calipers and the cross-drilled discs – like the hydraulic system on the standard Polestar 2 – perform critical functions for traction control, electronic stability control and ABS, and are fully equipped to excel at higher speeds.

When Polestar 2 with the Performance Pack is driven hard, the battery may have no capacity to receive regenerative braking energy. At this point, braking and stopping depends entirely on the hydraulic system.

Lightweight Forged Wheels with 20-inch Performance Tires

The Performance Pack includes 245/40R20 Continental SportContact™ 6 tires mounted on unique four Y-spoke forged aluminum diamond cut alloy wheels with gold valve caps. Designed specifically to complement the Performance Pack's damper tuning, the low-profile tires dramatically sharpen the Polestar 2's turning response, cornering capability and braking confidence.

Gold Seatbelts

The Performance Pack uniquely adds gold seatbelts that complement the gold Brembo brake calipers.

Black Roof Panel

A high-gloss black roof panel adds further visual appeal.

DRIVER ASSIST FUNCTIONS

Driver assist safety functions in Polestar 2 deliver an intuitive, driver-centric and fun-to-drive experience, all seamlessly and naturally. The vehicle literally senses its perimeter at all times while driving, ready to alert – or assist, as needed – the driver.

Top Polestar 2 driver assist features include:

- Pilot Assist and Adaptive Cruise Control
- Automatic Emergency Braking with detection for vehicles, pedestrians and cyclists
- Road Sign Information
- Lane Keeping Aid
- Driver Alert Control
- Oncoming Lane Mitigation with steering support
- Run-Off-Road Mitigation
- Cross Traffic Alert with brake support

Pilot Assist and Adaptive Cruise Control

Pilot Assist provides acceleration, braking and steering support on clearly marked roads up to speeds of 80 mph (130 kph). Gentle steering inputs help keep the vehicle centered in its lane and at a set speed. This driver-in-the-loop system always requires at least one hand on the wheel, and the driver remains responsible for controlling the vehicle. If the system detects no input from the driver, a reminder is shown in the driver display. Should the driver not react to the visual warning, an audible warning is activated. If no further input is detected, Polestar 2 will automatically activate Emergency Stop Assist – this brings the car to a complete stop, gradually and safely, activating the hazard warning lights and continually sounding a warning sound.

Adaptive Cruise Control adjusts the vehicle's speed in relation to the vehicle ahead to help keep a set distance which can be adjusted using steering wheel buttons. The radar unit is located in the front grille of the car.

Automatic Emergency Braking

This safety feature can detect other vehicles as well as pedestrians and cyclists – day or night. It supports the driver with audible, visual and brake pedal pulse warnings when needed. If a collision is imminent or if the driver turns into the path of an oncoming vehicle in an intersection, the system can brake automatically to help them avoid or mitigate an impact.

Road Sign Information

Road Sign Information helps Polestar 2 drivers recognize important road signs. Continuously functioning while the vehicle is being driven, a forward-facing camera detects road signs directly related to driving conditions, for example speed limits and overtaking restrictions. A digital rendition of the actual sign is shown in the driver display to help drivers stay constantly alert on current restrictions.

Lane Keeping Aid

Lane Keeping Aid can help prevent single-vehicle road departures. It uses a forward-facing camera to register the lane markings and help monitor Polestar 2's position on the road. If the vehicle closely approaches a lane marking, the system will gently steer the Polestar 2 to help keep it in the lane. Further, if the driver unintentionally crosses the lane marking, they will be alerted by haptic vibrations in the steering wheel or a warning sound. When the driver intentionally crosses a lane marker using the turn signal, Lane Keeping Aid is temporarily deactivated.

Oncoming Lane Mitigation

Using automatic steering assistance, this system helps drivers avoid collisions with oncoming vehicles. If the driver crosses a lane marking and into the path of an oncoming vehicle, Polestar 2 automatically steers back into its lane and warns the driver. This feature operates at 37 mph (60 kph) and above.

Run-Off-Road Mitigation

The Run-Off-Road Mitigation system continuously scans the road ahead of Polestar 2. If the system detects a potential run-off scenario, it automatically tightens the front safety belts electrically to help keep the driver and front passenger in a safe seating position. Together with the Polestar 2's robust body structure and other restraint technologies, this helps provide the best protection in a collision.

Driver Alert Control

A camera assesses at the road ahead while Driver Alert Control checks on current steering inputs to see how they compare to the driver's regular driving patterns. If it senses erratic driving, or interprets that the driver is drowsy or distracted, the system provides an audible warning and a message on the instrument panel suggests taking a break. Driver Alert Control functions at 40 mph (65 kph) and above.

SAFETY

With its advanced active and passive safety features integrated into the advanced body structure – including the world's first inner-side airbags – the Polestar 2 is engineered to be not only one of the safest electric vehicles, but one of the safest vehicles overall.

Top Polestar 2 safety features include:

- Inner-side airbags (a global debut on the Polestar 2)
- High-strength steel safety cage
- Battery protection
- SPOC Block
- Front Lower Load Path

Inner-Side Airbags

Polestar 2 features new inner-side airbags. Depending on the strength and direction of a lateral (side) impact, the new airbags deploy from the inner sides of the front seats to better protect front seat occupants during a side collision.

High-Strength Steel Safety Cage

The Polestar 2 passenger compartment is reinforced with boron steel, one of the strongest steel types available. In a collision, this steel helps to dissipate the energy of the crash, thus reducing forces experienced by passengers.

Battery Protection

To protect the Polestar 2 battery in the event of a front, rear or side collision – or even a vehicle rollover – the battery is protectively installed inside an aluminum case. This case not only serves to protect the battery, but it also serves to distribute collision forces or loads through to the car's body, which is designed to channel, direct, and attenuate and disperse these loads. The protective battery case thus directly contributes to the overall safety of the Polestar 2.

SPOC Block

The Severe Partial Offset Collision Block – or “SPOC Block” – is a crucial element in protecting the battery pack during a severe partial offset impact, in which the related wheel and components are designed to shear off the body. The SPOC Block thus assists in directing any of these parts outwards and away from the body of the vehicle, rather than towards the battery pack and front footwell.

Front Lower Load Path

In the front of the Polestar 2 chassis, the Front Lower Load Path (FLLP) helps absorb energy from direct frontal and even small overlap impacts. This is an essential development and advancement for the Polestar 2 as an EV, because it replaces the energy-absorbing characteristics of the internal-combustion engine found in a traditional vehicle.

Active Safety Features

Active safety is the broad suite of features that helps drivers avoid an accident. Polestar 2 active safety features such as traction control, electronic stability control and ABS are referenced in the Chassis section, while multiple driver assists such as Pilot Assist and Lane Keeping Aid are described in the Driver Assist Functions section. Other top active safety features of Polestar 2 include:

Rear Collision Warning

When a vehicle approaches quickly from behind, this system calculates that there may be risk of a collision. The brake lights flash rapidly to assist the approaching driver in detecting an imminent collision. If a collision cannot be avoided, the system tensions the seatbelts just before the impact to help keep all occupants safely restrained. To help reduce the strain on the occupants during impact, the system also activates full auto-braking if the Polestar 2 is at standstill.

Automatic Braking After Collision

Helping to reduce the risk of more damage and injury after a collision – like colliding into other cars or people – Polestar 2 brakes automatically when the safety belt pre-tensioners or an airbag are activated.

Tire Pressure Monitoring System

The Tire Pressure Monitoring System instantly alerts the driver if a tire is low on pressure, helping to maintain safe handling.

Acoustic Vehicle Alert System (AVAS)

To alert pedestrians and cyclists to the quiet Polestar 2's presence, AVAS creates a subtle and natural sound while driving. Forward driving sounds are active between 0 and 18.6 mph (30 kph). In reverse, the sounds are always activated, increasing in volume with vehicle speed.

Passive Safety Features

Passive safety features help protect occupants during an accident. Polestar 2 passive safety features include dual front, side, inner-side and curtain airbags, along with front and outer-rear passenger seatbelt pre-tensioners and load limiters. Other top passive safety features of the Polestar 2 include:

Energy-Absorbing Interior

All the panels and door sides are padded with energy-absorbing materials to help reduce the risk of injury to passengers.

Brake Pedal Release

In certain frontal collisions, the brake pedal is designed to release and move down to the floor to help reduce the risk of injuries on the right foot and leg when the foot is on the brake pedal. This safety feature is triggered by the same sensors that activate the seatbelt pre-tensioners and airbags when needed.

Side Impact Protection System (SIPS™)

The extremely strong side structure contains ultra-high strength steel and softer grades of steel to help withstand a severe side impact – even with a larger vehicle.

Whiplash Protection System (WHIPS™)

Integrated in the front seats, WHIPS™ efficiently helps reduce the risk of whiplash injury if the Polestar 2 is hit from behind. Upon impact, the entire front seat backrest and head restraint moves with the occupant to support the neck.

RESPONSIBILITY

The new Polestar 2 is designed to be the most responsible EV on the market. This is accomplished due to the use of recycled materials where possible, such as in certain interior fabrics and textiles, in the responsible mining practices for minerals and elements used in the battery, motors and electronics, and in the use of block-chain traceability for materials. Additionally, Polestar utilizes only suppliers that agree with and participate in the company's environmentally responsible and non-exploitative manufacturing approach.

Top Polestar 2 responsibility features include:

- Vegan materials
- WeaveTech upholstery
- Responsible cobalt mining
- Blockchain traceability
- Chrome-free leather
- Modular construction

The standard Polestar 2 is entirely vegan, which means that no animals nor animal products were used in any part of the vehicle's component sourcing, manufacturing or assembly.

Furthermore, any of the Polestar 2 battery modules can be repaired rather than replacing the entire battery, lowering the environmental footprint of operating and maintaining the vehicle. And the Polestar 2 is likewise designed using modular assembly techniques, which will help the vehicle be more easily recycled at the end of its useful life.

Overall, Polestar voluntarily aligns with and conforms to rigorous chemical regulations in the European Union. This extends to vehicles including the Polestar 2, as well as the manufacturing controls and innovations. For instance, even the Polestar factory adopts the highest standards of environmental care – including air quality, waste management, energy efficiency, and the social environment for workers. The end result is progress for the company and its employees, and a new standard of environment stewardship for the automotive industry that Polestar hopes will drive the industry forward.

Earth-Friendly Interiors

The Polestar 2 interior uses a proprietary WeaveTech material that is a competitive to leather, but is lighter, long-wearing, and completely animal-free. It represents, in short, a complete re-think of traditional interior materials while also being competitive in every sense with traditional leather interiors – without the use of animals. Additionally, the black ash wood trim inlays found in the interior are designed and engineered to utilize wood resources with the minimal possible residual scrap during manufacturing.

Vegan Interior

The base Polestar 2 is technically and literally “vegan.” That is because no animal products of any kind are used in the manufacturing of the vehicle, the resources or materials, or in the Polestar 2 itself. The base Polestar 2 is completely “animal free.”

Optional Leather Interior

The materials used in the optional perforated leather seats are free of chrome, in an effort to sustainably source the best leather possible.

Responsible Mining

The responsible sourcing of minerals is one of the top responsibility issues in automobile manufacturing, and thus is a priority in the creation of the Polestar 2. In building the vehicle, Polestar set clear responsibility requirements for material suppliers, and selected a low number of them to meet its high standards.

One noteworthy example involves the cobalt in the Polestar 2 battery. Polestar uses only two battery suppliers worldwide, both of which are committed to Polestar’s responsibility goals and have adopted blockchain traceability for the cobalt. In blockchain traceability, the cobalt is traced directly from the mine through all channels of transportation, handling and manufacturing to ensure that there is both traceability and transparency in the acquisition and use of the material. Encrypted digital “ledgers” follow this material from mine to final battery product, making the resulting batteries used in the Polestar 2 highly responsible, from mining to manufacturing, and from environmental issues, such as manufacturing pollution, to social issues such as labor.

Blockchain traceability was first used by Polestar on the Polestar 1, where it was used for the cobalt and rare-earth elements found in the motors and electronics.

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