

softserve

MANUFACTURING INNOVATION WITH GENERATIVE AI

Prepared by SoftServe • August 2023



Renewable Energy project

Solar Panels

Wind Turbine and Solar Panels

Capacity 10.01 kWp
Efficiency 28%

THE FUTURE OF MANUFACTURING WITH GENERATIVE AI

Political, economic, environmental, and demographic trends challenge manufacturers to rethink and adjust their operations and strategies. The COVID-19 pandemic is a recent example in which supply chains and staff management became a top priority for decision-makers. The rapid developments in Generative AI in combination with prior technological developments like industrial IoT or digital twins offer new ways to transform manufacturing organizations.

KEY CHALLENGES

ECONOMIC OUTLOOK

- Inflation forces companies to adjust their pricing, production costs, and wages to stay competitive.
- Rising interest rates slow down investments and may restrict growth.
- Trade disputes and political circumstances make it hard to operate globally.

SUSTAINABILITY AND ESG

- Manufacturing companies are dedicated to reducing their environmental impact.
- Traceability of carbon emissions throughout the value chain.
- Upcoming ESG reporting forces companies to invest in the appropriate solutions and processes.
- Customer behavior is changing, favoring products with a minimized environmental footprint.

SUPPLY CHAIN

- Supply chains are being restructured to be more resilient.
- Post pandemic growth is challenged by ongoing material shortages and rising prices.
- Insight into the supply chain's carbon footprint to comply with ESG regulations.
- Supplier relations and selections change in prioritizing stronger and more local connections.

WORKFORCE

- Knowledge attrition keeps evolving and is accelerated due to an aging workforce.
- Shortage of skilled workers across value chain and business functions.
- Changing expectations towards employers in terms of wages and working conditions.

TECHNOLOGY

- Industry 4.0 keeps maturing to increase productivity and optimize processes.
- Investments into existing digital initiatives around IoT but also emerging technologies around digital twins, industrial metaverse, and Generative AI.

GENERATIVE AI BUSINESS BENEFITS

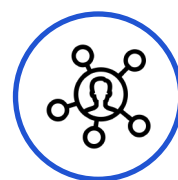
Generative AI can lift value across the entire manufacturing business chain.



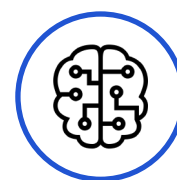
Automate tasks and scale processes



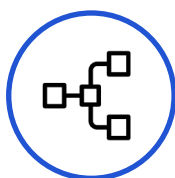
Reduce costs and increase efficiency



Enhance user experience and personalization



Accelerate innovation and AI adoption



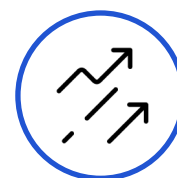
Optimize internal processes



Smart decision-making



Improve customer satisfaction



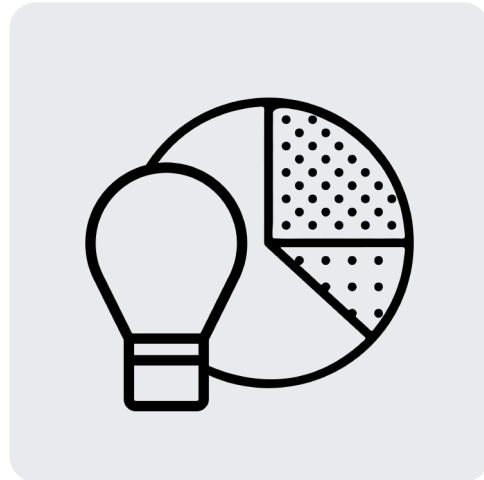
Increase competitive advantage

MOST PROMISING GENERATIVE AI USE CASES



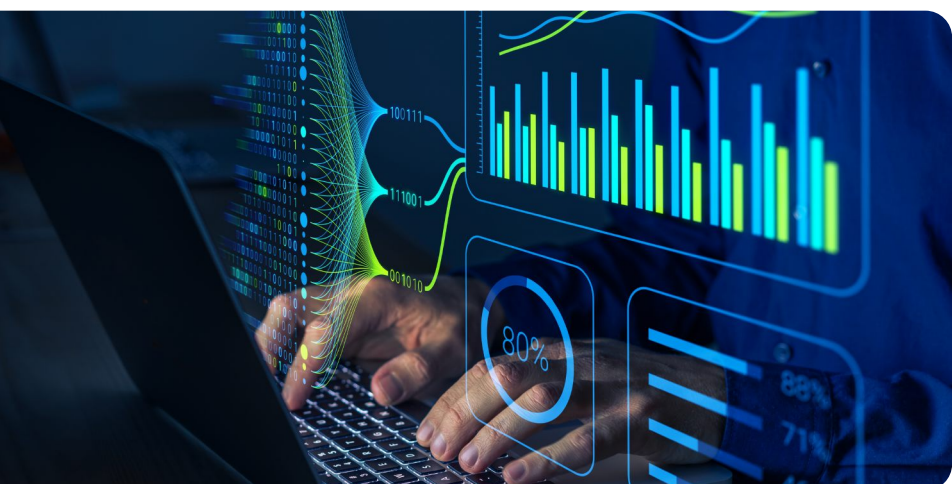
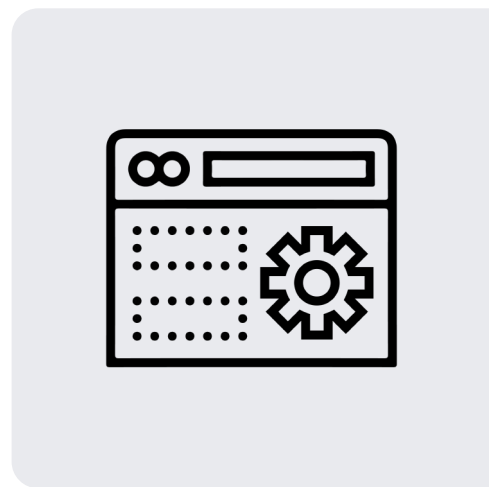
PRODUCT DEVELOPMENT AND ENGINEERING

Accelerate tech product development in design and optimize engineering with goal-oriented components, reducing development and testing iterations for increased efficiency.



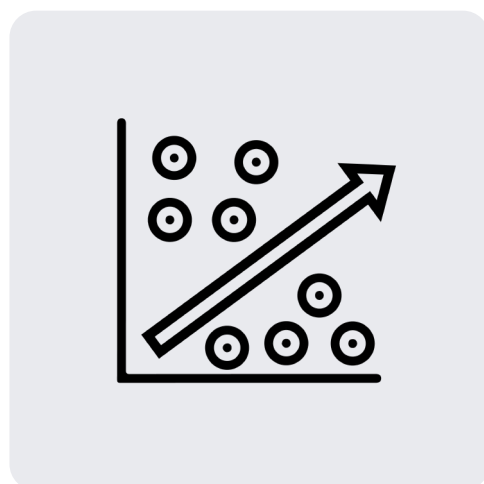
ENTERPRISE SEARCH AND DATA INSIGHTS

Structured and unstructured data sources can be used to improve the knowledge management within the company. It can interpret data that enables employees to operate more effectively by providing documentations, best practices, process insights or technical expertise.



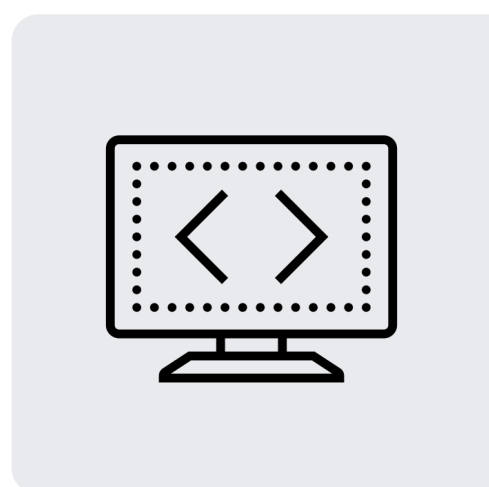
SUPPLY CHAIN OPTIMIZATION

By leveraging historical and current data alongside forecasts and projections, analysis and recommendations are generated to increase supply chain efficiency. Inventory and schedules can be adapted accordingly to meet demands and better respond to external factors.



PROCESS OPTIMIZATION

Improve operations by analyzing data across the production, identify areas of optimizations, and retrieve recommendations on appropriate measures. By continuous monitoring, actions can be adapted to the given circumstances. This can affect the minimized usage of resources and optimized utilization of the shopfloor.



GUIDED MACHINE MAINTENANCE

By analyzing data, predictive analytics from generative AI can identify anomalies and patterns that indicate potential failures or maintenance needs. Staff can then be subsequently directed to the right handbooks and procedures ensuring that maintenance is conducted at the right time in the right way.

GET STARTED ON YOUR GENERATIVE AI JOURNEY

LET SOFTSERVE ACCELERATE YOUR GENERATIVE AI JOURNEY WITH 3 OFFERINGS

Don't be left behind in the race to harness the disruptive innovation of Generative AI. SoftServe defined [Generative AI adoption patterns](#) that are designed to help you navigate the complexities of this emerging technology. We will help you select an appropriate adoption pattern or its combinations for building tailored solutions to meet your enterprise's unique needs. Expedite your journey towards a new way of productivity and creativity with SoftServe Generative AI offerings, positioning your business as a leader in the industry:



AI DISCOVERY

*From Interest to Discovery:
Generative AI Ecosystem and
Implications for My Business*

- ✓ Use Cases & Business Impact Priorities
- ✓ Data Quality and Availability
- ✓ Technology Trade-offs and Architecture
- ✓ Technical Feasibility with POC



AI LAUNCHPAD

*Launchpad to Innovation:
Evidence-Based Exploration
and Deployment*

- ✓ Generative AI Lab
- ✓ AI Launchpad Program for rapid experimentation
- ✓ Value Stream Mapping & Use Cases
- ✓ POC/POV Pipeline



AI ADOPTION

*From Insight to Impact:
Rapid Scaling and Adoption
in My Organization*

- ✓ Generative AI Adoption Roadmap
- ✓ Technology Strategy
- ✓ Data Strategy
- ✓ Change Management and AI Governance

- ✓ Generative AI Solution Development
- ✓ Generative AI in Product and Engineering Teams

It's urgent and the time to start is now. But you know that Generative AI is not a deployment sprint. With SoftServe's experts to address your unique enterprise needs and guide you through possible adoption options, you will move past the hype and harness its benefits for your enterprise.

Learn more about SoftServe's Generative AI Lab, POVs, offerings, and partners. Visit us at our [Generative AI website page](#).

YOUR PARTNER FOR THE FUTURE

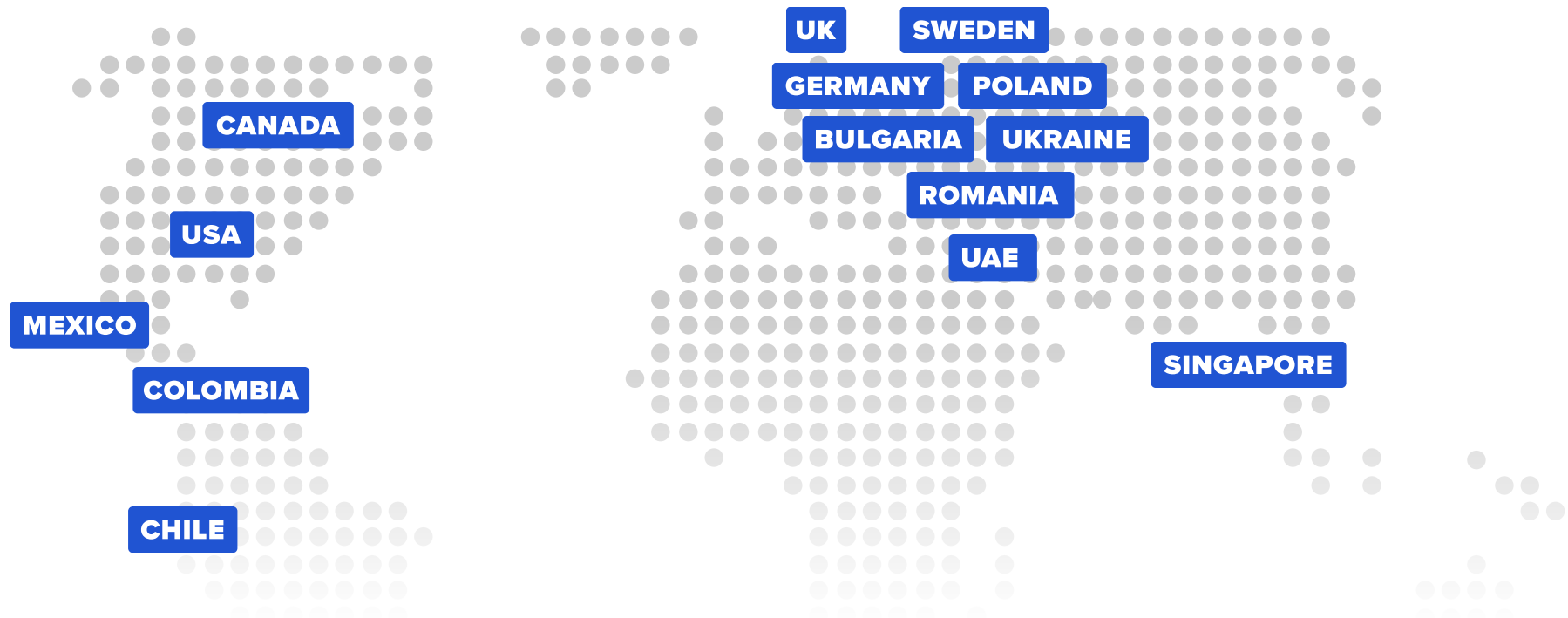
DIGITAL ADVISORS, SOFTWARE INNOVATORS, AND EXPERIENCE BUILDERS

30 Years of Experience

98% Client Retention

14 Countries of Operations

58 Offices Worldwide



GOOGLE CLOUD EXPERTISE

As a Google Cloud Partner and the winner of the 2020 Google Cloud Partner of the Year Award for Machine Learning, SoftServe is committed to helping customers solve their most pressing business challenges. SoftServe utilizes Google Cloud's AI ecosystem, including tools such as Google Cloud Vertex AI and Generative AI App Builder. [Learn more](#)

120+
GCP Enabled Customers

690+
GCP Certified Resources

100+
Data Science Experts

3
Anthos Fellows



AMAZON WEB SERVICES

As an APN Premier Services Partner, SoftServe acts as an exceptional cloud guide, vastly decreasing the time to achieve cloud value. By doing so, SoftServe ensures that your AI initiatives unleash the full potential of AWS Machine Learning services, such as Amazon Bedrock and SageMaker, and that they are deployed in accordance with AWS Well-Architected best practices. [Learn more](#)

500+
AWS Certified Resources

100+
AWS Certified Solution Architects

50+
AWS Professional Certifications

11
AWS Competencies



MICROSOFT

Innovate with purpose, rationalize costs, and drive efficiencies with Microsoft Azure's open and flexible cloud computing platform. Leverage Azure OpenAI and Machine Learning services to deliver next-generation AI solutions. As a Gold Microsoft Partner, SoftServe enables your business to build and deploy on your terms — both today and in the future. [Learn more](#)

250+
Azure Certified Professionals

19+
Years as a Microsoft Partner



NVIDIA

As an NVIDIA Service Delivery Partner, SoftServe harnesses NVIDIA's cutting-edge technologies, like GPU-accelerated compute infrastructure, to deliver robust AI solutions. Leveraging NVIDIA's NeMo Service, SoftServe streamlines the development of Generative AI products, driving rapid digital transformation. [Learn more](#)

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DEEP TECHNOLOGY EXPERTISE IN AI/ML

**HUMAN-FIRST APPROACH TO DESIGNING
EFFECTIVE EXPERIENCES**

**INDUSTRY EXPERTISE AND PARTNERSHIPS
WITH CLOUD SOLUTIONS PROVIDERS**

LET'S TALK



BUSINESS OPPORTUNITIES

Generative AI in manufacturing offers increased efficiency, cost reduction, and enhanced product innovation through automated design, optimization, and production processes.

