





Mechatron is a world class specialist in the design, development and implementation of superior products and applications for photovoltaic plants. Our account already shows many successful years and a significant number of challenging industrial projects that vary in size and requirements.

A few years ago, we put all our experience, know-how, innovative thinking and state-of-the-art technology into practice. We created Mechatron Solar Trackers. These tracking systems, designed to maximize performance at any given climate and terrain conditions, became the prime mover behind Mechatron's impressive growth and placed us on the global energy market map as one of the most innovative and dynamic companies.

Still, evolution does not stop marching, just as the market does not stop bringing forth new challenges. Striving for constant innovation, Mechatron is ready to present the next day in solar tracking systems: Mechatron Solar Tracker S140 evolution, the world's toughest solar tracker.

A system so simple in terms of design yet so inventive. A system fully in line with markets' aim towards higher energy production, which makes the investment profitable even without subsidies. A system that gives evolution a whole new meaning.



## Research: the one-way road to success

Mechatron's Research and Development Department is working today to meet the challenges of tomorrow. This is Mechatron's key to success; continuous, unceasing research towards constant innovation.

## A technological marvel inspired by nature

The structure's design principle is inspired by the beetle's exoskeleton, which exhibits superior strength to weight ratio. The structure is a combination of an elliptical tube design (similar to the wing of a wind turbine or an airplane wing) and a simple lattice structure that holds the panels.

The new elliptical tube, based on Mechatron's accumulated knowledge, field experience and extensive testing validation, provides significantly superior stiffness and strength. The lattice structure, that supports the PV panels, transfers safely the structural loads. It also provides



higher structural rigidity for better panel alignment and higher strength for structural survivability.

A patented zero-backlash drive mechanism allows for smooth movement and operation. Also, due to the continuous slip capability under strong winds, the drive mechanism is extremely robust and capable of surviving even hurricane conditions.

The above are combined with the innovative and unique features of Mechatron Solar Trackers, such as:

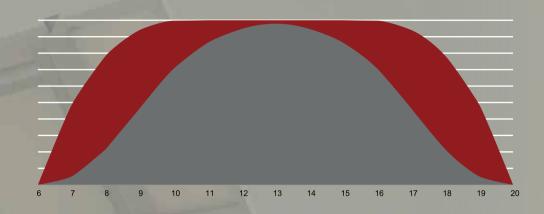
- Advanced hydraulic system to ensure maximum endurance (practically no maintenance needed and extended product lifetime)
- High production quality (with certifications)
- Quick and easy installation process
- All modules compatibility

## "Astronomical" Performance

Tracking system motion is based on the accuracy of the astronomical algorithm. This contributes to maximum solar radiation intake even when it is cloudy. The result is better quality and up to 30% greater energy production, ensuring greater benefit per unit of installed capacity in comparison to conventional systems.

Janus

### Energy Production Comparison



Comparison of conventional bases with Mechatron Solar Tracker S140 evolution

## A Smart Thinking Tracker

Mechatron Solar Tracker S140 evolution is equipped with an advanced telemetry system which informs you of the machinery operations in real time. This is what Mechatron means by intelligent systems.

# "Plug 'n' Play"

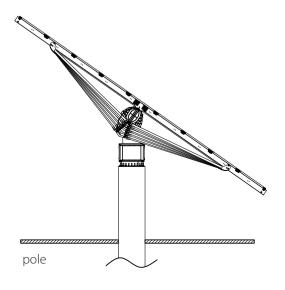
The installation of Mechatron Solar Tracker S140 evolution is quick and easy with the highest degree of standardization (plug & play). All work takes place in the field without need of experts. Photovoltaic panels are clipped on purlins with the mechgrip<sup>™</sup> clamp, which has been designed exclusively by Mechatron for that exact purpose, while providing anti-theft protection. Each system operates independently and undergoes many hours of operation testing prior to delivery, in order to satisfy Mechatron's operating regulations.

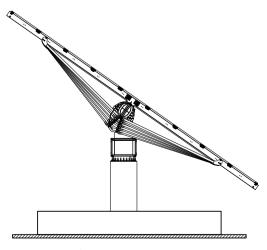


# Your premier consulting partner

Apart from choosing the appropriate system, successful investment in photovoltaics depends on other factors. At every stage of the process, our experienced engineers and the installers are here to provide you with exclusive advice and expert solutions.







counterweight



#### Main Features

- A rectangular geometry frame (15,3m width x 9m length) with available surface up to 140m<sup>2</sup>
- PV modules per unit up to 21kW (with 260 watt panel)
- 340° of azimuthal motion range
- Foundation on an over-ground gravitational base (counterweight) or pole
- Solution of an astronomical algorithm for tracking the sun's position

#### Monitoring

- Automatic control unit
- Digital encoders for tracker position
- Full monitoring in real time through telemetry

#### Safety

Hydraulic motion mechanism with slip capability

#### Construction

- Systems designed according to Eurocode 3
- Hot-dip galvanized steel elements

#### Installation

- Compatibility with all photovoltaic module types
- Photovoltaic panels are placed and secured with the use of the special Mechgrip<sup>™</sup> clamp
- Inherent anti-theft protection

#### Motion Mechanism

Sturdy hydraulic motion system

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