

## Podcast 78 – Hydrogen as a Service for Commercial Fleets

**Brian:** You. Hello, everyone, and welcome to the Hydrogen Nowcast for November 10, 2023.

Well, I think all of you listeners are aware that right now the biggest impediment to deploying hydrogen and the energy transition is the lack of a hydrogen market. You know, hydrogen sellers are waiting and hydrogen users are waiting. But until the market for both supply and demand gets rolling, we're really at a stalemate. So governments could throw money at sellers to produce supply and just wait for users to develop, but that's only happening in limited places. But the other solution, and possibly the best solution, is for hydrogen sellers and hydrogen users to team up and act together to build the market.

And that's just what the two companies on our podcast today are doing. So the first of those two companies is Quantron, who builds hydrogen powered trucks. And the second company is New Day Hydrogen, who's a hydrogen fueling supplier. So let me first introduce Damaris Meyer, who's the chief financial officer for Quantron. Damaris, welcome to the show.

**Damaris:** Thanks, Brian, and welcome, everyone. I'm excited to speak with you all today about zero emission and hydrogen and what the future holds for all of us.

**Brian:** Well, thanks, Damaris, and so glad for you to spend the time to be with us today. Now, our second guest is no stranger to the podcast. He's Buford Barr, who's the Chief operations officer for New Day Hydrogen. Buford, welcome to the show.

**Buford:** Thanks, Brian. Always excited to talk to you and to your CHN audience and definitely excited to speak today about our relationship with Quantron and how that can help in the evolution of the hydrogen market.

**Brian:** Great. Well, thank you for your time to be here, too. You know, the regular listeners to the podcast are going to be familiar with New Day hydrogen since they're a show sponsor. And we also featured New Day Hydrogen on the January 1921, the October 1, 2021, and the March 10, 2023 podcast. But I suspect that listeners may not be as familiar with Quantron. So, Damaris, why don't we start with you giving us an overview of the company? Quantron.

**Damaris:** Sure. Thanks, Brian. So Quantron is a European based company which is actually a spinoff of the Haller Group, which is a logistic company in Germany with about 150 years history. And it's a family owned company. Andreas Haller, the owner of Halle Group, founded Quantron about four years ago in Augsburg, Germany. And about one year ago we founded our daughter company here in the US, which is located in Detroit in the Auburn Hills.

In our four-year history, Quantron has had quite a significant evolution. We started out as a retrofit company who transformed diesel trucks, diesel vehicles in all kinds of forms, into battery electric, and became later on an OEM light, who actually built battery electric as well as hydrogen vehicles from the scratch. And now we are moving towards the direction of becoming a service provider, something that we call Quantron as a service.

Our product portfolio in Europe is quite significant. We talk about class-two to class-three trucks till all the way up to class-eight, whereas the meaning and the naming in Europe are a little bit different. We have garbage trucks, we have buses, and most of this in the battery electric space. But the class-eight as well as the class-three is now also available in a hydrogen version and is already on route with customers in Europe. So Quantron as a service is our offering that gives customers the opportunity – instead of buying a truck – to buy miles or kilometers. And this is something that we hope will enable our customers to make the buying decisions easier, because they are aware of how many miles and kilometers their fleets are driving, and they do not need to invest in a technology that for them might be new or might even be unproven. And as a result of this, partnership with New Day Hydrogen is crucial for our success, because what we want to offer the customer is not just the truck, but also the hydrogen and possibly insurance or software solutions that go along with this.

**Brian:** All right, well, thanks, Damaris. That is really very interesting how you're approaching that, because I think since this is so new, we see the fleets just very reluctant to jump in and try something new. And this certainly takes the sting out of it and helps the users along.

So you talked a little bit about some of the vehicles. Why don't you give us a little bit more detail on some of the vehicles that Quantron has available right now. And although the podcast is listened to throughout the world, probably most of our listeners are in the United States, and certainly that's where New Day Hydrogen is. So maybe if you could focus in on the vehicles that are going to be available in the United States.

**Damaris:** The vehicles that are going to be available in the United States that we're currently working on is a class eight truck. But we are in a new strategic alignment phase – let's put it that way – we are talking with customers. We are very young in the US; we only exist about twelve months. We had hundreds discussions with family-owned logistics companies with truly big fleets. And we realized also talking to states, talking to cities, the need in the class-eight section is one part, but also in the smaller vehicle space, class-three, for example, the buses side there is a huge demand. So what we are thinking about right now is to finish our class-eight product, which we had also previewed given on the ACT Expo this year in LA. And on top, we are planning on bringing over a class three vehicle for the US market. And then let's see if also in the buses or in the garbage truck arena, there might be a space where we could successfully launch a product.

**Brian:** All right, well, thanks Damaris. You know, it's really good to know that there are sources of commercial hydrogen vehicles – I don't think that is real broadly known. And of course that's just one of the pieces to this puzzle to enable zero emission vehicle implementation.

So of course the other piece is obviously the hydrogen itself. And Buford, how is New Day Hydrogen able to provide hydrogen at prices that are becoming competitive with gasoline?

**Buford:** Yeah, thanks Brian. So as your listeners are aware, New Day Hydrogen is a hydrogen project development company. We're focused on the establishment of hydrogen fueling infrastructure in Colorado and beyond, with California currently being the only mature hydrogen transportation market – think more on the light duty side of things, passenger vehicles in the US. That tends to be the direction that everyone looks for guidance in regards to zero emission solutions. We did the same thing. One of the indicated lessons learned from the California market was to build big, large-scale stations. We at New day hydrogen heard them loud and clear and decided to build small. Think modular stations with an extremely small footprint, building at the scale of the market, a market that is literally starting at zero in most locations, but being able to easily scale up as our customers add vehicles and the market grows.

Partnering with our customers the commercial fleets, to ensure that we have good alignment between the station size and the number of vehicles in the market. And through this we have the all-important high utilization levels at the station. Looking back at California, their overall network utilization rate in the second quarter of 2022 was at 22%. This is only sustainable through huge subsidies from the state, a model that we simply don't believe the rest of the nation is willing or capable of following.

So starting smaller, partnering with our customers, scaling with the market, all allowing for high utilization rate. This allows us to have an established pathway towards that diesel parity.

But please note that utilization rates are also driven by the station availability and reliability. Once again, looking at the California market, which is predominantly based on a delivered hydrogen model, almost all of those stations have run dry at one point in time or another due to supply chain disruptions to us at New day hydrogen, this spoke very loudly. Unlike most of the hydrogen fueling stations in California, and really the entirety of the US, we are focused on generating our hydrogen on site, controlling the supply chain to the greatest extent possible, removing the trucked in supply component from the chain and thereby increasing the station reliability. So driving hydrogen prices down by operating stations with high sustainable utilization, that's how we get to that diesel parity.

**Brian:** Well, thanks, Buford. And I'm going to add that because of the low electric rates in Colorado, that allows for on-site hydrogen generation at prices that are competitive with gasoline. So I think that's an important key that the listeners need to know. And also these initial stations are modular. They're in cargo containers, so they can be put just about anywhere to service these new customers.

Well, in addition to the vehicles and the hydrogen, let's talk a little bit about the other pieces that have to come together to support a fleet user's transition to zero emission vehicles.

**Buford:** Okay. For our commercial fleet customers, it really all boils down to that Total Cost of Ownership (TCO) for the vehicles, which is primarily impacted by three things, the cost of the vehicle, the cost of the fuel, and the cost of vehicle maintenance. As we've seen with the implementation of really any new technology, as the industry scales up, we should see those associated costs come down with most of the prognosticators that are out there predicting that by the second half of this decade, we should see a clear crossover point with hydrogen. With the TCO dropping below, diesel assistance along this pathway, especially early in the process, can be provided by grants and incentives at the federal and state levels. For example, the state of Colorado has initiated several programs to drive the cost of vehicles toward diesel parity.

Programs like the Clean Diesel program, which is focused on off road vehicles. Think construction equipment, terminal tractors, snow groomers and the like.

[Colorado Clean Transit Enterprise](#), which is focused on transit vehicles, obviously. And then the [Colorado Clean Fleet Enterprise](#), which is setting up funding for motor vehicle fleets inclusive of light duty, medium duty, all the way up to the big heavy-duty vehicles that Damaris is talking about.

And then on the zero-emission infrastructure side, they have a [Community Access Enterprise](#), which provides that funding. So, like everywhere, these programs are set up on a declining scale, so those who enter earlier get access to more funding, an enticement to be an early mover.

In addition, the partnership between New Day Hydrogen and Quantron brings a one stop shop hydrogen or zero mission as a service approach to our customers, addressing both the vehicle and fueling infrastructure needs. This makes the transition to zero emissions easier on our customers, allowing them to gradually step into this zero-emissions transition. One call one solution to a problem that commercial fleets are really struggling to.

**Brian:** Thanks, Buford. You and I were talking about this before we put this podcast together, and I thought the story about how New Day Hydrogen and Quantron came together was kind of interesting. Tell us about how that happened.

**Buford:** Yeah. As with most burgeoning relationships, it really started by simply being at the right place at the right time. Damaris made reference to the ACT Expo out in Anaheim in May of 2023. I was out there participating, and Quantron had a booth and they were debuting their class-eight fuel cell electric truck to the North American market.

At ACT, I was lucky enough to run into Damaris. We were able to sit down and talk at some length, and we found we were both startups, two companies sharing a passion for hydrogen, each with a similar small business focus on driving success for our customers, but with a concentration on either end of both sides of that chicken and egg scenario. New Day Hydrogen on the hydrogen fueling and Quantron on the hydrogen trucks. So with similar passions but complementary focus, we quickly figured out that working together, we could simplify the ongoing zero emissions transition for our commercial fleet customers by rolling the vehicles and the fueling into a one stop shop. That hydrogen or zero missions as a service approach.

**Damaris:** Yeah, it was truly great that Buford and I met at ACT because, as Buford had mentioned earlier, being an early mover can be enticing, but it can also be very difficult. And so being together and seeing that we are both two startups who want to drive the hydrogen market development, and that with our offerings together are so complementary that now we would be truly able to allow customers to run a pilot with a station and with the trucks and with minimum financial efforts. That's truly something that I think this partnership can bring to the market now.

**Brian:** All right, thanks, Damaris. Well, let's continue that thought and talk about future projects and business now that Quantron and New Day Hydrogen have this complete package that they can offer to fleets, and I don't know which of you would like to start to just talk about what you've got planned and what's coming up in the future.

**Buford:** I can, definitely. New Day Hydrogen has been working at this for quite a while, working hard on several projects that are in the development phase, really across the US, but approaching this primarily as a we're providing the infrastructure, but trying to assist our commercial fleet customers into the vehicles as well. We were advancing discussions with customers in Colorado, our home base, but also in the Pacific Northwest, Maryland, Virginia, North Carolina, Michigan, and even up into our neighbors in Canada. So really across the US, but really, until we've formed this relationship with Quantron, we were really talking half the issue – the infrastructure side of things. With our relationship with Quantron, we're able to bring both the infrastructure and the vehicle side of things to bear. And that really, we think, is setting it up for an easy transition for our customers. We believe that bringing that hydrogen-as-a-service approach into these developing discussions will allow us to readily take these early stage discussions to actual projects ready for implementation. So together, kicking off that hydrogen market in these very geographic areas.

**Damaris:** Yeah. And for Quantron, we are currently, like I said, in our strategic alignment phase, also for the strategic product roadmap with what we would like to go live next year, by the end of next year, beginning of 2025, we hope to have our strategic plans all finalized latest by January - February next year. We are currently in our B round of funding, which will also be crucial in determining what our plans for the future in the US will hold. From a geographical perspective, we are very excited about the launch of the hydrogen hubs, and we are also very excited that Michigan and the Detroit area where we are located is one of the winners of those hubs. We believe that this is something where we can benefit from and also create new partnerships. But similar to what Buford mentioned, also, Canada is a very interesting market, and we have to say that Canada, at least from an infrastructure

perspective, is a little further ahead from the US. So this could be also a good point for us to get the first vehicles on the road.

**Buford:** One thing I'd like to add to that Damaris brought up in regards to the hydrogen hubs, and definitely there's several hubs that have been announced across the US, and those are great initiators for those markets in those areas. But there are areas that did not get the hubs – here in Colorado we're one of them. But we don't envision that as being something that's going to negate the advancement of hydrogen in these areas. We believe that what we're trying to do at the scale we're trying to do actually aligns really well with both what they're trying to do on the hydrogen hub side. So starting small and allowing those big utility scales to come into a growing market. But even in the areas that don't have the hubs being able to start small, seed that market and really start to develop those other areas as well. So the hydrogen hubs could be a great initiator of a market, but we don't think that what we're doing actually requires the hubs to be there. We think we're very complementary to. But we can advance into a market even without the hubs in that particular area.

**Brian:** All right, well, I think it would be a good idea for the listeners, for the fleets out there, if we gave an example of exactly what this Zero-Emission Vehicle Hydrogen-as-a-Service looks like. I don't know, Damaris, do you want to address that?

**Damaris:** Sure. So what we are envisioning as New Day Hydrogen and as Quantron is that we provide the customers with the small and flexible stations of New Day Hydrogen, which can be put on the ground at the customer site. That station could be solely responsible for that customer. Or if we could find a combination of customers in that area, also be in an accessible point for all of those customers, and then what we would need is about three to five vehicles that use that station on a daily basis to get the necessary productivity. So overall, we are talking not about humongous numbers. We are talking about the flexible solution that new day hydrogen can offer, which is basically as big as a container, and three to five vehicles which can be from Quantron, but which could also be from other providers that make use of that station on a daily basis and use about 120 to 180 kg. That's currently the assumption we are working with where our offering already could make sense. And then we are thinking about that the customer could either buy the hydrogen and the vehicles separately, or as previously touched upon, we offer the customer a price per mile and he does not need to worry about station or hydrogen price as well as vehicle prices.

**Brian:** All right, thanks, Damaris. Buford, did you want to add anything to that?

**Buford:** Yeah, a couple of things. And really just emphasizing what Damaris said, one of the keys of this is the size. The station itself starts small, a very small footprint, very small number of vehicles needed to sustain the station. So we're talking, as Damaris indicated, somewhere in the neighborhood of three to five vehicles instead of a large fleet. That's key, allowing our customers to basically ease into this, not asking them to convert a huge portion of their fleet, but just starting with several vehicles to basically start that process going. We're not asking the customer to fund the station. We're not asking them to put up the capital for the station. We're simply asking them to, as Damaris indicated, either purchase the vehicle or purchase the mileage associated with the vehicle where the station itself is supporting that relationship and through that process. That's how we're setting up this hydrogen or zero emissions as a service. It's really that combined infrastructure and vehicular side of things, really solving this problem in kind of a one stop shop for our customer as opposed to them having to go to a vehicle provider, to an infrastructure provider. We're bringing this all together to simplify this process to the greatest extent possible for our customers. And really, as we've been focused on starting at a very small number of vehicles required, starting small, scaling upwards, that's really where we see the magic in all of this.

**Brian:** Okay, thanks, Buford. Very well said. Well, listeners, I've been talking with Damaris Meyer, who's the chief financial officer for Quantron, and their website is [Quantron.net](http://Quantron.net). And we've also been hearing from Buford Barr, who's the chief operations officer for New Day Hydrogen. And their website is simply all one word, [newdayhydrogen.com](http://newdayhydrogen.com). So, Damaris, is there anything else that we haven't talked about that you'd like to mention? And you might even want to give listeners the correct pronunciation of your name, because I know Buford and I are saying it differently and I'm not sure I've got it right, that's for sure.

**Damaris:** I think "Damaris" is great, but "Damaris" is also okay if you bring me an order. If you order trucks, I don't care how you spell or say my name, I will be very happy to take your order.

Anyway, I think one thing I wanted to mention was that the experience I had here in the US, and also talking to so many customers, is that I often get this idea that people think you either need to be pro-battery electric or you need to be pro-hydrogen. And I think this is, for me, very interesting because I

don't believe it's an either/or discussion, it's going to be both. I think we should look at use-cases. We should really see what is driving our customers business. And for some, a battery electric vehicle might be the best fit. And for some, hydrogen might be the solution. And I think on the road to zero emission and on the road of basically getting diesel off the street, we will need all of that – battery electric, possibly natural gas hydrogen to just create that zero emission world that we all hope for. Something else that's also close to my heart is we are not yet in a competition stage right now. We are creating ecosystem. We are trying to create a new market. And that new market will need all the help it can get. We will need everyone who can produce viable hydrogen vehicles, everyone who can produce hydrogen at a price that makes sense. We will need legislators and we need customers who are brave to take the first step, who are willing to try something out and who want to go with us on that journey of making hydrogen a success story.

**Brian:** Well, thanks, Damaris. And I do want to point out to all of the fleets that are out in our listening audience out there, if it wasn't for the need to decarbonize, we wouldn't bother with zero emission vehicles with hydrogen or with battery. But the fact is that we are really off the cliff when it comes to the climate. And so maybe putting a plea out to all the fleets out there to consider just making a little bit of extra effort. And I think that Quantron and new day hydrogen can bring you a package that's pretty competitive (we hope) with the diesel and gasoline that you may be currently using. But give it a chance. Not asking you to spend a lot of extra money, but asking you to at least take the initiative to try to help decarbonize our planet. So, Damaris, if listeners want to reach out to Quantron, should they do that just through the website at [quantron.net](http://quantron.net)? Or do you have an email that they could use?

**Damaris:** Yeah, of course. I mean, just use our website. You could also just find my name there and all my contact details. But otherwise, you also feel free to drop me an email. It would be [dMeyer@Quantron.net](mailto:dMeyer@Quantron.net).

**Brian:** Well, I really encourage the listeners to contact you or to contact Buford. No obligation, as they say on the television commercials, but information is certainly something that could really help move this forward. Well, Buford, what else would you like to mention that we haven't, you know.

**Buford:** The interesting thing is my original response to that question was going to be going down the pathway of pretty much what Damaris just, you know, once again, pretty excited that we've got two companies here that are very closely aligned in how we think about this. First off, for our commercial fleet customers, take a look at the technologies that are out there and determine what works best for how you use your vehicles. Don't let the technology drive your business or how you use your vehicles. Figure out what that best fit is and then go with that. We are big supporters of really all of the alternative zero emission fuels that are out there, but you have to make a determination as to which one fits best for you. We think Hydrogen can play a significant role in that space. And once you've looked into it, and we can definitely help you there, we think the commercial fleets that are out there will see it as well. One thing I did want to add is that new day Hydrogen is currently in the middle of our precede round for our funding. We're having some success down that pathway, so we're definitely looking excited to closing that round and being able to take some of these projects with our partnership with Quantron starting to take these projects from those initial discussions into actual full implementation. So really excited to see where the market's going and to be part of that transition to zero emissions for our commercial fleet customers, for our state, for our country, and really the entirety of the world.

**Brian:** Well, thanks, Buford. And I just was thinking as we were recording here, New Day Hydrogen has hit their third birthday, so to listeners out there, they're not just a flash in the pan, so to speak, been around for a while. Buford, if listeners want to reach out and contact you, should they just contact you at your email?

**Buford:** Yeah, that's the easiest way to get a hold of me. You can contact me at Buford at Newday Hydrogen. So [buford@newdayhydrogen.com](mailto:buford@newdayhydrogen.com) that's the best way to get a hold of me. Please feel free to reach out. The educational process is a large part of what I do on a daily basis, and I'm always willing to talk to people that are interested in, obviously hydrogen, but just transition to zero emissions in general.

**Brian:** Okay, great. Well, again, thank you both for your time to be with us today.

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hydrogen.org or on Linked-In. So until next time, this is Brian De Bruyne wishing you health and prosperity. Goodbye.