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AI in Project Management -
From Hype to Intelligent Partnership

Report

by Sebastian Wieschowski

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Sebastian Wieschowski

INTRODUCTION

Digitization is advancing relentlessly, and with it, the volume of available data is growing exponentially. Project management, whether in small and medium-sized enterprises or in international corporations, is facing profound change. Artificial intelligence, especially generative AI, has evolved in a short time from a futuristic vision into a tangible driver of transformation. Already, around 21 percent of project managers actively use AI, while more than 90 percent of executives are convinced that the technology will have at least a moderate impact on the profession. AI is becoming a "co-worker," roles are shifting, and stakeholders increasingly expect decisions that are ethically sound, systemically well thought-out, and made in real time.

This article, based on presentations delivered at the 34th IPMA World Congress in Berlin from September 17 to 19, provides an overview of current developments, concrete application scenarios, ethical frameworks, and new competency requirements that arise from the integration of AI into project management. It draws on the latest studies and contributions from leading experts.

1. FUNDAMENTALS AND DEFINITIONS OF AI IN THE PROJECT CONTEXT

Artificial intelligence is commonly understood as the ability of machines to replicate human traits such as logical reasoning, planning, learning, or creativity. In the project environment, this means that systems can identify data-based patterns and apply them to tasks— increasingly also to creative, generative tasks.

Particular attention is being paid to so-called AI agent systems. These autonomous units are built on large language models and are capable of independently executing tasks, making decisions, and interacting with their environment. They are characterized by modular architectures, take on specific roles, and improve with each piece of feedback. The result is systems that not only map processes but also provide strategic support.

The range of available tools is already vast. As of early September 2025, nearly 39,000 AI tools were listed, covering more than 13,000 application areas and nearly 5,000

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professions. Specialized bots are no longer an exception in project management. Experts such as Prof. Dr. Doris Weßels emphasize that this trend will continue to accelerate. It is already becoming clear that multi-AI agents in hybrid teams will shape a new form of collaboration. Humans will take on the role of "agent boss," orchestrating the interplay between people and machines.

2. APPLICATION SCENARIOS AND ADDED VALUE OF AI

Artificial intelligence has long since become more than just a tool for efficiency. It is now a driver of data-driven insights, accelerated communication, and process scaling on a level that was previously unthinkable.

One of its central benefits lies in the automation of routine tasks. Systems take over minutes, create to-do lists, carry out quality checks, and support resource management. This significantly relieves project managers and creates space for strategic issues. At Siemens, for example, AI-powered tools were able to shorten decision-making processes that previously took weeks down to just a few days. Intelligent agents are also used in risk assessment: they gather information, verify its validity, and prepare it in a structured way.

Beyond efficiency, AI also improves decision-making quality. It can reduce cognitive biases, broaden perspectives, and ease the workload of those involved. At Siemens, digital twin simulations were used to test portfolio scenarios and visualize the impact of investment decisions. As a result, failure rates were reduced by almost one third and budgets could be allocated more effectively.

In project portfolio management, AI opens the door to reprioritizing initiatives not just annually but on a continuous basis. Market developments, geopolitical risks, or supply chain issues can be considered in real time. This turns portfolio management from a static planning process into a dynamic steering instrument.

3. ETHICAL AND REGULATORY FRAMEWORKS

With the integration of AI comes the responsibility to establish and follow clear rules and guardrails. The EU AI Act will fundamentally reshape the compliance landscape. It introduces a risk pyramid that categorizes applications according to their potential hazard—from prohibited to harmless. High-risk systems in particular must meet strict requirements in areas such as quality and risk management or documentation. Human oversight remains a central condition.

The core principles of responsible AI are clear: transparency, accountability, data protection, and human control. Experts such as Adrian Morey emphasize that accountability always lies with humans. Machines cannot take responsibility. This idea is essential to preserving the ethical foundation of decision-making in project management.

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4. COMPETENCIES AND HUMAN-AI COLLABORATION

The integration of AI changes not only processes but also roles within project management. While traditional controlling functions are losing importance, the ability to collaborate with intelligent systems is moving to the forefront.

Project managers will increasingly see themselves as navigators who interpret AI results and incorporate them into governance decisions. The Project Management Office is evolving from an administrative support function into a strategic driver that acts on the basis of data analysis and AI insights.

What is in high demand is "AI leadership"—the ability to use AI systems in a value-driven way without relinquishing decision-making authority. This goes beyond simple tool skills. It requires strategic judgment, ethical awareness, and the ability to prepare an organization culturally for the use of AI.

Despite all progress, human strengths remain irreplaceable. Creativity, empathy, intuition, and a sense of responsibility cannot be replicated by algorithms. These qualities are what make humans indispensable, even in a project world increasingly shaped by AI.

5. STRATEGIC IMPLEMENTATION AND CHALLENGES

For AI to create long-term value in project work, a clear strategy is essential. This strategy must be closely linked to the organization's priorities and from the outset take into account governance, resources, and change management. Experts such as Milla Ranta stress that the starting point is not the tools but the people. While technologies can change in a matter of weeks, it often takes years to build competencies and establish cultural change.

In practice, many AI projects fail due to classic pitfalls: lack of executive sponsors, unclear data responsibilities, or the notorious "tool-first" approach, where technology is introduced without an overarching strategy. Data quality issues add to these challenges. Systems are only as good as the information they rely on. When data is incomplete, inconsistent, or locked in silos, even the best AI will produce inadequate results.

Ethical questions must not be underestimated either. Black-box algorithms, biases in datasets, or a lack of explainability can undermine trust and carry significant regulatory risks.

6. DIFFERENT ROLES OF AI IN PROJECTS

At the 34th IPMA World Congress in Berlin, speakers characterized the role of artificial intelligence (AI) in project management not as monolithic but as multifaceted. AI was

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described as a driver of efficiency, data-driven insights, and scaling. Sources identified several key functions and types of roles that AI can take on in the project context.

6.1. EFFICIENCY DRIVER AND AUTOMATION TOOL

The most fundamental and most frequently mentioned role of AI is the automation of routine, repetitive administrative tasks.

- **Relief from Routine Tasks:** AI is seen as a "huge efficiency boost" in project and portfolio management. It is expected to ease routine tasks and streamline processes. Tasks such as manual data entry, report generation, and compliance checks can be automated.
- **Automated Workflows:** AI agent systems can be used for automatic documentation (minutes, to-do lists) and for information management (merging data from multiple sources). They optimize team resource allocation and automate quality assurance checks.
- **Reduction of Administrative Roles:** This automation is expected to decrease the need for roles such as "routine administrators" or "traditional report generators."

6.2. DECISION SUPPORT SYSTEM AND FORECASTING TOOL

AI is transforming project management by shifting decision-making from reactive and intuition-driven to proactive and data-driven.

- **Predictive Analytics and Risk Management:** AI provides predictive insights and real-time intelligence. It can proactively identify and forecast risks. One use case for AI agents is automated risk assessment, with specialized agents acting as researchers, verifiers, and summarizers.
- **Scenario Simulation:** AI makes it possible to simulate multiple outcomes and can be used for portfolio scenario analysis (for example, digital twin simulations at Siemens).
- **Objectivity and Bias Reduction:** AI can help reduce cognitive biases, lessen cognitive load and decision fatigue, and improve the overall objectivity of decisions.
- **Dynamic Prioritization:** In project portfolio management (PPM), AI enables the dynamic reprioritization of initiatives based on external factors such as market trends or geopolitical risks.

6.3. ENABLER FOR DIGITAL GOVERNANCE

AI is fundamentally changing the roles of leadership and the Project Management Office (PMO) by shifting the focus from administration to strategy.

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- **Role of the Sponsor:** The traditional role of the project sponsor as a "reactive problem solver" is evolving into that of a "proactive strategist."
- **Role of the PMO:** The traditional function of the PMO as "administrative and supportive" is transforming into a "digital governance enabler" or strategic driver. The PMO uses AI for decision support and advanced analytics by providing automated data collection, analyses, and AI-driven dashboards.
- **Shift in Leadership:** The integration of AI requires a new competency—"AI leadership." This capability is considered a key qualification for the future and means steering the use of AI systems within a value-driven and transparent framework.

6.4. COLLABORATOR AND CO-WORKER

AI is increasingly seen not only as a tool but as an integral, intelligent partner of the human project team.

- **Partnership:** The future of project management is characterized as a partnership—"neither purely human nor wholly algorithmic."
- **Second Brain:** AI is described as a "second brain," an intelligent partner capable of dynamic learning, collaboration, and evolution.
- **Agents and Co-Pilots:** AI can act as a "co-worker." In "agent" mode, ChatGPT-5 can search for best practices. An AI assistant can act as a co-pilot, delivering real-time insights and risk alerts.
- **Leadership Role in Hybrid Teams:** In the new organizational model of "frontier firms," humans and AI agents work closely together. Humans assume the new leadership role of "agent boss" in hybrid teams.
- **Limits of AI:** Despite its strengths in pattern recognition and data processing, AI cannot replace uniquely human traits such as intuition, ethical judgment, and creativity. Accountability remains a "uniquely human trait."

6.5. DIGITALIZATION TOOL IN SPECIFIC INDUSTRIES (E.G., CONSTRUCTION AND INFRASTRUCTURE)

AI plays a specific role in accelerating digital transformation and managing complex physical projects.

- **Digital Twins:** In construction, digital twin engineering technology has become a research focus. At Siemens, digital twin simulations were used for portfolio scenario analysis.
- **BIM Support:** AI algorithms can automatically recognize CAD drawings and quickly generate BIM models to support multidisciplinary collaborative planning. BIM is a key enabler of seamless data sharing.

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- **Safety and Quality:** AI is used to monitor safety on construction sites (Smart Construction Site Safety Monitoring System), detecting safety violations such as not wearing helmets with an accuracy of 95.2 percent. AI algorithms can also help detect design errors early, significantly reducing error rates.

CONCLUSION AND OUTLOOK

The integration of AI into project management is no longer a distant vision but a reality. It ranges from automating mundane routines to dynamically steering complex portfolios. However, those who wish to fully exploit its potential must do more than simply introduce tools. Critical factors include data quality, clear governance rules, and, above all, human competence in guiding and using AI responsibly.

The future of project management will not be purely human, nor will it be exclusively algorithmic. Instead, it will be about forging an intelligent partnership. Humans will remain the strategic planners, while AI becomes the engine of efficiency. Together they form a tandem that can make projects not only more efficient but also more resilient and sustainable.

Robert Stiglmayr of Siemens puts it succinctly: "AI is great and will accelerate our business – but it needs a well-designed strategy to deliver a long-term value." This very strategic balance will determine whether AI in project management becomes a flash in the pan or establishes itself as a sustainable factor for success.

About the Author

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Sebastian Wieschowski is an editor at the German Project Management Association (GPM), the national member association of the International Project Management Association (IPMA) in Germany. He is responsible for developing GPM's media relations and serves on the editorial board of PM Aktuell, a quarterly magazine distributed to more than 6,500 GPM members as well as external stakeholders.

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Born in 1985 in northern Germany, Wieschowski developed an early fascination with journalism. His formal education began with active contributions to school and local newspapers. He later completed journalistic training at the Cologne Journalism School for Politics and Economics, earned a Master Level Diploma from the School of Journalism at Eichstaett University, and undertook professional training at a regional newspaper publisher. He also holds a postgraduate M.Sc. degree in Public Health from Hannover Medical School.

In addition to his freelance journalism for national and international outlets, including major German media such as DIE ZEIT, Wieschowski has held senior communications roles since 2012. He first worked as press officer for a private university specializing in social work, then for a psychiatric hospital, and later for an industrial company. In September 2024, he joined GPM's Marketing and Public Relations department, where he focuses on strengthening the visibility and public relevance of project management through editorial formats such as storytelling.

Alongside his professional career, Sebastian Wieschowski is also active as a freelance author in his lifelong passion, numismatics. He writes for both German- and English-language specialist publications, and his work has been recognized three times by the Numismatic Literary Guild, a writers' association based in the USA.

Sebastian is a reporter at heart and enjoys discovering inspiring stories and meet people from around the world, a goal that is particularly easy to pursue in the field of project management. He can be contacted at s.wieschowski@gpm-ipma.de.