

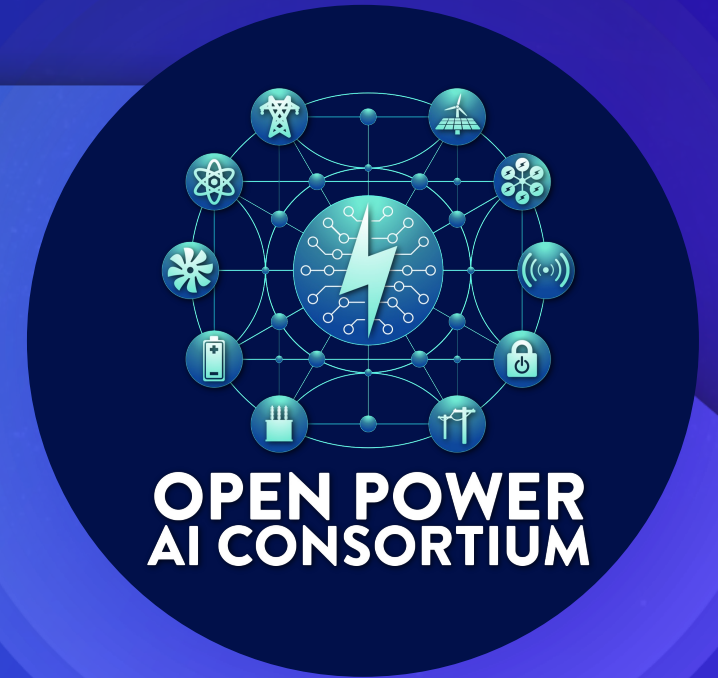
Open Power AI

Implementation Working Group

April Meeting

Jason Hollern
jhollern@epri.com

April 15, 2026



<https://openpowerai.org>

Agenda

- Deployment WG Updates
 - Security Message – Travel Security
 - Deployment and Implementation Survey
- Technology Developer Presentation
 - Becquerel Institute, Mousa Sondoqah
- Questions and Wrap Up



Cybersecurity Tips for Traveling

Protect Your Phones and Laptops on the Go



Take Clean Travel Devices

- ◆ Bring a clean "sterile phone/laptop" if possible.
- ◆ Log out of all accounts before traveling
- ◆ Remove sensitive docs, data, or apps



Avoid Public USB Ports

- ◆ Carry your own charger and charging cable
- ◆ Use AC power outlets or your own power bank
- ◆ Avoid unknown USB ports for charging



Be Careful Online

- ◆ Don't access sensitive data (banking, etc.) if you don't have to.
- ◆ Limit social media posts while traveling



Use a VPN on Wi-Fi

- ◆ Turn on a VPN app when using Wi-Fi in airports, hotels, and cafés.
- ◆ Assume public Wi-Fi is not secure



Stay Vigilant While Traveling

- ◆ Be aware of your surroundings and potential shoulder surfers
- ◆ Report any suspicious activity immediately



Open Power AI Consortium – Key Objectives

Collect Data, Develop Libraries & AI Models



Create an AI Sandbox



Implementation and Lessons Learned



Implementation and Lessons Learned

- Collaborate with leading AI developers to deploy AI models.
- Develop a feedback loop from deployments for refinement and optimization.
- Maximize impact via knowledge sharing among consortium members.

Implementation Workstream Goals & Desired Outcomes

1. Connect commercially available AI solutions to end-users
2. Transfer, pilot, and implement new use-case solutions to industry
3. Foster a collaborative environment to improve the AI value proposition
4. Collect lessons learned through applications, demonstrations, and scaled implementation
5. Develop AI implementation guidance to help companies with successful implementation and value realization

Three Main Thrusts to Accomplish Goals

Research Products

- Value: Learning from implementation opportunities



Outreach and Interactive Knowledge Transfer

- Value: Interactive collaboration and awareness
- Value: Presentation opportunities



AI Tool Implementation

- Value: Experience with AI tools and streamlined implementation
- Value: One-on-one and community use-case build out



Upcoming Events

2026 Open Power AI Events

January						
S	M	T	W	T	F	S
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31

May						
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31						

September						
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February						
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October						
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March						
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November						
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April						
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December						
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20	21	22	23	24	25	26
27	28	29	30	31		

Deployment WG Meeting

Use-Case WG Meeting

Domain-specific Model WG Mtg.

Member Representative Committee Mtg.

No Deployment WG Meetings:
January & September

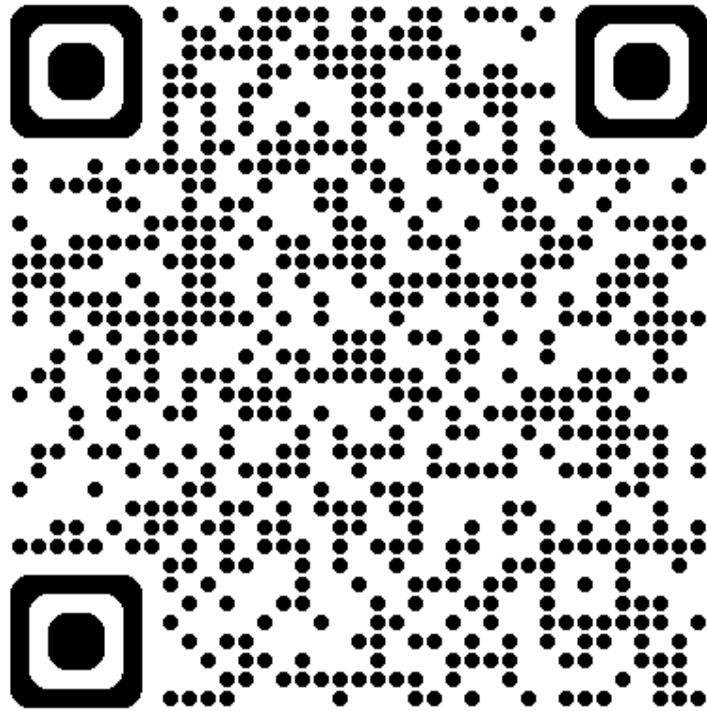
OPAI Use Case Survey Links – Remains Open Indefinitely



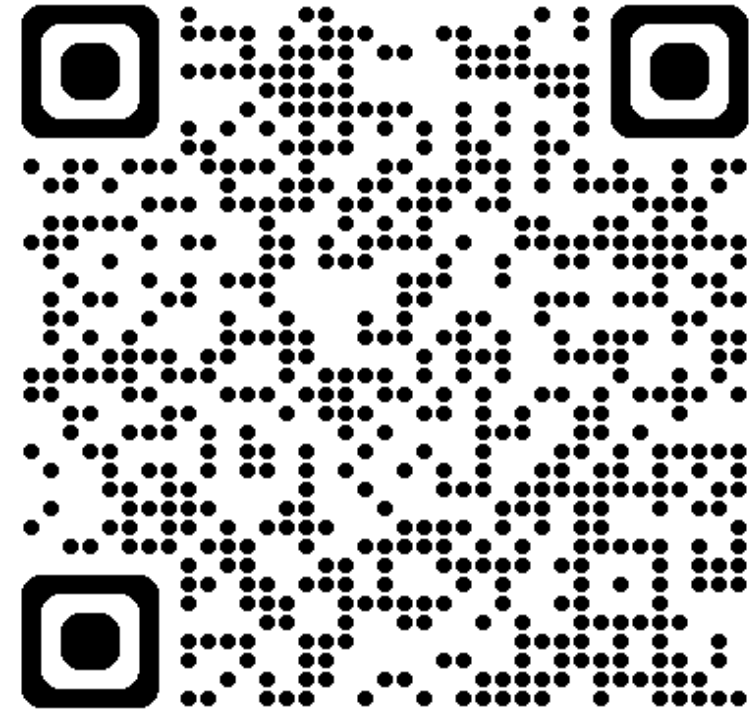
Energy Utility Survey



Technology Provider Survey



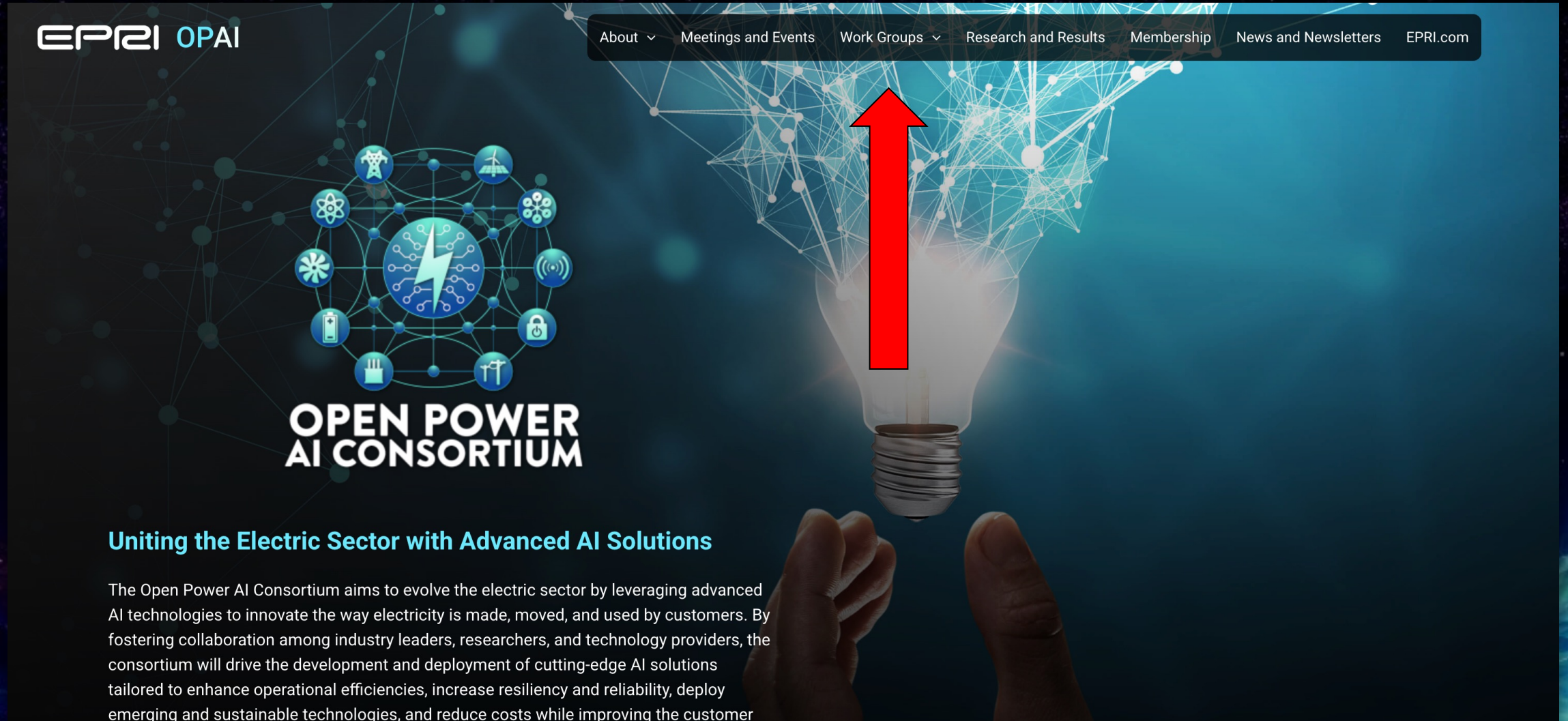
Click or Scan



<https://www.surveymonkey.com/r/OPAI-Use-Cases-Utilities>

<https://www.surveymonkey.com/r/OPAI-USE-Cases-Tech-Providers>

Introducing the New OPAI Website



EPRI OPAI

About ▾ Meetings and Events Work Groups ▾ Research and Results Membership News and Newsletters EPRI.com

**OPEN POWER
AI CONSORTIUM**

Uniting the Electric Sector with Advanced AI Solutions

The Open Power AI Consortium aims to evolve the electric sector by leveraging advanced AI technologies to innovate the way electricity is made, moved, and used by customers. By fostering collaboration among industry leaders, researchers, and technology providers, the consortium will drive the development and deployment of cutting-edge AI solutions tailored to enhance operational efficiencies, increase resiliency and reliability, deploy emerging and sustainable technologies, and reduce costs while improving the customer

<https://openpowerai.org>

Deployment and Implementation Survey

**When I think about Deploying or Implementing
a new AI solution, the first thing that comes to
mind is...**

019



At my company, we've implemented the following (select all that apply):

(1/2)

0 1 9

Enterprise Solutions (Microsoft Copilot, Canva AI, Adobe AI, etc.)



OT-specific AI (Asset-based digital twins, dispatch optimization tools, drone inspection computer vision, etc.)



Specialized use-case AI tools from technology developers, commercial providers, or 3rd parties.



In-house built AI solutions.



We have not deployed any AI yet.



At my company, we've implemented the following (select all that apply):
(2/2)

0 1 9

Some other AI solution or category.

 11 %

The biggest challenge my company had when
deploying our first AI tool was...

020



I would rate my company's AI tool deployment as:

0 1 8

A total failure. We need help.

0 %

Harder than we expected and we're still struggling.

22 %

A bumpy journey, but we got through it.

6 %

A learning experience that will help us be more efficient next time.

22 %

Generally okay that proved to be a valuable exercise.

50 %

An outstanding success that we aced on our first attempt!

0 %

Who currently “owns” the budget and deployment of AI models for your OT/Physical Assets?

015

The IT/Digital Transformation Team



The OT/Operations/Engineering Team



A newly formed cross-functional “AI Center of Excellence”



Third-party vendors/partners



We currently don’t deploy AI models for OT/Physical Assets



For high-risk OT AI (and non-AI) applications (e.g. grid balancing or making operational decisions), where do these applications typically reside?

0 1 0

100% On-Premesis or on the Edge (for latency and security)



50 %

Hybrid (edge for control, cloud for training and access)



50 %

Cloud first (for scalability, ease of updates, and administration)



30 %

Do your IT systems (OT applications like CMMS, ERP, Reporting, etc.) talk to your OT systems (DCS, Historian, SCADA, etc.)?

0 1 1

Yes, there is full bi-directional integration.

 9 %

Yes, some connectors exist for specified use-cases.

 18 %

Yes, but only read access, or data is only sent outbound, or data is replicated out of the OT networks.

 9 %

No, but we're trying to figure out how to accomplish this.

 55 %

No, we won't pursue this by policy.

 9 %

**What percentage of your OT data is “AI-ready”
(digitized, networked, cataloged, and cleaned)?**

0 1 1

<10% (heavy legacy data stores)



11%-25%



25%-50%



50%-75%



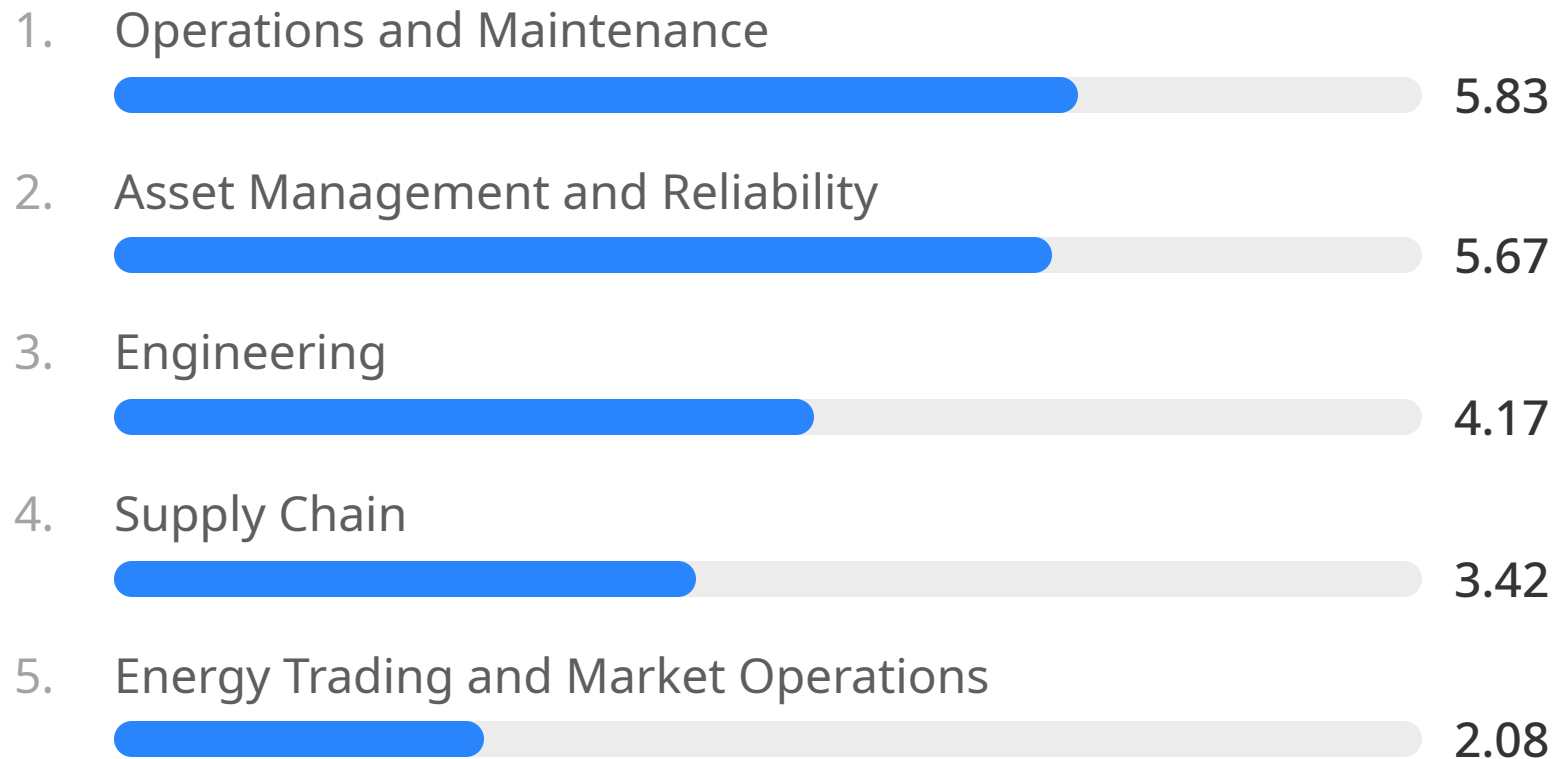
>75% (modernized data)



Which team do you expect would find the earliest maximum value in AI deployment for OT in your organization?

(1/2)

0 1 2

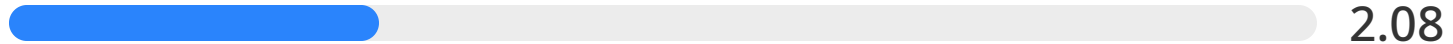


Which team do you expect would find the earliest maximum value in AI deployment for OT in your organization?

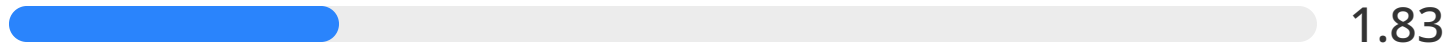
(2/2)

0 1 2

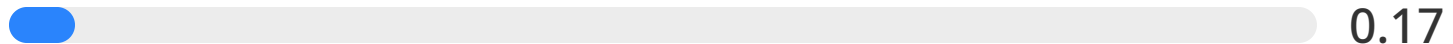
5. Regulatory Support



7. Cyber Security



8. Other



What type of documents, deliverables, or output from this working group would be most valuable to your company and teams?

0 1 3

(1/3)

Cheat Sheets

 8 %

Topical Quick Guides

 31 %

Podcasts/Interviews

 0 %

Success Stories/Lessons Learned

 77 %

An Implementation Playbook

 54 %

What type of documents, deliverables, or output from this working group would be most valuable to your company and teams?

0 1 3

(2/3)

Technical Reports



Generic/Specific Procedures



Wiki Site, Website, or Knowledge Base



Code Repository (focusing on implementation and deployment)



Industry Standards



What type of documents, deliverables, or output from this working group would be most valuable to your company and teams?

(3/3)

0 1 3

Assessment Methodologies





Technology Demonstration Becquerel Institute – Mousa Sondoqah



Unleashing the power of AI and digitization in enterprise PV software: Introduction

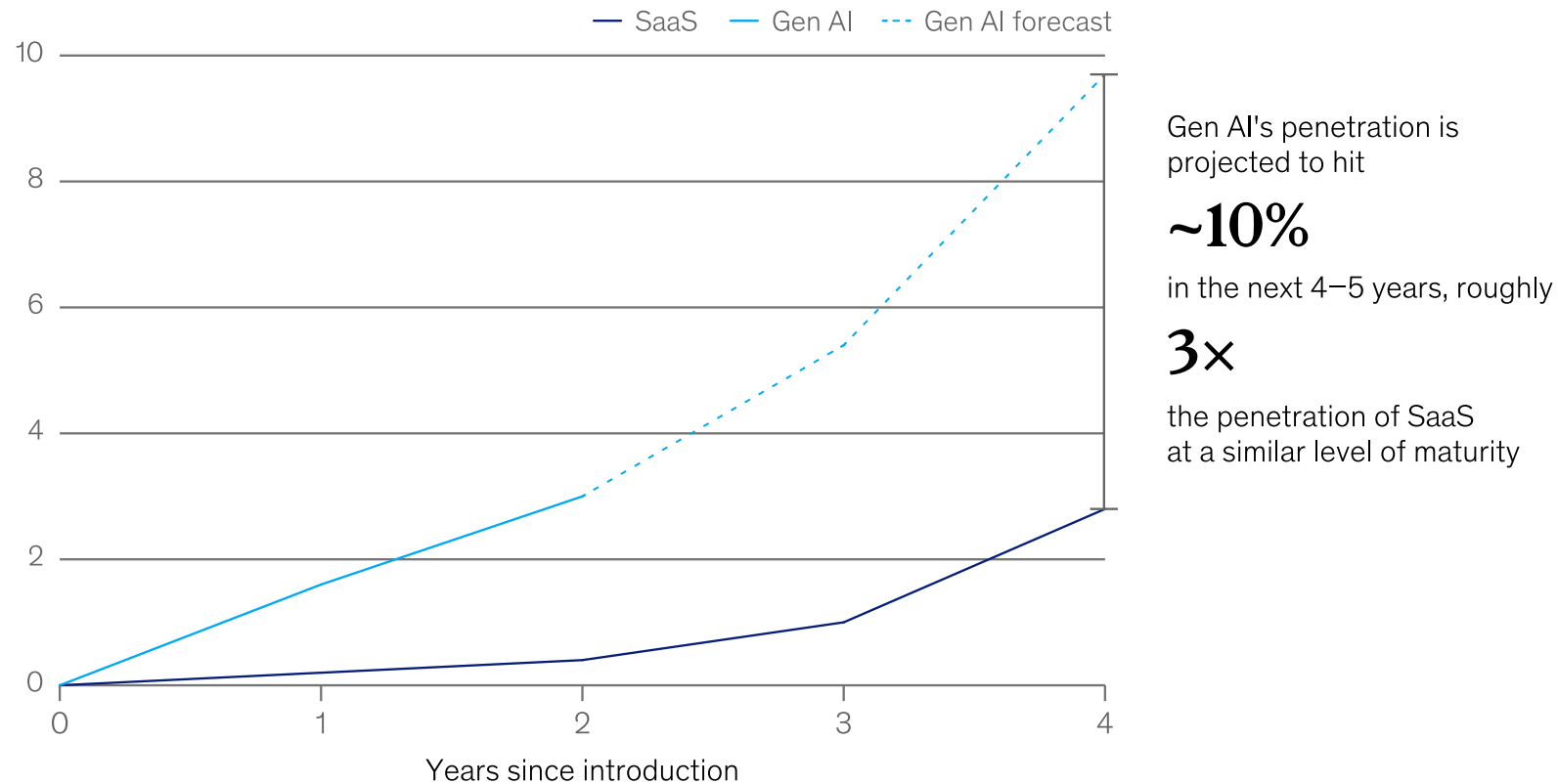
Mousa Sondoqah
David Moser

Outline

- **Introduction**
- **PV Software Market**
Overview of the current landscape and key trends
- **Generative AI Showcases**
 - Conversational agents
 - Specialized agents & Solarintelligence
- **Technical Decisions**
Key design choices and architectural considerations
- **World Models for PV O&M**
Introduction and relevance to PV operations

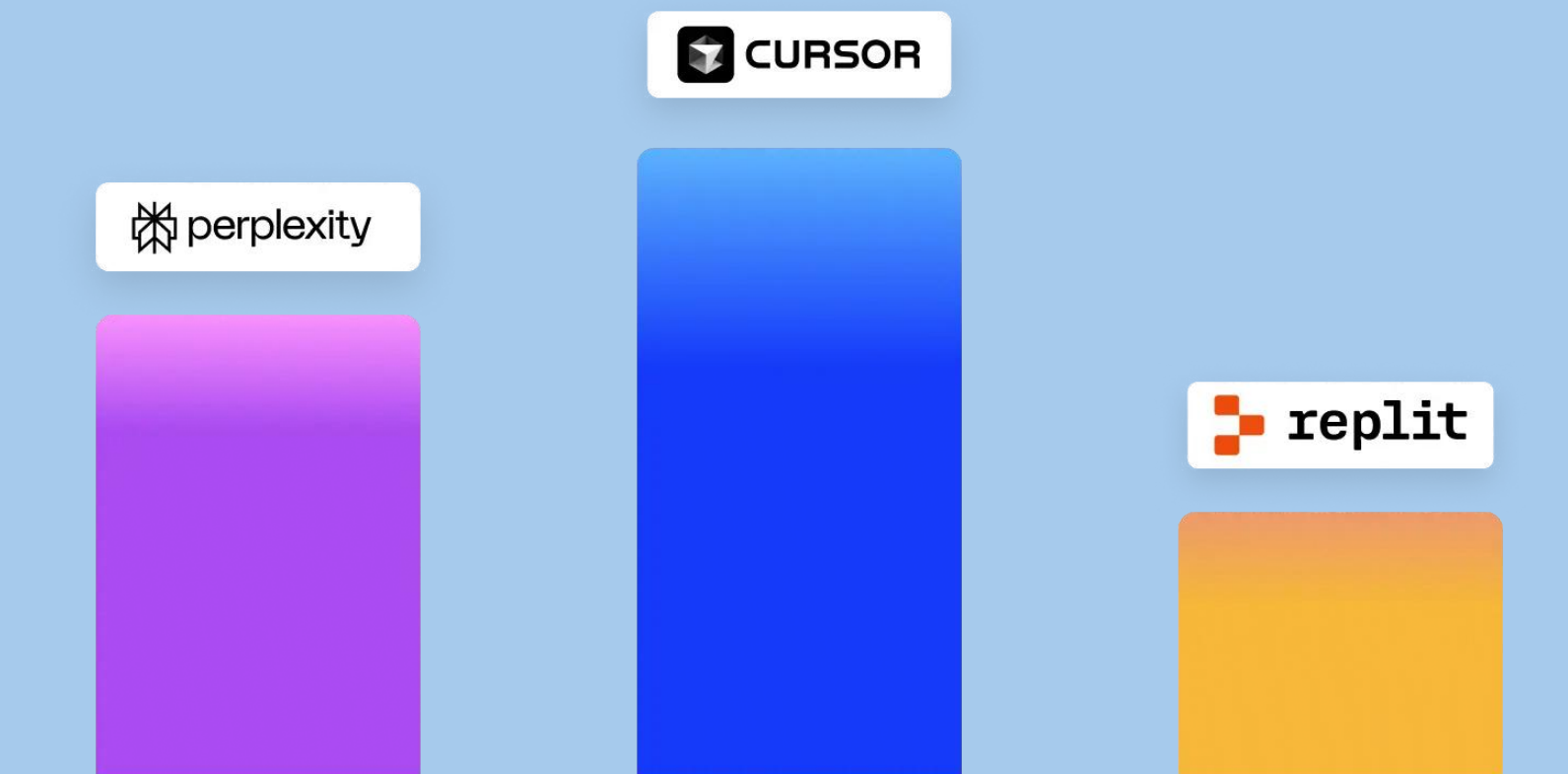
The disruptive impact of gen AI on the software industry will be greater and faster than the industry's shift to SaaS.

Penetration rate of disruptive software technologies,¹ % of enterprise software spending toward disruptive technologies and modalities by year since their introduction



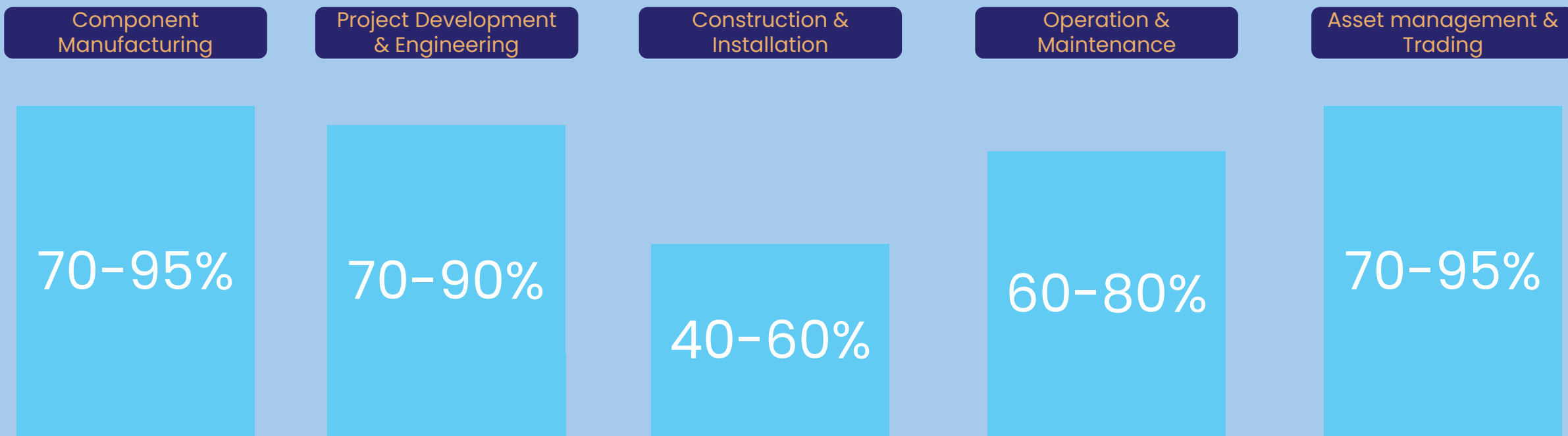
¹Gen AI spend = direct spend already spent or budgeted for 2023 enterprise spending on point gen AI solutions or gen AI features on broader software platforms; SaaS spend = % of total enterprise software offered as SaaS; year of introduction for gen AI is 2022, and for SaaS is 2000.
Source: McKinsey Gen AI CIO Survey, October 2023 (n=250); Statista, IDC, Forrester Research

Agent success stories: Cursor steals the spotlight



How much automation is
expected to be introduced for PV
by 2030?

Current and Projected Automation Levels by 2030



Source: Transforming the PV Sector: The AI & Robotics Revolution–Becquerel Institute

**What are the main challenges
PV platforms face today**

Challenges in PV digital platforms



Fragmented digital eco-system

Too many platforms for different use cases



Data overload

Complex dashboards and excessive information



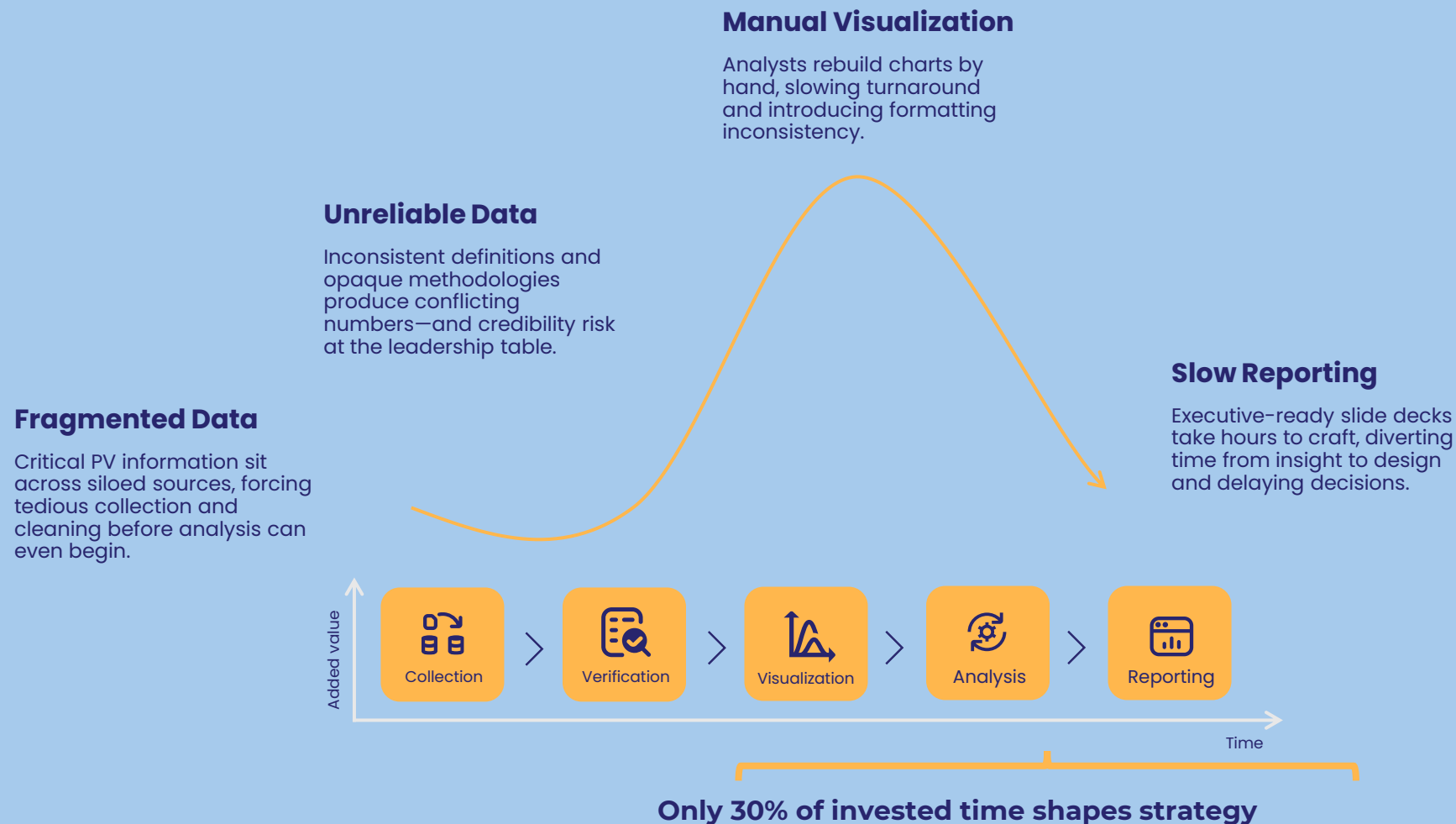
Trained users

Users are expected to have a certain level of experience



Complex UI

Difficult to refine and find relevant insights



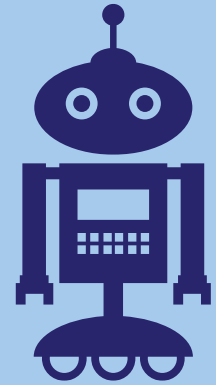
What if we could focus on analysis?

**How can the new wave
of AI drive change?**

Generative AI: From Concepts Into Reality

AI Agents

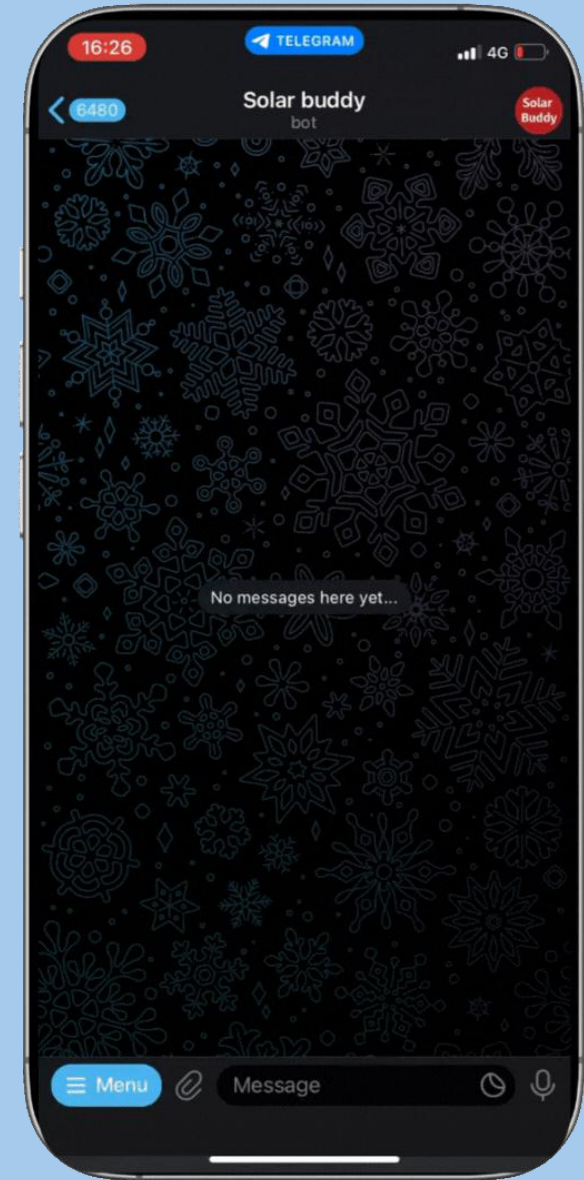
- AI agents in this context are intelligent entities built on LLMs, enhanced with memory, tools, functions, and a knowledge base. They operate within a defined environment—**listening, executing, reporting** back, and **disappearing**. No persistent apps, just results.



AI Agent

Conversational agents

**No dashboards,
no complexity—just
conversations, but
still deep insights.**



Credits: Mousa Sondoqah @SQS 2025, Eurac Research



Solar Buddy

A model that helps moderating the PV plant

+ How can I help you today?



⚡ Suggested

Show me a code snippet

of a website's sticky header

Overcome procrastination

give me tips

Explain options trading

if I'm familiar with buying and selling stocks

Solarintelligence.ai

Use cases

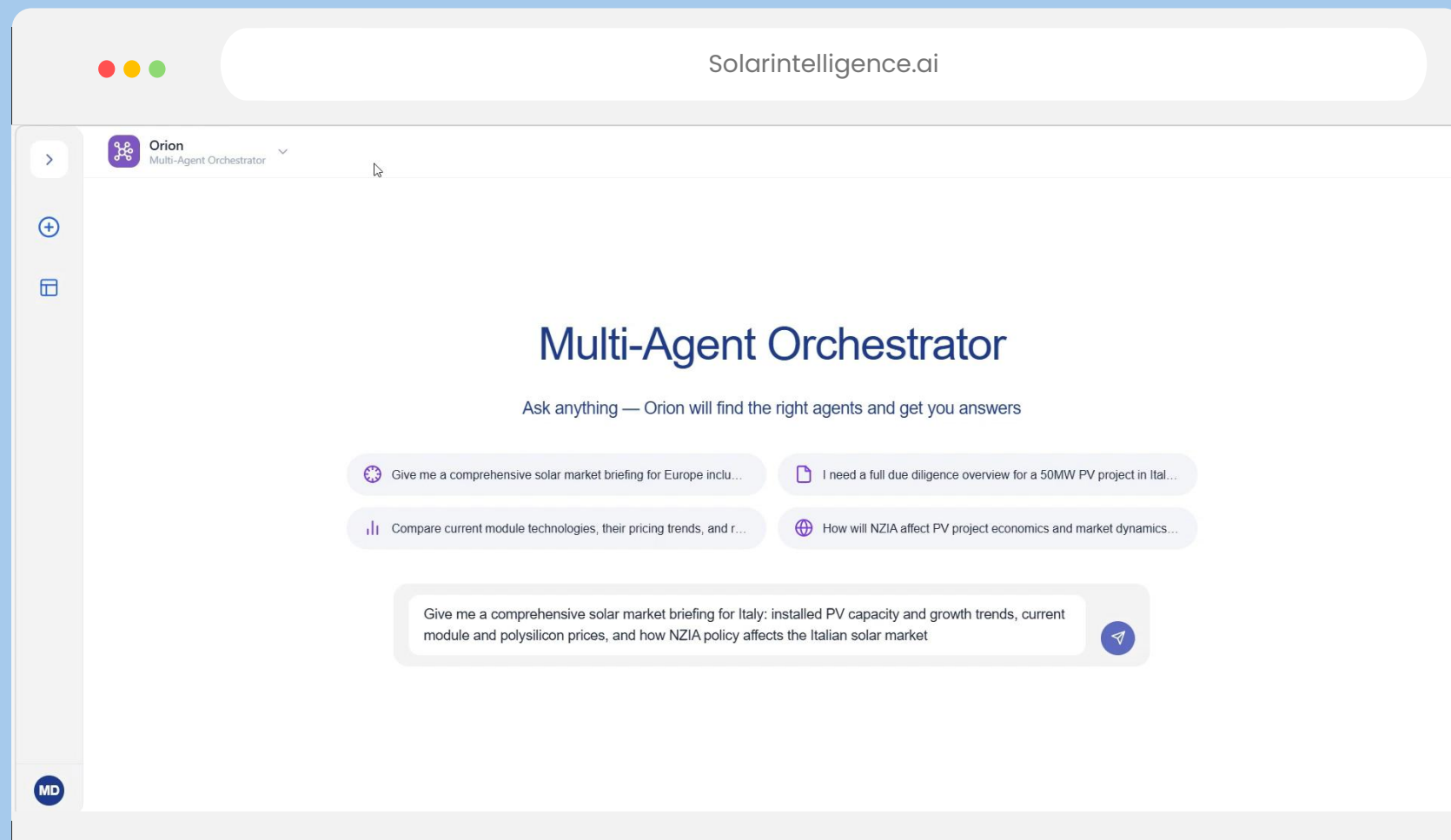
Orion



Orchestrates multiple AI agents to handle complex queries

Combines cross-domain insights across the Solar Intelligence platform

Delivers integrated market, policy, and financial analysis



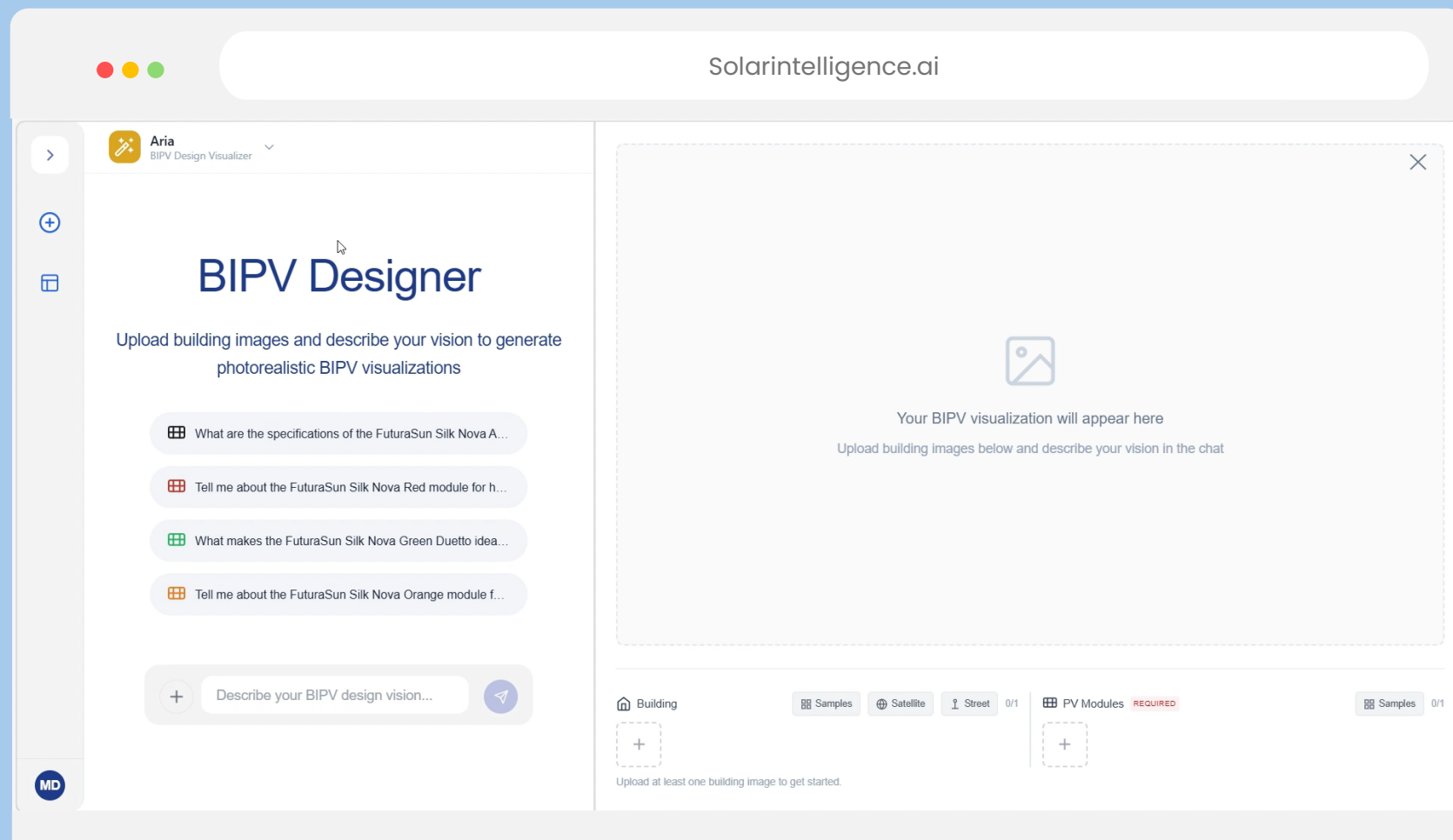
Aria



BIPV design assistant for façades, rooftops, and glass integration

Photorealistic visualizations with flexible module placement

Interactive, iterative design from captured or uploaded building views



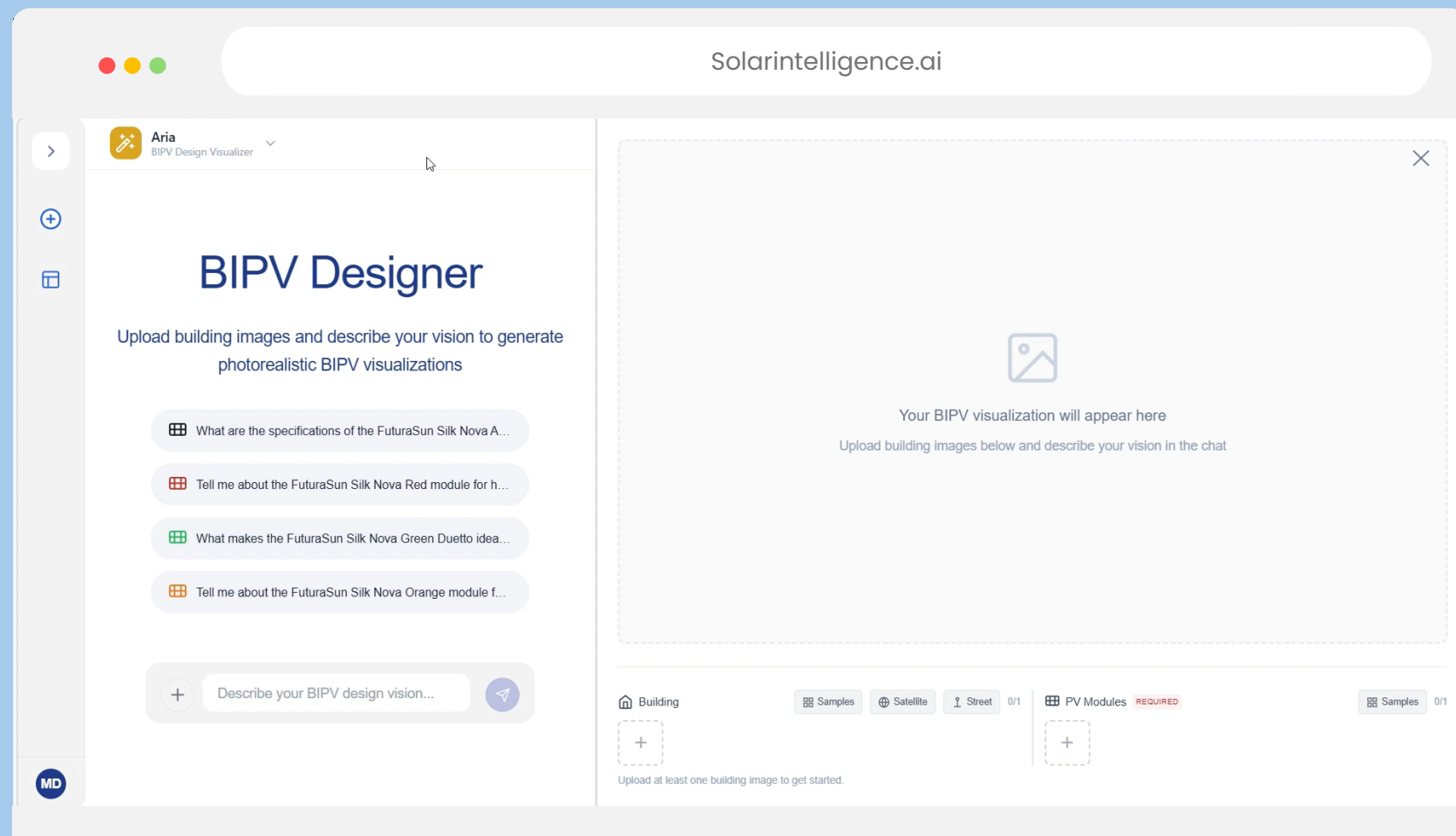
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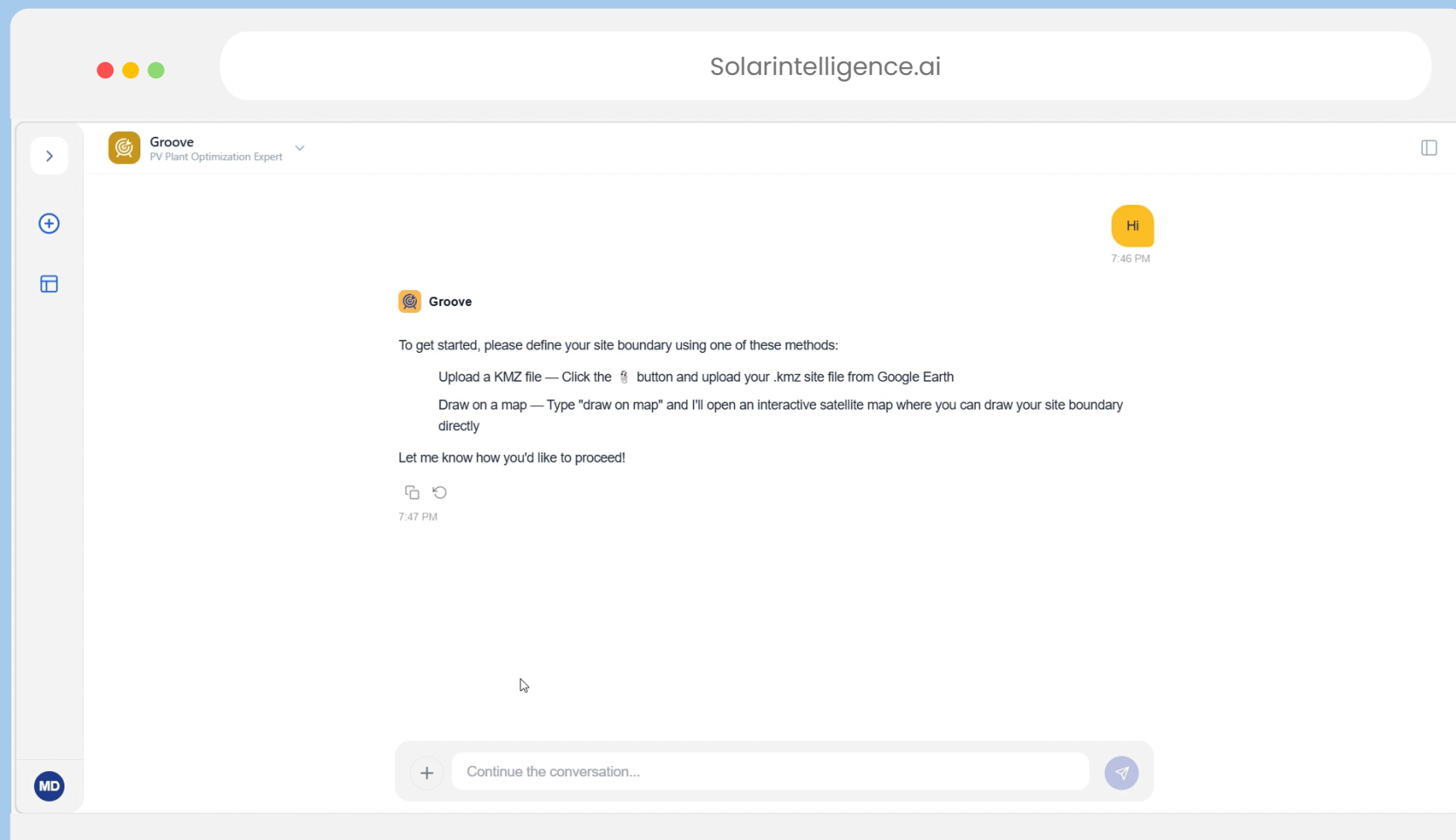
Interactive, iterative design from captured or uploaded building views



Utility-scale PV design optimization from KMZ site inputs

Advanced layout & shading insights for accurate system design

Financial analysis (IRR, NPV, LCOE) with flexible or ready-to-use settings



The Problem We Set Out to Solve

THE SI.ai JOURNEY

Siloed Expertise



Deep solar knowledge locked inside specialized teams and expensive consultancies

Slow Access



Market intelligence takes days or weeks — too slow for fast-moving decisions

High Barriers



Policy makers and project developers lack access to the data experts use daily

GPS for Solar Market Intelligence

THE SI.ai JOURNEY

GPS

- ✓ Didn't teach people to drive
- ✓ Gave instant, reliable navigation
- ✓ Made complex routing accessible to everyone
- ✓ Changed behavior, not skills



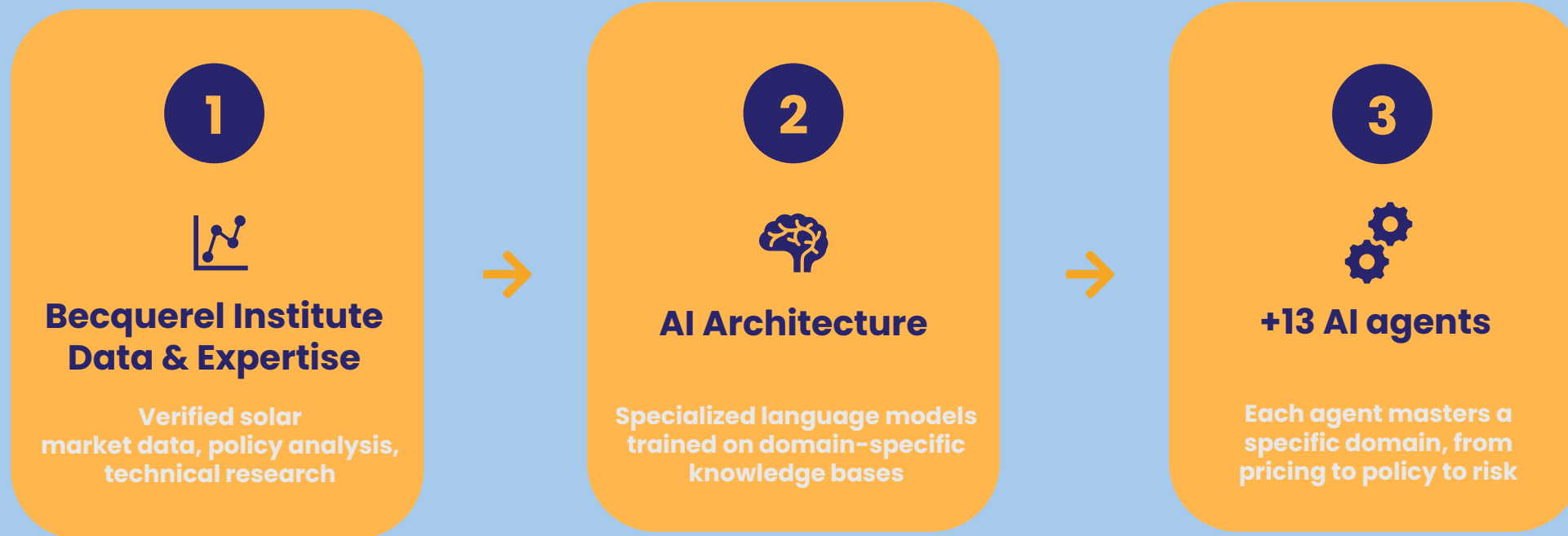
SolarIntelligence.ai

- ✓ Doesn't replace solar expertise
- ✓ Gives instant market intelligence
- ✓ Makes complex data accessible to all
- ✓ Changes decisions, not professionals

Democratizing access to solar market intelligence

From verified data to AI agents

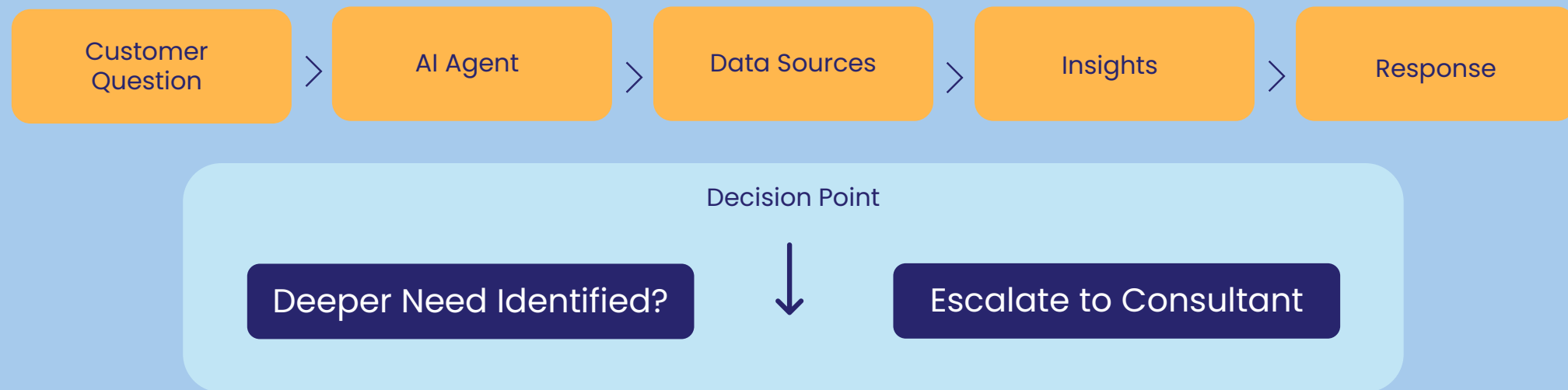
THE SI.ai JOURNEY



- ✓ Solarintelligence.ai delivers verified PV intelligence and on-demand analysis, faster than any analyst can search, clean, and present.

User journey & Expert in the loop

THE SI.ai JOURNEY



Aggregated Intelligence for a Holistic View

Unified solar intelligence:

Aggregating data across the entire value chain into one platform

AI-powered expertise: Specialized agents delivering cross-domain insights

From data to action: Enabling faster, smarter, and more confident decisions



Aria
design agent



Alex
Market agent



Quinn
Reliability agent



Eco
Storage expert



Atlas
Research agent



Aniza
NZIA expert



Lemmy
Polymers agent



Groove
Solar optimization



Emma
News expert

Decisions to make: UI/UX

Interaction model: Is the agent fully autonomous (fire-and-forget), interactive (step-by-step confirmation), or mixed? This fundamentally shapes the UI paradigm.

Progress visibility: Do users see what the agent is doing in real time (streaming steps, tool calls, reasoning traces), or just the final output? Transparency builds trust but can overwhelm.

Trust calibration: How do you help users understand what the agent can and can't do, so they neither under-use it nor over-trust it?

Multi-agent visibility: If multiple agents collaborate, do you expose that structure to the user, or abstract it away behind a single interface? Exposing it is useful for power users; hiding it is better for general audiences.

Decisions to make: Validation

Input validation: When to validate the user input?

Output validation: We need to make sure the output matches the expected schema

Tool call validation: Are we calling the right tool?

Guardrail placement: Are guardrails applied at the model level (system prompt), the orchestration level (code checks), or both?

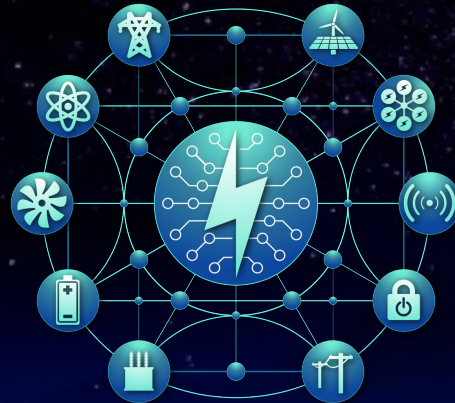
Human-in-the-loop thresholds: At what confidence or risk level do you pause for human confirmation rather than proceeding autonomously?

Thank You

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TOGETHER...SHAPING THE FUTURE OF ENERGY®



OPEN POWER AI CONSORTIUM