

# 18<sup>th</sup> EBF Open Symposium

**Tune in to Tomorrow  
Science in High Definition**

## Workshop 1: Artificial Intelligence in Bioanalysis

Connor Walker and Katja Zeiser, on behalf of the EBF

Barcelona, 18-20 November 2025

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# AI – a hot topic for drug development?

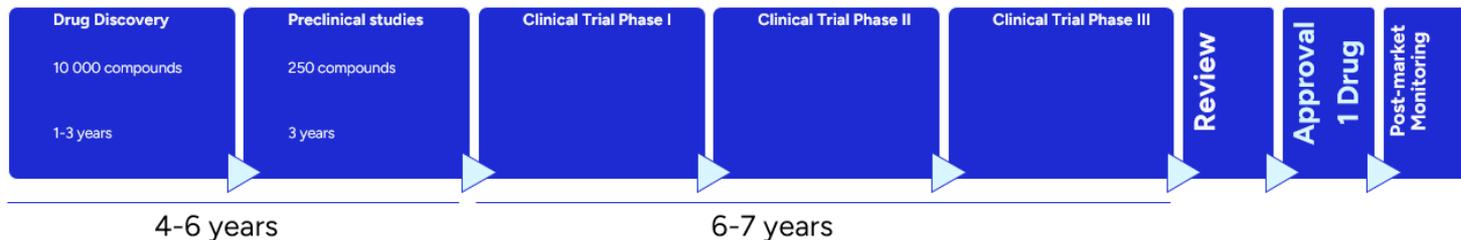
- AI will continue to have a huge impact, bringing opportunities as well as challenges in the very near future for drug development, pharma, and thus bioanalysis:
  - Demographic Changes 
  - Increased Drug Accessibility 
  - Big Data Management 
  - Complex drugs and thus bioanalysis 
- Research, investment and hype around AI is continuing at an all time high
- As with all new technologies it will at times fall short, but the potential AI carries is practically unlimited, able to help with challenges at the very core of our work

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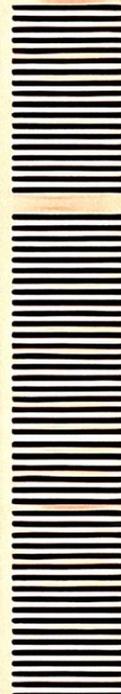
# AI – Helping the heart of the matter

- One such core obstacle we face is the time it takes to bring a drug to a patient; the patient is at the very heart of what we do



- The simple truth is: “We can’t just add more people, we must think differently!”
- For the past year, the EBF has been thinking differently with AI, to understand the best ways to harness its potential effectively and minimize the risks
- We’ve also witnessed the technology and our understanding of it rapidly shift

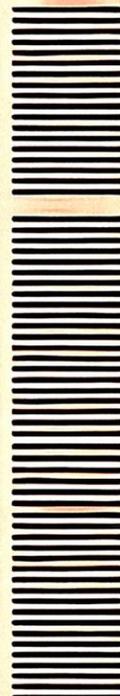
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# A year in review: 2024 Industry - Piloting & Planning

- **Widespread Experimentation:** A year defined by rapid adoption, pilots, and POCs.
- **Maturing Capability:** LLMs advanced to solve specific, high-value data problems.
- **Industry & Regulatory Action:**
  - Companies began building and experimenting with internal GenAI tools.
  - Agencies started drafting AI-specific regulations, reflection papers, and laws.
- **Overall, in 2024 AI was a specific tool, being used experimentally, for analysis and prediction. With discussions only just starting around its proper use in the industry and regulation**

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# A year in review: 2025 Industry - "Tool" to "Assistant"

- **Perception Shift:** AI now being viewed more as a dynamic, "assistant-like" system, not just a tool.
- **Key Driver:** Rise of "Agentic LLMs"—autonomous, expert-trained models.
- **Industry and Regulation continues forward:**
  - Companies focus moves from experimentation to integration across workflows.  
*\*Significant differences in the progress of integration across companies*
  - Agencies: Implementation of AI in some cases and key AI laws (e.g. EU AI Act)
- **Overall, 2025 has been about AI being used widespread as an integrated dynamic assistant, used for real-time, autonomous, action and generation. Discussions and consideration around the use and regulation of AI have also been much more widespread**

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# A year in review: 2024 EBF – The AI Kickoff

- In 2024, at the 17<sup>th</sup> EBF OS, we saw the first EBF AI session take place with a packed room.
- **Session focus:** Explored AI's huge scope, LLMs in Bioanalysis (BA), rapid adoption, and high potential.
- **Industry Vibe:** High excitement ("something big coming") but at the time, few practical use cases or alignment on the topic.
- **Outcome:** The EBF AI expert team formed shortly after to showcase AI's impact as well as get the industry talking, sharing and aligning on AI in Bioanalysis

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# A year in review: 2025 EBF – Building momentum

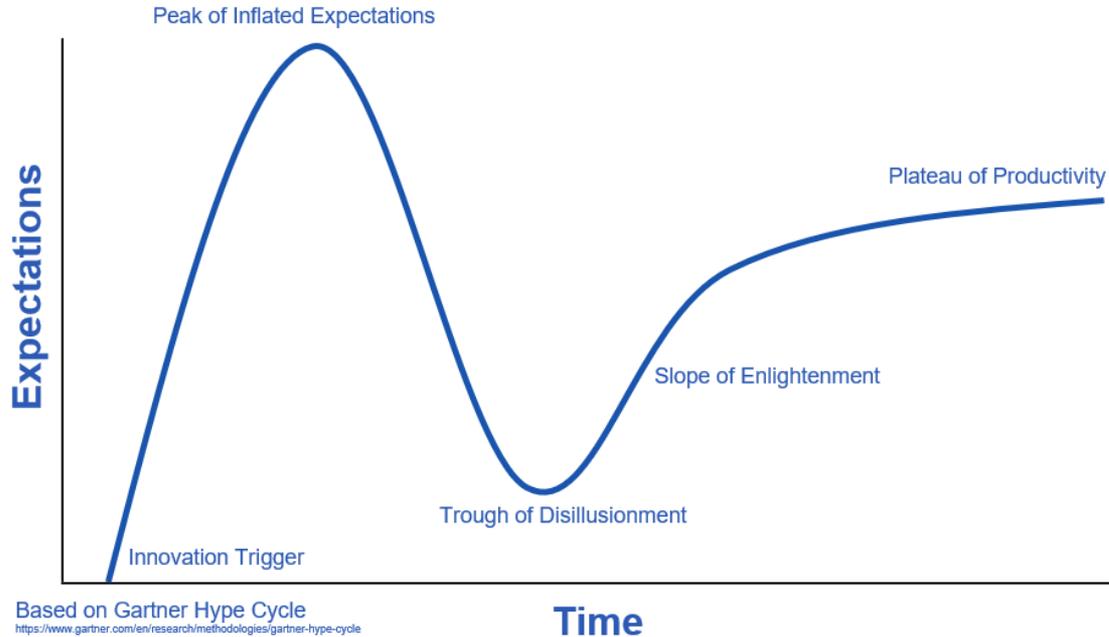
- **EBF AI Expert Team:** Met regularly to share and discuss AI use cases in Bioanalysis.
- **Wider Engagement:** Activities expanded to include a YSS AI Science Café and an AI survey (YSS & core members).
- **Spring AI Workshop (Malaga):** Previous discussions, case studies and survey data helped drive critical discussions on AI's utility, perception, and the risk of overregulation.
- **Key Outcomes:** Published the EBF's first AI paper, cautioning against overregulation and self-limitation and further aligned with the industry on AI in Bioanalysis

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# So where are we now?

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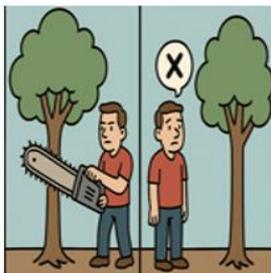
Based on Gartner Hype Cycle  
<https://www.gartner.com/en/research/methodologies/gartner-hype-cycle>

If we fail to define the role of AI in bioanalysis now, we risk having it defined for us!



# Some Food for Thought and Discussions

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Could  
vs  
Should



Assistant  
vs  
Autonomous



Creative  
vs  
Practical



Bottom-up  
vs  
Top-down



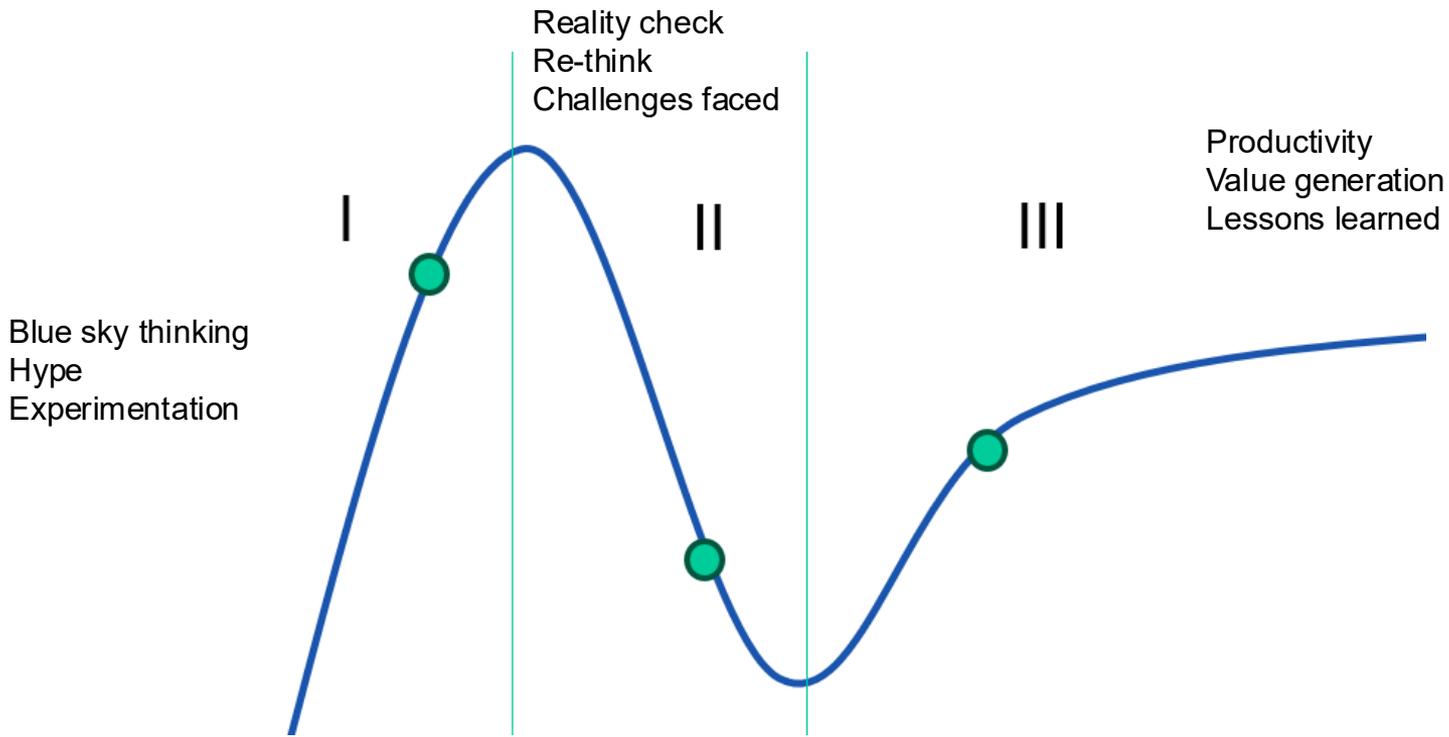
Proprietary  
vs  
Open Source



Creation  
vs  
Review



# Case Studies about using AI in Bioanalysis

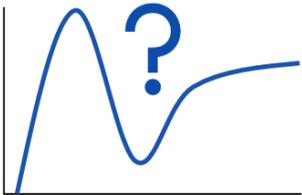
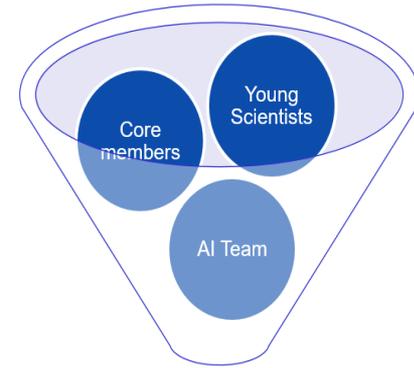


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# Summarizing AI Progress in EBF

- **AI Team** since last Open Symposium
  - AI **survey** for Core members and Young Scientists
  - AI as topic for the **YSS Science Café**
  - AI Spring **Focus Workshop** in Malaga
  - And now **today's workshop**
- 
- Reflections and thoughts based on previous discussions...





## EBF - Looking Ahead

### **AI will shape how we generate, interpret, and trust data.**

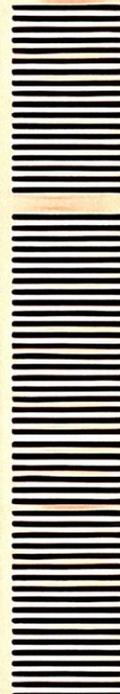
- EBF will continue the discussion on Artificial Intelligence, being one of the biggest, if not the biggest, game changers in our industry.
- AI's success will depend on how thoughtfully and responsibly we integrate it into science.

### **EBF remains committed to:**

- fostering open, independent dialogue across the community,
- defining scientific frameworks rather than letting regulation define them for us, and ensuring that innovation and integrity advance hand in hand.

**The journey continues together.**

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