



Battle of the Bots: Navigating the Landscape of AI-Enabled Systematic Literature Review Platforms

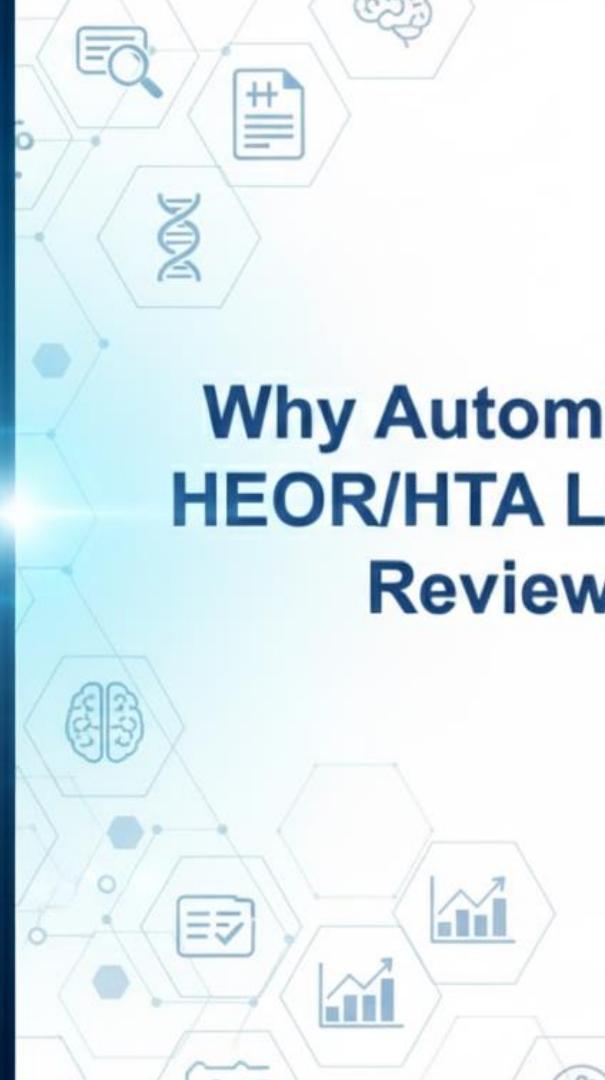
Ramiro Gilardino, MD, MSc

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Why Automation in HEOR/HTA Literature Reviews?



Why Automation in HEOR/HTA Literature Reviews?

Current State

- Growing volume and complexity of evidence
- Labor and time intensive – Resource
- Concerns around transparency and reproducibility



Opportunities

- Streamlining workflows
- Enhancing efficiencies without compromising the quality
- Enhanced rigor and transparency

My Imperative: Balancing Speed with Scientific Rigor

- Rapid Acceleration: AI tools are multiplying, leading to procurement uncertainty.
- The Core Challenge: Variability in performance beyond abstract screening.
- The Focus Today: Transparency, Methodological Rigor, and Real-World Utility.

Battle of the Bots: *Navigating the Landscape of AI-Enabled Systematic Literature Review Platforms*



Ramiro Gilardino
Discussion Lead



Angeline Dhas
MadeAi



Ranita Tarchand
Nested-Knowledge



Mark Priatel
DistillerSR

Why we are here today?



About MadeAi, Inc

(Affiliate of CapeStart, Cambridge, MA – 12+ years of excellence)

- 600+ team of PhDs, MDs, PharmDs, AI/ML & Software Engineers
- MadeAi – Developed in partnership with three global pharma
- Latest AI Technology and Modular Architecture
 - AI-Native; Multi-Agent workflow; Multi-LLM orchestration
 - Enterprise-tested and validated for accuracy
- Comprehensive Literature Review
 - Protocol, Search, Screen, Risk of Bias Assessment, Extract, Analyse, Summarize, and Report
- Literature Review to GenAI enabled Value Dossiers, JCA, MIR, and CER
- Subject Matter Expert (SME) and AI configuration services



Publications



CSL Behring

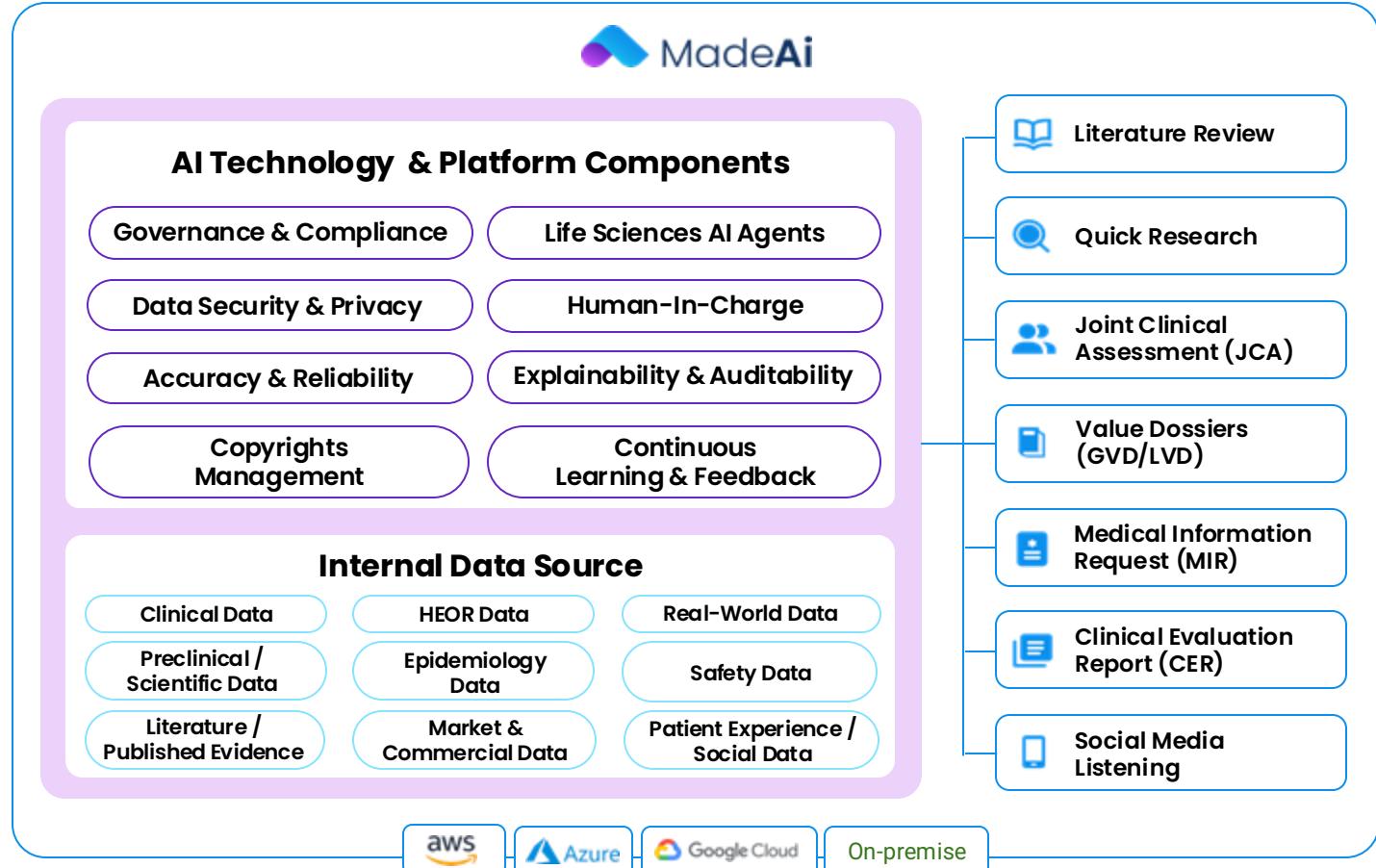
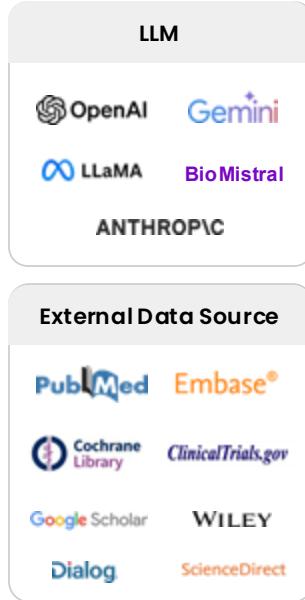
Recognitions & Certifications



Award-Winning Solutions



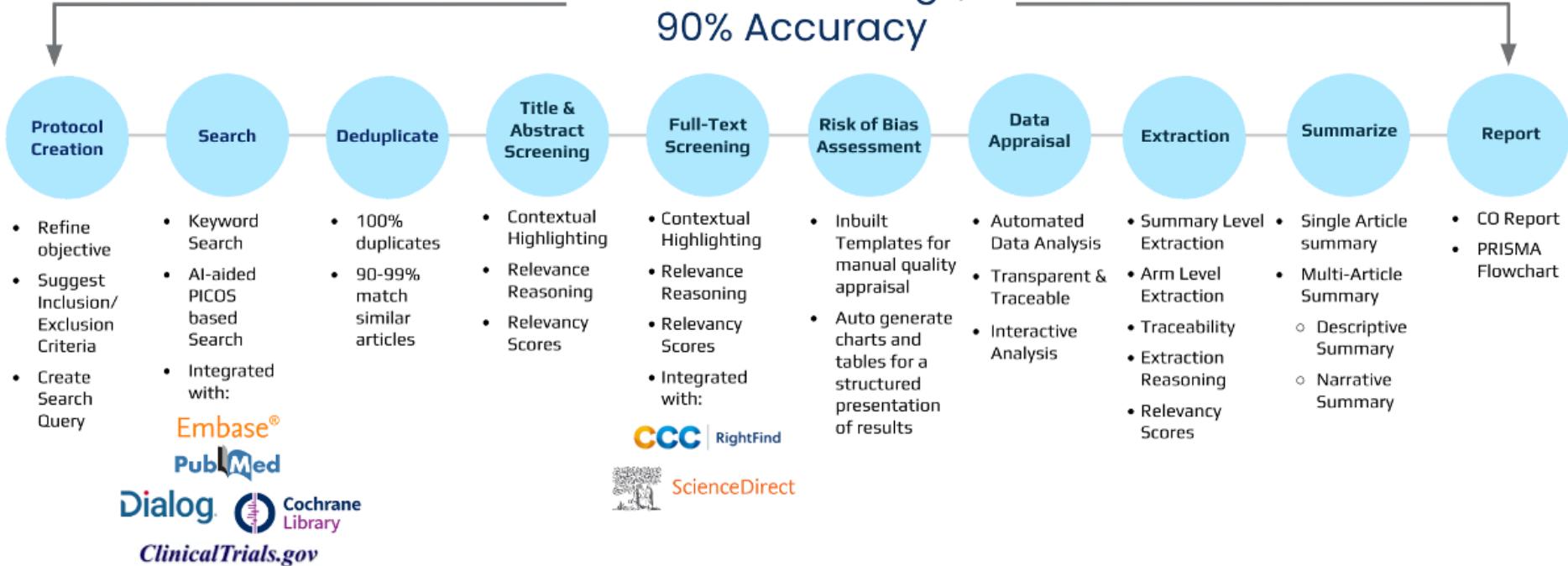
MadeAI – 60% Time Savings, 90% Accuracy



MadeAI – End-to-End Literature Review Platform



60% Time Savings,
90% Accuracy



The Standard In Evidence Synthesis

{NESTED}
KNOWLEDGE.®

Ranita Tarchand

Vice President, Scientific Strategy and Client Success

ranita.tarchand@nested-knowledge.com

History

- Founded 2018; built first **full systematic review workflow**,
- Pioneered **LLM extraction** in 2023; can support AI TLR, HTA, or other review types!
- **180+ full SLR publications!**
1,150+ citations on NK projects.



Capabilities

- Expert-curated, AI-driven:
 - **Smart Search,**
 - **LLM Screening,**
 - **Ontology-based Tagging,**
 - **Meta-analysis,**
 - **Critical Appraisal.**
- Living, shareable, interactive,
- *Coming 2026: AI Insights!*

Trust

- Accuracy >90% and time savings >85%.
- Adopted by ICER, NHS Scotland, IECS, 10 of top 15 pharma,
- *Best performance in independent testing.*

COCHRANE EVIDENCE SYNTHESIS AND METHODS

METHODS ARTICLE | Open Access | CC BY

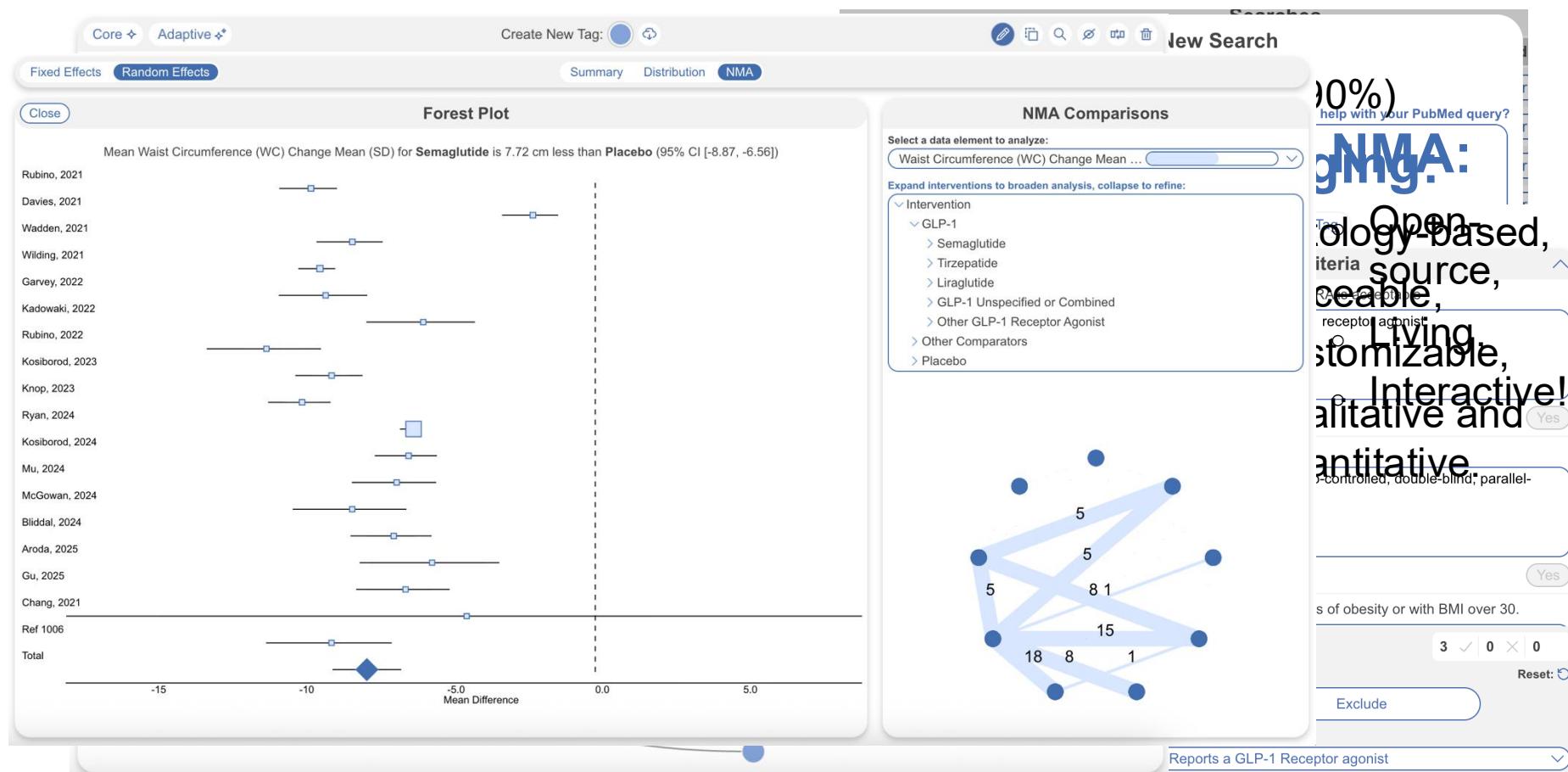
Human-in-the-Loop Artificial Intelligence System for Systematic Literature Review: Methods and Validations for the AutoLit Review Software

Kevin M. Kallmes, Jade Thurnham, Marius Sauca, Ranita Tarchand, Keith R. Kallmes, Karl J. Holub

First published: 25 October 2025 | <https://doi.org/10.1002/cesm.70059>



{Nested} Knowledge Methods:



Independent Third Party Validation & Adoption

Overview of the AI tools performance in abstracts selection

- **vs. Expert Gold Standard:**
 - All tools achieved $\geq 89\%$ accuracy in all review stages,
 - Total time savings of $> 85\%!$
 - AI *outperformed* experts in Critical Appraisal & extracting safety data.
- **Direct Comparison of Four SLR Tools (Grys et al.):**
 - {NK} is T1: only tool rated “High” capabilities in AB & FT Screening, AB & FT Extraction, translation, (*emerging: Critical Appraisal*)

Nested Knowledge AI Tool	Validation Overview	Accuracy	Time saved
Smart Search, Research Question -> Boolean Query	Recall tested against Cochrane Reviews	76%-80% Recall	95%
Criteria-based Screening, LLM traceable decisions	Accuracy against expert gold standard	94%	87%
Adaptive Smart Tags, Qualitative & Quantitative	Accuracy against expert gold standard	90%	85%
Smart Meta-analytical Extraction and NMA	Accuracy against expert gold standard	98%+ Precision	95%
Adaptive Smart Tags (on Critical Appraisal systems)	Exploratory: Accuracy vs. expert gold standard	99%	85%

Legend:

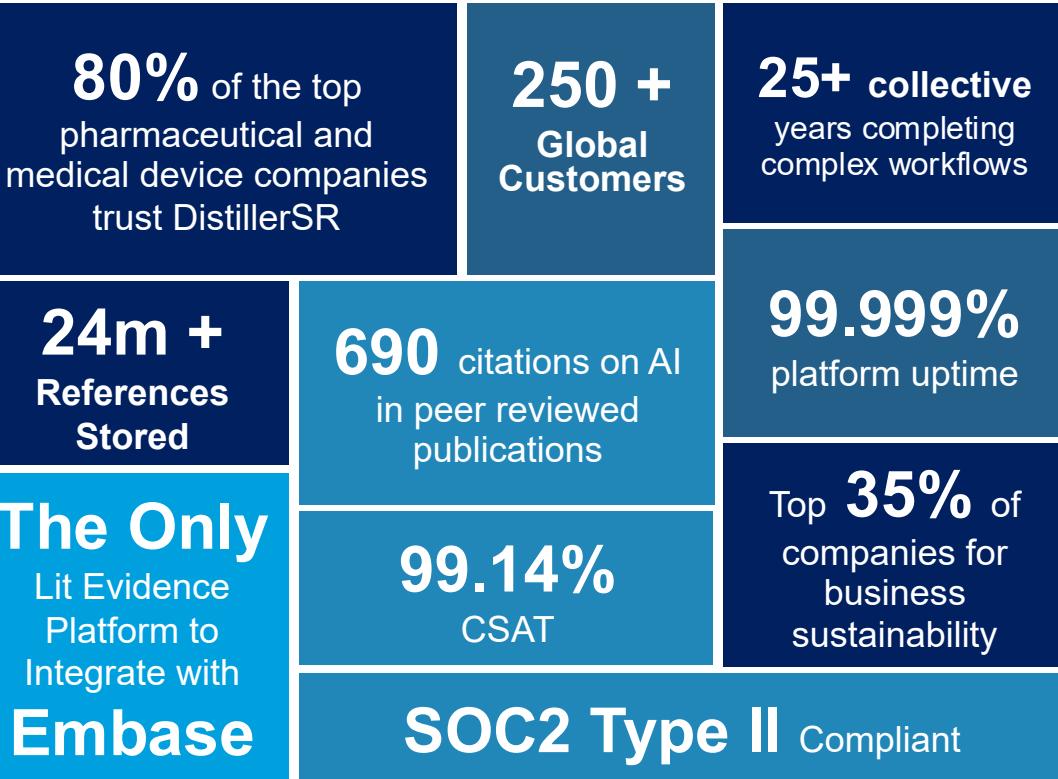
- H – High capabilities
- M – Medium capabilities
- L – Low capabilities
- N – No feature

Extraction from multiple languages	H	N	N	H
Extraction from tables	N	N	N	N
Extraction accuracy	H	N	L	L

DistillerSR Overview

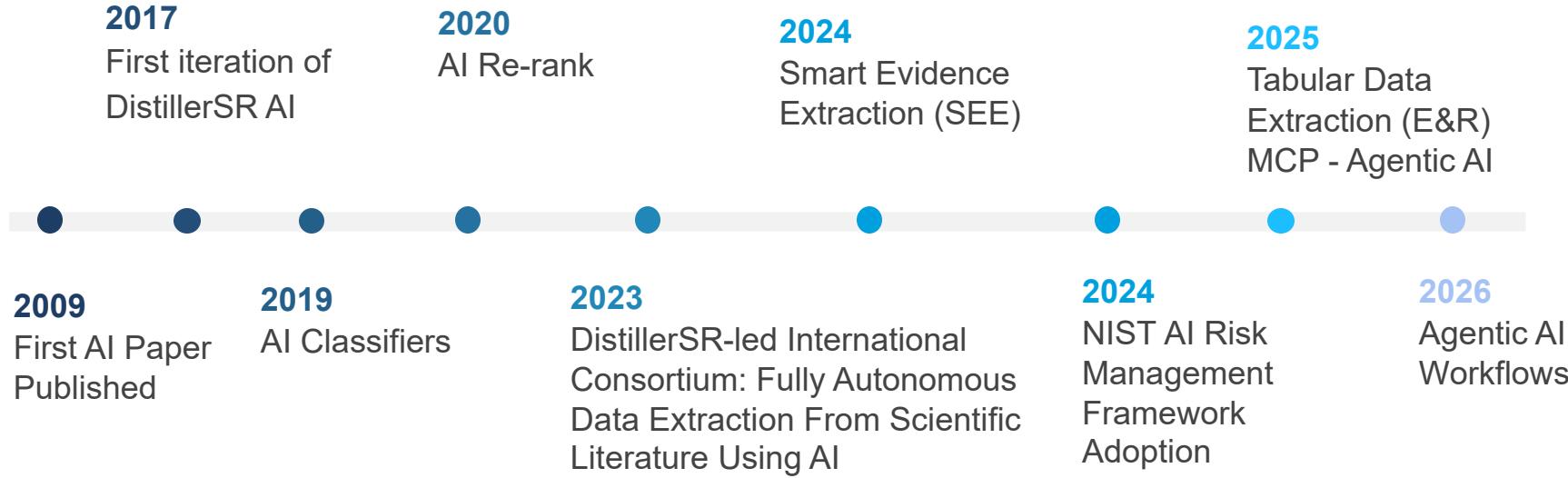
Mark Priatel, CTO at DistillerSR

DistillerSR Overview



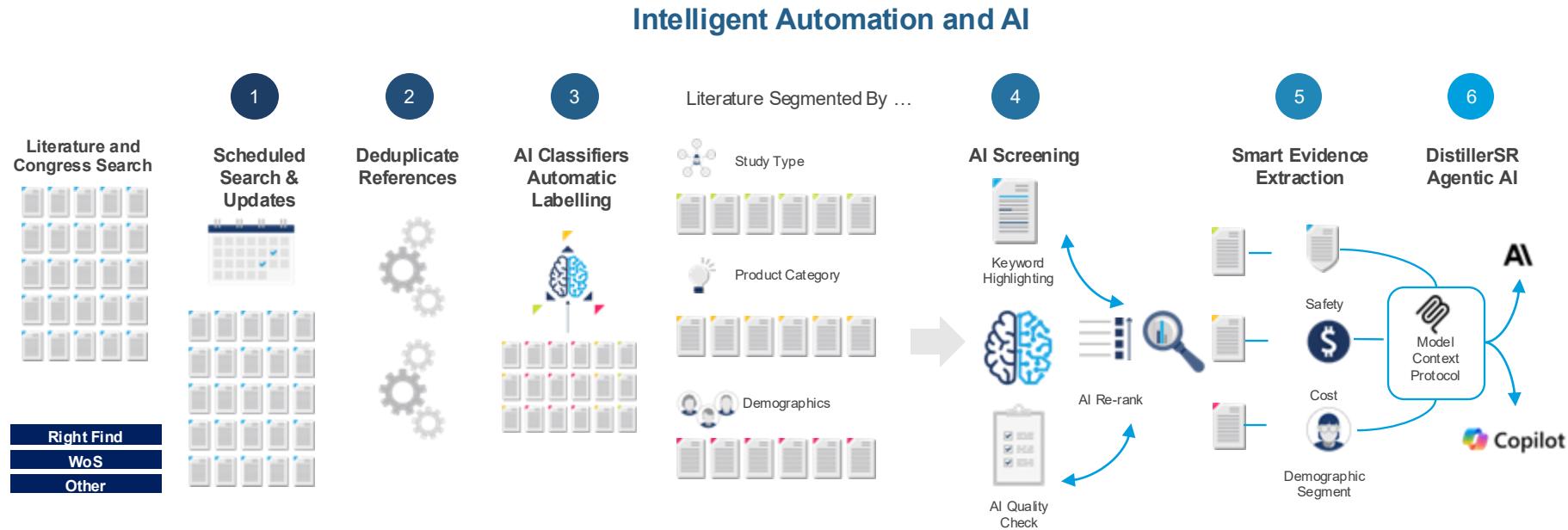
Our Market Leadership: DistillerSR's AI-enabled Platform

Employees' publications have been cited by more than 690 peer reviewed papers to date



DistillerSR's AI-enabled Evidence Management Workflow

Improving Literature Review Productivity By 70% on Average



Moderated Discussion



Round 1: Intended Use and Scope

- What types of reviews or evidence synthesis tasks are best suited for your AI-assisted tools?

Round 2: Human-AI Integration

- How is human oversight integrated into the workflow?
- What role should reviewers maintain to ensure quality and accountability?

Round 3: Validation & Accuracy

- What metrics or validation processes help ensure reliability?

Round 4: Transparency & Traceability

- How do users audit or reproduce AI outputs?

Round 5: Platform Evaluation & Adoption

- What should HEOR teams consider when selecting or evaluating a platform?
- What lessons have been learned from real-world implementations?
- Where are the current limitations or unmet needs?

Your
Questions,
Our Insights



Closing Remarks



The Future is Responsible Automation

1. AI is redefining human expertise, not replacing it.
2. The imperative is governance and traceability.
3. Innovation must strengthen trust in scientific integrity.
4. Transparency and governance will remain the north stars.

Thank You

- Further questions please reach out our panelists.

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