



Cognizant smart agriculture

Redefining the future of food and agribusiness

Agriculture is being redefined by data, sustainability and digital ecosystems. Senior leaders face a landscape shaped by rapid advances in precision farming, digital marketplaces and smart technologies for regenerative cultivation. Automation, AI and blockchain are transforming labor, payments and supply chains. Data and analytics are now essential for agile, informed decision-making. The adoption of biotechnology, vertical farming and subscription-based models is accelerating, while sustainability and eco-friendly practices have become business imperatives.

Cognizant partners with industry leaders to deliver measurable outcomes—across yield, efficiency and environmental impact—at every stage of the agri-value chain.

Our capabilities across the seven-stage grower journey



Precision agriculture

- Data-driven decision-making and advanced analytics for improved yield and resource optimization
- Achieve 10%–15% reduction in bad quality seeds and 6%–7% yield improvement, enabling multimillion USD annual revenue gains
- Remote sensing, IoT and AI for real-time field insights and predictive recommendations



Digital transformation

- End-to-end digitization of sales, service and field operations
- Digital labs: 80% paperless, 30%–40% productivity increase, 50% decrease in quality control costs
- Omnichannel B2B sales enablement and marketplace strategy for expanded reach and engagement



Sustainability and water management

- Carbon data management, water footprint analysis and climate risk mitigation
- 17% water savings and increased irrigation productivity through digital farming
- Net zero pathways and sustainable supply chain consulting



Regenerative agriculture

- Crop rotation, water conservation and biodiversity initiatives
- Field data, digital tech and satellite imagery to verify and quantify regenerative practices
- Predictive analytics for climate impact, soil health and crop selection

Proven business impact

For a major American food distributor, Cognizant delivered a next-generation B2B sales transformation platform managing \$36B across 72 operating units—resulting in a 6% improvement in fulfillment rates, a 15% reduction in customer contacts and an annual sales uplift exceeding US\$13 million.

For a leading American food and beverage manufacturer, our carbon data management solution achieved a 10% reduction in IT emissions and enabled enhanced sustainability visualization through advanced dashboards.

For a global food logistics leader, Cognizant orchestrated a fully automated cold-chain warehouse, achieving 97% automated product movement, handling 5,000 pallets daily and reducing energy consumption by 23% over two years. The solution leveraged Automation-OS, computer vision, machine learning, robotics and digital twins to optimize logistics, maximize storage and improve employee retention; supporting a facility that moves 8% of the US food supply chain.

Client success stories

Soya bean supply optimization

\$15M+ annual benefit

Cognizant enabled a global agribusiness to accurately forecast supply and demand, optimize mid-season contracting and deliver harvest-time recommendations. This led to a significant decrease in bulk derogations and improved yield prediction models—helping reduce gaps between planned and actual yield, and enabling better logistics, pricing and loss mitigation strategies.

In-season model validation

\$1M savings per 1,000 acres

Through post-harvest assessment and validation of predictive models, Cognizant drove continual improvement in forecast accuracy and rapid turnaround for routine validations. This approach generated approximately \$1 million in annual savings for every 1,000 acres managed.

Ready to transform your agriculture business?

Contact us to learn more.

Planting population optimization

€13M annual savings | 91% accuracy

By optimizing inbred planting and linking planting instructions to yield increases, Cognizant achieved a 15% improvement in machine learning model accuracy and 91% prediction accuracy in South Africa for 2022—resulting in estimated savings of ~€13 million per year.



Cognizant (Nasdaq-100: CTSH) engineers modern businesses. We help our clients modernize technology, reimagine processes and transform experiences so they can stay ahead in our fast-changing world. Together, we're improving everyday life. See how at www.cognizant.com or [@cognizant](https://twitter.com/cognizant).

World Headquarters

300 Frank W. Burr Blvd.
Suite 36, 6th Floor
Teaneck, NJ 07666 USA
Phone: +1 201 801 0233

European Headquarters

280 Bishopsgate
London
EC2M 4RB
England
Tel: +44 (0)1 020 7297 7600

India Operations Headquarters

Siruseri-Software Technology Park of India (STPI)
SDB Block – Ground Floor North Wing
Plot No H4, SIPCOT IT Park
Chengalpattu District
Chennai 603103, Tamil Nadu
Tel: 1800 208 6999

APAC Headquarters

1 Fusionopolis Link, Level 5
NEXUS@One-North, North Tower
Singapore 138542
Phone: +65 6812 4000

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