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NEW PRIUS

The rebirth of the pioneer

NEW RAV4 HYBRID

The spirit to change perspectives

TOYOTA C-HR CONCEPT

Stunning looks, exciting drive



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NEW PRIUS

The rebirth of the pioneer

The introduction of the all-new fourth generation Prius marks a further advance in the history and achievements of Toyota's hybrid power technology.

The new model builds on the strengths and achievements of its predecessors and is set to establish new benchmarks in fuel economy, emissions and efficiency. Each successive Prius has delivered improvements in these areas, but the new model is aiming to make the biggest leap yet in performance, with a target of improving CO₂ emissions by 18 per cent*.

This achievement is only one aspect of a product that has evolved to acquire new capabilities and greater driver appeal. Powered by a new generation of Toyota's full hybrid powertrain, the new Prius marks significant advances in highway fuel economy and provides a much more rewarding driving experience. Acceleration is smoother and more responsive, and, at higher speeds, is quieter and has a more linear feel that is better aligned to engine speed.

The new car's dynamic capabilities are rooted in the use of the first Toyota New Global Architecture (TNGA) platform. At a stroke, this endows the car with a lower centre of gravity for improved handling response and stability. It also gives the designers a freer hand to craft a car that has

richer visual appeal, with lower lines overall and a more athletic profile. TNGA also helps define the "peace-of-mind" interior, with its excellent packaging, driving position and comfort. Load space is also improved thanks to the use of a smaller, more energy-dense hybrid battery and a new double wishbone rear suspension system – features which do not intrude in trunk capacity.

The Prius remains Toyota's technological ambassador, a showcase for new, relevant technologies that raise levels of safety, convenience, performance and comfort.

Safety remains a priority, with the TNGA chassis optimised for excellent impact performance. The scope of the Toyota Safety Sense package is extended in the new Prius with addition of radar-managed Adaptive Cruise Control and a Pedestrian Detection function for the Pre-Crash Safety system.

The full hybrid powertrain has undergone extensive revisions to improve efficiency, reduce weight and sharpen performance. Detailed design changes to the engine have achieved more than 40 per cent thermal efficiency – world-best performance for a gasoline unit. Other hybrid system com-



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THE PRIUS REMAINS TOYOTA'S TECHNOLOGICAL AMBASSADOR, A SHOWCASE FOR NEW, RELEVANT TECHNOLOGIES

ponents have been made more compact and have been repositioned for optimum packaging, further contributing to the car's lower centre of gravity. The new nickel-metal hydride hybrid battery is more compact while its durability and charging performance have been significantly improved.

In combination, these changes and innovations confound the popular notion of what an eco-car should be like to drive and to look at. The new Prius demonstrates the genuine rewards that remain to be enjoyed from Toyota full hybrid technology, advan-

tages that will steadily feed through to new generations of other Toyota hybrid models.

PRIUS HERITAGE

In 1997 the original Toyota Prius was launched with the declaration "just in time for the 21st century". As the world's first mass-produced hybrid-powered car, it was true to the Latin roots of its name in being ahead of its time.

That first car was a small four-door sedan, powered by a new hybrid system featuring a combination of 1.5-litre VVT-i Atkinson cy-

cle gasoline engine and 33 kW electric motor. Headline efficiency figures were 120 g/km CO₂ emissions and an average 5.1 l/100 km fuel consumption. This initial package was comprehensively redesigned and improved in the second generation model in 2003, with considerable gains in power and efficiency, plus a larger, more stylish, comfortable and practical hatchback design. The improved hybrid system adopted a hybrid battery pack that was smaller and lighter and offered a higher energy density. The fuel economy improved by 15 per cent to

4.3 l/100 km and CO₂ levels fell to a new low of 104 g/km.

The current Prius made its debut in 2009, delivering an even stronger combination of power and efficiency. The hybrid system's output was now more than a third greater than in the original model, while at the same time CO₂ emissions had fallen by a quarter and fuel consumption was 23 per cent better.

The first generation Prius created the hybrid vehicle market, the second generation raised the model's popularity with a more advanced image, and the third generation secured mass-market success, helping Toyota progressively roll out hybrid power into its mainstream model ranges.

In its first 18 years, the Prius has reshaped the motoring landscape, bringing hybrid technology into the mainstream market and helping focus the attention of industry and consumers on how cars can be made cleaner and more efficient. The way in which people have come to understand, appreciate and adopt Toyota hybrid power is witnessed by more than eight million cumulative sales of Toyota hybrids worldwide since 1997, including more than 3.5 million Prius. The growth rate has accelerated in line with the technology's higher visibility and the availability of an increasing range of vehicles covering different market segments. The fourth generation Prius will add further impetus to hybrid's market appeal, achieving its strongest environmental performance yet, while delivering much improved styling and driving dynamics.

Toyota's experience with the Prius has been central to its development of hybrid as a foundation technology for alternative powertrains, not just with conventional gasoline and diesel engines, but with bio-fuels and hydrogen fuel cells as well. The basic technical premise that gave Toyota its

breakthrough with Prius continues to support development of new mobility solutions, from the all-electric urban i-Road to Mirai, Toyota's first hydrogen fuel cell saloon.

THE MARKET

The new car market has changed greatly in the 18 years since Toyota introduced the original Prius and set in motion its hybrid technology programme. Growing awareness of environmental issues and the need to protect natural resources have not only shifted people's perceptions of how a vehicle should perform, they have been reinforced by national and international legislation requiring manufacturers to reduce vehicle emissions.

These changes have helped Toyota hybrids establish themselves in markets worldwide and have also given impetus to other manufacturers in the development of rival hybrid systems and other alternatives to conventional gasoline and diesel engines, such as all-electric vehicles and plug-in hybrids.

Hybrid has become Toyota's key competitive advantage, the principal quality that differentiates it from other manufacturers and which gives it a specific strength in the marketplace. This is reflected in the fact Toyota hybrids make up more than 50 per cent of all the alternative powertrain vehicles sold in Europe – more than all the other hybrids, plug-in hybrids and electric vehicles combined.

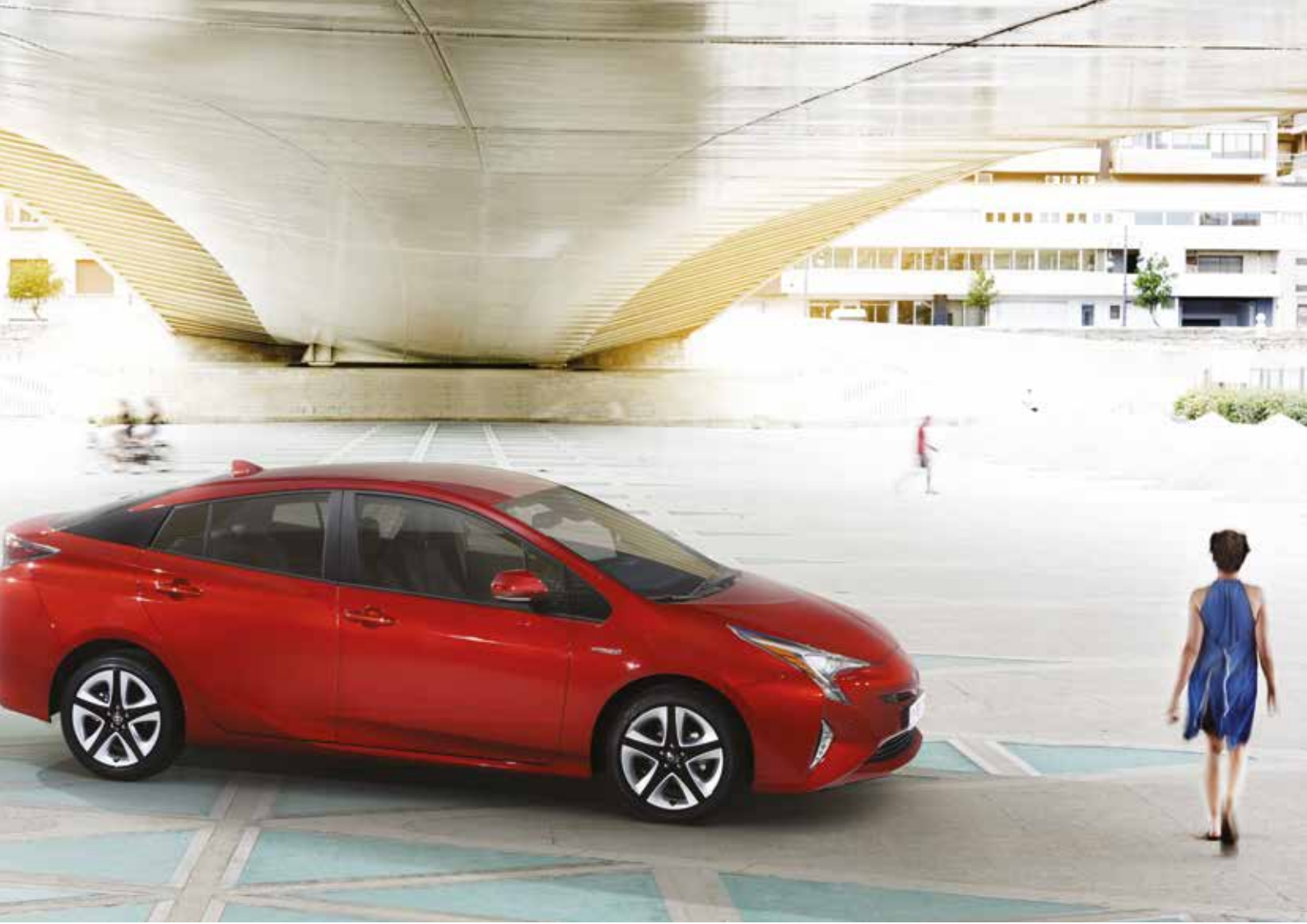
The way in which hybrid has become a driver for Toyota's success in Europe's core new car market segments is evidenced by sales figures for 2014 which show hybrids accounted for 55 per cent of all Auris sales and 33 per cent of Yaris sales. Furthermore, hybrid is bringing more new customers to Toyota, with these models attracting significantly high levels of conquest sales from



EXTERIOR DIMENSIONS (mm)

| | |
|----------------|-------|
| Overall length | 4,540 |
| Overall width | 1,760 |
| Overall height | 1,470 |
| Wheelbase | 2,700 |





other brands – up to 63 per cent for Yaris Hybrid and 51 per cent for Auris Hybrid.

Toyota believes hybrid's market potential will increase further, with more people taking up the technology as the emissions performance of conventional gasoline and diesel engines come under closer scrutiny and legislative control. At the same time, more manufacturers are following Toyota by introducing their own hybrid models, increasing competition and giving customers a wider choice.

Toyota will continue to enjoy the advantage of offering a full hybrid system, in which the electric motor can operate independently of the petrol engine. This allows the car to be driven in all-electric EV mode when possible, with zero fuel consumption and zero tailpipe emissions. These benefits are not available in "mild" hybrid systems, in which the electric motor can be used only to support the performance of a gasoline or diesel engine.

Toyota believes that continuous improvement of its full hybrid technology will enable it to strengthen its market position, ahead of the wider uptake of alternatives such as plug-in hybrids, electric vehicles

and fuel cell vehicles. Key challenges in securing this growth are to strengthen environmental performance while increasing the attractiveness of hybrids as desirable cars that are fun to drive. These qualities are fundamental to the new Prius, which sets new benchmarks for environmental performance while making a stronger emotional connection with customers through improved styling, quality and driveability.

THE THREE PILLARS OF THE NEW PRIUS

The new Prius is founded on outstanding hybrid technology, delivering unprecedented efficiency and environmental performance. But beyond these credentials it embraces stronger emotional and performance qualities that give it wider and greater appeal to customers who appreciate eye-catching, original styling, high levels of sensory quality, practicality and a driving experience that is genuinely fun and rewarding.

The realisation of these qualities in the new Prius is based on three pillars: the Toyota New Global Architecture, design and styling, and a new generation full hybrid system.

TOYOTA'S FIRST TNGA PLATFORM

The new Prius is the first model to use a Toyota New Global Architecture (TNGA) platform. This plays a defining role in the car's essential fun-to-drive quality, giving new Prius a lower centre of gravity compared to the current model, which in turn allows for an improved driving position.

It makes a significant contribution to improved driving dynamics – beyond what might be expected of an eco-car. This quality is further supported by a body that is 60 per cent more rigid than before thanks to extensive use of high-strength steels and additional reinforcement to the centre pillars' lower structure and the panel connection. The result is superior, direct and responsive handling, without having to use firmer suspension settings.

DOUBLE WISHBONE REAR SUSPENSION

The new double wishbone rear suspension plays a significant part in this, producing one-third the level of shock when driving on uneven roads compared to the current Prius. To achieve better handling with more direct response, the front MacPherson strut suspension has been revised with an



increase in the incline angle of the shock absorbers and the use of slant bearings.

The chassis is fully able to harness the more responsive acceleration provided by the new full hybrid system. Greater stability is maintained, body roll is much reduced in high-speed lane changes and performance is smoother on rough surfaces. On winding roads, new Prius holds easily to the driver's intended line and there is outstanding straight-line stability when driving at speed.

IMPROVED SAFETY WITH TNGA

Safety is a key consideration in the development of the new TNGA platforms, not just in terms of secure, stable handling, but also in improving the driver's vision. The view from the steering wheel of new Prius is significantly wider and deeper than in the current model and rearward vision is improved by the wider curve of the rear glass.

The platform has been optimised for excellent performance in independent international crash testing, including Euro NCAP.

STYLING AND DESIGN

New Prius is not simply "another green car," its design and high quality throughout give it greater emotional appeal and a powerful, desirable presence, underpinned by the fundamental strengths of the new TNGA platform. As Toyota's most advanced car, it is appropriate that it is an image leader and the intention has been to produce a design that makes an immediate impact.

The car's new low-slung stance – made possible by the TNGA platform – suggests an excellent driving performance, supported by a distinctive new body silhouette that is both athletic and aerodynamically efficient. The result is a "human-tech" design with strong emotional quality, fully exploiting the opportunity presented by the car's lower centre of gravity.

EXTERIOR

The design theme for the new Prius has been to capture in the contrast created between the rich curves and hard surfaces of the bodywork. The result is a new form that stands out with its smooth yet sharp use of lines.

The frontal design is true to Prius's heritage in making the Toyota emblem a strong focal point, but it also makes an impactful visual statement about its more advanced design and performance with a much lower hood height. New headlights have permitted slimmer, more striking headlamp units to be designed and these combine with an intricate but unfussy treatment of the fog lights and air intakes to give the car a distinctive and intelligent appearance.

In profile, the Prius displays a silhouette that is lower and more athletic. The TNGA platform has allowed for significant reduction in height in key areas to create a lower, more dynamic appearance. The overall height has been reduced by 20 mm compared to the current Prius, to 1,470 mm. The peak of the roof has been moved

forward, and the belt line has been dropped, emphasising the car's stronger dynamic qualities. The new model retains the 2,700 mm wheelbase of the current Prius, but is 60 mm longer overall at 4,540 mm. It is also 15 mm wider at 1,760 mm.

New Prius has a unique aerodynamic treatment to the rear section of the roof, which supports the clean flow of air over and away from the vehicle. The new TNGA platform is also designed for the smoothest possible airflow beneath the car. In combination, the car's low wind resistance features secure a world-class coefficient of drag.

The rear end design flows strongly from the rear spoiler down through the bumper, with the wheel placement further emphasising the car's firmly planted stance. The slim, striking combination lamps have been moved to the outer edge of the car, following a sharp angle that is accentuated by the distinctive, unbroken line of the red LED tail lights.

Toyota has produced a vibrant colour palette for new Prius with seven exterior finishes available, including a new shade, Emotional Red.

INTERIOR

"Peace of mind" is the theme for the cabin, which is designed to be a welcoming, quiet and comfortable space, with a dashboard that wraps gently around the driver and which flows almost seamlessly into the door panels. The number of different parts that

make up the instrument panel has been reduced, for example the piano black section is now a single unit. This creates a strong visual contrast with the areas of the dashboard and door panels, finished in a high-quality white material that is soft to the touch and scratch-resistant.

The fine attention to detail can be seen in elements such as the air vents, while the high ergonomic quality extends to intuitive positioning and range of adjustment of the seats. The high sensory quality of the interior is further emphasised by a pleasingly tactile leather steering wheel trim. Two interior colour choices have been created for the new Prius – cool grey and black. Overall the cabin environment is light and spacious.

Quietness has always been a distinguishing characteristic of Toyota's hybrid vehicles and the new Prius provides a cabin environment that exudes a genuine sense of luxury in exceptionally low levels of noise, vibration and harshness. New Prius's improved ride is further supported by a new front seat design that provides more comfort and wraparound support.

NEW HYBRID SYSTEM

The New Prius heralds the next generation of Toyota's signature hybrid powertrain. This new family of powertrains builds on the two pillars that have made Toyota hybrids popular with drivers across the globe: on the one hand their fuel efficiency, and on the other the relaxed and carefree drive that they provide.

Toyota has focused its efforts on making this next generation of hybrids even easier

and more intuitive to drive. They have been set up so that they give a natural, immediate, but smooth response to any accelerator pedal input. Refined and confident, they deliver the right level of performance.

But of course, fuel economy has been improved as well. The new hybrid systems will come in a more compact package, that is lighter in weight and lower in cost. This new generation will reflect significant advances in battery, electric motor and gasoline engine technologies.

The batteries will offer higher energy density, which means more output from units of the same dimensions and weight.

The electric motors will be smaller in size, yet also provide a better power-to-weight ratio.

And the thermal efficiency of the gasoline engine – at 38.5 per cent already very high on the current Prius – is increased to more than 40 per cent – a world's best for a gasoline unit.

As a result, applied to the new Prius, this new hybrid system targets an 18 per cent* improvement in fuel efficiency compared to the current car.

PRIUS: TOYOTA'S HIGH-TECH AMBASSADOR

The Prius has always provided a reference point for Toyota's development of useful, intuitive high-tech features and that remains true for the fourth generation model, which benefits from a number of innovations that support safety, convenience and better, more sophisticated HMI (Human Machine Interface) performance.

New Prius Chief Engineer Koji Toyoshima explains: "Prius is the ambassador for Toyo-

ta technology, a brand vector pulling hybrid sales of our core models."

TOYOTA SAFETY SENSE WITH ADDITIONAL FUNCTIONS

The new Prius will make a significant advance in active and preventive safety measures with the adoption of Toyota Safety Sense. This package of safety features will be further extended in the new Prius with the addition of radar-governed Adaptive Cruise Control and a pedestrian recognition capability in the Pre-Collision Safety system.

In the current Prius range, only around two per cent of vehicles are sold with the Pre-Crash Safety system. In the new Prius this is one of the standard features of Toyota Safety Sense, together with Lane Departure Alert, Automatic High Beam and Road Sign Assist.

EXTRA SENSORS FOR SAFETY AND CONVENIENCE

The technologies Toyota has developed for successive generations of the Prius have always served a clear purpose. This continues in the new model with an increase in the number of sensors to provide the driver with more comprehensive information, improving safety and convenience. In effect, new Prius becomes a driver's sixth sense, recognising and anticipating things they might not notice themselves.



According to New European Driving Cycle (NEDC)

TOYOTA NEW GLOBAL A

A new approach to car engineering and production

Toyota New Global Architecture – TNGA will be the foundation for all Toyota's future powertrain and vehicle development. It marks a revolution in the way Toyota designs, engineers and manufactures vehicles, streamlining the process by standardising the size and position of key components within standard new vehicle platforms. In this way it is integral to Toyota's mission to build ever-better cars.

Equally, it is transforming the way Toyota manufactures vehicles, introducing the most fundamental improvements yet to the Toyota Production System. The long term benefits will be smaller, more flexible factories with production lines that can quickly and easily be adapted to meet different manufacturing requirements.

The new Prius uses the first TNGA platform to be developed, one which will also underpin a number of other future models. Further platforms will be developed to provide comprehensive provision for a complete model range.

Toyota takes the concept of platform sharing to a high level with TNGA by standardising components and their lay-out across different vehicle segments, and fully integrating both its manufacturing operations and its suppliers in the new concept at a very early stage.

Through TNGA customers will be able to enjoy more stylish cars that are safer and more enjoyable to drive. At the same time, Toyota will substantially reduce the number and variety of different vehicle components, enabling smarter development and manufacturing that will increase efficiency and save time.

IMPROVED DRIVING DYNAMICS WITH A LOW CENTRE OF GRAVITY

TNGA directly contributes to making cars more enjoyable to drive. The new TNGA vehicle platforms are designed to achieve a low vehicle centre of gravity, a quality that is fundamental to securing a more engaging driving position and more precise and responsive handling, with less body roll. This means better handling can be achieved directly from the quality of the chassis and body without compromising ride and comfort.

TNGA promotes more responsive handling by significantly increasing vehicle body rigidity with strategic use of high-strength steels. The impact of this can be seen in the new Prius, which benefits from a 60 per cent more rigid body shell, with high-strength steel used as reinforcement in key areas. Higher rigidity contributes to better chassis responsiveness and ride quality for a more rewarding driving experience.

ERGONOMIC EXCELLENCE IN VEHICLE PACKAGING

TNGA introduces new, defined lay-out rules for the position of different state-of-the-art components which will simplify vehicle design in key areas without compromising the styling qualities that give each vehicle its individual character and appeal.

For example, the driving components – items such as the pedals, steering column and driver's seat – will conform to one of five different lay-outs according to vehicle type and platform. Previously much time was spent on millimetre-adjustment to define the most suitable design and arrangement of these components to achieve the optimum driving position in every new model. The TNGA solution will provide an ergonomically ideal combination to suit the vehicle, in line with the floor height provided by the platform. Each lay-out can be further refined with detailed adjustment to the pedal and pedal operation angles and the position and angle of the steering column.

This will be effective whether the emphasis is on sporting character or practical packaging with plenty of rear seat legroom. The five lay-outs cover the requirements of the complete vehicle range, from compact sports cars to SUVs.

TNGA also brings a new approach to the design of the engine compartment, with a focus on placing components lower down in a more rationally organised "clean and tidy" space. This allows for a more attractive, lower hood, which in turn improves safety by giving the driver a clearer forward view. It also helps lower the car's centre of gravity, contributing to better handling and stability and a more engaging drive.

STYLING FREEDOM

Although TNGA will produce a standardised vehicle architecture and many uniform components, it will not lead to a range of vehicles that are similar in appearance and constrained by their use of shared elements. The impact of TNGA is on areas that are largely out of sight, so that designers retain the freedom to produce cars that are visually distinctive and individual.



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TNGA WILL EMPOWER TOYOTA DESIGNERS TO PRODUCE STYLISH VEHICLES WITH A LOWER STANCE AND MORE APPEALING PROPORTIONS

TNGA will empower Toyota designers to produce stylish vehicles with a lower stance and more appealing proportions, as can be seen in the new Prius and the C-HR Concept car.

IMPROVED SAFETY PERFORMANCE

The new TNGA platforms and designs have prioritised the highest active and passive safety standards. They are designed to meet the exacting standards of independent crash testing programmes worldwide and provide impressive levels of active and preventive safety through the functions and systems of Toyota Safety Sense. And by enabling a lower hood height, TNGA also provides the driver with a deeper and wider view of the road ahead.

SMART DEVELOPMENT AND MANUFACTURING

TNGA is not only helping Toyota create ever better cars, it also has a direct, positive im-

pact on product development and manufacturing. In the most significant changes yet to the Toyota Production System, TNGA will ultimately lead to vehicle factories being smaller and more flexible, better able to respond quickly and easily to accommodate new or additional models.

Production lines mounted on the floor rather than being suspended from above will be simpler to install and adjust in length. Toyota anticipates TNGA will enable multiple models to be produced from the same line, supported by new, more efficient ways of producing parts and systems. Accommodating changes in design and specifications will also be simpler and quicker to achieve. Further gains will be made in environmental efficiency, by using equipment that is not only more compact, but also uses less energy.

The sharing of many common components among different vehicles in different segments will greatly reduce the number

of different parts that have to be designed, manufactured and supplied.

Toyota calculates that TNGA will reduce the amount of manpower required for vehicle development by 20 per cent, giving it more time to devote to designing ever-better cars. It reduces the level of investment required for bringing new products to market, while increasing the competitiveness and flexibility of Toyota's existing manufacturing plants.

TOYOTA C-HR CONCEPT

Stunning looks, exciting drive



A new C-HR Concept makes its world debut at the 2015 Frankfurt motor show. With its diamond-shape based bold design language, an engaging full-hybrid driving experience and new platform architecture, it brings the future Toyota compact crossover one step closer to the final production model, which will be revealed at Geneva next year.

Inspired by the warm welcome that the first TOYOTA C-HR Concept vehicle received when it premiered at the 2014 Paris motor show, designers have created a second C-HR Concept. Boasting a 5-door cabin, this new design study is more closely representative of the compact crossover which is now confirmed for production. Its more refined execution is designed to gauge reactions from specific target customer groups, in order that their feedback may further inform the project designers and engineers.

This highly-innovative design study for a stylish, lightweight and dynamic hybrid crossover is designed to stand out in an increasingly homogenous market place. It is the next rendition of Akio Toyoda's promise, on taking over the presidency of TOYOTA, to

build always better cars that bring the fun back to driving.

Its compact proportions placing it between the B-SUV and C-SUV segments, the TOYOTA C-HR Concept offers the combination of outstanding agility and flexible packaging, both essential to those with urban lifestyles.

It has been designed around a new platform, developed under the TNGA (Toyota New Global Architecture) programme, to satisfy customers' demands for state of the art handling and controllability. In conjunction, a new, advanced, full-hybrid powertrain offers a uniquely engaging driving experience matched to 21st century traffic conditions, whilst delivering outstanding efficiency.



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A REFINED DIAMOND STYLING THEME

The new, 5-door C-HR Concept continues Toyota's exploration of an expressive new, diamond architecture styling theme. Below a compact, sensual cabin profile, the lower bodywork has been sculpted to represent the faceted surfaces of a highly-durable, precision-cut gemstone.

In plan form, the corners of the bodyshell have been cleanly shaved off. This both removes mass from the overall volume, and highlights the powerful flair of the front and rear wheel arches, reinforcing the crossover's broad, planted stance from every viewpoint, and matching the target customer's desire for a vehicle with a confident and sporty look.

The front of the C-HR Concept represents a further development of Toyota's Keen Look design identity. Above a robust central bumper profile, the slim upper grille has been evolved into a floating 'wing' graphic which flows seamlessly around the front corners of the vehicle. At the wing extremities, streamlined headlamp clusters combine advanced lighting technology with diamond-pattern detailing.

Adding impact to the vehicle corners to further reinforce the new crossover's solid stance and the low centre of gravity inherent in its new TNGA platform, the large,

diamond-patterned lower grille is flanked by strongly sculpted downward projections. These powerful frontal elements are underscored by an aero-inspired, floating front spoiler.

From the side, the highly-faceted lower body, muscular wheel arches and aggressively angular rear shoulder are juxtaposed with an exceptionally sleek cabin profile. Its 'floating' status reinforced by a piano black paint finish, the roof is detailed with patterned openings which create a uniquely animated play of light within the C-HR Concept's cabin space.

Seen from the rear, the glasshouse tapers dramatically down to a powerfully faceted lower body highlighted by a pronounced diffuser, integrated foglamps and highly-distinctive, aero-inspired, floating rear lamp clusters incorporating diamond-pattern lens detailing.

The 'diamond-cut', machined-surface spokes of a unique, 21" wheel design hint at the sophistication and efficiency of the C-HR Concept's full-hybrid powertrain.

TOYOTA NEW GLOBAL ARCHITECTURE (TNGA) PLATFORM

The new C-HR Concept is a striking representation of the benefits of TNGA; an innovative, integrated vehicle development





approach for powertrain components and platforms being introduced on new Toyota models from this year forward.

TNGA manifests itself in the new C-HR Concept through an increase in body rigidity, better collision performance, improvements to the vehicle underbody and suspension, and a lowering of the centre of gravity.

Acting in conjunction, higher body rigidity and a lower centre of gravity reduce body movement and vehicle roll when cornering. This allows for a reduction in suspension stiffness and a resultant increase in ride comfort with no detriment to driving dynamics, equipping the C-HR Concept with the responsive handling, agility and straight-line stability on a par with the best C-segment hatchbacks.

Incorporating a set of new production techniques and technologies that will make it easier to turn vehicle designs and features into production reality, TNGA groups vehicle development to promote a strategic sharing of parts and powertrain components. This approach will reduce the resources required for development by 20% or more, freeing up investment for improved product strengths and advanced technology development for sustainable growth.

A NEW, MORE EFFICIENT HYBRID SYSTEM

C-HR Concept doesn't only stand out through its unique design. It also introduces hybrid technology to the segment. In this case, a new and more compact full-hy-



**THE NEW, 5-DOOR C-HR CONCEPT CONTINUES TOYOTA'S
EXPLORATION OF AN EXPRESSIVE NEW, DIAMOND
ARCHITECTURE STYLING THEME**





THE TOYOTA C-HR CONCEPT INTRODUCES HYBRID TECHNOLOGY TO THE COMPACT CROSSOVER SEGMENT

brid powertrain with lighter componentry. It reflects significant advances in battery, electric motor and petrol engine technologies, offering further reductions in fuel consumption and CO₂ emissions.

Operating in synergy with a petrol engine boasting world-beating thermal efficiency of over 40%, the C-HR Concept's next-generation full-hybrid powertrain combines state-of-the-art battery technology with new, highly-compact electric motors offering a marked increase in power density.

More compact, lighter in weight and more efficient than Toyota's current hybrid systems, the new full-hybrid powertrain developed under the TNGA programme will also be notably more refined, and even easier and more intuitive to drive, with a natural, smooth and immediate response to driver inputs.

A GLOBAL PROJECT ROOTED IN THE EUROPEAN MARKET

The new C-HR Concept is another tangible application of Toyota's new Global Vision thinking, first advocated by President Akio Toyoda in 2011.

Recognizing that Europe is the most demanding market for small and mid-sized vehicles, Toyota uses this region as benchmark for defining future global A-, B- and C-segment cars. Toyota Motor Europe (TME) has also become the company's skill centre for perceived quality and vehicle dynamics.

In the case of the C-HR Concept, there was close cooperation between Toyota's vehicle planning centres in Japan and in Europe, in order to get a good understanding of the latest European customer demands and vehicle trends. The styling of the concept car is the result of a global cooperation

between ED2 (European Design Development Centre) and the other Toyota design centres.

Following the overwhelming reaction to the first TOYOTA C-HR Concept shown at the 2014 Paris Motorshow, TME will continue to work hand in hand with TMC (Toyota Motor Corporation in Japan) to enter the C-Crossover segment.

TOYOTA

HYBRID

IN NUMBERS

8,000,000*
HYBRIDS SOLD WORLDWIDE

60% of hybrid
vehicles sold globally in 2014



were
TOYOTA

31
HYBRID
MODELS
ON SALE WORLDWIDE

90



**COUNTRIES
& REGIONS**
WHERE TOYOTA HYBRIDS
ARE SOLD

3.5 million
PRIUS
sold globally



SINCE
1997

58
MILLION TONS OF



CO₂
SAVED
BY TOYOTA HYBRIDS

1,000,000*
HYBRIDS SOLD IN EUROPE

N°1



in **HYBRID SALES**
in each and every
EUROPEAN COUNTRY

13
HYBRID
MODELS
ON SALE IN EUROPE

✕ **2 hybrid** ✕
manufacturing plants
in Europe



hybrid sales mix
35%



Yaris Hybrid

hybrid sales mix
43%



Auris Hybrid

hybrid sales mix
65%



Auris Hybrid Touring Sport

EUROPEAN PRODUCED HYBRIDS

NEW TOYOTA RAV4 HYB

Prestige, comfort and efficiency

The launch of the new RAV4 model range marks the introduction of Toyota's first hybrid compact SUV to the highly competitive European C-SUV segment.

Its full hybrid drive system combining a 2.5 litre Atkinson Cycle petrol engine with a powerful electric motor, the new RAV4 Hybrid is available in both front-and all-wheel drive variants. The RAV4 Hybrid AWD has a second, rear mounted electric motor that offers increased traction and a 1,650 kg towing capacity without the added weight and complexity of a central prop shaft.

Developing total system power of 145 kW/197 hp, the new RAV4 Hybrid marries a seamless, 0-100 km/h acceleration time

of just 8.7 seconds to class-leading fuel consumption of only 4.9 l/100 km* and remarkably low, highly tax-efficient CO₂ emissions as low as 115 g/km*.

The new RAV4's full hybrid powertrain heads up a revised, fully Euro 6 compliant engine line-up for the 2015 model range.

A new 2.0 litre turbodiesel develops 105 kW/143 hp and a substantial 320 Nm of torque, whilst targeting CO₂ emissions of only 123 g/km*. And an improved 2.0 litre petrol unit offered with a choice of manual or CVT transmissions now combines 111 kW/151 hp and 195 Nm of torque with CO₂ emissions from 149 g/km*.

Reinforcing the uniquely quiet, refined and sophisticated driving experience offered by Toyota's Hybrid technology, the new RAV4 further benefits from enhanced ride comfort and driving dynamics, a quieter cabin environment, stronger, more dynamic exterior

design, improved interior sensory quality and functionality, and all the latest innovations in safety and advanced technology.

The Toyota Safety Sense system features a newly developed set of active safety technologies; a new Panoramic View Monitor displays a 360 degree, bird's-eye view of the vehicle's immediate surroundings to aid parking and slow speed manoeuvring; and the restyled interior benefits from the enhanced functionality of both a 4.2" multi-information screen set between the combi-meters and a 7", full-colour centre console screen incorporating the Toyota Touch 2 multimedia system.

HYBRID HERITAGE FROM REVOLUTIONARY IDEA TO WORLD-LEADING TECHNOLOGY

The idea of an alternative powertrain for cars was already alive at Toyota in the 1960s.





bit.ly/1FRdEBc

But it is in the early 90s that the company actually initiated a production-based development programme of environmentally responsible automotive technologies.

In 1994, Toyota initiated the G21 project. Its aim was to create a 'green and environmentally friendly car' for the 21st century which, despite impeccable environmental credentials, offered all the convenience and driving pleasure of a conventional vehicle.

With the 1997 launch of the first generation Prius, the world's first mass-produced hybrid vehicle, Toyota instigated a modern day revolution in automotive electrification, and a major industry milestone in vehicle powertrain development and sustainable mobility.

Following the launch of the third generation Prius in 2009, the model became the first full hybrid vehicle available as a complete, stand-alone model range; the 2012

addition of Prius+ and the Prius Plug-in Hybrid creating the Prius Family.

Successive generations of Toyota's Hybrid powertrains became ever more powerful, yet lighter and more fuel and CO₂ efficient. Toyota expanded its hybrid model line-up with the introduction of the Auris Hybrid in 2010, the Yaris Hybrid (the only full hybrid vehicle in the B-segment) in 2012 and the practical Auris Hybrid Touring Sports in 2013.

In 2014, European sales of TOYOTA Hybrid models reached 178,041 units, a 13% increase over the previous year. This brings cumulative TOYOTA hybrid sales in Europe to a total of almost 1 Million vehicles since the European launch of the first Prius in 2000.

Today, Toyota Motor Corporation has sold over 8 million full hybrid vehicles worldwide. This is more than any other manufacturer, and gives the company an unquestionable lead in the drive towards sustainable mobility. Concrete, tangible proof of Toyota's hybrid powertrains environmental record, is that these sales have already contributed to an estimated reduction in automotive emissions of approximately 58 million tonnes of CO₂.

RAV4 HERITAGE FROM NICHE MODEL TO GLOBAL CAR

Toyota can rightfully claim to have created the compact SUV market with the launch of its first Recreational Active Vehicle with 4-Wheel Drive (RAV4) in 1994.

When the first generation RAV4 was revealed at the Geneva Motor Show that year, it was quite different to a traditional 4x4. Launched as a compact (3,695 m) 3-door model, the first 'Urban 4WD' featured a relatively small, 2.0 litre engine mounted transversally within a monocoque body-shell, and all-rounded independent suspension. The compact SUV market was born.

In 1994, Toyota sold 53,000 units of RAV4. The following year the sales figures doubled, then tripled the year after that, in 1996. Since then, annual sales have steadily grown with each successive generation, turning Toyota's pioneering compact SUV from a niche model to a global car. In 2013,

RAV4 sales figures outstripped those of 1994 by a factor of 10.

Today, available in 170 countries, four generations of RAV4 have sold more than 6 million units around the world, 1.5 million of them to European customers.

Since 1994, the C-SUV segment has changed and matured. Where early customers often bought compact SUVs as an alternative to sporting hatchbacks and coupes, today's segment growth is fuelled by families looking for a more engaging and fashionable but nevertheless practical alternative to MPVs and estate cars.

THE POWER OF TWO

The perfect response to the demands of a more mature, sophisticated and competitive C-SUV market, Toyota's new RAV4 Hybrid combines the company's unparalleled experience gained through over 20 years of compact SUV evolution with the latest generation of its innovative, full hybrid powertrain technology.

The new RAV4 Hybrid marries dynamic styling, premium interior quality, ingenious packaging and versatility with a full hybrid powertrain offering customers improved driving feel for an even more sophisticated driving experience.

The new RAV4 hybrid offers class-leading fuel consumption figures and remarkably low CO₂ emissions, promoting significant taxation and Benefit-in-Kind savings. On top the RAV4 hybrid AWD offers the same benefits in combination with Toyota's ingenious E-Four electric motor-powered AWD system with increased traction and towing capacity.

HYBRID POWERTRAIN

The RAV4 Hybrid's full hybrid system features a 2.5 litre Atkinson Cycle petrol engine, a powerful electric motor, a generator, a 204 cell nickel-metal hydride battery located under the rear seats, a power control unit, and a power split device.

On the AWD version, Electric all-wheel drive (E-Four) capability is provided by a second, rear-mounted electric motor, thus avoiding the added weight, cost and complexity of central prop shaft.



Total system output is 145 kW/197 hp, equipping the RAV4 Hybrid with a 0-100 km/h acceleration time of 8.7 seconds and a maximum speed of 180 km/h. Conversely, the RAV4 Hybrid returns class-leading fuel consumption figures of only 4.9 l/100 km* in the European homologation combined cycle, and remarkably low, highly tax-efficient CO₂ emissions of just 115 g/km*.

The Hybrid system uses power from both the petrol engine and electric motor in tandem, as well as alone, maximising the efficiencies of both units to achieve the optimum balance of driving performance and fuel efficiency.

During deceleration and under braking, the electric motors act as a high-output generator to effect regenerative braking. Normally wasted as heat, kinetic energy is recovered as electrical energy for storage in the high performance battery.

The system's seamless, E-CVT electric continuously variable transmission is controlled by Shift-by-Wire technology, using an electronic shift lever system.

The RAV4 Hybrid features four 'on-demand' drive modes to increase the capabilities of the full hybrid powertrain, including a full hybrid-unique, EV mode which allows for ultra-quiet running on electric motor power alone, resulting in zero fuel consumption and CO₂, NOx and PM emissions.

The full hybrid powertrain is designed to eliminate the need for the petrol engine as

often as possible during city driving. Toyota's own data show that the cumulative effect of full hybrid operation leads to high proportions of zero-emissions, EV driving.

E-FOUR ELECTRIC POWERED HYBRID AWD SYSTEM

A first for Toyota vehicles in Europe, the RAV4 Hybrid AWD is equipped with a 50 kW high-voltage, high-speed rear electric motor which gives the vehicle all-wheel drive capability without the need for a central prop shaft.

Operating independently from the hybrid system's front electric motor and driving the rear wheels alone, E-Four smoothly switches the RAV4 to all-wheel drive status on slippery road surfaces and from stationary starts, maximising traction, stability and controllability under the most demanding driving conditions.

Generating drive torque through the efficient use of power from the vehicle's hybrid system E-Four system not only optimises all-wheel drive performance in a variety of driving conditions, but also reduces energy loss, contributing to better fuel economy than that normally associated with AWD vehicles.

The significant extra traction provided by the E-Four system also provides considerable recreational benefits, equipping the new RAV4 Hybrid AWD with a 1,650 kg towing capacity -one of the highest capacities yet achieved by a hybrid vehicle.

IMPROVED DRIVING FEEL, SEQUENTIAL SHIFTMATIC AND POWER MODE

The control logic of the Hybrid Synergy Drive system's seamless, planetary gear transmission has been designed to give a smooth, natural feeling to vehicle acceleration, with a close relationship between vehicle speed and engine revs, for a more engaging driving experience.

The addition of both a Sequential Shiftmatic gear change function and a Power mode to the RAV4 Hybrid's 'on-demand' drive modes offers customers a more sporting drive, improving responsiveness and throttle response on winding and mountainous roads.

By selecting the Sequential Shift gear lever position, engine braking force is enhanced and, because engine rpm is kept higher than in the standard, 'D' lever position, throttle response is also improved. Activating Power mode increases traction force.

DRIVING DYNAMICS - ENHANCED RIDE COMFORT AND STEERING FEEL

The new RAV4 model range benefits for numerous measures designed to enhance ride comfort and driver involvement without sacrificing either stability or controllability.

The number of spot welds on the rear cross-member support has been increased from 105 to 138, and patches were added to the rear suspension member and floor cross-member.



The resultant increase in rear bodysell rigidity not only improves vehicle stability, but also enhances harshness damping and reduces high frequency waves, improving ride quality.

The new RAV4 shares the MacPherson strut front and lightweight trailing arm double-wishbone rear suspension of its predecessor. However, the shock absorbers and coil springs of both systems have been revised to give a flatter, more comfortable ride and enhance straight line stability.

The linear-type shock absorber had been changed to combine degressive- and choke-type valves, allowing for better adaptation of damping force to differing vehicle speeds and road conditions, and improving ride comfort. The coil spring constant has also been optimised to create a flatter ride feel.

The steering gear box benefits from an increase in rigidity of the installation fastening points, promoting a better steering feel.

IMPROVED NVH FOR A QUIETER CABIN

With a particular emphasis on rear seat occupant comfort and ease of conversation within the cabin, the NVH (Noise, Vibration and Harshness) performance of the new RAV4 has been comprehensively improved.

The surface area of the floor silencer has been increased by some 55%, the rear finish plate reshaped, and sound absorbing material added in several locations around the

rear deck, reducing road, tire and exhaust noise.

The sound insulation efficiency of both front and rear doors has been improved through an increase in sound absorbing material and the addition of door trim outer insulator, further lowering wind and road noise.

And the instrument panel silencer size has been increased to reduce the transmission of engine noise into the cabin.

INNOVATION - SAFETY AND ADVANCED TECHNOLOGY

The new RAV4 range is equipped with 'Toyota Safety Sense', a newly developed set of active safety technologies designed to help prevent or mitigate collisions across a wide range of traffic situations.

Combining a camera and millimetre-wave radar for a high level of detection performance, the RAV4's Toyota Safety Sense system features a Pre-Collision System (PCS) with a Pedestrian Detection function, Lane Departure Alert (LDA), Adaptive Cruise Control (ACC) and Automatic High Beam (AHB) technology.

At speed ranges of between 10 km/h and the vehicle's top speed Pre-Collision System detects objects ahead of the vehicle and reduces the risk of hitting the car in front. When there is a possibility of a collision it prompts the driver to brake with an audible and visual alert. PCS also primes the

brake system to deliver extra stopping force when the driver presses the brake pedal. If the driver fails to react in time, the system automatically applies the brakes, reducing speed by approximately 40 km/h or even bringing the car to a complete stop, in order to prevent the collision or mitigate the force of impact.

The system is also able to detect potential collisions with pedestrians, in the event of which automated braking operates at relative speeds of between 10 to 80 km/h, and can reduce speed by approximately 30 km/h.

Adaptive Cruise Control helps the driver to keep a safe distance from the car in front. It detects preceding vehicles and determines their speed. ACC then adjusts vehicle speed (within a set range) to ensure that there is a safe distance between both cars. By using the forward-facing camera and millimetre-wave radar in combination to monitor vehicles merging into or out of the lane ahead, ACC helps maintain smooth acceleration and deceleration while driving.

The Lane Departure Alert system monitors lane markings and helps prevent accidents and head-on collisions caused by leaving lanes. If the vehicle starts to deviate from the lane without the indicators having been engaged, LDA warns the driver with an audible and visual alert, and can provide steering input depending on the model.

Automatic High Beam helps ensure excellent forward visibility during night-time

THE NEW RAV4 HYBRID OFFERS CLASS-LEADING FUEL CONSUMPTION FIGURES AND REMARKABLY LOW CO₂ EMISSIONS





DIMENSIONS

| | |
|------------------------------------|-------------|
| Overall length (mm) | 4,605 |
| Overall width (mm) | 1,845 |
| Overall height/with roof rail (mm) | 1,675/1,705 |
| Wheelbase (mm) | 2,660 |
| Cargo capacity (dm ³) | 547* |

* Conventional version



driving. It detects both the headlights of oncoming vehicles and the tail lights of preceding vehicles, automatically switching between high and low beams to avoid dazzling other drivers. By using high beams more frequently the system enables earlier detection of pedestrians and obstacles.

Thanks to the reduced risk of being involved in traffic accidents, vehicles equipped with Toyota Safety Sense can benefit from lower insurance costs or a more advantageous insurance reclassification.

New RAV4 will continue to offer Blind Spot Monitor and Rear Cross Traffic Alert within its safety equipment on top of newly introduced Toyota Safety Sense.

PANORAMIC VIEW MONITOR

A new Panoramic View Monitor uses four cameras, mounted on the underside of each door mirror, and the front and rear of the new RAV4 to display a 360 degree, bird's-eye view of the vehicle's immediate surroundings.

Unique to Toyota, the system may be activated to give a clear, 3D visualisation of the surroundings whilst the vehicle is still parked, before a gear is selected and the parking brake released.

The monitor can display a composite view which combines the images from any of the four cameras, as well as the path guidance lines of the Rear View Monitor system, providing an invaluable aid to parking and slow speed manoeuvring.

The system's wide, 180 degree front and rear view screen projections allow the driver to check blind spots to the front and rear sides of the vehicle. The side cameras remain operable even when the door mirrors

are retracted. And a panoramic zoom view function allows for the closer observation of nearby objects that would otherwise be difficult to see.

4.2" MULTI-INFORMATION SCREEN

The newly designed instrument binnacle of the RAV4 is equipped with a 4.2" colour TFT (Thin Film Transistor) multi-information screen. Controlled by the steering wheel switch gear, with the possibility to coordinate its display with that of the 7" full-colour centre console screen, the multi-information screen offers a wide variety of functions and displays.

These include the customisation of vehicle settings, trip computer information, Smart Stop & Start telemetry, a hybrid powertrain energy monitor, turn-by-turn navigation and real-time AWD vehicle posture and steering lock indication.

EXTERIOR DESIGN - STRONGER, MORE DYNAMIC IMAGE

The front of the new RAV4 reflects its stronger, more dynamic styling with a powerful, more prominent execution of Toyota's Under Priority and Keen Look design language.

The Toyota logo is prominently set within a slender upper grille which anchors new, Keen Look LED or halogen headlamp clusters, both of which incorporate LED Day-time Running Lights (DRL) to give the new compact SUV a readily identifiable frontal signature.

The middle grille has been widened, and the lower, trapezoidal grille significantly enlarged in keeping with Toyota's Under Priority family model styling. The extremities of both middle and lower grille combine

to form deep, foglamp-housing pockets placed at the very extremities of the front bumper to emphasises the RAV4's wide, stable front track.

The front underguard has been restyled to give it a stronger visual emphasis, reinforcing the new SUV's rugged, off-road credentials.

To the side, a new wheel arch and rocker garnish places a cleaner, bolder emphasis on a vehicle profile further enhanced by a choice of new 17" and 18" alloy wheel designs.

The rear of the vehicle features new rear lamp clusters incorporating LED technology, giving the new RAV4 a high-tech light signature. The bumper has been restyled to give it greater prominence and place a greater emphasis on the vehicle's width and broad stance. And the rear underguard has also been redesigned to give it greater visual prominence.

The model range flagship, the RAV4 Hybrid may be identified through the use of exclusive, hybrid blue logos and 'Hybrid' badging, as well as model-specific 17" alloy wheels.

The new RAV4 will be available in choice of nine exterior body colours, of which two -Dark Red metallic and Blue metallic- are new.

INTERIOR DESIGN -IMPROVED SENSORY QUALITY AND FUNCTIONALITY

The sophisticated and stylish architecture of the RAV4 interior has been enhanced to combine better functionality with greater visual harmony and consistency and improved sensory quality.

The driver's instrument binnacle, centre console and gear lever surround console have been redesigned, the dashboard, door panel and centre armrest trims restyled, and new, more consistent, premium quality finishes adopted throughout.

The driver's instrument binnacle now features a prestigious, twin analogue dial design incorporating a 4.2" multi-information screen. The centre console panel has been redesigned to incorporate a large, 7" multimedia system touch-screen.

The dashboard, door panel and centre armrest trims have been restyled for greater comfort and tactility, and matt black and neutral silver finishes applied throughout for improved sensory quality. Further interior visual harmonisation has been achieved through the use of consistent, blue back-lit instrument, and ambient, lighting.

An expanded range of interior colour schemes will be available, including four high grade leather upholstery choices, Beige and Grey being refreshed in colour and style while Tan being the new offer.



RAV4 SPECIFICATIONS (EU RANGE)

| ENGINE | | 2.5 VVT-i HYBRID | | 2.0 VALVEMATIC | | 2.0 D-4D | |
|---|-------------------------------|------------------------|--------------------|-------------------------------|---------|---------------------|--|
| Type | 4 in-line cylinders | Motor Generator | | 4 in-line cylinders | | 4 in-line cylinders | |
| Fuel type | unleaded petrol | Nominal voltage (V) | 244,8 | unleaded petrol | | diesel | |
| Valve mechanism | DOHC 16-valve with Dual VVT-i | Max. output (kW) | front/rear: 105/50 | DOHC 16-valve with VALVEMATIC | | DOHC 16-valve | |
| | | Battery | Ni-Mh | | | | |
| Displacement (cm³) | 2,494 | Capacity (kWh) | 1.59 | 1,987 | | 1,995 | |
| Max. power (DIN hp/ kW @ rpm) | | 197/145 @ 5,700 | | 151/111 @ 6,200 | | 143/105 @ 4,000 | |
| Max. torque (Nm @ rpm) | 206 @ 4,400 - 4,4800 | front: 270 - rear: 139 | | 195 @ 4,000 | | 320 @ 1,750 - 2,250 | |
| PERFORMANCE* | 2WD | AWD | | Manual AWD | CVT AWD | Manual 2WD | |
| Max. speed (km/h) | 180 | 180 | | 185 | 185 | 195 | |
| Acc. 0 - 100 km/h (seconds) | 8.9 | 8.7 | | - | - | - | |
| FUEL CONSUMPTION (l/100)* | 2WD | AWD | | Manual AWD | CVT AWD | Manual 2WD | |
| Urban | 4.9 | 5.1 | | 8.5 | 8.2 | 5.4 | |
| Extra-urban | 5.0 | 4.9 | | 5.7 | 5.6 | 4.3 | |
| Combined | 4.9 | 5.0 | | 6.7 | 6.5 | 4.7 | |
| Fuel tank capacity (l) | 56 | 56 | | 60 | | 60 | |
| CO₂ EMISSIONS (g/km)* | 2WD | AWD | | Manual AWD | CVT AWD | Manual 2WD | |
| Combined | 115 | 117 | | 155 | 149 | 123 | |

* Subject to final homologation

UPDATED AYGO RANGE

A new x-clusiv special edition



bit.ly/1LNTu9J



Launched last year, the 2nd generation AYGO has become an extremely popular A-segment contender, with nearly 95,000 units already sold throughout Europe.

From its iconic frontal 'X' design to its extensive range of customisation options, all styling and engineering decisions for the latest AYGO have been specifically made with fun in mind. The line-up consists of three grades -x, x-play and x-wave- and three special editions -x-cite, x-clusiv and x-pure, which are being updated on an annual basis.

While the special editions have been created to showcase three widely differing

personalities of AYGO, customers interested in personalisation can easily create their own AYGO with a choice of two exterior and two interior packs.

Now the AYGO range is being updated with a new x-clusiv special edition, which brings an additional level of sophistication to the model line-up.

Equipped with a black canvas top, the x-clusiv features a new Electro Grey body colour with Silver Sparkle inserts for the frontal "X" graphic, front fender garnish and rear bumper insert.

The 15" five-spoke alloys come with a machine-faced finish, a Silver Sparkle cen-

tre cap and a Piano Black centre cap ring. To further highlight the side profile of the car, a chrome belt line and privacy glass are available.

Inside, the design theme is continued with Electro Grey inserts for the air vent surrounds, centre cluster and gear lever surround. Silver Sparkle is used for the instrument panel insert and accents on the floor mats, while the inside door handles are finished in chrome.

AYGO can also be equipped with 'Toyota Safety Sense', a newly developed set of active safety technologies designed to help prevent or mitigate collisions across a wide range of traffic situations.

Between speeds of approximately 10 to 80 km/h, a Pre-Collision System (PCS) detects other vehicles in front and reduces the risk of hitting them from behind by reducing speed by approximately 30 km/h or even bringing the car to a complete stop.

The Lane Departure Alert (LDA) system monitors lane markings and helps prevent accidents and head-on collisions caused by leaving lanes.

AYGO is equipped with a Euro 6 compliant 3-cylinder, 1.0 litre VVT-i petrol engine. The unit delivers class-leading fuel economy of just 3.8 l/100 km and CO₂ emissions of only 88 g/km, and can be combined with a manual transmission or 'x-shift' automated manual transmission.

The New AYGO x-clusiv will be available across Europe from February 2016.

¹ Technical name: Pre-Crash System. ² Results achieved during testing using a vehicle travelling at 30 km/h and a stationary vehicle. System operation depends on driving environment (incl. road and weather) and vehicle circumstances.

AYGO X-PLAY CONCEPT

Since its launch, AYGO has made its mark with its striking appearance and clever customisation options, which allow customers to tailor their cars to their personal taste. More than 10 parts around the vehicle can be easily replaced by alternative colours and executions, within a limited amount of time, and even after several years of ownership.

The AYGO x-play Concept demonstrates how the combination of a contrasting body colour and inserts can create a striking looking car with a unique personality.

The new Cyan Splash exterior is combined with a White Flash finish for the frontal "X" graphic, rear bumper insert,

front fender garnish, side mirrors, A-pillars and the roof to create a bi-tone execution. The 15" 10-spoke alloys are finished in White with Cyan Splash centre caps.

The interior follows the same design theme with White Flash coloured inserts for the centre console, gear lever surround and air vent. The instrument panel is executed in Cyan Splash and the door handles are highlighted in chrome.



YARIS 2016

More style and even greater appeal



bit.ly/1Fcbtlt

At Frankfurt, Yaris comes with a new Style grade, new colours and an all-new Bi-Tone version.

European sales of the Yaris have grown continuously over the last four years, rising from some 144,000 units in 2011 to an anticipated 200,000+ in 2015. Over the same period, the Yaris has also increased its B-segment market share from 4.1% to an anticipated 6.6%.

Much of this ongoing sales success may be attributed to the introduction of the Yaris Hybrid in 2012. 170,000 hybrid units have been sold since its European launch at the end of June in that year, a figure expected to rise to over 200,000 by the end of 2015. The full hybrid model currently accounts for more than 35% of all European Yaris sales and is expected to grow further.

The introduction of the Toyota Safety Sense system to the Yaris model range in June 2015 places it at the very top of its segment for active and passive safety. By the end of this year, Toyota anticipates that one in three Yaris' produced will be

equipped with the company's innovative integrated safety technology.

Bringing a breath of fresh air and even greater appeal to the Toyota Yaris range, a revised grade structure will be available throughout Europe from January 2016. It introduces bold new colours, high-quality trim and stylish upholstery finishes across the model line-up.

NEW STYLE GRADE – MOST STRIKING EXECUTION NOW AVAILABLE ON HYBRID MODELS

For the first time, the Style grade also becomes available on the Hybrid, combining our most advanced execution with the most innovative powertrain.

An enhanced Style grade features a new, Black-painted honeycomb grille with satin chrome ornament and front foglight surrounding.

The interior benefits from new, all-black seat upholstery and a new Piano black inserts inside the cabin.

BI-TONE: A NEW DYNAMIC AND ELEGANT TOUCH

Adding a touch of true élan to the Yaris range, a new Bi-Tone option combines a

metallic black 'wrap-around' exterior paint treatment with a choice of exclusive interior finishes.

Based on the Style grade, the Bi-Tone version combines a choice of Pearl White, Platinum Bronze or Barcelona Red exterior colours with a 'wrap-around' metallic Black finish to the roof, A pillars, door mirrors, upper front wing and bonnet leading edge.

Incorporating a black head liner to match the exterior roof treatment, the Bi-Tone interior offers a choice of three exclusive colour schemes; all-Black, Warm Grey or Soft-gradation Grey.

With three new Bi-Tone versions Toyota is giving customers the possibility to have their own unique Yaris execution.

The new Style grade and the new Bi-Tone version add even greater appeal to the 2016 Yaris model range.

New Style grade now available on Hybrid model.



TOYOTA MIRAI

Putting the next 100 years in motion

The Frankfurt Motor Show marks the European commercial debut of the Toyota Mirai. With the first European customers taking delivery in the coming weeks in Germany, Denmark and the UK, this is the beginning of a new era.

Through its world-leading hybrid technology, Toyota has globally popularized eco-cars, beginning with the Prius, that has contributed to the global environment like no other car. Yet, the severity of issues such as global warming, environmental pollution and the exhaustion of oil and other fossil fuels is increasing.

If we want to secure the future of the automobile as flexible, personal transport for the next 100 years, we need to consider which energy can power our cars tomorrow. At Toyota, we believe that various technologies will co-exist, ranging from EVs over hybrids to perhaps the most innovative of all, the fuel cell car or FCV.

Instead of gasoline, FCVs are fueled by hydrogen, an environmentally friendly en-

ergy source that can be produced from a variety of raw materials including solar and wind power, biofuel, and natural gas.

Moreover, they run using the energy generated on board by a fuel cell stack. The energy efficiency of FCVs is higher than that of gasoline engines and they conserve energy, as well.

They are zero emission vehicles, emitting only water during driving. They are as easy to use as conventional vehicles and are capable of long trips thanks to their range and refuelling time, both comparable to those of a petrol car.

With the launch of the Toyota Mirai, we take one step closer towards a "sustainable mobility society".





bit.ly/1JGWdec



SPECIFICATIONS

FUEL CELL STACK

| | |
|------------------------|---------------------|
| Model code | FCA110 |
| Type | Polymer electrolyte |
| Number of Cells | 370 |
| Connection method | Series |
| Max output (kW/DIN hp) | 114/155 |

DRIVE TRAIN

| | |
|------------------------------------|-------------------|
| Layout | Front wheel drive |
| Transmission gear ratio | 1.000: 1 |
| Reduction gear ratio (final drive) | 3.478: 1 |

CHASSIS

| | |
|------------------|------------------|
| Front suspension | MacPherson strut |
| Stabiliser bar | yes |
| Rear suspension | Torsion bar |
| Stabiliser bar | no |

Steering

| | |
|--------------------------------|-------------|
| Type | Rack&pignon |
| Power steering type | Electric |
| Overall ratio | 14.8: 1 |
| Lock to lock | 2.81 |
| Min. turning circle (body) (m) | 11.4 |

Brakes

| | |
|-------|-----------------|
| Front | Ventilated disc |
| Rear | Ventilated disc |
| Tyres | 215/55 R17 94W |

WEIGHT (kg)

| | |
|--------------|-------|
| Curb weight | 1,850 |
| Gross weight | 2,180 |

AERODYNAMIC

| | |
|-----------------------|------|
| Cd (Drag coefficient) | 0.29 |
|-----------------------|------|

PERFORMANCE

| | |
|------------------------|-----|
| Max speed (km/h) | 178 |
| Acc 0 - 100 km/h (sec) | 9.6 |

EXTERIOR DIMENSIONS (mm)

| | |
|------------------|-------|
| Overall length | 4,890 |
| Overall width | 1,815 |
| Overall height | 1,535 |
| Wheelbase | 2,780 |
| Tread front | 1,535 |
| Tread rear | 1,545 |
| Front overhang | 1,080 |
| Rear overhang | 1,030 |
| Ground clearance | 130 |

CARGO

| | |
|-----------------------------|-----|
| Capacity (dm ³) | 361 |
|-----------------------------|-----|

INTERIOR DIMENSIONS (mm)

| | |
|--------|-------|
| Length | 2,040 |
| Width | 1,465 |
| Height | 1,185 |

**IF WE WANT TO
SECURE THE
FUTURE OF THE
AUTOMOBILE FOR
THE NEXT 100
YEARS, WE NEED
TO CONSIDER
WHICH ENERGY
CAN POWER OUR
CARS TOMORROW**

MIRAI

1 Fuel cell stack

Toyota's first mass-production fuel cell, featuring a compact size and top level output density.

- Type: Polymer electrolyte fuel cell
- Volume power density: 3.1 kW/L (world top level *)
- Maximum output: 114 kW (155 DIN hp)
- Humidification system: Internal circulation system (humidifier-less; world-first *)

2 Fuel cell boost converter

A compact, high-efficiency, high-capacity converter newly developed to boost fuel cell stack voltage to 650 V. A boost converter is used to obtain an output with a higher voltage than the input. Number of phases: 4 phases

3 Battery

A nickel-metal hydride battery which stores energy recovered from deceleration, supplemented by energy produced by the fuel cell stack under low load driving conditions, to assist output during acceleration.

4 High-pressure hydrogen tank

Tank storing hydrogen as fuel. The nominal working pressure is a high pressure level of 70 MPa (700 bar).

| | |
|--------------------------|--|
| Nominal working pressure | 70 MPa (700 bar) |
| Tank storage density* | 5.7 wt% (world top level *) |
| Tank internal volume | 122.4 L (front tank: 60.0 L / rear tank: 62.4 L) |
| Hydrogen storage mass | Approx. 5.0 kg |

5 Motor

Motor driven by electricity generated by fuel cell stack and/or supplied by battery.

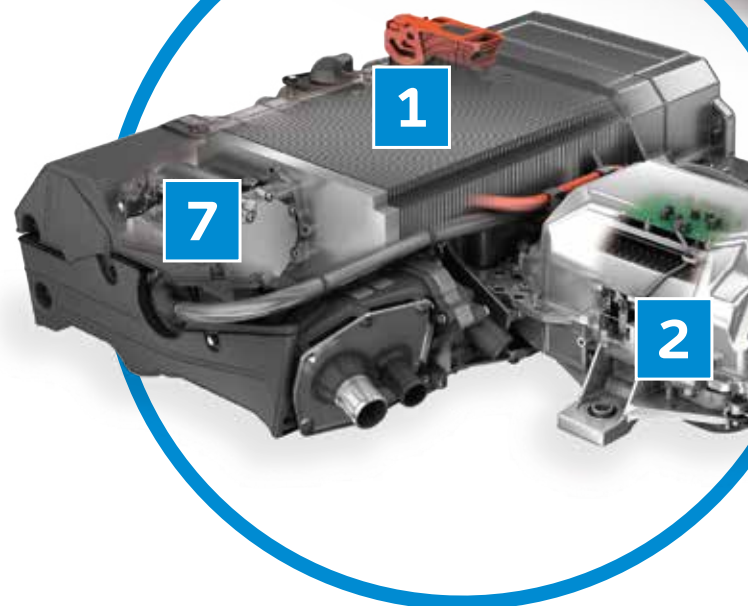
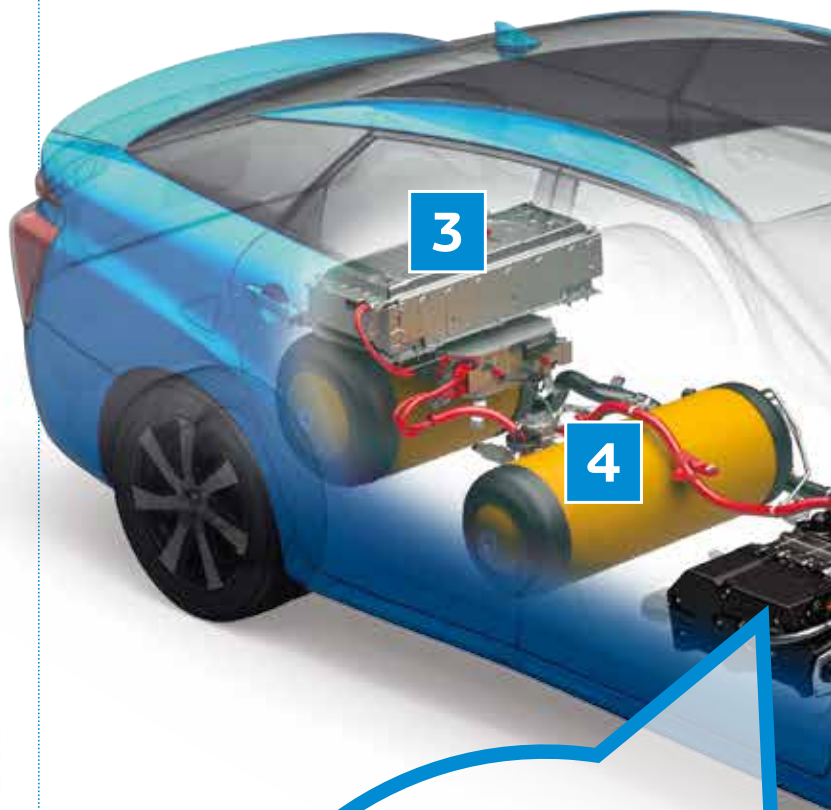
- Maximum output: 113 kW (154 DIN hp)
- Maximum torque: 335 Nm

6 Power control unit

The component that optimally controls both fuel cell stack output under various operational conditions and drive battery charging and discharging.

7 Auxiliary components

Hydrogen circulating pump, etc.

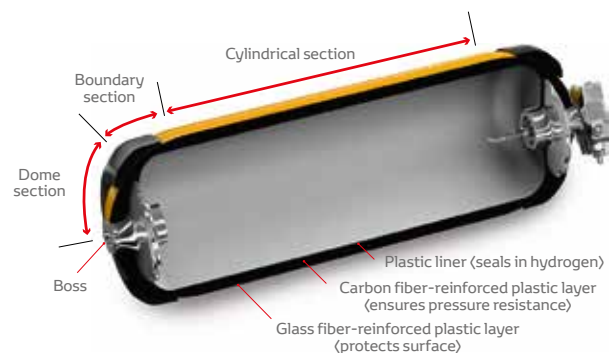




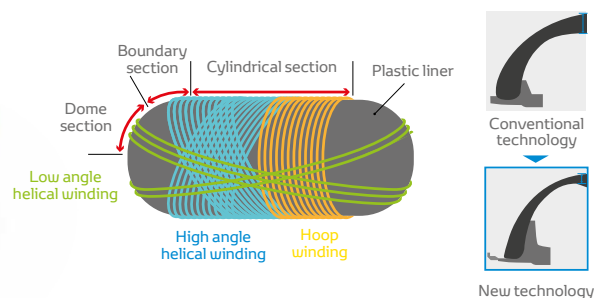
Tank storage density *1

Lighter weight achieved through innovations of carbon fiber reinforced plastic layer structure.

Tank storage density of 5.7 wt% achieved (world top level *2)



Innovations to the plastic liner configuration and efficient layering pattern resulted in a reduction of approximately 40% in the amount of carbon fiber used.

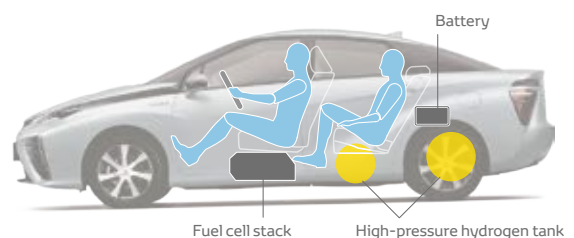


Low centre of gravity

Fuel cell stack, high-pressure hydrogen tanks and other power unit components are placed under vehicle floor.

The lower centre of gravity raises handling stability and produces a comfortable driving experience by reducing body movements.

The front-rear weight balance is adjusted to produce a midship feel despite the front wheel drive design.



*1 Hydrogen storage mass per tank weight

*2 November 2014, Toyota data

IMAGE BANK

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