

## OUR COMPANY

## Company data

| Formation: | May 2010. | Owners: | Hungarian private individuals |
| :--- | :--- | :--- | :--- |
| Headquarters: | 3534 Miskolc, Kerpely Antal u. 35. | Bank accounts at: | Citibank, OTP, K\&H |
|  | Diósgyőri Ipari Park , HUNGARY | Employees: | 200 persons |
| Subsidiaries: | France, Chile, Egyipt | Office: | Germany |

## I N F R A S T R U C T U R E

- $18.000 m^{2}$ ground space
- $14 m$ headroom
- 17 industrial naves with bridge cranes
- Direct industrial railway link
- Own transformator station



## I N F R A S T R U C T U R E



## QUALITY ASSURANCE

Implementation of quality assurance system

Maintaining and conditioning expertise of welders and other professionals.

Welding processes and instructions

Quality assurance, welding control


## R E F ERENCES

OVERSIZED DEVICES


Biological reactor - Inwatech - Hungary

COMPLETE TECHNOLOGY SYSTEMS


## R E F ERENCES

PRESSURE VESSELS, HEAT EXCHANGERS


PUMP STATIONS, SKIDS


## REFERENCES

TANKS


UNIQUE STEEL STRUCTURES


Shopping Center-WB - United Kingdom


## RESEARCH AND DEVELOPMENT

- Team of professionals with vast experience in automotive industry filter technologies, energy projects
- Working towards indepent, non-journey work, but without violating current clients interests
- Our industrial innovations:
- Development of vertical-axis wind towers
- Technology for power plants with solar tracking systems
- Environment-friendly technologies for filtering suctioned air of closed waste water tanks


## SOLAR PANEL FIXING SYSTEMS

- Fixed systems

- Solar tracking systems



## PROFESSIONAL FIX MOUNTED SOLAR S Y S T E M

EXTENDABLE GROUND SCREWS

Construction of foundations


## FIX MOUNTED SOLAR SYSTEM

Since 2012, OLP-TECH has been trusted name in photovoltaic power plants. We are experts in professionally engineered solutions for industrial grid-tie solar PV systems. The OLP-TECH 's expert team brings cost-effective, timely solutions for your solar power plant, EPC needs.

OLP-TECH offers full services for solar projects mechanical and electrical system installation. Our capabilities span the spectrum from engineering to complete design procurement and construction, allowing OLP-TECH to provide all the resources for your solar projects - from start to finish.

Our professional team anchor constructions, thanks to an innovative technology of extensions of ground screws we are specialists in foundation engineering in difficult terrains such as steep slopes or brown fields. Based on years of experiences we reliably and efficiently know how to suggest and implement photovoltaic power plant for almost any type of soil.

## FIX MOUNTED SOLAR SYSTEM

At our projects we prefer the foundation of constructions by a dry way either based on ground screws or forcing pilots. We bring to our customers the most appropriate solutions and we are able to fully adapt to his needs.

Large variability of a placement and the use of different brands of modules and technologies. We use modules on projects only from TIER1's category and in agreement with the investors. Diversity of manufacturers and their offered solutions give us the possibility to find the optimal way by mutual agreement with developers

Our projects portfolio includes more than 600 MW references across world from Chile to UK, France, Hungary, Germany, Romania. Our biggest project in Europe is a 300 MW solar plant near Bordeaux, France. The construction had been carried out from December 2014 to July 2015

We welcome your inquiry and look forward to servicing your solar project. If we can be of any assistance, or perhaps you need some free advice then please do not hesitate to contact us.

## FIX MOUNTED SOLAR SYSTEM



Arsac, France - 62 MW


Kawasaki, Japan - 20 MW


Ollieres I-II, France - 43 MW

## FIX MOUNTED SOLAR SYSTEM



La Huayca, Chile - 30 MW


Carbunesti, Romania - 20 MW


Romania - 5MW

## TECHNICALSOLUTIONS



## T ECHNICALSOLUTIONS

- Made of S235 steel pipe
- Screw theads made of DCO
- Hot-dip galvanized steel, according to DIN EN ISO 1461



## TECHNICALSOLUTIONS



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## TECHNICALSOLUTIONS



## TRACKING SYSTEMS

## The new innovative Tracking Systems offer:

- trackersolutions for all terrain types
- maximum flexibility for plant design
- maximum reliability and durability
- minimized maintenance
- maximumcost savings for installation and civil work
- environmentally friendly


## TRACKING SYSTEMS

## TILT 18 plus

$$
\begin{gathered}
\text { Axially paralleltracking system for } \\
\text { flator } \\
\text { uniformly inclined planes }
\end{gathered}
$$



## TRACKING SYSTEMS

## Rigid System- TILT 18 plus :

This cost-effective tracker system TILT 18plus is ideal for sites with flat or uniformly inclined planes.

Rigid means the waiver of universal joints within the pivot axes. However, the ball bearings allow installation on uniformly inclined planes


Ball bearing


Rigid pivot axes

stable plug-in system for pivot tubes easy to install

## TRACKING SYSTEMS

## CONTOUR LINE

Flexible tracking system for all and especially hilly terrain formations


Additional universal joints within the pivot axes
allow installation on any terrain

## TRACKING SYSTEMS

## Flexible System - CONTOUR LINE:

the combination of ball bearings and universal joints as well as the push pull system of the drive allows a $100 \%$ adjustment to the terrain
> Contour Line


Additional universal joints within the pivot axes increase the flexibility if it's necessary


Universal joints on the pivot stations are standard on the system CONTOUR LINE


The drive line follows the terrain (Pictures during installation)

## T R A C K I N G S Y S TEMS

## Development and Design

All materials and cross sections have been designed and constructed according to the results of static calculations and optimized through extensive wind tunnel tests under all possible conditions.


Furthermore, in laboratory experiments a multiple of the expected movement cycles for all elements (e.g. joints) have been tested. Maintenance-free use during the operating life of a plant ( > 25 years) is guaranteed.


## T R A C K I N G S Y S TEMS

## Drive Design

The Tracking Systems have one drive stations per array. It is placed in the center of the array


An electromechanical spindle drive is used as actuator.
Designed as telescopic cylinders with absolutely dense cover of the threaded spindle

- seawater proof
- insensitive to sand
- sealed motor
- easy maintenance
- self-locking drive


## TRACKING SYSTEMS

## Control System

Siemens controller
RS485 bus system;
Connection to the SCADA system via fiber optic cable in a first box


## T R A C KING SYSTEMS

## Greater stability in windy conditions

Use of hydraulic dampers on all axes

double-acting hydraulic damper connected to l-beam or ground screw foundations on both ends of a row, to reduce the vibrations generated by the wind

## T R A C K I N G S Y S TEMS

Modules fixation


The connection of the modules can be done with approved clamping elements which have been used thousands of times. The module assembly will be pretested on our own vibrating test

The connection of the modules can also be done with rivets, for a quick installation without assembly devices


## T R A C K I N G S Y S TEMS

## Possible Arrangement of Solar Panels



1-row vertical module configuration layout (with 72-cell solar panels)

2 -row horizontal module configuration layout (with 60-cell or 72 -cell solar panels)

## TRACKING SYSTEMS

## Typical Layout



## TRACKING SYSTEMS

Typical Foundations

using l-beams
-IPE or wide flange beams
design according to wind conditions
using ground screws
-fast installation -less pre drilling if necessary
design according to wind conditions


## TRACKING SYSTEMS

## Your benefits

- Both systems can be installed in the untouched ground - no grading is necessary, it saves a lot of costs for civil works

- push-pull rods are adjustable easy adjustment of the pivot axis possible
- absolutely safe and reliable use in all environmental conditions even under conditions such as dust, heat, cold, ...
- easy maintenance and repair, use of standard parts which are available worldwide and have been installed thousands of times


## TRACKING SYSTEMS



South Africa - 75MW


South Africa(rigid system) - 40MW

## E Q U I P M E N T S



MAST

- Wall hydraulic mast attachment for
mounting an excavator exceeding

Digital recording of hydraulic pressure when installing screw

Use in the set with a pre-drilling crown (without digital
recording)
Maximum capacity up to 300 screws per day


Professional Drilling Equipment

## E Q U I P M EN T S



TESTING EQUIPMENT

- Used to evaluate
ground stability
Device for measuring
vertical and
horizontal tensile
strength in a given
soil type

Ground tests are carried out according to TUV with ourcustomized testing instuments

## E Q U I P M E N T S



Ground tests are carried out according to TUV with our customized testing instuments

THANK YOU FOR YOUR ATTENTION!


