



**ILLUMINE i**

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# **CORPORATE PORTFOLIO**

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"To support every human and  
every company on the planet  
achieve Sustainable Living"

# ABOUT THE COMPANY

**Illumine Industries** is a comprehensive design and engineering firm. Our work is creating the engineering designs and calculation packages for **RFP responses, permitting & interconnection approval, and construction**. Illumine Industries is a nationwide design and engineering firm specializing in residential, commercial and utility scale solar PV and energy storage system. Our team of about 20 engineers with a combined experience of **60 years** provide value-engineered designs customized to any specific needs at a faster turnaround time and mostly with utmost quality and competitive cost.

It all began in the summer of 2014 on a journey from California to the village of Madurai. During the trip, there was a smooth transition from city lights, airports and busy streets to small towns, shops, and structures with single light bulbs hanging from roofs made of coconut leaves. This prompted us to question the unbalanced “**human and inanimate**” energy distribution between city and village lifestyles. Our journey drove us to solve the issue of energy starvation in small communities, but also to help industrialized societies **reduce energy usage** with improved **engineering solutions**.

## OUR STORY





# FIRM OVERVIEW

Illumine Industries is headquartered in **San Francisco, California**. The firm currently employs over 40 industry professionals who are motivated to match the energy requirements of the country. Illumine-i was founded by ex-Sunrun and SolarCity employees.

Since its inception, Illumine-i has grown both horizontally and vertically by performing new services and expanding their client list. This growth has helped Illumine-i to deliver a broad range of **professional services**. With our professionals working 24/7, Illumine industries provides its clients with an unmatched drive for **better, faster and safer projects**.

Illumine Industries' success is dependent on our amazing people, a wide range of services, a competitive mind-set, and our forward-thinking, customer-focused spirit which in turn follows a team-oriented culture.

## OUR VERTICALS



I-ENGINEERING

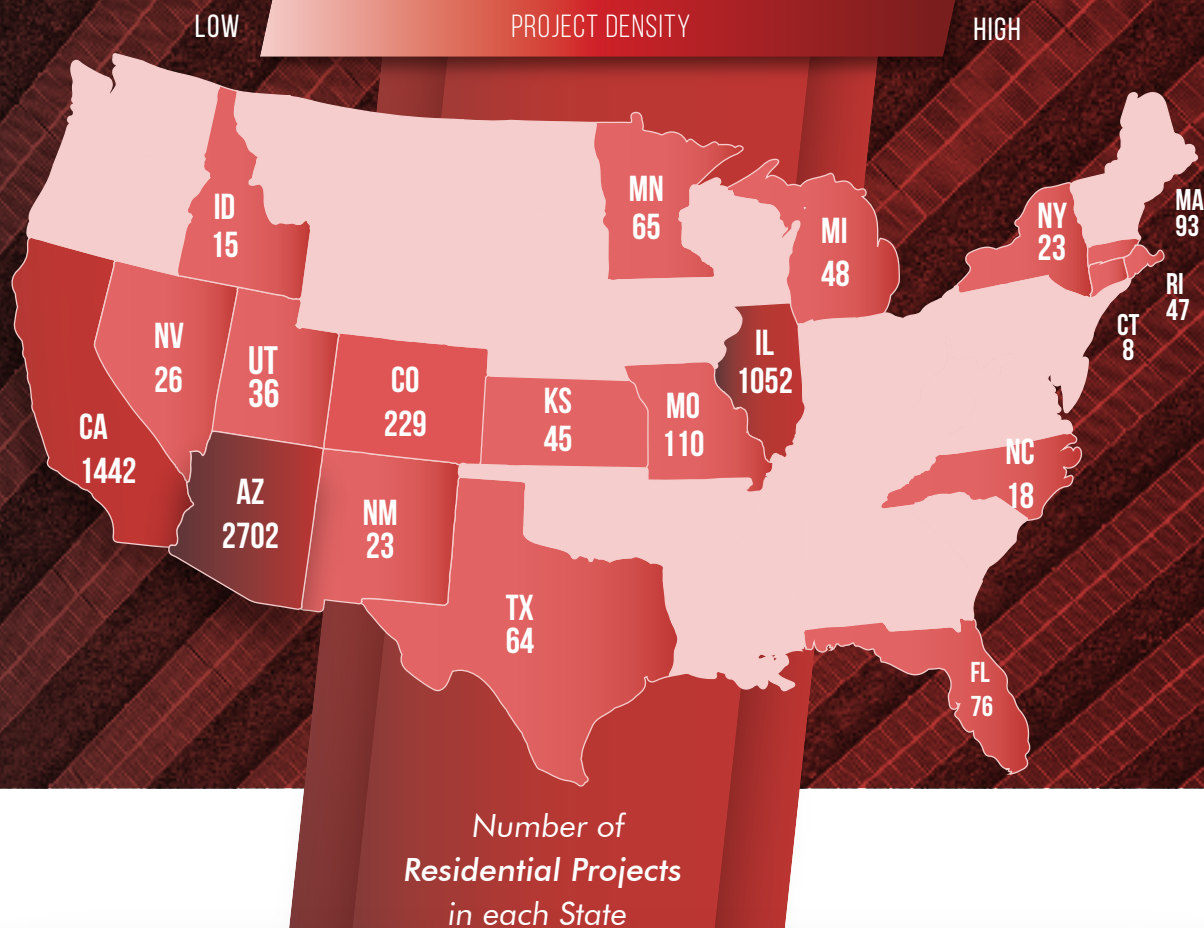
SOLAR ENGINEERING  
SERVICES



I-ARCH

BIM  
SERVICES

# RESIDENTIAL DESIGN PORTFOLIO



With over **7000 residential projects** in our portfolio, Illumine-i have become the most trusted engineering services partner for **installers, contractors and energy consultants** across the United States.

Comprised of **engineers, project managers, marketing experts**, and other professionals, these teams are put together by industrial leaders. Via a single point-of-contact, clients receive the benefits of the various teams in the organization. We understand every company has its unique work culture and its own requirements.

We customize our plan sets around their specific needs.

We assure first-time AHJ approvals. We prefer quality over everything else and our **client satisfaction rate is above 95%**.

We have done close to **75 MW** size of projects across the United States in the residential sector alone. Our plan sets are of the highest standards and in line with the updated codes.

Each state has its own standards and specifications; our engineers are trained to work keeping in mind the necessary requirements.



# RESIDENTIAL *PV* DESIGN SERVICES



## SYSTEM SIZING AND PRODUCTION ESTIMATES

## EQUIPMENT SELECTION

## SOLAR LAYOUT

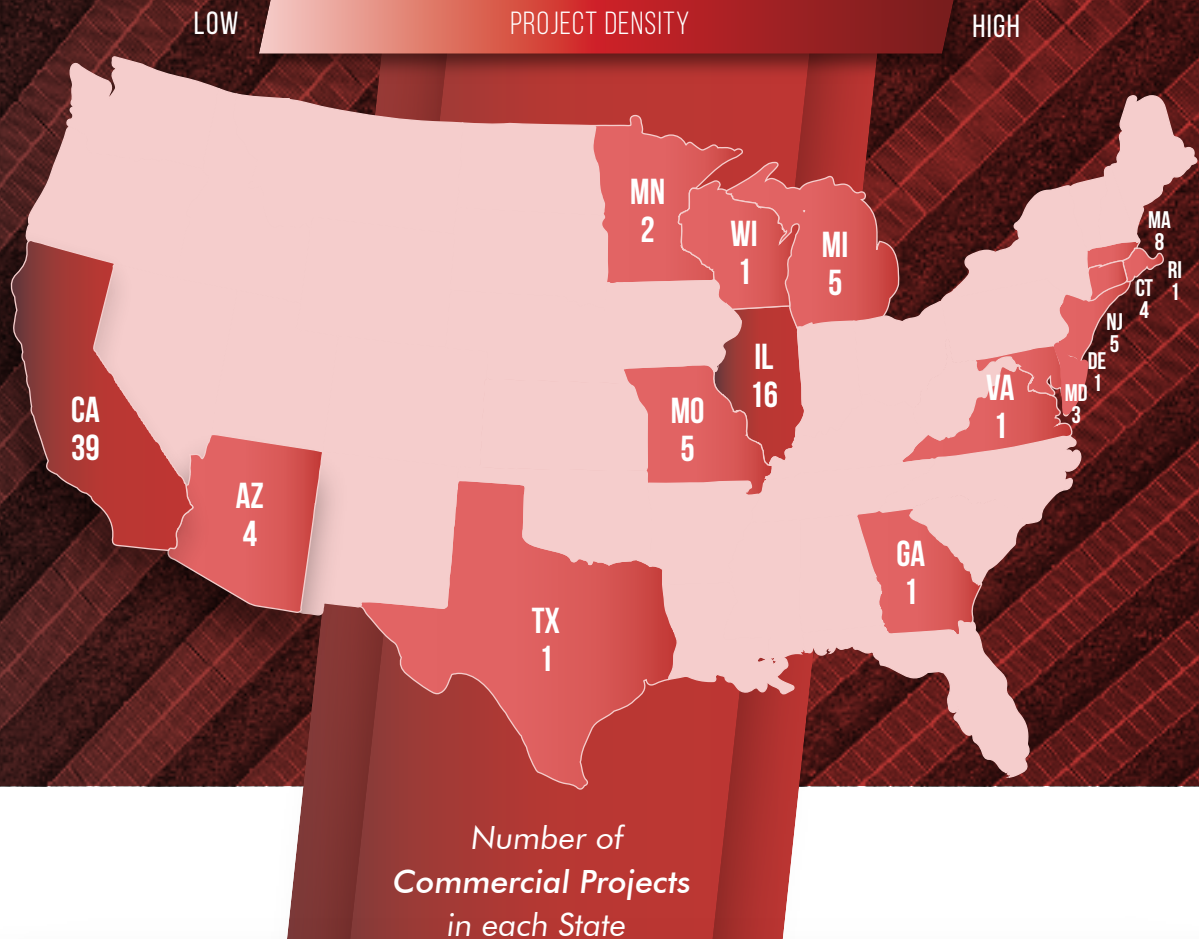
## STRUCTURAL ENGINEERING

- a. Dead Load Calculations
- b. Solar Structure Attachment and Anchoring Details
- c. Review of existing structure to support solar
- d. Professional Engineer's Stamp (in US only, in accordance to US codes and standards)

## ELECTRICAL ENGINEERING

- a. Wire and Conduit Sizing
- b. Electrical Site Plan
- c. Electrical Line Diagram
- d. Warning Labels and Placards
- e. Professional Engineer's Stamp (in US only, in accordance to US codes and standards)

# C&I DESIGN PORTFOLIO



Our team of engineers is experienced in generating commercial permit packages that support **safe and efficient installations**.

No two projects can be similar, keeping this in mind, our engineering team works precisely to the point of each of the client's projects making sure the requirements are fully filled and delivered within the assured date.

Our team leaders make sure the clients receive top quality service from the team. The project management team is always available to help the client if they have any clarification or if they want to make changes in a project.

Every project, depending upon its location, its jurisdiction and usage, vary from each other. Hence, it is necessary for the party working on the engineering drawing to study the conditions and work accordingly.

Illumine industries clearly understands these strings, and so gives the engineers the required training.

Illumine industries is proud to have qualified engineers, specialized significantly to work on commercial projects.

We have done more than 110 MW size of projects across the United States in the commercial sector. Our notable works have also been included in the further pages.



# C&I PV DESIGN SERVICES



## SYSTEM SIZING AND PRODUCTION ESTIMATES

## PVSYST REPORT

## EQUIPMENT SELECTION

## SOLAR LAYOUT (CONCEPTUAL AND FINAL)

## STRUCTURAL ENGINEERING

- a. Dead Load Calculations
- b. Solar Structure Attachment and Anchoring Details
- c. Review of existing structure to support solar
- d. Professional Engineer's Stamp (in US only, in accordance to US codes and standards)

## ELECTRICAL ENGINEERING

- a. Wire and Conduit Sizing
- b. Electrical Site Plan
- c. String Wiring Plan
- d. Voltage Drop Calculations
- e. Electrical Equipment Mounting Details
- f. Electrical Line Diagram
- g. Warning Labels and Placards
- h. Professional Engineer's Stamp (in US only, in accordance to US codes and standards)

# PE STAMPS



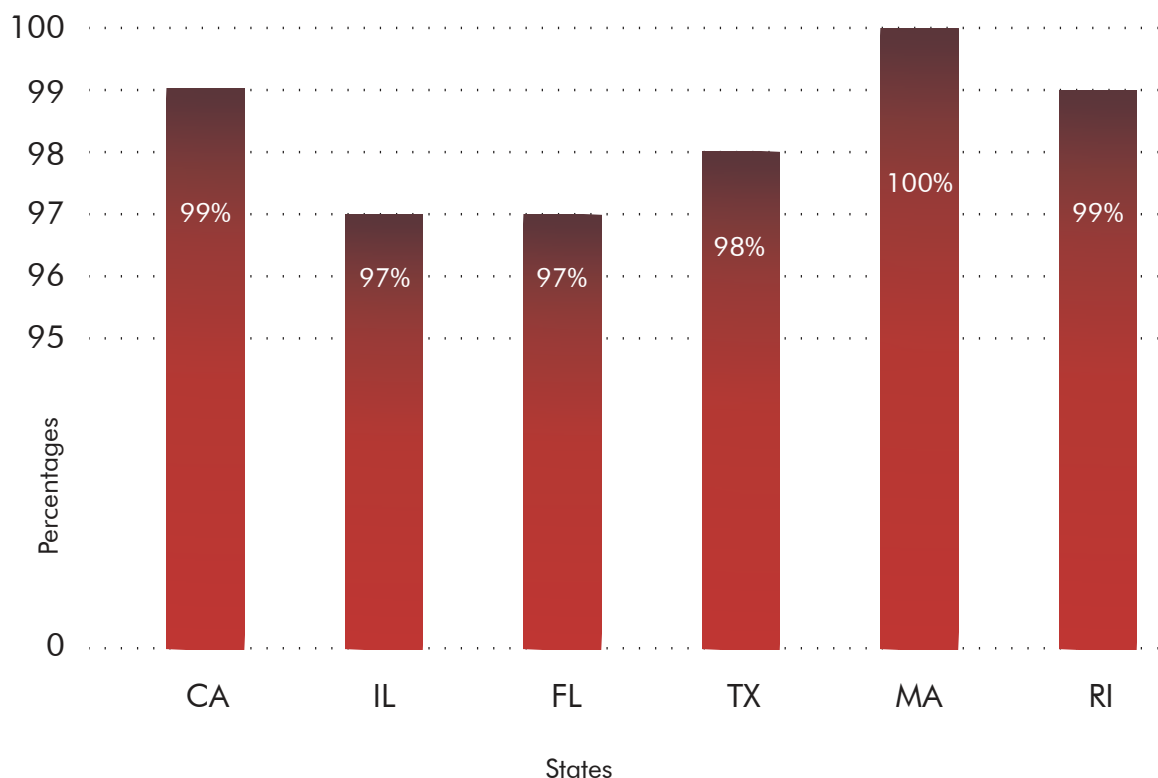
Illumine Industries provide **structural and electrical** Professional Engineer (PE) stamping in **all 50 states** across the United States.

Irrespective of whether your jurisdiction or state requires an electrical or structural PE stamp, electrical and structural PE stamps show your clients that your solar project was designed and engineered to provide the level of compliance to codes & standards and making sure the system meets safety and performance requirements.

We have **licensed engineers** in every state, who are in constant contact with our project management team to ensure that your project meets all prevailing **electrical and/or structural/building codes** and permitting requirements at a fast turnaround and competitive costs.

Illumine-i makes sure to always keep up with the current trend and know about the changes in policies and codes across various cities and states.

## AHJ APPROVAL PERCENTAGE





# DG SCALE SOLAR SERVICES



Preliminary designs and concept layout

Fixed tilt ground-mounted designs

Single-axis and dual-axis tracker designs

Medium/High Voltage utility system design

PVSYST Reports and production estimates.

Arc flash studies

Central and String Inverters design

Interconnection Applications

Issue for Permitting/Issue for Construction Drawing Sets

Equipment Pad Structural Design

Structural PE Certification

Electrical PE Review and Certification

# DRONE SERVICES FOR DG SOLAR



## LAND PREPARATION

- LAND AREA DIGITIZATION
- CLEANING INTENSITY
- LAND CONTOUR
- OPEN SPACE OPTIMIZATION

## CONSTRUCTION

- CUT & FILL VOLUME INFORMATION
- INVENTORY PLANNING OPTIMIZATION
- LOGISTICS PLANNING
- PROJECT TIME-LAPSE
- OVERALL PROJECT PROGRESS

## COMMISSIONING

- POST CONSTRUCTION QUALITY CHECK
- DATA FOR CLEANING ROBOTS
- DEFECT IDENTIFICATION THROUGH THERMAL INSPECTION

## SURVEILLANCE

- 24/7 AERIAL SURVEILLANCE
- HEAT SIGNATURE IDENTIFICATION
- LIVE STREAMING TO CONTROL ROOM



## OUR BIM SOLUTIONS:



We envision to build a **sustainable future** with a focus on building designs that aids in energy conservation, alternative energy resources and scalable design that yields better efficiency.

A construction project that employs **Building Information Models** excels in cohesive features and optimizing options in a unique way that people can understand and utilize.

With advanced visualizing features, clients can foresee the benefits from different sustainable-design approaches.

Our methodology towards a project **reduces 30-50% of the Energy consumed** than in a classic construction process and costs no more to build than a conventional Construction.

## BIM MODELLING AND COORDINATION

We develop Building Information Models based on criteria that are important to the translation of the building's integrated design and co-ordination. Our team of experts in **architecture, structure, and MEPF** connects the virtual 3d models with a powerful database of properties, quantities, means and methods, costs and schedules. These BIM data allows owners and stakeholders to **collaborate, co-ordinate and make decisions** based on information derived from the **integrated model**.

## QUANTITY AND COST ESTIMATION

Illumine I Provides precise **estimation of time & cost** by integrating project management tools with design authoring tools. It helps us analyze the impact of design changes on the project time and achieve **better site planning and coordination**.



## FACILITY MANAGEMENT

Building Information Modelling (BIM) integration into **asset management** software facilitates superior **visualization of assets** and helps in the **maintenance and operation of a facility**.

## SCAN TO BIM

The practice of using **3D laser scanners** to build **BIM schematics** of existing spaces. Where deployed, this delivers the highest levels of quality assurance possible, taking the detailed scheduling and schematics of BIM to the next level by allowing teams to compare those plans to outcomes, in **precise detail** if required.

## BUILDING DATA INTEGRATION AND ANALYTICS

One of the current challenges Illumine works out is to **optimize energy consumption**, while considering **occupant comfort**. Modern buildings will contain an increasing number of wireless sensors and meters to monitor building performance. This data allows improved analysis of **building performance** to increase **energy efficiency** along with user experiences.

## BIM AUTOMATION

We started implementing automation in BIM as we saw maximum potential there to **reduce overall project time**. Increased efficiency in model creation should also cascade quickly to other stages leading to improvements in time consumption and provide **less prone to errors**, more **efficient workflow** to engineers/architects.

## VIRTUAL REALITY & AUGMENTED REALITY IN CONSTRUCTION

Though **Augmented and Virtual Reality** reached construction sites rarely, they still manage to deliver fascinating results and make an impact on how our AEC clients perceive it. From Illumine's standpoint, AR and VR could help you access construction information to build faster and better buildings.