A Call to Action for Generative AI
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The introduction and rapid adoption of generative AI are shaping up to be as disruptive as the launch of the ATM, internet, smart phone and electric vehicle. Is your business prepared?

In the last six months, generative AI has been at the center of nearly every conversation — from social gatherings to the newsroom to business and investor meetings. So how did we get here? Since the creation of AI in 1956, the technology has evolved its capabilities, expanding to large-scale language models (LLMs) or what we know today as foundational AI platforms. In 2021, this new type of AI entered the market with the power to create new written, visual and auditory content, with the potential to disrupt every industry and facet of business:

There’s no time to waste.

Businesses need to ride ahead of the wave of disruption — or surf the crest of that wave. Otherwise, they risk becoming obsolete.

Every company must start today to evaluate the business case for adoption and implementation.

This piece serves as a call to action for every company to consider the challenges, financial impact and use cases of generative AI.

We hope it helps build a business case for AI investment and provides you with a snapshot of how our team can help you turbocharge your business.
When OpenAI was founded back in 2015, it was set up to be an open research lab. The company then shifted from non-profit to for-profit status, aligning to a proprietary entity. As the first innovator of foundational models on the market, OpenAI released ChatGPT in November 2022.

Since then, the major tech companies (or technology leaders) have been investing heavily to strengthen their positions in the market by creating their own competitive offerings and funding capabilities and tools to enable, retain and grow their tech ecosystems. This is where we’ve seen other foundational LLMs (Google Vertex and Meta OPT-175B), vertical LLMs (BloombergGPT and GitHub’s Copilot) and functional LLMs (WolframAlpha and Microsoft 365 Copilot) enter the market.

With progressively powerful releases, the number of ChatGPT users has skyrocketed — becoming the fastest-growing consumer application in history. As venture capital firms start investing into these enabling technologies, we can expect to see new differentiated products and systems that are woven into the operating models of many businesses. When used with complementary technologies, generative AI can have powerful implications for every enterprise. Understanding how to leverage these technologies together and then operationalizing them for your unique business is where EPAM can help.
Generative AI-Driven Industry Innovation

Most industries have value-added generative AI use cases, but some industries may be heavily disrupted. Here’s what we expect to see:

**Banking**
- Personal finance management and budgeting advice
- Customer assistance with banking inquiries/transactions
- Account management, fraud detection and risk assessment

**Insurance**
- Chatbots for handling insurance quotes, policy inquiries and claim notice of loss
- Assistance with underwriting risk assessment and claim investigation
- Guidance on product selection and loss prevention

**Communications & Media**
- Automated journalism for generating news articles or summaries
- Assistance for journalists in research and fact-checking
- Content moderation for online comments and forums

**Retail**
- Product recommendations based on user preferences
- Product selection and personalized shopping
- Automated chatbots and assistants for customer queries

**Hi-Tech**
- Extraction of insights from unstructured data sources
- Virtual assistants that can help employees automate repetitive tasks
- Improvement in machine translation by reducing errors

**Industrials**
- Predictive maintenance for industrial equipment
- Quality control to identify defects in industrial products and improve the quality
- Optimization of industrial supply chains by predicting demand and identifying bottlenecks

**Software**
- Chatbots can respond and offer personalized solutions
- Code generation based on natural language descriptions
- Analysis of user feedback and reviews to identify common themes

**Capital Markets**
- Investment research to identify investment opportunities
- Data analysis to identify sentiment for specific companies
- Trading algorithm development to respond to market conditions

**Healthcare**
- Symptom checkers and preliminary diagnosis
- Mental health support and therapy
- Administrative tasks automation

**Automotive**
- Virtual assistants for in-car infotainment systems
- Assistance with vehicle troubleshooting
- Chatbots for dealership support

**Travel**
- Chatbots for booking flights, hotels and packages
- Recommendations for travel destinations and itineraries
- Advice on local information and points of interest

**Life Sciences**
- Drug discovery and development processes
- Automation of literature reviews and data analysis in research
- Guidance on regulatory compliance and quality control

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**Potential for Generative AI Augmentation or Automation of Work Content**

- **Banking**: 67%
- **Insurance**: 62%
- **Communications & Media**: 57%
- **Retail**: 54%
- **Hi-Tech**: 39%
- **Industrials**: 37%
- **Software**: 34%
- **Capital Markets**: 34%
- **Healthcare**: 33%
- **Automotive**: 34%
- **Travel**: 30%
- **Life Sciences**: 34%

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01 The Next Big Disruption is Here: Generative AI
Quantified Results Emerging Across Industries

Generative AI technology isn’t just shaping the future — it’s creating it. From biopharma to facility design, generative AI’s impact is evident, driving efficiency, fostering innovation and redefining the boundaries of what’s possible.

**PRODUCT DEVELOPMENT**
- 45% lighter aircraft partitions developed by Airbus using Autodesk’s generative design software.

**SOFTWARE DEVELOPMENT**
- 55% increase in select task efficiency with the use of generative AI tools.

**MEDICAL TECHNOLOGY**
- 75% reduction in MRI post-processing time achieved by Subtle Medical through AI-enhanced partnerships with Siemens Healthineers and Unilabs.

**FACILITIES DESIGN**
- 90% less time spent on facility planning with Transcend’s design generator software.

**OUTBOUND MARKETING**
- 30% of outbound marketing messages projected to be AI-generated by 2025.

**FILM PRODUCTION**
- 90% of at least one major blockbuster film to be AI-generated (from text to video) by 2030.

**BIOPHARMA**
- 30% or more of new drugs to be discovered using generative AI by 2025.

**INSURANCE**
- 30X acceleration of insurance plan matching, leveraging hundreds of summary of benefits and coverage (SBC) medical attributes.
Generative AI is Enabling the Enterprise

As adoption increases, business models and competitive advantages will shift significantly as companies leverage horizontal, vertical and functional LLMs to build their own tools on top of existing capabilities in market.

### Enterprise Solutions

<table>
<thead>
<tr>
<th>Hybrid Integrations</th>
<th>Industry Solutions</th>
<th>Process Reimagined</th>
<th>Job Augmentation</th>
<th>Job Automation</th>
<th>Composable Enterprise</th>
<th>Composable Functions</th>
<th>Digital Workers</th>
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### Enablement Applications

<table>
<thead>
<tr>
<th>Horizontal: Integration &amp; App Accelerators</th>
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<tbody>
<tr>
<td>ML Services</td>
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<tr>
<td>Generative App Builders</td>
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<tr>
<td>Plug-Ins &amp; APIs</td>
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<tr>
<td>Cloud Services</td>
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<td>LLM Platform Builders</td>
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<td>Ecosystem Marketplaces</td>
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<tr>
<th>Vertical: Integration &amp; App Accelerators</th>
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<tr>
<td>Prompt Engineering &amp; Orchestration</td>
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<td>ERP, CRM, etc. Integrations</td>
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<td>Prompt Pre-Processing</td>
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<td>Embeddings &amp; APIs</td>
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<tr>
<th>Operational: LLMs</th>
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<td>Industrial Integrations</td>
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<td>IoT &amp; M2M</td>
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<td>Connected City</td>
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### Foundational Models

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<td>Google Vertex</td>
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<td>Microsoft AI</td>
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<td>AWS Bedrock</td>
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<td>Databricks</td>
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<td>OpenAI</td>
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<th>Vertical: LLMs</th>
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<td>BloombergGPT</td>
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<th>Functional: LLMs</th>
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<td>Marketing</td>
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### AI Tool Proliferation

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<td>Process Orchestration</td>
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<th>AI/ML Specialty Tools</th>
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<td>WolframAlpha</td>
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<td>Healthcare AI</td>
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<td>Cyber Tools</td>
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<td>Autonomous Vehicle AI</td>
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Challenges & Constraints of Generative AI

As new business models emerge and companies start building their own generative AI tools, limitations pertaining to data accuracy, trustworthiness, privacy and security must be addressed, which only reinforces the need to insert human judgment everywhere. EPAM can help you navigate these challenges and constraints:

**INTELLECTUAL PROPERTY RIGHTS**

At this point, foundational LLMs leverage broadly sourced training content, so generated content might infringe on copyrights, trademarks or patents. Keep in mind that generative AI solutions can generate text that closely resembles existing work or utilizes previously registered names, logos or designs.

**ACCESSIBILITY**

If your software product relies heavily on generated content, it’s essential to ensure that this content is accessible. Failing to do so could lead to legal issues under laws, such as the Americans with Disabilities Act (ADA) or other accessibility regulations.

**DATA ACCURACY & QUALITY CONCERNS**

LLMs generate responses based on the data they were trained on. This means generated information could be outdated, which may require using plugins and APIs to integrate current information to augment the underlying foundational models. Additionally, LLMs could misunderstand the full context of the query, which may yield incorrect responses. Integrating LLMs successfully is dependent on data availability, data quality, knowledge management, data access and operationalization.

**EXPORT CONTROL & RESPONSIBLE AI REGULATIONS**

Generative AI may be subject to export control regulations in some jurisdictions. Additionally, newly proposed regulations like the AI Act in the EU demand that all businesses that employ AI technologies need to assess and classify their AI system risk or pay a fine. We can expect to see more legislation on this topic in the future.

**DATA PRIVACY & SECURITY**

Since generative AI tools leverage training data or training prompts for the output, some LLMs store that training data to learn and make the model more effective. This raises data privacy concerns, particularly if the model generates content based on sensitive or personally identifiable information. GDPR and CCPA compliance is crucial.

**BIAS & DISCRIMINATION**

LLMs lack emotional intelligence, resulting in lack of empathy, limited understanding of cultural sensitivities, and moral and legal implications. These models may inadvertently generate biased or discriminatory content. Developers should be cautious about any false, misleading or defamatory content and work to address any potential biases.
Generative AI:
Impact Assessment & Transformation Strategy
When combined with other AI tools and capabilities, generative AI has the potential to revolutionize industries and change the way your business operates. But to truly gain competitive advantage, you must act now. We are uniquely positioned to help you ride this wave of disruption and maximize the benefits of AI adoption.

**HERE’S HOW EPAM CAN HELP:**

**Step 01: Rapid Enterprise Assessment**
- Our rapid assessment provides a top-down and bottom-up evaluation of the potential business impacts of generative AI by analyzing business functions, processes, jobs and tasks across your organization.
- The systematic assessment leverages EPAM’s proprietary AI assessment platform to create a holistic view of your enterprise.
- We know that data and knowledge management are critical to your future competitiveness, so we help you understand how to position your data assets to enable growth.
- We host an executive workshop to identify impactful use cases, potentially differentiating assets and operating cost and revenue implications.

**Step 02: Generative AI Strategy**
- Building on the Rapid Enterprise Assessment, we help you define your AI strategy and roadmap by leveraging our Lighthouse & Backcasting Framework to identify and prioritize AI innovations for short- and long-term impact.
- AI-enabled business strategies carry significant implications for your future operating model, and by working collaboratively and applying a market-back, technology-forward approach, we help you envision an optimized future state for your business.

Become an AI-Enabled Business with EPAM
Leveraging your enterprise data, industry and proprietary data sources, and our proprietary transformation platform, we assess the potential impact of generative AI on your business and prioritize strategic use cases to create a roadmap that will drive competitive advantage.
Your Potential Financial Impact: Operating Costs

Given the expected widespread use of generative AI, enterprises must urgently assess the potential impact on their operating model and cost structure across products, services, processes and jobs.

When considering how you can improve productivity and reduce costs, it’s important to remember:

- **Enterprise**: Executive leadership will benefit from a structured top-down and bottom-up approach to identifying the highest-value use cases
- **Integrated**: Maximizing the benefits of GPTs will most likely require integrating them into broader systems
- **Data Assets**: Each enterprise must assess their own assets to determine if they have the data quality and quantity to build a custom LLM
- **Human Intervention**: Application of GPT technologies may need human-in-the-loop to address near-term shortcomings
- **Reconfiguration**: Building GPT capabilities into operating processes will require time and reconfiguration of existing processes
- **Job Redefinition**: Role refinement will include task decomposition, augmentation, automation and recombination

This example shows how an enterprise software company that provides complex solutions for a data-intensive industry could leverage generative AI and complementary digital technologies to improve its operating cost structure.

![Illustration of Potential Future-State Operating Cost Baseline Improvement](chart.png)
Generative AI has the potential to significantly improve revenue growth, market share expansion, profitability and shareholder value.

Revenue and growth impacts will depend on a company’s unique position, but early results suggest considerable upside potential. Key levers include:

- **Decision-Making**: By enhancing data analysis, forecasting and strategic decision-making, companies can make better, faster and more informed decisions.
- **Personalization**: Personalized marketing, product recommendations and user experiences increase customer engagement and conversion rates.
- **New Products**: New AI-driven products and services could improve product-market fit and drive new revenue streams.
- **Enhanced Interactions**: Leveraging customer data on preferences, behaviors and sentiments to fine tune offers can enhance the experience.
- **Pricing & Revenue Management**: Businesses can automate pricing rules with AI and optimize customer segments and discounts.
- **Customer Service**: Faster, more accurate responses and proactive assistance can lead to higher customer satisfaction and loyalty.

This example shows how an enterprise software company that provides complex solutions for a data-intensive industry could leverage generative AI and complementary digital technologies to improve its revenue and growth.
Generative AI Workshop

To kickstart your generative AI innovation pipeline, we leverage the Rapid Enterprise Assessment to facilitate a workshop that helps your team identify unique opportunities to make an impact in the market; define what data you have, where it is stored and how it is used; and recommend a portfolio of generative AI capabilities to accelerate the operational use in processes, products and jobs.
Step 02: Strategy & Roadmap Development

Building on the Rapid Enterprise Assessment, your generative AI strategy and roadmap will enable strategic and tactical decisions that identify early no-regret actions while focusing investment on differentiating assets and capabilities.

**People & Skills**
- **Industry:** From enablement to disruption, ML and generative AI will have widespread implications across all industries.
- **People:** Effectively building and expanding generative AI capabilities will require investments in developing employee skills.

**Products & Services**
- **Offerings:** The effective use and integration of generative AI capabilities will provide significant enhancements to platforms, products and services.

**Functional & Cross-Functional Processes**
- **Business Processes:** Generative AI enables radical transformation of functional and cross-functional processes by restructuring, reordering, eliminating and combining related steps, injecting agility into core business processes.

**Operations & Infrastructure**
- **Cost & Efficiency:** There are no-regret use cases of generative AI that provide efficiency and productivity gains, impacting the overall operations and infrastructure.
- **Security:** Organizations must address a range of issues, including safeguarding privacy, addressing vulnerabilities, developing offensive and defensive strategies, and ensuring regulatory compliance.

**Operating Model**
- **Growth & Innovation:** Innovative use cases and assets enabled by generative AI contribute to differentiating capabilities, leading to the growth and transformation of your operating model.

**Partnerships & Ecosystems**
- **Partnerships:** As generative AI drives market changes, companies will need to refine and invest in critical AI partnerships, which can impact the entire partner ecosystem.
Lighthouse & Backcasting Framework

Leveraging the Rapid Enterprise Assessment, we project the potential future state and then backcast to identify critical areas of investment needed to jump-start your AI-enabled journey.

Envisioning your potential future-state operating model and the financial implications are critical to building the case for change. We employ our lighthouse approach to project how these impacts may evolve.

Then we use our backcasting approach to determine the best starting point to provide near-term wins for your business.

The backcasting framework creates a comprehensive roadmap for the technology, people and process evolution required to move toward your ideal state (the lighthouse). This approach helps you focus on the right AI initiatives, prioritize investments and gain short-term and long-term impacts.

Potential Generative AI Transformation Journey

Enhance Decision-Making
- Use cases based on initial use of generative AI

Augment Productivity
- Use cases based on refined LLM models

Drive Innovation
- Differentiating use cases based on differentiating AI assets
Competitive Differentiator Identification

To gain true value, generative AI and its complementary technologies can’t simply be used straight out of the box. You need to have the proper data management, data curation and knowledge management in place to effectively build these technologies into your processes and products to fully operationalize them. We enhance your data and AI capabilities to create differentiating assets that drive real results.

**Generative AI Available Industry Wide**

- Leveling the Playing Field
- Generative AI Application Builders, Bespoke Development & Cloud Services
- Functional LLMs
  - Productivity, Compliance, Security, etc.
- Industry-Specific LLMs
- LLM/AI/ML Orchestration
- General Purpose LLMs/Generative AI like ChatGPT-4
- Generative AI ERP & Packaged Application Enablement

**Generative AI Competitive Differentiators**

- Creating Differentiating Assets
- Generative AI-Enabled Platforms & Products
- Generative AI Processes & Services
- Generative AI Partnerships & Ecosystems
- Unique Company-Specific LLMs
- Proprietary Data Sources
- Proprietary Algorithms
- Transactional Data Sources
- Licensed Data Sources
- Licensed Algorithms
- Licensed Data Enrichment
Generative AI: Understanding the Impact
Emerging Business Models, Products & Processes

Now that we have identified how EPAM can help your business benefit from the power of AI, let’s dive deeper into how generative AI can impact the entire company.

WE’LL BREAK DOWN THE IMPACTS ON:

- Operating Models
- Business Functions
- Business Processes
- Job Functions
- Platforms, Products & Services
- Security
Generative AI and complementary AI technologies will enable new business models, potentially upend many of today’s standard business practices, and result in significant shifts in profit pools.

**New Business Models & Services**
Generative AI will enable new business models and services. For example, in creative industries, AI can generate unique music, designs and written content.

**Shifting Profit Pools**
By impacting existing value chains, generative AI can open additional revenue streams and redistribute profit toward companies that are using this technology effectively.

**AI-Driven CX & Marketing**
Generative AI can formulate highly targeted marketing strategies and personalize customer experiences, potentially boosting customer satisfaction and sales.

**Enterprise Efficiency**
AI can enhance human productivity and eliminate reliance on certain cost centers, such as reducing the need for an extensive first-line support team.

**Risk Management**
AI’s ability to identify subtle data patterns can enhance risk management, which is particularly beneficial for finance and insurance sectors.

**R&D Acceleration**
In industries like pharmaceuticals and materials science, AI can hasten the R&D process by predicting properties of potential new substances, reducing both time and cost to market.
Business Function Innovation

Estimates of potential improvements vary widely, but early trials and research suggest that the integration of generative AI and complementary technologies into core processes may result in a 25% increase in productivity across a range of tasks and activities.

Here are some of the functional areas where we could see the biggest impact:

**FINANCE**
- Automated extraction and synthesis
- Improved forecast accuracy
- Compliance and regulatory reporting
- Fraud detection and prevention
- Financial modeling and simulations

**R&D**
- Research synthesis and analysis
- Idea generation and brainstorming
- Experiment design and analysis
- Technical documentation
- Product design
- Product testing
- Training and development

**HR**
- Policy and compliance management
- HR analytics and reporting
- Onboarding and orientation
- Performance management
- Learning and development
- Compensation and benefits management

**CONSULTING SERVICES**
- Research and analysis
- Market and competitive analysis
- Proposal and report generation
- Business process optimization
- Financial modeling and analysis
- Change and communication management
- Training and development

**SUPPLY CHAIN**
- Demand forecasting
- Risk management
- Process optimization
- Inventory management
- Training
- Logistics optimization
- Supplier selection and evaluation
- Supply/demand matching

**IT & OPERATIONS**
- Intelligent chatbots and assistants
- Incident management
- Troubleshooting
- Quality processes (testing)
- Task automation and optimization
- Capacity and resource planning
- Cybersecurity
- Infrastructure and network monitoring

**SALES**
- Lead generation
- Sales content generation
- Competitive intelligence
- Sales scripts and call guides
- Meeting scheduling and notes

**MARKETING**
- Content creation
- Media posts and articles
- Segmentation and personalization
- Research

**CUSTOMER SERVICE**
- Digital-first support
- Performance monitoring
- Knowledge management
- Training and onboarding
- Multilingual support
Business Process Innovation

Generative AI will radically transform cross-functional processes by enabling companies to restructure, reorder and combine related steps — injecting an agile-like refinement to core business processes.

**Example Process: Product Development**

**Sequential New Product Development (NPD) Process**
- **Idea Generation**
  - Analyze market trends, customer feedback and competitor activities to identify opportunities and generate innovative ideas.
  - Complementary Enablers: Sentiment analysis and topic.
- **Market Research**
  - Gather and synthesize market data, helping teams make data-driven decisions and better understand their target audience.
  - Complementary Enablers: NLP and clustering algorithms.
- **Feasibility Analysis**
  - Assist technical, financial and market feasibility assessments; provide insights on potential risks and opportunities.
  - Complementary Enablers: Predictive analytics and data mining.

**Outcome-Based NPD Process**

- **Idea Generation**
- **Market Research**
- **Feasibility Analysis**

**Process Innovation**
- Focus on Outcomes
- Increase Concurrency
- Iterate Rapidly
- Validate Continuously

**Benefits**
- Time-to-Market
- Time-to-Value
- Quality
- Productivity
- Agility and Responsiveness

**Concept Development**
- Rapid Prototyping
- Prototype Iterations

**Start the prototyping process as soon as possible to quickly create functional prototypes and gather feedback from stakeholders.**

Concurrently generate innovative product ideas, perform market research by analyzing industry trends, customer needs and competitor offerings, and evaluate feasibility.

Streamline the iterations between analysis and concept development.
**Job Function Innovation**

There is no one-size-fits-all approach to AI enablement. Each job is a bundle of tasks, and it will be rare to find any occupation in which an AI tool could do all of the work. To enhance productivity, you need to determine the best AI tools, or combination of tools, for that particular task.

### Examples of Potential AI Tools

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<tr>
<th>Tool</th>
<th>Productivity Gain</th>
<th>Cost Reduction</th>
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<tbody>
<tr>
<td>LLM GPT-4</td>
<td>20-50%</td>
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<td>Alpha Fold</td>
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<td>RPA</td>
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<tr>
<td>Computer Vision &amp; Speech Recognition</td>
<td>20-50%</td>
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### Job — Today

**Job Decomposition**
- Potential Digital Tasks
- Non-Digital Tasks

**Task Categorization**
- Routine vs. Non-Routine
- Manual vs. Cognitive
- Perception & Manipulation
- Creative Intelligence
- Social Intelligence

**AI Application**
- Augmentation
- Automation
- Innovation

**Job Re-Combination**
- Task Consolidation
- Job Redefinition
- Resource Enablement
- Resource Re-Training

### Job — Tomorrow

- Job Monitoring
- Refinement

Here are some ways we could see value in leveraging generative AI:

#### Time

Jobs contain sets of tasks, many of which are done sequentially; time savings from AI could include the actual task time and the preparation and transition times associated with a set of tasks.

#### Optimization

Complex cognitive task optimization will progress from addressing basic hygiene (like redundancy) to augmentation to automation to fundamental innovation (outcomes, combinations).

#### Generative AI

GPT and complementary technologies are more impactful to occupations with higher wages and knowledge demands.

#### ML Tools

Basic analytical, ML and robotic process automation (RPA) technologies are more impactful to occupations with lower wages and routine tasks.

#### Impact Accelerators

The potential impact of the use of AI enablement is typically significantly accelerated by the combination and integration of complementary AI technologies.

#### Cost Tradeoffs

Current versus AI-enabled job execution must consider current cost versus AI execution costs.
Integrating generative AI capabilities effectively can provide significant enhancements to your platforms, products and services:

**Content Generation & Training**
- Product documentation
- Customized learning materials
- Interactive simulations
- Assessment generation
- Blog post generation
- Social media management
- Email marketing campaigns
- Content summarization

**Code Generation & Optimization**
- Boilerplate code generation
- Code refactoring
- Automated generation and testing

**User Interface (UI) & User Experience (UX) Design**
- UI component generation
- UX evaluation
- Wireframe generation

**Platform, Product & Service Integration**
- LLM plug-ins
- LLM APIs
- Multi-LLM integration

**Personalization & Recommendations**
- Content recommendations
- Product recommendations
- Dynamic UI personalization

**Data Analysis & Visualization**
- Automated data analysis
- Predictive analytics
- Data visualization
- Data enrichment

**Natural Language Processing & Chatbots**
- Conversational AI
- Sentiment analysis
- Language translation
- Product and service guides

**EXAMPLES**

1. Code Generation & Optimization
   - Boilerplate code generation
   - Code refactoring
   - Automated generation and testing

2. User Interface (UI) & User Experience (UX) Design
   - UI component generation
   - UX evaluation
   - Wireframe generation

3. Platform, Product & Service Integration
   - LLM plug-ins
   - LLM APIs
   - Multi-LLM integration

4. Personalization & Recommendations
   - Content recommendations
   - Product recommendations
   - Dynamic UI personalization

5. Natural Language Processing & Chatbots
   - Conversational AI
   - Sentiment analysis
   - Language translation
   - Product and service guides

6. Data Analysis & Visualization
   - Automated data analysis
   - Predictive analytics
   - Data visualization
   - Data enrichment

7. Content Generation, Training & Education
   - Product documentation
   - Customized learning materials
   - Interactive simulations
   - Assessment generation
   - Blog post generation
   - Social media management
   - Email marketing campaigns
   - Content summarization
Security Innovation

There are many defense innovations driven by AI/ML technologies to enhance enterprise security. The following are defense tactics to ensure a strong and continuous security posture.

- **Data, Privacy & Compliance**
  A function that provides administrative, technical and physical security defenses.
  - Data classification and inventory
  - Data ingestion controls and policies
  - Automated policy and SOP continuous improvements
  - Non-compliance discovery and remediation

- **Vulnerability Management**
  The process of continuously identifying, evaluating, treating and reporting vulnerabilities.
  - ML-driven vulnerability scanning
  - Remediation plan with exploitation trend and risk awareness
  - Endpoint dynamic mutations
  - Critical asset detection

- **Runtime Protection**
  A security measure that uses runtime instrumentation to detect and block attacks.
  - Adaptive enclaves
  - Contextual static and dynamic analysis
  - Intelligent dependency routing
  - Library risk scoring
  - Smart metrics, logging and sensors

- **Security Operations Center & Detection/Response**
  A function that protects a company against cyber threats with 24/7 monitoring.
  - Extended detection and response (XRD)
  - Intelligent breach and attack simulation and automated remediation
  - Efficient digital forensics and incident response (DFIR) and threat hunting

- **Application Security**
  A process to develop, add and test security features within applications.
  - Contextual static and dynamic analysis
  - Asset and dependencies risk scoring
  - Runtime self-protection
  - Dynamic threat modeling
  - Automated and self-tuning systems

- **Smart & Secure Software Development Life Cycle (S3DLC)**
  A systematic, multi-step process to design, develop and test secure, high-quality software.
  - Security copiloting and coaching
  - Secure scaffolding and refactoring
  - Automated immutable pipelines
  - Codifying company engineering culture
  - Impact vs. fixes optimization

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**ZERO TRUST, REALIZED**

Zero trust architecture (ZTA) — a security framework that requires all users to be authenticated, authorized and continuously validated — is hard to implement. The above innovations will not only make ZTA finally real in practice, but it will also make ZTA scalable and sustainable in the cloud.
Your Generative AI Partner from Strategy to Execution

EPAM is uniquely positioned to help you navigate the challenges and opportunities associated with AI adoption.

**AI BUSINESS & TECHNOLOGY STRATEGY**
- Integrated Business & Tech Strategy
- M&A Services & Portfolio Optimization
- AI/ML Business Case Development

**AI DATA PRODUCT DELIVERY & OPTIMIZATION**
- POC & End-to-End AI/ML Productization
- Generative AI-Enabled Development
- AI/ML Model Deployment & Ops

**AI ASSESSMENT & TRANSFORMATION PLATFORM**
- Generative AI Rapid Assessment Platform
- Curated AI/ML Use Case Library
- Collaboration & Execution Management Platform

**AI ACCELERATORS**
- 40+ Production-Ready Reusable Components, Software Libraries & Modules
- 200+ Vertical- and Functional-Specific Data Product Templates

**AI & DATA PLATFORM EXPERTISE**
- Very Large-Scale Language Model Expertise
- Cloud-First AI Architecture Expertise
- Data Cloud Migration Expertise

**AI ACCELERATORS**
- Global Partnerships with all Major Hyperscalers
- Co-Developing Key AI/ML Platforms
- Leading Open Source Contributor

**AI PARTNERSHIPS & ECOSYSTEM**
- Operating in 50+ Countries
- 100+ Development Centers Globally
- Deep AI & Data Expertise

**AI EXPERTISE GLOBALLY**
- Experts in Operationalizing AI/ML
- AI-Enabled Product & Service Development
- Leading Experts in Adaptive Enterprises
About EPAM

Since 1993, EPAM Systems, Inc. (NYSE: EPAM) has leveraged its advanced software engineering heritage to become the foremost global digital transformation services provider – leading the industry in digital and physical product development and digital platform engineering services.

Through its innovative strategy; integrated advisory, consulting, and design capabilities; and unique ‘Engineering DNA,’ EPAM’s globally deployed hybrid teams help make the future real for clients and communities around the world by powering better enterprise, education and health platforms that connect people, optimize experiences, and improve people’s lives. In 2021, EPAM was added to the S&P 500 and included among the list of Forbes Global 2000 companies.

Selected by Newsweek as a 2021 and 2022 Most Loved Workplace, EPAM’s global multi-disciplinary teams serve customers in more than 50 countries across six continents. As a recognized leader, EPAM is listed among the top 15 companies in Information Technology Services on the Fortune 1000 and ranked four times as the top IT services company on Fortune’s 100 Fastest Growing Companies list. EPAM is also listed among Ad Age’s top 25 World’s Largest Agency Companies for three consecutive years, and Consulting Magazine named EPAM Continuum a top 20 Fastest Growing Firm.

Learn more at EPAM.com and follow EPAM on Twitter and LinkedIn.

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References


3 EPAM’s Advisory Practice Analysis


