

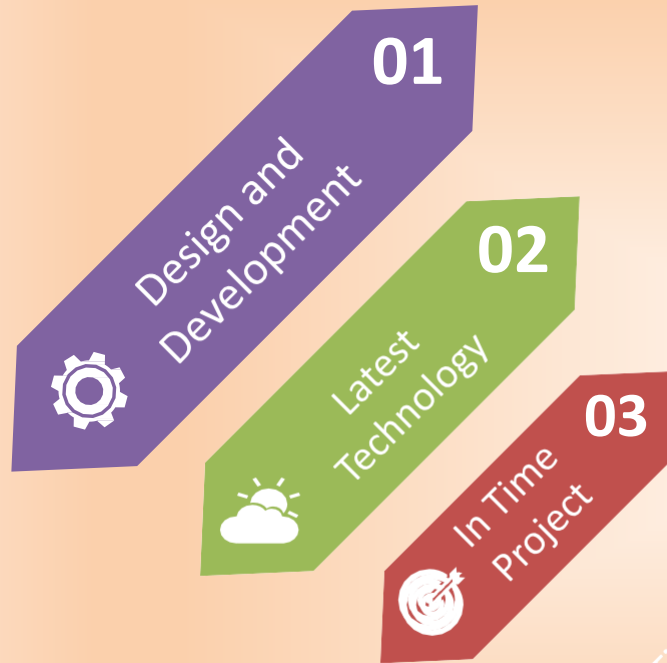


## About us.....

At **ASK Engineering Solutions**, we dedicate ourselves to develop a eco-friendly work environment through, Streamlining the manufacturing process by Minimizing the energy cost and reducing the energy losses.

We Also provide customized energy audits and energy cost optimization measures for industrial and commercial areas. We also maximize solar energy benefits by providing solar electricity solutions, along with procurement of cheaper power for you through group captive, Open Access, power exchanges etc.

# What We are .....



## **Proven EPC track record:**

successfully constructing utility-scale Domestic, commercial & industrial solar power projects.

## **Working Scale:**

Domestic, Commercial & Industrial businesses across Automobiles & Healthcare, Telecom, Petrochemical, FMCG and Chemicals companies in end-to-end installation of solar energy systems.

## **Project Consultancy:**

We reduce technology and financial risks through our experience in the solar value chain and deliver highest quality reliable and durable solar photovoltaic solutions.

## **Technology and Infrastructure:**

Pride in providing turnkey solutions through a world-class deployment of cutting-edge technology and making clean & green energy affordable & accessible.

# Our Expertise.....

- EPC of All types of Solar Power Projects (Opex/Capex/EMI ).
- Energy Auditing & Corrective measures on losses.
- Energy Conservation & Management.
- Solar Power Plant Operation & Maintenance.
- Open Access for Power Purchase from Open Market.
- DISCOM /Govt. Liasoning for Industries.
- Solatube daylight System.
- HT/LT Electrical Projects Designing, Execution & Maintenance.
- Green Field Projects Consultancy.

# Why Solar Power.....

01



## Improve corporate image

by leveraging the tremendous PR benefit of sustainability and CSR initiatives.

02



## Increase Profitability

As Solar electricity is 20% - 50% cheaper than Grid & diesel-based electricity

03



## Ease of Adoption

Captive project through Zero Hassle model: no technology risk or construction risk.

04



## Benefits of Outsourcing

optimize investment in a non-core asset, use ASK ENGINEERING scale benefits & operational expertise in Solar.

# Quality & Safety-First Approach.....

## Design & Engineering

Designed using the best-in-class engineering tools and methodology for optimized performance and system reliability.

## Quality Management

We carry out a rigorous quality inspection and testing on components / equipment's procured for the plant

## Procurement

Developed strong personal relationship over the years with Tier-1 Module, Inverter, Structure, Cable and BoS players



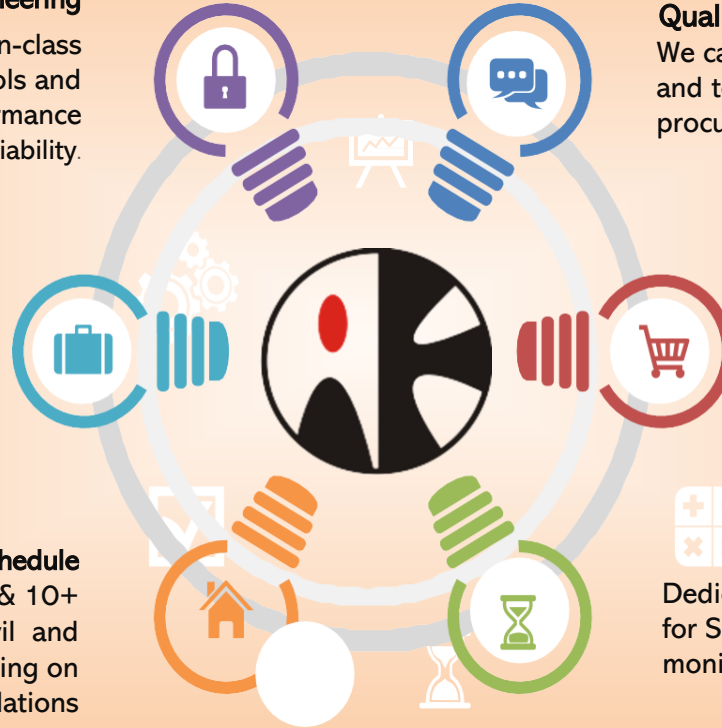
## Solar MIS (IT Solutions)

Dedicated IT team for developing MIS for Solar Generation performance and monitoring plant operations

## Project Execution & Schedule

Our 100+ contract workers & 10+ engineers have relevant civil and electrical experience of working on several MW+ solar PV installations

**Safety, Inspection & Testing** We carry out a rigorous quality inspection and testing on components / equipment's procured for the plant



# Solar Operation & Maintenance.....



Increase in  
generation up to  
5-8 % by proper  
Operation and  
Maintenance



## Safety

Safety equipments with all necessary Govt. compliances. Periodic training and guidance to ground level staff for betterment in activities.



## Cleaning

Cleaning of Panels and premises . We are working at 25+ sites on daily basis, and maintaining the best practices



## Maintenance

We have standard inspections and maintenance schedule through which we try to prevent major breakdown. Suitable actions are planed as per observation and schedule



## SCADA

We have Solar MIS system developed specially considering all day to day process. We have integration and control on every part of plant and monitor by cloud based system



# Our Assets and Strengths.....

## • Manpower & Assets

- 50+ Contractual EPC workers, 6+ Engineer and design staff.
- Power Quality Analyzers (KRYKARD) which can measure all power parameters for mili-seconds and for few months together.
- High End Infrared Thermal Imager TESTO Germany Make
- Calibrated and accurate Digital Earth Tester (MOTWANE) Make
- Solar Irradiation Meter
- DC Voltage and current Tester.
- Liasoned software's like PV Syst, Helioscope 4ccccccc E-tab

## • Strengths

- We have in house design Team with All Latest Software.
- We have Experienced and Technically sound Experts Team
- We have Our Own Monitoring and MIS software.
- We have Team of Civil ,Mechanical and Electrical Engineers.
- Sound Legal and good relations with government authorities.
- Experienced O&M Team with all latest tools and equipments.





# Project Study Helioscope Simulation.....

## Sohar steel Design 1 4.48 MWp Rooftop Solar -Sohar Steel Oman, Sohar Steel LLC , SOHAR Industrial Port Sohar Oman

### Report

Project Name	4.48 MWp Rooftop Solar -Sohar Steel Oman
Project Description	SOHAR STEEL LLC SOLAR POWER PLANT
Project Address	Sohar Steel LLC , SOHAR Industrial Port Sohar Oman
Prepared For	Sohar Steel LLC
Prepared By	Suresh Kshirsagar suresh@askengineering.in



**ASK Engineering Solutions**

Aurangabad, Maharashtra, India -431 001  
Cell +91 95790 41382; +91 96730 04687

### System Metrics

Design	Sohar steel Design 1
Module DC Nameplate	4.48 MW
Inverter AC Nameplate	3.60 MW Load Ratio: 1.25
Annual Production	6.989 GWh
Performance Ratio	81.4%
kWh/kWp	1,558.7
Weather Dataset	TMY, 10km Grid, meteonorm (meteonorm)
Simulator Version	4646ec4493-26ca30ee58-a1fa765de0-624251d307

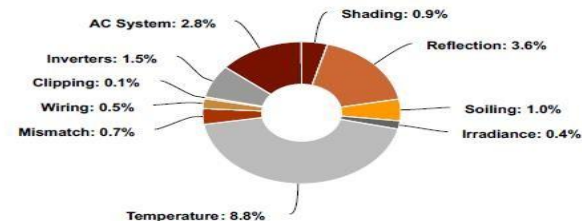
### Project Location



### Monthly Production



### Sources of System Loss



# Project Study Helioscope Layout Designing.....

 HelioScope

Annual Production Report produced by Suresh Kshirsagar

## Components

Component	Name	Count
Inverters	SUN2000-50KTL-M0 (Huawei)	32 (1.60 MW)
Strings	6 mm <sup>2</sup> (Copper)	288 (35,434.1 m)
Module	Axitec, AC-330P/156-725 (330W)	6,060 (2.00 MW)

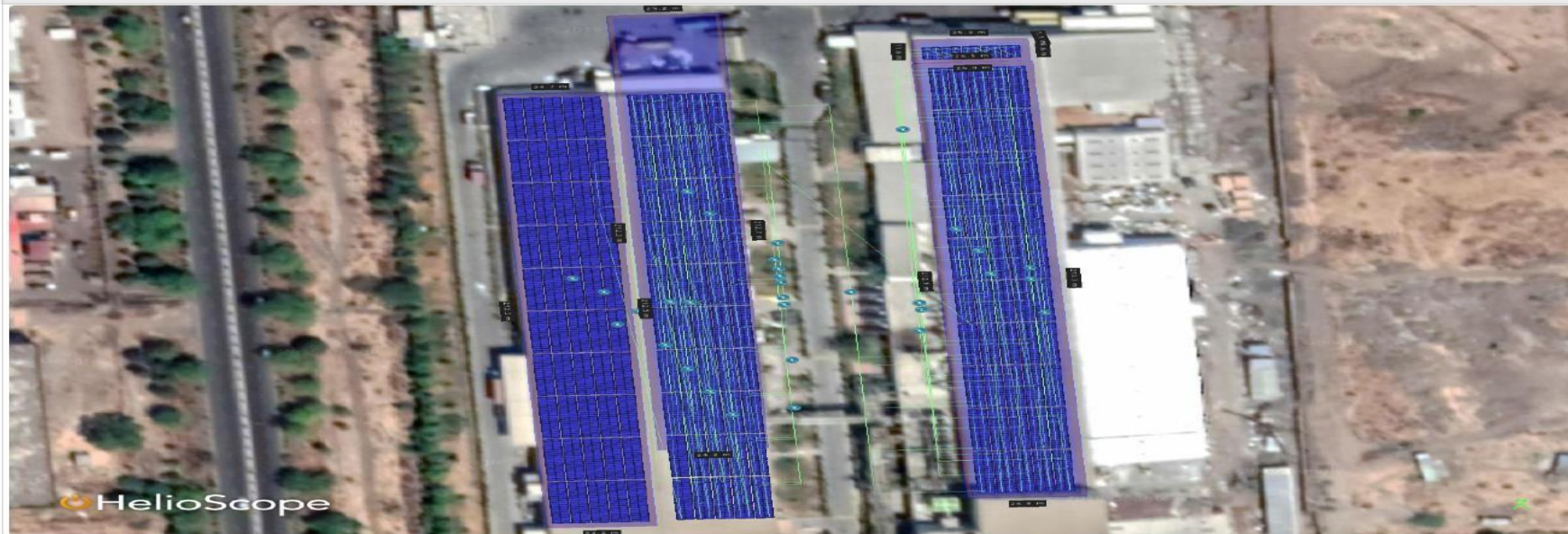
## Wiring Zones

Description	Combiner Poles	String Size	Stringing Strategy
Wiring Zone	12	20-22	Along Racking

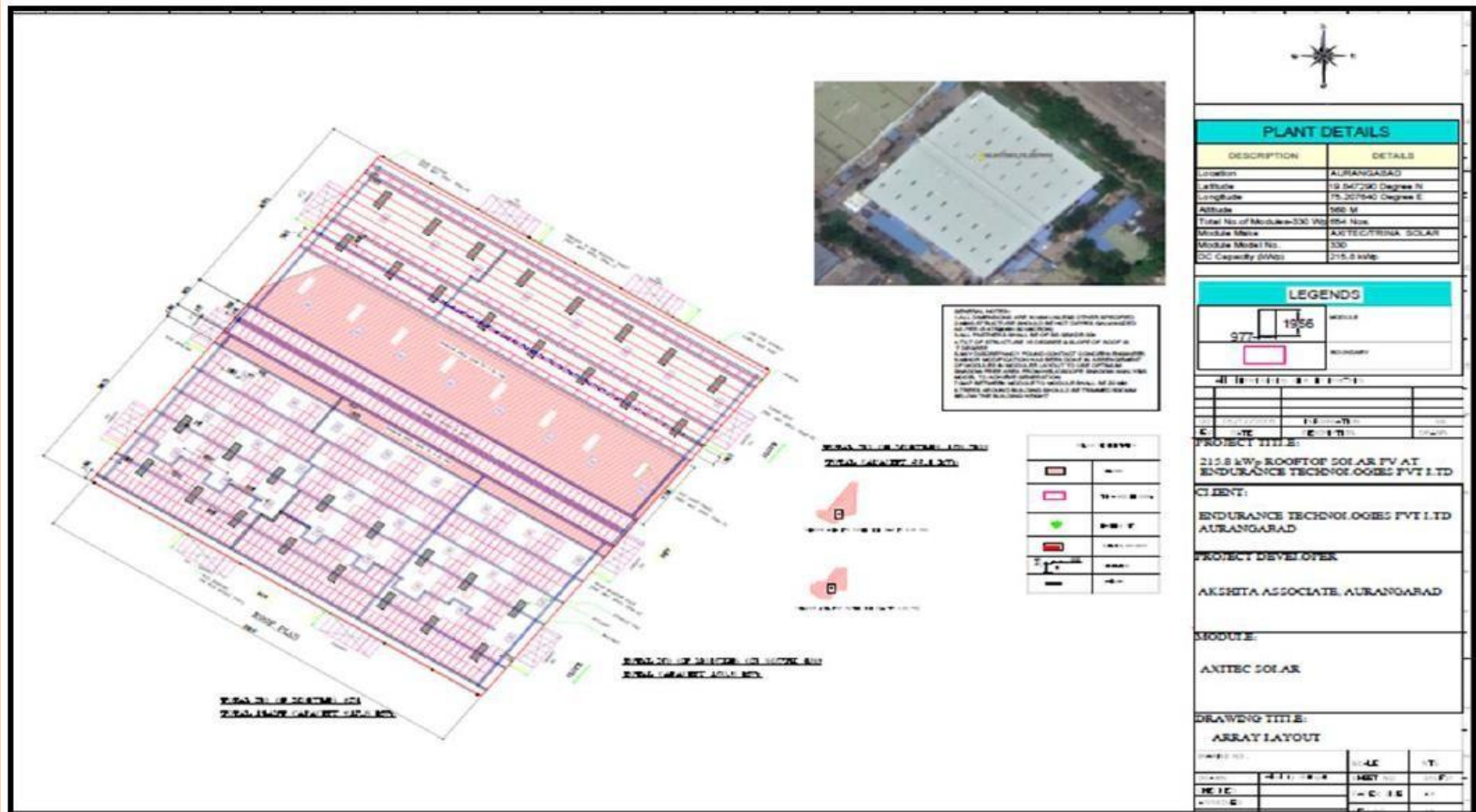
## Field Segments

Description	Racking	Orientation	Tilt	Azimuth	Intrarow Spacing	Frame Size	Frames	Modules	Power
Shop 1 West	East-West	Portrait (Vertical)	7°	177°	0.5 m	4x20	50	2,000	660.0 kW
Shop 1 East	East-West	Portrait (Vertical)	7°	177°	0.5 m	4x20	50	2,000	660.0 kW
Shop 2 West	East-West	Portrait (Vertical)	7°	177°	0.5 m	4x20	50	2,000	660.0 kW
Shop2 20 Kwp	East-West	Portrait (Vertical)	7°	177°	0.5 m	4x6	5	60	19.8 kW

## Detailed Layout

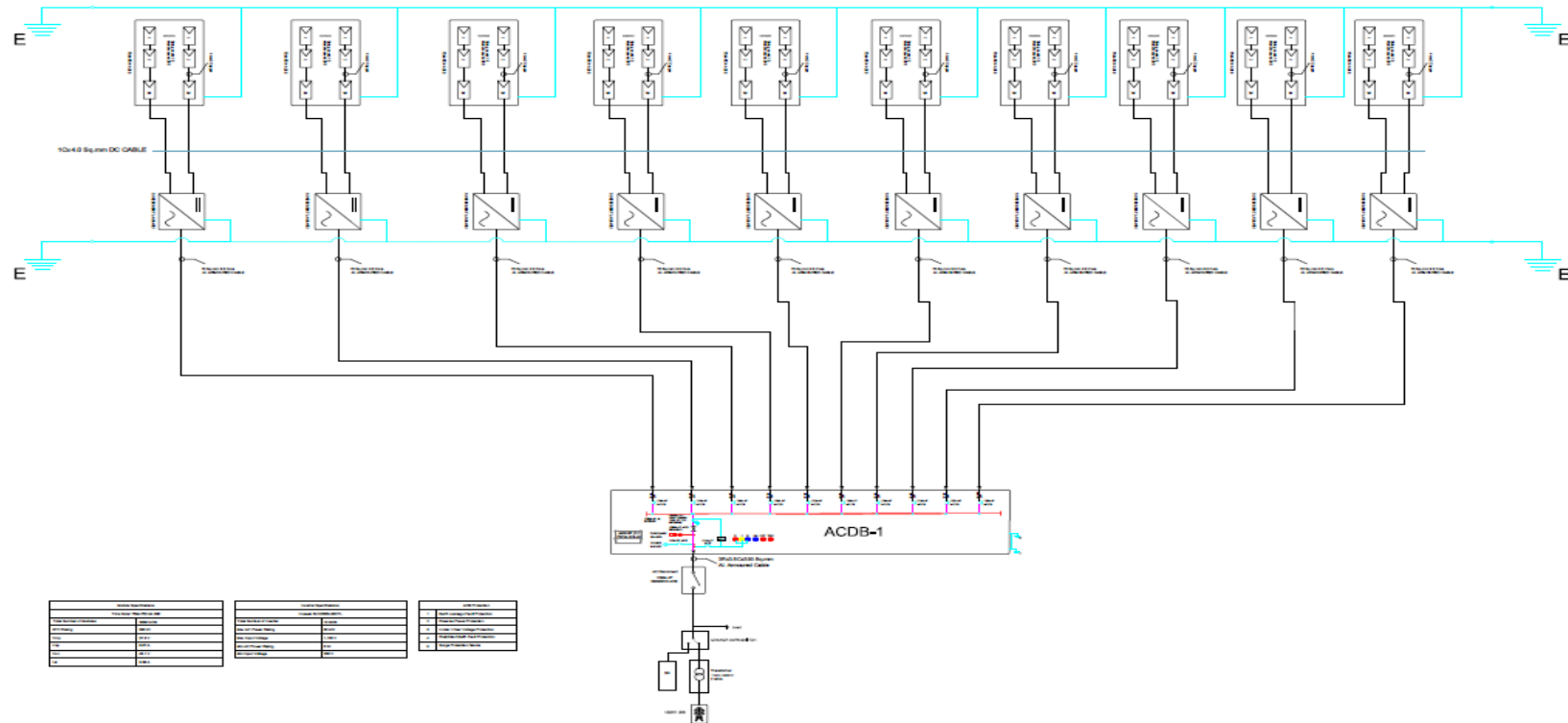


# Project Designing.....

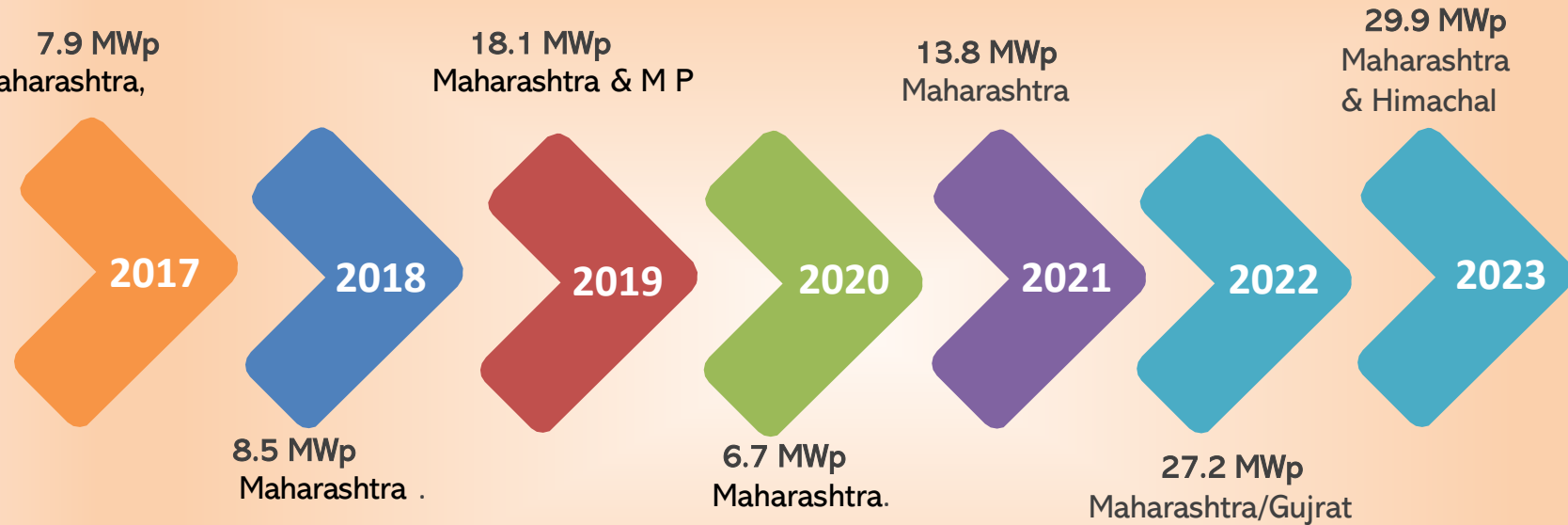


# Project Single Line Diagram.....

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# Our Projects Journey.....



**> 108 MWp –All put together in 7 yrs of span completed  
and @ 43.6MWp under installation**



# Purchasing options Capex (Self Investment) Model.....

Entire EPC  
including  
Module &  
Inverter

- 1) Hurdles for claiming the income tax AD benefit as invoices will be on the name of ASK Engineering Solutions.
- 2) Back to back warranty will be provided.
- 3) More advance to be paid to ASK Engineering Solutions.

Entire EPC  
excluding  
Module &  
Inverter

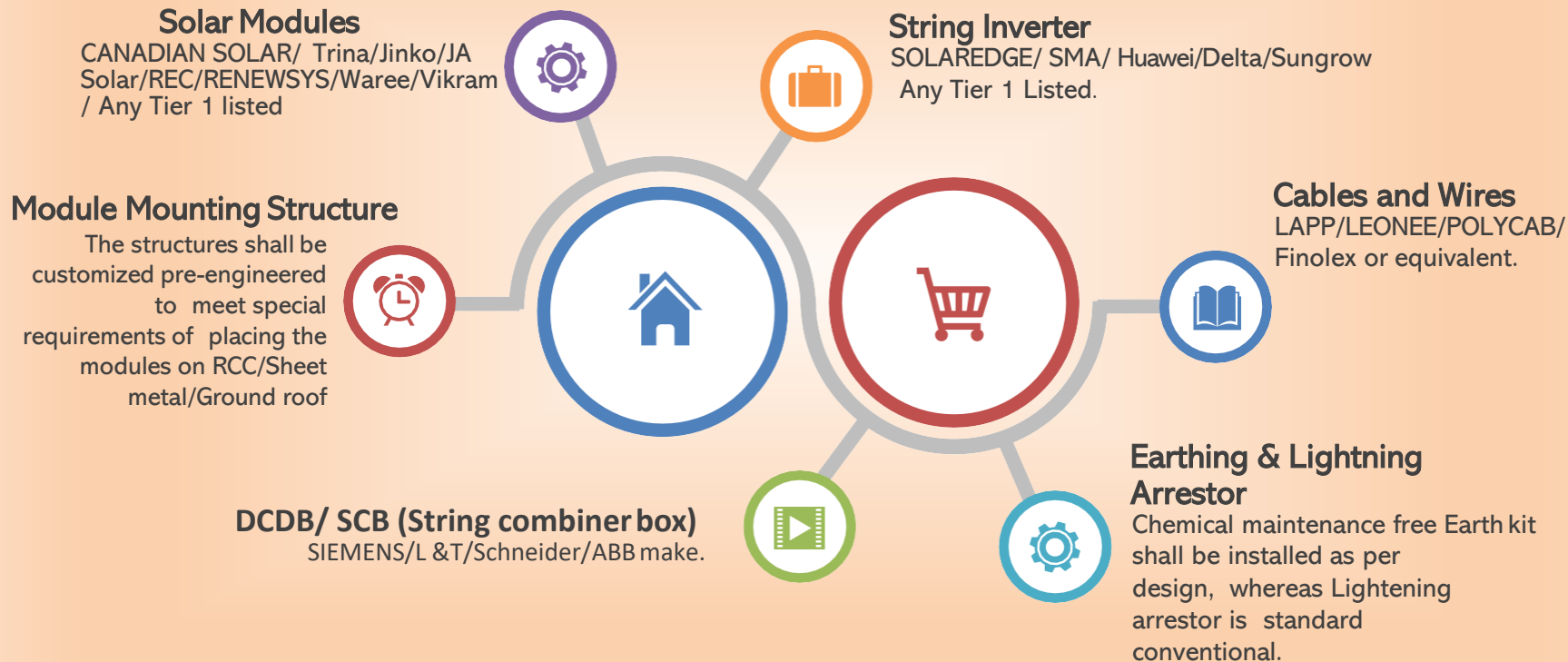
- 1) Hassle free claim of Income tax AD.
- 2) Warranty is directly provided to Client by OEM.
- 3) Less advance to be provided to ASK Engineering Solutions.

# Purchasing options Opex (Zero Investment).....

- Zero capital investment required.
- No need to worry for installation and commissioning of solar project.
- Need to sign Power Purchase Agreement for the predetermined period.
- Only Your roof is used by the investor for solar rooftop installation.
- Upto 45% saving on Energy cost for the generation through rooftop solar.
- Operation & Maintenance will be taken care by investor for the PPA period.
- Easy billing methodology (once in month Joint meter readings)
- Monthly payment to investor with predetermined tariff OR monthly EMI to investor for a predefined period of differed capex.
- Min. saving will be ensured irrespective of DISCOM Tariff by capping clause in PPA.



# Best of Material Brands using by us .....



# Some of Our Completed Rooftop Projects.....





# Some of Our Completed Rooftop Projects.....





# Our Working.....

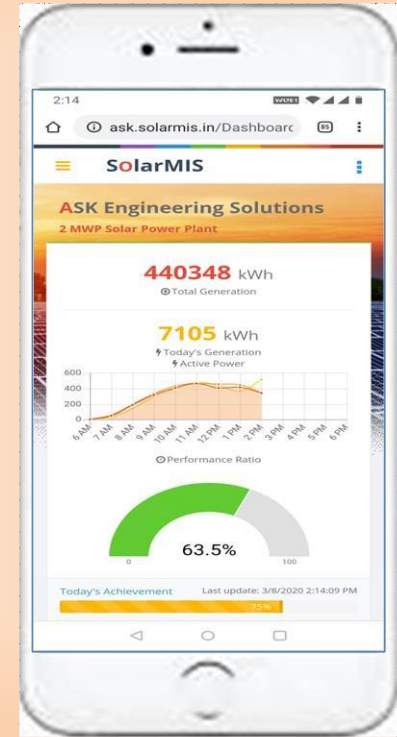




# Some of Our Ground Solar Projects.....

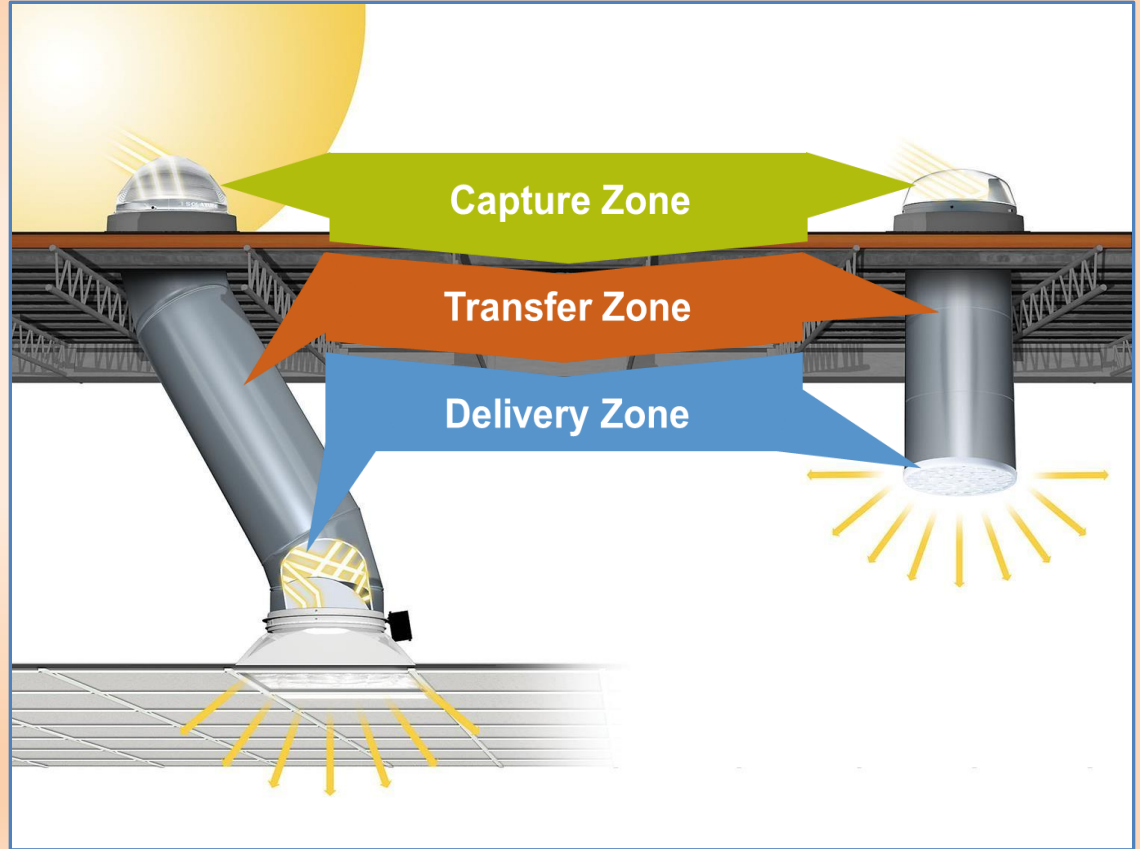
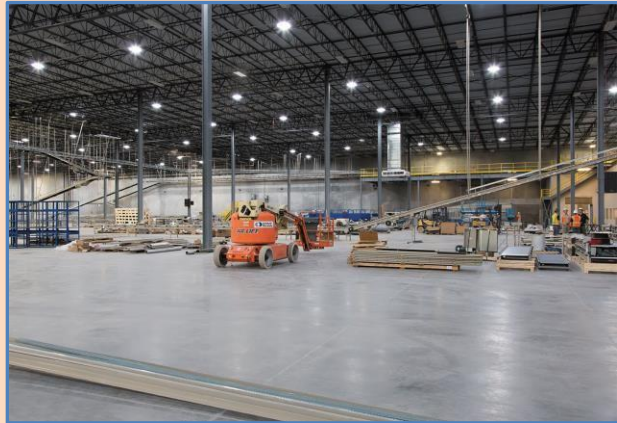


# Customised MIS portal for Computer/Mobile.....



# Solatube Daylight System.....

## Turn off the Lights. Turn on the Sun.





# Open Access Power Purchase.....

## Eligibility:

- 1) Ownership of generating plant should be  $>26\%$
- 2) Self Consumption should be  $>51\%$  of total generation

## Operating Mechanism:

- 1) Generating plant will inject the power at MSEDCL/MSETCL/DISOM substation
- 2) After deducting the wheeling & transmission loss balance units are directly offset in your monthly bill at consumer end in 15 mins slots ( Generation Vs Consumption)
- 3) Balance units are treated as over injection and banked for the next month adjustment.
- 4) Consumer needs to pay a nominal charges per unit under wheeling, transmission & operating head



# Energy Auditing & Corrective Measures.....

Energy is the basic requirements of each and every industry now a day. It might be electricity, heat , gas & fuels. This energy contributes a lot in your expenditure for running the industry.

As having a team of certified energy auditor, We Identify the energy losses in terms of heat, compressed air, electricity & fuel on your shop floors through Energy Audits and accordingly suggest the corrective measures for eliminating / reducing the same.

We also can assist you through out the process for implementing the corrective measures and or monitoring the results of the corrective measures.

This will assure you that your expenditure for energy audit & corrective measure is not loss but it's the investment with very good returns.

# Energy Conservation & Management.....

For any type of analysis , we need authentic data of that subject which needs to analyze.

In Industry energy consumption monitoring is very much neglected subject as We are not enough aware about the energy consumption monitoring at micro level, which is affecting your profit margin drastically.

We can provide you the customize solutions for micro level energy consumption monitoring, which helps you to standardize your consumption pattern , triggering the sudden changes in consumption and make you aware about the system loop holes responsible for sudden changes in the consumption pattern.

# HT/LT Projects EPC & Maintenance.....

We can manage the HT voltage level upto 66 KV by,

- ✓ Maintenance of HT yard,
- ✓ Maintenance of 4 Pole Structure,
- ✓ Indoor and Outdoor VCB's & ACB's,
- ✓ Metering cubicles, CT/PT replacements,
- ✓ Load Enhancement
- ✓ Transformer Maintenance ,
- ✓ Transmission line Errection,Commissioning & maintenance.
- ✓ LT Distribution system,
- ✓ ACDB panels,
- ✓ Shop floor lighting
- ✓ Shop Floor HVAC system.

# Green Field Projects.....

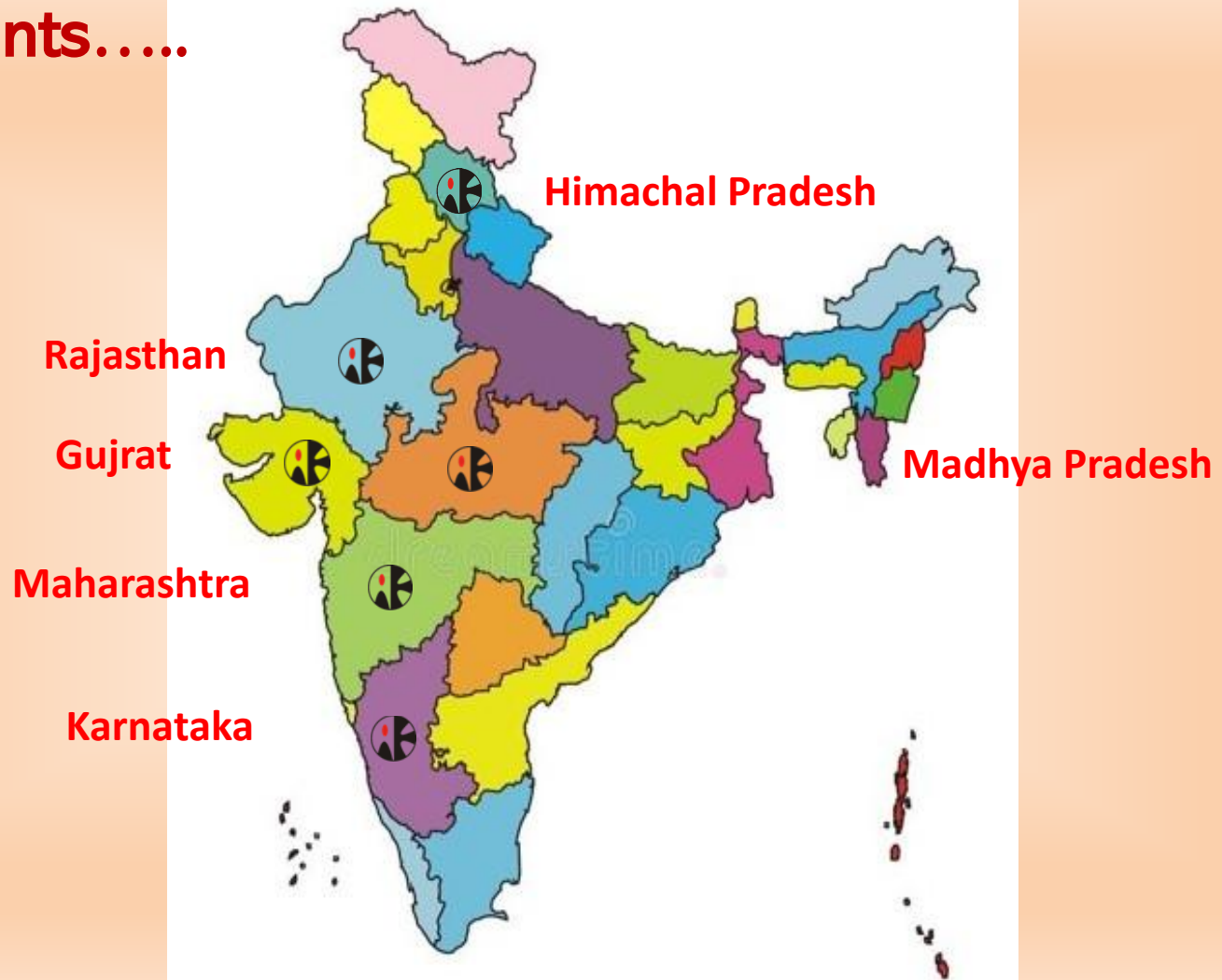
We can support you to establish a new manufacturing set-up in terms of,

- Land selection & All Govt.Approvals.
- Civil Consultant for new shop floor building.
- Power availability through Discom.
- Machine line & Equipment's selection & procurement.
- Provision of Skilled manpower.
- Setup of supply chain for material & brought out Parts.
- Process establishments.
- Quality System implementation.

# Proud to be Associated with.....

- ✓ Cosmo Films Ltd.
- ✓ Hindustan Composites Limited.
- ✓ Hero Future Energy Pvt.Ltd.
- ✓ Lupin Limited.
- ✓ Harman Finochem Ltd.
- ✓ Vikram Solar Ltd.
- ✓ Endurance Technologies Ltd.
- ✓ Vaidya Group of Companies Aurangabad.
- ✓ Sangkaj Group of Companies Aurangabad.
- ✓ Cosmo Ferrites Ltd. Himachal Pradesh.
- ✓ East West Seeds Pvt.Ltd.
- ✓ Krishna Group of Companies Aurangabad.
- ✓ Utkarsha Groups of Companies Aurangabad.
- ✓ Ajanta Pharma Ltd. Aurangabad.
- ✓ Uniclean Energy Pvt. Ltd.
- ✓ Uttam Energy Limited.
- ✓ Mayur Group of Companies Aurangabad ...and many more in commercial & domestic Segments.

# Our Footprints.....





Connect us at.....



# ASK Engineering Solutions

Reg.Office - Flat No. B5/303, Disha Silver Woods, Plot No.2, Gut No.175/A,  
Harsool T Point, Aurangabad, Maharashtra, India – 431 001.

Landline: +91 240 11796731; Cell No: +91 96730 04687; 95790 41382; 99221 41382

E-Mail: [suresh@askengineering.in](mailto:suresh@askengineering.in); [askenggsolutions@gmail.com](mailto:askenggsolutions@gmail.com)

URL: [www.askengineering.in](http://www.askengineering.in)