

# Impact of Emergent Technology & AI on Joint Use

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# The pressure is real

Our industries are being hit from multiple directions. **Volume** is going up, **Capacity** is going down. The **cost** of getting it wrong is going up, too.



## Aging infrastructure

Poles engineered a generation ago for an environment that looks nothing like today.



## Bridging the knowledge gap

The pipeline of incoming talent doesn't replace what's walking out the door.

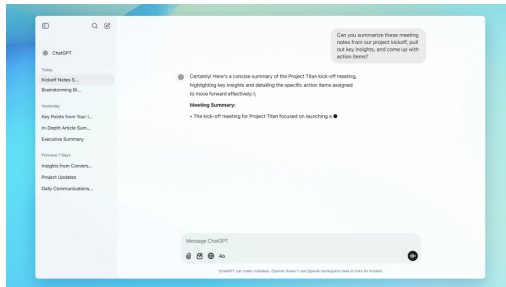


## New demands are surging

Broadband, 5G Densification, EV Charging, Data Centers, Electrification — everything intersects at the pole.



# AI is not one thing



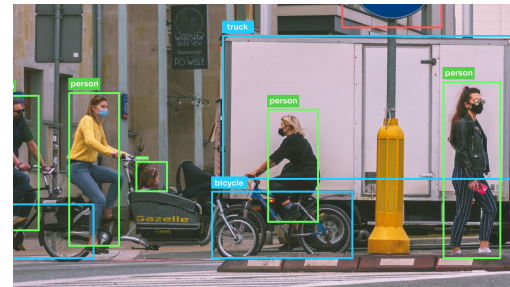
## Language AI

Reading, writing, summarizing, answering questions. ChatGPT, Claude, Copilot. Most of us have touched this one – but it's only one small corner of the picture.



## Analytical & Predictive AI

Finding patterns in large datasets to forecast outcomes. Asset failure prediction, load pattern analysis, risk scoring. Turns historical data into foresight.



## Vision AI

AI that interprets images, video, and spatial data. It can look at a photograph and identify objects, conditions, and anomalies. Deeply relevant to physical utility infrastructure work.



## Physical AI

AI embedded in systems that interact with the physical world. Drones. Autonomous vehicles. Robotic sensing platforms. This is where software meets steel.



# Example 1: Closing the gap between image and knowledge



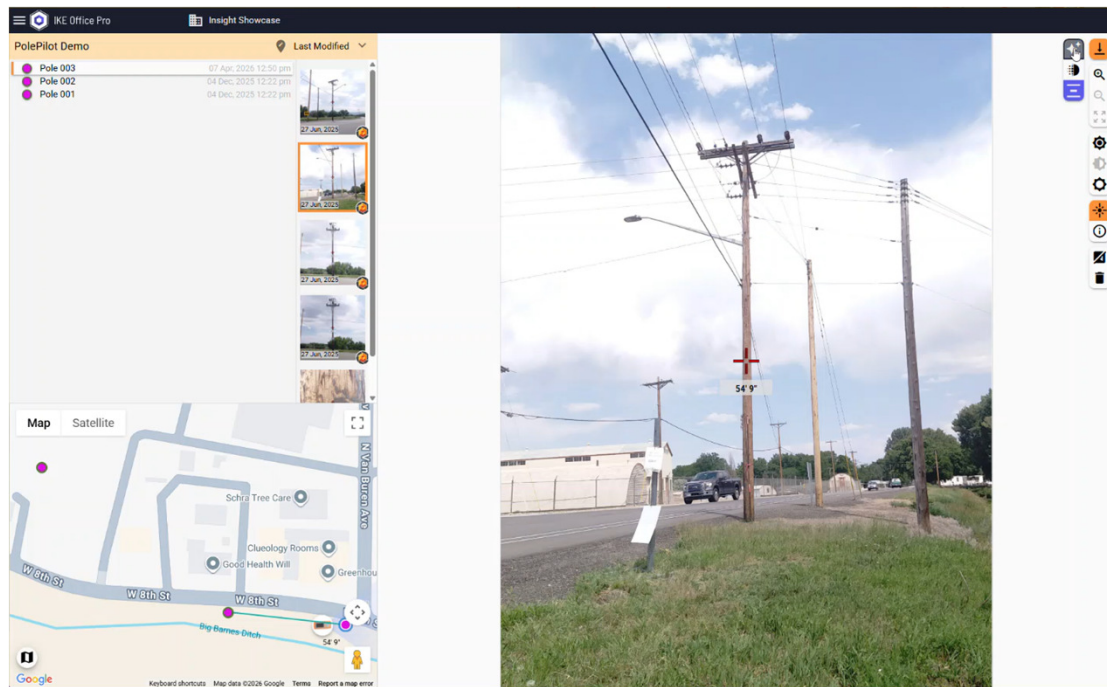
## BEFORE

Field crew captures notes and images. Office team reviews and attributes manually recorded. **Labor-intensive at every step.**

## AFTER

AI processes images in workflow. Attributes recorded automatically. **Right information in front of the right person – faster.** Human still reviews and owns every decision.

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# Example 2: Removing process bottlenecks

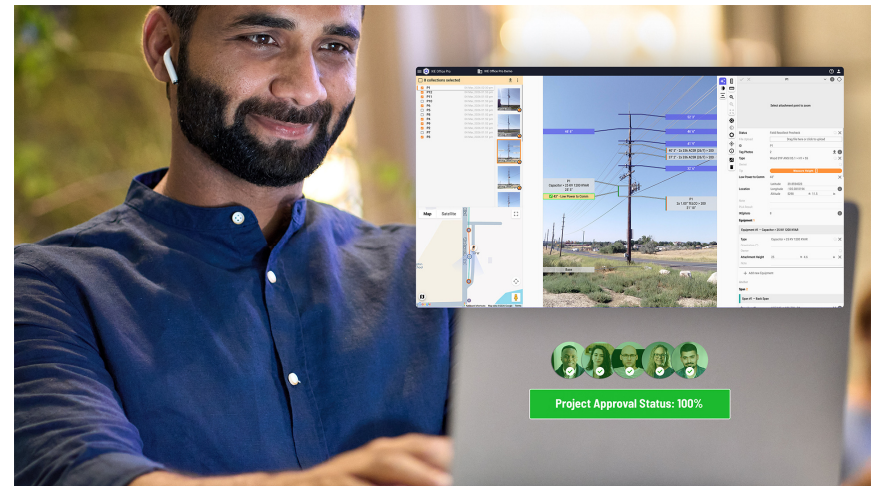
## Today - manual process

- **Document arrives** – pdf, email or spreadsheet
- **Manual data extractions** – copy/paste into your system
- **Route for approval** – flag conflicts, back-and-forth – days of delay



## With AI – automated intake

- **AI reads the document** – extracts data regardless of format automatically
- **Maps to your systems** – fields populated, gaps flagged instantly
- **Faster permit decisions** – your team focuses on judgement calls, not data entry





# Example 3: AI as a Force Multiplier

Leveraging AI and emergent tech to transform operations.

**3x**

inspection capacity,  
same workforce

**70%**

reduction in  
remediation time

**675K+**

assets reviewed  
by AI

## REAL-WORLD DEPLOYMENT



AI-powered drone inspection deployed across ComEd's distribution network. Computer vision automatically processes pole imagery – flagging damaged insulators, corrosion, and cross-arm defects, scoring severity, and generating trouble tickets. Engineers review only flagged items.

- Presented at Utility Analytics Week 2025

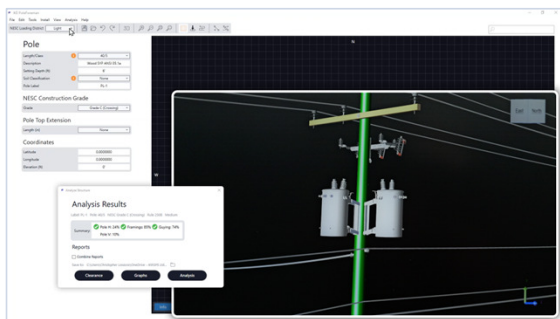
## How the augmented workflow operates

- 1 Drone captures imagery at scale**  
Covers in hours what took crews weeks on foot or in bucket trucks
- 2 AI processes every image automatically**  
Detects defects, scores severity, auto-generates trouble tickets
- 3 Engineer reviews flagged items only**  
Focus shifts from manual review to judgment and remediation
- 4 Human owns every decision**  
AI pre-processes – engineer validates, prioritizes, and acts



# Look before you leap

Three things every organization should be thinking about right now.



## Pole loading is NOT an AI problem

Pole loading requires finite element analysis – modeling how forces, materials, and geometry interact under NESC loading conditions. It requires experienced (in some cases, professional) engineering judgment.



## Human in the loop: own the decision and the process

As AI embeds into workflows, blind acceptance of outcomes is not okay. A qualified person must actively review, validate, and own every AI-assisted decision – and maintain the traceability to stand behind it.



## Raising the floor also lowers the bar for entry

AI makes it easier than ever to take a concept to market. Do your homework – validated against what? Customer success stories? The gap between a polished proof-of-concept and production-ready software is harder to spot than ever.



# What to do tomorrow morning

Two practical actions you should do now.

## 1 Build Your Golden Dataset

**Before the next vendor walks in with an AI demo, you should control the test.**

Assemble 50-500 real records from your operations where you already know the right answer. Include easy cases, edge cases, and hard scenarios. When a vendor demos their AI, hand them your dataset – don't just watch their prepared show.

- Gather attachment and/or GIS records
- Include intentional edge cases, data gaps/errors
- Document the "ground truth" answer for each one
- Keep it in a format easy to hand off

## 2 Upskill Yourself

**Use this time to upskill yourself and your team. Talk to leadership about a top-down strategy.**

There are many FREE learning resources available:

- Google AI Fundamentals ([ai.google/learn-ai-skills](https://ai.google/learn-ai-skills) )
- Anthropic Academy ([anthropic.skilljar.com](https://anthropic.skilljar.com))
- Elements of AI ([elementsofai.com](https://elementsofai.com) )
- Microsoft AI for Beginners ([github.com/microsoft/AI-For-Beginners](https://github.com/microsoft/AI-For-Beginners))
- [AI Daily Brief Podcast](#)



**The question isn't whether AI  
will reshape joint use.**

**It already is.**

# Thank You!

Please reach out with any questions

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