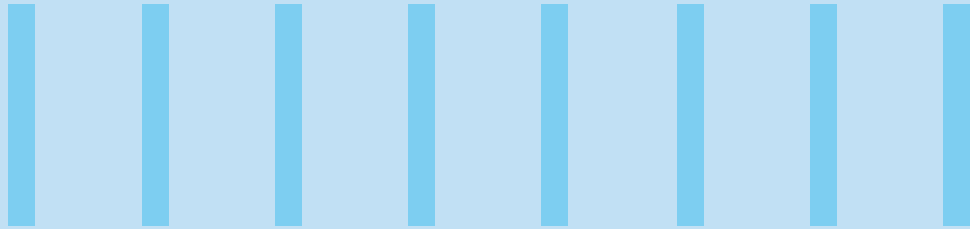


INFOSYS - NVIDIA

AI-Driven Operational Excellence for Next-Generation
Businesses





The convergence of computing power and processing speed has paved the way for game-changing innovation and massive transformations in the business landscape. The exponential growth of microprocessors, storage chips, and batteries has fueled the mobility revolution, while the convergence of smart devices and lightning-fast network connectivity has ushered in the era of the gig economy. Today, the fusion of cloud infrastructure, edge computing, and 5G is driving a quantum leap in artificial intelligence (AI) that promises to reshape industries.

AI ecosystems are leveraging cutting-edge technologies such as deep learning, computer vision, natural language processing (NLP), augmented/virtual reality (AR/VR), and simulation to create intelligent products and services. These AI workflows enable businesses of all types to integrate data and analytics, leading to data-driven operations, predictive insights-based decision making, and personalized service delivery. Whether it's B2B, B2C, or B2B2C, AI is transforming the way businesses operate and interact with their customers.

Infosys Applied AI: Revolutionizing Operations Across Industries

Infosys Applied AI Services use ready-to-deploy algorithms to address enterprise-specific requirements across value chains. Our IP tools and methods expose pre-processed datasets and pre-engineered feature sets as services. We enable seamless consumption of AI algorithms that help solve critical business problems such as obstacle detection by an autonomous vehicle or

tracking of a transcontinental freight consignment.

The Infosys AI on Edge Framework is a powerful tool enabling businesses to leverage the power of AI algorithms on edge devices. We adhere to industry standards for responsible AI, and process diverse types of data and real-time data feeds for AI-driven data management (Figure 1) enabling businesses to leverage latest technologies and make informed decisions that drive growth and success in today's fast-paced business environment.

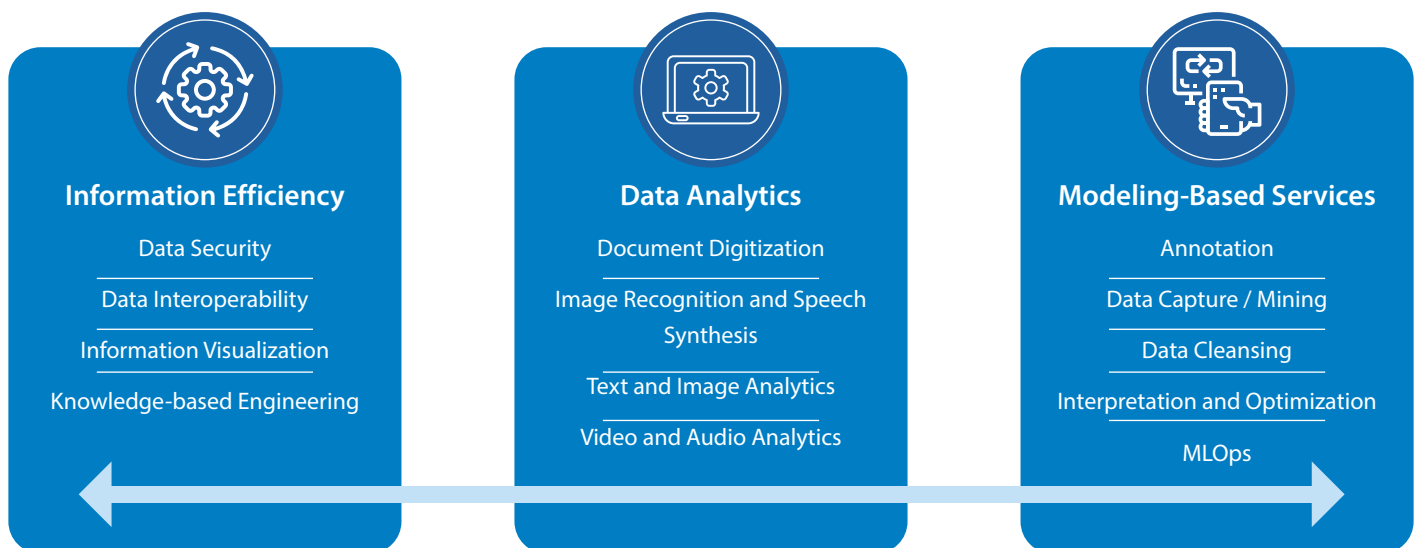


Figure 1: Infosys Cognitive Data Services

Infosys is committed to delivering cutting-edge AI solutions to its clients. As part of our global AI ecosystem, we have strategically forged alliances to acquire compute and storage capacity, as well as real-time inferencing capabilities for developing and deploying AI models.

Our long-term relationships with hyperscalers ensure that we can deploy AI models at scale in a cloud-agnostic manner, which enhances

our AI applications and cognitive services. At the same time, our partnership with NVIDIA, the global leader in AI computing, helps us accelerate our entire AI workflow from training our AI models, improving the efficiency of our machine learning (ML), and optimizing how we deploy it. Our strategic alliance allows us to leverage the latest technologies and innovations to build AI-powered solutions that drive business value and accelerate digital transformation.

Infosys-NVIDIA: Building Data Science Infrastructure

Infosys Applied AI Services and NVIDIA are transforming the landscape of AI solutions by collaborating across the people-processes-technology continuum. With access to NVIDIA's AI platform, we cater to end-to-end requirements ranging from data generation and simulation to AI application development and platform deployment.

As a service delivery partner in the NVIDIA Partner Network¹, Infosys leverages on-premise and cloud accelerated computing, including NVIDIA DGX™ A100 systems with Multi-Instance GPU (MIG) technology, to train and manage AI workloads and systems. Our solution architects, developers, and project teams combine Infosys Cobalt cloud offerings with the NVIDIA AI Enterprise software suite to build contextualized services and deliver AI-first business processes and functionalities for enterprises.

Infosys' data inference optimization tools, AI deployment tools, pre-trained AI models, and data science frameworks complement the NVIDIA AI Enterprise Suite spanning Spark RAPIDS (data science), NVIDIA Merlin™ (recommender systems), Isaac (robotics), NVIDIA Riva² (speech and translation AI), and Metropolis (video analytics).

With NVIDIA DGX™ systems powered by NVIDIA A100 Tensor Core GPUs and AMD EPYC™ CPUs, Infosys' AI project teams can run machine learning and deep learning operations simultaneously and process AI algorithms centrally or locally on any device using Infosys edge AI. Joint AI hackathons, knowledge transfer sessions, and training empower Infosys teams to maximize applied AI services and capitalize on innovations across the NVIDIA AI platform.

AI-Powered Business Transformation

- The strategic collaboration between Infosys and NVIDIA enables enterprises to revolutionize their operations with AI. This partnership empowers businesses to:
- Scale up infrastructure by developing private AI clouds
- Harness internal data estates with a hybrid cloud approach
- Leverage open source AI software-as-a-service
- Access licensed and pre-built AI platforms and solutions
- Utilize open source data and curated data exchanges to build and train AI models
- Adopt state-of-the-art pre-trained models to enhance customer and employee experience



Adopting an AI-first approach to Connect and Automate

Exclusive access to NVIDIA's accelerated computing infrastructure, advanced AI servers, and accelerated AI frameworks empower Infosys to boost domain expertise and expand its AI capabilities through research and development. This collaboration also allows us to create AI-driven service stores that focus on delivering business outcomes for our enterprise clients (Figure 2).

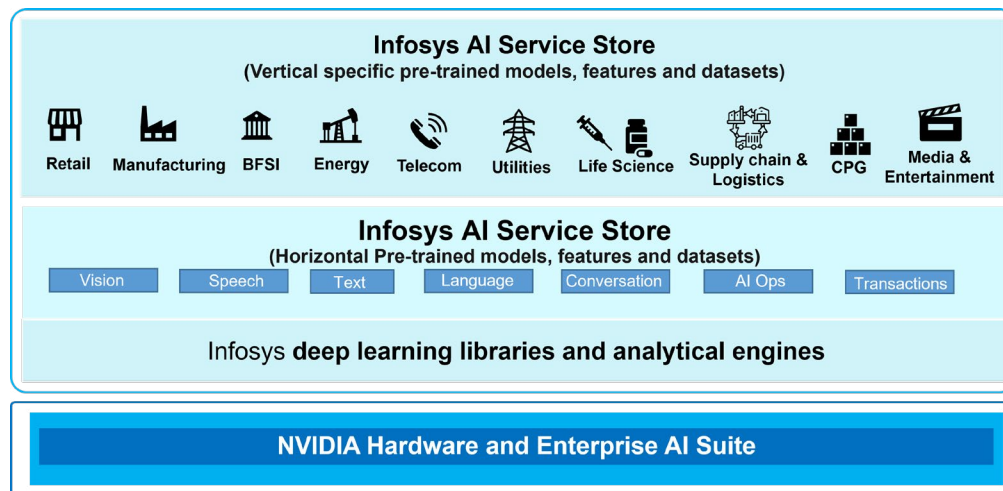


Figure 2: Infosys Applied AI Services Stack

An advanced data analytics landscape supports root cause analysis, exploratory modeling and AI / ML-based automated techniques for detecting issues, preventing anomalies, and mitigating risks. Infosys Applied AI Services builds technology platforms to streamline operational efficiency and drive enterprise data strategies.

AI-Enabled Video Analytics

Infosys Video Analytics Platform leverages NVIDIA's GPU-accelerated computing stack to process vast amounts of video feeds spanning use cases in retail to manufacturing. Built on NVIDIA Metropolis, our computer vision solution^{(3) (4)} boasts a scalable architecture, accurate AI models, and real-time insights that comply with both internal policies and global standards for health and safety.

AI-Enabled Video Analytics

- Loss prevention
- Inventory monitoring
- Smart surveillance

Metaverse

At Infosys Metaverse Foundry⁵, we leverage the power of the NVIDIA Omniverse⁶ platform and NVIDIA CloudXR™ SDK⁷ to bring to life digital replicas of equipment, field assets, business systems, warehouses, factories, and retail stores. Our use of 3D workflows and digital twins enables us to optimize processes and deliver truly immersive experiences for entertainment, shopping, and e-learning.

Notably, our foundry offers digital accelerators that minimize time-to-market for designing and developing metaverse applications and social collaboration platforms.

Metaverse

- Avatar-based collaboration
- Mixed reality experience
- AR / VR-powered product design and development

Conversational AI

Infosys Cortex⁸ is an industry-leading solution that harnesses the power of fully customizable NVIDIA Riva, multilingual speech and translation AI software, to revolutionize contact center operations across industries. By mining customer insights from past interactions, we streamline the entire customer service experience. The platform offers real-time world-class translation and transcription services, making it easy for enterprises to provide customer support in any language.

Our AI-driven, microservices-based platform guides customer service agents with the best response, based on customer intent. We've equipped our customer engagement platform with advanced natural language processing (NLP) capabilities that address the challenge of deciphering and comprehending diverse languages, dialects, and accents, enabling agents to overcome language barriers and communicate more effectively with customers.

Conversational AI

- Cognitive support
- Sentiment and intent analysis
- Automated speech recognition

Driving AI-Led Business Transformation

Infosys is at the forefront of generative AI technology that is helping boost enterprise efficiency across the entire IT-OT landscape. By combining powerful AI algorithms with our domain expertise and modular components of the NVIDIA AI Enterprise Suite, we're able to optimize processes, address challenges, and achieve business goals that range from maximizing resource utilization to reducing waste, and improving the quality of remote services.

Infosys uses NVIDIA microservices to develop low-code / no-code AI workflows and rapidly scale up production-ready AI applications. AI-driven workflows support advanced automation and ensure end-to-end process visibility. It significantly enhances efficiency of business functions, including fraud detection, inventory management, industrial safety, cybersecurity, field service management, quality control, demand prediction, customer relationship management, statutory compliance, and risk assessment.

Infosys Presents Use Cases Across Several Business Verticals:

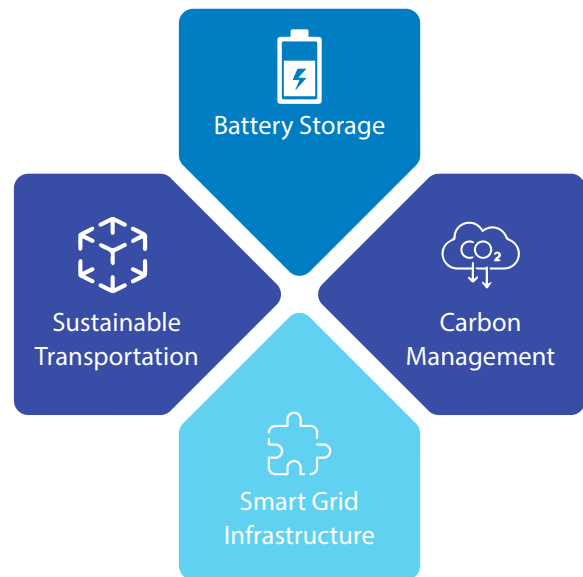
Energy

As oil and gas companies transition to vertical energy companies, Infosys solutions are reducing carbon emissions and environmental impact from exploration, production and operations. This includes services for key AI workloads across upstream, midstream, and downstream to ensure operational excellence and cost efficiency.

Infosys has developed an impressive portfolio of digital 'behind the meter' energy solutions and services that are designed to simplify distributed energy resource management systems and facilitate the clean energy transition. Our smart energy solutions are specifically tailored to align with net zero roadmaps and sustainability strategies of enterprises, enabling them to deliver energy-as-a-service.

Our software-defined platforms, which are built on NVIDIA's full stack accelerated computing platform, empower utilities to forecast and manage peak loads efficiently, enhance grid resiliency and reliability, and modernize generation, transmission, and distribution infrastructure. Additionally, our energy monitoring and efficiency improvement solutions are designed to optimize power consumption across industrial processes, residential and commercial buildings, and office spaces.

We have deep experience in establishing electric vehicle charging



infrastructure, while our digital solutions support onsite power generation and integration of renewable energy sources, including solar, wind, and biogas. Our interactive dashboards provide real-time analysis of energy systems and audits, giving businesses, insights they need to make informed decisions about optimizing their energy usage. By leveraging the power of digital technology and our expertise in energy management, we're driving innovation and accelerating the transition to a more sustainable future.

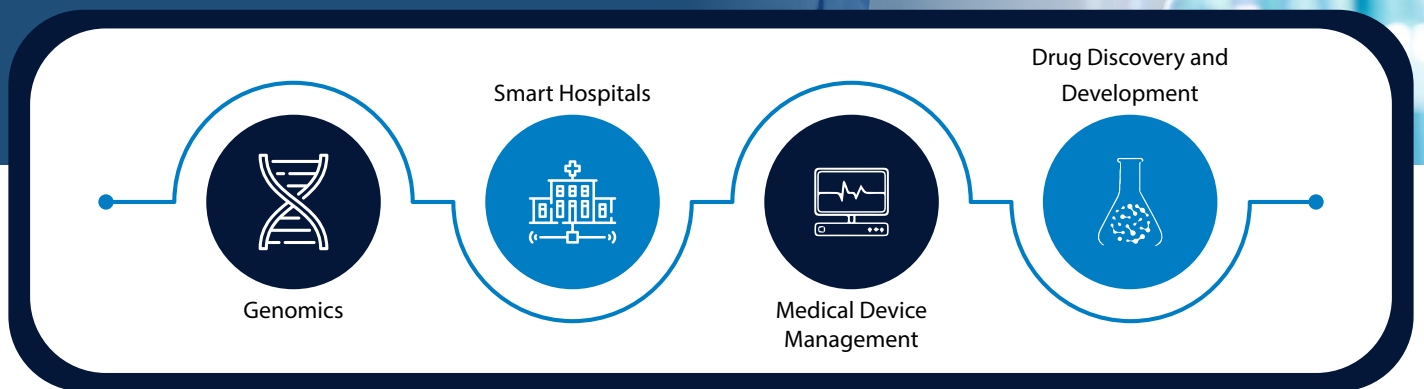


Healthcare

Infosys collaborates with pharmaceutical manufacturers, biotechnology enterprises, and healthcare providers to drive better patient outcomes while improving operational efficiency. We adopt a data analytics-driven approach to precision medicine, leveraging NVIDIA's cutting-edge healthcare-specific AI offerings such as BioNeMo, Clara, and MONAI. Our digital tools support a wide range of healthcare and biomedical data formats as well as specialized metadata.

We capitalize on NVIDIA's AI frameworks and software to develop medical devices that stream real-time data and have anytime access to HPC resources to create AI pipelines for accelerating drug research. Our teams also leverage federated learning to improve the performance of deep learning models. We train AI/ML systems and create large language models for processing medical images using NVIDIA frameworks.

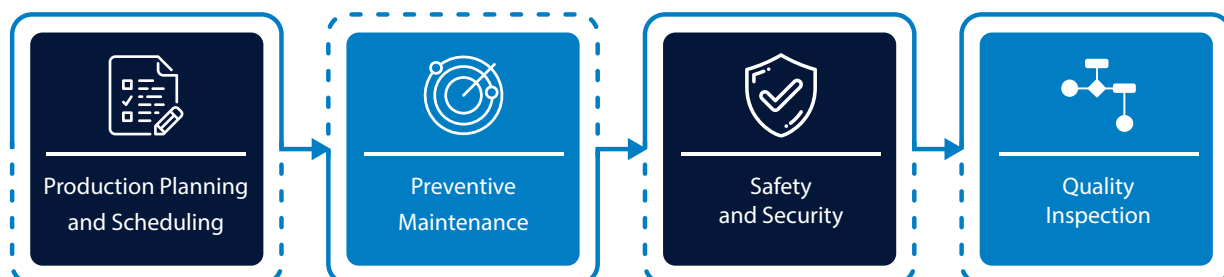
Additionally, our partnership with NVIDIA enables us to support active learning, validation, and refinement of AI-assisted annotation, which in turn accelerates the training of bespoke models. We're committed to advancing precision medicine and revolutionizing the healthcare industry through our data-driven approach and innovative solutions.



Manufacturing

By leveraging NVIDIA's domain-specific software tools, the Infosys Applied AI Services team is revolutionizing asset lifecycle management for industrial manufacturers. Our powerful deep learning models and computer vision-based solutions accelerate the development of electrical drawings and P&I diagrams, while our AI-based asset condition monitoring systems enable predictive maintenance, resulting in improved asset efficiency and reliability. Infosys takes a comprehensive approach by creating an

integrated knowledge repository of operational data across manufacturing plants and sites. Our team trains AI / ML systems to identify failure paths and recurring issues, which helps reduce unplanned downtime and refine alert mechanisms. By learning from historical enterprise data, our Industry 4.0-based solutions increase production, reduce mean-time-to-repair (MTTR), and maximize asset utilization. With our innovative solutions, we help manufacturers optimize their asset lifecycle, from product design and upgrades to retirement and recycling.



Media and Entertainment

Infosys Applied AI Services revolutionize the way multimedia enterprises, content providers, broadcasting companies, and cable operators enhance the user experience by overcoming the limitations of conventional video programming. We leverage the power of NVIDIA AI Enterprise software, hyperscaler services and Infosys Cobalt cloud components to process user requests and generate output in near real-time. Our rigorous testing and continuous training of AI models ensures the highest levels of accuracy in our systems. We have developed an innovative solution for captioning over-the-top television programs, movies and live content streams, generating captions in real-time and

in the preferred language. Our solution goes a step further by incorporating a profanity checker that identifies and masks or flags any objectionable content.

For visually challenged individuals, our AI-enabled accessibility solutions are a game-changer.

Our team has created a system to insert audio descriptions of visual scenes. It analyzes the scene and generates the narration, on demand, in any language based on voice command from the user. Similarly, we have developed a smart visual notification mechanism to enhance home security systems. Our solution accurately recognizes and classifies sounds such as a smoke detector alarm, doorbell and footsteps, and transmits a visual notification to the premise device (TV / phone) of users with hearing disability.



Text-to-Speech and Speech-to-Text Conversion



Visual Description



Sound to Sight Notification



Speech Translation

Retail and CPG

AI is helping leading retailers improve business agility through innovation at every stage of the business value chain—from predicting demand to warehouse logistics to the customer.

Infosys implements AI-powered supply chain management solutions as well as smart analytical platforms for seamless retail operations. Built on the NVIDIA AI Enterprise platform, our solutions combine real-time data, video analytics and conversational digital assistance to boost in-store and online shopping experiences. Our solutions allow retailers to deliver personalized product recommendations at scale, based on demographics, browsing patterns, and shopping

history. Our AI developers leverage NVIDIA retail AI workflows and pretrained models to create loss prevention applications that mitigate shrinkage due to theft, damage and misplacement.

With AI-enabled intelligent stores, retailers are reducing shrinkage, eliminating stockout, and gaining visibility into in-store customer behavior to optimize merchandising. Our smart store solutions analyze visitor behavior and interaction patterns and combine the output with heatmaps of customer movement during shopping visits to provide insights for redesigning specific areas / floor layout and developing marketing plans. Further, real-time thermal camera feeds detect intrusion and prevent trespassing.



Store Analytics



Demand Forecasting



Product Quality Analytics



Planogram Compliance





Infosys and NVIDIA are leveraging advancements in AI and related technologies to develop both task-specific and reusable algorithms. By incorporating AI into digital platforms, we can effectively synthesize data inputs and automate the application of outputs to drive tangible business outcomes.

Get in touch with us at appliedai@infosys.com to learn the unique benefits of this collaboration that can help your enterprise achieve its AI goals.

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For more information, contact askus@infosys.com

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