

© 31 August 2021, 18:00 (CEST)

NEW DURA-ACE R9200, A STUDY IN THE SCIENCE OF SPEED

« *Built for those who never compromise, Shimano's premium R9200 series moves to 12-speed Di2-only, disc or rim-brake set-up with wireless shifters, faster derailleur operation, larger 54-40T chain rings and 11-34T cassettes.*

« *Series includes a new power meter, SERVO WAVE brake technology and a new line-up of tubeless and tubular wheels.*

The launch of new DURA-ACE isn't just the development of an outstanding new groupset, it's also the culmination of a study into the science of speed.



Shimano has delivered its fastest and most precise shifting series, expanding its legacy of innovation while setting a new benchmark in road performance. Every detail, every decision, and every component of the new DURA-ACE R9200 series is engineered to deliver a faster, more reliable, and more intuitive ride experience.

Developed with the Science of Speed design concept, the R9200 series component group features an ultra-efficient 12-speed drivetrain, a reliable wireless cockpit, highly refined ergonomics, new aerodynamic tubeless and tubular wheels, an enhanced brake system, and integrated digital technology engineered for those who never compromise.

The pursuit of perfection doesn't come easy. Developments with the world's best athletes and bicycle component developers meant researching, investigating and analysing product performances in the laboratory and the real-world, leaving no stone unturned to find the science of speed. The result can be broken down into chapters:

shifting platform + control interface + brake system + drivetrain system + wheel system

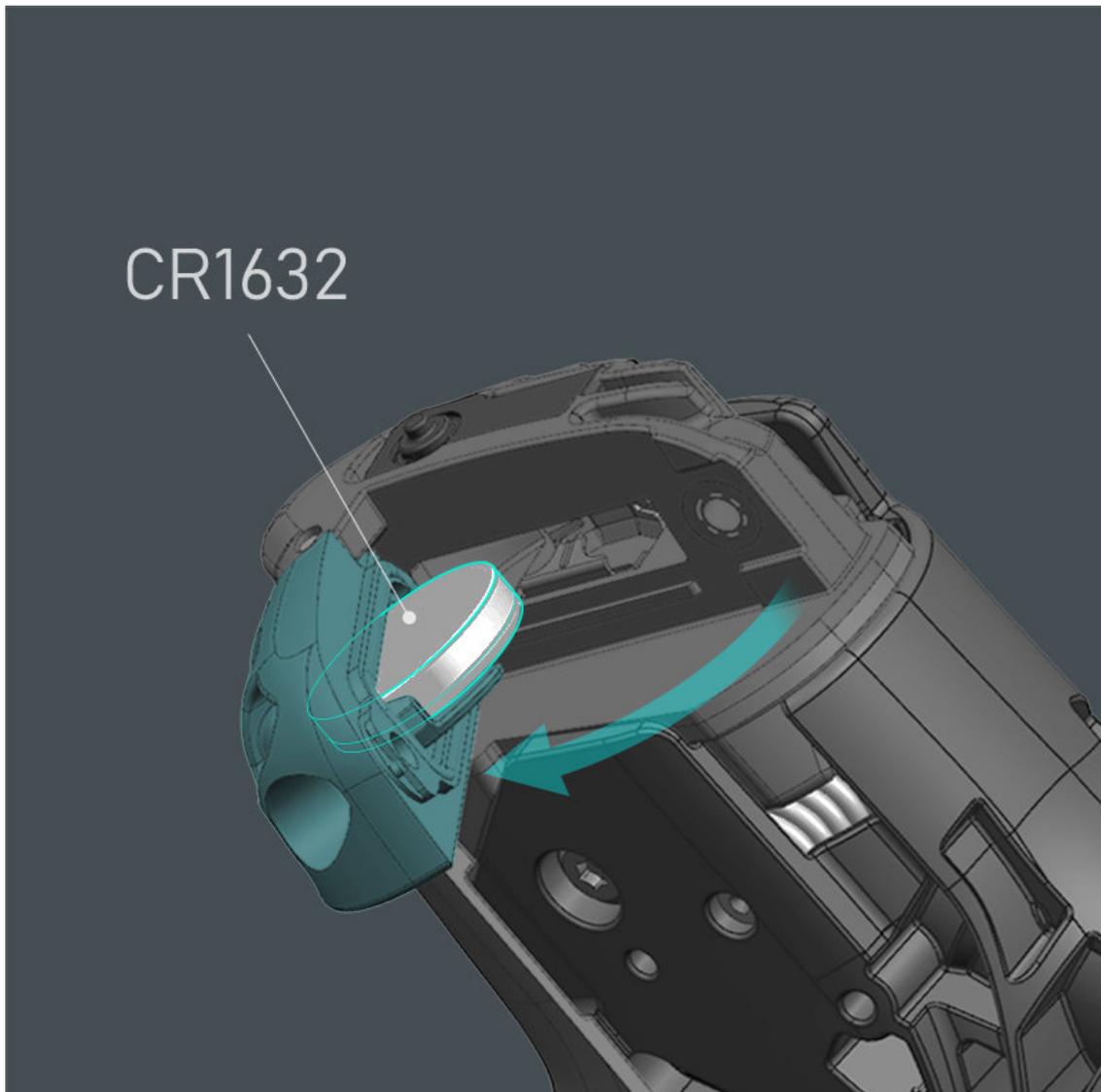
Let's take a look at the improvements within each chapter:

Shifting platform: fastest-ever shifting, absolute reliability, integrated design

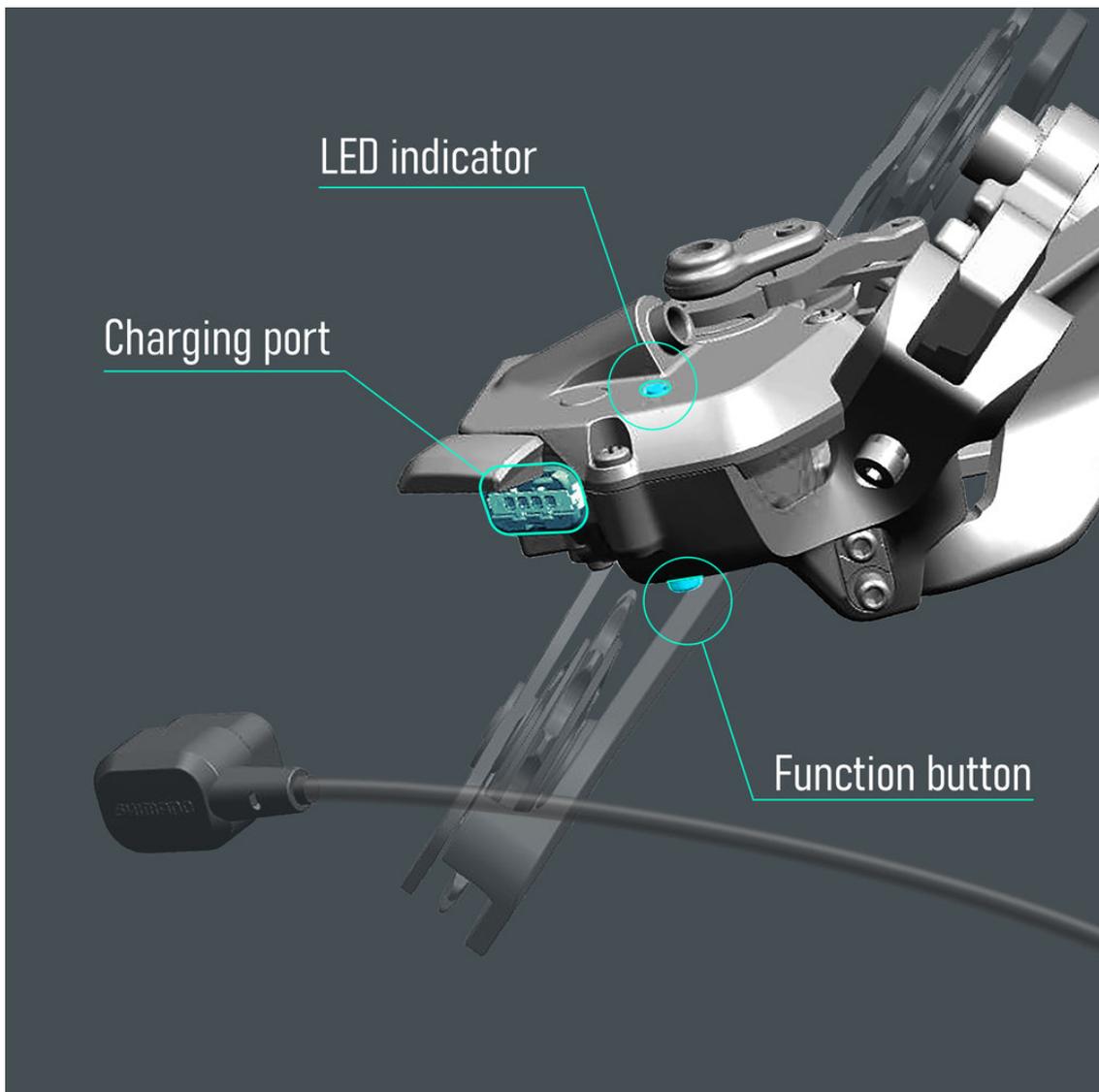
Shimano has completely revised its Di2 platform to improve shifting speed whilst making the shifter-derailleur connection wireless, and still ensuring **absolute reliability**.

Shimano's new Di2 platform brings an improved motor design in the derailleurs, which decreases the processing speed, i.e. the moving time between motor and gear mechanisms, and the transmission performance, to enable Shimano's **fastest-ever shifting**. The result is time saving in fractions of a second but it does result in a 58% decrease in rear derailleur operating time and a 45% decrease in front derailleur operating time.

Absolute reliability is provided by a wired connection where it makes sense. New smaller diameter SD-300 wires connect the Di2 battery (BT-DN300) to the front derailleur (FD-R9250) and rear derailleur (RD-R9250). This single internal battery makes for a simple charging solution and ensures a stable and high voltage connection to the derailleurs, contributing to Shimano's fastest-ever shifting. Absolute reliability is further guaranteed by a high security, fast processing and low power consumption proprietary chip circuit, which significantly decreases the chance of interference from external devices.



Tests show that the BT-DN300 battery, which powers the derailleurs, lasts for 1000 km between charges. The STI shifter buttons are powered by coin-style CR1632 batteries which last for approximately 1.5-2 years of usage. To increase battery capacity further, a fully wired option is also possible, offering a 50% increase in capacity and has practical benefits for riders using new DURA-ACE in combination with an e-bike.



Shimano's new DURA-ACE rear derailleur is no longer just a rear derailleur. It is also the point at which the system is charged (replacing Shimano's SM-BCR2 charger), it provides the connection to the STI shifters via Shimano's proprietary integrated circuit, the ANT+ connection to other 3rd party devices (replacing the EW-WU111 wireless unit), and it replaces the handlebar or in-frame Junction-A (SM-RS910). This results in the RD-R9250 rear derailleur having an integrated design with a hidden charging port, a button for Di2 operations and LED lights, which denote Synchronized Shifting mode, settings mode, or any charging requirements.

Control Interface: unparalleled ergonomics, clean cockpit, customization

In recent years professional and high performance riders have started to change their riding positions and riding preferences. Shimano worked in conjunction with many professional riders to study those changes. For climbing, sprinting or time trials, Shimano has balanced comfort, looks and aerodynamic gains with **unparalleled ergonomics**.

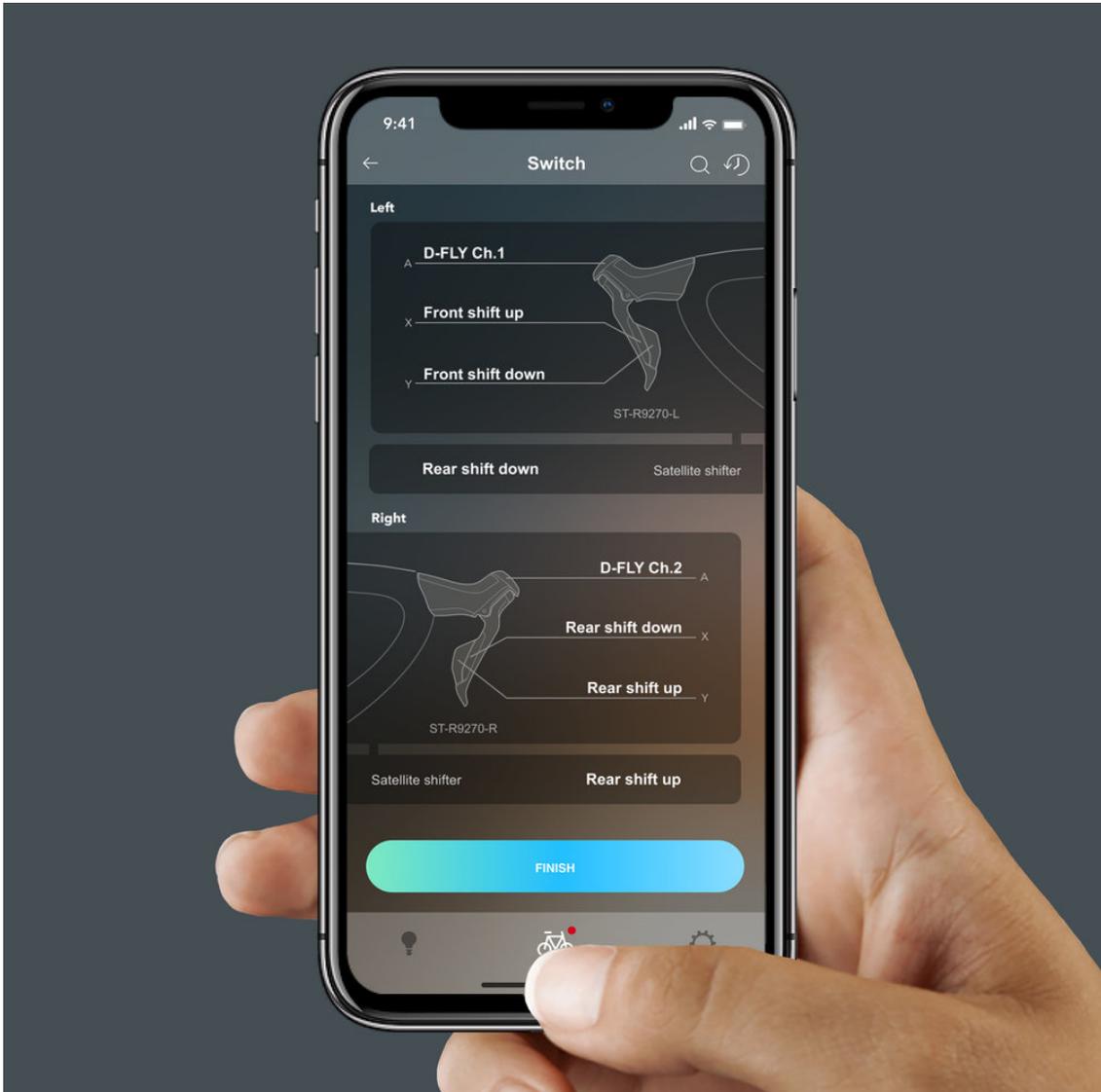


New 2x12-speed wireless hydraulic disc brake shifters (ST-R9270) now come with a raised head portion with a slight inward curve and increased area between the shifter and the handlebar to bring new levels of comfort and control. This provides riders with better index finger and thumb grip on the hoods and better 3-finger grip behind the brake lever, whilst still giving easy access to the shift lever in the drops. Another change comes in the increased offset between Di2 buttons on the lever, allowing for better differentiation between the up-shift and down-shift button, especially with gloves or wet fingers.

The shifters operate with a wireless connection. This allows for a simple installation procedure and no shift cable ports in the frame or handlebar. Together with internal hose routing, it allows for a beautifully **clean cockpit**.

Where cable ports can be used is in the installation of minimized remote shifter buttons. Shimano's sprint (SW-R801-S) or climbing shifter (SW-R801-T) can be used with a clamp band or can sit integrally in the handlebars with a specific port, such as the new PRO Vibe Evo bar. These new more compact satellite shifter options either attach to the drops via a 100mm cable (SW-RS801-S) or to the tops via a 260 mm Di2 cable (SW-RS801-T).

The control interface of course offers some handy **customization** options thanks to an updated E-TUBE app which is now compatible with DURA-ACE R9200-series. Much like previous versions, E-TUBE Project version 4.0.0 allows for preferences such as Synchronized or Semi-Synchro shifting, Multi-Shift, shifting speed and STI shift button mapping to be set up on the go. Also connections with 3rd party cycle computers can all be set up to display Di2 information.



Drivetrain system: optimized drivetrain components, quick and shockless shifting, integrated power meter

Competitive road cyclists are usually looking to get from A to B in the fastest, most efficient way. Taking that simple insight, Shimano has optimized its gearing, shifting and power meter to set a new benchmark for performance, improving rear shifting speed by 58% and front shifting speed by 45%.

The new DURA-ACE 12-speed HYPERGLIDE+ cassette retains the top 11T gear but has been **optimized** with a revision in the ‘sweet spot’ gears between the 6th, 7th and 8th sprockets to keep the Shimano hallmark of smooth and consistent gear steps.

Combining this with **quick and shockless shifting** thanks to the cassette’s clever ramped profile allows for smoother gear changes, even under heavy load, no matter whether you’re moving up or down the cassette.

The result is that there is no longer any need to back off an acceleration or time an easy pedal stroke with your shifts. Riders can now put the hammer down and shift even faster, with smoother cadence and better speed transition thanks to DURA-ACE cassettes with HYPERGLIDE+ technology.

In total there are two DURA-ACE Hyperglide+ cassette options; 11-30T and a new DURA-ACE 11-34T ratio for steep climbs. The cassettes come with a new spline fitting pattern, which is also backwards compatible to DURA-ACE R9100 11-speed freehub bodies, meaning that new DURA-ACE R9200 components can be used on the previous R9100-series wheels.

As well as the new larger DURA-ACE cassette (11-34T) for more modern racing styles, a new larger 54-40T chainset option offers higher transmission efficiency than smaller chainring options and helps pro riders respond to ever-increasing speeds.



We touched on the derailleurs shifting speed earlier but there's more to say. Shifts are now performed by a smaller, sleeker and lighter Di2 front derailleur (FD-R9250) and more advanced SHIMANO SHADOW RD rear derailleur (RD-R9250). The front derailleur promises a 33% smaller frontal area, brings a weight drop to 96 grams, and offers big ring capacity for 50-55T chainrings.



The drivetrain system isn't complete of course without the cranksets. Two versions are available, the **integrated power meter** version (FC-R9200-P) or the non-power meter version (FC-R9200), of course with many different size specifications. Both versions feature HOLLOWTECH II technology, and come in either 50-34T, 52-36T or a new 54-40T chain ring combination, in crank arm lengths from 160 to 177.5 mm and with a Q-factor of 148 mm. The power meter version uses Bluetooth and ANT+ technology to transmit data. It boasts 300+ hours of ride time between charges and comes with an improved 1.5% strain gauge accuracy.

The DURA-ACE R9200 chainset is complete with the same 12-speed chain used on Shimano's XTR M9100 series, simplifying inventory requirements for retailers and riders.

Brake system: finest control ever, quieter system, maintenance-friendly

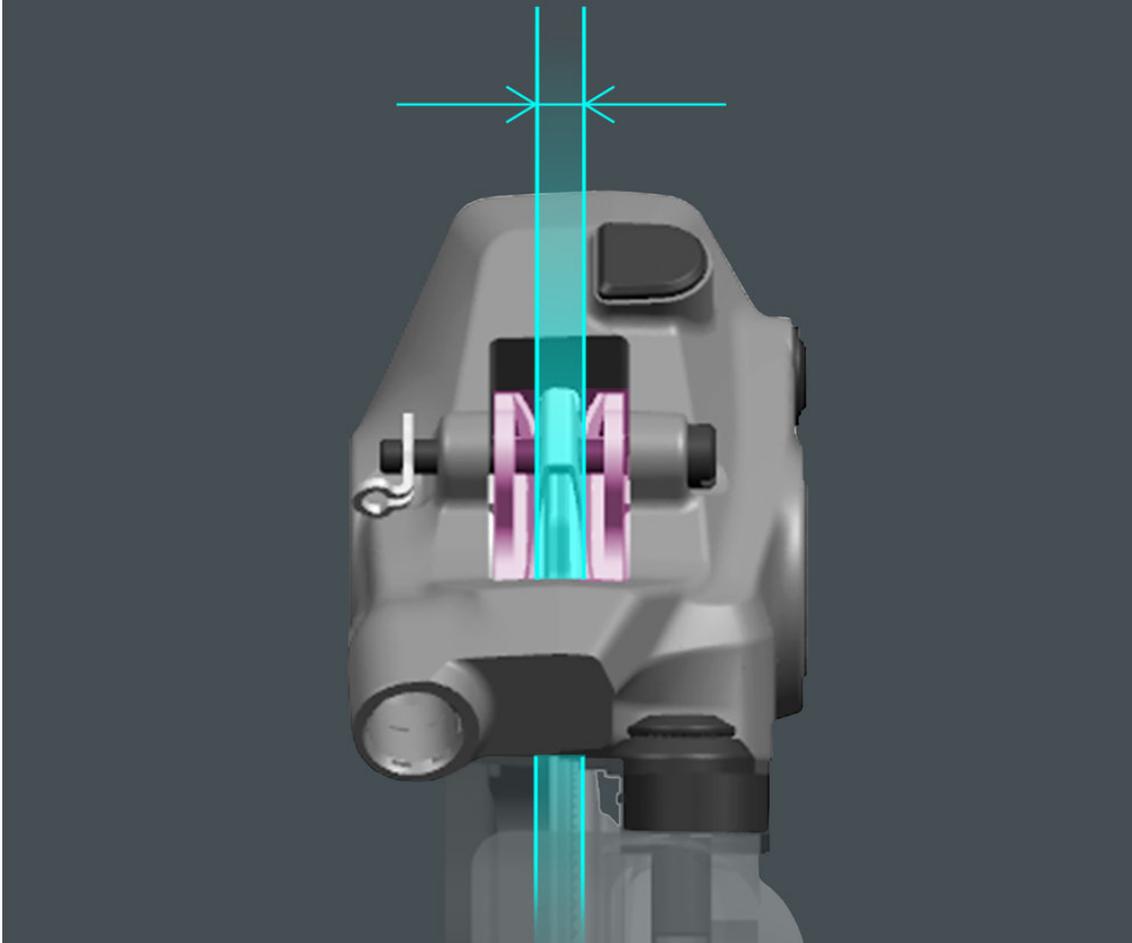
Speed means little without the ability to control it. Races can be decided in the corners, so improved braking can make the difference between a podium finish and disappointment.



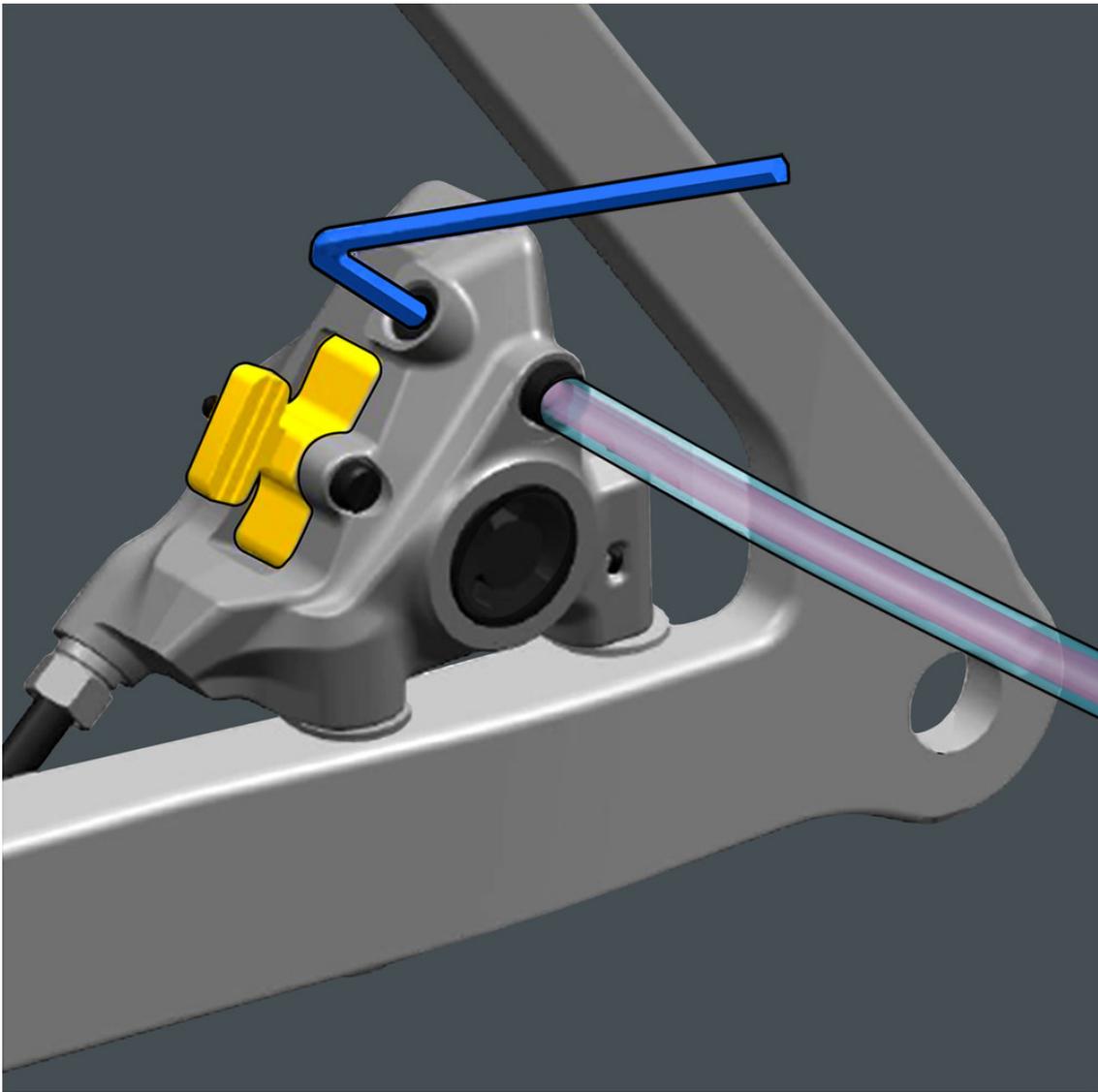
Shimano's new DURA-ACE brake components offer more fine-tuned control through the tighter, faster and more aggressive cornering lines found in road racing situations. With the addition of SERVO WAVE technology to brake levers, taken from Shimano's MTB and Gravel braking systems, riders have a shorter free stroke and are able to get a more immediate connection between brake pads and rotors, allowing for more feathering or modulation of the brakes, resulting in more speed carry-through and more confidence in technical situations.

In addition, brake noise reduction has been improved through 10% wider brake pad and rotor clearance and a switch towards Shimano's RT-MT900 rotors. The result is a **quieter system**, achieved through less heat deformation of the rotor and less temporary interference between the pad and the rotor.

10% wider pad clearance



Furthermore, brake maintenance has also been improved. Now it is possible to bleed the brake without removing the caliper (BR-R9270) from the frame thanks to a separate bleed port and valve screw. A new funnel and bleed spacer also help improve the bleeding process.



Wheel system: aerodynamics, driving rigidity and lighter weight

The last pillar in the science of speed is the wheels, the final point between the rider's input and the speed output. Shimano has redesigned its wheel line-up with a balance of three factors: drag reduction without sacrificing control, driving force rigidity thanks to a new **DIRECT ENGAGEMENT** hub, and lighter weight construction. These principles make up a full carbon tubeless and tubular options to exceed today's standards.



Three rim height profiles offer different performance benefits for riders.

- The C36 (WH-R9270-C36-TL) wheel is focused on climbing and is the lightest wheel offering
- The C50 (WH-R9270-C50-TL) is an all-round wheel with a great balance of drag, lateral and driving rigidity, periphery and overall weight and controllability
- The C60 (WH-R9270-C60-HR-TL) is the most aerodynamic wheel with High Rigidity (HR) for sprints and high-speed pursuits. It is focused on providing drag, lateral rigidity and driving rigidity benefits.

Drag reduction was a big goal and the new C50 in particular excels in that department. In race situations it brings a 5.1W drag reduction versus the DURA-ACE R9100 series C40-TL tubeless wheel and a 1W reduction versus the R9100 C60-TU tubular wheel, whilst still offering other all-round benefits of weight and controllability.

Driving rigidity was amplified to increase the direct pedaling feeling when accelerating. This was achieved through a DIRECT ENGAGEMENT hub, using two interlocking faces rather than a pawl and ratchet system and results in a 63% increase between the new R9200 C50-TL and the previous R9100 C40-TL wheel, along with a 45g weight reduction in the freehub.

Every gram counts when it comes to rotational mass, so the new wheels have seen a big weight reduction in the rims too. A pair of the WH-R9270-C50-TL wheels drop 161g compared to the previous WH-R9170-C40-TL wheels.

DURA-ACE R9200: Built for those who never compromise

Shimano's study in the science of speed has taken road bike developments to a completely new level. Redesigned DURA-ACE shifters, brake calipers, wheels, derailleurs, cassettes and cranksets plus new Di2 EW-SD300 wiring and batteries, and rotors, axles, bottom brackets, and chains taken from elsewhere in Shimano's pantheon provide plenty of evidence of Shimano leaving no stone unturned in the pursuit of next level speed. But don't take our word for it. Try for yourself.

Products available in stores from October 2021.

NOTES TO EDITORS:

1. **Embargo:** Tuesday 31st August 18:00 CEST

2. **Product images:**

<https://www.dropbox.com/sh/ot3bghd882vg6ud/AACX2ACeM3P8zP8UEylewRs6a?dl=0>

3. **Note on battery consumption:**

Approx. 1,000 km. Calculation conditions: Distance: 45km/day, Riding time: 2h/day, FD shifts: 54 times/day, RD shifts: 370 times/day. Not include BLE/ANT+ communications. At 25 degrees C.

4. **Weight comparison chart:** See Dropbox link

5. **About Shimano Europe:** Founded in 1921, Shimano is dedicated to helping its customers get closer to nature, supporting people to realize their dreams and create new lifestyles. That comes with the desire to create outstanding cycling products and apparel. With almost 100 years' experience in creating internationally renowned bicycle components, Shimano is proud to have developed products that continue to take countless athletes to victory and provide the means for limitless global bicycle journeys. For more information see www.shimano.com.