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PODCAST

## ABB Decoded

Stoffel Vandoorne, the reigning ABB Formula E World Champion, discusses the new developments of the all-electric motor sports series ABB FIA Formula E World Championship.

**Anthony Rowlinson:** Hello and welcome to ABB Decoded, the podcast that tries to press pause on our fast-moving lives, and to make sense of the technology and trends that are shaping our world. I'm your host, Anthony Rowlinson, and we're joined for this episode by Stoffel Vandoorne, the reigning ABB Formula E World Champion. Vandoorne, who is Belgian, has for several years been one of the leading competitors in the all-electric motor sport series and last year crowned an already highly successful career with his first world title. Racing this year with the DS Penske team, Vandoorne, an ABB Ambassador, has endured a challenging start to the season. But as you will hear during this conversation, the intensity of the competition in the ABB FIA Formula E World championship came as no surprise. Indeed, as Vandoorne notes, "Fighting for victory against a bunch of the world's top racing drivers, each equipped with similar all-electric race cars, is one of the strongest appeals of this unique motorsport championship."

**Stoffel Vandoorne:** I'm Stoffel Vandoorne, 30 years old and I'm driving for DS Penske in Formula E.

**AR:** Now, obviously, you are reigning world champion, in ABB Formula E. I'd like to start, if you don't mind, by taking you back to last season, which was quite a dramatic season, the end of Gen 2. You had quite a stealthy approach all the way through and you ended up as World Champion, so could you just talk us through a bit about last season.

**SV:**

Yeah, last year was really a great season for me. You know, obviously, getting away with a world championship doesn't happen every year. But I would say kind of the season as a whole was, was very, very consistent. And I would say that consistency is kind of the word that comes into a lot of people's minds when they when they think about my season. I think I've been on the podium eight or nine times during the year, had a victory in Monaco, which, you know, I might be biased, but for me it was it was the best one to win during the year. You know, it's Monaco, it's always got this special heritage about it, the special buzz and, and it's also kind of a home race for me. So yeah, that was really a highlight of my season. But then, yeah, I really enjoyed the year to be honest, because it was all about, you know, scoring the maximum amount of points, but it was also a very great fight between,

like four consistent drivers. It was JEV [Jean-Eric Vergne], Mitch Evans and Edo [Edoardo Mortara] were kind of the, you know, and myself, obviously, were kind of the four, the four main guys all the way through the year. And that's something I personally really enjoy, this, this, you know, that competition, that pressure on your shoulders every weekend to yeah, to have to perform.

**AR:** It seemed like you took quite a stealthy approach to the championship, almost – as if you had your eye on the big prize, not necessarily winning every battle every day, every session, but you definitely seemed to have your eye on winning the championship. Is that fair?

**SV:** That's pretty fair to say. I think, you know, if I were in a different position in some races, like London, maybe New York, where I was running second and very closely behind the leader, maybe I would have tried something to win that race. But looking at the bigger picture, it was, you know, absolutely necessary to score those points and to not take that risk. So, yeah, maybe not the most amount of victories. But, you know, I always had a championship in mind, and especially when I kind of had a little bit of a healthy lead, I just couldn't afford to make a mistake and give that up. So yeah, sometimes it was better to look at the bigger picture.

**AR:** You have a slightly unusual experience of winning the world championship and then your team leaving the championship – Mercedes EQ. They decided not to compete in Formula E this year. How does that affect you as a driver?

**SV:** To be fair, you know, the good thing was that everyone knew the news about Mercedes leaving quite quite early on, so we kind of knew it with one year in advance. And I would say that gave me the opportunity to just focus on on my job and to, you know, already early on, start negotiating contracts for the season after. So I actually had a contract with with DS Penske fairly early on in the season, which made it very easy for me to just focus on what I had to do. And everyone in the team, despite, you know, Mercedes, pulling out at the end of the season was still very, very motivated and wanted to absolutely finish on a high and repeat what we did the year before – was winning both World Championships. And yeah, that's exactly exactly what we what we managed. So yeah, it was it was great, to be honest, you know, to not have any contract pressure as well on your shoulders whilst you're fighting for for a championship.

**AR:** Going out with a bang in a way. Winning both titles and then saying goodbye.

**SV:** Definitely, yeah.

**AR:** Before we get into the Gen3 and the season ahead, I'd like to ask you about how you got to this point in your career, because not every driver does Formula E. A lot of drivers follow a different path. But you have come to Formula E – ABB Formula E – and you've enjoyed great success. But how did you get here?

**SV:** Yeah, I mean, I've obviously gone through a lot of motorsport series. First of all, the junior series, then kind of got picked up by McLaren in GP2, which which I won as well, the championship. Did a stint in Japan, actually, in Super Formula, which was quite an experience as well. And then I ended up doing two years in Formula One with McLaren. That didn't go to plan. You know, it was obviously not my, my two greatest years that I had in, in

motorsport for, you know, for many reasons. I'd say, you know, the car at the time was maybe not, not, not the best one. And it was, it was two difficult years. But that gave me the opportunity to join Mercedes in in Formula E. I remember when I first got on the phone with Toto, he said: 'Look, we're going into Formula E, it's going to be a completely new project for us, we're going to start to do it with HWA. And then we'll transition into a fully manufacturer team the year after.' So I decided I wanted to, you know, take on that challenge. And it was very difficult in the beginning, you know, the first year was with HWA, which was a brand new team. They they already ran Mercedes cars in the DTM, actually, but they had no experience in Formula E. So the first couple of races were definitely, yeah, kind of a lot of head scratching, and not really knowing what was going on. Because this championship is, is so particular in the way, the way you run a race weekend already, it's everything happening in one day: two practice sessions, one qualifying, one race. There's really no time to really analyze anything about about data. And it's not like, you can build a weekend. You have to come prepared. And we definitely were not prepared when we started this journey. But you know, we had some incredibly clever people on board, a lot of experience, guys from Formula One, even in from other racing series. And slowly we kind of, you know, built up the team from scratch. And, yeah, I think the rest is kind of history, you know, we had four successful years with, with Mercedes, and a lot of victories and a lot of championships.

**AR:** And Toto Wolff, just to explain, for some listeners who might not know, is Toto Wolff, the boss of the Mercedes Formula 1 empire, and other various motorsport interests.

**SV:** Yep, exactly, yep.

**AR:** Just going back to your point about Formula E – ABB Formula E – being a very unique championship. Could you explain some of those differences, again, to a listener, who might not be aware of how electric motor racing is different from conventional motor racing? What are the challenges that you face?

**SV:** So I'd say early in my career, when, when you kind of go through the junior ranks, every step you make is kind of, it's kind of logical, you know, because every car you go to it's got a bit more power, got a bit more downforce, got better tires, better brakes. So basically, when you step up, you know, you can brake a bit later, you go a bit faster through the corners, and you have a bit more power.

You then get to Formula E, and suddenly everything is different. First of all, it's an electric car, so that gives a complete different feeling on braking, just because of the energy that we are recuperating, under braking, I would say that was the biggest thing to get used to, is to the feeling of the brake pedal, because it just doesn't feel really connected to the car, let's say, you know. it's there's a lot of software involved behind these cars. And, and I remember that was just the biggest, the biggest change.

Then we have the tires that are completely different because they're all-weather compound. They, you know, they work in the dry, they work in the wet. So there's only one one compound for those. But then I would say you know, the basics still remain the same. It's still a racing car. You know, we're racing on street circuits, so very narrow margins, and you've still got to drive it as fast as possible. It's just the feeling of the car is completely different.

**AR:** And obviously, you have a lot of these very intense, street circuits. They're not always on the streets, but street-style circuits, tight chicanes, tight corners, and a very strong

driver grid. So the intensity of the racing is very high. Does that affect the way you go about your racing? Is it very, very tight competition? It feels that way.

**SV:** It's a very tough championship, mainly because of the regulations of the car. That means that the differences between all the teams are extremely small. And on top of that, you've probably got one of the strongest grids in motorsports. If you if you look at it, you know, all the drivers that are in Formula E, they've won a lot of championships in the past. They've got experience in Formula One, Le Mans, other, you know, big motorsport events. So everyone's is hugely experienced and it's very tough to go up against the strong drivers. But it's something that I personally enjoy very much because you know, when you do a good job and you know, you come out on top then yeah, you've definitely done an incredibly good job. So that's yeah, that's always nice and the circuits are challenging. They're like you said they're always street circuits, tight chicanes. The management of the race is very complex with the energy management we have to do. And everyone is so close to the limit. So competition is extremely high.

**AR:** You mentioned energy management. And it's an interesting aspect, particularly for ABB. What does that mean, in a racing car? And when people hear, like, "lift and coast", what does that mean, again, to the non-expert, but what does that mean? How does that affect your driving? What are you doing?

**SV:** So basically, we've got a battery capacity, which is not necessarily enough to get us to the end of the race. So they make the race longer. To make it tough for everybody to get to the end. So that means we have to do management in the car, which means that we, we can't go flat out on every straight. It means that we have to lift to a certain degree, to be able to make it to the end of the race. That aspect is actually bringing a lot of action to Formula E, a lot of overtaking has happened that way. And it keeps the race very, very close together. Because the cars that we were having, they're able to follow each other very, very closely. Those energy management, usually we prepare them in the simulator beforehand. So they're, you know, we don't we don't have any time almost when we get to the circuit to, to really optimize that. So it's really all about the work we do in the simulator and kind of prepare that system, before we hit the hit the track and then then it's up to the drivers to be honest, to kind of fine tune that whilst whilst we're racing. So there's a bit of, you know, you have to be able to be dynamic within the car as well. And sometimes that that's what can make a big difference.

**AR:** It sounds from what you're saying is if you probably have to bring an awful lot of your racing experience to this championship. You're 30 now, you're probably at the peak of your career in some ways – winning world championships – Do you feel you have to bring everything you're got to the table at every race?

**SV:** I definitely do. You know, these cars are so technical, not only from the energy management point of view, but there's the whole car setup, there's the tire usage, which, which is quite particular for this, this championship. We don't have tire warmers, so to bring the tires in the right window is very complex. But I would say especially the software of these cars are the key, let's say. There's a lot of very clever systems on these cars to help us drive these cars, let's say, because they are very, very peaky, very challenging to drive. But when the systems aren't set up correctly, the car feels horrible, to be honest. So it's important to to actually have a good team behind you. But us as drivers, we have to, we have to guide the team to give you the right tools as well. So it's, I feel like Formula E is

very important to have experience. Because you can just make such a big difference, if you understand the cars, if you understand the tools that you have available, the software systems. If you're, yeah, if you're able to, to get it a bit better than your competitor, then yeah, it can be a big benefit.

**AR:** It sounds as if you have to be someone who's a leader, as a driver, but also be very collaborative with your team. Is that how it feels for you?

**SV:** Yeah, definitely. I mean, now I've been, you know, I've been in Formula E for four years, it's my fifth season now. And I just remember when I first turned up in Formula E, I was experienced as well. But I came from Formula One, and I was experienced in a different way, but I knew nothing about Formula E. And now I've built, you know, four years of experience in in Formula E and and that definitely, you know, helps myself as a driver to know what I need from the car and how I can drive this car the most efficient. But I also feel 100% that I need to push the team in certain areas to, or you know, to guide them to where to put their focus, let's say and I think that's what the teams that ultimately they look for that as well. They want the best drivers, they want, you know, the quickest ones, but they also want the ones that they can develop their car with.

**AR:** And I guess when you have the World Champion tag, that gives you an extra bit of clout, if you like, when you are in team meetings.

**SV:** It always helps. But you know motorsport is a funny, it's a funny sport. You win the world championship one year, and there's no guarantee you're going win it the next year. So you constantly have to prove yourself. It's not because I've won a world championship now that I can back it off and just sit back and relax. Contrary, I feel, you know, I feel like I have to, you know, put even more effort in now to try and retain that and to keep up level of performance.

**AR:** And of course this year with the Gen3 car introduced and ABB is charging partner, Hankook is tire partner. So much has changed. I mean, team-driver combinations have changed like yourself. In a way everything you thought you had before has changed. So I guess you're having to completely reset a lot of your approach for this season.

**SV:** Yeah, definitely. It's, it's a big change not only for for myself, but for everyone on the grid because of the new Gen3 cars. But for me, yeah, changing team first of all, is, is a big, big challenge, because you get used to work in an environment and used to the people you're working with, and suddenly, that's all changing for me. So that, you know, that takes naturally a little bit of time in the beginning to get used to. But so far, you know, I've settled in very well and really feeling at home with the team. So that's, that's good. And then yeah, there's the cars. You know, a lot more power, different tires as well, which is probably the most complex part about about this new car. Couple of new systems on the car. We've got now a motor at the front axle actually of the chassis, which is giving us a lot more regen power. So last year, we had 250 kilowatts of regen, now we have 600 kilowatts. So it makes this car extremely efficient under under braking, in terms of the amount of energy we can put back in the battery.

**AR:** You mentioned the extra power of Gen 3 cars. Watching from trackside they look like quite a handful. It looks like you're having to use quite a lot of skill to get them on the fast lap. How does it feel from the cockpit?

**SV:** Yeah, it's definitely the most challenging car because we've got more power than last year, but at the same time the tires change and they've got a bit less grip. So more power, less grip is not necessarily the right combination you're looking for. But you know, they're very peaky, very challenging. And I think you can see that from trackside as well, that, you know, they look challenging to drive. But it's it's nice, you know, it's part of the game, it's the same for everybody. And in the end, we have to try and do a better job than the others. So yeah, we'll see how we go.

**AR:** Just to give the listeners, again, some some indication these cars are capable of doing easily more than 300 kph on the straight, 200 miles an hour. So that's a pretty fast racing car now.

**SV:** It gets very quick. And you know, we've we've been to Mexico now, which is kind of a semi street circuit. But I'm really looking forward to see, you know, the cars on the real street circuits like Saudi, Rome, where the walls are extremely close. You know that I think there'll be a big, big challenge for them. I'm looking forward to that.

**AR:** One more question. I should ask you. What's it like being in an electric racing championship, in terms of what it says about e-mobility and the EV transition you see in the wider world and moving away from combustion vehicles to battery-powered cars.

**SV:** It's great to be part of that. And, you know, what is great to see is that with DS, for example, the team that I'm that I'm racing for, they're going fully electric in 2024. So all the technology that we are developing in Formula E is kind of directly transferred into their road car. So we're kind of a testing ground for for that, let's say. So it's great to be part of that. And it's great to see that technology transfer between racing and the road. And then, you know, there's obviously the bigger environmental picture of Formula E that is all about EV, sustainability. So I feel you know, this championship is different than other championships.

**AR:** And just on that point, ABB Formula E has obviously come a very long way since those Gen 1 cars, which wouldn't even last a race distance. How far do you see this championship going? Can you see like, a Gen4, with even more powerful cars? What do you foresee?

**SV:** It's very hard to know what the future is going to look like. But I feel like there's there's huge potential with these cars. I mean, personally, I would like to see the cars go a bit quicker, which I feel like at the moment is not that hard to do. There's, you know, a couple of little tweaks that the cars can can become even more powerful, can have a bit more grip. And can can have great racing. And I think that will help to, you know, to boost the championship a little bit as well, to really show the performance of electric cars, really what they can do, because at the moment, people are a little bit skeptical about electric cars. But every time, or almost every time, that someone tries an electric vehicle, they say: 'Wow, this is really nice'. And I think it's just a perception change that we need to try and get.

**AR:** And obviously the championship in a way is at the heart of trying to make that connection or shift those perceptions.

**SV:** Yeah, I mean we are at the moment you know, but if we push the technology even further and show how quick these cars can go, then maybe people will change their mind.

**AR:** That notion of racing with a purpose has always been at the heart of ABB Formula E. And perhaps it's an idea worth keeping in mind when you next watch Vandoorne and his fellow racers going wheel to wheel at 300kph as they compete for this year's world title. It's more than a race. ABB will be covering season 9 of the world championship on its social media channels throughout the year. And you can find the latest ABB Formula E news on [new.abb.com](http://new.abb.com), which is also a window into the wide world of ABB. And if you've enjoyed this episode of ABB Decoded, don't forget to like, share and subscribe wherever you get your podcasts. Until next time.