

# Andreas Schierenbeck



# HITACHI

Inspire the Next

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CEO of  
Hitachi Energy

Interview with **Andreas Schierenbeck**

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**Alan Ross:** Andreas, it's good to meet you. Thank you for doing this interview. My first question is: what is your background? Talk a little bit about your industry background and talk a little bit about your career arch that got you to this point.

**Andreas Schierenbeck:** To keep it short, I'm an electrical engineer. After university, I worked at Siemens in the T&D business for about 15 years starting with software for control centers and SCADA EMS systems to substation automation, protection relays, control center for distribution systems - actually everything that was there in the industry. Then I switched from T&D to the building sector. That was the first points in time when we talked about smart grids, having consumers like buildings - more flexible, integrating renewables on buildings, on campuses, etc. I spent 10 years in that - optimization of buildings, CO2 avoidance, energy performance, saving contracting... Then I switched to the elevator sector where I spent seven years. Not so energy related because what goes up, goes down - highly efficient, but a strong focus on digital and service in the industry. I led Uniper for 3 years, one of Germany's largest utilities. A lot of generation - around 45 gigawatts of installed base in Europe, UK and Russia - all types, from lignite, hard coal, hydro and nuclear - the complete portfolio and the trading desk. After that, I spent three years in startups around green hydrogen, solar and electrolysers. Now for nearly a month, I have been with Hitachi Energy.

**AR** Great, so you're an engineer. You know how engineers are, we are like the Marines. We run to problems, not away from them, because we are problem solvers. You have been around the industry, both on the utility side, on the supplier side, and on the smart building side, so what do you think are the biggest challenges the industry is facing right now? What are the key issues you'll need to tackle in your new role at Hitachi Energy?

**AS** I think that's a complex question because there are issues and then there are also many positive things. I remember when the market was flattish, with little growth, and everything was predictable and easy-going. If you needed some equipment, you asked for it and got it in four weeks, but times are now different from a lot of perspectives. We were all talking about the energy transition and changing things - this is now really happening, and this is changing the way we behave and how we're doing business. The reasons for that are quite a few.

First of all, we see more demand because there's a lot of electrification with CO2 abatement

driving that, which could address up to 80% of the issue. The other 20% is probably molecules - green hydrogen, green derivatives, but we will definitely use more energy. Along with that we need more renewables which also means more problems because they are volatile, and volatility is driving what we're seeing today. It's volatile during the day, during the year and storage solutions have to be managed and installed. The grid is playing a completely different role from maybe 20 or 30 years ago, because as I see it in former times we had power plants built near large consumers, and the grid was there as a backup to provide power in case something happens but the grid was not that essential. Today you're building generation where you have renewables. Offshore wind and very sunny areas that are very far from the consumers, so the grid is becoming more and more essential.

So, you now need long-term transmission, and you need to deal with volatility, you need storage, and that drives how we operate grids and assets and how we're installing it. That is leading to huge investments which is leading to growth in the industry and just managing the growth is a challenge by itself because we have not seen, as an industry, growth for a long time.

**Today, the renewables are often far from consumers, making the grid essential. We need long-term transmission, and we must deal with volatility, which drives how we operate grids and assets. That is leading to huge investments which is leading to growth in the industry and just managing the growth is a challenge by itself because we have not seen, as an industry, growth for a long time.**

**AR** You have nailed it Andreas. Something that is positive is also creating something negative. For instance, the U.S. Department of Energy did a study showing that power problems are costing the industry over \$100 billion annually, in the U.S. alone,

due mostly to increased transients from DER. Change begets all kinds of issues. You've been at Hitachi for 30 days. Hitachi Energy has gone through a lot of change recently, with the acquisition of the Power Grids division of ABB. What did you expect and what are you finding that you didn't expect?

**AS** It was a positive surprise to see the portfolio - being market leader in HVDC, which is very much needed for these changes at this time and having very good solutions for SF6-free equipment in the market. I know that we are the market leader in a lot of areas, but this focus on sustainability and problem solutions going forward was really a good thing to see.

**AR** Larger utilities, and now even smaller ones, are looking for trusted solutions and trusted companies to bring a larger portfolio of solutions. That is what Hitachi brings to the equation, as you mentioned. For instance, in California, they're realizing that they used to have rate payers, then they went to consumers, and now they are prosumers. How do you see Hitachi preparing for all these challenges and serving a changing industry at a time where the demand on suppliers is increasing as the demands on the utilities are increasing?

**AS** Being a part of Hitachi is an advantage because it brings the financial firepower to run big projects. We are talking about massive investments that drive growth which is good. Of course, if you look from the financial side, yes - I am an engineer, but I have a strong financial background and I know exactly how banks are looking at that. All the covenants you need, all the bonds, all the financial firepower that is needed to do that. With Hitachi, it's great to bring that to the game. This is needed because you're not investing significant amounts of money if you're not sure and confident that you're in good hands. We are able to deliver all these projects as Hitachi; we are backing them up with a lot of investments and it's public news that we are investing \$1.5 billion in just the expansion of transformer factories and another \$4.5 billion for the rest of it. I don't think the industry has seen so many periods of time where the question was, 'how do I spend all the money and how do I do it quick and increase capacity'.

**AR** I'm glad you said transformers because I have transformer oil in my blood. Without transformers you can't bring about all this change.

Let's also talk about data centers: they have huge power demands and need exceptionally reliable power and need 5-9 reliability, 99.999. At the same time, they're not willing to do triple

redundancy anymore, but rely on reliability, resilience and suppliers who can provide consistent power to manage data. What is the impact on data centers and what is Hitachi doing to approach that market?

**AS** We have a strong focus on data centers as Hitachi because we bring a lot to the table. On the other hand, it's worth mentioning that the trend toward data centers was probably not really the first thought everybody was thinking about. A small data center with 5 to 10 megawatts was neglectable, but now they're growing and consuming significant amounts of energy, and the growth curve of data centers is completely different from the growth curve in the traditional business, so it was completely underestimated, especially now with Generative AI. These data centers are bigger, and they have a completely different load behavior. When they start to learn, the energy consumption goes up in seconds, and if they stop learning, it goes down so it's a completely different animal.

**We are striving for standardization because if every data center is built different with a different approach for redundancy and reliability, it will be a constraint to growth. Data centres need reliable and available energy, without relying on triple redundancy.**

We are striving for standardization because if every data center is built different with a different approach for redundancy and reliability, it will be a constraint for growth. We have to work together with the data center providers and our customers, the utilities, on how we tackle the issue because data centres don't want to have triple redundancy - they don't want to deal with that - they just want to have the energy, always readily available. But they're now too big to fail, but on the other hand, too complex to ignore them.

**AR** Let's move to another subject of change - electrification of transportation. It is perceived to be in a slowdown, but we have



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*Hitachi\_Energy\_South\_Boston\_factory\_Power\_Transformer*

*Hitachi Energy large power transformer at South Boston Transformers factory, United States.*



*Hitachi\_Energy\_Project\_Mutkalampi\_Finland*

*Hitachi Energy power transformers in Mutkalampi, the largest wind farm in Finland.*

*Dubai Airport Control Room – Network Manager*

*Network Manager enables advanced automation and reliable, efficient power supplies for the world's busiest international airport, Dubai International.*



*Collaborative Operations Center – Baden*

*A Collaborative Operations Center (COC) expert in Baden, Switzerland provides remote services for customers' Grid Automation solutions installed base.*



*SEV Faroe BESS*

*A view of Hitachi Energy's battery energy storage system (BESS) in the Faroe Islands that provides full backup for SEV's Porkeri Wind Farm.*



a lot more manufacturers, so in reality car sales are more spread out. Large-scale electrification, buses, trucks, all those things are happening as well. How is Hitachi Energy approaching the electrification of transportation?

**AS** I think it's a very complex issue. Let's put the problem into different buckets. If you are a city running your collection trucks or your buses, you have to take a decision whether you go electrically or you go for hydrogen. It's probably manageable because these cars, trucks and buses come back every night to the station and get charged. However, for long-distance transport and 40-ton trucks, it's a different story. Firstly, the technology is still open and on the other hand replacing a normal gas station with electrification, we're talking about adding a small city at every gas station where you want to have them charged. This is definitely a completely different investment case and challenge because this means you have to invest heavily into the infrastructure and that's completely new. And I'm not talking about all the complexity coming with the charging behavior and DC charging. You need a couple of different layers to optimize that.

**AR** The US government and the DOE has announced a lot of infrastructure build, but it might be too little too late, at least in the short run. Even if you invest billions of dollars in it, without more people buying electric cars, it is a zero sum game. You also mentioned hydrogen. We may think we might have skipped electrification and moved to hydrogen power, but we didn't. We moved first to electrification and then hybrid.

Are electrolyzer fuel cells viable now? Why does it work and what's Hitachi going to do about it?

**AS** Where I'm coming from, if you want to decarbonize, you must go for electrification first. That will bring a big part of the solution to the problem, but there are big parts that you can't decarbonize with electrification. First of all, you need high temperature applications, or you need chemical molecules such as kerosene for jet fuels, where you need hydrogen and that can only be replaced by molecules so there is a niche for hydrogen there.

Then, when you add more renewables into the system, you have volatility. How we're dealing with volatility today is that we are switching it off and having re-dispatch costs which are billions in Europe and in Germany, because you can't transport that. So, using surplus energy and making a molecule out of it which you can

store - can be hydrogen, could be something else, but at the moment I only see hydrogen because the technology is there - has a lot of advantages. You take these peaks of energy which you are wasting today, transform that into green hydrogen that can be stored or used to make derivatives and used later for electricity generation or for transportation and that goes hand-in-hand. With renewable electrical energy alone, we will not solve the equation. You need green electrons, and you need green molecules.

**AR** "Green electrons and green molecules" should be copyrighted! I love that! Whether you're storing power or hydrogen, utility-grade storage has not been there. We are wasting a lot of power that we generate when we can't use it. How do we then build up this massive storage? Every car, truck and bus is not only a vehicle, but a storage mechanism. What is Hitachi doing and what are you looking at as the emphasis on storage?

**You can have the product portfolio, the best market, but if you have the wrong culture, it's worth nothing because the financial plans will not work out. So, the culture is actually the enabler for growth and for success in everything, for your company, for your customers, and for the society.**

**AS** We are the enabler for the storage whether its hydrogen, electrical or battery electric systems by making the grid ready for plugging in these systems. And of course we have milder level approaches, from my point of view. It makes a lot of sense to put batteries beside big solar or wind parks for storing energy but will only be optimized for a day and not more than that because batteries should be charged and discharged quite frequently. Long-term storage is not viable. From that point of view, hydrogen can be stored. We are also focused on enabling prosumers which is a challenge we are addressing. So, we are enabling the distribution networks where everybody can store energy

in their electric cars or draw on it or set up their own solar system which needs automation and enablement.

We are not developing our own electrolyzers or our own batteries, and not going into the green molecule area, but the enablement for that where you can plug and play and stabilizing the network is what we are doing.

**AR** You are a prosumer yourself. Fortunately, you're coming into Hitachi Energy at a time when you can help lay out that culture because so much have changed. Could you say a little bit about the culture you are envisioning for Hitachi Energy?

**AS** First, I have to learn about the culture which I find - less than 30 days is probably not enough to assess the culture we have. From my point of view, culture is one of the most essential ingredients for growth or being successful in business. You can have the best product portfolio, the best market, but if you have the wrong culture, it's worth nothing because the financial plans will not come through. So, how you interact with your colleagues, people, and customers - what are the ways you are sharing, is quite essential for being successful. Especially in a time of growth - especially if you are not used to growth, this would mean that we have to move away from a strictly hierarchical system to a more open, flexible and federal system to manage the growth, like in a start-up actually, where I spent the last three years. In a start-up you cannot define all the processes, and if you don't trust your colleagues next to you, it could end in disaster. So, the culture is actually the enabler for growth and for success in everything, for your company, for your customers, and for the society.

**AR** One of the things you are inheriting is the collaboration environment at ABB. We did an interview with Dr. Luiz V. Cheim, Senior Principal R&D Engineer within Hitachi Energy's Transformers BU, who developed the [TXplore™ transformer inspection robot](#). It took four years to develop in four different departments. That is an incredible value that a company has - to be able to bring different departments together. What are some of the other values that you would point out for people to understand?

**AS** Values is an interesting topic because you have to first find out what values you have already and which are the values you want to develop. We have a great culture because we are a successful company, but we now have to adapt to change, and that makes it difficult.

Because the way we have done things in the past - cost controlling, being very cautious, managing cost quite carefully because the market was flat - was decisive. Managing that in an area of growth is different. You have to be a little bit bolder; you have to look to more collaboration, exchange of communication, working together at an even bigger scale, and also look for new solutions. In the last 15-20 years the portfolio was mainly flat. You know what you have to do, you know how to run your network, but now we have a lot of unknowns. To discover those unknowns, you need a special skillset and mindset of being that explorer - going there together with your customers because they don't know the answers completely neither - there is no state-of-the-art solution.

**Being open for new solutions, being brave enough to try and test that, and to use everything that we have at hand with our customers, that is a huge challenge because it is transforming the things you are doing.**

Talk about inertia. If you have more renewables, you have less rotating masses, you have more problems with voltage and frequency behavior. So how do you deal with that - in a mechanical way, with power electronics or through some other ways? Being open for new solutions, being brave enough to try and test that, and to use everything that we have at the hands of our customers, that is a huge challenge. It is transforming the things we are doing, and every transformation is change and change is normally what people don't like. Nobody likes change, because it means leaving your comfort zone and that's not comfortable. Having that culture and HR values that says we are here to leave our comfort zone to try something new for the betterment of society, customers and the company is probably the biggest model, from where I stand.

**AR** That's excellent. Collaboration, innovation, communication, boldness, adapting to change and Customer-Centric are the values you have mentioned. Thank you very much Andreas. It has been a pleasure.

**AS** Thank you Alan.