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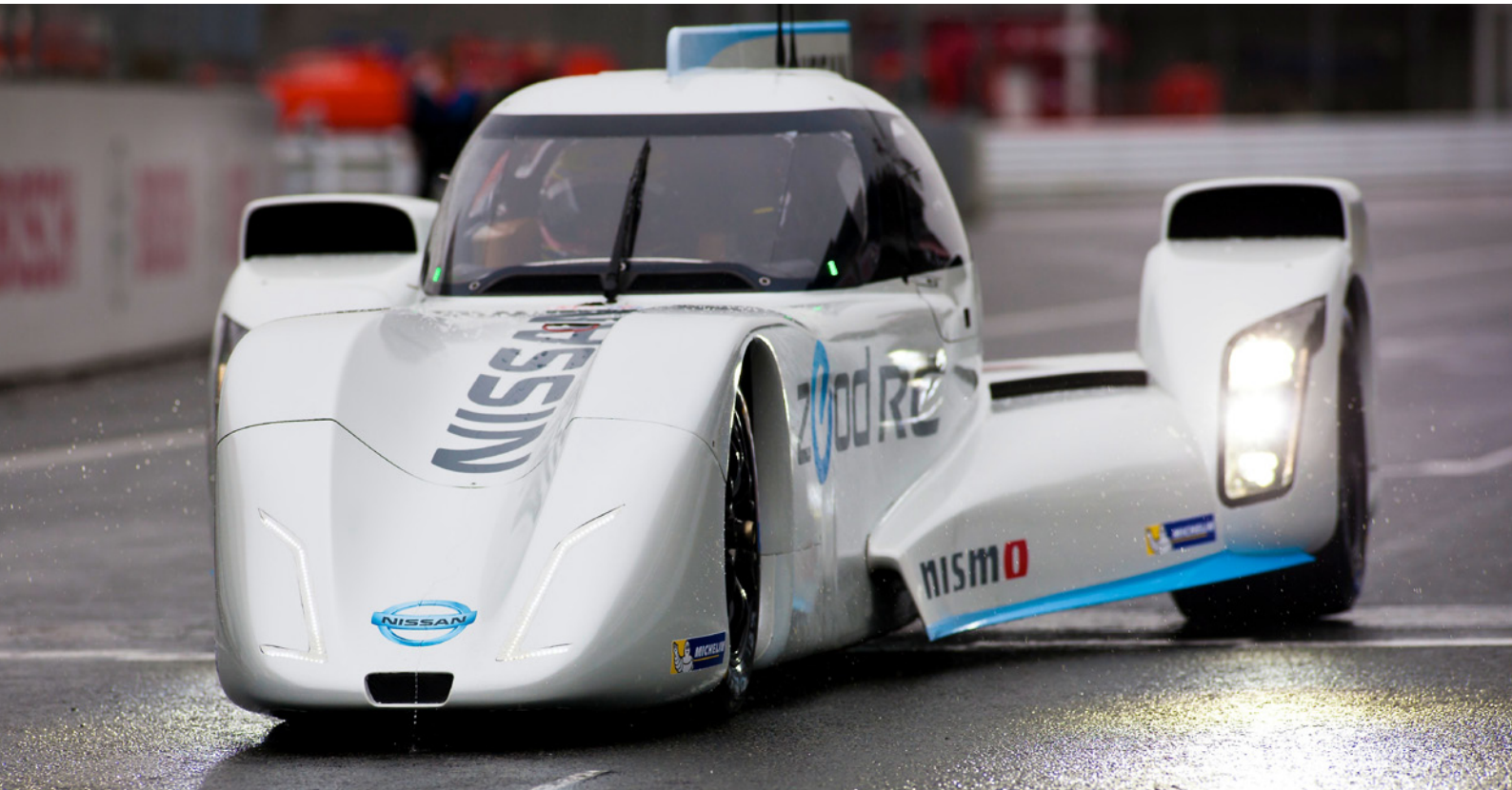
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ZERO EMISSIONS ON DEMAND



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NISSAN ZEOD RC HITS THE TRACK FOR JAPANESE FANS AT FUJI

- ***Electric prototype runs at Fuji Speedway for the first time.***
- ***Nissan's Executive Vice-President talks about ZEOD RC.***

FUJI, Japan (Oct. 21, 2013) – Nissan's revolutionary ZEOD RC electric prototype had its on track debut in Japan last weekend with Michael Krumm at the wheel of the car that will race at next year's Le Mans 24 Hours.

The car was unveiled at Nismo headquarters in Yokohama on Thursday and performed three demonstration runs at Fuji Speedway in conjunction with the Japanese round of the FIA World Endurance Championship.

The Nissan ZEOD RC will complete an entire 8.5 mile lap of Le Mans next year on pure electric power at speeds in excess of 300km/h (186 mph). When running on its internal combustion engine, the ZEOD RC will recharge its battery using regenerative braking.



Key Nissan executives including Executive Vice-President Andy Palmer were on site at Fuji to see the car's debut.

The car will now head back to the UK this week to continue its testing and development program. The Nissan ZEOD RC will occupy "Garage 56" at Le Mans next year - an entry reserved for cars showcasing new and innovative technology previously not seen at the French endurance classic. Nissan will use the ZEOD RC programme to develop technologies for its planned future LM P1 assault.

"This has been a fantastic opportunity for everyone involved to bring the Nissan ZEOD RC to Japan to present the car at Nismo and then show the car at Fuji Speedway for the fans," Nissan Global Motorsports Director, Darren Cox said.

"The reaction from the fans has been amazing - especially the young fans. We had a very poignant moment watching the car on track with Mount Fuji in the background. We know we have a very big mountain to climb to develop this electric vehicle technology for Le Mans but seeing the reaction from the young fans is a key reason why we are doing this.

"It was a pity that the weather spoiled the day on Sunday for the FIA WEC race but we were thrilled to be able to bring the car here for loyal Japanese fans."

ANDY PALMER Q&A

Q: HOW IMPORTANT IS THE NISSAN ZEOD RC PROJECT TO NISSAN AND WHAT DOES IT REPRESENT?

A: "To even be involved in any project it has to mirror and be judged against the brand positioning statement that is 'innovation and excitement for everyone'.

"The ZEOD project is extremely innovative, the electric side of the power train ticks a lot of boxes as Nissan is the global leader in EV technology.

"For 'excitement', motor racing is always exciting but when you can do something so challenging and push the boundaries of known knowledge – then that obviously is an exciting aspect.

"Then there is the 'for everyone'. The way we are approaching this project with social media includes showing the development each step of the way and involving our fans and our customers.

"They are all getting an inside line on how the project is coming together and being able to bring the car here today in Japan was also very important for our huge fan base.

"It is all about ticking those three boxes. It is important for the brand and important for Nismo.

"Nismo's involvement in the project is important as it takes that credibility back to the passenger car. It makes projects like the Juke Nismo that much more credible and that much more relevant."



Q: HOW ARE THE LESSONS LEARNED FROM THE DEVELOPMENT OF THIS CAR TRANSFER TO WHAT WE DRIVE ON THE ROAD?

A: “Nissan Motor Company stands on two key principles and goals – zero emissions and zero fatalities.

“Zero emissions is obviously defined by the electric car and utilising EV technology in racing is obviously is a great way to prove this.

“With the ZEOD we’re also working hard on developing technologies that will help reduce fatalities.

“There are no wing mirrors on the car but we’re using our safety shield technology in rear facing cameras and developing a blind spot detection system – fundamentally part of our autonomous driving technology and aimed at helping us reach our target of zero fatalities.

“It is very relevant and it’s doing what racing is supposed to do – to make it a laboratory for the road.”

Q: WHAT DOES THE 24 HOURS OF LE MANS MEAN TO THE PEOPLE OF JAPAN?

A: “It is one of the most famous races in the world and relevant to people all over the globe. Here in Japan we have so many race fans and so many car enthusiasts – for them, Le Mans is one of those aspirational races that Japanese people love to see winners on the podium.

“We’ve been able to achieve that in the LM P2 class in Le Mans and that builds significant credibility. Now the question is, can we do that in LM P1?”

Q: WHAT WOULD IT MEAN TO NISSAN TO BE SUCCESSFUL IN THE LM P1 CLASS AND HOW IMPORTANT A STEPPING STONE IS THE ZEOD RC TO ACHIEVE THAT?

A: “The Nissan ZEOD RC is a very important stepping stone and strategically we’d love to compete in the LM P1 class.

“If the rules constrain us in a way so that we’d just be another Audi or Toyota out there then we won’t come.

“If we’re allowed to be innovative with new powertrain and chassis technologies and be different then we’re extremely interested.

“Essentially my request to the team is to ‘be the bad boys’ – both on and off the track. We’re aiming to stretch the boundaries of the rules and the boundaries of physics.

“If we can do that and it ticks the boxes of ‘innovation and excitement for everyone’, then I don’t see any reason why we wouldn’t be here in 2015.

“But if we come, we come to win.”



Q: WHAT WERE YOUR IMPRESSIONS OF THE NISSAN ZEOD RC NOW YOU HAVE SEEN IT RUN FOR THE FIRST TIME?

A: “We were lucky enough to get a run today which is more that you could say for most of the field in the WEC.

“I actually had a chance to sit in the ZEOD today and it certainly feels like a finished car ready to race. The point is that it is not a concept, it is real.

“The fact that it has run down the straight today demonstrates our seriousness.

“We’re not there yet, we still have a number of powertrain challenges in particular but the car is here and we certainly will be there in Garage 56 in 2014.”

Q: HOW IMPORTANT IS IT FOR NISSAN FOR THE ZEOD RC TO BRING TOGETHER THE BRIGHTEST MINDS OF THE COMPANY FROM ACROSS THE GLOBE?

A: “That is how Nissan works. Jobs at Nissan are not given by passport they are given by talent. We embrace diversity at all levels, be it cultural diversity, age diversity or gender diversity.

“This program we’ve tried to pull in the best minds from around the world to demonstrate and show to everybody the innovation that sits within the company.

“Obviously Nismo provides a wealth of knowledge and when you add to that the guys in the UK and the US – especially our Director of Motorsport Innovation, Ben Bowlby – it is a winning combination.”

ENDS





NISSAN ZEOD RC MAKES PUBLIC DEBUT IN JAPAN THIS WEEKEND

- ***Ground-breaking electric prototype unveiled at NISMO headquarters***
- ***Japanese fans the first to see finished racecar up close***
- ***Zero Emissions on Demand racer at FIA World Endurance Championship round***
- ***Michael Krumm joins test driver program***

YOKOHAMA, Japan (Oct. 17, 2013) – After an intense eight months of development, design and construction, Nissan's revolutionary Nissan ZEOD RC electric racecar was unveiled today at the headquarters of Nissan's performance arm, NISMO, in Yokohama.

The Zero Emissions on Demand racer has gone from zero to ZEOD in a mere 33 weeks after Nissan Chairman and CEO Carlos Ghosn in February announced Nissan's goal of returning to the Le Mans 24 Hours next year with electric power in the same venue as today's announcement.

The ZEOD RC will race next year at Le Mans after being invited by the Automobile Club de l'Ouest to occupy the "Garage 56" entry for vehicles showcasing new and innovative technology.

Nissan is using the ZEOD RC as a test bed to develop new electric vehicle technologies for Nissan's planned future LMP1 program.

The initial prototype show car of the revolutionary electric racer was revealed at this year's Le Mans 24 Hours, but today's unveil at the NISMO headquarters showcased the dramatic evolution of the design featuring revamped styling, new cooling inlets and aerodynamic updates.

The Nissan ZEOD RC was unveiled by NISMO President Shoichi Miyatani, Nissan Global Motorsport Director Darren Cox, and Nissan Director of Motorsport Innovation Ben Bowlby.

"The ZEOD RC utilizes our technology gained through the development of the Nissan LEAF NISMO RC, the first EV racer based on the mass production zero emission vehicle," said Shoichi Miyatani.

"The LEAF RC's energy management and efficient energy recovery system that is suitable for racing are just examples. We believe these technologies serve as important steps for using EV for motor sports."

The Nissan ZEOD RC will become the first car to complete an entire race lap of the 8.5-mile Le Mans circuit on nothing but electric power. The car will reach speeds in excess of 300km/h (185 mph) and lap the famous French circuit faster than an LM GTE car.

The driver will be able to switch between electric power and a small lightweight turbocharged internal combustion engine. The car – which shares the same battery technology as the Nissan LEAF – will recharge the battery via regenerative braking.

Fans will get the chance to take a close look at the Nissan ZEOD RC in the Fuji paddock throughout the course of the FIA World Endurance Championship weekend.

"This weekend is an important milestone in the journey to Le Mans for the Nissan ZEOD RC," Darren Cox said.

"Our goal for the program is to draw back the curtain for the fans to see the innovative technology that Nissan is developing. We could not think of a better place than the Fuji round of the World Endurance Championship for the actual ZEOD RC to appear in public for the first time. We have interrupted our intense testing in the UK to fly the car to Japan for this display for the Japanese fans."



“Our thanks go to the Automobile Club de l’Ouest and the FIA WEC for not only inviting us to compete at Le Mans next year, but also for the opportunity to showcase the car here in Japan.

“We’re going to let Michael Krumm take a look at the car for the first time, and he will join Lucas Ordóñez in a test driver role in helping develop the car. His experience in winning Super GT and FIA GT1 World Championships for Nissan will be a very valuable asset to the program. Michael is also a Nissan LEAF owner and a passionate believer in the future of electric vehicles for the road.”

Nissan is renowned as a global leader in electric vehicles for the road – selling more than 80,000 Nissan LEAF since the start of sales in late 2010. The Nissan ZEOD RC is the first step on taking the lead in bringing electric vehicles to the racetrack.

“The Nissan ZEOD RC will utilize technology never before seen at Le Mans and will provide a very unique experience for the fans,” Ben Bowlby said.

“To see the car go down the Mulsanne Straight at 300km/h in virtual silence will be very unique. Developing the battery technology to incorporate this into a Le Mans prototype is an enormous challenge, but the lessons learned will not only be very beneficial for the future LMP1 program, but also we can use this information to assist in the development of future versions of the Nissan LEAF and other electric vehicles for the road.”

Fans at Fuji Speedway this weekend will also see Nissan power in action in the LMP2 class of the FIA World Endurance Championship. The NISMO-tuned Nissan VK45DE V8 engine has dominated the season so far, taking pole position and victory at every round. With eight Nissan-powered LM P2 cars racing at Fuji the Japanese fans have a good chance of celebrating another win for Nissan.

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NISSAN ZEOD RC SET TO HIT THE TRACK FOR THE FIRST TIME

Testing and development of the World's Fastest Electric Racing Car underway

IRVINE, Calif. (Wednesday, August 28, 2013) – Construction of the first Nissan ZEOD RC chassis is nearing completion and the ground-breaking car that will “electrify Le Mans” set to hit the track for the first time in the UK in early September.

After the recent completion of the car's carbon fiber tub, a team of Nissan engineers has worked around the clock in the UK to finish the inaugural car build and fit the twin electric engines that will initially power the car.

Spaniard Lucas Ordóñez was announced last week as the official test and development driver for the program at the Nissan 360 global media event in California.

The 28-year-old Spaniard was the inaugural Nissan PlayStation GT Academy winner and this year recently scored a third place class finish at the Spa-Francorchamps 24-hour.



Ordóñez will climb aboard the Nissan ZEOD RC for the first time next week when his custom-molded seat will be manufactured. When the car hits the track for the first time, the ZEOD RC will run in pure electric mode with zero emissions.

Throughout the course of the development program, Nissan will test a number of “electrified” drive train options before locking in its package for next year’s Le Mans 24 Hour.

“We’re at a very exciting time in the development of the car and ready to kick off what will be an extensive test program between now and when we roll out the pit lane for the first time at Le Mans next year,” said Nissan’s Global Motorsport Director, Darren Cox.

“Just developing a single power train option in only twelve months would be a mammoth task but we’re looking to carefully examine a number of options to ascertain which will be best suited for Le Mans.

“But it is not just about what is going to be best for the race. We’re developing technologies that will speed up development of road cars in the future. The Le Mans 24 Hour is the toughest endurance event in the world and by participating in the event we can really fast track the development of some of these technologies.”

The target of competing at next year’s Le Mans 24 Hour is only the first step of a number of challenges Nissan is going to set for the innovative ZEOD RC program.

With Lord Paul Drayson recently setting a new FIA land speed record for electric vehicles under 1000kg, the Nissan ZEOD RC now has a new benchmark to aim for.

“While we’re aiming to reach 300km/h (186mph) under electric power at Le Mans, the Nissan ZEOD RC certainly has the capability to go faster than that in a land speed record configuration situation,” Nissan’s Director of Motorsport Innovation, Ben Bowlby said.

“At the Circuit de la Sarthe at Le Mans you have to have the right gear ratios installed to pull the car out of corners and chicanes. You don’t have a ‘flying mile’ with a long run-up before you enter the timing zone for a land speed record attempt.

“But that could potentially be our next target post Le Mans. Taking the Nissan ZEOD RC to Le Mans and becoming the first car to complete the entire 8.5 mile circuit is our first target.”



Nissan's invitation from the Automobile Club de l'Ouest (ACO) to compete in the 2014 Le Mans 24 Hours was announced by Nissan Chairman and CEO, Carlos Ghosn in Japan in February this year. The car will compete under the ACO's 'Garage 56' entry – an additional spot on the grid for vehicles that showcase new and innovative technology.

Nissan has partnered with French tire manufacturer Michelin to produce tires for the new prototype. Nissan previously joined forces with Michelin on the Nissan DeltaWing program.

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LUCAS ORDÓÑEZ SELECTED AS TEST DRIVER FOR NISSAN ZEOD RC ELECTRIC PROGRAM

Inaugural Nissan GT Academy winner to be the first to drive Nissan ZEOD

IRVINE, Calif. (Wednesday, August 21, 2013) – Nissan’s inaugural “gamer-to-racer” Lucas Ordóñez has been appointed as the official test and development driver of the Nissan ZEOD RC program – the unique electric race car that will debut at next year’s Le Mans 24 Hours.

Launched at Le Mans in June this year, the Nissan ZEOD RC will make its race debut at next year’s 24 Hours event. It will hit the track for the first time next month for testing with Spaniard Ordóñez entrusted with the development duties for the car.

The 28-year-old won the inaugural Nissan PlayStation GT Academy competition in 2008 and has gone on to become one of the star Nismo Athletes with Le Mans 24 Hours podiums, a championship win in the 2011 Intercontinental Le Mans Cup and a third place recently at the Spa 24 Hours for Nissan with an all-gamer line-up of GT Academy graduates.



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In addition to racing in this year's FIA GT Series and the Blancpain Endurance Series, Ordóñez has also made appearances in the World Challenge Series in the US, the Japanese SUPER GT championship and also recently tested a V8 Supercar for the Nissan factory squad in Australia. The appointment of Ordóñez was announced today at the Nissan 360 global media event in California.

"It's unbelievable. After working with Ben Bowlby and the guys developing the Nissan DeltaWing for Petit Le Mans, it's really amazing to have this great news," Ordóñez said.

"To work again with this group and to be part of this project for Le Mans is amazing. To actually start from the beginning of the project is just a dream for me.

"I'm really looking forward to working with the team to develop all the new technology in the ZEOD RC and to develop the car on track.

"It's a unique experience. I really like to learn from engineers, learn from teams and learn about new products like this because we get to do so much testing. That's what I need as a racing driver right now.

"I've been proud of my pace competing against all of the other drivers but now it's time to go one step higher in my career in developing the ZEOD RC."

Nissan's Director of Global Motorsports Darren Cox believes that Ordóñez will make a valuable contribution to the development of the new ground-breaking race car.

"The fact that Lucas didn't enter the sport the traditional way through karting and junior formulas actually makes him ideally suited for the development role for the Nissan ZEOD RC," Cox said.

"Lucas was the first to prove that the GT Academy concept works and the succession of Nismo Athletes that have graduated since that time has continued to show the program is extremely valuable in unearthing and developing new talent.

"The Nissan ZEOD RC is unlike any racecar previously developed and Lucas doesn't have 10 or 15 years of pre-conceived ideas as to what a race car should or shouldn't do.

"Our goal to 'electrify Le Mans' is just the first step in changing the face of motorsport and making it relevant to what we drive on the road and we're thrilled to have Lucas playing a key role in that process."



The first chassis for the Nissan ZEOD RC was recently completed and final construction of the unique car is currently underway. When it runs for the first time next month, the ZEOD RC will be in full electric-only mode.

Nissan is testing a number of electric drive-train solutions during the development of the car before locking in the package for next year's Le Mans endurance classic.

"I was very impressed when I worked with Lucas last year at Petit Le Mans and I'm looking forward to working with him again," said Ben Bowlby, Nissan's Director of Motorsport Innovation.

"Maybe it is the fact he was a university student before he entered the GT Academy program but he had an enormous hunger for information and data and wanted to know more and more about the car.

"On track he was incredibly smooth and consistent and it really is hard to believe he has only been racing professionally – in fact – racing anything at all – for only five years."

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NISSAN UNVEILS LE MANS PROTOTYPE PLANS WITH WORLD'S FASTEST ELECTRIC RACING CAR

Unique Nissan ZEOD RC is an innovative test bed for electric technologies

- Nissan ZEOD RC will utilise the same lithium battery technology as used in the award-winning Nissan Leaf
- The Nissan ZEOD RC will achieve speeds in excess of 300km/h
- Multiple electric drivetrain technologies to be tested before racing in 2014 Le Mans 24 Hour and assessed for potential in LM P1
- Nissan again at the forefront of Zero Emission and battery technology

LE MANS, France (21 June 2013) – Nissan today unveiled the groundbreaking, innovative ZEOD RC - the world's fastest electric racing car that will reach speeds of more than 300km/h with electric technology at the Le Mans 24 Hours

The ZEOD RC (Zero Emission On Demand Racing Car) will make its race debut at next year's Le Mans 24 Hour. The global leader in electric vehicles for the road, Nissan will trial variants of new electric drive train technologies as part of its intended future return to LM P1 competition to challenge for overall victory at the world's most prestigious endurance race.

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Nissan's invitation from the Automobile Club de l'Ouest (ACO) to compete in the 2014 Le Mans 24 Hours was announced by Nissan Chairman and CEO, Carlos Ghosn in Japan in February. The car will compete under the ACO's 'Garage 56' entry – an additional spot on the grid for vehicles that showcase new and innovative technology.

Run as a Nissan / Nismo full factory international program with input from Japan, Europe and the US, the Nissan ZEOD RC design team is headed by Ben Bowlby who has been newly-appointed as Nissan's Director of Motorsport Innovation and previously worked on the Nissan DeltaWing program in 2012.

While the car will not race until next year's Le Mans 24 Hours, Nissan today kicked off a unique aspect of the program – race fans getting the chance to unveil the car in the public area of the Circuit de la Sarthe. Nissan intends to draw back the curtain for fans across the globe to provide continued updates via its international partnership with YouTube and its Nismo.TV channel.

“Nissan has become a global leader in the development of zero emission automotive technology and the Nissan ZEOD RC will allow us to further develop those capabilities using the toughest endurance race in the world as a mobile test bed to test the potential of our planned LM P1 power train,” said Andy Palmer, Executive Vice President and Executive Committee member at Nissan Motor Company Limited.

“The Nissan ZEOD RC is a natural progression that follows on from the development of the Nissan Leaf road car and the Leaf RC race car prototype. The technologies developed through the ZEOD RC program will form part of future innovations for Nissan road cars.

“Nissan is already a global leader in the sale of all-electric cars and we're eagerly awaiting the opportunity to showcase the lessons learnt with the development of battery technology in the world's oldest, toughest and most high profile endurance race.

“The ZEOD RC program is designed to develop multiple technologies to evaluate how they could be used for a future LM P1 class return of Nissan at the Le Mans 24 Hour. There are multiple options we are investigating. A Zero Emission on Demand option where the driver can switch between electric and petrol-powered drive is a future direction for road cars, so that will be tested in addition to pure electric power and other new technologies that we still have under development.



“As no other manufacturer is using electric battery technology in endurance racing today, Nissan is innovating again and this will provide us with significant amounts of data and information to evaluate potential powertrains for future sportscar programs and allow us to continue as the leader in Zero Emissions technology on the road.”

Launched in 2010, the Nissan Leaf has become the world’s best-selling all-electric car. The Leaf won the 2010 Green Car Vision Award, the 2011 European Car of the Year, the 2011 World Car of the Year, and the 2011–2012 Car of the Year Japan.

Nissan launched the Nissan Leaf RC in 2011 – a race car prototype powered by the same 107-hp electric motor that is used in the road car.

While current battery technology does not provide the energy storage capacity to race a solely electric Le Mans prototype, Nissan ZEOD RC designer Ben Bowlby believes the development of the car will be an important step in the “electrification” of the racecars of the future.

“Developing a car like this provides an incredibly challenging test bed for what could be highly-effective options for road cars of the future. Throughout the next twelve months we will be testing multiple drive train options in an extensive test program,” Bowlby said.

“We have many options to consider and test. The test program is part of a longer term goal of developing a system and a set of rules for this type of technology in partnership with the ACO that would be best suited to competing at the highest level of this sport.”

“Nissan is a leader in electric vehicle technology for the road, now we want to take those lessons learnt and utilise that knowledge base in the development of the new race car.

“Our design team on the Nissan ZEOD RC program has concentrated heavily on packaging and aerodynamic efficiency that will not only provide extreme performance but high levels of energy efficiency – the goal for all global automakers.

“A large part of our work in the coming months is to discuss with the ACO future opportunities for the ‘electrification’ of the Le Mans rules in the future and work towards delivering appropriate technology. Garage 56 is a bold move by the ACO to showcase Innovation and allow testing of untried components and systems for future competition use. To this end they are the most forward thinking promoter in Motorsport today.”



Nissan will partner with French tire manufacturer Michelin to produce tires for the new prototype. Nissan previously joined forces with Michelin on the Nissan DeltaWing program. The Clermont-Ferrand-based manufacturer has an enviable record at the Le Mans 24 Hour, winning the past 15 consecutive races overall.

The Nissan ZEOD RC will make its testing debut later this summer. Nissan's assault on the 2013 Le Mans 24 Hour will again target victory in the P2 class with 15 of the 22 entries powered by Nissan. In the opening rounds of the 2013 FIA World Endurance Championship, Nissan has dominated, taking victory at Silverstone and Spa-Francorchamps.

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Q&A: Andy Palmer

*Executive Vice President and Executive Committee member
at Nissan Motor Company Limited*

Q: How is the Nissan ZEOD relevant to the road car industry

A: The Nissan ZEOD RC is extraordinary because we're creating a high-speed electric vehicle that will help refine and define the future needs of the consumer. In one of the modes under development, we're looking at a car that will have zero emissions on demand, as the name suggests. That gives the user, and in our case the race car driver, the opportunity to run, not only in electric-only, but to recuperate energy from braking events and to re-use that energy for acceleration purposes and also to run a range with an internal combustion engine (ICE) and liquid fuel.

But this is just one of several different power train options we will run in the car over the next 12 months to evaluate the most efficient and effective option. We hope to prove through extreme efficiency, exciting aerodynamics and tyre technology, just how effective a future road car can be in a race environment that is Le Mans - the finest endurance test in the world.

Q: Could this be the future for road cars?

A: I don't think there's a clear road map for the road cars of the future, other than; people will remain interested in innovative transportation solutions, they will be forced to have zero emissions under certain circumstances and people will also need the freedoms that liquid fuel offers for covering long distances very rapidly.

That is why we're using this car to test multiple options over the next 12 months.

The car is using the most up to date, modern technology, packaged in a car that is a completely new, exciting, dynamic prospect. I think that these elements, all wrapped together, make this car extraordinary and highly relevant.

Q: Explain Nissan's contribution to the project.

A: Nissan is an incredibly innovative company. We recognized the opportunity that Garage 56 offered and brought the DeltaWing to Le Mans. But realizing what this meant and what the future could hold, Nissan has been incredibly bold by going back with this extraordinary new car, not only with a narrow track concept and extreme low-drag dynamics, but also combining our future directions for road cars by using our battery technology. In doing so, we'll create a car that is totally relevant to the direction Nissan is taking for our road cars. It will meet government standards for emissions in the future, or even zero emissions in the city, and it will have the performance of a car with tremendous range and power. This is an extraordinary opportunity, seized by Nissan, to showcase to the world future technologies at the greatest race in the world.



Q: Isn't the perception by the average man on the street that electric cars are slow and can't go very far?

A: The wonderful thing about racing is it changes people's perceptions of technology. Clearly, Nissan is going to Le Mans to prove a point. We will prove that a battery-electric vehicle can perform with incredible performance.

Perhaps, the man on the street might think that a Ferrari GT is the fastest car out there, but this car, at the same track, at the same time, running on pure electric power could run laps faster than the Ferrari GT. I think that is an extraordinary statement. It tells us a lot about the coming age of electric vehicles. Our lives are dominated by the use of electricity and it's been a real challenge to have that electric power contained in our road cars and racecars. Nissan has been leaders in bringing pure EV cars to the mainstream for consumers. This is the next step in finding that niche that gives everything and more. We'll be testing zero emission options, sustained performance options and a combination of both.

Q: What are the other technologies you will try in the car?

A: We have a number of other ideas under development that will be looking to test in the chassis but we can't reveal details at this point in time. The goal for the program is to ascertain which technology is going to provide us with the best option of building a LM P1 programme around it. We intend to work hand-in-hand with the ACO to discuss future opportunities for the 'electrification' of the Le Mans rules in the future and work towards delivering appropriate technology.

Q: How does Nissan differ from other car companies in its push for innovation?

A: Nissan was the first mainstream automotive manufacturer to build a pure EV car. It speaks to our commitment for innovation and our boldness. We have challenged the world to take another look at a pure battery-electric vehicle. Nissan as a company believes in the application of technology to solve people's transportation needs. As a company, we're not afraid to innovate. The "new Nissan" is committed to producing products ahead of their rivals.

Q: Tell us why Nissan wants to open the curtains and let the world witness the development of this car over the next 12 months?

A: The Garage 56 opportunity means you're not really racing against anybody. Well, I say that, but we are in a way, because Nissan wants to show ourselves to be high performing on track. But, we aren't competing in the same rules framework as everyone else. So, this is a wonderful opportunity to show the fans what it is we're doing. We have nothing to hide. This is the technology options we're bringing to the race track and we can give them the opportunity to understand why we did things, what the parts look like and really invite them to see the heart of this ZEOD race car. I think that's one of the charming things about Garage 56: it's a showcase of technology and innovation.



Q: Is there a “moon race” of sorts happening with new racing technology?

A: One of the things that you realize when everyone around you has the same idea as you is that you're probably onto something and right now we're seeing innovation and electrification appearing left, right and center. We have Formula E kicking off, we see Paul Drayson producing an electric-powered speed challenger and obviously Nissan taking this car to Le Mans in 2014. It tells us we're of our time and this is what a lot of people are looking at.

This “space race,” if you like, is only going to add to excitement and the interest for the fans and create headlines and change people's perception of electric technology.

ENDS



Q&A: Ben Bowlby

Nissan's Director of Motorsport Innovation

Q: How does this car differ in its battery technology from what Audi and Toyota are doing at Le Mans?

A: Audi and Toyota are running pure KERS solutions, but we're looking at using electric technology in very different ways. We have a couple of different options we'll be testing – one where we'll switch between electric and petrol power with the push of a button. We're building an extremely flexible platform with which we'll be able to try multiple different options – even during the same multi-day test. It is about experimenting and gathering data to work out how we use electricity to develop a competitive LM P1 programme in the future. We will be working very closely with the ACO throughout the test programme to help develop where this technology fits within the Le Mans rules package.

Q: What are the key parameters for what this car can achieve with electric power?

A: The Nissan ZEOD, under electric power alone, could actually run laps around Le Mans, faster than a Ferrari GT car. This is a sub four-minute lap. It would be a record, because there is no official race lap record for a pure EV car. It's an extremely exciting statement. It tells us where the technology of the battery-electric vehicle stands today. But this is just one of the options we have for "electrifying" Le Mans. This is an intensive development program that we are also going to showcase to the fans – they'll get to see us test the different options over the next twelve months. Some ideas will work – some won't – but this is all about taking risks and not just building what everyone else is doing, launching a new LM P1 programme and expecting to be successful. Could we use electric power to Le Mans one day? We don't know yet, but we're not going to find out by just dreaming about it. Nissan is going to go out and find out what is possible and what can be done.



Q: Where is battery technology going? Are we presently constrained by what it can do for electric engines?

A: Battery technology will continue to develop and improve as new discoveries are made and laboratory breakthroughs are applied to production vehicles. This is the same as what we see with combustion engines where breakthroughs are made that allow incredible performance from efficient small capacity engines. It doesn't constrain use, it is just important to match it to the use the car or racecar is designed for.

Just as a diesel engine designed for a 4x4 wouldn't be appropriate for a supermini or single seater racecar, a 100% battery electric was not suitable for a 24-hour high-speed endurance race. But it is very important to remember that it is very suitable for a significant percentage of road car drivers who don't generally drive day and night at over 300 km/h.

I think what we're showcasing is a potential route that uses the existing technology within Nissan and its battery technology. Nissan is in a great position of having a suite of alternative fuel technologies in use or in development and can pick the best one for the needs of the car or even racecar.

Q: Explain the ACO's Garage 56 project. Do you think, after Nissan's work, more manufacturers will start fighting over the coveted spot?

A: The ACO have been incredibly smart to make the Garage 56 available and it's now becoming a highly desirable spot. I think the fact that there was no Garage 56 for years and suddenly since the DeltaWing in 2012, this is the start of a new brand of innovation.

The poor automobile has been stuck in suspended animation in many respects from an innovation standpoint. Suddenly, racing has become the place to prove new technology. This is why racing started in the first place. This is a key statement: that the ACO set up an opportunity for people to bring in cars outside the regulations and manufacturers have taken it up. Maybe we'll find there will be an innovation garage for GTs and for Prototypes someday, I don't know. The ACO were bold and look at how it's become a huge part of the Le Mans story already.

The great thing about this project is the fact that Nissan and the ACO want to use next year's car as a stepping stone to bringing electric power to the race itself where "electrified" cars compete in the main classes against powertrains.



Q: Are you hoping to inspire designers, students of engineering and race fans?

A: I think everyone is interested in something new. People are sometimes afraid of change because of the risks involved, but new things are always worth a second look. I think the Nissan ZEOD race car at Le Mans will not only attract the interest of youth, but I think it will attract the complete gamut of spectators; middle age men and women as well as young people. It will also be interesting to the older generation, looking back and thinking on innovations of the past.

It's of our time. We're doing something new and different and it has a long story. This is not a flash in the pan. This is rolling into the future of the automobile. I think it might inspire people to get involved in the sport. It's certainly opened people's eyes to the technology they'll be encountering in show rooms in the future. It will also inspire people to believe that racing is more than cars going around in circles it is a demonstration of technology of the future.

Q: It's a steep climb to change people's beliefs on what should power the automobile. Will the Nissan ZEOD be a tipping point?

A: I think the young generation, we'll call them the iPod generation, who have become accustomed to plugging in their smart phones in the evening, are less concerned with the concept of having to plan and make sure that their transportation is fully charged for the following day.

Having said that, we don't know what the future of transportation is. We do know that we have more cars on the road globally than ever before. We know that the amount of energy consumed by human transportation is at the highest level it's ever been. As a result, there are challenges from an environmental standpoint, from an economic standpoint and from a sustainability standpoint. It is our jobs as engineers to innovate and make sure that consumers continue to be able to purchase the comfort, performance and pleasure that something like an automobile can bring. I think we're all searching for new directions and ways to meet people's needs.

The electric car as we know it is becoming a more and more exciting vehicle. It's more of a high performance machine and this racecar will prove that. All these technologies are stepping-stones to the future, in our case, in motorsport, for future motilities.

Q: From a performance standpoint, can you see that the future generations are going to look at high performance electric vehicles the same we have looked at petrol-powered cars in the past?

A: I think that the excitement of the racing car should be mirrored in the excitement of driving the road car. With the sheer weight of traffic and burden of safety means we don't enjoy driving our cars as much as we wish we could. I think when you take elements of what we see in the racing program and bring some of those emotions to the road is extremely important. Yes, we want to make a car that is a pleasure to drive on the road and I think there are elements we can bring from the race track to make these future road cars more exciting, more fulfilling and give greater driving pleasure. I think that's very much a part of what the Nissan ZEOD stands for.

ENDS



Q&A: Billy Hayes

Billy Hayes, Nissan's Vice President in charge of global sales of the Nissan Leaf

Q: Why doesn't Nissan just develop a fully electric racecar like the Nissan Leaf?

A: There is no question of us moving away from pure 100% electric vehicles and that is a direction we have committed very strongly to and will continue to progress with. We are seeing a growing demand for EVs globally and we have now sold more than 65,000 Nissan LEAF since the start of production in late 2010.

The future of mobility will see a range of solutions that will include hybrids, range extenders, fuel cells and battery electric vehicles. We'll be trying many of these technologies during the development of the Nissan ZEOD RC.

We should remember that no single technology has dominated globally since the beginning of the automobile with diesel and petrol vehicles growing or waning in popularity depending on the price of fuel or government policy. Different driving patterns, government policies and customer preferences mean a range of technologies will be necessary and Nissan is in a great position to deliver these technologies.

Q: Does this vehicle use a Nissan LEAF motor or battery?

A: The ZEOD will use technology that has come from the huge research and development efforts that Nissan has dedicated to making our own battery and electric motor. They are not exactly the same units as the road cars because the demands put on the system are nothing like they would be on the street. It does utilise the same core battery technology however. It is the same story as you will see with the engines or transmissions in an LM P1 or LM P2, they utilise the same technology and the lessons learned from road cars, but they are not identical.

Q: Will LEAF get zero emission on demand technology in the future?

A: The Nissan LEAF was always designed to be a 100% electric vehicle and that means we could make the most of the advantages of the electric drivetrain and achieve a fantastic centre of gravity and excellent interior space. The options for the new racecar are very relevant on road cars, but it is not going to be used in the LEAF, which is a dedicated full time EV. We know from studies conducted by ourselves and others that most consumer's daily driving distances are significantly less than the 199km maximum range of the Nissan LEAF.

Q: Will the technologies developed in the Le Mans car be transferred across to the road?

A: We are really excited about the potential for these technologies and we will reveal our plans for the road in due course.

Q: What is Nissan's next EV?

A: We are launching the e-NV200 100% electric van next year and that opens up a whole new zero emissions market. We have had prototype versions of the van running with partners like Coca-Cola and FedEx across the globe to test it in real world conditions and the feedback has been fantastic. We will produce the e-NV200 in Barcelona, Spain with battery packs made at our UK battery plant.

Q: Has EV failed, aren't the sales figures disappointing?

A: The Nissan LEAF is the best selling electric car of all time and our sales across the globe are going up, so no we are really positive about the future. If you compare how many Toyota Prius were sold in the first two years of sales and how many Nissan LEAF have been sold to date then we are 30% ahead of where that vehicle was at the same point. To put that in context, Toyota now makes 1 million hybrid vehicles a year. To get into specifics we have had some excellent months in 2013 for sales in the US and in Norway we were the second best selling car overall in April, beating a host of household name internal combustion engined cars.

ENDS

