Reliable, flexible, personalized and collaborative solutions

Voyager Oregon 150 MW Portfolio

PES dropped in on Tony Etnyre, the CEO at FTC Solar, Inc, a new company, with a very experienced, committed team. Their latest PV tracking system, Voyager, is easy to install, cost effective and suitable to use on the most challenging sites. Their close collaboration with their customers is of paramount importance and flexibility is their watchword.

PES: Hi Tony, it's a pleasure to welcome you to PES Solar. Would you like to begin by giving our readers a brief overview of FTC Solar, Inc?

Tony Etnyre: The team at FTC Solar has industry leading experience designing, developing, supplying, and deploying over 4 GW of single axis trackers across the US and abroad. FTC Solar was established in 2017 with a team of solar professionals who had been involved in designing and building solar plants for over a decade. We were convinced there was a need to build a better, more simplified single axis tracker for the global market.

We believe the Voyager Single Axis Tracker, coupled with the software and engineering services we provide, meet that need. Our mission is to provide high performance, low cost PV tracking systems that are easy to install, minimize BOS costs and are suitable for a wide range of site conditions.

PES: Would you say the solar/PV industry is expanding at the moment?

Tony Etnyre

TE: The data is very clear: global solar installations continue to grow year over year. PV modules power increases, invertor sizing improvements, and the growth of single axis tracker deployments are making solar plant construction more efficient and more affordable to build than ever before.

The industry used to rely on government subsidies and people trying to do the right thing for our environment. Economics are now the primary driver for the scale of PV buildout we are currently seeing. This industry will continue to expand dramatically based on the economics alone.

PES: Please could you tell us about your Voyager tracking solution?

TE: When we set out with a clean sheet for our Voyager Tracker, we focused on our historical perspective as a plant designer and construction team. From that experience we know product cost is important, but what mattered was the trackers impact to the total system cost and production.

Our goal was to drive our customers installation cost, provide design flexibility and land utilization efficiency, impact the total balance of systems cost, and provide the most optimized structure for the trend to bifacial modules. Voyager delivers that with a 2 in Portrait, 60-meter-long row, with a balanced 4 string architecture, while being the simplest, most efficient tracker to construct. Simply put, we designed Voyager for reliability, performance and ease of install.

PES: What are the technical benefits of the new Voyager, or is it just make over of an existing tracker?

TE: We believe Voyager has significant technical and system cost benefits. We noticed that the cost of the overall system continued to come down, while the cost of labor remained relatively flat. We put an immense amount of time and research into making this the fastest 2P tracker to install.

It was also designed to fit a project's unique characteristics such as poor soils, land constraints, and topo challenges. Voyager can be deployed on the most challenging sites. The tracker is shorter than most, it has a has a range of motion up to +/-60° and can accommodate Ground Coverage Ratios (GCR) anywhere from 20-65%. With roughly 40% fewer foundations than standard 1P trackers, we've seen a lot of traction on projects with poor subsurface conditions or rocky soils.

Voyager has reliable communications architecture between the row, zone and site controllers, providing communication and data redundancy. The tracker has a self-powered drive and control system with 3-day autonomy. This mitigates interruptions, ensures reliable operation even during grid downtime events, and means that there is no need to run any auxiliary power to the trackers.

Voyager 52 MW Vietnam Project

PES: Why are trackers so important in our industry?

TE: Trackers allow for increased energy production vs a fixed tilt system. Trackers can increase the production of a site by anywhere from 15-25%, depending on the local solar resource. This results in higher ROI's and lower LCOEs, it can make all the difference in getting a project financed.

Trackers are not the right solution for every scenario, but as costs have fallen so has the trade-off between tracker and fixed tilt. Trackers have expanded the utility solar market which has in-turn been growing and adding legitimacy to the solar industry as a whole.

PES: Did you encounter any challenges during the development phase?

TE: We encountered many challenges designing our tracker. The biggest problem to date has been failures on the 2P systems that have not adequately accounted for wind instability. Therefore, we spent a lot of time with 3rd party wind experts to help us ensure we had a system that was able to withstand aeroelastic instability.

Although it took us roughly one and a half years to develop the system, we feel extremely confident that our damping technology, which is IP protected, is able to cope with this sort of wind instability.

PES: Customers are always asking suppliers and partners to be as 'flexible' as possible, both in terms of the product itself, as well as the application. What does 'flexible' mean to FTC?

Voyager Golden Row Installation Training

Voyager FSLRS6 Patented Module Attachment Method

TE: We have experience and capability beyond that of a traditional tracker supplier. We bring software design capability and engineering and construction expertise to the table to be a full-service partner. That capability gives great flexibility to our customers. We see this flexibility demonstrated in two ways. The first is the flexibility within our organization and the second, the flexibility built into our solutions.

Being flexible means, that we jump in with both feet with our partners, to design the most optimized solution for lowest overall balance of systems cost.

We do this by providing in-house expertise with our supply chain, logistics, and operations teams. We organize Voyager training before the EPC even gets to the site so they can get started and see productivity gains from day one. We customize laydown yards and delivery schedules to support the customer's needs. We provide world class construction experts with LEAN construction backgrounds to help advise/train EPCs on site.

PES: Where are your main markets and are there any particular geographical areas where you are looking to drive further growth?

TE: The majority of our focus has been in the US, with some business in Europe and Southeast Asia, however we have expanded offices in Australia, EMEA, and Asia. We're also bidding for several deals in Latin America and think it is definitely a ripe market for 2P trackers.

PES: What are your predictions for the solar/PV industry in general and your company in particular for 2020?

TE: We see continued growth in the PV industry, especially as folks turn more towards trackers and 2P trackers in general. Last year saw nearly 35 GW of tracker deliveries globally and we expect strong growth over the next few years. As mentioned above, we are targeting more than 2 GW of deliveries in 2020.

PES: Is there anything else you would like to add to the FTC Story?

TE: FTC Solar may be a new company but our team is not. I am proud of the industry pioneers that make up my team. They are committed to redefining the tracker experience. When I say that, I mean we just don't provide a customized solution to fit your project. Anyone can do that. We redefine that experience by coming along side you as a partner and including you in our process. This process is collaborative. This collaboration helps us be more transparent.

Through this proactive collaboration we hope to earn your trust, and build a lasting partnership upon it that can weather any storm that may come our way. Every opportunity is an opportunity to learn and improve. We don't claim to know it all. No one does. We are confident in our people and their real-world experiences to understand your needs, provide a plan of what we need to do and how to do it, and then execute it, to deliver an optimized solution that exceeds your expectations.

We are changing the way trackers are done one project at time. We are listening to our customers, putting into practice their feedback, and adapting to market challenges. Here at FTC we look at things through the following lens:

First do what is right for our partner

Tailor solutions that optimize our partners projects

Collaborate consistently with our partners to enhance transparency

www.ftcsolar.com