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Tokyo Motor Show 2019

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Tech, futurism drive iconic car event’s appeal

Tokyo Motor Show hopes to attract 1 million visitors with a variety of interactive attractions

SAYURI DAIMON  
STAFF WRITER

The 46th Tokyo Motor Show, slated to kick off on Oct. 24 at Tokyo Big Sight and other areas in Tokyo’s Odaiba district, is set to showcase the latest automotive trends but will also depart from previous editions of the motor show.

This year’s motor show, under the theme of “Open Future,” places an increased focus on the future of our society and its use of rapidly evolving technology in addition to revealing the newest in automotive trends.

“The word ‘open’ means the event will not be limited to showcasing the auto industry. By being open to other industries and collaborating with them, we are trying to demonstrate the mobility-centered society of the future,” said Jun Nagata, chairman of the Japan Automobile Manufacturers Association’s Tokyo Motor Show Committee.

This year, the venue is expanded to include a larger area of Odaiba, featuring a wide range of programs for visitors to enjoy the excitement of cars and future technologies.

A total of 187 companies and organizations from eight countries around the world will participate in the show that will be held through Nov. 4.

The biannual Tokyo Motor Show, however, is at a crossroads, and this year’s event reflects this reality.

In its heyday, the Tokyo Motor Show used to attract many automakers from around the world, such as Ford Motor Co., General Motors Co., Fiat Chrysler Automobiles NV and Volkswagen AG, and it used to be a bit of a production when a new car rolled onto the stage. Taking advantage of this occasion, many automakers used to meet with executives of other global companies to conduct business negotiations during the event. But in recent years, such activities have decreased.

Japan’s car sales remain the third largest in the world — after the U.S. and China — with 527.2 million units sold in 2018, but more and more automakers are prioritizing the Chinese market and its motor shows. The Frankfurt Motor Show, which was held just last month, also failed to attract many carmakers, with only Honda Motor Co. participating from Japan.

This downward trend also shows in the number of visitors. Although the Tokyo Motor Show saw more than 2 million attendees in 1991, the most recent event in 2017 drew just 770,000 people.

This decline has resulted in the transformation of the event into one with a future-focused concept that targets younger generations.

“Unless the Tokyo Motor Show goes through a major paradigm shift, it won’t be able to attract more visitors,” Akio Toyoda,

president of Toyota Motor Corp. and JAMA chairman, told a news conference ahead of the show.

Toyoda said he hopes to attract 1 million people to the Tokyo event, by making it like a “theme park” where people can get a glimpse of a future lifestyle through various exhibits and attractions that are not limited to the auto industry.

In the Future Expo area, for example, visitors will be able to view and interact with over 100 items, displays and leading technologies provided by companies across various industries.

Honda will display its UNI-CUB alongside a variety of other personal mobility vehicles. People will also have the chance to see a flying car currently under development by NEC Corp.

Information on hydrogen energy, such as how fuel cell cars work, and space technology will also be on display in the energy of the future area.

The motor show will also host the e-Motorsports Under-18 All Japan Championships, where winners from the under-18 championships from each prefecture will compete against one another for the national title. Another attempt to make the event more appealing to children is a tie-up with KidZania. Children will be able to role-play as an employee at car manufacturers, parts manufacturers and mobile communication companies in the venue set up in the Aomi Exhibition Halls.

At the Open Road area, visitors can experience the near-future through test-drives of micro-mobility vehicles such as the Toyota i-Road and Nissan New Mobility Concept. Three types of personal mobility vehicles are also available for test-drives there.

Concept cars and production vehicles displayed by major automakers are going greener than ever, and most will incorporate some degree of electrification.

Mazda Motor Co. will launch its first battery-electric production car at the show, while the next generation Honda Jazz, known as the Fit in some markets, will see a hybrid drive upgrade.

Nissan Motor Co. also plans to unveil a concept minicar IMk, which is built on an all-new EV platform.

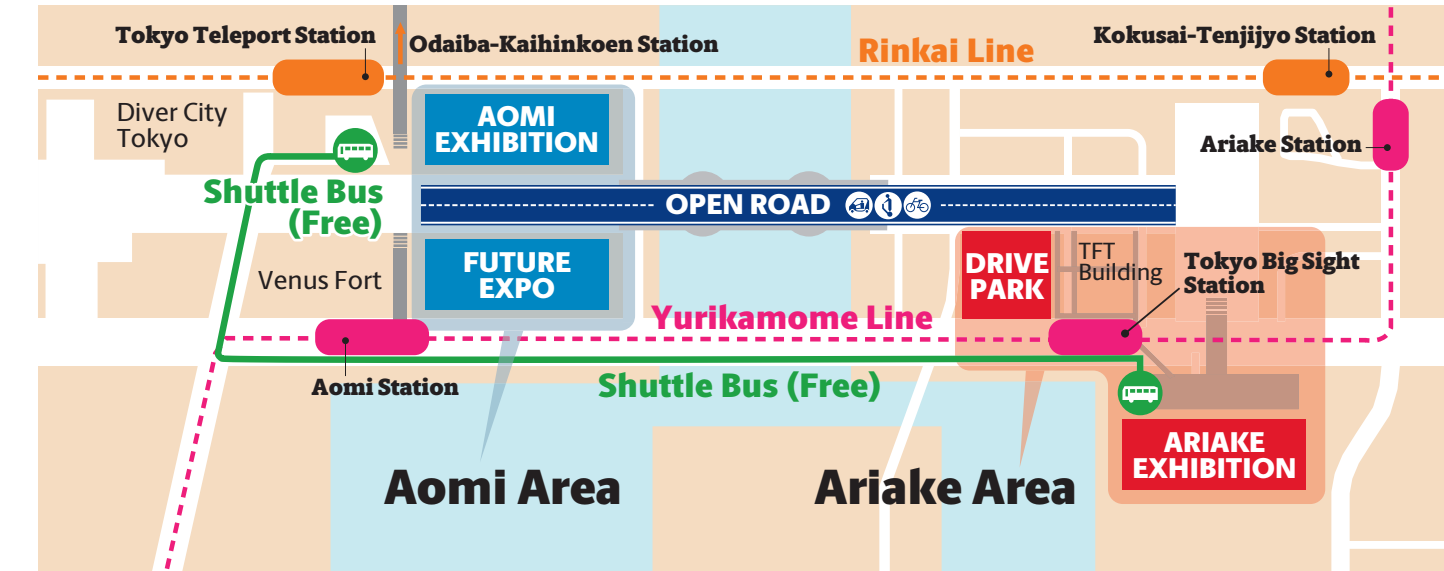
There will also be symposiums on various topics, ranging from zero-emission transport to drones to Mobility as a Service (MaaS), which integrates various forms of transport services into a single mobility service accessible on demand.

To make it more family friendly, the motor show will be free for high school students or younger children — for the first time in the event’s history.

“The key word for this event is firsthand experience. We want to make this show a theme park that families, including children, can enjoy,” said Toyoda.



Clockwise from top: The interior of Panasonic Corp.’s futuristic SPACe\_L car can be changed to different modes, including “Living Room,” “Business,” “Relax” and “Entertainment.” It will be displayed in the Future Expo area; various supercars at Drive Park; kids can drive go-karts at Open Road; children can ride on the Battle King robot at the Ariake Exhibition area; NEC Corp.’s “flying car” will be showcased in the Future Expo area. JAPAN AUTO MANUFACTURERS ASSOCIATION



Outline of the 46th Tokyo Motor Show


**Venues:**  
Tokyo Big Sight (Aomi, West and South halls, Mega Web, Symbol Promenade Park, parking lot next to Tokyo Fashion Town [TFT] building)

**Duration:**  
Oct. 24 to Nov. 4

**Dates and hours:**  
Special Invitation Day for Persons with Disabilities: Oct. 24 (Thu.) 2 to 6 p.m.  
Preview Day: Oct. 25, 9 a.m. to 2 p.m.  
General Public Days (Weekdays, Saturdays): 10 a.m. to 8 p.m., 2 to 8 p.m. on Oct. 25  
General Public Days (Sundays/holiday): 10 a.m. to 6 p.m.  
(Opening hours may be changed and entry into the venue may be limited whenever necessary)

**Admission:**  
Special Invitation Day for Persons with Disabilities: Free (requires pre-registration)  
Preview Day: ¥3,800 (Limited availability, free for elementary school students and younger, must be accompanied by a parent)  
General Public Days: Adults ¥2,000 (¥1,800 for advance ticket; ¥1,000 for day-of ticket after 4 p.m., excluding Sundays and holiday)  
High school students and under: Free

**For further details:**  
<https://www.tokyo-motorshow.com/en/>





# future mobility

## Toyota to unveil ultra-compact BEV, latest Mirai hydrogen model

Toyota Motor Corp. will showcase its ultra-compact battery electric vehicle (BEV) and second-generation Mirai concept fuel cell electric car powered by hydrogen, among other creations, at the 2019 Tokyo Motor Show, which runs from Oct. 24 to Nov. 4.

The two new models will be exhibited in the Future Expo area of the show. Future Expo will be held at Mega Web, a facility Toyota uses to showcase its

vehicles, near Aomi Station on the Yurikamo Line or Tokyo Teleport Station on the Rinkai Line.

Toyota, which plans to begin selling its ultra-compact BEVs late next year, is also developing other compact BEVs and aims to spread the use of such vehicles, which emit zero carbon emissions.

“We will establish a system to make it easy for people to use compact battery electric vehicles and further spread their

use. We will not only sell them, but also lease them, enable battery reuse and provide services such as insurance,” said Akihiro Yanaka, head of the team developing the ultra-compact BEV.

Target customers of the two-seater vehicles are those who regularly drive short distances, such as the elderly, salespeople who frequently visit the same customers and newly licensed drivers. A single charge, which takes about five hours, offers a range of as much as 100 kilometers. The vehicle’s maximum speed is 60 kph.

The vehicle’s interior changes into three different modes — “Drive,” “Office” and “Relax.” The office mode gives passengers a setting that allows them to comfortably work on a laptop.



The Mirai concept car is a fuel cell electric vehicle powered by hydrogen.



Top: Ultra-compact battery electric vehicles (BEVs). Above: Mobility assistance BEV models include seated and standing designs as well a variation that can be attached to a wheelchair.

and heat, and have a longer maximum range compared to electric vehicles. Hydrogen can also be produced from various primary energy sources and is storable and transportable. Its drawbacks include high production costs and a scarcity of hydrogen refueling stations. The price of the original Mirai is about ¥7.4 million.

Compared to the first version, the second features a stylish form and enhanced

fuel cell system performance with more hydrogen storage capacity.

The Mirai concept features a dynamic exterior design built on a so-called Toyota New Global Architecture platform, including large 20-inch diameter wheels. The interior is equipped with a 12.3-inch wide screen on the center console and an instrument panel that helps provide drivers an optimal experience behind the wheel.

## Mitsubishi rolls out next-generation hybrid SUVs

This year at Tokyo Motor Show 2019, Mitsubishi Motors Corp. is rolling out its latest and greatest inventions — the MI-Tech Concept compact plug-in hybrid electric SUV and the Super Height K-Wagon Concept light motor vehicle.

Debuting for the first time anywhere in the world, the MI-Tech Concept represents the culmination of Mitsubishi’s electric motor and all-wheel drive control technologies. It embodies the company’s brand message, “Drive your Ambition” — a combination of personal drive and forward attitude, and a reflection of the constant dialogue between the brand and its customers.

The SUV features a variety of attractive components, including a downsized, lightweight plug-in hybrid EV (PHEV) drivetrain; an electronic four-wheel drive system; and a cozier, more compact size that allays the “bulky SUV” stereotype.

Design conceptualization began with Mitsubishi’s vision of “an electric SUV roaming vast lands, its driver bathed

in rich sunlight and gentle breezes.” That vision transformed into what the company has described as a new era of functionality combining SUV, PHEV and four-wheel drive accessibility.

Stylish enough for the city and rugged enough for the outback, the MI-Tech Concept offers a new kind of driving experience that is both reassuring in its safety standards and enlivening in the technological advancements it represents.

Coasting alongside is the Super Height K-Wagon Concept, which is also making its first-ever appearance at the Tokyo Motor Show. This concept car comes replete with advanced safety mechanics including MI-Pilot same-lane driver assistance for highways, misstep acceleration mitigation and other beneficial traffic safety features.

As it boasts “SAPO CAR” (Safety Support Car) S Wide classification from the Japanese government, drivers can rest assured in the K-Wagon’s dependable

performance and nimble handling. Yet innovation does not thrive without due respect paid to tradition — the roomy interior and eloquent design more than live up to Mitsubishi’s definition of style.

Making its Japanese debut is Mitsubishi’s Engelberg Tourer, a next-generation SUV crossover that is run by Mitsubishi’s Twin Motor four-wheel-drive PHEV system.

Named for a Swiss ski resort, the Engelberg Tourer is designed to offer dynamic performance that means drivers can confidently drive on any surface in any weather. On top of the driving experience, the vehicle also boasts the long-range cruising customers expect from PHEVs, with an EV cruising distance of over 70 kilometers and a range of over 700 kilometers on a fully charged battery and full fuel tank.

The high-capacity battery is placed under the floor in the center of the SUV, leaving an expansive cabin that allows for comfortable three-row seating. The

2.4-liter engine was designed specifically for PHEV use, and it acts as a high-output generator when the vehicle is in hybrid mode. In addition to an efficient PHEV system, the Engelberg Tourer uses low-consumption technologies such as radiator grille shutters to reduce drag.

With dedicated high-output, highly efficient motors powering the front and rear axles, the vehicle uses Active Yaw Control to handle the torque split between the front wheels. Mitsubishi’s Super All-Wheel Control (S-AWC) integrated behavior control system offers a major improvement in acceleration, cornering and stopping, as it controls the brake pressure at each wheel.

The Engelberg Tourer also comes with the Connected Car System integrated into the onboard navigation system. When a destination is entered into the navigation system, the Connected Car System takes into account weather, temperature, traffic, topography and surface conditions to choose the best drive mode



Mitsubishi Engelberg Tourer

to optimize battery energy management and the S-AWC system. This provides an optimal driving experience and boosts fuel economy.

With a lineup that boasts cutting-edge

PHEV technology, as well as the latest in overall vehicle performance, Mitsubishi brings drivers and passengers the best driving experience, while reducing carbon emissions.

## Future Expo area a glimpse into tech of tomorrow

The 46th Tokyo Motor Show’s Future Expo area will give visitors a sneak peek at vehicles and technology that may affect their lives in the coming years across a variety of areas. The sectors represented include travel, city life, sports, tourism and sustainable energy, among others.

Motor show visitors will enter the futuristic expo through a tunnel, where virtual characters will greet and guide them along the way. Emerging from the tunnel, guests will see cast members aboard mobility devices of the near future.

Visitors can glimpse for themselves the possibilities travel holds. Representations of fully autonomous cars, expected to be standard by 2030, will be on display. Since driving will no longer be required, Panasonic Corp.’s SPACE\_L concept shows how

people could spend their increased leisure time while getting to their destinations. This car can change its interior based on various modes, such as “Business” or “Entertainment.” Nissan Motor Co. will exhibit its Energy Home system that integrates the Nissan LEAF auto and the home, allowing for energy to be shared between the two. Visitors can see how energy from the car and solar panels can power appliances.

Sports in the coming years will also see changes in the way they are broadcast, viewed and judged as communications technology evolves and data analysis becomes more advanced. NTT Corp. plans to showcase its Kirari! immersive telepresence technology, designed to transmit and reproduce the “entirety” of a sporting venue with added visual effects and

enhancements, providing an ultra-realistic experience.

Fujitsu Ltd. aims to improve sports through information and communication technology. One system uses 3D sensing technology in its support system for gymnastics judges. Created to allow judges to more fairly and accurately assess competing athletes, it uses lasers to follow the athletes’ positions as they compete on various equipment.

The data from the lasers allows the system to render 3D models of competitors. Software then compares the images to a database of stored movements, identifying the move’s group and difficulty, allowing the system to produce a score based on how well the athlete matches the database.

Tourism can also expect to see major shifts, especially in rural areas. Coming technologies may include NEC’s facial recognition technology that will identify shoppers and process purchases based on consumer identification. East Japan Railway Co. hopes to expand its robots that can provide information in multiple languages to tourists from around the world.

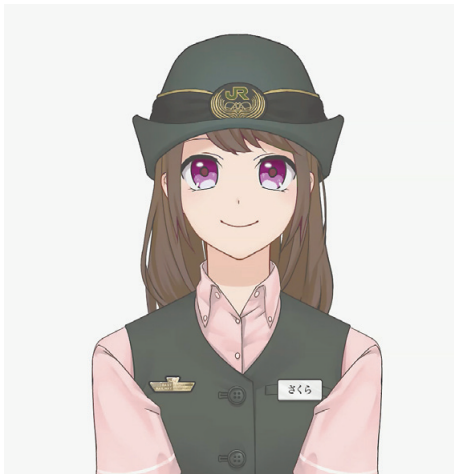
Societies of the future are expected to be built with the support of space technology, and some of that will also be on display in the Future Expo exhibition. The Japan Aerospace Exploration Agency (JAXA) and Toyota Motor Corp. have developed a pressurized lunar rover. The rover, built using fuel cell technology, is expected to make further manned space explorations possible. Working in conjunction with JAXA, ispace is working on the research and development of a lunar probe. The probe is being built under the premise that it can

research the possibilities developing the moon’s resources.

In addition to serious projects, there are also some lighthearted ones, including information about the G-Satellite project. Under the idea of promoting the 2020 Olympic Games, a small satellite containing two figurines from the “Mobile Suit Gundam” anime series, Gundam and Char’s Zaku, will be launched into space.

The satellite’s onboard camera will take pictures of the figures, as well as a tiny electronic bulletin board that will be used to share messages in multiple languages with athletes. The pictures will then be posted to social media. The expo plans to share information about this project, as well as hold panel discussions.

In addition to the very latest models, ideas and concept cars, the 2019 Tokyo Motor Show offers a truly unique and exciting preview into the possible technology, society and lives of the near future.



Top: Nissan Motor Co.’s Energy Home System makes it possible for its LEAF model to help power a home and vice versa. Above: JAXA and Toyota Motor Corp. have developed a lunar rover that utilizes fuel cell technology. Left: East Japan Railway Co.’s AI-Sakura is a multilingual artificial intelligence-based guide designed to aid tourists.



# future mobility

## Honda's newest innovations

"The Power of Dreams" is turning visions into reality at Tokyo Motor Show 2019. Honda Motor Co.'s comprehensive lineup is an eclectic mix of innovative and historical that features motorcycles, automobiles, power products and energy-efficient concept models.

The exhibition space has been outfitted with a variety of user experience-oriented installations designed to be fun for the whole family. Front and center is an enormous moving screen that incorporates a little audiovisual magic to provide highly



CT125



Honda e (EU type)

realistic demonstrations of Honda's many products and services.

Visitors to the exhibition's two-wheeled vehicle section will be the first in the world to get an up-close and official look at the CT125, Honda's latest concept scooter that takes cues from the internationally lauded Honda Super Cub.

Making a Japan debut will be the CRF1100L Africa Twin and CRF1100L Africa Twin Adventure Sports ES motorcycles — both of which have been equipped with dual clutch transmissions — as well as the ADV150 minibike.

The four-wheeled section is also showing off a few fresh rides of its own. In addition to the world premiere of the newly designed fourth-generation Fit series,

Honda is unveiling its 2020 Accord model and its recently developed "Honda e" pure electric vehicle, capable of traveling roughly 219 kilometers on a single charge.

Other sneak peeks include the gently remodeled Freed series, the NSX hybrid sports series, the N-BOX series — ranked No. 1 in new light motor vehicle sales in Japan for the last four years running — and other commercially available models.

For racing enthusiasts, Honda has put together a few commemorative exhibitions celebrating 60 years of motorcycle World Championship racing and enduring sales of the brand's iconic CB series. It's the perfect opportunity to see the historic path Honda has tread and the many exciting possibilities that lie just down the road.

## Suzuki offers excitement to families

*Waku-waku* — it's the Japanese word for "excited" or "thrilling," and it's precisely the kind of vibe Suzuki Motor Corp. is bringing to Tokyo Motor Show 2019.

On the cusp of the company's 100th anniversary coming in 2020, Suzuki has put together a variety of small-sized concept vehicles to give a little extra waku-waku to everyone's daily lives.

The excitement begins with the world premiere of the WAKU SPO, a personal compact plug-in hybrid EV (PHEV) with enough interior space to serve most any hobby or family activity. The car's frame, front-end mask and interior design are all customizable, adding even more personality to this fun-sized package.

Also making a worldwide debut is the HANARE, a self-driving concept car designed to be less of an automobile and more of a detached living space. Its interior is both roomy and multifunctional, reflecting this generation's need for lifestyle mobility.

Two iterations of the HUSTLER CONCEPT will also be highlighted. Having gained widespread popularity since first-generation sales began in 2014, this crossover SUV-style light motor vehicle was designed with "unique character" at the top of its "must have" list. The two featured versions sport playful paint jobs, artsy decals and customizable roof



wraps, as well as interchangeable hobby amenities such as roof racks. Together, they represent the future of urban outdoor style.

Yet when Suzuki says "waku-waku for the whole family," they're counting the young ones in, too. Collaborating with baby product supplier Combi Corp., Suzuki has designed a concept model of its compact Every Wagon that provides comfortable room for diaper changes, nursing time and other parent-child needs. It's a solid automobile to have in times of frivolity — or even emergency aid situations. And after nearly a century



Top: WAKU SPO; Above: HANARE

in business, that's the kind of social contribution Suzuki aims to offer with its automotive innovation.

## Subaru tackles safety, automated driving tech

Technological advancements are paving the way for an entirely new realm of auto safety and user convenience — and Subaru Corp. is at the head of the pack.

This year at Tokyo Motor Show 2019, Subaru is rolling out a wide host of its latest automotive achievements to show just how much cars can enrich everyday life, starting with the world premiere of its newly designed Levorg prototype.

Expanding upon the original 2014 model, this second-generation Levorg prototype is

equipped with Subaru's cutting-edge automated driving technologies. It stands as testament to the idea that, in a truly mobile society, anyone and everyone deserves to take pleasure in the freedom of driving.

The ever-popular Impreza has also been given a massive accessibility upgrade with the fifth-generation Impreza Sport 2.0i-S EyeSight, available by advance reservation since Aug. 27. In addition to refurbished front bumpers and headlights, the chassis features an improved suspension for



WRX STI EJ20 Final Edition prototype

a more comfortable driving experience. Furthermore, all Impreza grades now come standard with Subaru's EyeSight Driver Assist Technology, setting a new trend for the company in traffic safety.

Models of the Subaru XV Advance and Forester Advance — both have EyeSight installed and the new energy-efficient e-BOXER hybrid engine — will be on display as well, together with the boldly envisioned Viziv Adrenaline concept model.

As a bonus, Subaru will exhibit a prototype of the WRX STI outfitted with the famous EJ20 Boxer engine. The EJ20 engine has achieved wide-reaching success in professional motorsports competitions around the world since it debuted in 1989.

The prototype has been dubbed the EJ20 Final Edition, as production of both the EJ20 and the domestic WRX STI model is scheduled to conclude at the end of 2019. It's even been decorated with gold-plated BBS 19-inch aluminum wheels — a festive send-off for the gold standard of auto excellence.



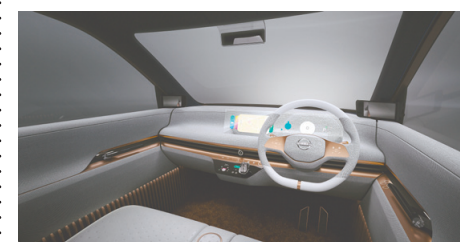
Impreza Sport 2.0i-S EyeSight

## New looks and familiar faces from Nissan

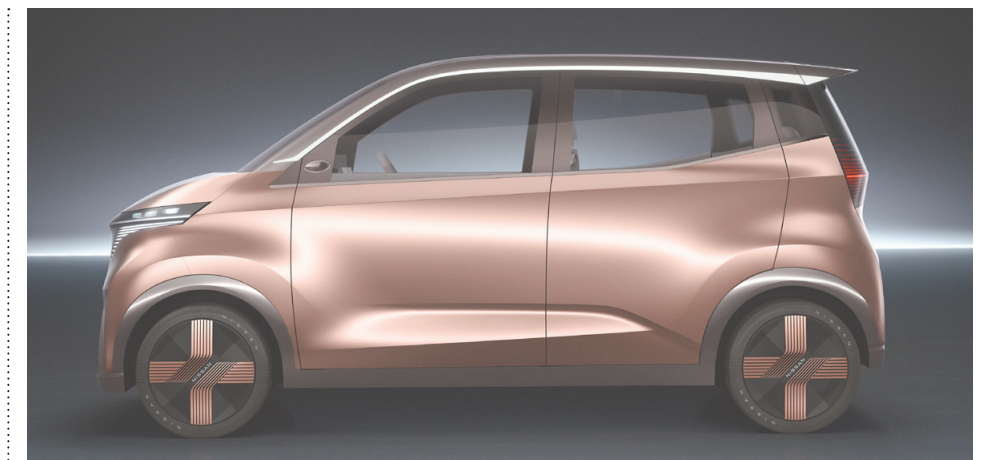
Nissan Motor Corp. is making strides this year at Tokyo Motor Show 2019 with a whopping 14 models at the exhibit. Highlights include the world premiere of the Nissan IMk as well as unveilings of the new Nissan LEAF e+, Serena e-POWER and Skyline models.

The Nissan IMk compact EV represents the culmination of advancements in Nissan Intelligent Mobility. Sporty enough to coast through the city and classy enough to blend in with old town roads, the IMk boasts a brand-new EV platform with a lower center of gravity for extremely smooth and remarkably silent handling.

The IMk comes equipped with an expanded version of the ProPILOT 2.0 Advanced Driver Assistance System that provides computerized support on both freeways and major roadways. It also features self-parking technology and a valet



Nissan IMk



Nissan IMk

function that allows users to recall their car from its parking spot via smartphone controls.

On the performance side is the Nissan LEAF e+. Capable of traveling up to 458 kilometers, the e+ makes use of a newly developed e-POWERtrain to deliver superior energy efficiency, high horsepower and solid torque.

Meanwhile, next-generation safety is the draw for the gently remodeled Serena e-POWER and the newly designed Skyline.

The Serena now comes standard with

omnidirectional driver assistance technologies that provide full 360-degree visual coverage around the vehicle, while the Skyline has been installed with ProPILOT 2.0 to enable hands-off driving on major single-lane roadways (carefully monitored by the driver, of course).

And in commemoration of the 50th anniversaries of both the Nissan GT-R and the Fairlady Z — both of which will be getting their fair share of the spotlight — the company has prepared a small sales corner featuring limited-edition Tokyo Motor Show goods and apparel.

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# The future Runs on Hydrogen

The Toyota Mirai runs on hydrogen, the most abundant element in the universe. We'll never run out of hydrogen — it's easily made from water by electrolysis, using solar, wind, geothermal, hydroelectric and other renewables. Mirai's fast fill-up time and long cruising range are comparable to a conventional car's. And it's as fun to drive as it is friendly to the environment. The only exhaust is pure water. Mirai shows how hydrogen can deliver convenience and performance without compromise. That's why hydrogen will power the sustainable society of tomorrow. No wonder Mirai means "future" in Japanese.

## Meet the future



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