

InSolare Tracker



ISO certified and MNRE Channel partner

About InSolare

- 100 MW+ Projects completed and under execution
 - ✓ 75MW Utility Scale Projects
 - ✓ 70MW Single Axis Tracker Installed
 - ✓ 15MW Rooftop Projects
- Rated Top 20 Company in India
 - Team of 120+ Employees
 - Office Presence Bangalore (HO), Ahmedabad, Delhi
- 50+ Patents, PhD in Solar Technology
 - Specialist in Single Axis Tracking in ground Projects and power Optimization in Rooftop Projects
- Installed Solar Power Plants in >15 states across India



Single Axis Tracker By InSolare – Ground Mount

Total Projects – 70MW With Tracker

Capacity – 70MW

Total Trackers – 200+ Across India

Hydraulic Actuator Based Tracker

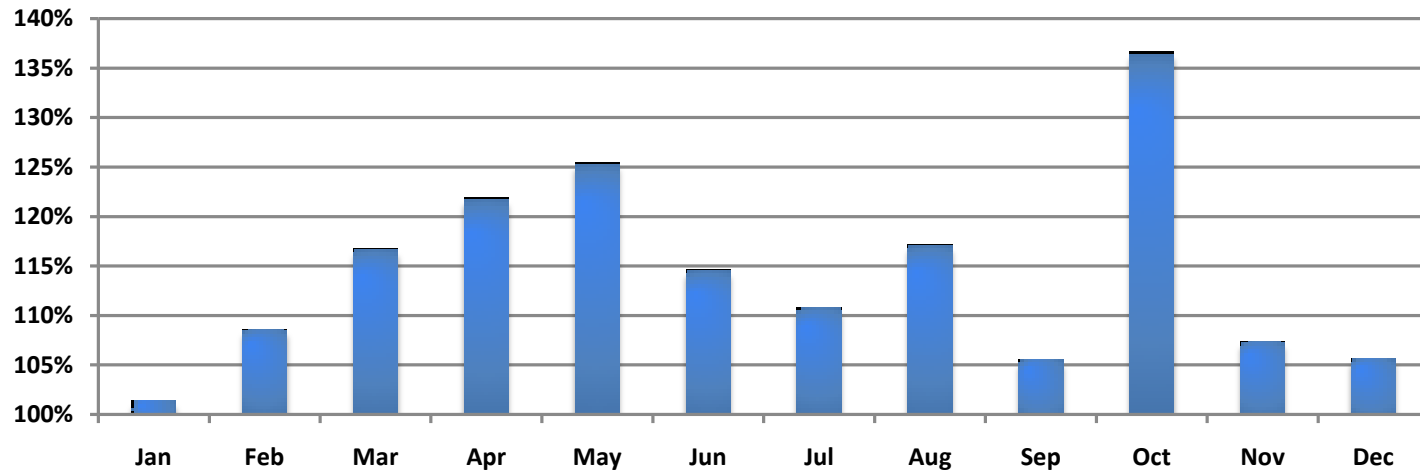
Location – Various



India's Longest Running Single Axis Tracker since 2011



InSolare Tracker Performance over Fixed Tilt



5MW Single Axis Tracker Plant – Since 2011

- **Advance System – Single Axis Tracking**
- **15-18% Higher Power output**
- **99% System Up time**
- **Plant commissioned in 2011**

Thin Film
Technology

600 Tons of
Steel used

35 Acres
Solar Plot

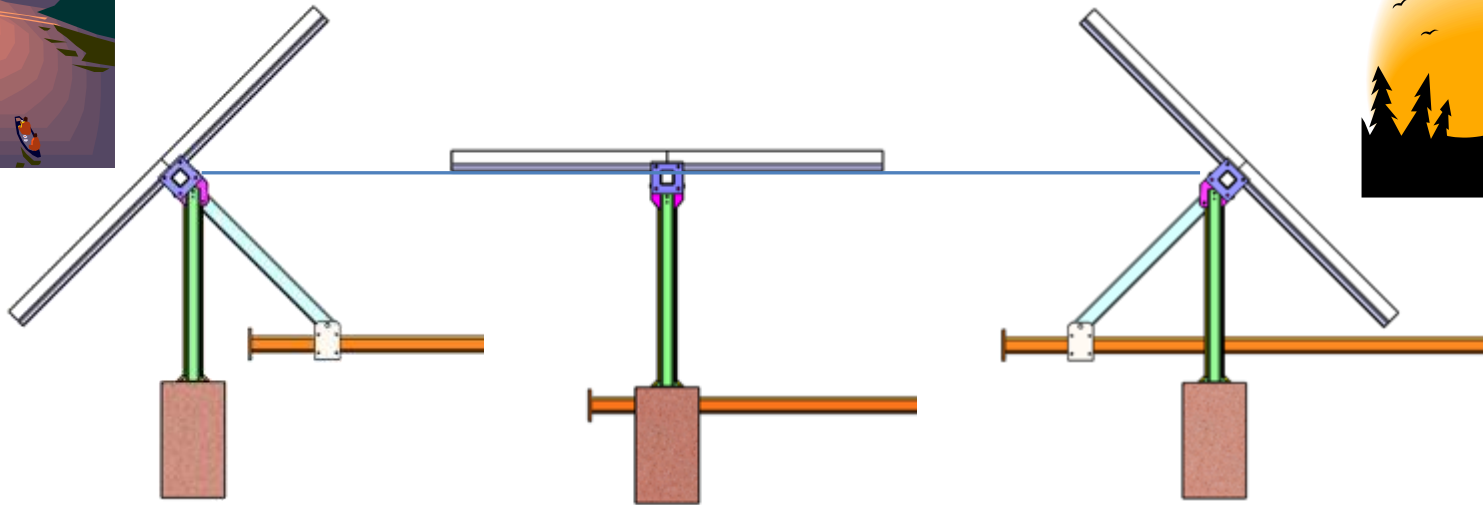
>22% CUF

Hydraulic Based Tracking
Technology

Highest unit generation per MW
for 5 years

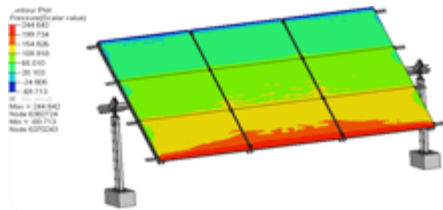


Basic Concept of Tracking



Single Axis Tracker by InSolare

- Flexible to challenging site contour and shape
- Fail Safe design
- Finite Element Modeling



DESIGN

- 2x lesser deflections
- Spherical Metal Bearing
- Bearing to absorb upto 5 Degree misalignment



STRUCTURE



ACTUATOR

- > 600KWp per Single Actuator
- Direct coupled Hydraulic joint
- NO GEAR BOX
- 3 min Stow time

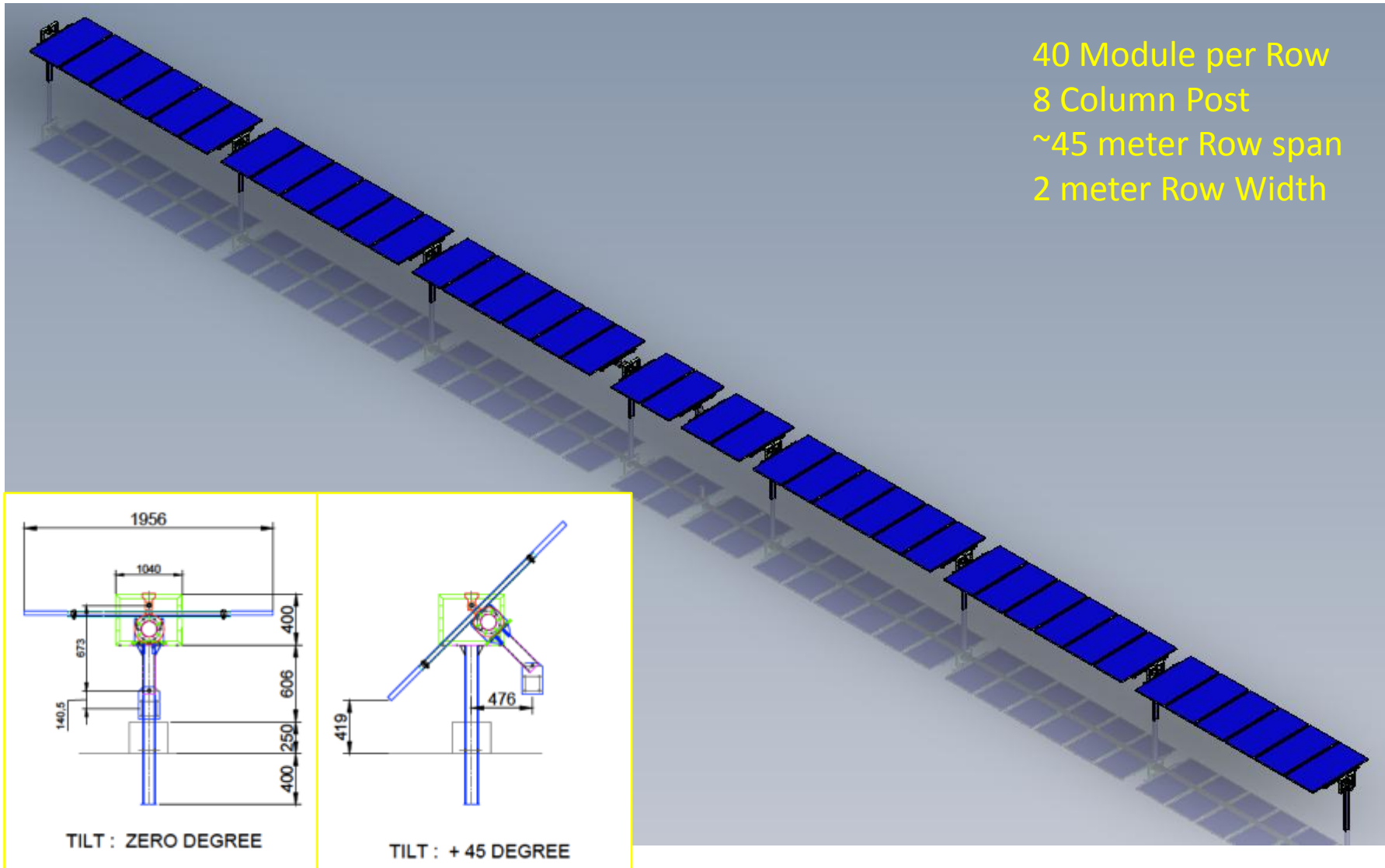
CONTROLLER

- 32 bit micro Processor
- Precision tracker
- Backtracking with Azimuth Correction

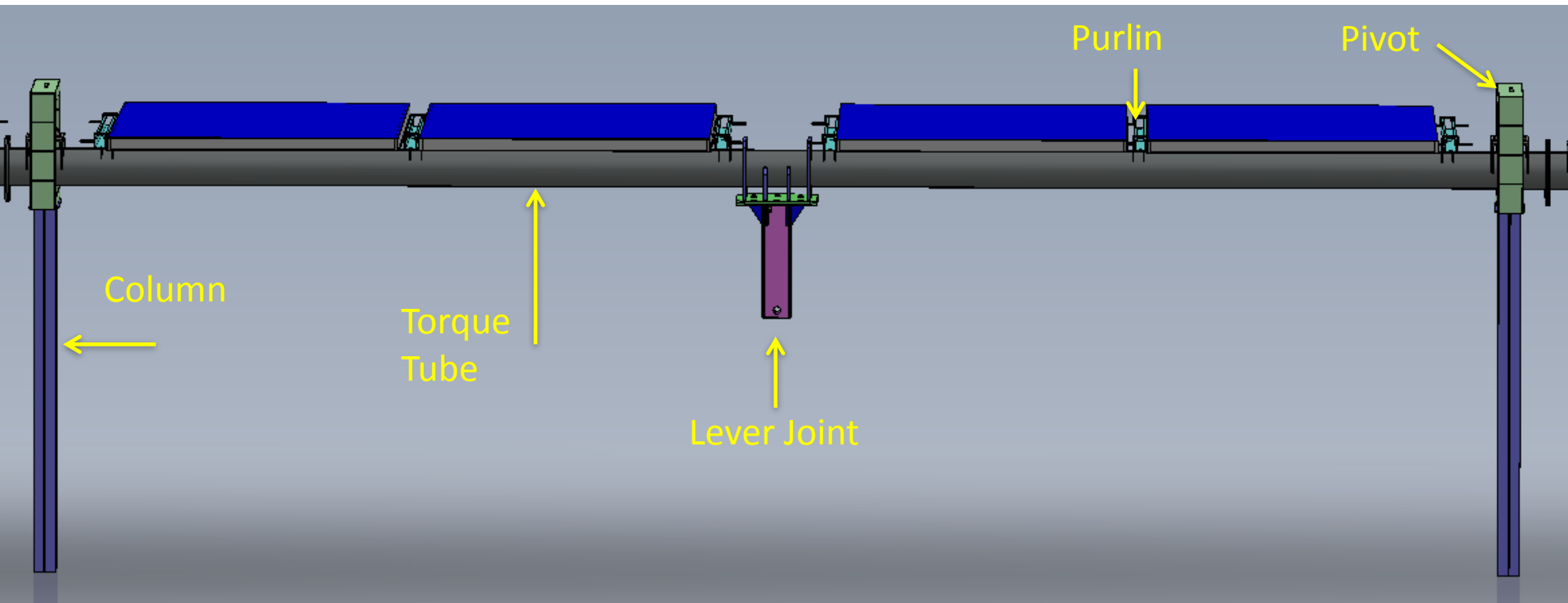


Single Row Assembly Model

40 Module per Row
8 Column Post
~45 meter Row span
2 meter Row Width

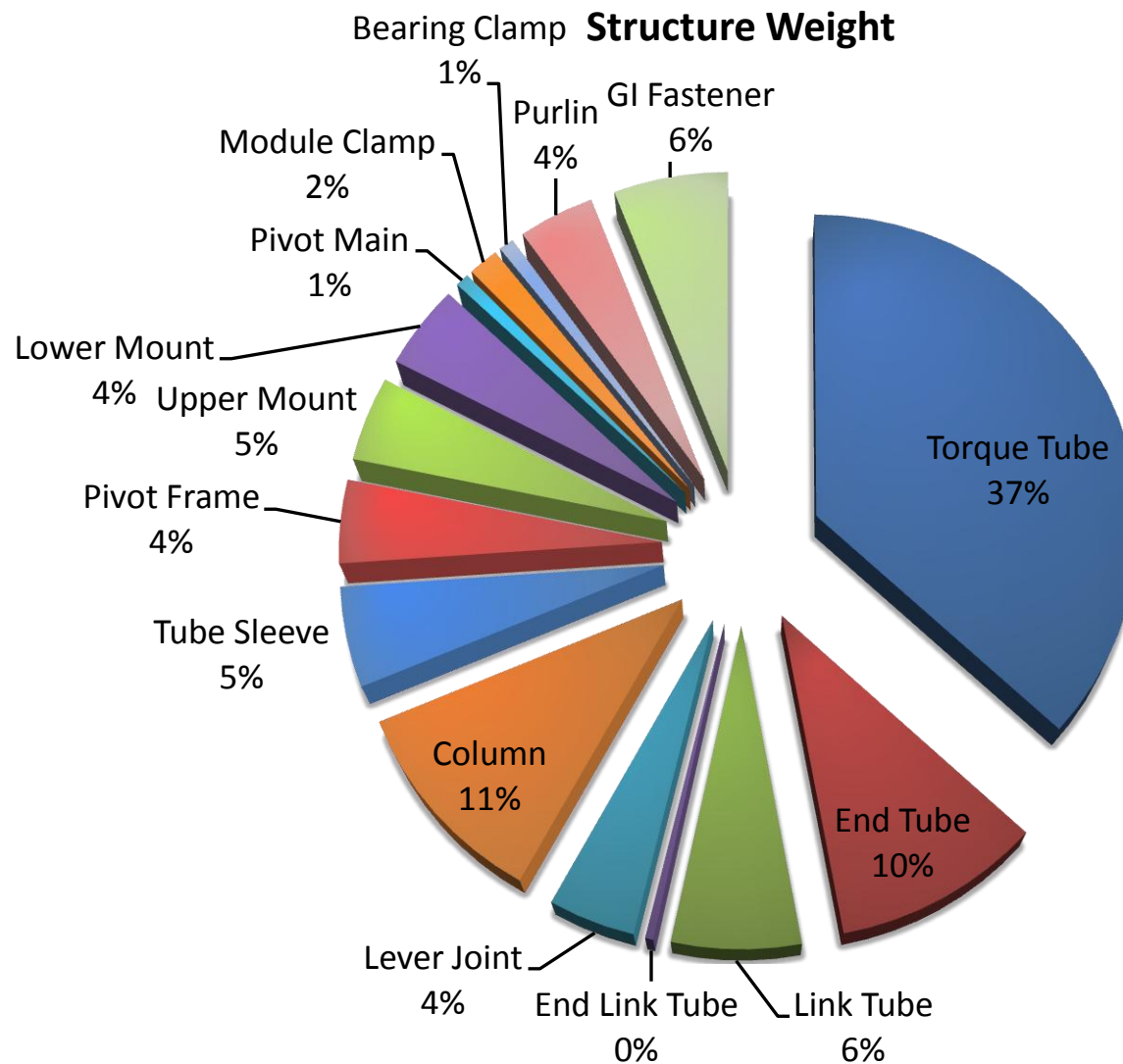


Tracker Components

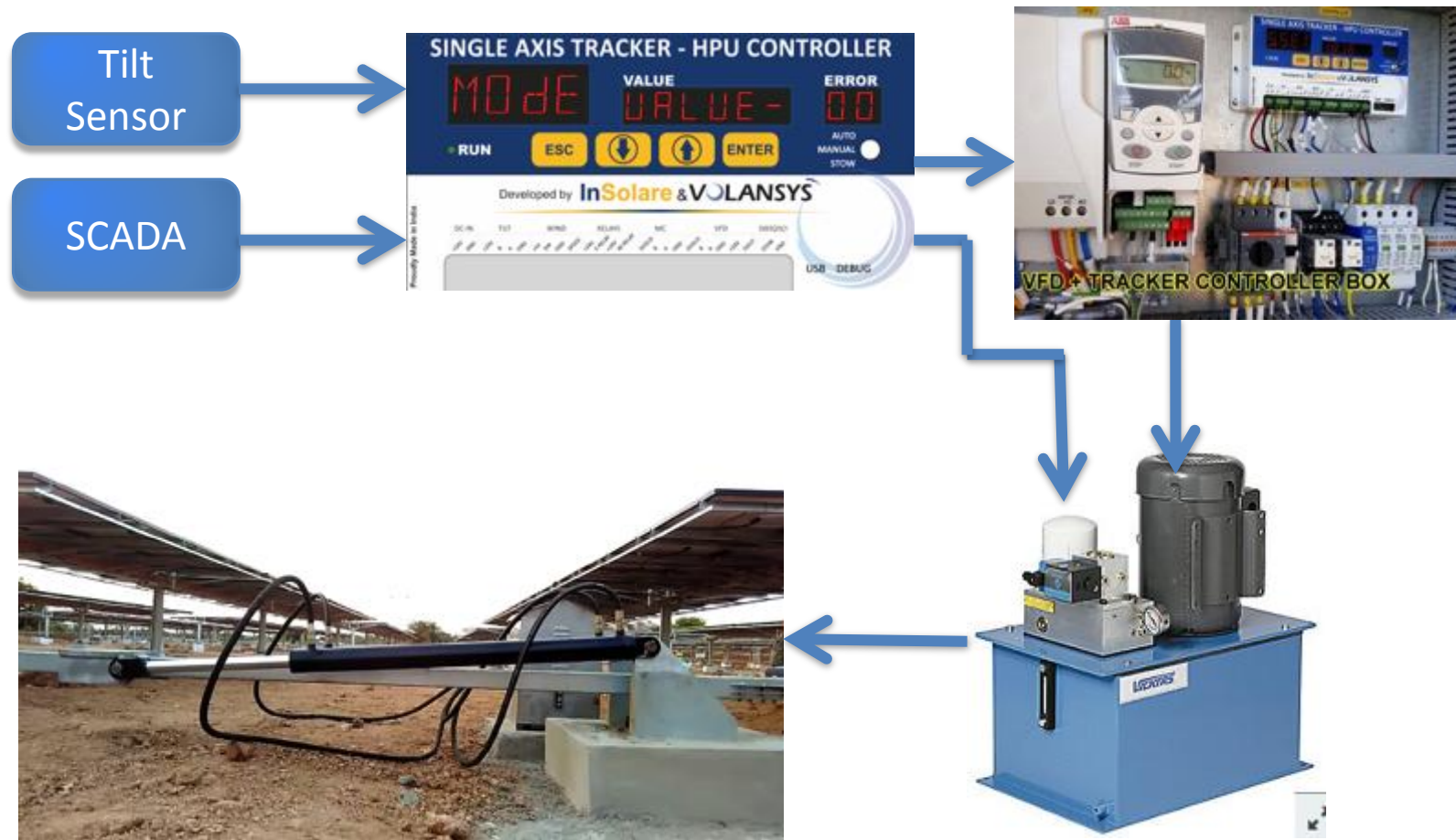


- 90% Parts are industry standard sections
- 80 micron average Hot Dip Galvanizing parts
- GSM Purlin
- Easy to source and fabricate
- Total 60 Tonne Structure weight per MWp

Tracker Structure Components



HPU Tracker Operation



- Step1: Controller collects tilt angle data from Tilt Sensor
- Step2: Controller sends signal to VFD panel to motor turn on
- Step3: Controller sends signal to HPU for Solenoid operation
- Step4: Motor pumps oil in to cylinder via selected Solenoid
- Step5: Cylinder moves piston out or in as per feedback
- Step6: Tilt angle changes in Panel which feedbacks to Controller for further action

Turn Key Tracker Supply and installation



Array Design

- Survey
- Array Layout
- Wind Analysis

Structure Design

- STADD Analysis
- Structure Part Drawings
- BOM/BOQ

Civil

- Land Contour Level
- Column Alignment
- Pile Boring and Concrete
- HPU Foundation

Structure

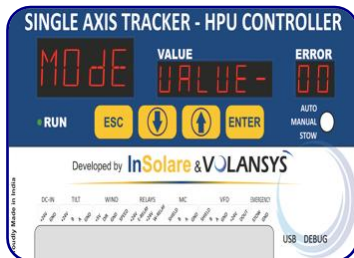
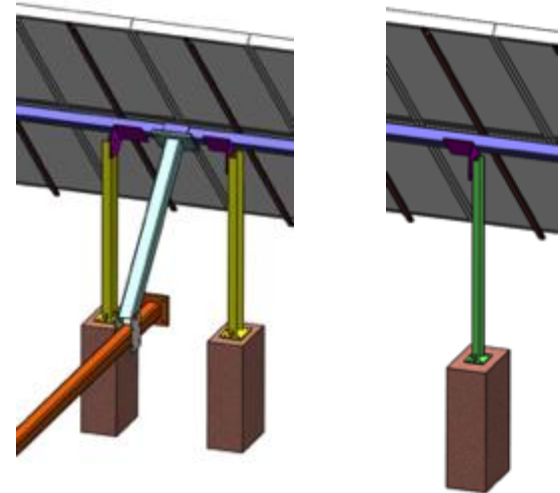
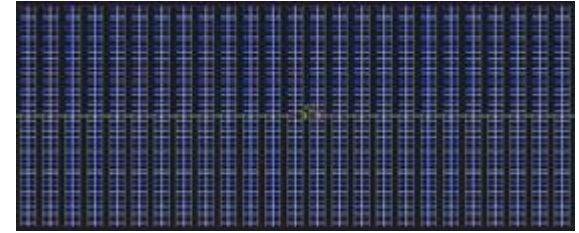
- Supply of components
- Installation and Assembly

Actuator

- Hydraulic Installation
- HPU Actuator

Controller

- Tilt, Wind and weather sensors
- SAT Controller operation



Completed and On going Tracker projects

Thin Film 5MW
Karur, Tamilnadu
Completed 2016



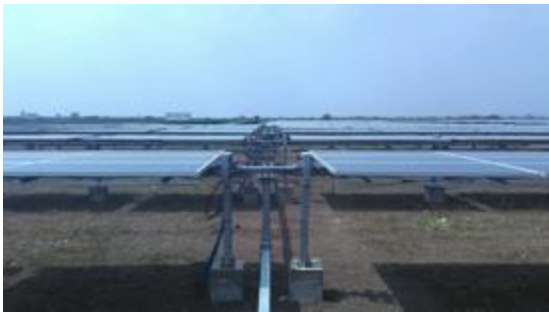
Poly Crystalline 2.5MW
Vadodara, Gujarat
Completed 2017



Poly Crystalline 30MW
Telangana
Completed 2017



Poly Crystalline 1.5MW
Tamil Nadu
Completed 2016



Poly Crystalline 8MW
Karnataka
Completed 2017



Poly Crystalline 18MW
Telangana
Completed 2017



Completed and On going Tracker projects

Thin Film 5MW
Kutch, Gujarat
Completed 2011



Poly Crystalline 0.5MW
Kutch, Gujarat
Completed 2015



Thin Film 0.6MW
Hyderabad, Telangana
Completed 2015





Thank You

www.insolare.com

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Solar Power Unleashed

Solar Engineering EPC Services in India
(An ISO 9001:2008 Certified Company)

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