

| | |
|---|----|
| 1. Toyota at the Frankfurt Motor Show | |
| World debut of Toyota Yaris and RAV4 | 2 |
| 2. New Toyota Yaris | |
| Powerful design and advanced package for top selling Toyota | 5 |
| 3. New Toyota RAV4 | |
| The all new third generation RAV4 set to storm the SUV sector | 21 |
| 4. Toyota ENDO | |
| A urban-friendly concept for modern cities | 35 |
| 5. Toyota i-unit | |
| The expansion of human mobility | 39 |
| 6. Toyota D-4D | |
| Toyota showcases its new diesel engine line-up | 43 |
| 7. New Toyota Hilux | |
| A new leisure and adventure vehicle | 53 |
| 8. Toyota AYGO | |
| New 1.4-litre diesel engine joins the line-up | 61 |
| 9. Toyota Prius | |
| Increased recognition for Hybrid Synergy Drive | 69 |
| 10. Formula 1 | |
| Panasonic Toyota Racing on the pace | 71 |

Toyota at the Frankfurt Motor Show

World debut of Toyota Yaris and RAV4

- A smarter, more sophisticated new Yaris
- Enhanced driving pleasure from new RAV4
- ENDO and i-unit, two bold new concepts
- New diesel engines for Corolla Verso and AYGO
- Next-generation Hilux
- Prius display and Toyota F1 car



This year's Frankfurt Motor Show marks the world debut of two of the most important cars for Toyota in Europe: the new Yaris and the new RAV4.

The brand new Yaris

The new Toyota Yaris builds on the strengths of the current model, with an even more advanced package and higher levels of quality, safety and comfort. With a design created by Toyota's European design studio ED², this next generation Yaris has evolved in every way.

Third generation RAV4

The RAV4 kick-started the fashionable compact SUV segment when it was first launched, 11 years ago. The third generation Toyota RAV4 will offer customers significantly more driving pleasure and performance, premium quality, advanced technology, more interior space and clever modularity.

Concept cars

Toyota ENDO is an urban-friendly concept that intends to address some of the problems of modern city life and the latest creation from ED².

The Toyota i-unit introduces an exciting new concept in human mobility, enabling the driver to interact with his or her surroundings. The inspiration for its design is the leaf, a natural expression of life on earth.

Extended customer choice

The Corolla Verso is the second Toyota, after Avensis, to receive the new Clean Power diesel engine, a 177 DIN hp unit featuring Toyota D-CAT. The car will also receive a 136 DIN hp variant of the same engine.

Also on show will be the Toyota AYGO with its new 1.4-litre diesel engine, delivering improved fuel economy.

An all-new version of Toyota Hilux will also be shown, offering increased interior space, improved driving characteristics and greater comfort and quality.

Also at Frankfurt

Visitors to the stand can also appreciate the advanced technology of the Toyota Prius and share the excitement of Toyota's Formula 1 season with the display of the Toyota F1 car.



New Toyota Yaris

Powerful design and advanced package for top selling Toyota

- Sales start at the end of 2005; a sales target of 250,000 units for next year
- Exterior design developed by ED², Toyota's European design studio
- Extensive improvements in terms of perceived quality
- Increased exterior dimensions (+110 mm length, +35 mm width, +30 mm height)
- Roomier interior, with an increase of 45 mm in couple distance (on par with C-segment cars)
- Segment's biggest boot – 737 litres (rear seats folded, loaded up to the top edge of front seats)
- Rear seats have fully independent 60/40 split for sliding and reclining
- Unique Toyota Easy Flat™ allows easy seat folding operation, with a fully flat cargo floor
- Flatter rear floor provides improved comfort for mid-seat passenger
- Adopts a 3rd generation Smart Entry & Start System, featuring a more compact key
- New audio system, with MP3 and WMA CD player, DSP amplifier and digital tuner
- ABS, EBD and Brake Assist are standard across the range
- Featuring the segment's first knee airbag
- First car to be developed according to more stringent internal car-to-car compatibility standards
- A 3-engine line-up: 1.0 VVT-i (69 DIN hp), 1.3 VVT-i (87 DIN hp) and 1.4 D-4D 90 diesel (90 DIN hp)
- Multi-mode Manual Transmission available on all engines for the first time
- Available in three equipment grades: Yaris, Yaris Luna and Yaris Sol

The 2005 Frankfurt Motor Show marks the world debut of the all-new Toyota Yaris, the second generation of Toyota's best selling model in Europe.

The new Toyota Yaris builds on the strengths of the current model. Recognised from launch as a benchmark in the B segment, the original Yaris set new standards for space and versatility through its innovative design and package.

The 1st generation Yaris, launched in 1999, was one of the first Toyota models to be designed in Europe, with the European market as a priority. It was an instant hit and continues to win new customers for Toyota in Europe.

Despite having been on the market for six years, Yaris sales have grown every year since 1999 – a record **227,616 units** were sold in 2004 and more than **1.2 million** Yaris have been sold in Europe over the life of the present model. Today, Yaris represents one quarter of all Toyota sales in Europe.

Yaris has been an award winner since launch and continues to be recognised for its design, driving appeal, package, safety and reliability. It was European Car of the Year 2000 and Japanese Car of the Year 1999-2000 (the first model to win both awards in one year). It was the safest supermini in Europe in 2000, according to Euro NCAP, and continues to be among the segment leaders.

Most recently, the German TÜV Auto Report 2005 named the Yaris as the 'most reliable car' in the four to five year old category. The recent 2005 J.D. Power Customer Satisfaction Index surveys in France and Germany have also ranked Yaris Verso and Yaris 3/5 door as first and second in their category, respectively.

The new Yaris relies on a more advanced package with much higher levels of comfort, versatility, quality and safety than its predecessor. While it features many design cues in its all-new styling, this next generation Yaris has evolved in every way.

The new Yaris will go on sale in Europe at the end of 2005 with pre-sales activities starting in October. Toyota is expecting the extra appeal of the new model to bring even more customers to the brand, with a sales target of **250,000** units in 2006 - 10% more than last year's sales result. With this new car, Toyota expects to attract customers that range from young couples to older consumer groups who seek a high quality lifestyle.

Design and perceived quality

- **Latest creation from ED² design studio**
- **Builds on Yaris character**
- **Improved quality and feel**

The new Yaris is the latest creation from **ED²**, Toyota's European design studio. It has been developed according to the brand's current design philosophy - '**Vibrant Clarity**'. It combines two different entities: one stands for dynamism and energy, while the other calls for more rational values like simplicity and logic. By doing this, Toyota intends to bring form and function together under the same package.

Purposefully, it builds on many of the characteristics and styling cues of the current model which have proved so popular with customers. They like its "Yarisness" – so the new model retains many of the body proportions while offering a more powerful stance.



Despite being a B-segment car, the new Yaris does not shy away from making a statement and has a strong road presence, created around the concept of 'powerful simplicity'. The strong shapes and attention to detail add sophistication and quality that suggests a car from a superior class while the sporting lines create a driving-orientated hatchback that will appeal to drivers of all ages and gender.

Notable design elements are the strong, mono-form shape with a stable and low centre of gravity. The integrated bumpers are a typical Yaris characteristic while the arched line under the side windows adds sporting appeal by suggesting forward motion.

The exterior design is not only modern, but also effective. The Yaris has spent over **1,000 hours** in the wind tunnel, being tested at wind speeds up to **180 km/h**, something still unusual for a B-segment car. The result is one of the lowest drag coefficients in the class – **0.30**.

Throughout the design and engineering of the new Yaris, quality has been a critical factor. Customers will discover this, not just through the robustness of the car itself, but also through the perceived quality aspects of touch, feel and sound. A modern geometric graining for the dashboard conveys a more refined look while the gaps between dashboard components have been reduced by up to **30%**. The passenger airbag cover is seamless and the colour and illumination of the centre console is consistent.

Fabric covers a larger area of the door trim and the door structure and locks have been redesigned to create a more satisfying sound when closing. Assist grips and upper glovebox covers are **damped**. In addition, centre air registers use **fin-type shutters** and all side doors adopt **double sealing**.

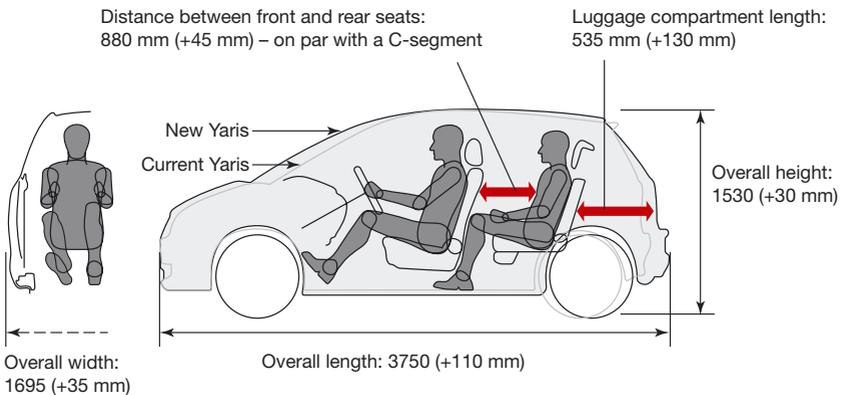
Advanced package

- Interior space further maximised
- From 272 to 737 litres of luggage space
- Unique Toyota Easy Flat™

The overall body length of the Yaris has increased by 110 mm and the wheelbase has grown by 90 mm, contributing to the squat stance. However, the body's '**cab-forward**' concept was further improved by moving the windscreen and instrument panel forward, allowing the passenger cabin to grow even more than the exterior dimensions. In addition, the new model is also 35 mm wider and 30 mm taller. In spite of that, the turning radius is actually tighter than the model it replaces – **4.7 metres (4.4 metres with 14-inch tyres)** – also beating all its direct competitors.

There is more leg room, with the front-rear couple distance up by 45 mm, now **on par with C-segment cars** (880 mm). Head room has also increased, both back and front. Both front and rear hip-points have been raised to make the car more comfortable to get in and out of. The pedals have been moved forward to make for a more comfortable driving position, particularly for taller drivers. Furthermore, the space between the front seat rails increased 38 mm, providing extra room for the feet of rear passengers.

Current model and its predecessor, package



Rear centre passenger comfort has been improved with a flatter floor configuration, achieved through a redesign of the floorpan and rerouting of the exhaust pipe.

Most notable is the greatly increased luggage space, up by **33%** from 205 litres to 272 litres (seats up) in the new model. This can grow up to **363 litres** by sliding the rear seat to its front-most position. After folding down the rear seats, a maximum volume of **737 litres** can be achieved (loaded up to the top edge of front seats), giving Yaris the **most spacious luggage room in the segment**.

This has been achieved by a much longer boot (up by 130 mm) and by a revised rear suspension design which reduces intrusion of the suspension towers by 45 mm. Boot width is up too (by 29 mm) and, in response to customer expectations, the new Yaris will now take a baby buggy without folding down the rear seats. A removable deckboard has also been incorporated into the boot, covering a 50-litre underfloor compartment. By removing it, it is possible to expand the usable boot height.

A unique feature in the segment is the **Yaris modular seating**, which allows enormous versatility in passenger and luggage carrying. The rear seat is fully adjustable and the 60/40 split seats can slide backwards or forwards over 150 mm on an independent basis. Seats can also recline independently over a 10-degree angle.

Developed from the lessons of the Corolla Verso project, the **Toyota Easy Flat™** seat folding mechanism allows quick, one-motion folding of the rear seat to a flat floor without removing seat cushions or headrests (you can even do it with the front seats in their rear-most position). The one-touch lever is located at the top of the seat back, easily accessible from the boot or cabin and making the seat folding operation **65%** quicker than on the current model.

Toyota Easy Flat™



Smart and sophisticated

- **Hi-tech equipment**
- **30% more storage space than current model**
- **Improved safety specifications**

Yaris customers enjoy innovation and the new model offers a number of hi-tech features usually only found on upper-segment cars.

The **Smart Entry & Start System** is the third generation with more compact dimensions and no 'card slot', allowing more flexibility in dashboard design. The Yaris Smart Key is **16%** more compact than in the previous system and the key slot has been eliminated from the dashboard. If the Smart Key's battery is low, the driver can now hold it close to the start switch and press the button to start the engine.

Smart Key



Start button



The new Yaris is the first car in the Toyota range to use a **new audio head unit**, which can feature the ability to play **MP3** and **WMA** files through the CD player. It has a digital audio tuner for more precise bandwidth, multi-path AM/FM noise reduction and a digital DSP amplifier with output of 40 W over four channels. The DSP is also equipped with the Live Acoustic System (Live-ACS), a feature that further highlights bass sounds without distorting mid-range acoustics. This audio system is available with a choice of 4 or 6 speakers.

The new head unit also allows the pre-installation of Toyota's Turn-by-Turn (TbT) navigation system.

The new Yaris has evolved the current model's already excellent storage capacity. Adding to the existing compartments, there is a new driver's glovebox, a centre console space to put small objects like a mobile phone, and another compartment in the driver's side that can be used to store documents. In total, the new Yaris offers **30%** more storage space than the outgoing model.

Safety is a priority. Anti-lock brakes (ABS), Electronic Brake-force Distribution (EBD) and **Brake Assist** (BA) are standard equipment fitted across all models. The brake pedal feel has been improved and disc diameter increased, to among the largest in the sector – 258 mm at the front (ventilated) and 278 mm at the rear (for vehicles produced in Europe).

The original Yaris was the safest supermini available at the time of its launch and is still among the class leaders in Euro NCAP tests. The new Yaris sets out to match and beat that achievement with a complete package of safety features targeting five stars in the current Euro NCAP tests, with three stars for pedestrian protection.

Four airbags (dual front and side) are standard with curtain shield airbags and a segment-first driver's **knee airbag** also available. There is a seatbelt warning system (with variable-intensity buzzer) for both front seat passengers. Front seatbelt pretensioners with force limiters are also standard.

Airbags



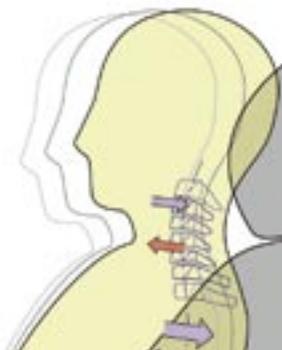
The new Yaris body structure has been developed using Toyota's **Minimal Intrusion Cabin System (MICS)** technology which effectively disperses the energy of frontal or side impacts through the body in order to divert it away from the passenger cell and minimise cabin deformation. Special 590 MPa high tensile steel has been used in the B pillar in order to better protect passengers from side impacts.

Impact energy dispersion and absorption pattern for MICS



The new Yaris is the first Toyota equipped with the second-generation **WIL (Whiplash Injury Lessening) concept seats**. This is an important development over the first generation (already recognised by Germany's auto club ADAC as the best whiplash protection system in the segment), adopting a new seat back structure and headrest design. In the event of a rear impact, the head movement can be restrained much earlier.

WIL concept seat



In addition, Yaris is equipped with other important safety features such as a **collapsible steering column** and **retractable brake pedal**, systems that move these components away from the driver

in case of a frontal impact. Furthermore, the driver can deactivate the passenger's front airbag through a **cut-off switch**.

Reflecting the importance of the Yaris for Toyota, this is the first car to be developed by the company according to **more stringent internal car-to-car crash test standards**. These simulate a 55 km/h (both vehicles travelling at 55 km/h) impact with a two-ton vehicle in frontal 50% overlap, side and rear 50% overlap collisions.

Frontal impact at 110 km/h (relative speed)



Rear impact at 55 km/h



Side impact at 55 km/h



Previous tests took place at 50 km/h but both sets of tests have great relevance to real world conditions because the majority of accidents involve impacts with other vehicles, not static objects.

A model for all customers

- **Powerful but economical engines**
- **Full-range availability of M-MT transmission**
- **Three equipment grades**

The new Yaris will offer a full model line-up from launch designed to appeal to a wide customer base but all with the same class-leading levels of performance and environmental friendliness.

The successful and highly regarded **1.3-litre, four cylinder VVT-i** petrol engine from the current Yaris range is carried over into the new model with 64 kW (87 DIN hp) at 6000 rpm and 121 Nm of torque at 4,200 rpm. Also carried over from the current range is the latest generation, highly efficient and economical **1.4-litre D-4D 90** diesel which now develops 66 kW (90 DIN hp) at 3600 rpm and 190 Nm of torque across a wide range - from 1,800 to 3,600 rpm. It takes only **10.7 seconds** (tentative figure) for the Yaris 1.4 D-4D to reach 100 km/h from a standstill, making it the fastest car in the segment amongst those equipped with 1.3-1.5 litre diesel engines.

New to the Yaris range is the advanced **1.0-litre, three cylinder VVT-i** petrol engine which was debuted in the Toyota AYGO. This engine has already received excellent reviews thanks to its flexible power output, low fuel consumption and enjoyable driving characteristics. Weighing just **67 kg**, this is the lightest engine in the car market today and is an ideal entry level choice for the Yaris range.

| | 1.0 3L VVT-i | 1.3 4L VVT-i | 1.4 4L D-4D |
|---|---------------------|---------------------|--------------------|
| Max. power (kW/DIN hp@rpm) | 51/69@6000 | 64/87@6000 | 66/90@3600 |
| Max. torque (kW/DIN hp@rpm) | 93@3600 | 121@4200 | 190@1800-3000 |
| Top speed (km/h) | 155 | 170 | 175 |
| 0-100 km/h acceleration (s) | 15.7 | 11.5 | 10.7 |
| 0-400 m acceleration (s) | 19.6 | 18.2 | 17.8 |
| Combined fuel consumption (l/100km) | 5.4 (M-MT: 5.3) | 6.0 (M-MT: 5.8) | 4.5 |
| Combined CO ₂ emissions (g/km) | 127 (M-MT: 125) | 141 (M-MT: 136) | 119 |

Note: the figures in this table are tentative

All engines will come as standard with five speed manual transmission. For the first time ever, all engines, including the 1.4 D-4D 90 diesel, will be available with the Toyota **Multi-mode Manual Transmission (M-MT)**, with automatic clutch control and a choice of manual or automatic modes to suit the driver's needs.

To reflect customer choice, Yaris will be available in three grades with high levels of standard equipment from the outset. Notably this includes power door locks, electric rear view mirrors, a CD player audio system with four speakers, Multi-Display trip computer and 185/60 R 15 tyres (not available on Yaris 1.0, entry grade, in some countries).

Higher grade models (Yaris Luna) gain telescopic steering wheel adjustment, leather steering wheel, a six speaker audio system with capability to play MP3 and WMA CDs and, at the top grade (Yaris Sol), 15-inch alloy wheels, full automatic air conditioning and, as an option, the Smart Entry & Start System.

An oval-shaped button with a silver-colored metallic ring, set against a dark, textured background. The button's surface is black and features a small, glowing yellow indicator light at the top. Below the light, the words "ENGINE", "START", and "STOP" are printed in white, bold, sans-serif capital letters, stacked vertically.

ENGINE
START
STOP

Technical specifications (preliminary)

| Engine | 1.0-litre VVT-i | 1.3-litre VVT-i | D-4D 90 |
|---------------------------------|---------------------------------|---------------------------------|---------------------|
| Engine code | 1KR-FE | 2SZ-FE | 1ND-TV |
| Type | 3 in-line cylinders | 4 in-line cylinders | 4 in-line cylinders |
| Fuel type | 95 Octane petrol (or higher) | 95 Octane petrol (or higher) | 48 Cetane diesel |
| Valve mechanism | DOHC 12-valve | DOHC 16-valve | OHC 8-valve |
| Displacement (cm ³) | 998 | 1,296 | 1,364 |
| Bore x stroke (mm) | 71.0 x 84.0 | 72.0 x 79.6 | 73.0 x 81.5 |
| Compression ratio (:1) | 10.5 | 11.0 | 17.9 |
| Max. power (kW) DIN hp/ rpm | (51) 69@6,000 | (64) 87@6,000 | (90) 66@3,800 |
| Max. torque (Nm/rpm) | 93@3,600 | 121@4,200 | 190@1,800-3,000 |
| Emissions level | EURO IV | EURO IV | EURO IV |

Transmission

| | | | | | | |
|-----------------------------|-------------------|--------|-----------------|--------|-------------------|--------|
| Type | Front-wheel drive | | | | | |
| Clutch type | Dry, single plate | | | | | |
| Engine | 1.0-litre VVT-i | | 1.3-litre VVT-i | | 1.4-litre D-4D 90 | |
| Gearbox type | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT |
| Gear ratios 1 st | 3.545 | | 3.545 | | 3.545 | |
| 2 nd | 1.913 | | 1.913 | | 1.904 | |
| 3 rd | 1.310 | | 1.310 | | 1.310 | |
| 4 th | 1.027 | | 1.027 | | 0.969 | |
| 5 th | 0.850 | | 0.850 | | 0.725 | |
| Reverse | 3.214 | | 3.214 | | 3.250 | |
| Differential gear ratio | 4.411 | | 4.055 | | 3.526 | |

| Brakes * | Standard | Optional |
|---------------------|--|----------------------------|
| Front | Ventilated discs (Ø258 mm) | Ventilated discs (Ø258 mm) |
| Rear | Drums (Ø203 mm) | Solid discs (Ø278 mm) |
| Additional features | ABS with EBD and BA (Brake Assist) | |
| | VSC standard on vehicles with rear disc brakes | |

* Vehicles produced in Europe

Steering

| | |
|--------------------------------|--------------------------------------|
| Type | Rack and pinion |
| Ratio (:1) | 14.2 (13.9 with 165/70R14 tyres) |
| Turns (lock to lock) | 3.0 |
| Min. turning radius – tyre (m) | 4.7 (4.4 with 165/70R14 tyres) |
| Additional features | Electric Motor Power Steering (EMPS) |

| Tyres | 1.0-litre, entry grade * | Standard |
|--------------|---------------------------------|-----------------|
| Tyre size | 165/70R14 | 185/60 R 15 |

* only in selected countries

Exterior dimensions

| | |
|---------------------|------------------------------------|
| Overall length (mm) | 3,750 |
| Overall width (mm) | 1,695 |
| Overall height (mm) | 1,530 |
| Wheelbase (mm) | 2,460 |
| Tread (mm) front | 1,475 (1,485 with 165/70R14 tyres) |
| Tread (mm) rear | 1,460 (1,470 with 165/70R14 tyres) |
| Front overhang (mm) | 725 |
| Rear overhang (mm) | 565 |

Interior dimensions

| | |
|----------------------|-------|
| Interior length (mm) | 1,865 |
| Interior width (mm) | 1,390 |
| Interior height (mm) | 1,270 |

Luggage compartment

| | |
|---|-------------|
| VDA luggage capacity, rear seat up (m ³) | 0.272-0.363 |
| VDA luggage capacity, rear seat down ¹ (m ³) | 0.737 |
| Length ² (mm) | 1,325 |
| Max. width (mm) | 1,310 |
| Height ³ (mm) | 910 |

¹ loaded up to the top edge of front seats

² With rear seat folded away

³ With deck board removed

| Weights | 1.0-litre VVT-i | | 1.3-litre VVT-i | | D-4D 90 | |
|---------------------------|------------------------|--|------------------------|--|----------------|--|
| Kerb weight (kg) | 980-1,035 | | 1,010-1,055 | | 1,055-1,115 | |
| Gross vehicle weight (kg) | 1,440 | | 1,480 | | 1,525 | |

| Performance | 1.0-litre VVT-i | | 1.3-litre VVT-i | | D-4D 90 | |
|--------------------|------------------------|--------|------------------------|--------|----------------|--------|
| Transmission | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT |
| Max. speed (km/h) | 155 | 155 | 170 | 170 | 175 | 175 |
| 0-100 km/h (sec.) | 15.7 | 16.9 | 11.5 | 13.1 | 10.7 | 11.8 |
| 0-400 m (sec.) | 19.6 | 20.5 | 18.2 | 18.5 | 17.8 | 18.2 |

| Fuel consumption * | 1.0-litre VVT-i | | 1.3-litre VVT-i | | D-4D 90 | |
|---------------------------|------------------------|--------|------------------------|--------|----------------|--------|
| Transmission | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT |
| Combined (l/100km) | 5.4 | 5.3 | 6.0 | 5.8 | 4.5 | 4.5 |
| Fuel tank capacity (l) | 42 | | 42 | | 42 | |

| CO₂ emissions * | 1.0-litre VVT-i | | 1.3-litre VVT-i | | D-4D 90 | |
|-----------------------------------|------------------------|--------|------------------------|--------|----------------|--------|
| Transmission | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT | 5 M/T | 5 M-MT |
| Combined (g/km) | 127 | 125 | 141 | 136 | 119 | 119 |

* According to Directive 1999/100/EC

The details of specifications and equipment provided in this press information are subject to local conditions and requirements and may, therefore, vary from country to country. Toyota Motor Marketing Europe reserves the right to alter any details of equipment and specifications without prior notice.



New Toyota RAV4

The all new third generation RAV4 set to storm the SUV sector

- All-new, modern and rugged design
- More space, more comfort, more driving pleasure
- **Integrated Active Drive System: an advanced interactive management system to enhance performance, handling and safety**
- D-4D 'Clean Power' diesel technology
- **Modular interior with flexible Toyota Easy Flat™**
- **RAV4 X : flagship of the RAV4 line-up**

The Frankfurt Motor Show marks the world premiere of the new generation of one of the most significant models ever launched by Toyota, the RAV4.

An icon in motoring history, the RAV4 kick-started the fashionable compact SUV segment when it was first launched, 11 years ago. Its unique blend of off-road capability, excellent on-road performance and rugged looks set the benchmark for a whole new segment

"I asked myself what were the features essential to an SUV," says Kiyataka Ise, Executive Chief Engineer of the New Toyota RAV4. "SUVs attract people because they are out of the ordinary - definitely different from the average passenger vehicle. The next generation RAV4 had to carry on this extraordinary flair. We gained a lot of know-how and insight with the previous models and we are fully confident we have planted that DNA into the new generation for our customers to enjoy."

The third generation Toyota RAV4 will offer significantly more driving pleasure and performance, more premium quality, advanced technology, increased interior space and innovative modularity. The all new design is rugged but modern, keeping the styling cues from the previous generations.

The new Toyota RAV4 will take SUV driving performance to a new level - thanks to its powerful engines and hi-tech drive train that features the new Integrated Active Drive System.

Interior quality and passenger comfort have been greatly improved while ingenious packaging creates more interior space and greater flexibility. The new RAV4 is equipped with Toyota's Easy Flat™ seating system, allowing the split (60/40) rear seats to be folded flat using one lever and without removing seat cushions or headrests.

Indeed, while retaining its SUV style, the new Toyota RAV4 crosses over into other vehicle segments to offer premium quality passenger car characteristics, MPV-style modularity and wagon-style interior space.

The all-new Toyota RAV4 will go on sale across Europe from February 2006.

Europe's best selling SUV

First launched in Europe in 1994, the Toyota RAV4 (Recreational Active Vehicle with 4-wheel drive) created the compact SUV segment - combining fashionable rugged styling, off-road all-wheel drive capability and excellent on-road characteristics.

The Toyota RAV4 was an instant sales success and continues to be the best selling vehicle in its segment in Europe. Almost 600.000 RAV4s have been sold in Europe since launch and, unlike some other vehicles, RAV4 has seen sales climb throughout its life-cycle. Last year, 2004, was a record with 109,059 units sold across Europe, which represented a market share of 25.6%.

New styling for 3rd generation

- **Rugged and modern design**
- **Greatly increased interior space**
- **Modular Toyota Easy Flat™ for maximum versatility**
- **RAV4 X , flagship of the RAV4 line-up**

Exterior

Each generation of RAV4 has followed the same ground-breaking design cues that created the compact sports utility vehicle market – combining versatility, design and driving dynamics .

The all-new third generation Toyota RAV4 continues this pioneering spirit and has been designed with a ‘modern and rugged’ sporting theme in mind. Its wedged lower-body design suggests agile driving performance on winding roads, while the dynamic fender shape emphasises a squat stance for stability under straight-line acceleration.

There is a clarity to the design, created by reducing the number of elements while increasing the size of each individual element. The trapezoidal grille provides a common thread of identity with other models in the Toyota SUV range and differentiates them from the core saloon models.

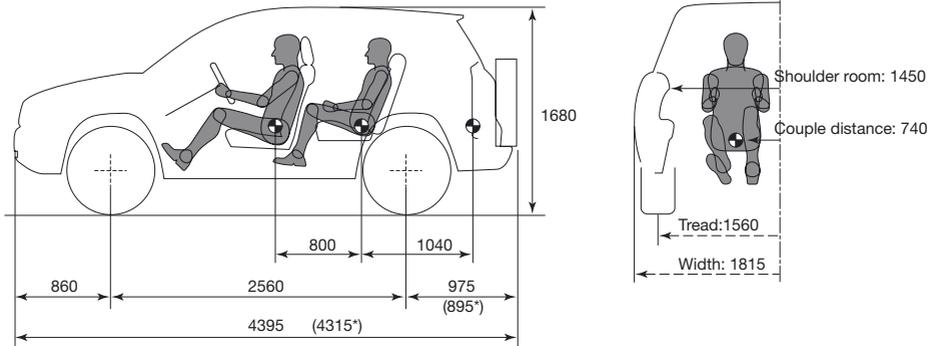
The all-new Toyota RAV4 has been created within the context of Toyota's ‘Vibrant Clarity’ design philosophy and the elements of ‘dynamic’ and ‘clear’ forms should be viewed in this context.

“Design sketches were drawn from the earliest stages of the planning. We used these drawings to gauge the reaction of customers from countries all over the world,” explains Mr. Ise, “This feedback led us to adopt ‘Modern Rugged’ as our design theme. Focusing on this theme, we sculpted a stylish yet rugged design with an air of quality, which was pleasing to all parties.”

The new Toyota RAV4 is 145 mm longer than the current generation, with a significantly increased wheelbase (+70 mm) and rear overhang. This allows greatly improved passenger comfort, with the couple distance between front and rear seats increased by 55 mm.

The width is also increased (by 80 mm) and increased shoulder space allows the front seats to be set further apart, again improving comfort. Height remains below that of many competitors, emphasising the sleek, squat styling and premium passenger car driving performance of the RAV4. Despite the lengthened wheelbase, a lower turning radius of 5.1 meters has been achieved.

Dimensions



(* = without exterior-mounted spare wheel)

The excellent aerodynamics of the new RAV4 are clearly demonstrated by its low drag co-efficient (0.31Cd) which is the best in this segment. Smooth airflow around the car contributes to better fuel consumption, quiet running at high speeds and enhanced stability.

Interior

The precision of the interior structure underlines the premium quality of the new RAV4. The elimination of any break lines, the tight panel gaps and the matching of surface levels all contribute to the excellence of the design.

“We particularly aimed for an interior design that should be typical of an SUV, yet have a premium feel,” explains Mr. Ise. *“We placed a vertical column in the centre of the instrument panel to emphasize the powerful nature of the SUV and gave the instrument panel a two-level winged shape for a premium feel. In addition, the superior quality feel is further enhanced by using new decorative trim and tight panel fit throughout.”*

Hi-tech Optitron meters are standard and practical touches are everywhere – from the illuminated front cup holder to the upper glove box for handy storage of maps and other items.

The increased exterior dimensions and significantly improved overall packaging both contribute to the spacious, quality environment which passengers enjoy inside the new RAV4. The overall cabin length, at 1885 mm (+150 mm on current model), is the best in the segment and the increased rear overhang, along with a new rear suspension layout results in dramatically improved luggage space (up by 25% over the current model to class leading levels).

But the practicality and modularity of the new RAV4 is most clearly expressed by the Toyota Easy Flat™ seating system , which is unique to this segment. Using the one-touch lever, which is easily accessible from the rear tailgate, the rear seats can be folded down into the rear floor space to leave a 'easy-flat' luggage space without the need to remove any seat cushions or headrests.

Toyota Easy Flat™ System



The rear seats are also split (60/40) for maximum flexibility and can recline on an individual basis. They can slide backward and forward over 165 mm to greatly enhance rear passenger comfort.

RAV4 X

The RAV4 X has been conceived to become the flagship of the range, challenging premium contenders in the SUV Compact segment. It will only be available with the high power 2.2 D-4D 177 DIN hp diesel engine (D-4D 180) and will be equipped with the latest technology run flat tyres. The RAV4 X will include exclusive exterior and interior features such as darkened headlamps, unique front grille, privacy glass, over fenders, and exclusive 18-inch alloy rims. An extensive range of premium features such as powered & heated leather seats, Smart Entry & Start System, rain & dusk sensors and electro-chromatic mirrors will be standard on RAV4 X, limiting the option list to a full map navigation system with Bluetooth technology, a Parking Assist Monitor and a powered sun roof.

Great driving performance

- **D-4D ‘Clean Power’ diesel technology**
- **Integrated Active Drive System: an advanced interactive management system to enhance performance, handling and safety**
- **Redesigned front and rear suspensions to enhance stability and passenger comfort**
- **Enhanced safety features such as impact absorbing chassis and segment first driver knee airbag**

The all-new Toyota RAV4 offers great driving performance and premium passenger car levels of ride, safety and comfort. There is a choice of three engines with outstanding performance and low fuel consumption, including the most powerful diesel in the compact SUV segment.

The new Toyota RAV4 is the latest model in the Toyota line-up to be offered with the new 2.2-litre D-4D diesel engines, offering a choice of either 136 DIN hp (100kW) or 177 DIN hp (130kW) Clean Power with Toyota D-CAT technology. Both engines come with a six-speed manual gearbox.

Equipped with the D-4D 180 Clean Power engine, delivering a torque of 400 Nm, the RAV4 has a maximum speed of 200 km/h and will accelerate from rest to 100 km/h in 9.3 seconds. Despite this class-leading acceleration and performance, the RAV4 remains one of the most economical vehicles in the segment, with a combined fuel consumption of 7.2 litres/100 km.

The D-4D 135 diesel offers even better economy balanced with excellent on-road performance; a top speed of 180 km/h and 0-100 km/h acceleration in 10.5 seconds. Fuel consumption, on the combined cycle, is 6.7 litres/100 km.

Both engines comply with EURO IV emissions standards and the D-4D 180 is equipped with Toyota’s unique D-CAT emissions reduction technology which reduces diesel particulates and NO_x simultaneously, making this the cleanest production diesel engine in the segment.

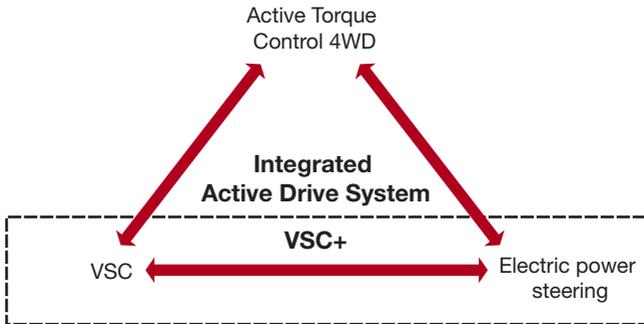
For petrol power, the new RAV4 offers the latest development of the 2.0-litre VVT-i engine with 152 DIN hp (112kW) and the choice of a five-speed manual or four speed automatic transmission. Top speed is 185 km/h (175 km/h in 4A/T) and 0-100 km/h acceleration is 10.6 seconds (12.0 seconds in 4A/T). Combined fuel consumption (manual) is 8.8 litres/100 km (9.1 litres/100 km in 4A/T).

Both on and off-road, the new Toyota RAV4 is easy to control with enhanced active safety through the high technology Integrated Active Drive System handling and safety package.

The VSC+ is a world first in this segment. In most other vehicles the anti-lock braking (ABS), traction control (TRC), vehicle stability control (VSC) and Electric Power Steering (EPS) operate independently of each other.

Toyota's VSC+ integrates these functions via the high-speed CAN communications and adds the Active Torque Control 4WD system. This interaction of all systems allows for real-time control that corresponds to driver operation and vehicle behaviour, resulting in enhanced running, turning and stopping performance.

Integrated Active Drive System



The VSC+ works with the electric power steering (EPS) to add steering torque assistance to the conventional stability control system. It anticipates the occurrence of understeer or oversteer and assists the driver by making the correct steering action easier and an incorrect action more difficult.

It also allows a better control when braking or accelerating on road surfaces with different traction characteristics under the left & right wheels, by providing additional steering torque to compensate for differences in left-right drive force.

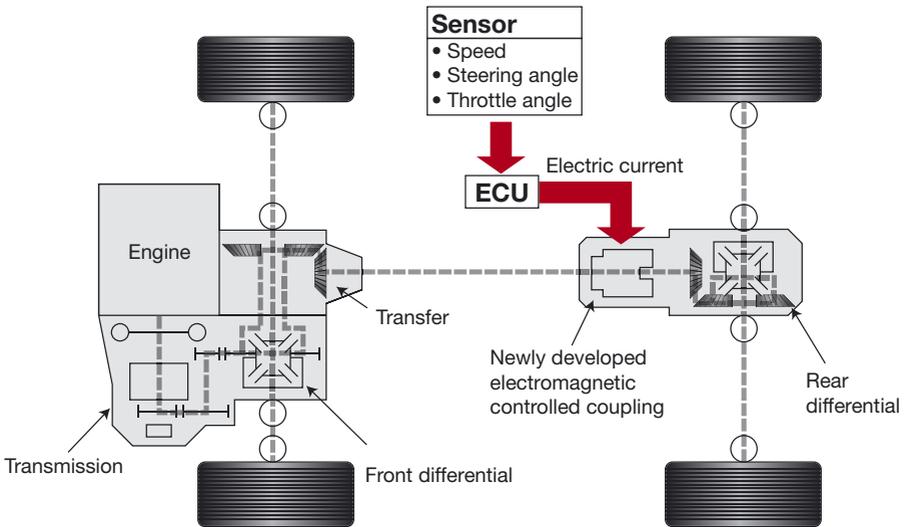
In addition, the interconnection with the Active Torque Control 4WD system allows the cooperation of VSC with the drive torque distribution. This results in minimizing any over-steering or under-steering reaction when acceleration on a slippery road surface, enabling excellent stability and acceleration performance.

An Active Torque Control 4WD system continuously monitors and controls the torque transfer between front and rear wheels. The system allows the vehicle to switch continuously between front wheel drive and four-wheel drive mode, optimising stability under all driving conditions and maximising fuel consumption. It helps to improve driving performance in terms of stability, acceleration and cornering. The conventional centre differential is removed and the electronic sensors monitor information from throttle angle, engine torque and speed, gear ratio, vehicle speed and steering angle.

Using values calculated from the sensors, the Active Torque Control 4WD system selects one of the three control modes by switching torque from front to rear:

- The 'Start-off control' ensures sufficient traction and acceleration when required. The torque distribution is 55:45.
- The 'Normal control' allows the system to switch from 4-wheel drive to front wheel drive (100:0) to ensure sufficient acceleration and improve fuel consumption. The torque distribution can then vary between 55:45 and 100:00.
- The 'Cornering control' increases cornering stability by monitoring the appropriate yaw rate that should be applied to the car.

Active Torque Control 4WD



The result is greatly enhanced performance and stability under all driving conditions; allowing more precise control in corners and under heavy braking and acceleration, and also improved fuel economy.

Frankfurt 2005

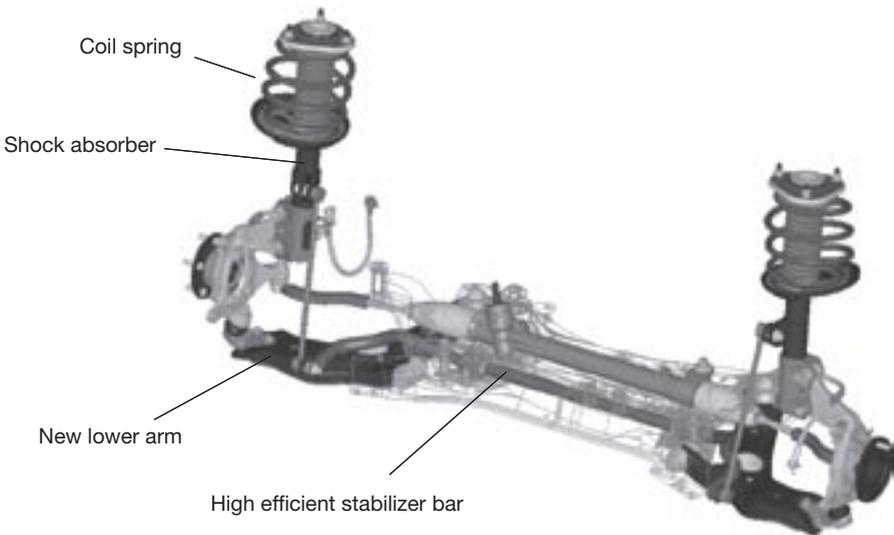
In addition, the driver has the possibility to lock the torque distribution to the 55:45 ratio by the 4WD LOCK mode switch.

Other standard control systems are hill-start assist control (HAC) which prevents the vehicle from rolling back on steep inclines and down hill assist control (DAC) which assists the driver by controlling wheel speed during steep descents (available with A/T only).

Front and rear suspensions have been completely redesigned to enhance stability and passenger comfort.

The front suspension utilises McPherson struts that have been completely re-designed from the lower arm to the coil springs and shock absorbers. The lower ball joints have been moved forward to increase the caster trail to achieve under-steering against the lateral force that occurs during cornering. And the roll centre height has been lowered to improved straight ahead driving stability.

Front suspension



The rear suspension utilises a newly developed trailing type double wishbone suspension which offers improved vehicle stability by achieving lateral under-steering during cornering. and, because the shock absorber of the rear suspension has been positioned diagonally, luggage space width has been increased by 230 mm.

Ride comfort has been improved by increasing the front and rear suspension compliance when the vehicle goes over bumps.

On-road precision is enhanced by the electric power steering (tilt and telescope steering column) while the agility of the new RAV4 is emphasised by its tight turning circle. Despite its increased overall length, the new RAV4 will now turn in 5.1 metres.

Passive safety has also been a key feature of the new RAV4 and Toyota is confident of achieving clas-leading Euro NCAP results. The newly development chassis is designed to be impact absorbing in the event of an accident with minimal cabin deformation.

The new Toyota RAV4 will be available with seven airbags: dual stage SRS driver and passenger airbags, SRS side airbags, SRS curtain shield airbags across front and rear and, for the first time in this segment, a driver's knee airbag.

“The launch of our first Recreational Active Vehicle with 4-wheel drive in 1994, has created one of the most dynamic trend in the automotive industry in recent years.” says Andrea Formica, Vice President, Sales & Marketing, Toyota Motor Marketing Europe. *“This success story has strongly contributed to Toyota’s image in Europe. Today with a unique blend of technology, versatility and quality, the all-new third generation RAV4 will once again reset the standards it established a decade ago, while redefining customers expectations”*

Technical specifications (preliminary)

| Engine | 2.0-litre VVT-i | D-4D 135 | D-4D 180 |
|---------------------------------|---------------------|---------------------|---------------------|
| Type | 4 in-line cylinders | 4 in-line cylinders | 4 in-line cylinders |
| Fuel type | 95 Octane petrol | 95 Octane petrol | 48 Cetane diesel |
| Valve mechanism | DOHC 16-valve | DOHC 16-valve | DOHC 16-valve |
| Displacement (cm ³) | 1,998 | 2,231 | 2,231 |
| Bore x stroke (mm) | 86.0 x 86.0 | 86.0 x 96.0 | 86.0 x 96.0 |
| Compression ratio (:1) | 9.8 | 16.8 | 15.8 |
| Injection pressure (bar) | - | 1,700 | 1,800 |
| Max. power (kW) DIN hp/rpm | (112) 152 | (100) 136@3,600 | (130) 177@3,600 |
| Max. torque (Nm/rpm) | 195 | 310@2,000-2,800 | 400@2,000-2,600 |

Transmission

| | | | | |
|-------------------------|-------------------------------|-------|-----------------|-----------------|
| Type | Electronically-controlled 4WD | | | |
| Clutch type | Dry, single plate | | | |
| Engine | 2.0-litre VVT-i | | D-4D 135 | D-4D 180 |
| Gearbox type | 5 M/T | 4 A/T | 6 M/T | 6 M/T |
| Gear ratios | 1 st | 3.833 | 3.938 | 3.818 |
| | 2 nd | 2.045 | 2.194 | 1.913 |
| | 3 rd | 1.333 | 1.411 | 1.218 |
| | 4 th | 1.028 | 1.019 | 0.880 |
| | 5 th | 0.820 | - | 0.809 |
| | 6 th | - | - | 0.711 |
| | Reverse | 3.583 | 3.141 | 4.139 |
| Differential gear ratio | 4.562 | | 4.312 (1st-4th) | 4.312 (1st-4th) |
| | | | 3.631 (5th-6th) | 3.631 (5th-6th) |

Brakes *

| | |
|---------------------|--|
| Front | Ventilated discs (Ø296 x 28 mm) |
| Rear | Solid discs (Ø281 x 12 mm) |
| Additional features | ABS |
| | EBD (Electronic Brake-force Distribution) |
| | BA (Brake Assist) |
| | TRC (Traction Control) |
| | VSC (Vehicle Stability Control) |
| | HAC (Hill-start Assist Control) |
| | DAC (Downhill Assist Control) on models with A/T |

| Steering | 2.0-litre VVT-i | D-4D 135 | D-4D 180 |
|--------------------------------|-------------------------------|-----------------|-----------------|
| Type | Rack and pinion | | Rack and pinion |
| Ratio (:1) | 14.4 | | 14.6 |
| Turns (lock to lock) | 2.8 | | 2.7 |
| Min. turning radius – tyre (m) | 5.1 | | 5.4 |
| Additional features | Electric Power Steering (EPS) | | |

| Tyres | 2.0-litre VVT-i | | D-4D 180 | |
|--------------|----------------------------|--|---------------------------|------------------|
| | D-4D 135 | | | |
| Availability | Standard | Optional | Standard | Optional |
| Tyre size | 215/70 R 16 | 225/65 R 17 | 235/55 R 18 (run-flat) | 225/65 R 17 |
| Wheel type | 16" x 6.5J (wheel caps) | 17" x 6.5J (styled steel) 17" x 7J (alloy) | 18" x 7.5J (alloy) | 17" x 7J (alloy) |

Exterior dimensions

| | |
|-----------------------|---------------|
| Overall length (mm) | 4,395 (4315*) |
| Overall width (mm) | 1,815 |
| Overall height (mm) | 1,685 |
| Wheelbase (mm) | 2,560 |
| Tread front (mm) | 1,560 |
| Tread rear (mm) | 1,560 |
| Front overhang (mm) | 860 |
| Rear overhang (mm) | 975 (895*) |
| Drag coefficient (Cd) | 0.31 |

* Without exterior-mounted spare wheel

Interior dimensions

| | |
|----------------------|--------------------------|
| Interior length (mm) | 1,805 |
| Interior width (mm) | 1,495 |
| Interior height (mm) | 1,240 (1,165 w/ sunroof) |

Luggage compartment

| | |
|--|-----------------------|
| VDA luggage capacity (m ³) | 450 + 63 (underfloor) |
|--|-----------------------|

| Weights | 2.0-litre VVT-i | | D-4D 135 | D-4D 180 |
|------------------------------------|------------------------|-------|-----------------|-----------------|
| Transmission | 5 M/T | 4 A/T | 6 M/T | 6 M/T |
| Kerb weight (kg) | 1,465 | 1,505 | 1,585 | 1,595 |
| Gross vehicle weight (kg) | 2,070 | 2,110 | 2,190 | 2,190 |
| Towing capacity, w/ brakes (kg) | 1,500 (opt: 2000) | 1,500 | 2,000 | 2,000 |
| Towing capacity, w/o brakes (kg) | 750 | 750 | 750 | 750 |

| Performance | 2.0-litre VVT-i | | D-4D 135 | D-4D 180 |
|--------------------|------------------------|-------|-----------------|-----------------|
| Transmission | 5 M/T | 4 A/T | 6 M/T | 6 M/T |
| Max. speed (km/h) | 185 | 175 | 180 | 200 |
| 0-100 km/h (sec.) | 10.6 | 12.0 | 10.5 | 9.3 |

| Fuel consumption * | 2.0-litre VVT-i | | D-4D 135 | D-4D 180 |
|---------------------------|------------------------|-------|-----------------|-----------------|
| Transmission | 5 M/T | 4 A/T | 6 M/T | 6 M/T |
| Combined (l/100km) | 8.8 | 9.1 | 6.7 | 7.2 |
| Fuel tank capacity (l) | 60 | | 60 | 60 |

| CO₂ emissions * | 2.0-litre VVT-i | | D-4D 135 | D-4D 180 |
|-----------------------------------|------------------------|-------|-----------------|-----------------|
| Transmission | 5 M/T | 4 A/T | 6 M/T | 6 M/T |
| Combined (g/km) | 209 | 218 | 177 | 190 |

* According to Directive 1999/100/EC

The details of specifications and equipment provided in this press information are subject to local conditions and requirements and may, therefore, vary from country to country. Toyota Motor Marketing Europe reserves the right to alter any details of equipment and specifications without prior notice.



Toyota ENDO

A urban-friendly concept for modern cities

- **Latest creation from Toyota's European design studio, ED²**
- **3 metres exterior length, comfortably seating 4 passengers and luggage**
- **Two-link hinge system for doors allows entry and exit in tight places**
- **Innovative dashboard display features a wealth of information and customisation possibilities**
- **A multitude of seat positions provide a high level of modularity**

The Frankfurt Motor Show marks the world premiere of ENDO, Toyota's latest concept for an urban-friendly car developed to tackle the challenges of modern city life.

After CS&S (Frankfurt 2003) and Motor Triathlon Race Car (Geneva 2004), ENDO is the third concept car conceived by ED², Toyota's European design studio – all designed within the context of the Vibrant Clarity design philosophy which now underpins all Toyota styling.

The design concept for ENDO takes, as its starting point, the city environment. Urban areas form an increasing difficult challenge for automotive designers and city planners – shortage of space, emissions and traffic congestion all make the city less inviting but customers still demand personal mobility.

ENDO is an urban-friendly solution that intends to address some of these problems. Its compact dimensions and low kerb weight allow a better use of space and low emissions, while simultaneously seating four passengers in comfort and allowing additional luggage space.

ENDO is short, at 3 metres long, but tall (1.52 m) and wide (1.69 m) to create ample interior space. Its advanced versatility and modularity provide its passengers with solutions that will improve their everyday city journey.

The designers were working within the 'Vibrant Clarity' design philosophy which is enabling Toyota to take a new direction towards fresher, more animated models now and in the future. These models will stand out from the mainstream and help redefine Toyota's new global identity.

Keywords which suggest Vibrant are Invigorating and Engaging; while Clarity is suggested by words such as Clear, Logical and Simple.

There are four elements which come together to create Vibrant Clarity, being also clearly expressed in ENDO:

- P – Proportion
- A – Architecture
- S – Surface
- S – Special touch.

The proportions of ENDO are specific to its concept – with maximised width and the short, ideal urban length. Indeed, the proportions are optimised for four people.

The architecture of ENDO is clear and expressive with the intersection of its two main elements; the upper cabin which is oval in shape and the lower free-form section which creates a more emotional protective base.

The surface is clean and tense, highlighted by the dramatic sweeping shoulder line to promote a simple, hi-tech image.

The special touches of ENDO are in its interior versatility and high technology features. In keeping with the compact philosophy, getting in and out of ENDO has been greatly improved by the innovative use of a two-link hinge system for the front doors that allows a large opening in confined spaces. Again, this is an important factor in the tailgate design, which can be easily opened and closed even when parked in tight spaces.

Side door with 2-link hinge and practical tailgate



The predominant feature of the instrument panel is the large information screen that spans the entire width of the car. The size promotes an unparalleled ease of use and delivers a strong IT image. In addition to the meters, navigation, audio, air conditioning and rear view functions, this display can also feature user-defined information such as e-mail, internet, with endless individual customized settings.

Dashboard wide information screen



The user can also change the background colour of the screen and its illumination is reflected on the white door trim, creating a special interior ambience. The large glass roof further reinforces this unique atmosphere.

The width aspect of ENDO is also utilized on the floor, allowing increased functionality. The front passenger seat can be freely moved in four directions, front, back, left and right. This free movement allows for usable storage space next to the passenger seat as well as improved access to the rear.

Rear-seat modularity features



The rear seats show unique functionality with back rests that can be rotated in several different directions and it is extremely simple to tailor the interior to the users needs, whether it be four seats, three seats with a table or two seats with increased luggage space.

In this way, ENDO can be adapted to suit the hectic and rapidly changing lifestyles of urban families of the future.



Toyota i-unit

The expansion of human mobility

- **A new mobility concept to inspire the individual**
- **European premiere; developed for exhibition at Expo 2005, Aichi, Japan**
- **Design is inspired by a leaf**
- **Leading edge IT features including biometric recognition**

Visitors to the Toyota stand at the Frankfurt Motor Show will be introduced to an exciting new concept in human mobility – the Toyota i-unit. The i-unit has been developed for exhibition and performance at the Toyota Group pavilion at Expo 2005, Aichi, Japan and is being shown in Europe for the first time.

The inspiration for the i-unit design is the leaf, a natural expression of life on earth. The organic form of the i-unit blends with the landscape and becomes one with the passenger, moving like a living thing. Travelling through the environment and reacting to its surroundings, the i-unit grows with you.

Yoshiaki Kato, chief engineer of the i-unit R&D team says: “Freedom of movement brings out the individual in each of us, directly affecting society and the earth as well. Movement changes the self and, in turn, the direction of society. This is what I wish to express with i-unit.

“It is a tool that people of every generation will find attractive and want to ride; once they ride it, they will see that it seems alive. For me, the ideal future society would not be an inorganic one surrounded by machines but one where nature and life flourish together, and in which human beings live naturally.”

The i-unit is not much bigger than a person. It offers space-saving mobility and can run indoors and out; turning in its own length if necessary. The i-unit’s variable positioning system changes vehicle height depending on speed, which depends on driving environment.

In low speed, upright mode, i-unit allows you to interact with the world around you. Your eye level in the cabin will be the same as that of people around you. You can communicate with people around you from the open i-unit cabin.

In reclined position in high-speed mode, the i-unit becomes your own futuristic sports car. With a low centre of gravity and exceptional stability, i-unit allows you to make every turn in your imagination; just like skateboarding or running. The i-unit is an extension of your body.



And, on the open highway, automated driving is possible in dedicated lanes as your i-unit uses a network to run in file formation with other i-units and communicate with the road ahead. Accidents and congestion are a thing of the past.

Your encounter with i-unit begins when you call it on your personal portable terminal. The i-unit recognises you through its personal recognition system that distinguishes passengers by their palms and facial features.

i-unit reacts to your personal mood. The driver monitor unit provides music and information according to your emotions, physical condition and personal preferences. Even the body colour can change and be customised through LEDs.

Movement with i-unit is intuitive, just like using your hands and feet. Push the drive-by-wire controller forward to move forward or left to turn left, and so on. Independent right and left front wheel steering controls and rear in-wheel motors control the movement, allowing the passenger complete control – drive at high speed or manoeuvre on the spot.

An **IT controller** transmits various driver support information using natural senses; sound, light and vibration. A display system detects and superimposes the vehicle position over an actual view of the driving environment. These features, together with communication based on a directional voice and audio system, allow for user friendly and realistic interaction.

The **Intelligent Transport Systems (ITS)** prevent accidents before they happen. The driver support system detects the vehicle surroundings and communicates the position relative to other cars and the road infrastructure to support safe and comfortable driving.

Of course, i-unit is environmentally friendly throughout its lifecycle. **Kenaf**, a natural fibre, is used in the body and parts made by injection moulding, such as the armrests, are created from polylactate.

Aichi Expo 2005

The Aichi Expo 2005 in Japan has been running from March 25 to September 25, 2005.

Within the context of the Aichi exposition, the Toyota Group seeks to showcase various modes of transport to fulfil the needs of an affluent future society and, at the same time, reduce the impact on the environment. The performance that takes place in the Toyota Group Pavilion portrays these goals with the introduction of futuristic vehicles and robots.

Visitors to the Aichi Expo 2005 are also able to experience Toyota's next generation transportation systems, such as IMTS (Intelligent Multi-mode Transit System) and fuel-cell hybrid vehicles that carry them around the Expo grounds.



Toyota D-4D

Toyota showcases its new diesel engine line-up

- **Major role in Toyota sales growth**
- **Unique combination of advanced technologies**
- **More performance, better fuel economy**
- **D-4D Clean Power for Avensis, Corolla Verso and new RAV4**

This year's Frankfurt Motor Show (IAA) is a showcase for Toyota's diesel engine brand, D-4D. Now widely available throughout the model range, the D-4D range is being extended with the launch of 2.2-litre D-4D engines in the Corolla Verso and the new RAV4, and a 1.4-litre D-4D 90 DIN hp in the new Yaris.

The advanced D-4D engines are playing an important role in the growth of Toyota in Europe. Toyota was the first Japanese car manufacturer to develop advanced diesel technology for the European market. Today, 41% of all Toyota vehicles sold in Europe are powered by D-4D engines.

European customers were introduced to D-4D (stands for Direct Injection, 4-stroke Diesel) with the Toyota Avensis 2.0-litre D-4D in 1999. The 110 DIN hp engine introduced a number of new technologies which continue to form the basis of the D-4D range but which have been continuously developed and refined.

At the heart of all Toyota D-4D engines are the same common objectives: performance, fuel economy, reduced emissions and quietness. These objectives are achieved by combining the latest advances in Toyota diesel engine technology:

- High pressure common rail: now in its third generation on the most advanced engines but always ensuring constant fuel pressure and economy.
- Direct diesel injection: electronically controlled for maximum precision and fuel efficiency with combustion taking place at the piston head, not in a side chamber
- Turbo intercooler: ensuring maximum efficiency from the turbocharger and subject to continuous improvement to meet modern driving standards
- Overhead cam construction: allowing precise control of valve opening with low maintenance and excellent durability

The full range of D-4D engines now available in Europe includes:

Passenger cars

| | Engine displacement/output | Model availability |
|-----------------|---|---|
| D-4D 90 | 1.4-litre, 90 DIN hp | New Yaris, Corolla |
| D-4D 115 | 2.0-litre, 116 DIN hp | Corolla, Avensis, Avensis Verso, Previa |
| D-4D 135 | 2.2-litre, 136 DIN hp | Corolla Verso, new RAV4 |
| D-4D 150 | 2.2-litre, 150 DIN hp | Avensis |
| D-4D 165 | 3.0-litre, 166 DIN hp | Land Cruiser |
| D-4D 180 | 2.2-litre, 177 DIN hp, Clean Power with Toyota D-CAT technology | Avensis, Corolla Verso, new RAV4 |
| D-4D 205 | 4.2-litre, 204 DIN hp | Land Cruiser 100 |

Light commercial vehicles

| | Engine power | Model availability |
|-----------------|--------------------------------|---------------------------|
| D-4D 90 | 2.5-litre, 88 DIN hp | Hiace, Dyna |
| D-4D 100 | 2.5-litre, 102 DIN hp (Nm 200) | Hilux |
| D-4D 100 | 2.5-litre, 102 DIN hp (Nm 260) | Hilux, Hiace, Dyna |

D-4D 180 Clean Power, Toyota's flagship diesel engine

- **D-4D 180 available on Avensis, Corolla Verso and shortly on new RAV4**
- **Outstanding performance and low emissions**
- **Combination of advanced technologies**
- **Available with unique Toyota D-CAT system**

The latest development of the D-4D brand is the D-4D 180 Clean Power engine.

The first Toyota Clean Power engine is available in the Avensis and Corolla Verso and soon in the new RAV4. It offers outstanding performance and superior emissions control in one package. Indeed, the D-4D 180 is the cleanest diesel engine in its class (for combined NO_x and PM emissions).

Clean Power is a combination of advanced technologies in engine design, injection control and exhaust after-treatment to achieve high performance, low fuel consumption, low noise and ultra-low emissions. Key features of the Clean Power are the all-aluminium engine block construction, low compression ratio, advanced turbocharger technology and constant, high pressure common rail fuel feed through piezoelectric injectors.

The 2.2-litre D-4D 180 Clean Power engine benefits from Toyota's unique D-CAT exhaust after treatment system. Toyota D-CAT (Diesel Clean Advanced Technology) is an integrated suite of technologies that have been combined to reduce harmful emissions to the lowest level seen in any modern diesel engine today. The technology allows the engine to largely surpass strict EURO IV emission standards by greatly reducing hydrocarbons (HC), Carbon Monoxide (CO), Nitrogen Oxides (NO_x) and Particular Matter (PM) emissions.

At the very heart of the Toyota D-CAT is the Diesel Particulate NO_x Reduction (DPNR). This is another pioneering technology by Toyota. The system reduced PM, NO_x, HC and CO at the same time. By simultaneously and continuously reducing both PM and NO_x in diesel exhaust gasses, DPNR transforms the diesel engine into a much cleaner power source, where all harmful emissions are reduced to extraordinarily low levels.

Most crucially, and unlike most particular filters found on the market, DPNR is maintenance-free and doesn't require any component replacement.

Thanks to Toyota's D-CAT, the D-4D 180 Clean Power engine boasts the smallest combined NO_x and PM emissions in comparison to all diesel engines in its segment. The unit enjoys segment-beating levels of power and torque (177 DIN hp and 400 Nm between 2,000 and 2,600 rpm), combined with the lowest Noise, Vibration and Harshness (NVH), and lower fuel consumption among engines of equivalent power.

Corolla Verso gets 2 new engines: D-4D 180 and D-4D 135

- Greater driving pleasure with 2.2-litre D-4D engine range
- Most powerful diesel engines in segment
- Outstanding low levels of noise, vibration and harshness (NVH)
- Fuel efficient, six speed manual transmission

The Toyota Corolla Verso range is to be extended in October with option of Toyota's new and widely acclaimed 2.2-litre D-4D diesel engines: D-4D 180 and D-4D 135. The new engines will bring increased performance and greater driving pleasure to the Corolla Verso, which is already challenging conventional thinking in the compact MPV segment.



New D-4D 180 Clean Power

- **177 DIN hp, 400 Nm**
- **Adopting Toyota D-CAT**
- **Injection system adopt piezoelectric injectors**

The new D-4D 180 Clean Power allows the Corolla Verso to truly express its driving potential. By offering superior handling performance, a commanding driving position and smooth torque delivery, the engine really does make driving the Corolla Verso an entirely pleasurable experience.

The new engine is the most powerful diesel in the compact MPV segment and the first truly high-power diesel in a car of this type. The Corolla Verso accelerates to 0-100 km/h in just 9.0 seconds, before reaching a top speed of 205 km/h. Yet, fuel consumption has been kept to a low of 6.6 l/100km in combined cycle.

Toyota D-CAT is not the only advanced technology on this remarkable engine. This is the first time in this segment that piezoelectric injector technology has been used – allowing faster and more accurate fuel injection during the combustion cycle. Running up to pressures of 1800 bar, the Toyota piezoelectric common-rail system can deliver five fuel injections per cycle resulting in greater efficiency and reduced combustion impact.

In fact, at 15.8:1, the D-4D 180 engine on the Corolla Verso boasts the segment's lowest compression ratio. The lower compression ratio means the engine needs less effort to compress the mixture and this, in turn, results in lower noise, higher efficiency, better performance and lower fuel consumption.

The new D-4D 180 diesel engine on the Corolla Verso has been equipped with the latest Toyota-engineered ceramic glow plugs. Few materials have greater heat-resistance than ceramic and its ability to withstand much higher temperatures allows the Toyota ceramic glow plug to maintain the same efficiency rates for a much longer period than conventional metallic glow plugs would allow.

Furthermore, the thermal conductivity of ceramics far exceeds that of metals. Therefore, the ceramic glow plugs are able to reach the ideal temperature quicker than metallic ones. This leads to more rapid cold starts at lower air temperature.

New D-4D 135

- **136 DIN hp power output**
- **0-100 km/h in 10.0 seconds**
- **6.3 l/100km combined fuel consumption**

The new D-4D 135 engine is expected to be the best seller in the revised Corolla Verso line-up and replaces the current 116 DIN hp 2.0 D-4D unit. It will be available across the model range and offers customers more power, smoother driving and a remarkable combination of performance and economy.

Although not as powerful as the D-4D 180 unit, this engine still puts the Corolla Verso into the sporting compact MPV bracket. It will accelerate to 100 km/h in 10.0 seconds and goes on smoothly to a top speed of 195 km/h. Most importantly, with 310 Nm of torque kicking in a just 2000 rpm, it will provide Corolla Verso with outstanding acceleration and safe overtaking in real world driving conditions.

And this is achieved without sacrificing fuel consumption. The D-4D 135 engine can achieve 6.3 l/100km on the combined cycle and has a low CO₂ rating of just 167 g/km.

Refined 6-speed manual transmission

- **Improved gearchange**
- **Advanced 3-axis configuration**
- **Compact design**

Both new derivatives of the 2.2-litre D-4D diesel engines in the Corolla Verso range will come as standard with Toyota's own six-speed manual transmission which boasts smooth, quick and precise gear-change. The six gear ratios are carefully selected to allow drivers to make the most of the new performance available to them, while maintaining excellent fuel consumption.

A multi-cone synchroniser from first to fourth gears, which requires less force to manoeuvre, has contributed to the sense of smooth and more precise gear-shifting. The gearbox uses a slide ball-bearing in the select lever shaft and fork shaft (for high shift efficiency) as well as a shift-guide plate to decrease the amount of free play after shift. The re-shaped mass damper also improves shift smoothness.

The use of a three-axis construction has allowed for a 17% reduction in length, compared to the conventional two-axis configuration. Measuring a mere 384 mm in length, this gearbox beats all other six-speed transmissions of identical or sometimes inferior torque capacity.

Lower noise levels

- **Thicker bonnet insulation**
- **Special material in engine undercover**
- **Improved floor and tunnel silencers**

With the installation of the new 2.2-litre D-4D, the Corolla Verso has received a new NVH package. The result is that the new car has been significantly improved over competitors in the compact MPV sector.

Improved features include a thicker bonnet insulation and additional sound-insulation components in the engine compartment. The engine undercover benefits from special absorbent material, as does the fender liner and the level of thickness has also been increased on both the floor and tunnel silencers.

Dynamic & versatile

- **Segment's unique Toyota Easy Flat-7™**
- **Awarded 5 stars by Euro NCAP**
- **New Luna grade and Premium Active Pack**

The Toyota Corolla Verso is already challenging the way customers views cars in the compact MPV segment. The old notion that practicality should automatically mean “boxy” design has been challenged with this car.

The Corolla Verso is packed with innovative design solutions, allowing seven people to sit in comfort within its compact overall length. Thanks to Toyota's Easy Flat-7™ system, the Corolla Verso is the only 7-seater MPV in the sector that allows for all five rear seats to be folded flat - and the folding system is the easiest to operate in this segment.

The Toyota Corolla Verso is one of the top players in its segment when it comes to safety. The car features Minimal Intrusion Cabin System (MICS) – an impact absorbing structure that helps to reduce impact in the event of a collision- , and the Corolla Verso lives up to Toyota's reputation for safety having won a maximum five-star rating by Euro NCAP, as well as an additional four stars for child safety. The Corolla Verso features some segment-firsts; such as the driver's knee airbag and the innovative Cornering Assist Monitor (CAM), which helps the driver see around blind corners.

In launching the new engines, Toyota has added a mid-range specification, the Luna, between the two current Terra and Sol grades. The D-4D 180 diesel comes with a new Premium active pack which includes a complete sporty and premium package including specifications such as 17” alloy wheels, privacy glass, premium trim.

Thanks to the extra appeal of the new engines, Toyota aims to sell as many as 95,000 units of the Corolla Verso this year and to increase its segment share from 4.6% to 6.2%.

Technical specifications Corolla Verso

| Engine | D-4D 135 | D-4D 180 |
|---------------------------------|---|-----------------------------------|
| Type | L4 w/ Variable Nozzle Turbocharger and intercooler | |
| Cylinder head material | Aluminium | |
| Engine block material | Aluminium | |
| Fuel type | 48 cetane diesel (or more) | |
| Injection type | Direct injection common-rail, multiple fuel injection | |
| Emission control system | Oxidation catalyst | Toyota D-CAT + oxidation catalyst |
| Valve mechanism | DOHC 16-valve | |
| Displacement (cm ³) | 2,231 | |
| Bore x stroke (mm) | 86.0 x 96.0 | |
| Compression ratio (:1) | 16.8 | 15.8 |
| Injection pressure (bar) | 1700 | 1800 |
| Max. power (kW) DIN hp/rpm | (100) 136@3600 | (130) 177@3600 |
| Max. torque (Nm/rpm) | 310@2000-2800 | 400@2000-2600 |

Transmission

| | | | |
|------------------|---|-------|-------|
| Drive type | Front wheel drive | | |
| Gearbox type | 6-speed manual | | |
| Gear ratios | 1 st | 3.538 | 3.538 |
| | 2 nd | 1.913 | 1.913 |
| | 3 rd | 1.219 | 1.219 |
| | 4 th | 0.881 | 0.881 |
| | 5 th | 0.810 | 0.810 |
| | 6 th | 0.674 | 0.638 |
| | Reverse | 3.831 | 3.831 |
| Final gear ratio | 1 st - 4 th | 4.059 | 4.059 |
| | 5 th , 6 th , Reverse | 3.450 | 3.450 |

Performance

| | | |
|-------------------|------|-----|
| Max. speed (km/h) | 195 | 205 |
| 0-100km/h (s) | 10.0 | 9.0 |

Fuel consumption (l/100km)

| | | |
|-------------|-----|-----|
| Combined | 6.3 | 6.6 |
| Extra-urban | 5.3 | 5.7 |
| Urban | 8.0 | 8.3 |

* According to Directive 1999/100/EC

CO₂ emissions (g/km)

| | | |
|-------------|-----|-----|
| Combined | 167 | 175 |
| Extra-urban | 141 | 151 |
| Urban | 211 | 219 |

* According to Directive 1999/100/EC

Other emissions* (g/km)

| | | |
|-----------------|--------|--------|
| NO _x | 0.219 | 0.147 |
| PM | 0.0167 | 0.0026 |
| CO | 0.097 | 0.207 |

* According to Directive 1999/100/EC



New Toyota Hilux

A new leisure and adventure vehicle

- **Sixth generation of Toyota's second-best worldwide seller**
- **Developed under the global IMV project**
- **Sales in Europe to start from October**
- **An European sales target of 25,000 units for 2006**
- **Offering a wide range of bodystyles (Single, Extra and Double Cab)**
- **More spacious cabin, with a wealth of quality refinements**
- **45% increase in chassis torsional stiffness, providing better dynamic performance**
- **Newly improved suspension, with 1.5 times higher roll resistance**
- **2.5-litre D-4D 100 engine equipped with 2nd generation common-rail system**
- **Improved transmission contributes to an upgrade in overall refinement**

The new Hilux is the sixth generation of Toyota's second best-selling model worldwide (after Corolla). More than 12 million units have been produced since the vehicle was first sold in Japan in 1967.

The history of Hilux has been a story of continuous development and improvement based on customer needs all over the world. Over the years Hilux has built a reputation for toughness, reliability and power on all continents. In creating the new Hilux, Toyota has set out to develop a new leisure and adventure vehicle for a global market that inherits the build quality, durability and reliability of its predecessors.

The new Toyota Hilux is one of three vehicles being developed on a global basis under Toyota's IMV (Innovative International Multi-purpose Vehicle) project.

IMV products are truly global vehicles designed to sell in more than 140 countries and to meet modern customer demand for high levels of quality, durability and comfort. The IMV vehicle production base includes South Africa, Thailand, Indonesia and Argentina. Major components such as diesel engines come from Thailand and manual transmissions from India.

In Europe, Toyota will take production of the new Single Cab and Double Cab Hilux from South Africa while the Extra Cab will be sourced from Thailand.

Toyota's leisure and adventure vehicle will be on sale across Europe from October or November 2005 onwards (depending on the country) and Toyota aims to sell 5,000 units this year. On a full year basis, the target is set at around 25,000 units.

The new Hilux is another model in Toyota's strategy to diversify its customer offering. It complements the Toyota SUV/off-road range, offering a rugged alternative at an affordable price.

The launch of the new Hilux with increased interior space, improved driving characteristics and greater comfort and quality, will offer fresh opportunities for sales growth, particularly in the rapidly increasing leisure double cab segment.

A wide range of bodystyles (Single Cab, Double Cab and Extra Cab) and both 4x2 and 4x4 transmissions will be available across Europe with individual national markets taking selected models to suit local customer demand.

While many customers will choose the Single Cab Hilux for its excellent performance as a comfortable, high quality workhorse, others will choose the rugged Double Cab for outdoor leisure hobbies. The Extra Cab provides a cross-over stage for multi-purpose use, adding extra passenger carrying space to substantial load carrying capacity.

The new Toyota Hilux has a rugged design, which creates an immediate visual impact. For a start, it is considerably larger and than the vehicle it replaces, ensuring a road presence to match its role as a leisure and adventure vehicle.

All three models offer more space, particularly in the cabin, and passengers will find new, class leading levels of quality and comfort in the segment. The new Hilux (Double Cab 4x4) is 5,255 mm long, making it 340 mm longer than the current model. It is also considerably wider (+45 mm) and taller (+25 mm).

The extra length is primarily in the wheelbase (now 3,085 mm). This contributes significantly to greater interior space but also means better ride and improved vehicle stability.

The load deck is also more spacious, particularly in Single and Double Cab versions. The strong, vertical sides allow width to increase by 50 mm (Double Cab) and the load length is increased by 155 mm in the Single Cab and 165 mm in the Double Cab.

Total load lengths are now 2,315 mm for the Single Cab and 1,520 mm for the Double Cab. The Extra Cab load length is 1,805 mm.

As with Toyota passenger cars, quality will be both actual and perceived, with customers enjoying high levels of driving enjoyment, combined with visual and tactile refinements.

The instrument panel is clearly designed with passenger car comfort and perceived quality in mind. Its stylish and sporty appearance is both practical and effective. Key features include the three-cluster meter panel, the ergonomic positioning of switches and controls, the clear heater layout, and the quality touches, such as a flush surface top box and luxury trim (on selected models).

Drivers will find a natural and comfortable seating position with conventional, passenger car controls including a centre-box handbrake. But it is the interior roominess that will most delight drivers and passengers. The new Hilux Double Cab offers a cabin with ample room for five adults.

Cabin length on the Double Cab has been increased by 25 mm and the driving position moved forward to allow an extra 42 mm of leg room for the rear seat passengers. The hip point height has been increased to create a more natural seating position and the outer rear seat passengers get full three-point seatbelts and adjustable headrests.

Seat comfort is greatly improved too, with extended slide and recline adjustment for front seats, increased seat cushion lengths and, for the Double Cab, a rear seat fold-up function for increased storage space and load carrying.

The new Hilux is built on an all-new ladder frame chassis. This not only allows the vehicle to maintain durability and achieve true off-road capability but also offers better noise and vibration insulation between the passenger compartment and the chassis.

The chassis, specific to the Hilux, offers excellent strength, durability, collision safety and vehicle control. It is constructed from a larger box section than the current model with a 45% improvement in torsional stiffness, leading to greater body control and reduced noise intrusion into the cabin.

At the front, independent double wishbone suspension with coil springs allows maximum suspension travel and a flat ride while maintaining good straight line stability and feel. At the rear, traditional leaf springs have been retained for maximum load carrying capacity and to reduce intrusion into the flat bed.

On-road driving comfort and safety is further enhanced with the adoption of rack and pinion steering in place of the traditional recirculating ball design. Suspension has been tuned and roll stiffness has been improved to the point where it is 1.5 times higher than in the current model.

At launch the new Hilux range will be powered by a Toyota 2.5-litre D-4D 100 diesel engine, featuring a second-generation common-rail system. It develops 75 kW (102 DIN hp) at 3,600 rpm and 260 Nm of torque through a wide rev range – 1,600 to 2,400 rpm (200 Nm between 1,400 and 3,400 rpm for 2WD versions) - making it ideal for both work and leisure applications. This highly fuel-efficient unit offers low running costs.

Driving enjoyment has been enhanced with further improvements to the five speed manual transmission, which is now smoother and easier to use, leading to a better gearchange feel. The transfer gearbox allows a choice between rear- or four-wheel drive and a rear axle limited slip differential is standard for improved traction under slippery conditions.



Technical specifications

| Engine | D-4D 100 (4x2) | D-4D 100 (4x4) |
|---------------------------------|---------------------|---------------------|
| Engine code | 2KD-FTV | 2KD-FTV |
| Type | 4 in-line cylinders | 4 in-line cylinders |
| Fuel type | 48 Cetane diesel | 48 Cetane diesel |
| Valve mechanism | DOHC 16-valve | DOHC 16-valve |
| Displacement (cm ³) | 2,494 | 2,494 |
| Bore x stroke (mm) | 92.0 x 93.8 | 92.0 x 93.8 |
| Compression ratio (:1) | 18.5 | 18.5 |
| Max. power (kW) DIN hp/rpm | (75) 102@3,600 | (75) 102@3,600 |
| Max. torque (Nm/rpm) | 200@1,400-3,400 | 260@1,600-2,400 |

Transmission

| | | 4x2 | 4x4 |
|--------------------------------------|-----------------|---|-------------------|
| Type | | 4x2 | 4x4 |
| Clutch type | | Dry, single plate | Dry, single plate |
| Gearbox type | | 5 M/T | 5 M/T |
| Gear ratios | 1 st | 3.928 | 4.313 |
| | 2 nd | 2.333 | 2.330 |
| | 3 rd | 1.451 | 1.436 |
| | 4 th | 1.000 | 1.000 |
| | 5 th | 0.798 | 0.838 |
| | Reverse | 4.743 | 4.220 |
| Differential gear ratio (front/rear) | | - / 4.100 | 3.909 / 3.909 |
| Additional features | | Limited-Slip Differential standard in LHD models Rear diff-lock available as an option on 4x4 models | |

Brakes

| | | 4x2 | | 4x4 | |
|---------------------|--|----------------------------------|----------------------------------|-------------------------------|-----------|
| Bodytypes | Single/Double Cab | Extra Cab | Single/Double Cab | Extra Cab | Extra Cab |
| Front | Ventilated discs (Ø257x28 mm) | Ventilated discs (Ø255x28 mm) | Ventilated discs (Ø255x28 mm) | Ventilated discs (Ø255x25 mm) | |
| Rear | Drums (Ø254 mm) | Drums (Ø254 mm) | Drums (Ø254 mm) | Drums (Ø295 mm) | |
| Additional features | ABS available as an option LSP&BV (Load Sensing Proportioning & Bypass Valve) | | | | |

Steering

| | |
|--------------------------------|--------------------------------|
| Type | Rack and pinion |
| Ratio (:1) | 18.9 (4x2), 19.4 (4x4) |
| Turns (lock to lock) | 3.82 (4x2); 3.72 (4x4) |
| Min. turning radius – tyre (m) | 5.9 (4x2); 6.2 (4x4) |
| Additional features | Hydraulic Power Steering (HPS) |

Off-road performance

| | 4x2 | | | 4x4 | | |
|---------------------------------------|------------|-----------|------------|------------|-----------|------------|
| | Single Cab | Extra Cab | Double Cab | Single Cab | Extra Cab | Double Cab |
| Bodytype | Single Cab | Extra Cab | Double Cab | Single Cab | Extra Cab | Double Cab |
| Towing capacity w/ brakes 12% (kg) | 1,800 | 1,800 | 1,800 | 2,250 | 2,250 | 2,250 |
| Towing capacity w/o brakes (kg) | 750 | 750 | 750 | 750 | 750 | 750 |
| Min. running ground clearance (mm) | N/A | N/A | N/A | 212 | 212 | 212 |
| Approach angle (°) | N/A | N/A | N/A | 30 | 30 | 30 |
| Departure angle (°) | N/A | N/A | N/A | 26 | 26 | 26 |
| Ramp break over angle (°) | N/A | N/A | N/A | 25 | 25 | 25 |

Exterior dimensions

| | Single Cab | Extra Cab | Double Cab |
|---------------------|-------------------|-------------------|-------------------|
| Overall length (mm) | 5,255 | 5,255 | 5,255 |
| Overall width (mm) | 1,760 (1,835*) | 1,760 (1,835*) | 1,760 (1,835*) |
| Overall height (mm) | 1680 (4WD: 1,795) | 1680 (4WD: 1,795) | 1695 (4WD: 1,810) |
| Wheelbase (mm) | 3,085 | 3,085 | 3,085 |
| Tread (mm) front | 1,510 (1,540*) | 1,510 (1,540*) | 1,510 (1,540*) |
| Tread (mm) rear | 1,510 (1,540*) | 1,510 (1,540*) | 1,510 (1,540*) |
| Overhang (mm) front | 885 | 885 | 885 |
| Overhang (mm) rear | 1,285 | 1,285 | 1,285 |

* With over fender

Interior dimensions

| | Single Cab | Extra Cab | Double Cab |
|----------------------|------------|-----------|------------|
| Interior length (mm) | 1,340 | 1,840 | 2,130 |
| Interior width (mm) | 1,475 | 1,475 | 1,475 |
| Interior height (mm) | 1,190 | 1,190 | 1,195 |

Deck space

| | Single Cab | Extra Cab | Double Cab |
|---------------------------|----------------|----------------|----------------|
| Deck floor to ground (mm) | 745 (4x4: 860) | 750 (4x4: 855) | 730 (4x4: 850) |
| Height (mm) | 450 | 450 | 450 |
| Length (mm) | 2,315 | 1,805 | 1,520 |
| Width (mm) | 1,520 | 1,515 | 1,515 |
| Volume (m ³) | 1,530 | 1,178 | 0,983 |

| Weights | Single Cab | | Extra Cab | | Double Cab | |
|---------------------------|-------------------|-------------|------------------|-------------|-------------------|-------------|
| Transmission | 4x2 | 4x4 | 4x2 | 4x4 | 4x2 | 4x4 |
| Kerb weight (kg) | 1,515-1,605 | 1,695-1,790 | 1,555-1,640 | 1,715-1,800 | 1,665-1,710 | 1,770-1,875 |
| Gross vehicle weight (kg) | 2,770 | 2,735 | 2,700 | 2,680 | 2,645 | 2,760 |

| Performance | Single Cab | | Extra Cab | | Double Cab | |
|--------------------|-------------------|------|------------------|------|-------------------|------|
| Transmission | 4x2 | 4x4 | 4x2 | 4x4 | 4x2 | 4x4 |
| Max. speed (km/h) | 150 | 150 | 150 | 150 | 150 | 150 |
| 0-100 km/h (sec.) | 16.8 | 17.5 | 16.8 | 17.5 | 17.3 | 18.2 |

The details of specifications and equipment provided in this press information are subject to local conditions and requirements and may, therefore, vary from country to country. Toyota Motor Marketing Europe reserves the right to alter any details of equipment and specifications without prior notice.



Toyota AYGO

New 1.4-litre diesel engine joins the line-up

- **New 1.4-litre diesel engine offers outstanding fuel economy (4.1 l/100 km combined)**
- **Class-leading levels of interior space**
- **A 4-star classification (26 points) by Euro NCAP for adult occupant safety**
- **Latest generation Bosch ABS and EBD standard across the range**
- **3-year (or 100,000 km, whatever comes first) pan-European warranty**
- **DJ producer Paul Oakenfold creates sound track for AYGO's new commercial**

Toyota is responding to the demands of European customers by extending the AYGO engine range to include a new 1.4-litre diesel engine which offers outstanding fuel economy. The new engine, supplied by PSA Peugeot Citroën, will be available from early next year.

The new engine has an all-aluminium construction which offers plenty of low-down torque for city driving. With its high pressure, common-rail diesel technology the new engine is not only remarkably fuel efficient but also quiet and smooth.



The 1.4-litre, turbo-charged unit produces 40 kW (54 DIN hp) at 4,000 rpm and develops its maximum torque of 130 Nm at 1,750 rpm. A five-speed manual transmission is offered as standard.

Fuel economy is 4.1 l/100 km on the combined cycle, 3.4 l/100 km on the extra urban cycle and 5.3 l/100 km on the urban cycle. The 1.4 diesel AYGO will reach a top speed of 154 km/h and accelerates to 100 km/h in 16.8 seconds.

As with the current petrol engine, a revolutionary engine mount system is used to drastically lower the amount of noise and vibration transmitted into the body. Instead of the conventional three-mount layout, the AYGO features an engine mount on each side, which draws an imaginary line intercepting the engine's centre of gravity. Furthermore, the third engine mount (placed at the bottom of the engine compartment) is replaced by a torque rod that efficiently suppresses the engine's rotational movement when idling or accelerating.

For added peace of mind, Toyota offers every new AYGO with a 3-year (or 100,000 km, whatever comes first) pan-European warranty. The AYGO is also covered by a 12-year anti-rust warranty.

A complete package

- **Sophisticated engines and choice of transmissions**
- **Spacious and practical interior**
- **High levels of safety and quality**

The Toyota AYGO offers customers a complete package that rivals many larger cars for space, comfort and versatility, but within compact city car dimensions.

The AYGO's interior was developed to accommodate passengers of all sizes, even the very tall. Most innovatively, meters are mounted on the steering column so that the position changes according to the steering column angle, thus improving visibility for all drivers.

The AYGO impresses with the shortest overhangs among direct competitors, allowing for a much better use of interior space. The distance between front and rear hip-point is also the biggest in comparison with direct competitors and particular attention has been paid to access to the rear seats in three-door models with a wide opening between the foot of the B-pillar and the front seat.

The AYGO features a folding rear seat (50/50 split on selected models) for additional flexibility of luggage space and there are plenty of handy storage spaces, including four door-pockets, eight trays, three cup-holders, a coin case and large vanity mirrors.

Already available is the all-new, 1.0-litre three-cylinder petrol engine that is the AYGO's core powertrain, boasting a class-leading 68 DIN hp (50 kW) at 6,000 rpm and 93 Nm or torque at 3,600 rpm. At only 69 kg, it is also the lightest engine available on the car market today.

In addition, this engine allows the AYGO to achieve record-low fuel consumption and emissions in the petrol A and sub-B segments (4.6 l/100 km, 109 g/km CO₂, both combined figures).

Customer choice is further enhanced with the availability on the AYGO 1.0 VVT-i of Multi-mode Manual Transmission (M-MT). The system has automatic clutch operation and offers the choice of automatic mode (E) or manual mode (M), to suit the driver's needs. It provides a less expensive alternative to automatic transmissions, making life in city traffic much easier.

Active and passive safety features have played a fundamental role in the development of AYGO and the car has been awarded a four-star rating for adult occupant safety by the Euro NCAP testing programme. The result underlines AYGO's position as a high quality product in the compact city car segment with 26 points for its adult occupant safety.

AYGO backs up its four-star adult occupant rating with an excellent three-star score (36 points) for child protection and two stars (14 points) for pedestrian safety.

AYGO features Toyota's own Minimal Intrusion Cabin System (MICS), a safety structure that effectively reduces the risk of serious injury during impact. In addition, the most modern passive safety features are available in the AYGO: front, side and curtain airbags, seatbelt pretensioners for front seats, passenger airbag cut-off switch and an ISOFIX system.

Although a rare feature in the segment, the AYGO offers on all its versions a seatbelt warning system with buzzer reminder as standard.

Braking performance benefits from the latest-generation Bosch ABS 8 system with Electronic Brake-force Distribution (EBD). Both features are standard across the range.

First collaboration with Paul Oakenfold

- **Partnership covering several initiatives**
- **New TV ad sound track to be produced by Paul**
- **His latest album has sold 1.5 million copies globally**

Toyota has announced a collaborative partnership with the world famous DJ producer, Paul Oakenfold, for the creation and execution of an AYGO music strategy.

The wide-ranging agreement will develop across a number of creative and promotional strands. Paul Oakenfold will produce the music track for a unique AYGO television advertising campaign and the track will be included on his next album. Paul Oakenfold will also be available for personal appearances at selected AYGO events.

Paul Oakenfold is best known for his widespread influence on Europe's electronic and dance music scene. Along with studio partner Steve Osbourne, he has produced and re-mixed major artists including U2, Simply Red, New Order, the Cure, Massive Attack, The Rolling Stones, Stone Roses and Snoop Doggy Dogg.

Paul Oakenfold has worked on a number of film music scores including Collateral, Matrix: Reloaded, Golden Eye and Shrek 2. He was nominated for a Grammy award in 2004 for the album Creamfields. His album sales globally have reached over 1.5 million and his next solo work will be released at the end of this year.

The collaboration between Toyota and Paul Oakenfold is based on the power and appeal of Paul's music to AYGO's target customers and his unique sound. Paul's music is vibrant, lively and bright – qualities which clearly resonate with AYGO, targeting a new, younger audience for the Toyota brand.



AYGO

Technical specifications

| Engine | 1.0-litre VVT-i | 1.4-litre diesel |
|---------------------------------|------------------------------|---------------------|
| Engine code | 1KR-FE | 2WZ-TV |
| Type | 3 in-line cylinders | 4 in-line cylinders |
| Fuel type | 95 Octane petrol (or higher) | 48 Cetane diesel |
| Valve mechanism | DOHC 12-valve | OHC 8-valve |
| Displacement (cm ³) | 998 | 1,398 |
| Bore x stroke (mm) | 71.0 x 84.0 | 73.7 x 82.0 |
| Compression ratio (:1) | 10.5 | 17.9 |
| Injection pressure (bar) | - | 1,500 |
| Max. power EEC (kW) hp / rpm | (50) 68@6,000 | (40) 54@4,000 |
| Max. torque (Nm/rpm) | 93@3,600 | 130@1,750 |
| Emissions level | EURO IV | EURO IV |

Transmission

| | | | |
|-------------------------|-------------------|--------|------------------|
| Type | Front-wheel drive | | |
| Clutch type | Dry, single plate | | |
| Engine | 1.0-litre VVT-i | | 1.4-litre diesel |
| Gearbox type | 5 M/T | 5 M-MT | 5 M/T |
| Gear ratios | | | |
| 1 st | 3.545 | 3.545 | 3.545 |
| 2 nd | 1.913 | 1.913 | 1.913 |
| 3 rd | 1.310 | 1.310 | 1.161 |
| 4 th | 1.027 | 1.027 | 0.829 |
| 5 th | 0.850 | 0.850 | 0.608 |
| Reverse | 3.214 | 3.214 | 3.214 |
| Differential gear ratio | 3.550 | 3.550 | 3.550 |

Brakes

| | |
|---------------------|----------------------------|
| Front | Ventilated discs (Ø247 mm) |
| Rear | Drums (Ø200 mm) |
| Additional features | ABS with EBD |

Steering

| | |
|--------------------------------|-------------------------------|
| Type | Rack and pinion |
| Ratio (:1) | 16.5 |
| Turns (lock to lock) | 3.3 |
| Min. turning radius – tyre (m) | 4.73 |
| Additional features | Electric Power Steering (EPS) |

| Tyres and wheels | Standard | Optional |
|-------------------------|----------------------|--------------------------|
| Wheel size | 14 x 4 1/2 J (steel) | 14 x 4 1/2 J (aluminium) |
| Tyre size | 155/65 R 14 | 155/65 R 14 |

Exterior dimensions

| | |
|---------------------|-------|
| Overall length (mm) | 3,405 |
| Overall width (mm) | 1,615 |
| Overall height (mm) | 1,465 |
| Wheelbase (mm) | 2,340 |
| Tread (mm) front | 1,420 |
| Tread (mm) rear | 1,410 |
| Overhang (mm) front | 645 |
| Overhang (mm) rear | 420 |

Interior dimensions

| | |
|----------------------|-------|
| Interior length (mm) | 1,758 |
| Interior width (mm) | 1,375 |
| Interior height (mm) | 1,245 |

Luggage compartment

| | |
|--|-------|
| VDA luggage capacity (m ³) | 0.139 |
| Height (mm) | 850 |
| Length (mm) | 477 |
| Width, wheelhouse (mm) | 510 |
| Loading height (mm) | 767 |

Weights

| | 1.0-litre VVT-i | | 1.4-litre diesel | |
|---------------------------|------------------------|---------|-------------------------|---------|
| | 3-door | 5-door | 3-door | 5-door |
| Kerb weight (kg) | 790-850 | 800-860 | 880-905 | 890-915 |
| Gross vehicle weight (kg) | 1,180 | 1,190 | 1,235 | 1,245 |

Performance

| | 1.0-litre VVT-i | | 1.4-litre diesel |
|-------------------|------------------------|--------|-------------------------|
| | 5 M/T | 5 M-MT | 5 M/T |
| Max. speed (km/h) | 157 | 157 | 154 |
| 0-100 km/h (sec.) | 14.2 | 14.9 | 16.8 |
| 0-400 m (sec.) | 19.5 | 19.9 | 19.9 |

| Fuel consumption * | 1.0-litre VVT-i | | 1.4-litre diesel |
|---------------------------|------------------------|--------|-------------------------|
| Transmission | 5 M/T | 5 M-MT | 5 M/T |
| Combined (l/100km) | 4.6 | 4.6 | 4.1 |
| Extra Urban (l/100km) | 4.1 | 4.1 | 3.4 |
| Urban (l/100km) | 5.5 | 5.5 | 5.3 |
| Fuel tank capacity (l) | 35 | | 35 |

| CO₂ emissions * | 1.0-litre VVT-i | | 1.4-litre diesel |
|-----------------------------------|------------------------|--------|-------------------------|
| Transmission | 5 M/T | 5 M-MT | 5 M/T |
| Combined (g/km) | 109 | 109 | 109 |
| Extra urban (g/km) | 97 | 97 | 90 |
| Urban (g/km) | 129 | 129 | 138 |

* According to Directive 1999/100/EC"

The details of specifications and equipment provided in this press information are subject to local conditions and requirements and may, therefore, vary from country to country. Toyota Motor Marketing Europe reserves the right to alter any details of equipment and specifications without prior notice.

Frankfurt 2005



Toyota Prius

Increased recognition for Hybrid Synergy Drive

- **Most eco-friendly car in Germany, according to the ADAC EcoTest**
- **Winner of the ADEME CO₂ emissions ranking in France**
- **Two 2005 Engine of the Year awards: '1.4-1.8-litre' and 'Best Fuel Economy'**
- **European Car of the Year 2005**
- **For 2005: worldwide sales target of over 170,000 units; 20,000 units to be sold in Europe**

Two years after its European motor show debut (Frankfurt 2003), the Toyota Prius continues to be recognised as the most technically advanced, low emissions, production car on sale in Europe.

For the second year running, the Prius has been named the most eco-friendly car in Germany by the ADAC EcoTest, a study published by the German automobile club in cooperation with the FIA.

The Toyota Prius has also topped the CO₂ rankings for petrol cars of the French government organisation ADEME (Agence gouvernementale De l'Environnement et de la Maîtrise de l'Énergie).

These results confirm the effectiveness of Toyota's advanced powertrain technologies in reducing harmful emissions under real driving conditions.

The Toyota Hybrid Synergy Drive system has also been awarded two category wins in the International Engine of the Year Awards 2005.

The revolutionary Hybrid Synergy Drive system took victory in the 1.4 to 1.8-litre category and also took first place in the 'Best Fuel Economy' category - thanks to its application in the Prius with outstanding fuel consumption of 4.3 l/100 km (EC mode, combined).

The awards come in a year when the Toyota Prius reigns as the current European Car of the Year and is achieving major sales success, with volumes in some European markets double those of last year.

Prius is set to beat its European sales target of 20,000 units this year and, on a worldwide basis, the car is targeted to sell over 170,000 units in 2005 – a figure that already exceeds the sales volume of some other D-segment vehicles.

From January to July 2005, Prius has sold 10,777 units in Europe, which represents an increase of 263% in comparison with last year.



Formula 1

Panasonic Toyota Racing on the pace

- **Competitive from the first race**
- **First podium finishes achieved**
- **Fourth season for Toyota in Formula 1**

Panasonic Toyota Racing has clearly established itself as one of the pace setters in the highly competitive FIA Formula 1 championship 2005. A string of excellent grid positions and podium finishes has positioned the team to challenge strongly in the final races of the season.

Having launched the season with a brand new car and a brand new driver line-up, Panasonic Toyota Racing was competitive from the outset: placing a Toyota TF105 on the front row of the grid for the opening Australian Grand Prix, back in March.

The team consolidated that performance with its first podium position at the very next race: Jarno Trulli taking an outstanding second overall at the Grand Prix of Malaysia and then following that with second at the Bahrain Grand Prix.

Ralph Schumacher helped make it a season to remember in the history of Toyota in motorsport with a fifth position in Malaysia and fourth in Bahrain.

More recently, Ralph Schumacher and Jarno Trulli finished third and fourth respectively in the Hungarian Grand Prix in July.

Panasonic Toyota Racing started the season with realistic ambitions to enjoy its most competitive season to date. The driver line-up of Jarno Trulli and Ralph Schumacher is one of the most experienced in Formula 1 with a total of 257 grands prix starts at the beginning of the season. They are supported by test drivers Ricardo Zonta and Olivier Panis.

The creation of the new Toyota TF105 was overseen by a highly competent technical team led by chassis director Mike Gascoyne and engine director, Luca Marmorini.

Team principal, Tsutomu Tomita, says: "It is still like a dream to find ourselves in such competitive shape after only three years in the sport. I think first and foremost it is great to confirm our ultimate competitiveness at the front of Formula 1. Congratulations must again go to everyone in the team, the sponsors and the Toyota family."

