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AGRICULTURE INNOVATION WITH GENERATIVE AI

THE FUTURE OF AGRICULTURE WITH GENERATIVE AI

The global population has doubled since 1974. It now stands at 8 billion people. Though growth has slowed, 9 billion people may populate the planet within 15 years. To feed 10 billion people by 2050, crop yields must surge by 70%, with only 11% arable land. What's more, population rise strains food and water resources, worsened by climate change.

Farmers face pressures like fertilizer expertise, weather adaptations, and dealing with pests ruining 40% of crops each year. They must produce more with less energy and water due to labor shortages, urbanization, and generational shifts. Successful farming now heavily relies on new technologies.

KEY PRIORITIES & CHALLENGES FOR AGRICULTURE

POPULATION GROWTH AND FOOD DEMAND	With the population doubling since 1974 and expected to reach 9 billion soon, it is critical to ensure food production meets demand.
CROP YIELD INCREASE	To support approximately 10 billion people by 2050, crop yields need to rise by 70%, but only 11% of the global land is farmable.
CLIMATE CHANGE IMPACT	Climate change strains agricultural production and water resources, necessitating sustainable practices.
TECHNOLOGICAL DEPENDENCE	Farmers require advanced expertise in fertilizers, pests, and technology to meet food production needs.
LABOR SHORTAGE	Urbanization, immigration, and generational shifts lead to global farm labor shortages, urging reliance on new technologies.

GENERATIVE AI BUSINESS BENEFITS

Generative AI has the potential to revolutionize farming practices by enabling data-driven decision-making, optimizing resource allocation, and enhancing productivity across farmland. By leveraging the power of machine learning algorithms, predictive models, and advanced sensor technologies, agriculture's connected future holds great promise in addressing critical challenges and unlocking new opportunities for sustainable food production. SoftServe suggests you consider these most promising directions for the future.

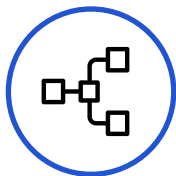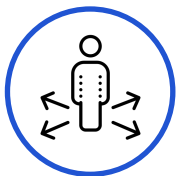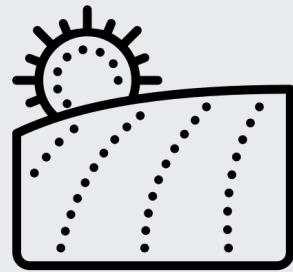|			
Automate tasks and scale processes	Reduce costs and increase efficiency	Detect and control pests and diseases	Crop forecast and yield prediction
Optimize internal processes	Smart decision-making	Improve compliance with irrigation and fertilization	Increase competitive advantage

MOST PROMISING
GENERATIVE AI USE CASES

CROP MANAGEMENT & YIELD FORECASTING

Make better decisions with crop care recommendations to increase yield (e.g., when to water crops, how much fertilizer to apply, and when to harvest crops).

SOIL & PESTICIDE MANAGEMENT

Data-based details about pH levels, soil nutrients, and soil structure, guide all aspects of fertilizer use and help crop outcomes.
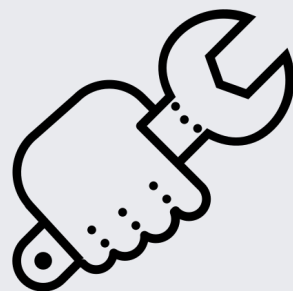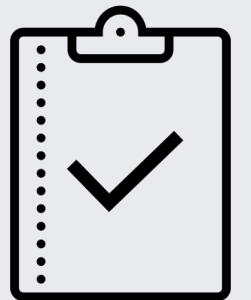
WORKFORCE MANAGEMENT AND TRAINING

Agriculture robots with personalized lesson plans and training materials for workers are an ideal solution to the massive labor shortages.

MARKET ANALYSIS & PRICE FORECASTING

Market trends, prices, and demand analytics to optimize price and timing sale for products.
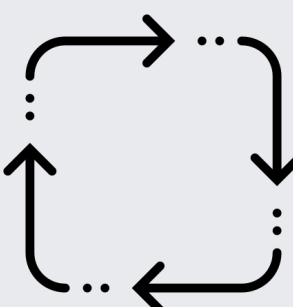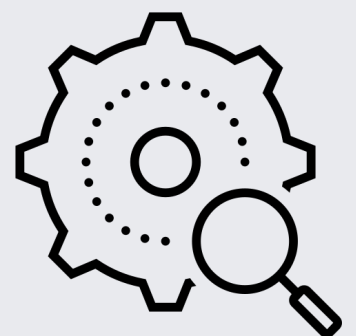
CLIMATE CHANGE & SUSTAINABILITY

Climate change impact analysis and seasonal forecasting models to improve agricultural output and precision.

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's defined **Generative AI adoption patterns** are designed to help you navigate the complexities of this emerging technology. SoftServe will help you select an appropriate adoption pattern or a combination of them to build custom solutions to meet your enterprise's unique needs. Expedite your journey on a path to a new way of productivity and creativity with SoftServe's Generative AI offerings, and position your business as an industry leader.

AI DISCOVERY	AI LAUNCHPAD	AI ADOPTION
From Interest to Discovery: Generative AI Ecosystem and Implications for My Business	*Launchpad to Innovation: Evidence-Based Exploration and Deployment*	*From Insight to Impact: Rapid Scaling and Adoption in My Organization*
✓ Use Cases & Business Impact Priorities	✓ Generative AI Lab	✓ Generative AI Adoption Roadmap
✓ Data Quality & Availability	✓ AI Launchpad Program for Rapid Experimentation	✓ Technology Strategy
✓ Technology Trade-offs and Architecture	✓ Value Stream Mapping & Use Cases	✓ Data Strategy
✓ Technical Feasibility with POC	✓ POC/POV Pipeline	✓ Change Management & AI Governance
		✓ Generative AI Solution Development
		✓ Generative AI in Product & 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 business enterprise needs and guide you through possible adoption options, you will move past the hype and harness its benefits for your business enterprise.

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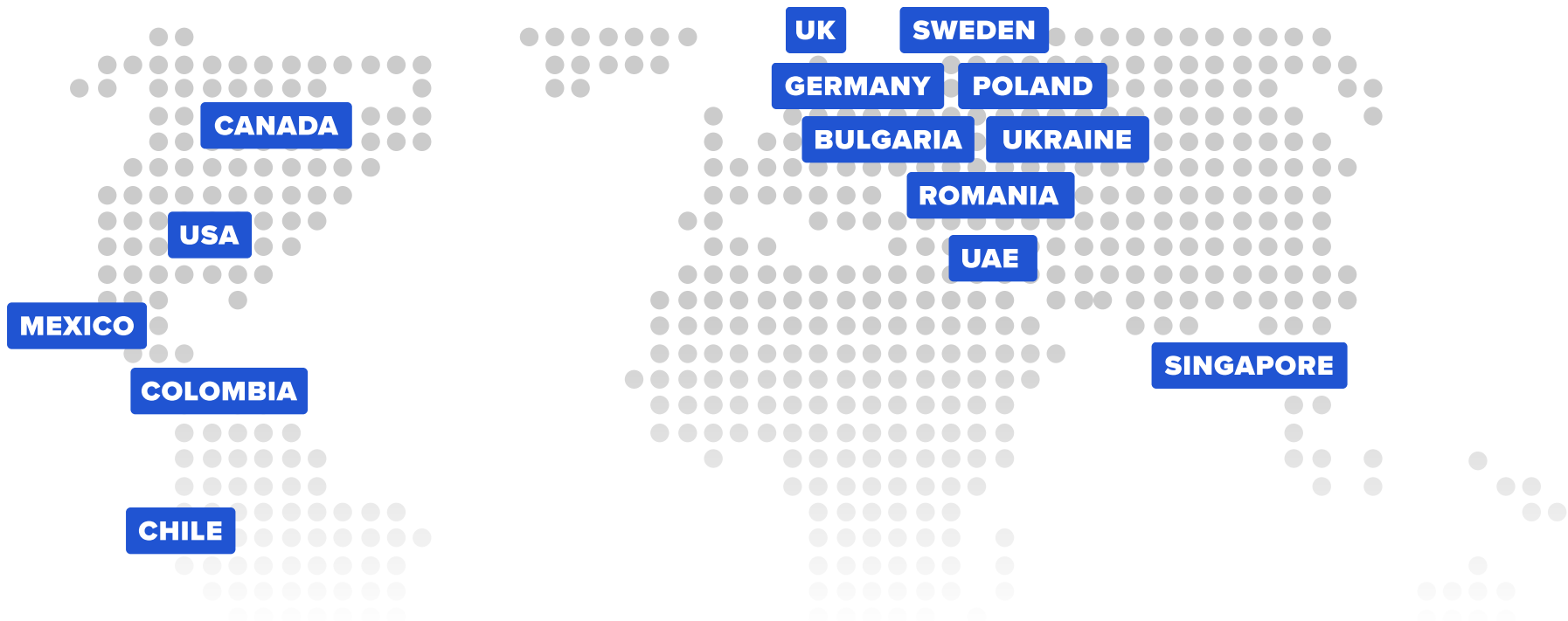Visit us at our Generative AI website page.

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CHILE

UK
SWEDEN
GERMANY
POLAND
BULGARIA
UKRAINE
ROMANIA
UAE
SINGAPORE

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 Recources

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

Some of the more specific use cases where SoftServe envisions Generative AI as a game-changer in agriculture are shown here:

Business Value

High

Crop Management & Yield Forecasting

AI-Generated Press Releases & Newsletters

Labor Optimization & Training

Soil & Pesticide Management

Medium

Personalized Marketing Campaigns

Market Analysis & Price Forecasting

Climate Change & Sustainability

Collaborative Research Papers

Data-Driven Decision Making

Grant Proposal Writing

Automatic Report Generation

Low

High — **Medium** — **Low**

Use Case Complexity