integral INSIGHT FOR AN EVOLVING WORLD

Stay the Boss!

GenAI Basics for Responsible Business Impact

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NEBC: Business & The Environment Conference
Demystifying AI and Its Real-World Applications

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Ellen Hartley

- Official Technical Librarian for Integral
- Unofficial AI Whisperer for Integral
- Host of an internal podcast — *AI in Action*
- Passionate about helping my colleagues unlock AI's potential, so we can **all work smarter and drive innovation together**

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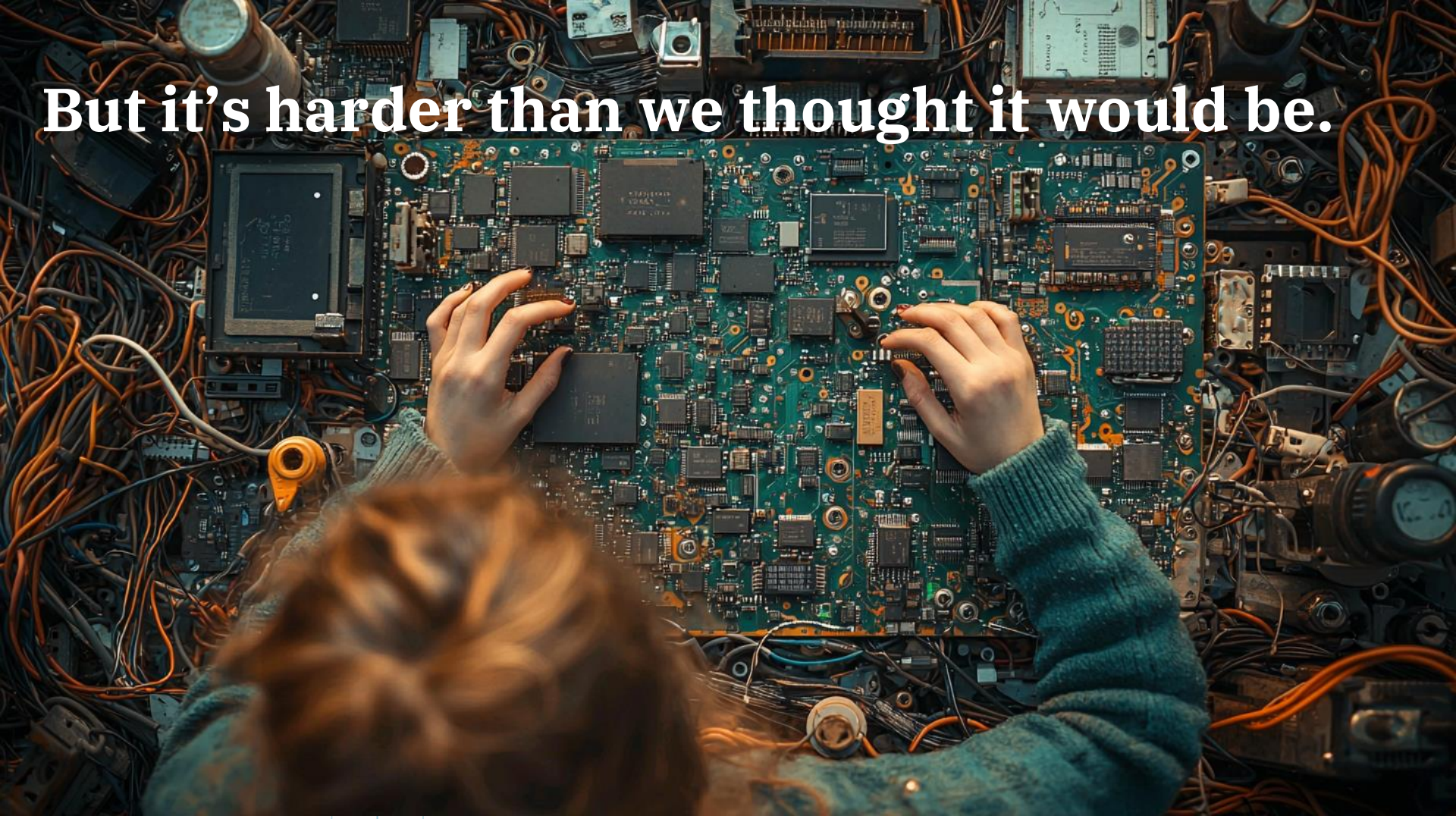
At first, AI felt like a shiny new toy.


But it’s harder than we thought it would be.

So, AI was reframed as
a tool: a shiny Swiss Army knife.

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AI Isn’t a Tool, So Our Skills Can’t Be Tool Skills

Technical Skills

- Using tools and features
- Procedural, button-based know-how

Adaptive Skills

- Framing problems clearly
- Evaluating, supervising, and correcting AI outputs

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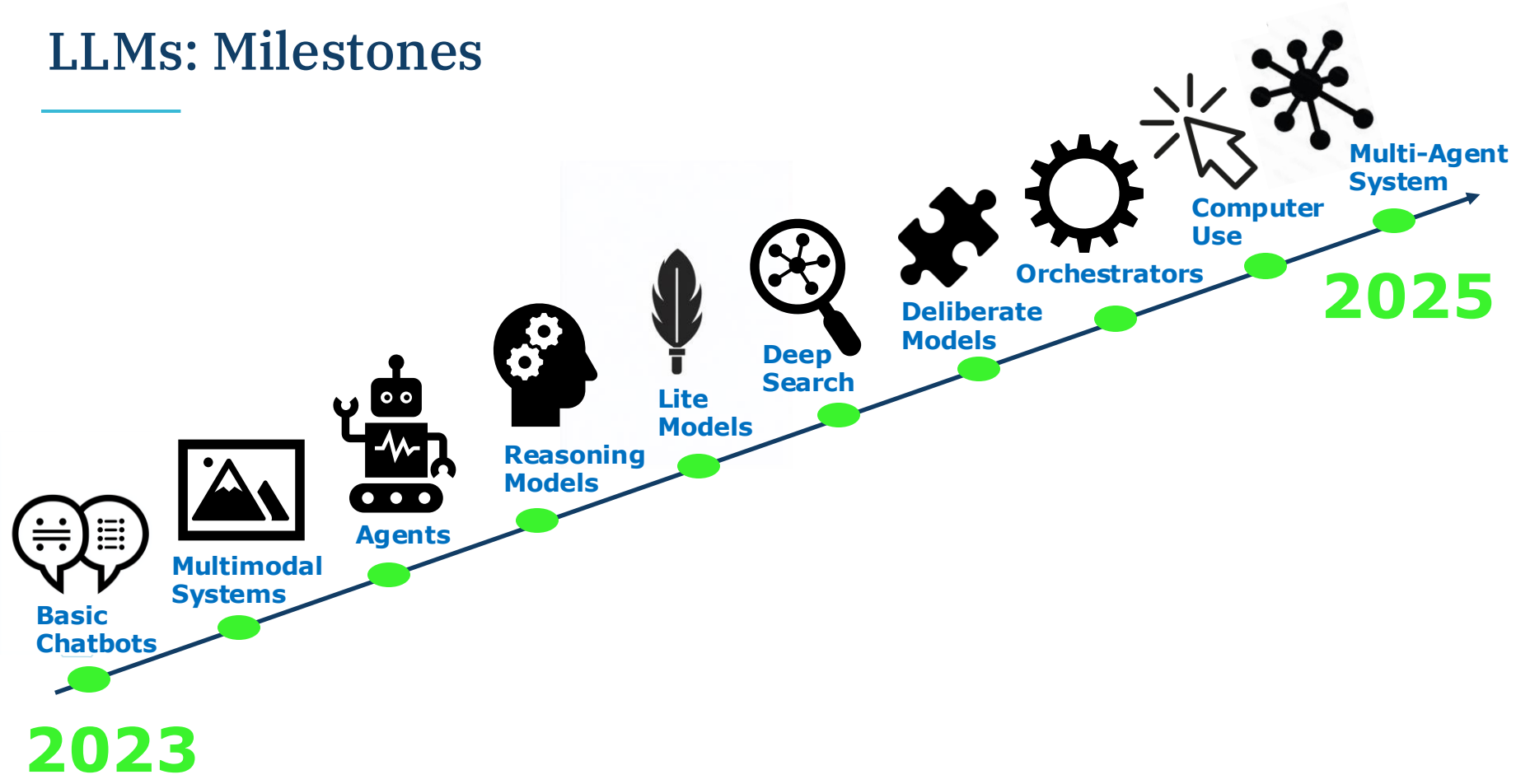
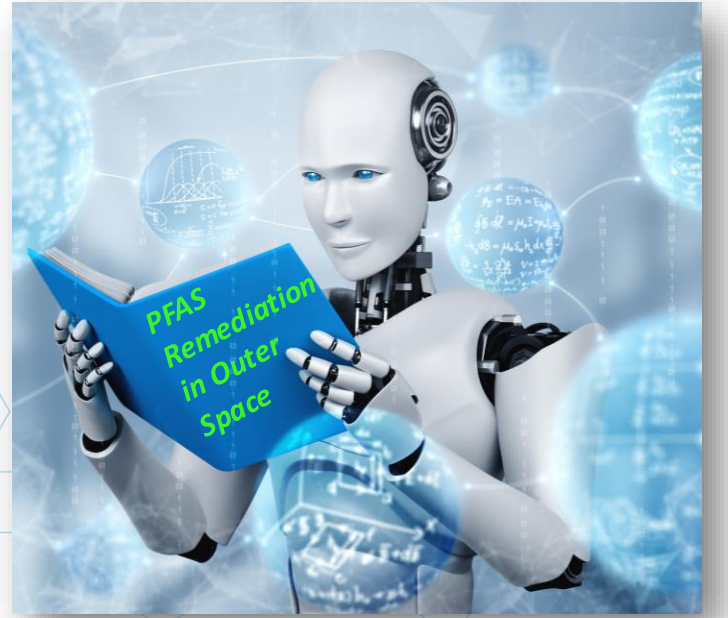
Today, it helps to think
of AI as a fast, opinionated
teammate.

LLMs: Milestones



Meet Your New Teammates!



- The Superfast Summarizer
- The Translator
- The Draft Machine
- The Pattern Spotter
- The Code Companion
- The Research Helper
- The Task Automator
- The Brainstorm Buddy

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Your New Teammates Are Impressive, But Flawed

- They Make Stuff Up
- They Get Lost Without Clear Instructions
- They Have No Memory of Real-World Consequences
- They Can’t Take Responsibility
- They Don’t Know What “Good Enough” Means
- They Don’t Know Your Data Is “Special”

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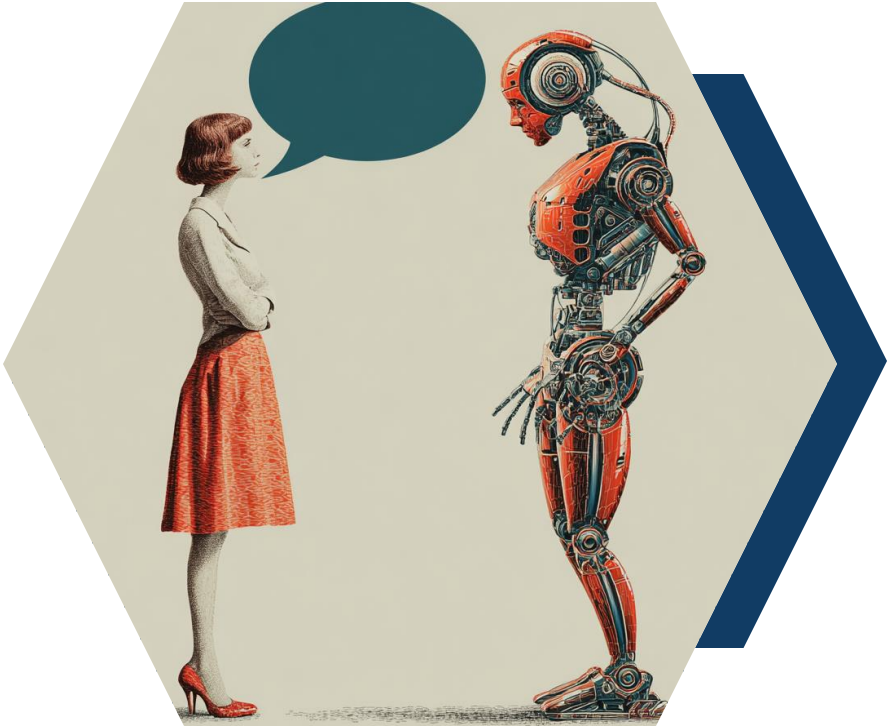
Stay the Boss!

- Master “Machine English” (A.I.M.)
  - **Actor**— Tell the AI who to be
  - **Intent** — Say what you’re trying to achieve
  - **Method** — Explain the approach or constraints



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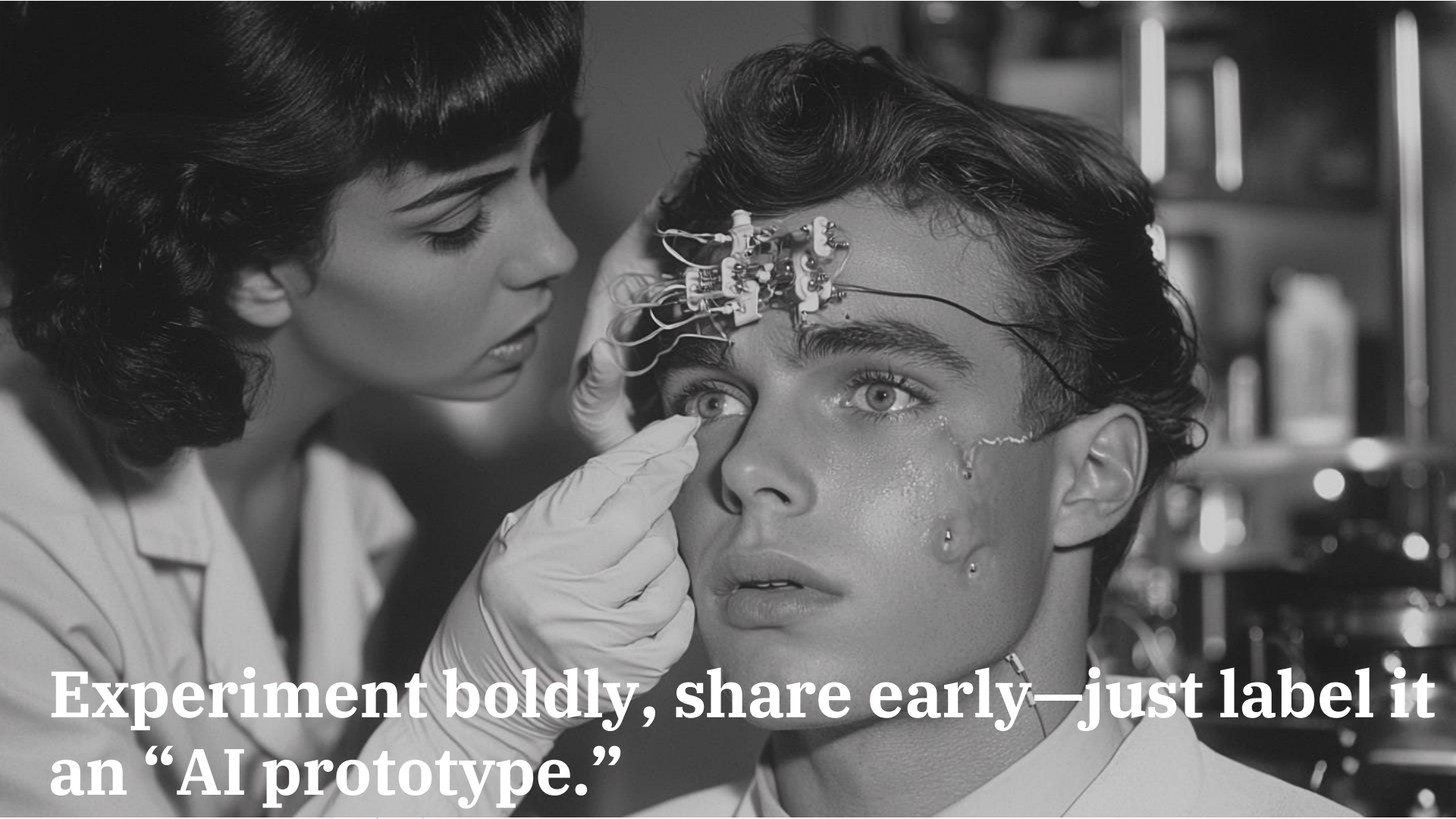
Stay the Boss!

- Improve the Output
- Choose Tools Wisely
- Check the Work
- Protect Sensitive Data
- Use AI Selectively
- Own the Decisions



Experiment boldly, share early—just label it an “AI prototype.”

Use AI in ways that uphold trust, fairness, and scientific integrity

Artificial Intelligence (AI) Ethics: Recommendations for the Geoscience Community

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2026: The Year AI Transparency Becomes Legally Binding

- Disclose **material AI use** in assessments, modeling, and reports
- **Audit** AI tools now (ChatGPT, Copilot, modeling add-ons)
- **Map** which deliverables AI touches
- **Draft** standard disclosure language
- **Train** teams on transparency practices

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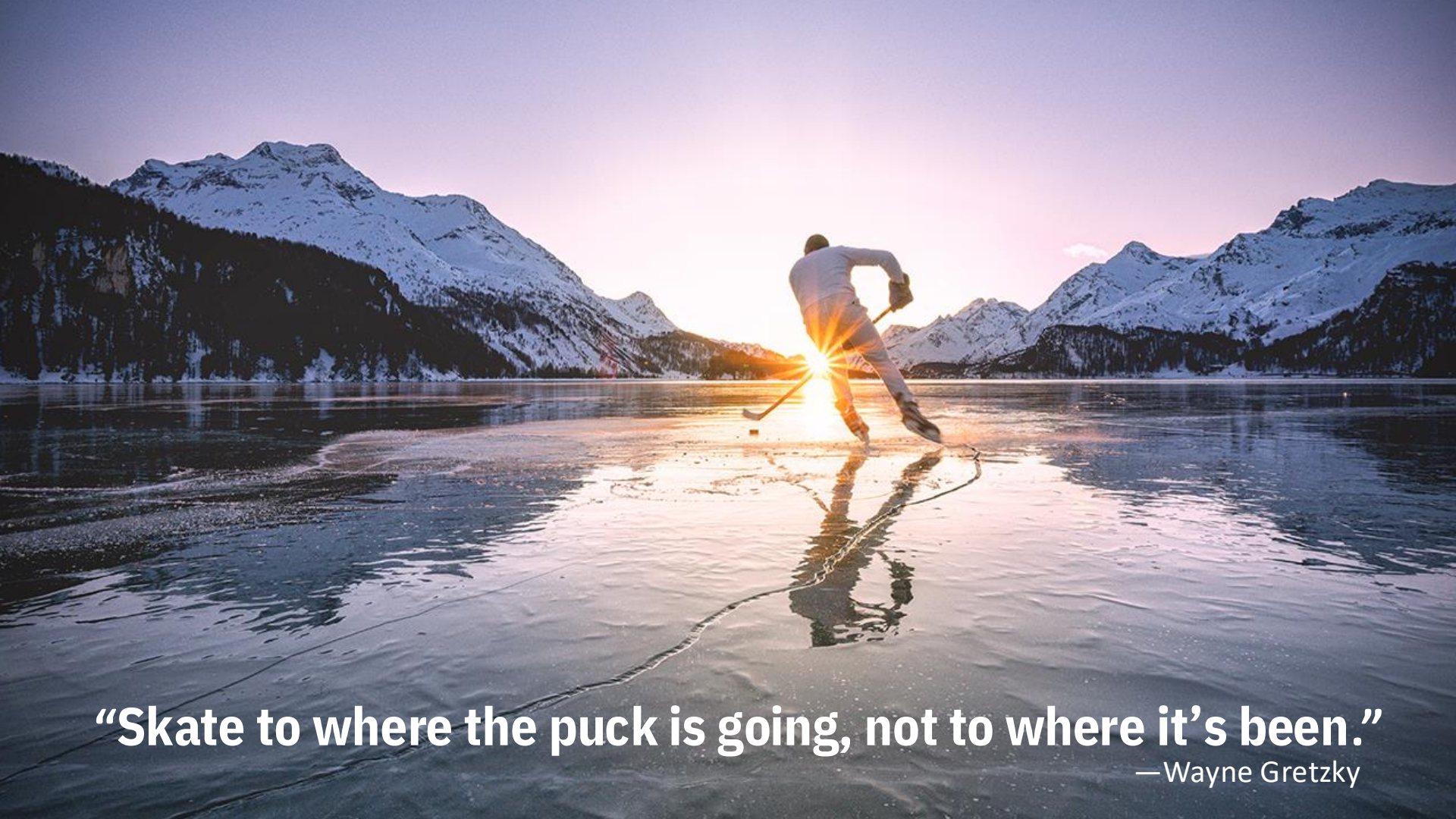
The AI “Scientists” are Coming

- **2023–24:** First agentic “AI scientist” systems emerge
- **2024:** LLMs begin generating and testing simple hypotheses
- **2025:** Claude for Life Sciences — Domain “co-scientists” plug into real lab tools
- **2026–28:** OpenAI’s Roadmap from AI “intern” (2026) to full AI “researcher”(2028)


“Skate to where the puck is going, not to where it’s been.”
—Wayne Gretzky

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