

**00:08**

Hello listeners, hello listeners, it's Greg and I'm very pleased to see you again for a new episode of the Transition podcast. Probably, if you listen to this podcast, it's because you exercise regularly, or at least from time to time, and it's a subject that interests you. And if you regularly exercise, follow [nakan.ch](http://nakan.ch) and listen to the podcast, you may have a GPS cardio watch on your wrist. When you train. If so, you may have already wondered how brands develop models, how they choose the features that will appear on the watch. And that's exactly the theme of today's episode, since I welcome Kevin Kroc, who is product manager at Suunto in France.

**00:54**

Where it's interesting is that Kevin has a very technical background and that allows him, in the world of cardio-GPS watches, to be super sharp when we talk about developing a watch, features and that sort of thing. So, without further ado, I invite you to discover this episode and first, we will obviously meet Kevin. So today I have the pleasure of welcoming Kevin to the podcast. Kevin who represents Suunto here and with whom we will obviously talk about sports watches and in particular a little bit about Suunto watches. So we're going to review the brand a little bit and then discuss a little bit about the development of a world, the challenges that exist at that level. But first of all, obviously, Kevin, welcome to the podcast.

**01:42**

Maybe I'll let you introduce yourself to our listeners, tell a little bit about who you are, what you do at Suunto, and then we can talk a little more about the brand. THANKS. So, I'm Kevin Croc. I am 36 years old. I live in Auvergne. I am a Suunto employee. But I think that before developing my function, just a little step back. Basically, I come from a background really in electronics and industrial computing. Then I headed to the business. Why am I telling you about this?

**02:15**

Because I have a somewhat hybrid position within Suunto, since I take care of the management of major sports accounts for France, so that's really the business part, and I'm what we call an expert product for France, since I am attached to the Finnish testing team, which leads me to participate in product development and in particular to help my marketing colleagues when necessary on technical subjects, or even when it There is a need to have technical support for our athletes, in particular. Alright. Indeed, it is often with you that I discuss when there is a new model that comes out and then you explain very precisely which functions work how. So, you're the technical expert, among other things.

This is one of your caps at Suunto France. So. So, I try.

### **03:16**

I'm trying to do my best, but here it is. That's why I talk a little bit about my journey, because sometimes it's hard to understand this position, but basically, I still have an affection for everything that is the technical field. And then, I imagine that when you develop a sports watch, when you participate in its development, you yourself are quite active, sporty. So, on a sporting level, what do you practice?

And then, how do you test the watch in real conditions? I have a fairly versatile practice. I come from motor sports, I rode speed motorcycles competitively. To do this sport, we tend to do sports like mountain biking, running, that kind of thing. I started with cycling, mountain biking.

### **04:04**

I had a big motorcycle crash that left me unable to use my arms, which led me to running. Living in Auvergne, I turned more towards trail running without knowing what it really was. I retrained and started trail running. I'm more of a trail runner. I do a lot of mountain biking, I do a lot of road biking, and I also do diving. So. And besides, my first Suunto tool was a diving computer and not at all an outdoor watch. All right.

So in fact, you group together quite well the sporting activities offered by Suunto, outdoor, trail running and then diving which is really the historic profession I would say of Suunto. Yeah, exactly.

## 04:55

Afterwards, I think it might be a good idea to take a quick look at Suunto. Yeah yeah. So, indeed. Where does Suunto come from? And then, how did we get with this brand to today, with our sports watches? So, I'm not going to tell you all the detailed history again, but it's quite important because ultimately, we realize that the name Suunto is still known, but in fact, I find that there is not enough people who know a little about the course. Overall, we are a Finnish company which was created by Thomas Volonen in 1936. So, we are very, very, very, very, very old. Basically, he was an adventurous explorer who had a problem since at the time he used compasses and flat maps.

## 05:45

Basically, he fitted the liquid compass to his wrist. He made it into a small tool, really like a watch in 1936, like a portable compass with a leather watch strap. He managed to industrialize it and as a result, he created Suunto which means direction in Finnish. A little aside on that though, is that for us, the name has never changed, the logo has never changed since 1936. It was already Suunto with the little red triangle. And I find it quite funny now the brands which are returning to old... Here is a car brand now which is returning to old logos. There was no revolution. There was no return to the old logo, but that's always what it was. I find it really interesting.

And so, from there, it became industrialized. And why diving?

## **06:37**

There is an English diver in the 60s. Because in diving, we need to orient ourselves even more at the time. Who generally tested it underwater and it worked. And so, from there, there was Suunto, generally, Suunto Outdoor and Suunto Dive. But what's super interesting is that it actually came from the same innovation. There you go, it's a single innovation and it was divided into two parts, after which they always evolved in parallel, we will perhaps see that a little later.

Then, in the 90s, it was the advent of everything related to mountaineering, Himalayanism, etc. And at that time, we had the watches we call ABC, they are barometers with compasses. So digital. And overall at the time, there weren't many people who could do it.

## **07:40**

And if you were going mountaineering, at that point there is basically no other choice but to have a Suunto instrument. What made our reputation is that... It has always remained, we still produce this type of watch. Truly reliable and robust products. And besides, what's amazing is that we still have this type of product that is still in use today. So, these are watches that run on batteries, are very easy to change, etc. And these are products that are super robust. So there you have it, that's really the 90s. And then, it's a little later, because often, people forget a little bit that the GPS watch is not that old, it's even rather recent. In the 2010s, so 2012 for us, we created the first ambition, still in this spirit.

## 08:37

That's a name that still resonates quite a bit now since we've had three generations. The Ambit range was the first outdoor GPS watch which had no competitor on the market in relation to its specifications. That is to say that we already had a watch which had a completely crazy autonomy for the time and above all a watch which was already hyper precise. And that was durable. So really at that time we shook up a little what existed on the market. It was a very, very big innovation and so from there there were bits 1, 2, 3 that people know very well and there we were clearly the leaders in this segment of the outdoor because To give you an idea, high sleep was not necessarily developed.

## 09:36

For the older ones, there were the 310XTs, the small plastic boxes, etc. But it was not necessarily the high dimension sleeps. Still on track, in 2016 we had Spartan Ultra, then Sumpto9 Barreau, Sumpto9 Peak, Vertical, and now Race. Afterwards we have a product life cycle which is initially quite long. The small peculiarity is that we, in Finland, basically, have the head office, the offices and the manufacturing plant which are on the same site. So that's really important to know. That's what you told me when we were preparing the show, that in the Suunto premises, when you arrive in Finland, you enter the building, on the right, it's research, development, then on the left, it's the production of watches or the opposite, but there you go. Well, it's the opposite, but yes, that's it, that's...

**10:43**

No, it's a single entity. So, we are in Helsinki... Well, we are in Vantaa, it's the suburbs of Helsinki. And yeah, that's exactly it, it's all in one place. Then, I think it's a real strength for us to have everything in the same place. Yeah, yeah, absolutely. So, like that, when you have a Suunto watch on your wrist, you know in which building it was produced because there aren't 36,000 solutions and that's already very cool, just the fact of knowing that it is produced in Europe because it is still something quite rare. Yeah, and a little fun thing for those who like to have fun with Google Earth is that if you go to the Suunto building, you will see on the roof, there is the Suunto logo and the arrow indicates north.

**11:27**

So there you have it, that was the little parenthesis on that. Okay, so to your Google Earth searches for the Suunto headquarters building in the suburb of Ei Zinki. So you said it, the arrival of GPS watches at Suunto around 2010-2012, the market already exists, these very beginnings because GPS was made public by the United States government at the beginning of the 2000s, so it began at that time, before there was no GPS for civilian use, and then at the beginning you say it, everyone is looking a little bit in this market, there is Garmin on one side, there are a few watches, I remember the Polar where in fact the watch itself was not GPS, but you could buy an additional GPS module to measure your distance.

## **12:18**

We're starting to tinker a little bit with this GPS technology. And then there, Suunto is really making a place in this market. And everything was going well for Suunto until Garmin released the Fenix 3. Basically, overall, what happened was that we were really clearly the leaders in that market. Garmin was a little more into running. So afterwards, I don't worry about talking about our competitors or Garmin, I talk to them in complete transparency. Garmin is also a behemoth. The shows part and even more the outdoor part, it's a part of their business since they are in the nautical, avionics, that kind of thing. We, overall, only manufacture watches and compasses, so we are not in other areas of activity, we are really in the outdoors.

## **13:12**

And what happened was that Garmin, at one point, was still interested in this thing. And that's what's quite interesting, is that there was Phoenix 1, 2, I think it's 2013, something like that, but they got into it quite late, and in basically, in 2015, Garmin arrived with the Phénix 3. Which was really their first real very very powerful phoenix so they arrived on this market. At that time we had the Ampide range in bits and we had our Spartan Ultra in the pipeline. A year later, we released the Spartan Ultra, which came next. This shook us up a bit, knowing that we have always had product life cycles.



**14:05**

Which was quite long and we tend to release news when there is really something new. We're not going to try to release it because we have to release a watch every 6 months or that sort of thing. And there you have it, that shook us up a little in 2016. We released this Spartan Ultra, which had variants, and in fact what happened was that from 2018 we had to release this Suunto 9 Barreau, which was really a more mature version of Spartan Ultra. But basically, Garmin has clearly shaken us up with this Phoenix 3, and even more behind, since they have greatly reduced the product life cycle, because they have a fairly significant strike force.

**14:58**

And there you have it, it clearly shook up a little bit, well it shook us up, I think that for Polar as well, even if it's not necessarily the same area. Indeed, there is the Fenix 3 coming out. Then, what I felt about that, I had tested Ambit 3s from Suunto. I think these are the first watches I tested from Suunto. I hadn't had an Ambit 2 before testing it on the site. The site started around 2010-2011. I didn't test the Suunto watches right away.

But when I found myself with the Ambit 3 and then with the Spartans, we still had a bit of this feeling of haste, of products not quite finished, especially with the Spartan Ultra which was arriving on the market.

**15:52**

So, that ties in a little bit with what you're saying, we had to respond, we had to react. So, as a result, they put you a little bit in an uncomfortable situation which was not necessarily your product cycle which was planned. And we had to shake things up a little bit and then I think that Suunto had to integrate features very quickly so as not to lose the train that was getting underway. A little bit of that with the optical heart rate which arrived a little bit, suddenly there is a watch from the Spartan range which was equipped with optical heart rate but not the others and then that kind of thing. Have things calmed down a little now?

**16:34**

Afterwards we will develop a little bit the development life cycle of a watch at Suunto, but are you now still in this mode where we look a little bit at what the market is doing and then we adapt, we react, etc. You have returned to a pace of development where you have a little more time to put things in order and develop products in a slightly more calm manner. Yes, we have to look at what is being done. It's a market that has evolved and changed enormously in a very short time. I also think it's a lesson to follow your own pace with your own research and development capabilities.

Not to get lost in a rush to want to respond to competitors. In recent years, we have learned from some failures.

**17:35**

There we clearly seek to stay in the field in which we are strong, that is to say the outdoors and our own product philosophy and the luck we have on the market in particular for outdoor watches is that overall, there are not a lot of actors, and each one has their own specificities. Even if we have a new arrival like Khoros, which on certain products has managed to put itself in front with a little bit from Garmin, a little bit from Suunto, that kind of thing, but each one really has its own differences, and I think that Suunto would make a serious mistake to absolutely want to follow what Garmin does.

## **18:20**

So now, the development of a Suunto watch, as you say, is a little more serene, but we still have to monitor a little what the market is doing and in which direction the market is going. Suunto has always kept this more outdoor and wide-open space spirit. We were talking earlier about the two Finnish brands, Polar and Suunto. Suunto has always been a little more mountain vision, trail and then very outdoor activity, Polar perhaps a little more performance, the athlete who is on the road or on the track and even if there is a little bit overlap on each side now obviously with the functionalities found in watches, but that's still a bit of Suunto's vision and it's still that market that you're mainly targeting. Yes, exactly, and I think people are coming for these Sumtos.

## **19:13**

The very essence of Sumtos is really the robustness, reliability and precision side. Afterwards, there are plenty of other features, but I think that that's really the essence of Sumtos, and it's three major criteria or four criteria that we absolutely must be able to value and respect when... . Our customers buy Sunto, but it's really in this golden water spirit. That's what we are, and I think that if we tried to absolutely do Garmin in certain aspects, I'm not sure that we would attract more customers or that kind of thing. I think people really come to Suunto for what the essence of Suunto is. Afterwards, we have a system which is very different.

## **20:03**

I don't know if we're going to talk about it later, but we really want to have watches that remain fairly easy to use, that we're not going to cram in lots of features that people won't be able to use. not necessarily use it. For several years, we have had this Sunto Plus Store which allows everyone to adapt their watch with lots of features, but these are not necessarily default features, because the idea is really that everyone can personalize their watch, add features and not remove them. That is to say, the watch is as it is, you could have tried to add features, whereas I know that with some of our competitors, the watches come with a whole bunch of features and if you don't you don't want to use them, you must deactivate them. It's really a philosophy that's a little bit different.

## **20:58**

Afterwards, we have a system which is ultra open, we have more than 200 partners on connections via what we call the API which is really a protocol which really allows us to exchange data and that I find that it's really super important for us, it's this Sumto Plus Store and this exchange system with partners which allows you to really personalize the watch as you wish. But by default, you have a watch which will really respect these criteria of precision, robustness, reliability. That's what I was just getting at, is that despite the fact that you followed the market quite a bit for a while, there was never this desire at Suunto.

## **21:43**

From the escalation of data, as is the case on Garmin watches for example, where we have indicators which go in all directions and which will indicate to us for each level of performance, each metric that we can measure, each The watch that comes out has two or three more and so it's a one-upmanship every time. It's true that Suunto has never really given in to these sirens, even if there are added metrics, we feel that a little bit in the spirit of Polar, it's more thoughtful and when there is a data that is added, it must really have a meaning to bring something in terms of training or outdoor activity.

## **22:17**

That's exactly it, we're quite careful about that, we don't want it to be a race to the limit with functionalities in particular, and I find that the worst thing is functionalities on which what we will learn from these features, in fact, they will not necessarily be perceptible to the consumer. And what's more, in certain functionalities, we reach the limits of medical devices, etc. So with all the limitations that there might be. Besides, we want it to still be simple to analyze. Afterwards, it's also interesting, there are the watches, but there is also the application.

## **22:53**

And I find what is quite obvious in relation to what you said, is when you open a Garmin application or a Coros application or an Asunto application, I find that it reflects the spirit well, that is to say say that when we open a Sumto application, the first thing we will see is not precisely these metrics of VO2 max, vertical oscillation or that kind of thing. It's going to be very visual mapping. In addition, we have a color code which is honestly quite nice because it allows you to know, to have a weekly, monthly and annual overview. And basically it's just having where did I have fun outside and in what way. Yeah, it's a kind of personal hitmap and then there you go, we see where we were the previous month or year, whatever. That's it, exactly.

## **23:35**

And if we're looking for slightly more important metrics, we can access them, but that's not necessarily what is highlighted. Whereas if we take Khoros or Polar or Garmin, generally, it is these initial data that we will have first. No, we remain an outdoor app. And that's exactly what's nice. It's almost very different between these two applications. Afterwards, as you say, we are still trying to develop this part a little, because we see that the health part, people are more and more sensitive to basic things, like sleep. Now we have the heart rate variety, that sort of thing.

## **24:17**

And for us, that led us to develop what is coming out there, which is the Sumto Coach, which is really a summary of all these functionalities and an analysis of all the health metrics that we could have on a daily basis, but always with this in mind, it must be simple to analyze. And that we can really make it simple, that it is meaningful, and that we are not there having to think about "what is the watch telling me?" » or "what is the app telling me?" ", "what does that mean? No, it's really something very colorful. As you say, health features like HRV, the variety of CADAC frequency, we created a gauge system to make it super simple and visualizeable.

## **25:05**

We know if we are in the red or in the yellow, but we do not have to go and type the exact definition on Wikipedia. Yeah, right. So now we're perhaps going to go a little more into the development of a watch, how it happens, what the challenges are and then precisely how do we think about all these questions upstream of the development of a watch? 'a watch. So perhaps to begin with, how long does it take between the first idea of a new model and then the arrival on the market of a watch?

## **25:40**

We talked quite a bit during the preparation of this episode about the development of certain watches in the Covid context etc., it still changed the development times quite a bit, but on average how long do we have from the moment when on How to match the drawing board, then when the model is available in stores and on the Sumto website? I'm going to give a fairly broad answer, but it's a reality. Overall, it can take between 6 months and 2 years. Let me explain. Currently, we have platforms.

That is to say that the Ambit range was a platform. The Spartan range, Sumto 9 Barreau, was a platform. And now, we have a new platform which is vertical and which was initiated with Sumto 9 Pit Pro.

## **26:25**

So in fact creating a completely new platform, well yes we will be closer to two years or six months. Afterwards, if it's just a new iteration in the sense that it's a platform, it's an improvement of this platform on which we will perhaps bring new sensors or that kind of thing, well that could take, here we will be closer to six months. But above all it is knowing whether we are developing a new platform or whether we are developing new variants of this new platform. And it's a very simple thing, there we have a product life cycle, well even if it's two different products, we have Vertical which came out in May, we have Raise which came out there, so it's very very short.

## **27:06**

Yes, but it remains a new platform, so it is much easier for us to be able to develop new watches from these new platforms. So there you have it, that's pretty much the VIP product cycle. Afterwards, yes, it starts from an idea, it starts from the hardware. Afterwards, on the hard part, there is also the component availability part. That's really a very, very big challenge, in any case we have...

Periods of time which are quite long on component procurement, after laboratory tests, and a large part which is very important is the field test part, because there are things that we cannot not necessarily test in the lab, we need tests in the field. And so there you have it, it's almost this part which is...

## **27:55**

Which is quite long and as a result we really have a dedicated team and which is managed by people in Finland and it is really square so that we can reach the end of this development and so here we are refining the release date of the good product before it is really put into internal testing but then the hardest part is to respect this once we have given this deadline for the product release it is to manage to respect it and that the specifications are perfectly ok. Afterwards yes, for the Covid, we clearly released Sunto9 Peak right in the middle, I think it was the release of the Covid, so there typically the Sunto9 Peak, which was a design revolution for us, It's a reality.



## **28:46**

We went from Suunto9 Baro, which was still a very large box, we released this Suunto9 Peak, which was super important because it initiated this new optical sensor, but in fact this optical sensor also initiated the new watch loading system, and especially these famous automatic updates. This is because from Suunto9 Peak, you no longer needed to connect your watch to a computer to update it. So it was super important, but it took a lot of time because there was Covid, there was also Covid in Finland, there was Covid everywhere, and therefore the development cycle was... There you go, a longer body.

## **29:28**

And on top of that, once you've finished the product, that's when we're going to release it, knowing that with the lockdowns, etc., it was difficult to predict a release date, and knowing that the confinements, in addition, were really country by country. So there you have it, the Suunto9 Peak was quite touchy to release, because we were in the middle of Covid, while what's more, it was... It was super important because it was a big change in functioning for us. So that was a bit touchy. But you were talking about platform earlier, the Suunto 9 Peak, it is typically the model which makes the transition between the Suunto 9 Barreau platform with the new platform. Then there was the Suunto 9 Peak Pro evolution, we feel that the software has changed quite a bit. So there, it was really a pivotal element between the two.

### **30:24**

There were both. There was Suunto 9 Peak and Suunto 9 Peak Pro. On Suunto 9 Peak, we were more on a base close to a bar, but with the arrival of these new sensors. On Suunto 9 Peak Pro, for me, it was really the introduction of this new platform which is vertical. I'm talking in terms of processor, in terms of memory. So yes, it has the design which is very close to Suunto 9 Peak, but it was really these two watches which made this transition, and Suunto 9 Peak Pro really with this hard base. To give an idea, Suunto 9 Peak Pro with the release of Vertical has had very big updates, but with the arrival of Race, it is completely upgraded compared to a RACE, including in terms of 'user interface. So that's super important.

### **31:20**

Afterwards, a quick aside, everything we can put in place to update a watch, we do it. Typically, people have a hard time imagining a Suunto 9 Baro that came out in 2018. In 2018, it didn't have music control, it had a whole bunch of features that didn't exist.

And in fact, each time, with each new product, the Suunto 9 Baro, for example, it is enriched. When Suunto 5Pic was released, the Suunto 9 Baro was enriched. So afterwards, what is very difficult for the end user to perceive is that we will be limited in all cases by the processor, by the memory capacity.

### **31:56**

So yes, typically, the variety of RACE heart rate which happens on vertical, we cannot put it on a Suunto 9 Baro because the sensors are not the same and these are serious problems. And even the processor wouldn't necessarily be able to run all that.

But there you go, each watch has really evolved and that's still super important and that's what makes us have watches, we still have an insane number of Spartan owners, Ambit owners, that's it. It's incredible. And besides, an Ambit, honestly, even in terms of precision, it remains a watch which has a super precise body, while we are talking about watches which were released in 2012. Yes, well after that, everyone on the market of the GPS regretted the disappearance of the SIRF chips in the GPS.

### **32:47**

It took a very, very long time, but now we are getting there, particularly also with dual frequency GPS technology, to regain precision which is very good. But I remember that the watches of the time, whether the Ambit or the Polar V800, were much more precise at the GPS level than anything that came out until almost 2021-2022 with the dual GPS frequency. And there, there was a big period crossing the desert in terms of GPS chips. That's interesting. It's super interesting. Why was Ambit a reference? It's a very stupid thing.

The GPS antenna was offset in the block you had on the bracelet. And in any case, that was our case.

### **33:32**

On an Ambit, you always had this small part, for those who know and can imagine, on a sort of large box which was on the bracelet. When you wear the watch, you have the GPS antenna which always looks at the sky which allows you to better capture satellites. The problem with that is that people wanted thinner and thinner watches, bracelets that fit better and better, and as a result, we had to integrate the GPS antenna under the glass, like what you currently have. Except that the problem with all this is that when you have the antenna under the glass, and typically you are running, or even riding a road bike, your antenna will not necessarily look at the sky, and that That's what's super touchy.

### **34:13**

Why we had this super precision on Ambit is precisely because it was super ingenious. We placed the antenna there because we knew that it was here that we would receive the best signal.

Paradoxically, it was the consumer who changed that, it was the end user who found it too big, etc. Typically, when we released Suunto 5 which kept this system, it was a bit criticized by saying "another big box", etc. Yes, but the Suunto 5 had the Sony GPS chip from the Suunto 9 Baro, except that it had the remote antenna and it was crazy in terms of precision.

Afterwards, it also has design stories, and we know that it was a big change to have an antenna, you completely change the place of the antenna.

At the engineering level, it actually changes everything.

### **35:05**

Exactly, and even then people don't realize between watch, left handle, right handle. Typically our watches are developed from the ground up, so I have to be careful what I say, but they are developed to carry a left handle. The antenna was developed to be placed on the left, so the algorithms which transcribe the signal are made in this direction. So, it's not that we don't like people who moved to the intra-right, but there is a moment, we also have to make a choice and the majority of people wear their watches on the left. Obviously. So, we are now talking about technical changes that were initiated by market demand. There are plenty that I wanted to discuss with you, particularly with the vertical Sunto, we had the finish.

### **35:48**

From the solar charging function, we had dual frequency GPS, and then now with the Race, we have the arrival of an AMOLED screen. All of this is still somewhat initiated by market demands in terms of autonomy, GPS precision, and then screen quality, sometimes to the detriment of readability in certain situations. So, how do you arbitrate these choices? There was also on the Race, I don't yet have the watch at the time we recorded this episode, I looked closely at the technical details of the stop, that's what also struck me In relation to the history of Suunto, there is the appearance of a rotating crown on this watch, which is a first I believe for Suunto. It still smells a little like inspiration from Apple or Coros watches.

### **36:42**

How do we decide whether to integrate this or that new feature into a Suunto watch? So these are subjects that are initiated at the launch of projects. Typically, what you were talking about at the very beginning, Solar, we are an outdoor brand. We wanted to specifically release a watch with very significant autonomy. Which clearly to date is the best autonomy on the market, it's a reality. And we found that it made sense because we knew that the vertical was really going to be our pure outdoor world, we wanted autonomy and it made sense to release a watch with solar power because the user target was really these users who take trips, I call it long-term trips. And suddenly, it made sense. Afterwards, the integration of solar, we did it via a partner, it is not us who manufacture the solar panels.

### **37:46**

When we manage to integrate it into the design of the watch, we have a fairly wide solar band. We made the choice not to have glasses screwed on top which could obstruct this solar part. Real solar without load limitation. And that was super important for us, we really wanted the watch to be able to recharge using solar power, and for that we really had to have a significant solar band, and also an algorithm behind it that would make it work.

### **38:17**

After the typical problem with solar, yes we have the lab tests, which are very very good, which allow us to quantify things, And then there are the field tests, and that's where solar is part things where we are very careful when we announce solar autonomy because it is obviously dependent on a parameter which is the sun. And that's even why when we talk about autonomy on a vertical, I, personally, I don't even talk about the autonomy of the solar version. I'm talking about the autonomy of the steel version, because that's something I can talk about. Someone who goes to exercise in the dark with sunglasses, it's as if they have nothing. So, that was for the integration of this sensor.

### **38:59**

Afterwards, the arrival of GPS chips, it's the same, it evolved in a very, very, very short time. Afterwards, in our case, we worked with Sony. Who is a real partner. That is to say that we really work in collaboration with Sony for everything related to the development of the GPS chip and even for information. We have firmware updates, so really of the GPS chip which are integrated into updates of the watch. So there you have it, to always have something as precise as possible.

Now, we need to have dual-band multi-GNSS, and it's true that we have achieved incredible precision. I find that we are already at a level...

Which is already huge. People still forget that the little thing they have on their wrist with a little antenna picks up satellites in space.

#### **40:04**

I'm sorry, maybe this isn't a good example, but I'm almost startled to see that on my track, I'll be able to see when I stopped to pee. It's a crazy thing to think that you have that on your wrist on a watch. It's just crazy. Afterwards, I find that even watches that were released in 2018 with the updates that we were able to have via Sony, they remain in the game in terms of precision. But I find that in terms of autonomy and precision, we have reached a stage where we have precisions that are completely crazy. It was for the GPS part. Afterwards, for the AMOLED part, that too was a big job.

#### **40:50**

So yes, we already had Amoled with the Suunto 7, but the Suunto 7 was not really a pure outdoor watch, it was a hybrid smartwatch with a sportwatch, so it was a small little different. There was a lot of work done there, what we call Amoledization here. So there you have it, you have a base like vertical, if you take it as is, you put a thumbwheel screen and you don't do anything from a software point of view, it's just going to be disgusting. The green that you will have on the map, it will be fluorescent green, it will burn your retina. So there really was a lot of work that was done on that. Afterwards, I can make a little aside. This is a subject that is close to my heart. Personally, that's just me.



## 41:40

This is the AMOLED side versus transreflective screen, what we call MIP screen. The current leader, Garmin, has managed to put in people's heads, and they are very strong on this, that an AMOLED screen was much more premium, much more qualitative than a transreflective screen. For me, it's not better or worse, it's just very different. And there we are going to have a lot of people who will ask us in relation to the price issues, why a rail is a little cheaper than a vertical. So already, the MIP screen that we use on a vertical is a screen which is very qualitative and which costs very expensive. And the reality is that a transreflective screen, a good transreflective screen costs more than an OLED screen. The why and how is that you have the wheel everywhere, everywhere.

## 42:37

And above all you have them, we can thank the smartwatch manufacturers, that now you have them on smartwatches, phones, etc.

So there you have it, now the offer is much greater. When I say that it is not better or worse, it is because the strength of the trans-reflective screen is why we continue to have it on a vertical.

You are on a glacier, full midday sun, trans-reflective, it will never be better.

You have some flexibility in this configuration. It will be much more complicated. Conversely, you are in the forest, in the undergrowth, the wheel is killer, you have something that is magnificent. So there you have it, each has its advantages and disadvantages, and this is why the vertical which is really our outdoor watch. It has this trans-reflective screen because we know that it is a screen which is readable in 100 % of configurations.

### **43:35**

And we have the RACE which has a slightly wider target which allows you to have all the advantages of AMOLED, and it's a reality, if you have something accarto on AMOLED, it's fair crazy. The notifications, the real-time screen, it's just crazy, but which will correspond to a fairly wide range of users. But overall, it's not better or worse, each has its advantages and disadvantages. Afterwards I think it's a bit of a shame that in people's imagination, the wheel is necessarily much more expensive, much more premium. No, it's just very different and you just have to be aware of it.

### **44:25**

So now I'm officially telling you, with everything you've told us, a price has been put on your head by the entire Garmin marketing department, which sells its dial watches between 150 and 200 euros more expensive than the versions with the screen MIP. So from the moment the episode is online, you will have to be very careful about your safety. And then actually, I very much agree with you on the fact that they are very different uses. I have watches with AMOLED screen and MIP screens. I have used it a lot since its release. The vertical Suunto in my different training sessions and it is true that it is a very very different use and when I have a watch with a dial screen on my bike in direct sunlight, sometimes I have difficulty in read the information above.

## **45:09**

On the other hand now, the days are getting shorter, even at home, I'm not even talking about the Finns who will enter periods where there is not much daylight at home. It's super nice to train with an AMOLED watch because when you look at it in the middle of the darkness, it's a screen that is very different from the MIP with backlight. It's true that the two watches are used in different ways and you have to look carefully at what you need. Now, AMOLED, I think you will confirm it for me, there is always a little bit of a challenge in terms of autonomy, that we have not yet reached the autonomy figures, any watch AMOLED that can be achieved with a MIP screen. Yes quite. It consumes much more energy.

## **45:55**

It is certain that now, from a software point of view, we can still optimize things. Afterwards, what you say is super important, because we, for example, the autonomy announced, we announce them on screen, what we call ON, that is to say that the screen is really on, the watch does not turn off every two minutes. So everyone has their own little tips for optimizing energy consumption, especially on a daily basis. For us, it's a subject that was extremely important because we already had it at the time of Sumto7, to be able to have the time almost permanently displayed on the wrist, without distorting the mind. It's the same in activity, having all this data with a screen that is completely on, not having to turn your wrist when you're running or that sort of thing. So that's really super important. And this is also what is complicated in the autonomy that is displayed.

#### **46:44**

On the wheel. So we remain Finnish, that is to say we are not American, we will always give the autonomy, that's it, we announce 40 hours, it's 40 hours multi-GNSS, dual-band, screen on. If you look at what the leader is currently doing, the ranges announced are the ranges announced for GPS alone, not even multi-GNSS, not dual-band and screen off. Afterwards when you compare you will see that there is a very, very big difference and that makes it a little hard I find for the end user to be able to compare certain brands and in particular certain brands with AMOLED screens. There I find that here we arrive a little each will have to announce so it's screen on, screen off, In any case, to date, a watch with an AMOLED screen will not achieve the autonomy of a transreflective screen . I bounce on the dial.

#### **47:52**

It's part of the modeling work, we thought about how to optimize the use of the rotary screen. The wheel has already been around for some time and we wanted the user to be able to fully use this wheel screen, especially in daily use. So, it's very, very hard to develop a wheel on a watch because you have a whole bunch of sensory parameters to arrive at the end of how many revolutions I make something move, etc. It required a lot of development. And what's super interesting, a little aside on this, is that the RACE, this wheel led us to completely change the user interface, because from the moment we have a wheel on a vertical, When Ray comes out, you have to swipe to get the widgets, that is to say you will have to go from right to left to get your widgets.

### **48:53**

In fact, with a wheel, we couldn't do it. There, we chose to use a wheel, to scroll, to go from bottom to top. We realized that putting these widgets in this configuration with the wheel also creates less lag on even a MIPS screen on a vertical.

And that's why the vertical, I don't know when this episode is going to be released, is going to also have this descending widget format, because it was RACE which made it possible to realize that it was also an asset, even on a watch without a dial, and it allowed us to reduce the lag time between certain widgets. So there you have it, perhaps a somewhat fortuitous discovery, but then...

### **49:43**

And then also a form of uniformity, and also what's great too, is that I say to myself, the person who bought a vertical in May, it shows in the month of November, it changes completely, it brings them new features, and that's really cool. And that's also why the stories of... Here I talk a little about the wheel, the price, it's also...

Why am I talking about the price? So yes, I hope my friends at Garmin won't hold it against me. But yes, an RAI is also a little cheaper than a vertical because on the vertical we have a MIP screen which is ultra premium and which is of quality and which costs very, very expensive.

### **50:23**

But here it is, this is something that Garmin's marketing doesn't necessarily say, but as you said earlier, perhaps the AMOLED screen plus in premium mode, in fact hiding the fact that it is cheaper to integrate into a watch. Be careful, it turns out he pays a lot more for it and I don't know, it turns out Garmin pays very, very dearly for its AMOLED screens and that's what justifies the price difference. We can leave this point possibly. Now, given the quantities of watches Garmin sells, I don't think they are buying them for more than Suunto is buying them for RIS. But that's just us. These estimates.

## **51:05**

But on the other hand, we're talking about Garmin, that's good, because the next point that I wanted to see with you when we discuss the development of a watch is the integration of algorithms. And then, we have already discussed it before, Suunto does not necessarily integrate everything and anything, but there are still algorithms that are present in Suunto watches.

## **51:26**

There is an algorithm which gives the energy state we have, the recovery, there are some analyzes which were based on HRV and then for that, until now, Suunto was based on data from Firstbeat and then Firstbeat was bought by Garmin so it must have been a somewhat complicated situation for Suunto to manage because overnight we found ourselves having to discuss head-on with a competitor for the supply of algorithm, so how does it happen when this situation happens and then how does it happen for future Suunto watches? First of all, you should know that this is something that has been anticipated for a very long time, so in the sense that it wasn't hard for us to adapt because the time frame was still quite long.

## **52:18**

I think it was an opportunity for us because we had to develop things on our side. And so, it's super important because being able to work on this subject has changed a lot of things. Typically, there, on RACE, there are a whole bunch of features arriving. I'm talking about a little stuff... But there you have it, the variety of heart rate, the sleep monitoring that was there, which is really super powerful for us, with even nap detection. There is something reliable, real nap detection, etc. This change allowed us to develop things on our side and to look for things that we didn't have.

### **53:08**

That's it, and that's super important, and typically, so Ray came out like that, but a Suunto 9 Peak Pro and a vertical will be able to benefit from these updates, and these new algorithms. Afterwards, as you said previously, there you go, we are a watch with a fingertip, etc., but that is still the health metrics part, it is still more and more important, we still need to have data that is still reliable, because we know that this data goes into our Suunto Coach. This is data that really comes into the overview where we will really take into account the physical activities that we have done, but we know very well that sleep will be part of the recovery. The HRV measurement will allow us to quantify this recovery, etc.

### **53:56**

So there you have it, we know that we had to be super precise on that. The fact that it has been anticipated for quite some time, we know that for RACE we have something that is reliable, and with a huge improvement on this subject, which was not necessarily where we were strongest. So, this is good news for owners of watches on the new platform, as you described earlier, because all of this will also benefit owners of Suunto 9 Peak Pro and then Suunto Vertical. And so, now, we have algorithms which are developed by Suunto or at least by the Suunto environment with a few partners and then which are independent of Firstbit which now belongs to Garmin. Exactly.

## 54:51

When we develop a watch, we try to make it easy to use so that anyone can use it, but we also know that on the market, there are people like me who want to go into the smallest details of the configuration of a sports profile, such display, such algorithm, such widget, etc. To really personalize the watch and then really have all the data you want in your sports training view. When we prepared the episode, you told me that thanks to the Suunto application, you have statistics on how people configure their watches, how they use their watches, and that ultimately, just the fact of personalizing the watches data screens and data fields in a sports profile, this was used by relatively few advanced users.

## 55:38

So how do we strike a balance between We should have this functionality because there are people who will ask for it, but ultimately it will represent only a very small percentage of the mass of users of a watch. Yes quite. That's why we really have this philosophy of having a watch that remains very easy to use initially and to which you will be able to add things.

But yes, as you say, we realize, in the stats, that the majority of users, this is a reality. I think you can see it around you. They take the watch, they press running basic, they unload, they go to Strava and that's it. We had the same problem at the time. Where there was a bit of the advent of cartography.



## 56:22

In fact, we realize that people who follow, people who follow a route on a watch, are very few users. There you go, but at one point people absolutely wanted mapping when typically, they didn't even use routing in the first place. And that's not necessarily obvious. Someone who has picked up a watch and uses it in a very basic way to show them all the capabilities of the watch and including the application. For me, sometimes, there have been Sumto users for years, we show them how to create a route with the application, that we have 3D, Lightmap, they are there, wow! Yes, but in fact, that's what's not necessarily obvious because there are plenty of people who don't necessarily grade things, who don't look into the smallest details.

## 57:13

But that's why we have this philosophy. That is to say, we are aware of that. We want the watch to remain fairly basic, and for people like you, or like me, we will be able to add things.

I'll take a very simple example. We have a function called Climb which allows, when you do a code session, it will automatically detect the codes, it will count you, give you your speed adjusted to the slope, etc. How many people do quality coding sessions looking at these parameters? Very little. For those people who want to have it, they can use it. There, we also release a nutrition reminder.

## 58:00

In fact, that is valid for people who run races, but there are plenty of people who don't run, there are plenty of people who don't run trails, there are plenty of people who just go on road trips and wait for supplies. So there you have it, but for these people, we will really have all these things to dive into in the Suunto Plus Store.

Afterwards, the problem we may have is to show these people all the capabilities that are available in the Suunto Plus Store.

**58:22**

We're trying to do it now really from a marketing point of view, that's why we regularly release new Suunto Plus saying yes there's this coming, there's that coming and what's more it allows us to add functionalities to slightly older watches and it is from this postulate that we kept this philosophy of saying the watch remains easy to use, if you want to make it a gas plant, you can, but it's not by default. And it's really by becoming aware of that, and as you said, the personalization of sports modes is... I'm not necessarily going to give figures, but it's peanuts. Three quarters of people use trail running or mountain trail running and basic cycling.

**59:04**

They won't even try to optimize this part, which seems to us... For me, it's the first thing I do on a watch. But then, I can imagine that there are lots of people, there they are, they press the watch, they start and that's it. So, we also have to take into account, and that is super important because we really have to take into account this type of user. Afterwards, it's an interesting feedback because there are several people who buy a Phénix for Palacité or any advanced watch from Garmin and who don't get away with it because there are functions in all directions. Just adding a route, a route to follow on the map, it can be complicated, etc.

**59:41**

It's true that keeping a watch simple, putting it on your wrist, charging it, starting it and then you can start using it, that remains something important. I think we should not at all costs try to lose the people who are going to use it in a basic way. And that, as you say, is the difficulty of finding the right balance between the ultra geeky advanced user who wants everything and the basic person who just wants to record their morning run. I'm going to take a very simple example, even if it's a health metrix, but the CG, Sometimes, I'm a little startled to read comments on social networks. "Okay, still no ECG? But who knows how to analyze an ECG?"

**01:00:23**

» I worked in this field, I sold halters, so these are specific products, which we keep for 48 hours, it's 5 votes, 7 votes. Yes, but afterwards, it is the cardiologist who analyzes the data. In fact, sometimes I'm a little startled by it. Well, not startled, but I can understand that we are trying to have this data, but it must also be easy to analyze. And not necessarily go looking for a whole bunch of new features, and because it doesn't necessarily concern everyone. It's good to be able to have it, to be able to add it, but then, to put it by default, I'm not necessarily sure that it's a good thing. That's my personal opinion. I might just take the opposite view on this, I might annoy you a little.

## **01:01:10**

You say that having an ECG on a watch is not necessarily relevant data, or in any case you have to know how to use it. As a result, we have long talked about the fairly random precision of heart rate measurement on the wrist, and yet the person who unboxes their watch, puts it on their wrist and goes to train, by default it is activated. This will give him heart rate data. There are few warnings being made. This is not a Sumto problem, it is a problem of all watch manufacturers who have integrated a heart rate sensor on the wrist. We never tell users, be careful, the data will be of average quality at best, and at worst, really not good on the wrist.

## **01:01:51**

Instead, use a belt to measure your heart rate, especially if you are working with heart rate variability. So, isn't there also a little responsibility on the part of the watch manufacturers who wanted to go in the direction of the users who asked for more belts, more of this, more of that, comfort, etc. To the detriment of the quality of the data, someone who starts doing series or training based on their heart rate with a wrist measurement may be training incorrectly. It's super interesting. For your information, it is written in the user manuals that the optical measurement of cardio on the wrist has limitations.

### **01:02:36**

Afterwards, where I agree with you is that these limitations are linked to marketing, we are not necessarily going to put it in a big way, but yes, it is not a measure which is universal and reliable for everyone. It's a technology that has evolved. We changed the LED colors, but it's not worth a cardio belt, and that's a reality. Regardless of the brands, In all cases there will be limitations. The first limitation is how people wear their watches.

Then there is the density of the skin, the hairiness. There is a very touchy subject, skin pigmentation. This makes it a less precise measurement. We are trying to make it more and more precise.

### **01:03:31**

For me, typically, it works very well if I compare it with a belt, but I will have colleagues, there will be a lot of skin density or that sort of thing and it will work less well. And the measurement will be a little more random. And that's regardless of the brands. But then, it's also a request, it's a request from the final theater which wants cardio for everything. So yes, it is a technology on which we are now able to have reliable measurements from the moment we are outside its limits of use. Let's say that it is very individual and that in a large number of cases, there is still data that is quite questionable. You talked about skin pigmentation, it can be natural or artificial.

### **01:04:24**

For example, a tattoo just on the positioning of the watch and there is not much that works properly anymore. So there you have it, in my opinion, it lacks a little bit of implementation... well, a warning from the user before letting go with this measure because when I say but go train with a belt because there your training is worthless, they told me yes but I had the cardio on my watch and we don't understand why I say that a belt is needed when it already had a heart rate measurement. And for a large portion of people, one equals the other and why would I put a belt on if I already have it on my watch.

### **01:05:04**

What is rather interesting is that we typically have competitors like Coros or Polar who release products, I'm talking about armbands typically, and I find that really good because it also shows the user that we are looking for other solutions than the belt which can be annoying and we will try to have something a little more reliable, etc. So that's also really good that we have these companies doing R&D on this. And it also allows us to have a perception for the consumer, well for the end user, to say, if they release this , there are still reasons. There are still reasons for that. And even more so when you have brands like Polar which are based on references on this, that they release this type of product.

### **01:05:52**

But for now, to date, I take responsibility and I affirm, there is nothing better than a cardio belt. No, that's for sure. The belt is the ultimate element for precision measurement, and the armband that you just mentioned is the right balance between comfort and bulk, and precision, which is still less good than 'with a belt, especially if you do HRV. On the other hand, it's still much more comfortable than putting on your belt, I wore belts on an Iron Man, after a while it's true that it causes irritation, it's not pleasant , etc. So we end up with a compromise which is almost... It's the best of both worlds, I would say, the armband. It's not perfect on one side, it's not perfect on the other, but it's likely to satisfy a lot more people.

### **01:06:36**

But that was just for the small note compared to the ECG and heart rate measurement. So we have already discussed the development of a watch. Are there any other points on this that you wanted to share with us? Any little challenges that Suunto encountered or little anecdotes or other things? I think we still did a good job there. Afterwards, I know that people perceive it a bit like the renewal of its times currently, but I too, I feel that way, that there have been very big efforts. There have also been some very big changes within the company, etc. But here, clearly, we are on the right track. And what I appreciate is that we are on the right track while respecting what Suunto is.

**01:07:30**

And that, for me, is super important. It's about being able to innovate, but without degrading the brand image and also Suunto products. I repeat, but for me, someone who buys Suunto is really looking for robustness, precision and reliability. Afterwards, reliability remains electronics. We make sure it is as reliable as possible. But that's also why we seek to have an impeccable SAB and that kind of thing. Yeah, no, but we still feel it when we're used to following the brand for a few years, there's a kind of serenity in the life cycle of the products, on the finishing of the software, when we receive the new watch, etc. .

**01:08:19**

It's still a lot improved since the Spartan period and it's true that there was a change of application between MoveScout, the new Suunto app, there are lots of things which are now behind, have passed, you as you said, now the ecosystem is open and we can interconnect with lots of applications. This can make the link with the last episode which was posted online of the podcast where we talked about Healthfeet which connects in particular with the APIs to the Suunto application to fetch or push training sessions into it and so it comes back to what you were saying all that.

**01:08:52**

And now there you go, I've had a lot of fun using my vertical Sunto since I got it in May and it's true that it's something that I appreciate now, we feel that there is something which is accomplished and which is going well at Sunto and that is pleasing in any case. Yes and then I think it's good. I find it also interesting because the fact that we are not all trying to copy each other is that I think that when we use a Suunto or a Coros or a Garmin, there is a real difference in the use and I think that's what's really cool in the market we're in. This is because the interfaces are different and the approach is different.



**01:09:31**

And I find it good that we put this difference in our market and it's a change that we can typically have compared to footwear or that kind of thing. To conclude the episode, do you see anything special in the future of the GPS watch, things happening and interesting innovations? Do you think that artificial intelligence could change the situation in the short or medium term? Are there other things that you see or that are Of course, I'm not asking to betray the development secrets for the next Suunto models that are going to be released, but more in the general trend.

**01:10:06**

Will people want a watch that is both a connected watch and a sports watch that combines the Apple Watch and the Suunto Outdoor or will it remain two watches that will coexist for years to come? Do you have anything to share perhaps on a personal level or the philosophy and view of Suunto? From a personal point of view, I think we have reached a level of precision that is already phenomenal. We have achieved phenomenal autonomy which already corresponds to more than 99% of uses. So either we go towards the race for features, but as you say that they are not necessarily used at the risk of confusing, I'm sorry but I like this term, of confusing the watch with a whole bunch of things and make the use of the watch complex.

### **01:11:03**

For me in the long term, it's really, it's just me, the watch will become a sensor. The watch will become a sensor that will truly be a sensor in an ecosystem. And where artificial intelligence will be able to fit in is to be able to adapt the entire ecosystem to your use. Let me explain, that's how I see it, but typically if my prediction sport is mountain biking, that everything that is behind the application and even the watch itself adapts to this use .

We were talking about the personalization of sports modes, for me, ultimately, that will come automatically. With artificial intelligence, it will make it possible to know which are your favorite screens, the most used screens, which data you will look at the most on the application, therefore being able to put them first.

### **01:12:00**

And for me, the watch will really become a sensor that will adapt to your use and the ecosystem itself will adapt to your use. For me, it's really the future, maybe I'm wrong, and I don't think it will necessarily be a race for features, and even almost the opposite, the watch will be forgotten compared to everything else. the ecosystem that manages it.

Artificial intelligence is already arriving in terms of application. We, in quotes, already have it a little with Sumto Coach, which will compare your week with the six weeks before. She will tell you, be careful, compared to what you had before, it's not working, etc. She will write to you under the sessions, if you were on an anaerobic, aerobic, etc. type session. The application will do it depending on the use you are going to have.

### **01:13:01**

And that, I think, is really the beginnings. And I think that in the long term, what will be most important will almost be the ecosystem rather than the watch itself. That's it, that's just my opinion but I think that yes, overall, artificial intelligence will arrive more and more on all brands. But still, I think it can be interesting always in the idea of simplified use of the device, of the watch.

### **01:13:34**

No, but what you say is interesting and it makes sense and I think that indeed this is a little bit the direction that we are starting to take now and which will increase over the next few years because we really have the impression now, when we see the new models, that there are small innovations at the hardware level, small details at the software level, but that we are no longer sure of the big innovation where we will move from the level from an Ambit 3 to the Suunto XY with gaps in functionality which are very significant. This is no longer the case now and so, I think that indeed, it will be more of an environment as a whole rather than a watch in itself.

### **01:14:12**

Afterwards we are not there yet in the sense that I typically find that we have an application, I speak for Sunto, we have an application which is really crazy for people who do the outdoors. But it's always complicated to show because people are looking for the moment, people are interested in the watch, in the object, and a little less later in the use of the application. So it's definitely harder to show what the application can do. But there you go, I'm always a little frustrated to see that people don't necessarily use a lot of the application's features. Afterwards, we also have Strava which has become the number 1 community sharing, and it's true that people tend to quickly squeeze on Strava for the strongest social network aspect.

## **01:15:02**

After Strava, what's great, we can thank Strava, is that thanks to Strava, users can move even faster from one brand to another, because the reality is that they have their stats and their histories, so it's easier before people, when there was no Strava, they didn't want to lose their history, I'm Garmin, I'm Suunto, Now people want their Strava history first.

That's it. Afterwards, in which watch platform has it become a little secondary? Yes, but while it remains... Afterwards, yes, the brands made connections. It's true that now you can import a Strava route directly into your Suunto.

## **01:15:36**

But the fact remains that the Suunto application, for ever this truly outdoor use, I find that route planning is so simple to do and we realize that there are not enough people who do it. make. I think we need to be able to show the use of the application a little more and I think that ultimately people will be a little more interested in the ecosystem that makes the watch work. What remains a challenge for Suunto in the future is to highlight these features even more. I thank you Kevin for participating in the recording of this episode, we have reached the end of our discussion. Before concluding, are there places, social networks or others where you are that you would like to share with our listeners, or can we find you on the internet?

### **01:16:33**

This is a professional topic mainly on LinkedIn. I try to be active on this professional social network. Afterwards, I have an Instagram which is a little more open for those who want, where I don't necessarily have personal things, so it's Kevin Croc. I don't have a nickname or that sort of thing. It's transparent. So, I will put the links for those who are interested to find out a little more about what you do.

In any case, thank you for your participation in this episode. It was a pleasure to welcome you and then to chat with you. There you have it, about your work at Suunto and then the development of a watch, the challenges that that represents.

### **01:17:17**

Perhaps people who put their watch on their wrist don't realize the work that goes into it and will now have an idea of what happens when we design one of these devices.

Shared pleasure and thank you. Thank you and then listeners, I'll see you in a month for the next episode of the podcast and we will discover other themes related to sport. Thanks Kevin and see you soon. THANKS.