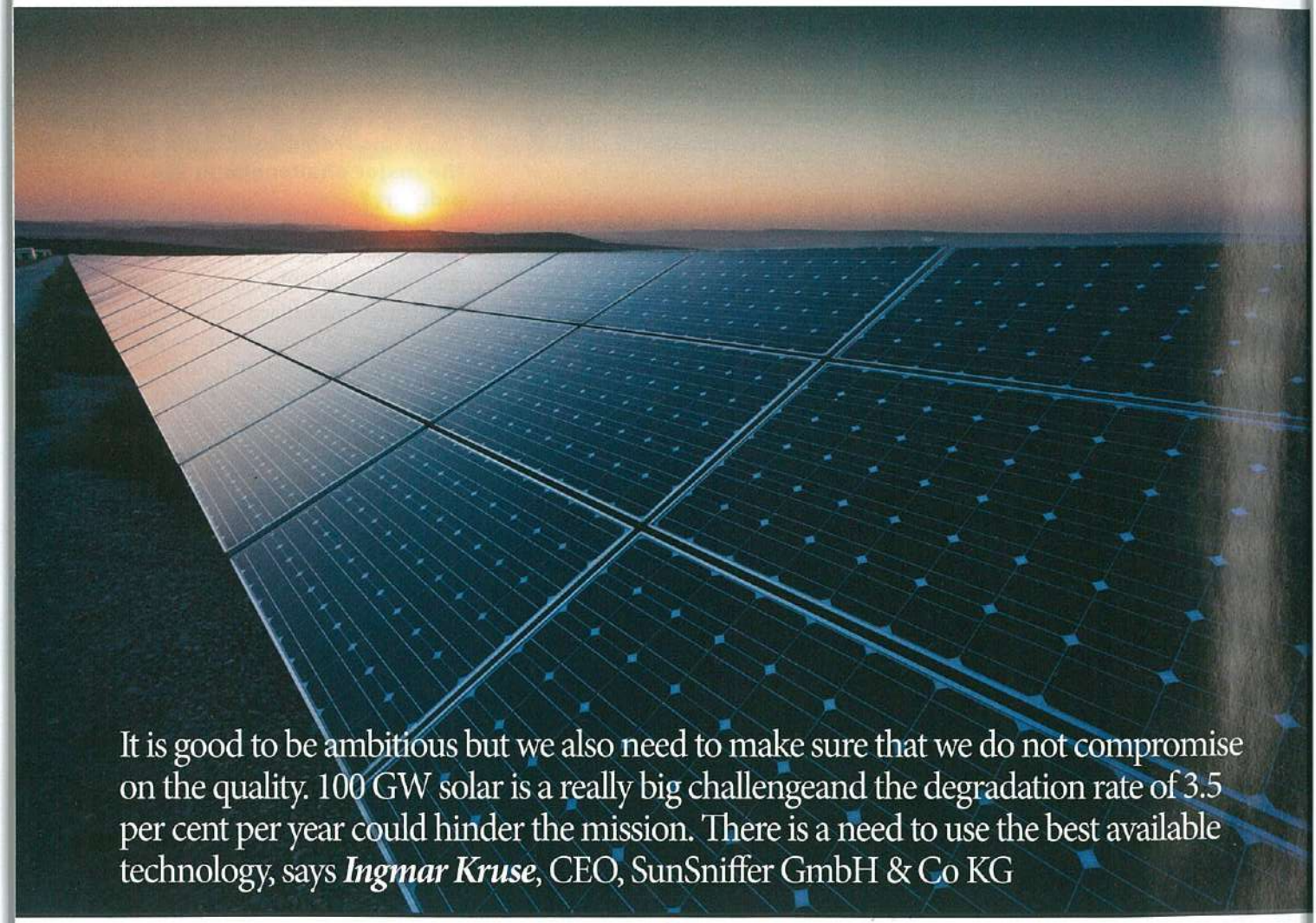
'Promises are nice but need to be measured and controlled'



It is good to be ambitious but we also need to make sure that we do not compromise on the quality. 100 GW solar is a really big challengeand the degradation rate of 3.5 per cent per year could hinder the mission. There is a need to use the best available technology, says ***Ingmar Kruse***, CEO, SunSniffer GmbH & Co KG

Q Tell us about your foray into the Indian markets?

SunSniffer started many years ago and the parent company used to be an EPC company. We used to build plants and realised that with the existing systems, we could not do proper O&M. We had to send engineers to figure out the exact problem in the plant. Once we had solar installations at various locations, it became impossible to find an optimal O&M regime. We developed our technology to address this problem as we realised the need to revolutionize O&M services in the solar sector.

Everything is getting digitized these days, but the solar modules. Solar modules are the most error-prone part in a PV system. In Germany, the latest study shows that 8 percent of all solar modules are broken. Even the good quality modules have a defect rate of 8 per cent, which means one module in every string may be broken- that is far greater than what we imagined. In India, this number could be double? The number is big and we may face many unexpected issues with the new plants.

To detect the problems in the module,

we have developed a small sensor which is available at a very competitive and affordable price. This sensor is attached to each module and can measure every module under operation. We use the existing DC cabling to take information from the modules, the strings and the inverters, put in artificial intelligence on top and find how much power is being lost per module. That is all the information needed to check performance of each module.

How can we tackle the problem to get better quality and output?

There are some good warranty packages out there and nobody is really drawing them. That is because of lack of awareness. If we would know how much power we would lose, we would start changing modules much earlier and this would go in the direction of quality. We have great linear warranties. Our sensor systems are like speedometers and it is not magic!.We show you which module is not working and from there things are easy. The O&M will have a plan – give me this list, tell me which module is where, then swap it. The module manufacturers who do not have proper quality will very soon get so many claims that they will either stop working or simply improve the quality of their solar modules. These kinds of sensors should be made mandatory for the sustainability of the solar sector.

Have you already forayed into the Indian market? What are the existing projects that are already in place?

We entered the Indian market in November last year. We already have a couple of projects-- a ground-level project and a roof-top project. There will be many more to come. The nice thing is that our technology is good not only for utility-scale projects. It will definitely help utility-scale projects because they have a large number of modules and to manage them is a huge task; but it is even better for commercial and residential projects. I am particularly glad to see that we can help protect the the smaller and more vulnerable "mom and pop" projects

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because so far they were kept out of all these discussions. When they buy and install solar modules, they have no way to find if the quality is good or not. I feel really bad for them. Residential solar is a very important sector. It is important that people have trust in the technology. Today they have no tools to fight back. They are handicapped without specialists. We want to empower them.

What do you have to say about the current pace at which India is moving towards its ambitious goal?

This totally makes sense when we see that solar is producing electricity which is not only carbon-free but is also cheaper than electricity produced from coal. It is good to be ambitious but we also need to make sure that we do not compromise on the quality. It is not enough to promise something. Everybody is promising but in Germany, we have a saying that promises are nice but you have to measure it and you need to control it. We feel that our technology is controlling the module manufacturers. At the end we are enabling production of better quality and better quality doesn't necessarily have to be higher priced but it definitely pays to have better quality. It needs to be a burden for those who are delivering poor quality to the people because if you do not have proper ways to control it, it will continue to happen and there we must make a change. I understand that 100 GW is a really big challenge.

All we need to know is which technology is losing how much power so that we give quick feedback to the manufacturer because some of the manufacturers are not deliberately giving you bad quality. It is just that they do not even know. So, we need to give them the feedback so that they do not deliver the same bad quality for years. They can get quick feedback from the field. We are coming up with new technologies like Passivated Emitter and Rear Cell (PERC), which is again some additional risk but we need the new technologies for more efficient cells but if we don't have feedback from the fields early enough then the poor manufacturers will have little choice. They should go ahead and

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understand it and push for surveillance on their own technology but thisultimately needs to come from the customers and the asset-owners. They need to understand and protect the assets. If they just leave it unprotected and buy whatever is available and look for the lowest price then they will end up paying larger bills later. If the owners do not understand that, may be the government needs to control this in the way that we need a certain surveillance and protection. If the industry is not doing anything, I think somebody else needs to come in and put up some new rules.

What are the challenges India faces as a country and how can we overcome them?

The quality of products being sold into India is not proper. We are risking the whole plan of achieving 100 GW of solar energy if we do not make sure that the quality is right because soon banks and the financial institutions will not finance poor quality projects. The system has to run for 20-30 years and we need quality check to minimize risk to investors. Actually the system should run for 40 and 50 years because then we will be really profitable. Not only profitable for the people who invested, but for all of us. The technology is out there, look at in Oldenburg -- those plants, they work forever. So, we have to make sure that we put something up which will last.

We need something which shows that the product is working properly. Our technology, I am not saying it is the only one, but we developed it for ourselves because we had the same problems. We look at each module and tell you how good it is. We need to see that the manufacturers are checking the quality at the time of production; we have to force them to do so. One way can be that at least have a certain percentage of the production delivered with such a sensor to make sure that the production is working well -- at least 10 to 20 per cent. The production time ceases, the modules would produce data three months already or may be two months which means that the next feedback will be soon and this would be very valuable to change something if you really see a higher degradation. This technology will protect them and the investors.

What are the positives that you see in the Indian market?

There is so much sun. This is a huge gift. We are turning this gift into solar energy and then electricity. You have at least two times the solar energy potential of Germany. If you install solar plants properly, you can fulfil all your consumption requirements. You have a lot of people - a lot of young people, there is so much potential there too. You need to put it into place proper infrastructure which means you need quality because the infrastructure needs to last. If we have infrastructure that lasts for just 5to 10 years, it is worth nothing. Your children need to benefit from that infrastructure - that's what we have in Germany as well and this is what makes a nation. You live on what your parents build up. This means we need to control quality and it starts from the module level. So, taking control of this aspect could lead to a brighter future.