

How to do More with Less: AI Use Cases for the Building Sector

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AIQ
group

Overview

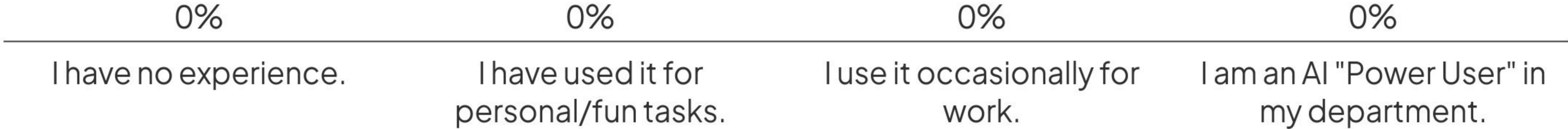
Part 1: Context and Mindset

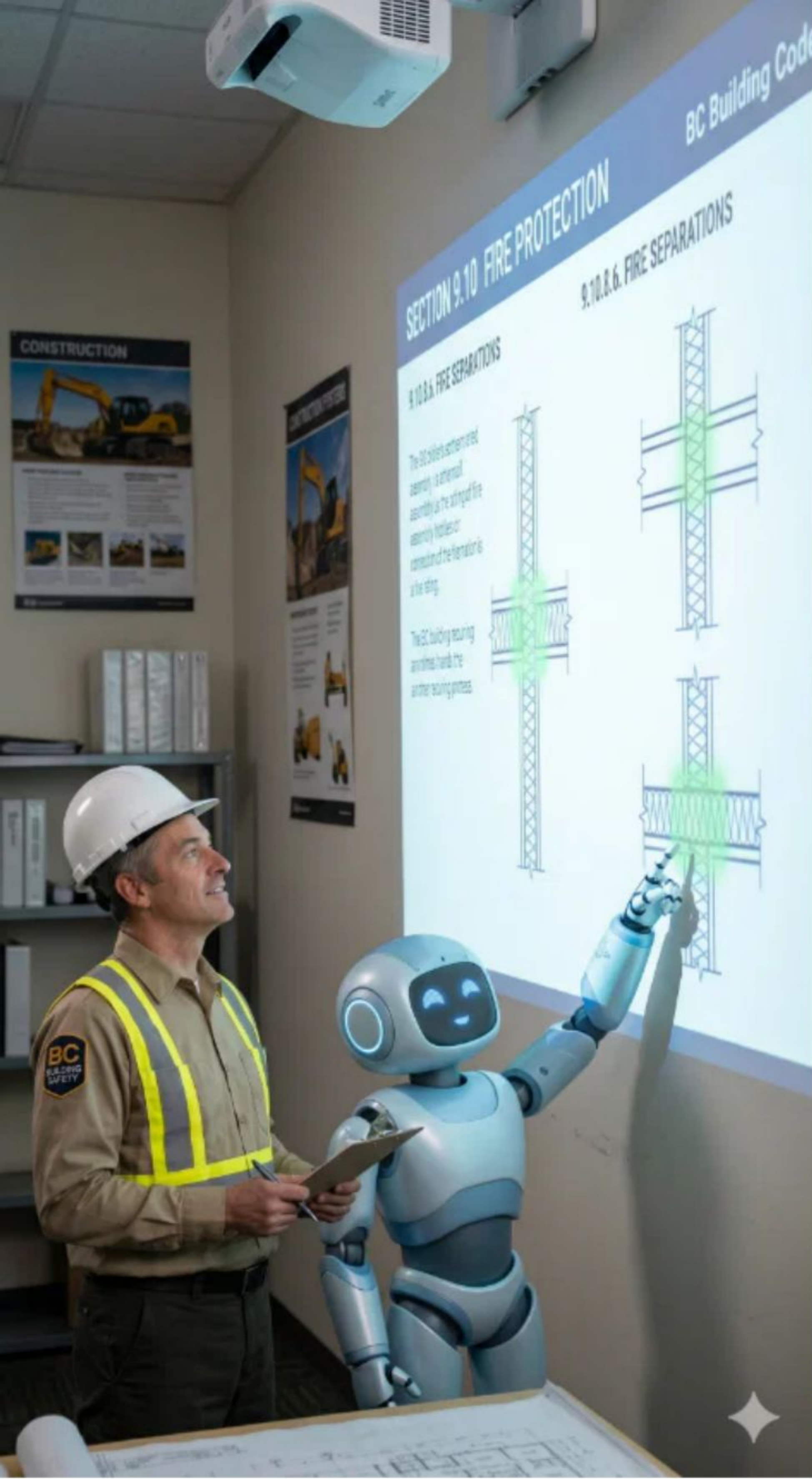
Part 2: Why AI Matters in the Building Sector

Part 3: Workflow Mapping to Custom Agents

Part 4: Takeaway & Next Steps

What is your current comfort level with AI tools (ChatGPT, Gemini, etc.)?





What is AI, Really?

Pattern Matching, Not Magic.

- **Reality:** LLMs (Large Language Models) are complex pattern finders, not factual databases.
- **Role:** Co-pilot, Not Autopilot.
- **Benefits:**
 1. **Simplifying Complexity:** Summarizing BC Building Code sections into plain language.
 2. **Productivity at Scale:** Drafting professional correspondence and reports in seconds.
 3. **Technical Insight:** Recognizing patterns in inspections, permits, and engineering data.

Getting Started

How to Access AI



- **Major Players:**
 - ChatGPT (OpenAI/Microsoft),
 - Claude (Anthropic),
 - Gemini (Google).
- **Enterprise Choice:**
 - Microsoft Copilot (integrated into M365)
 - Gemini Business.
- **Access via:**
 - Web Browsers
 - Mobile Apps
 - 3rd Party Software with AI Integration.



The Supervisor Mindset

"Human-in-the-Loop"

- **The Relationship:** Treat the AI like a junior student.
- **The AI:** Finds the relevant code clause, summarizes the long report, or drafts the first version of a letter.
- **The Official:** Reviews the draft, corrects technical errors, and makes the final professional decision.
- **The Golden Rule:** Never "Copy and Paste" without checking.

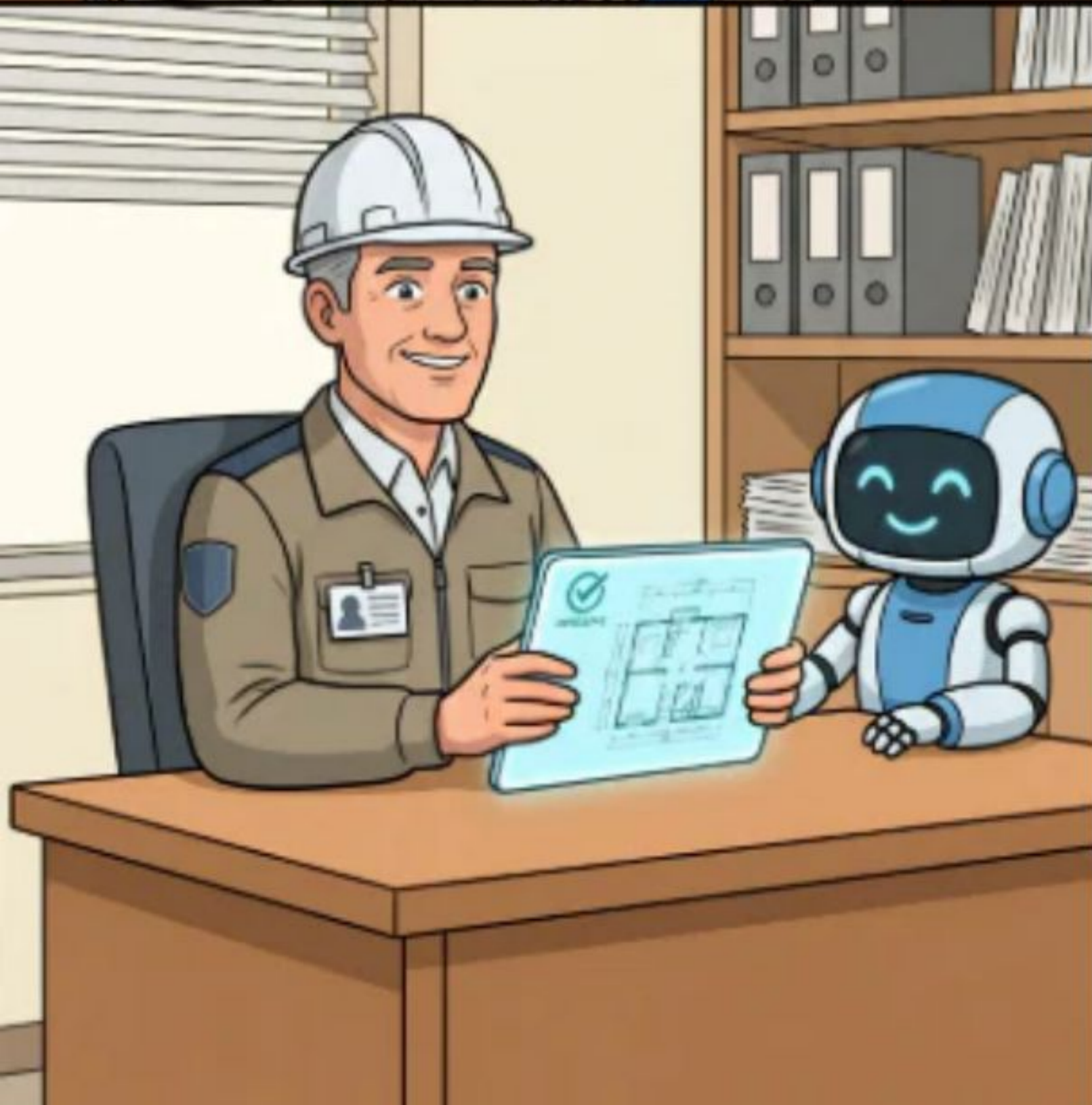
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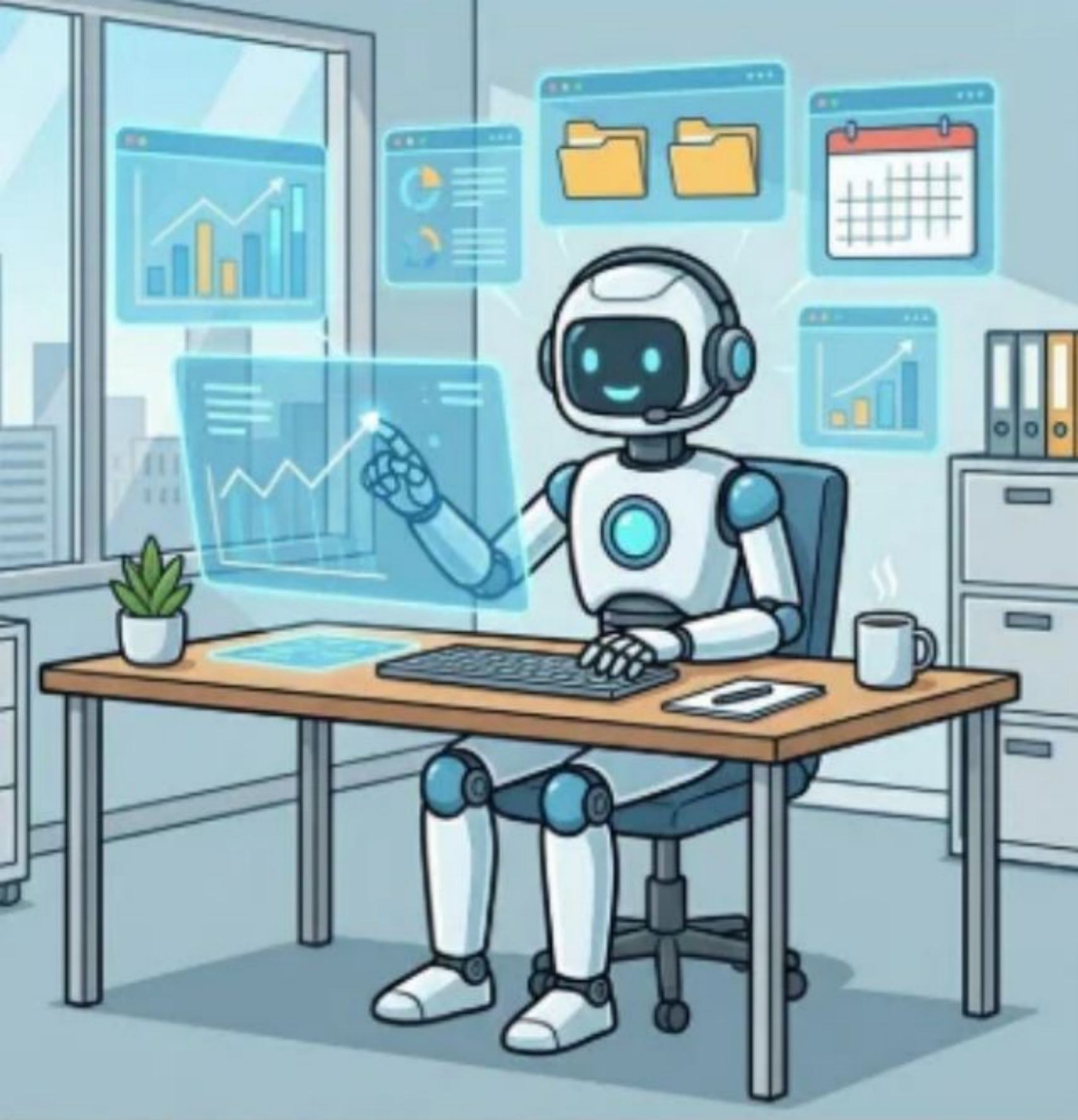
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Addressing The Capacity Gap

Volume, Complexity & Retention

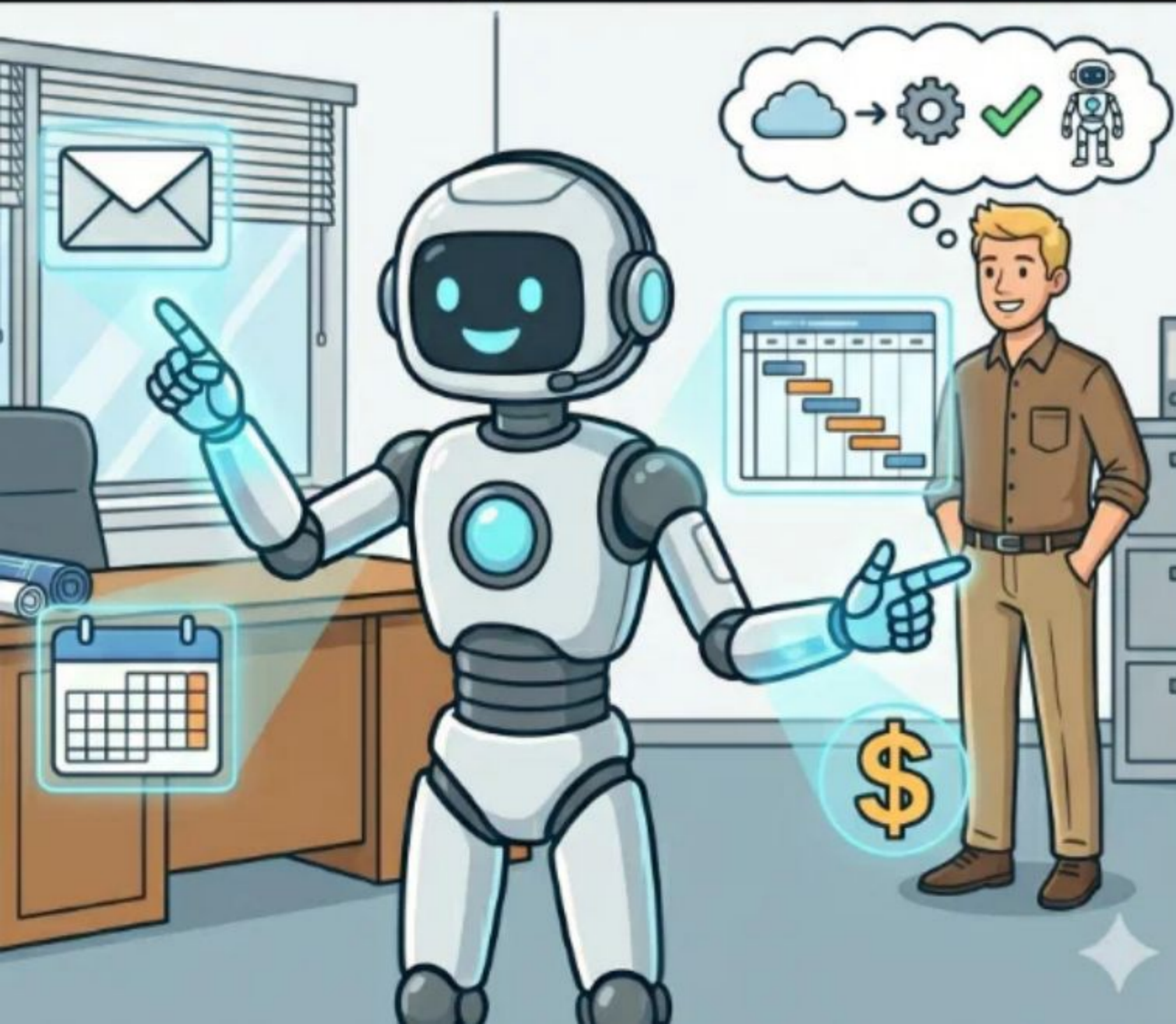
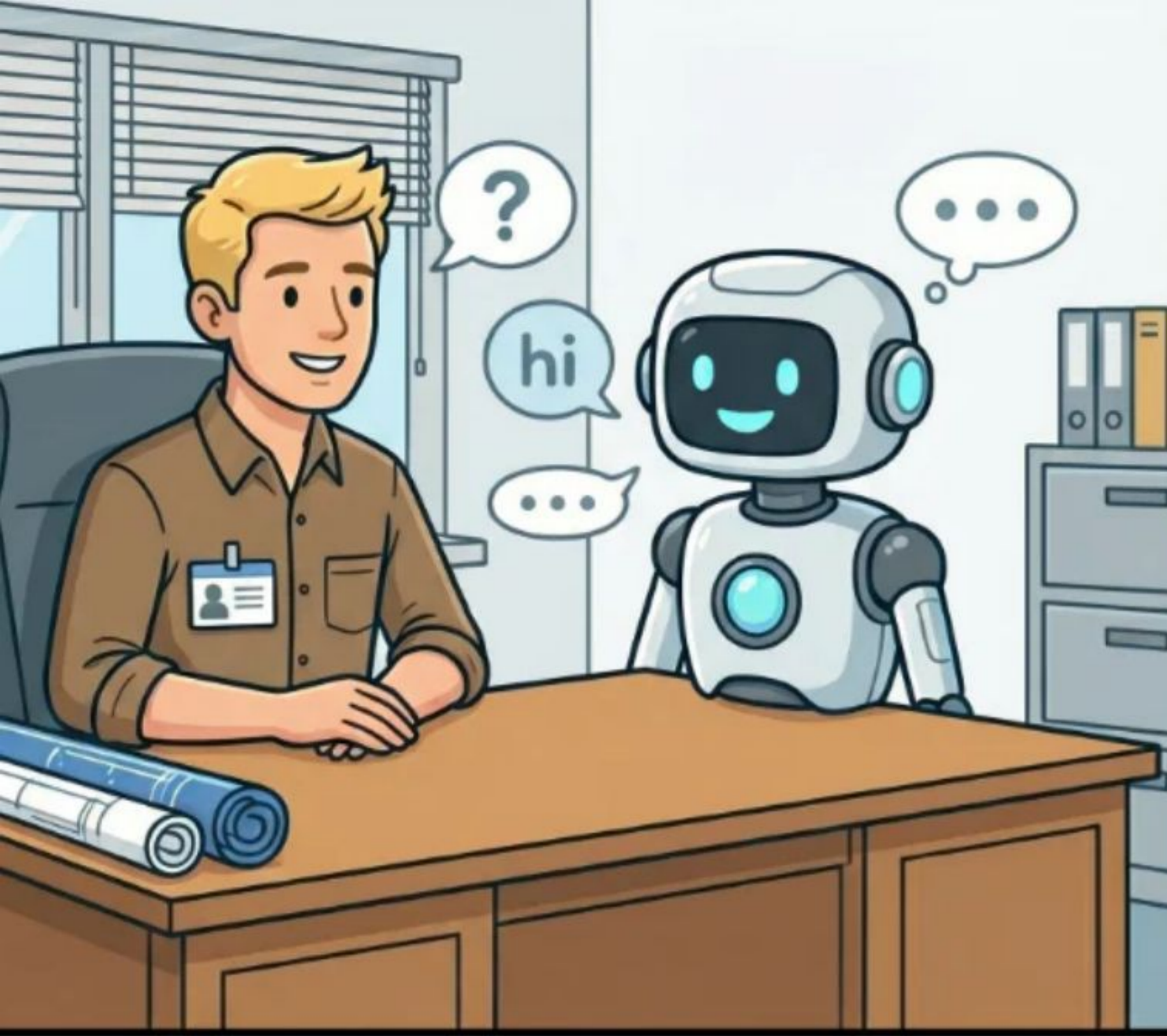
- **Permit Volume:** Scaling to meet BC's development pressure and Bill 44 (SSMUH) mandates.
- **Code Complexity:** Navigating the transition to the 2024 BCBC and 2025 Seismic/ Adaptability updates.
- **Professional Focus:** Freeing senior officials from clerical tasks to focus on complex on-site problem solving.



The AI Opportunity

Bridging the Capacity Gap

- **Communication:** Technical correction notices, site memos, and rejection letters.
- **Analytics & Error Identification:** For complex geotechnical or engineering submittals
- **Consistency:** Every applicant receives identical technical interpretations for the same code section.
- **Knowledge Access & Sharing:** Grounding AI in local policy to reducing onboarding time of new staff.



Agentic AI - Beyond the Chatbot

AI Using "Tools" to Act

- **The Problem:** LLMs "guess" based on probability. They struggle with math and static knowledge gaps
- **The Solution:** Agentic AI uses a multi-step reasoning loop to improve logic and tools to take action
 - Access to software, local devices (open claw)
- **Building Sector Impact:** Shifting from AI that suggests, to autonomous Agents that execute



Be Aware

10 AI Realities to Remember

1. AI is excellent at summarizing but poor at human nuance
2. LLMs are linguistic not logical. AI struggles with math, hyperlinks and memory
3. AI “Hallucinates” facts confidently. It may invent non-existent BCBC sections.
4. **Garbage In, Garbage Out:** Vague instructions lead to useless results.
5. **AI + Tools = Agents.** Agentic AIs use “Tools” (calculators, software etc) to overcome LLM limits
6. **No Accountability:** You are the responsible for the output
7. **Privacy is Paramount:** Never upload Personally Identifiable Information (PII)
8. **Bias Exists:** Can be US-centric unless grounded in BC standards
9. **Context is King:** Quality output depends on your prompt
10. **Co-pilot, never Autopilot:** Keep a "human-in-the-loop"

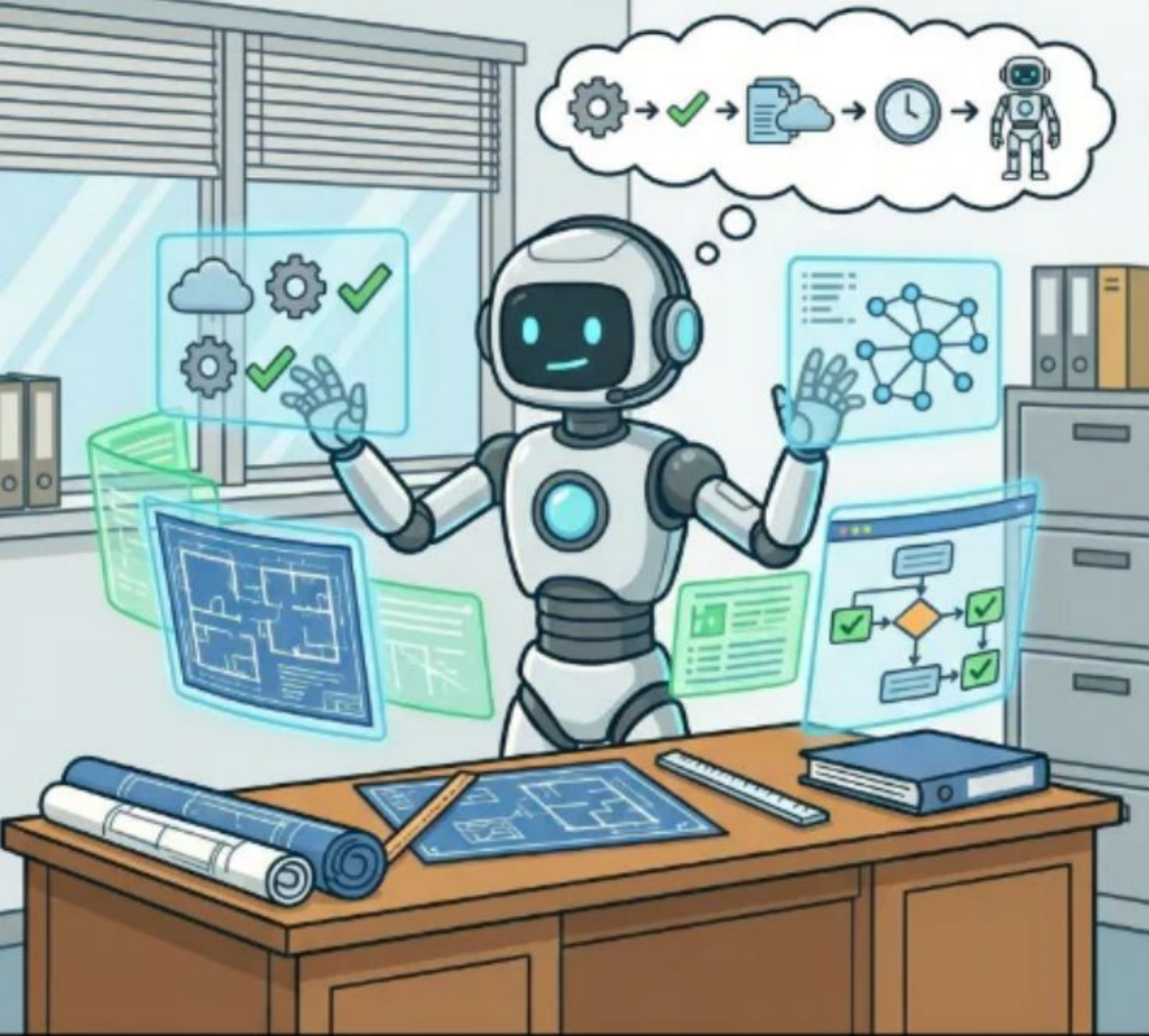
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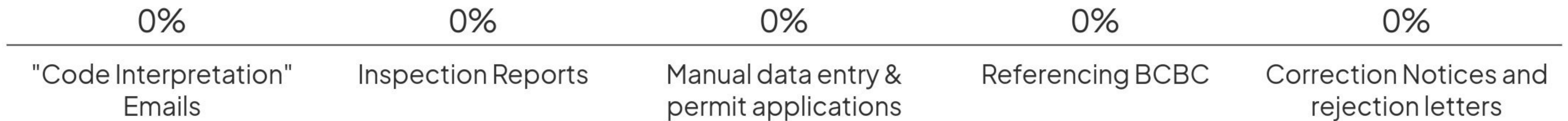
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Building the Foundation (for AI) Strategy Must Precede Implementation

- **Review Workflows** before automating, Rethink them with AI in mind
- **Don't "Bolt-on"**: Bad process + AI = Faster bad process
- **Don't substitute** AI for humans → Transform the work
- **Define AI Use Policy** – Which tasks make sense for AI?
- **Start Small**: Use Pilot Project tasks to build internal trust.

Which administrative task drains the most time in your day?

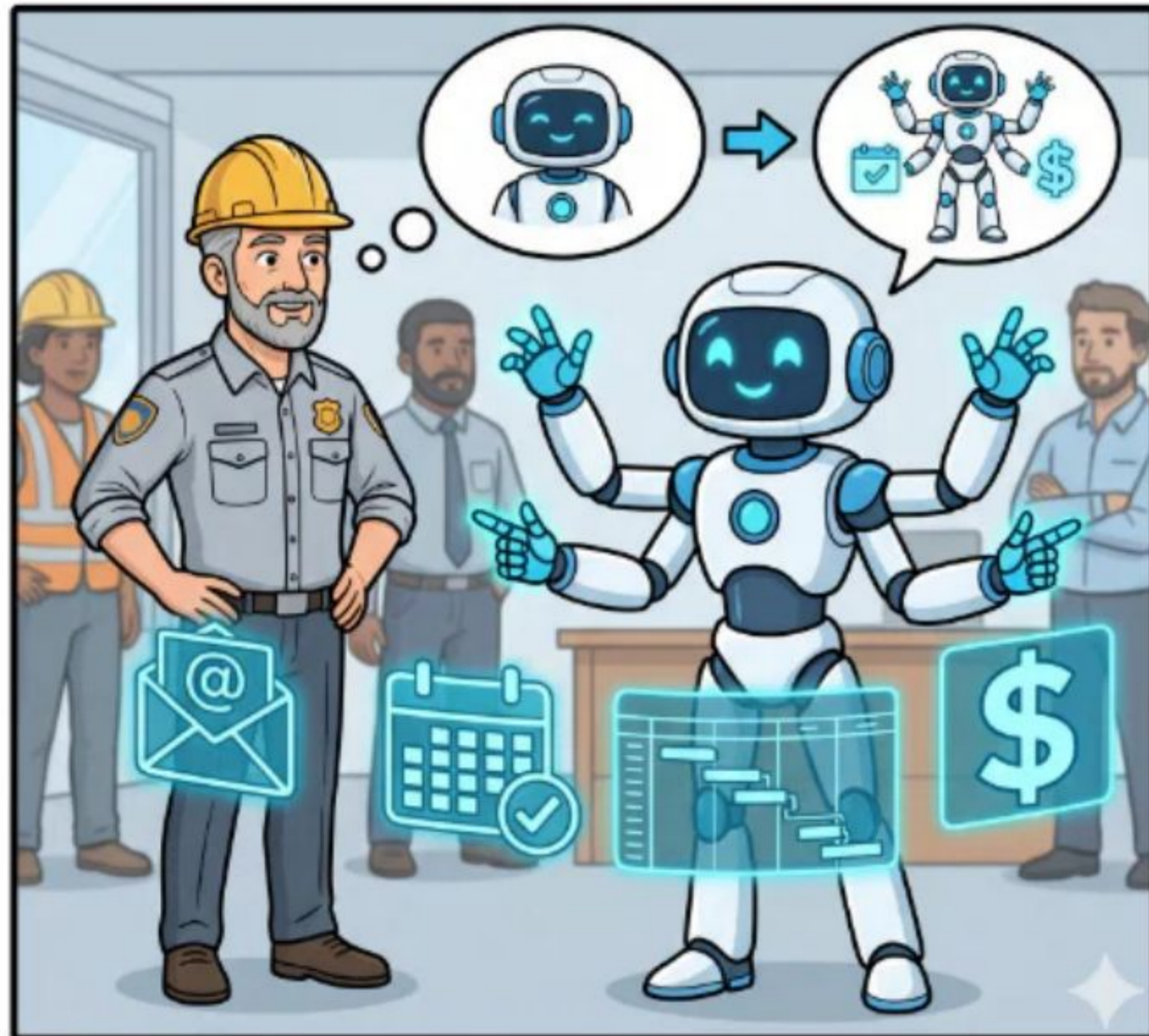
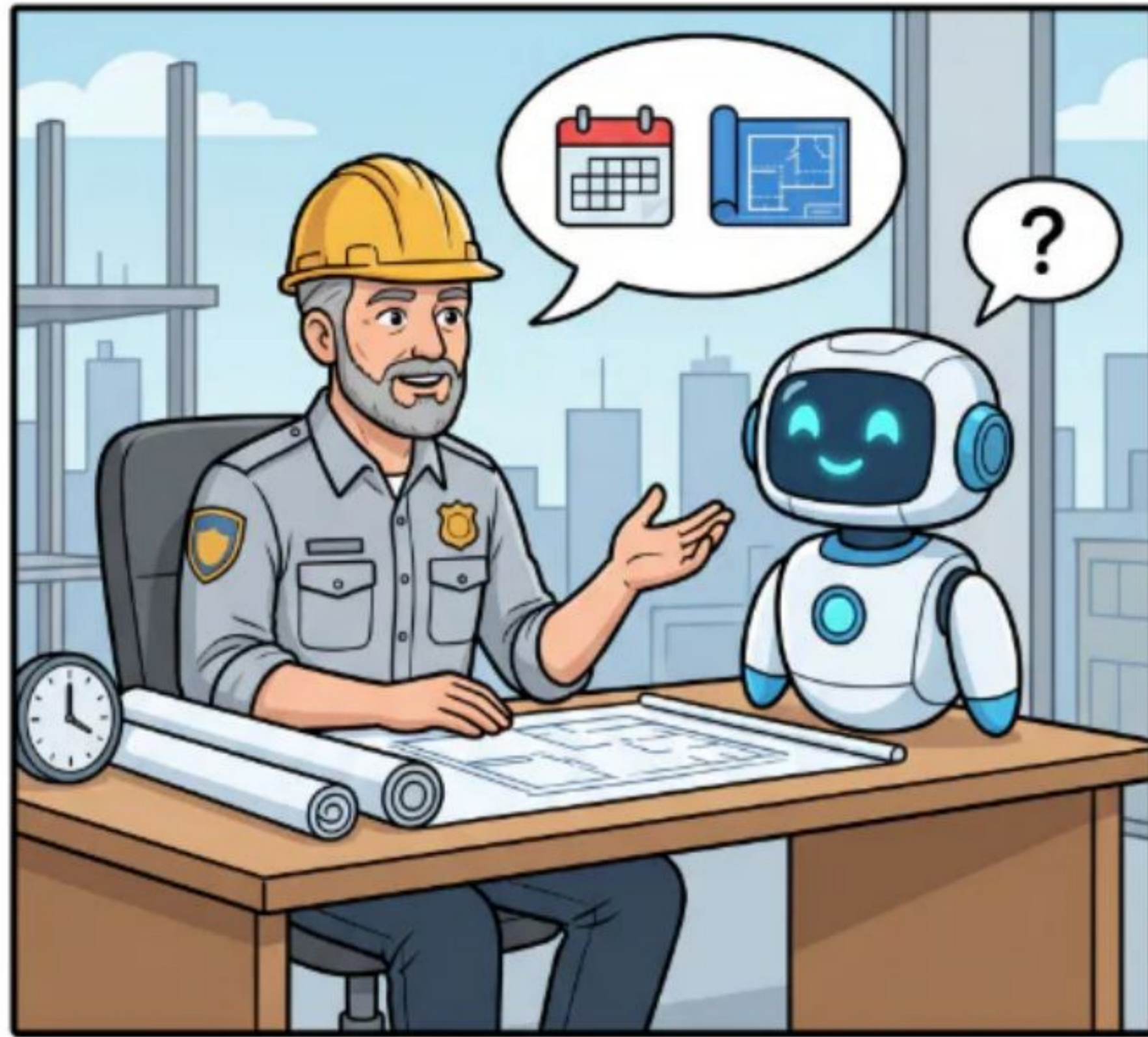




Policy is the Foundation

Step 1: Create an AI Use Policy

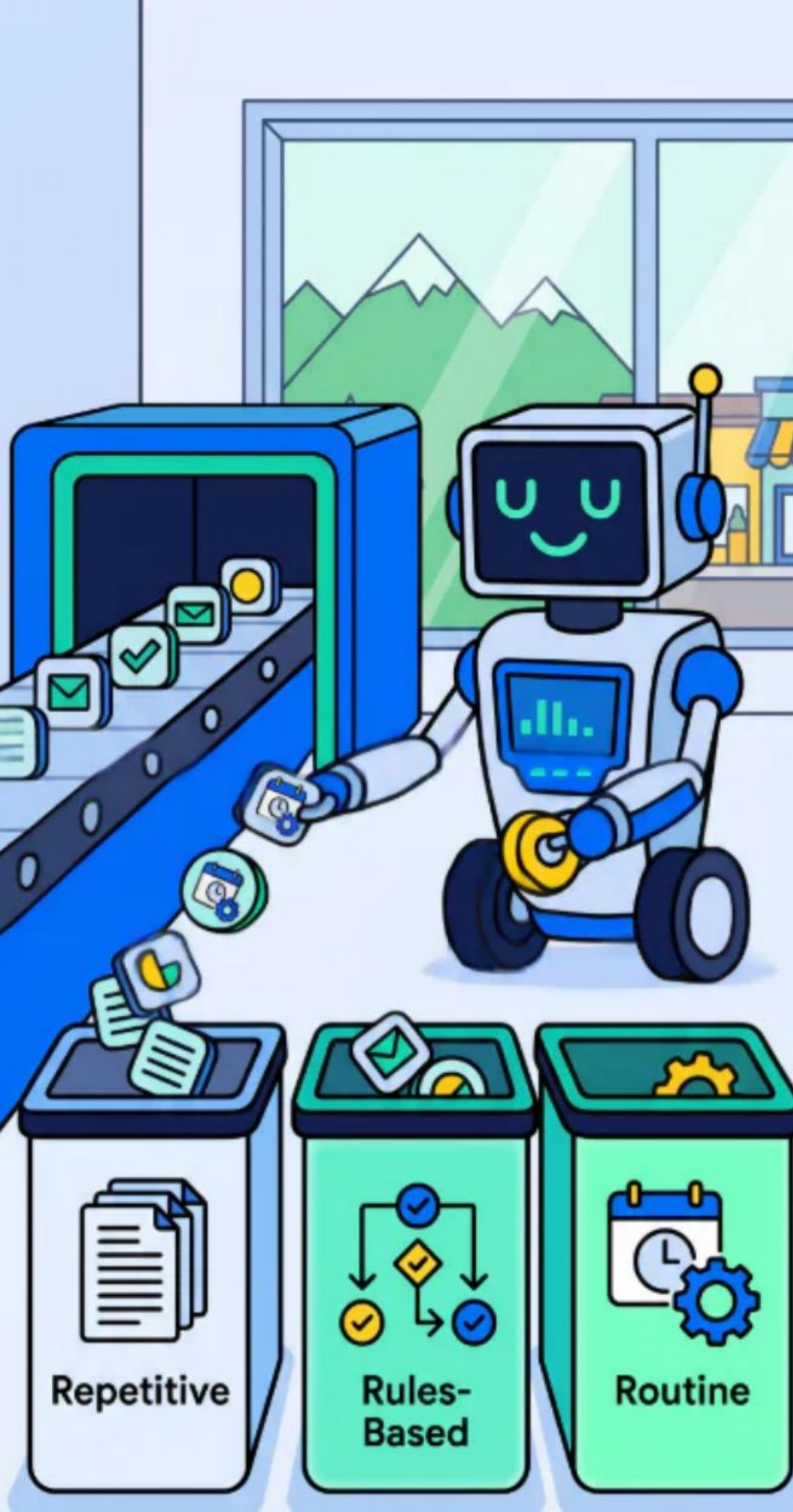
1. **Assemble Stakeholders:** Form a project committee including IT, Legal, and Senior Building Officials.
2. **Classify Data:** Define what data, and tasks are "Green-Lit" (Public Building Codes) vs. "Off-Limits" (Private Citizens' PII).
3. **Accuracy & Oversight:** Mandate a "Human in the Loop" for every AI output
4. **Disclosure & Liability:** Post your AI Use Policy, ensure human sign-off as accurate
5. **Adopt & Train:** Distribute policy, and provide training on ethical use, bias and safety



Map Workflows Like it's a Project

Step 2: Milestones, Tasks, & Owners

- **Define the Project:** Where & When the workflow begins (Application) and ends (Permit Issued)
- **Major Milestones as Logic Gates**
 - Technical Intake
 - Zoning Check
 - Building Code Review
- **Task Lists**
 - Verify civic address
 - Confirm fixture counts
 - Check fire separation detail
- **Task Owners:** Owner of each task: a Human Official, Admin Support, or an AI



Selecting the Right Tasks

Step 3: The 3R Approach

- **Repetitive:** Identifying high-frequency tasks (clerical)
- **Rules-based:** Identifying logic-heavy tasks (BCBC code checks)
- **Routine:** Low-EQ tasks are suitable for a pilot rollout



Create a Data Moat

Step 4: Ground Your Data

- **The "Moat" Concept:** Protecting technical integrity by isolating the AI's knowledge to verified, local sources.
- **Why Grounding Matters:**
 - Eliminates Hallucinations
 - Verification & Evidence
- **How It Is Achieved:** Upload clean PDFs of the 2024 BCBC, municipal bylaws, and policy memos into a grounded AI (like Google NotebookLM, or a custom Agent).



Clear Instructions

CREATE Better Prompts

C – Context/Content: "I am reviewing a residential permit application for a secondary suite."

R – Role: "Act as a Senior BCBC Reviewer specializing fire separations."

E – Expectation: "I need a professional email response to the applicant with bullet points of why a proposed partition fails"

A – Action: "Draft detailed response citing specific BCBC sections for gypsum and resilient channels."

T – Tone: "Direct and authoritative, helpful and professional."

E – Exclusions: "Do not reference city zoning or National Building Code sections."

Turn Strategy into Software

Step 5: Build a Custom AI Assistant



- **Select Platform:** Create a "Copilot GPT" (Microsoft) or "Gem" (Google) within a paid account
- **Name and Instructions:** Create instructions for your GPT based on your role (get an AI to help!)
- **Upload the Knowledge Base:** Attach your "Grounded Data" as files and folders
- **The Feedback Loop:** Test the tool with real reports, verify for accuracy, and update the instructions



Tips & Tricks

Practical Use Cases

- **Correspondence:** Automate Email responses to FAQs
- **Code Interpretation:** Explain complex rules in plain language for homeowner enquiries.
- **Report Standardizing:** Turning field notes and voice-to-text memos into structured records.
- **Data and Trend Analysis:** Pull specific specs or trends from complex PDF submissions
- **Data Summary:** Long and complex geotechnical or energy reports into critical findings.

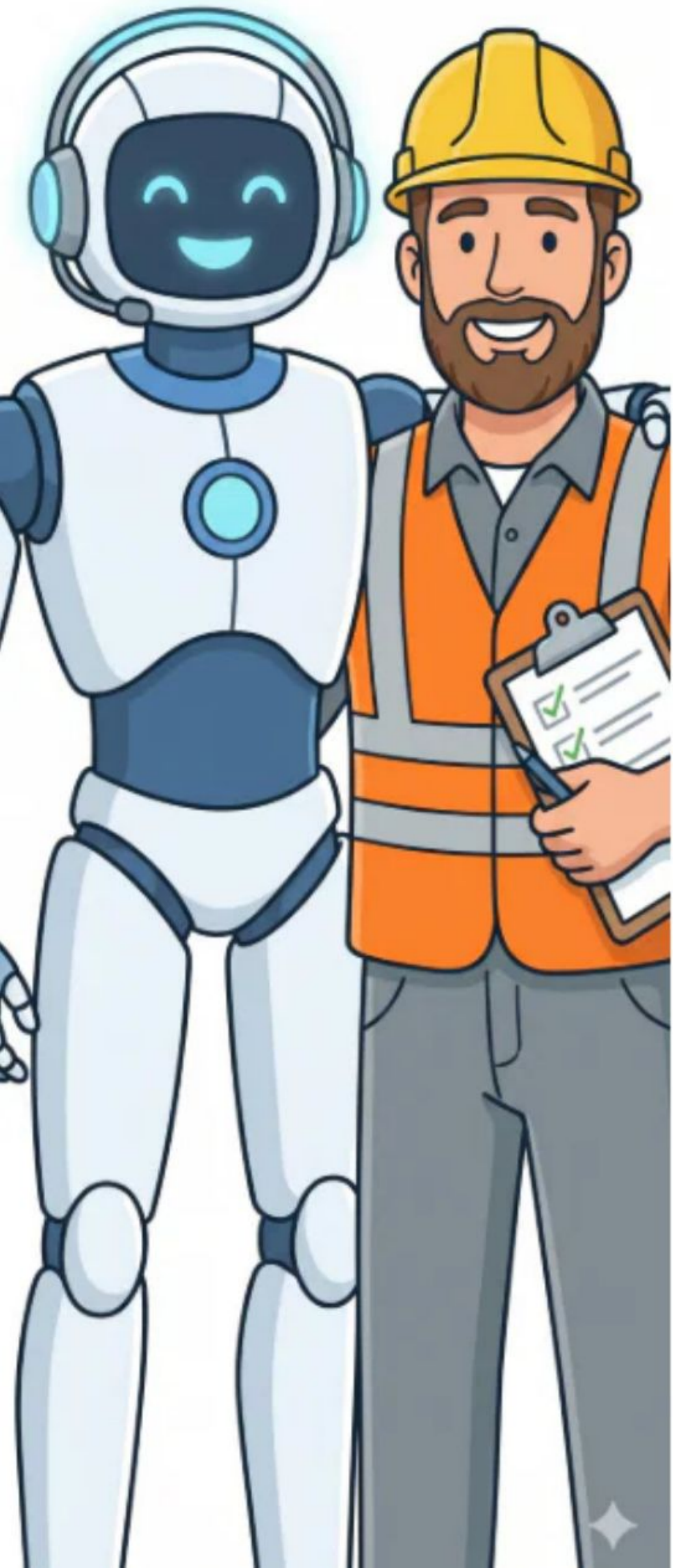
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Takeaway

6 Items to Remember

- **Supervisor Mindset:** Humans move from doing to managing
- **Create a Use Policy:** Define how AI can be used in your organization
- **Workflow Mapping:** Identify workflow, data and logic gates
- **The 3R Filter:** Tasks that are Repetitive, Rules-based and Routine are well-suited for AI
- **Grounded Data:** Ground your AI in BCBC and local bylaws to reduce hallucinations
- **Prompt Precision:** Use CREATE for precise prompting (or Agent instructions) and more accurate output

Next Steps

Day 1: Share the presentation with your team, AIQgroup.ca/boabc

Day 3: Create an AI Use Policy

Day 5: Run a "3R" Audit on one administrative process

Day 7: Prepare for your pilot @ aiqtraining.thinkific.com

Use 50% off code: boabc90day

Course

AI Fundamentals:
Simple Strategies to do
More with Less



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