ESIG:

Advanced Grid Solutions

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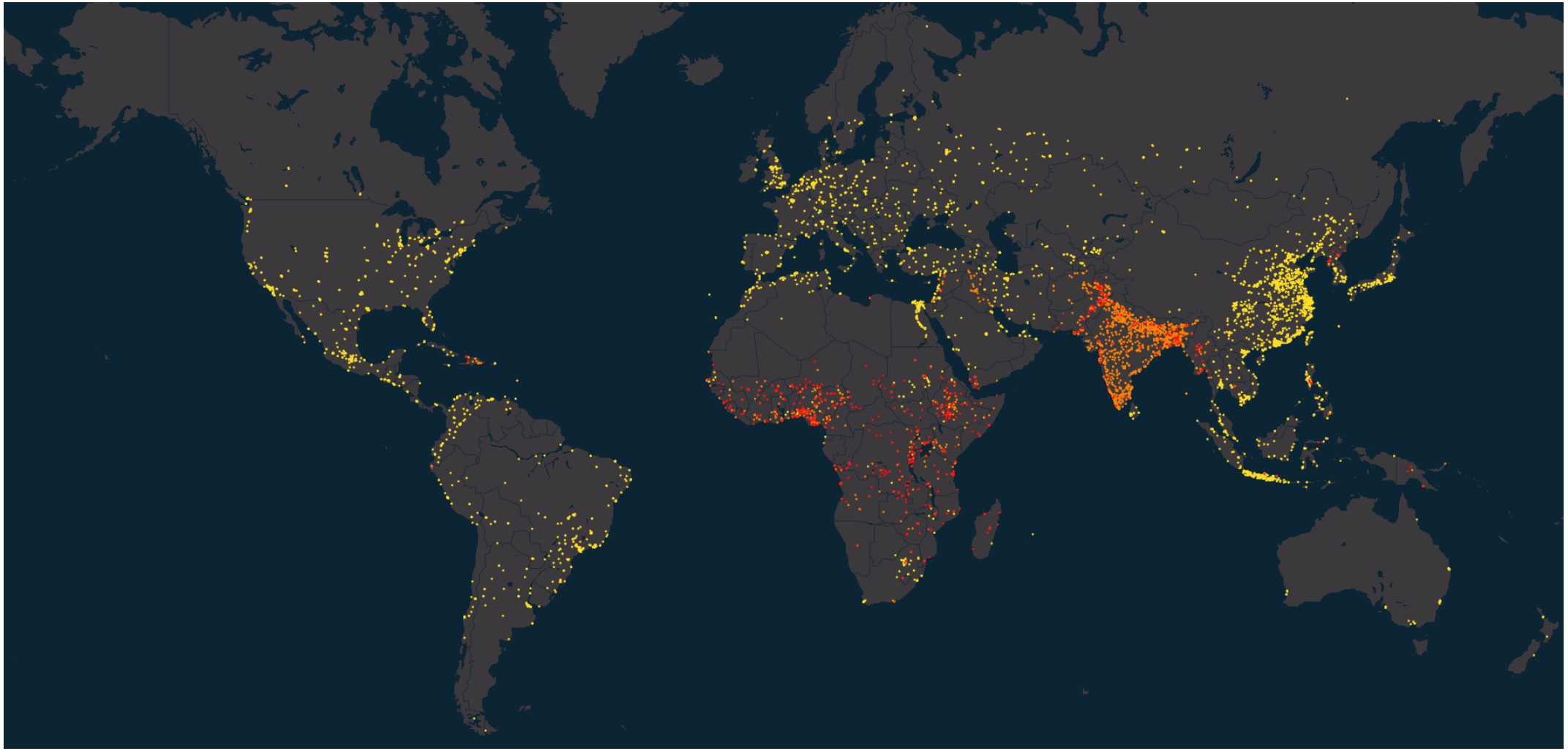
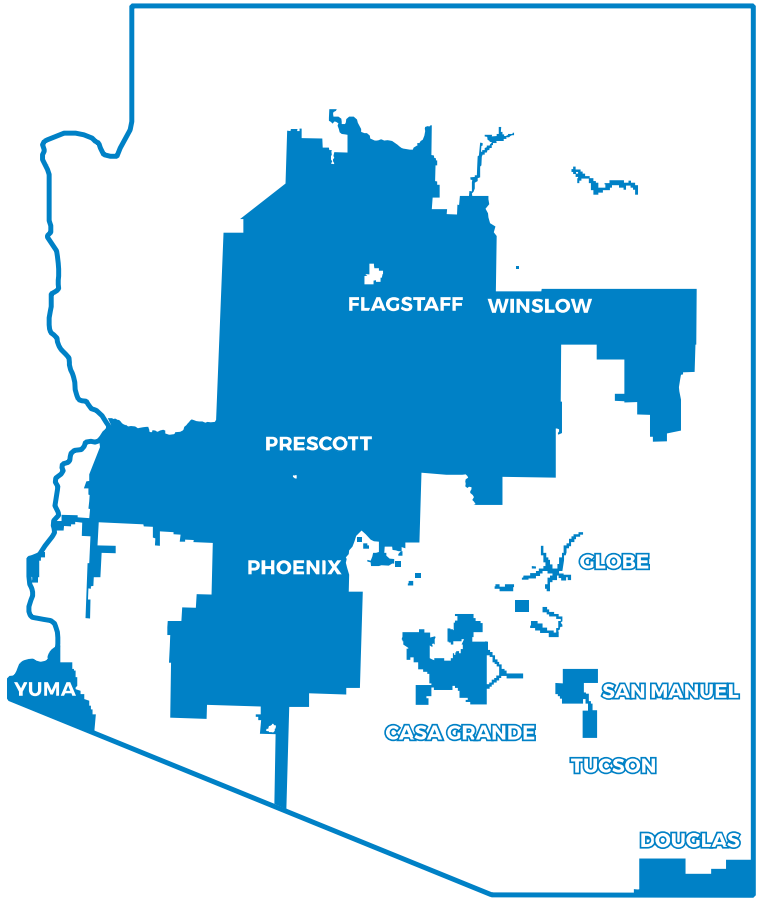
Industry Motivations| ESIG Advanced Grid Solutions



APS: 1886 – 2026 (140y anniversary)

Arizona's largest and longest-serving utility

- ~ 35,000 square mile service territory
- 11 of 15 counties
- ~1.5 million+ customers by 2027
- 6,000+ employees
- Peak demand is ~8,600 megawatts
- ~20GW Queue (2-3X most ever)
- Regulated IOU (Investor Owned)



APS Promise & Principles | ESIG Advanced Grid Solutions

The APS Promise

Our Purpose
As Arizona stewards, we do what is right for the people and prosperity of our state.

Our Vision
Create a sustainable energy future for Arizona.

Our Mission
Serve our customers with safe, reliable and affordable energy.

Our Principles

Design For **Tomorrow**	Empower **Each Other**	Succeed **Together**
Innovate with courage	Build trust	Unite as one team
Navigate risk	Embrace diverse perspectives	Own the outcome
Learn and improve	Challenge respectfully	Pursue excellence

Advanced Grid Solutions

T&D AI Use Cases Completed

COMPLETED

Grid Reliability, Planning and Operations

Premise to Transformer Assignment

Problem: Incorrect premise-to-transformer mapping caused inaccurate load understanding and unreliable outage communications to customers

Solution: AI validates and corrects assignment of premises to service transformers

Benefit: Accurate transformer load visibility and improved customer outage notifications

Transformer Load Analytics

Problem: Limited insight into transformer load, peak demand, and distributed generation impact on power quality

Solution: Meter data estimates load, calculates metrics, identifies peaks, and provides power quality insights per transformer

Benefit: Data-driven decisions on transformer sizing, load management, and DG impact assessment

Feeder Analytics

Problem: No consistent view of feeder performance across load, voltage, phase balance, and efficiency metrics

Solution: SCADA data transformed into actionable metrics with system-wide and drill-down feeder views

Benefit: Proactive identification of persistent and emerging grid issues for improved reliability

Outage Intelligence

Problem: Outage and reliability data not readily accessible for pattern analysis at system or feeder level

Solution: Meter outage data provides insights into outage patterns and reliability impact at system and feeder level

Benefit: Better understanding of outage trends to support proactive reliability planning

Revenue Protection

Problem: Identifying revenue theft, meter health issues, and safety risks required labor-intensive manual investigation

Solution: AI generates leads for analysts to explore potential revenue theft, meter health, and associated safety concerns

Benefit: Faster, more comprehensive detection of revenue loss and associated safety issues

Intelligent Assist

Problem: Time-consuming, manual searches across operating procedures, safety manuals, and maintenance docs

Solution: Intelligent search tool lets employees make conversational requests to quickly find relevant information across procedures and manuals

Benefit: Faster access to processes and procedures for operating or maintaining APS assets and equipment