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Velaro Novo

Interview with expert
Ben Dobernecker about the
variable train concept

A passion for high speed: Since completing his studies at Siemens, Ben Dobernecker has spent his time at Siemens working with trains – preferably high-speed trains, and currently with the Velaro Novo. Initially as the Passenger Experience project manager and now as Business Development Manager for North America, Ben Dobernecker develops solutions for optimizing passenger comfort and increasing the flexibility of interior design for operators. In this interview, he explains why the Velaro Novo is setting new benchmarks in this realm.



Ben Dobernecker is Business Development Manager for North America. As the Passenger Experience project manager, he played a key role in maximizing the available space in the Velaro Novo by 10%.

Mr. Dobernecker, thank you for taking the time to talk to us about the Velaro Novo. How did you become part of that project?

I've been with Siemens Mobility since completing my studies in 2004. Over the years, I've moved through various business areas. I've traveled to many countries and been involved with signal technology and locomotives, with regional trains, trams, metros, and high-speed trains. It became clear to me that high-speed trains were my passion. In 2012/13, I started working in global sales, specializing in high speed. That's how I got involved in the Velaro Novo project.

What's the focus of your work with the Velaro Novo?

My particular area is the sales aspect. In the past few years, passenger experience has become more and more important for operators, which is why I've become increasingly involved in this area. The train should not only be attractive to the operators; ultimately, it should also be attractive to those who ride the train from point A to point B, who climb on board and get excited, and who, when the weekend comes, tell everyone about the new Velaro Novo.

What makes the Velaro Novo so special?

When I'm asked what the Velaro Novo is, all I can say is that everything on this train is simply better and faster, as well as more economical. I think what we've achieved is unbelievable. The Velaro Novo is not only the logical evolution of the ICE or the Velaro, but it has been optimized in every way. We wanted to create a trainset that was lighter, that could travel at faster speeds, that used less energy, and that cost less to maintain. At the same time, however, we also wanted it to be more comfortable for passengers and ultimately more economical for the operator.

If more passengers fit into the same amount of space, doesn't that detract from the comfort?

Of course, comfort is also defined by space. But ultimately, it's up to operators how they choose to use their space. The empty tube concept plays a significant role. We give the customers space that they can use however they want. They can install seats or business compartments in whatever way they want. It's not a matter of fitting more passengers into a limited space but of creating more room for passengers.

But the empty tube concept isn't exactly new, is it?

That's right, but we've now made the empty tube even emptier and more flexible. We've also made the cars longer. As a result, the train has the same length, but one car less, thus eliminating one of the intercar gangways, which is dead space. We've removed cabinets from the tube and integrated them on the roof or in the underfloor area. We've also optimized restroom placement. They're now located vis-a-vis instead of side by side. This give customers much more design flexibility. A 200-meter train now provides 188 meters of usable space instead of just 173 meters.

What were the challenges of increasing the car body length?

The European TSI has defined a maximum axle load of 17 tons, with a little bit of tolerance. This means that the longer the car gets, the heavier the individual car will be. It's always sitting on four axles and eight wheels – and each axle can carry a maximum axle load of 17 tons. So a train like the Velaro, for example, has 8 cars, turning it into 7 cars means that there are missing 4 axles and therefore the same train needs to be 4 times 17 tons lighter. This means that our train has to be much lighter. When we first started thinking about this in 2012/13 and looked at the concept analyses, it was clear that it would be a tremendous breakthrough but would also be extremely challenging.

Were there people who said you wouldn't succeed?

People were constantly saying that. If you take a look at our target matrix, you see that if we hadn't achieved one of the goals, then the whole concept would have fallen apart. In my opinion, this target matrix almost had the character of a startup. Either we would achieve it all and make history or we would fail to reach one goal and the entire concept would fail.

Back to the subject of passenger experience, how did you rethink this area?

We studied the passengers very closely, from the moment they leave home to when they reach their destination and then return. We didn't just consider the individual passenger, but we also examined different groups of people who represent a large number of passengers. These needs analyses formed the basis for passenger-centered development. Interestingly, it's often very ordinary things that passengers care about – for example, a practical tablet holder at their seat. It's often the little and smart things, in other words, things that don't necessarily cost a lot of money, that make the passengers' travel experience much more enjoyable.

To what extent did you break with conventions?

We developed a complete solution concept. We want to offer not just a train but a comprehensive mobility solution. App development played a major role. Another major topic was the purchasing of tickets. Passengers no longer buy a ticket just for a train, they buy it for a journey. Velaro Novo is one part of this journey.

The windows on the #seeitnovo test car have been a topic of discussion on the Internet. Passengers would now have a smaller viewing area. What can you tell us about that?

I think you have to see it in perspective. When I compare Velaro Novo with its predecessors, the windows actually are a little smaller. If I compare it to Japanese high-speed trains, they're much larger. For the Velaro Novo, we thought a lot about how all the seats could be adapted to the windows. Every passenger, no matter where he sits, has a window view.

How do you hold on to what's worked in the past while at the same time constantly rethinking things?

In my opinion, it's only possible in a team. The great thing about the Velaro Novo was that we have a team with a wide range of experiences what works and what does not. At the same time, there are people who think very progressively and say "Come on, let's get away from old conventions." We've managed to listen to all the experiences and still let the "wild ones" have their say. That's how Velaro Novo came to be.

Thank you for the interview, Mr. Dobernecker.

This interview is part of a series of Expert Talks relating to the Velaro Novo.



Read the other interviews and let our experts behind the Velaro Novo tell you what it means to rethink what already exists.

Follow the Velaro Novo at [siemens.com/velaro-novo](https://www.siemens.com/velaro-novo) and under #seeitnovo on



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