



Practical AI (Artificial Intelligence) Applications

*A Guide To Navigating and Using
the Latest AI Tools for Maximum
Leverage in Q2 2025*

Prepared for:
NWCCC Members Webinar

Experts of Choice

May 2025



Agenda



Introduction



AI Tools Overview



Live Demos



Practical Tips



Q&A

Before We Start.....

Let's see where you all are at now.

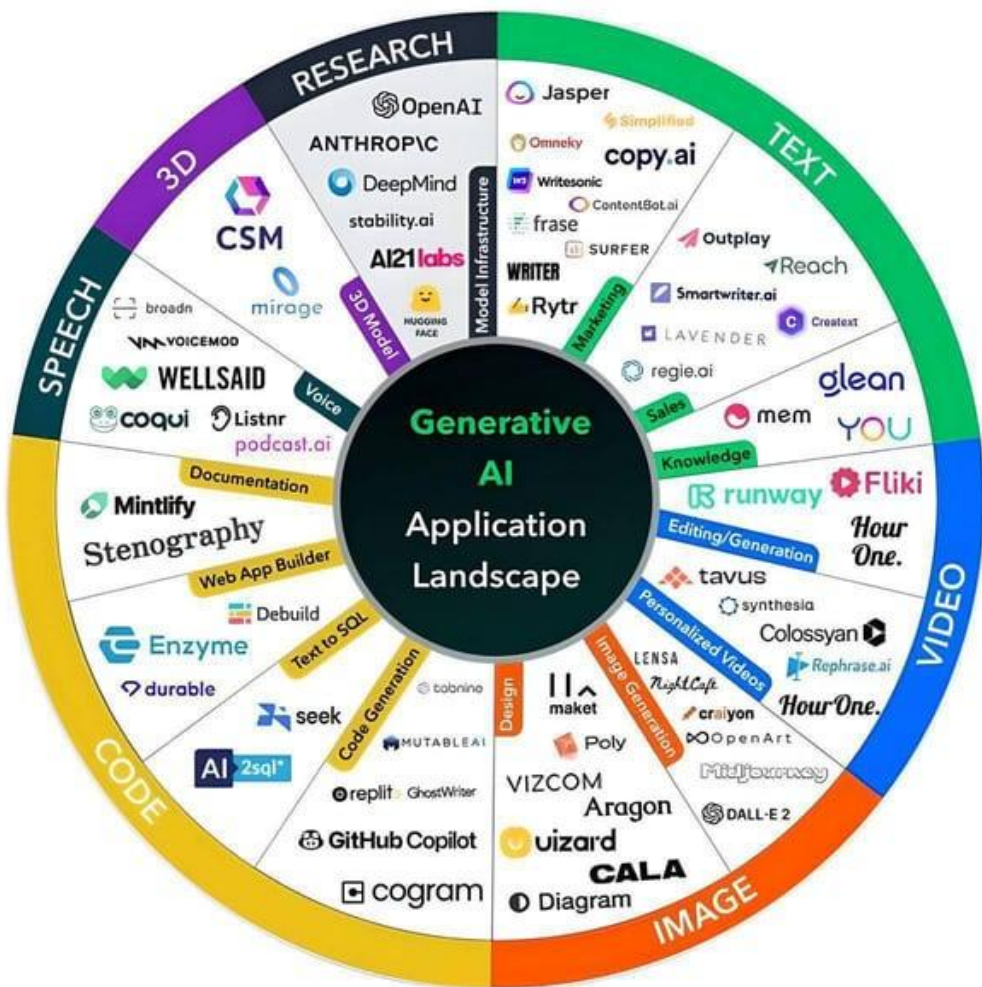
Time for a few polls!

AI Tools Overview – The Landscape

- **General Purpose Tools:** ChatGPT, Claude, Gemini
- **Research Assistants:** Perplexity, Bing Copilot
- **Document Tools:** Notebook LM (Google), Claude Artifacts
- **Industry-Specific:** Emerging vertical applications
- **Key Principle:** These are powerful assistants, not replacements for expertise



AI Tools Overview – Available Models & Choosing the Right One



Tool	Best For	Example Applications	Access Method
ChatGPT (OpenAI)	<ul style="list-style-type: none">Quick answersCodingBasic content	<ul style="list-style-type: none">Meeting notesSimple research	<ul style="list-style-type: none">WebMobile appAPI
Claude (Anthropic)	<ul style="list-style-type: none">Document processingNuanced responses	<ul style="list-style-type: none">Contract ReviewDetailed analysis	<ul style="list-style-type: none">WebMobile appAPI
Notebook LM (Google)	<ul style="list-style-type: none">Document interactionAnnotation	<ul style="list-style-type: none">Analyzing standardsProcedures	<ul style="list-style-type: none">Web
Perplexity	<ul style="list-style-type: none">Research with citations	<ul style="list-style-type: none">Technical lookupMarket research	<ul style="list-style-type: none">WebMobile app

High Value Add Industry Applications

<u>Challenge</u>	<u>AI Solution</u>	<u>Time Impact</u>
Note-taking Overload	Automated meeting transcription & summaries	3-5 hrs/week saved (minimum)
Standards Compliance	Quick analysis of technical documents	Research time cut by at least 70%
Contract / Proposal Development	Structured content generation & formatting	First drafts in minutes vs. hours
Knowledge Transfer	Institutional knowledge search & retrieval	Reduced ramp-up for new staff
Technical Lookups	Instant access to reference information	Minutes vs. hours of searching

High Value Add Industry Applications – Real World



ENGINEERING DOCUMENT REVIEW:

COMPARING SPECS
AGAINST INDUSTRY
STANDARDS



MAINTENANCE PLANNING:

ANALYZING
HISTORICAL DATA
FOR PREDICTIVE
INSIGHTS



WASTEWATER TREATMENT RESEARCH:

SYNTHESIZING BEST
PRACTICES AND
TECHNOLOGIES



PROPOSAL ACCELERATION:

CREATING FIRST
DRAFTS WITH PROPER
STRUCTURE AND
FORMATTING



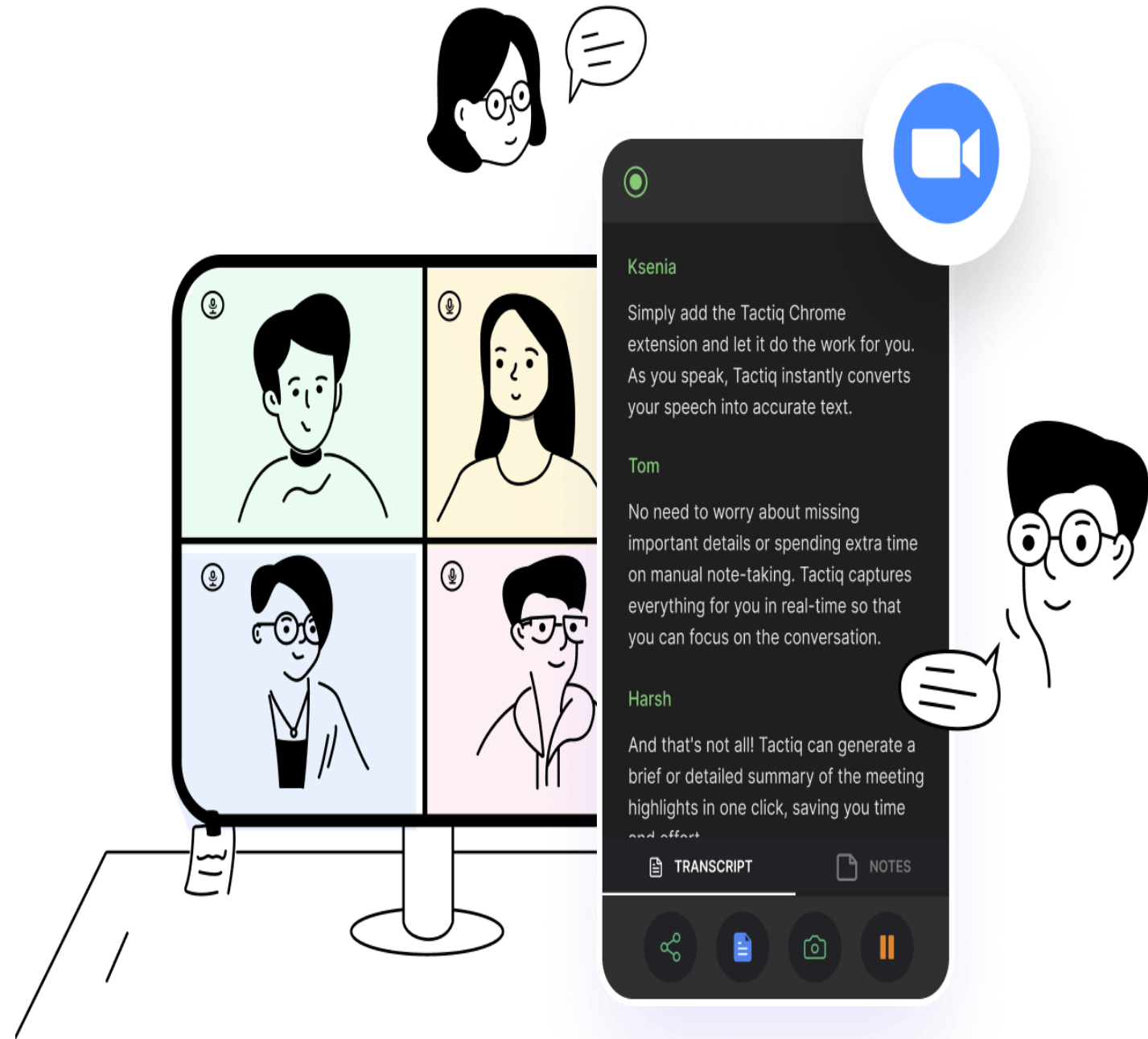
CONSTRUCTION PLANNING

IDENTIFYING
POTENTIAL
CONFLICTS IN
PROJECT
DOCUMENTATION






Live Demonstration

Meeting Minutes




Welcome to NotebookLM


My notebooks




Most recent ▾




Untitled notebook
1 Oct 2024 • 0 sources




@testingcatalog
Untitled notebook
11 Sept 2024 • 1 source




Untitled note
30 Sept 2024 • 1 source



Untitled notebook



Untitled notebook



Untitled note

Live Demonstration

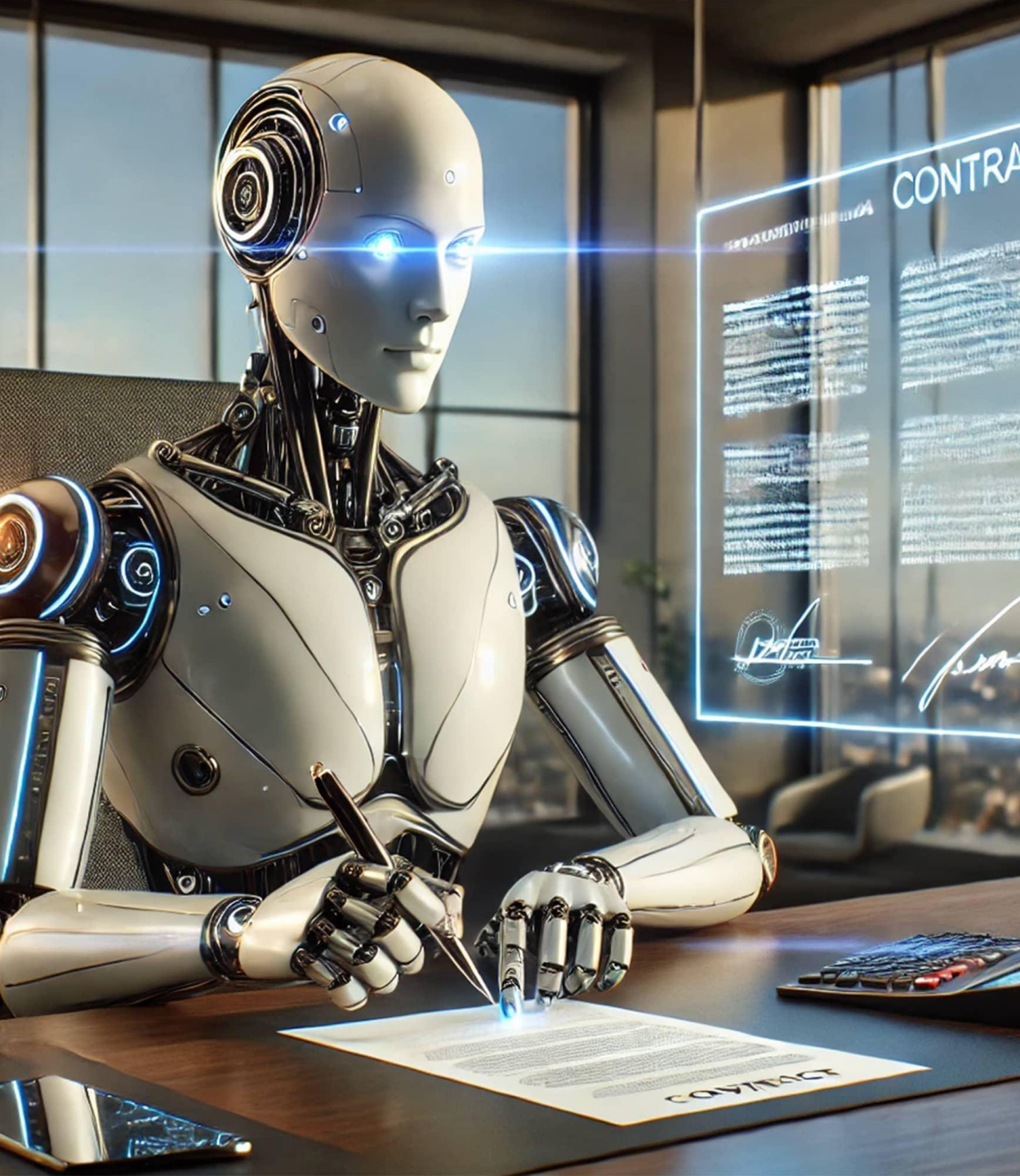
Notebook LM Document Analysis



Live Demonstration

*Deep Research & Report
Generation*





Live Demonstration

*Technical Standard &
Contract Interpretation*



Live Demonstration

Using AI to Visualize Data



Practical AI Use Tips - Prompting

Tip #1

Use Voice Input for Better Results

- Speaking provides more detail than typing
- Activates different brain regions for clearer instructions
- Most AI tools have voice input options

Tip #2

Provide Input & Output Examples

- Show AI what you want by providing 2 of 3: input, process, output
- Example: "Here's my raw data (input) and here's how I want it formatted (output)"

Tip #3

Ask AI to Ask You Questions

- Request: "Ask me any clarifying questions in one round"
- Results in more tailored and accurate outputs
- Saves revision cycles

Tip #4

Specify Role, Audience, Task, Format

- "Act as an expert metallurgical engineer writing for plant operators"
- "Create a troubleshooting guide for pump cavitation issues"
- "Format as a one-page reference with bullet points"

Practical AI Use Tips – Sample Prompt

You are an expert asset manager and mechanical engineer at a local refinery and are detail oriented and organized.

Generate a comprehensive inspection checklist for a [equipment type] based on API Standard [number]. Include safety precautions, required tools, and acceptance criteria for each inspection point.

Analyze this maintenance log data and identify potential recurring issues. Suggest three possible root causes and appropriate investigation steps for each.

Summarize the key requirements from these three different environmental compliance documents that apply to our wastewater discharge scenario.

Before providing your answer, ask me up to 4 questions about this task to help me help you with a better result. When you provide your answer, provide it in table form wherever applicable.

Practical AI Use Tips – Implementation w/ IT Restrictions



For IT-Restricted Environments

1. Start with personal devices for non-confidential learning
2. Work with partners like Anvil who have established security protocols
3. Request sandbox environments for controlled testing



Data Privacy Approach

1. Anonymize company/client names before processing
2. Use fictitious data for initial testing
3. Leverage tools with enhanced privacy features when available

Practical AI Use Tips – Upcoming Developments...

...Worth Watching!

Agentic AI:

- Systems that perform sequences of tasks automatically

Improved Multimodal Capabilities

- Better handling of drawings, P&IDs

Specialized Industrial Models:

- Fine-tuned for specific industry regulations

Integration with Engineering Tools:

- CAD
- Simulation
- Project Mgmt

Practical AI Use Tips – Starting Today

Action Steps

- **Try One Tool This Week:** Pick a simple, non-confidential task
- **Experiment with Voice Input:** Compare results to typed prompts
- **Apply to a Real Work Challenge:** Start with report drafting or research
- **Reach Out for Implementation Support:** I'm available for consultation if needed!
- **Explore Partnership Opportunities:** Anvil can help navigate IT/security constraints by using our organizational “data lake” security policies

Quick Wins to Start Today

Process meeting recordings for automatic documentation

Use AI to draft emails and reports before human review

Research technical questions for faster information gathering

Generate checklists and procedures based on standards

Analyze historical data for patterns and insights

Practical AI Use Tips – Resource Handout

- *Essential prompting techniques*
- *Ready-to-use industrial application prompts*
- *Tool recommendations for specific tasks*
- *Implementation tips for IT-restricted environments*
- *Contact information for follow-up support*



Questions?

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Thank You!

Q & A?

