TE Connectivity *boosts product development* with a knowledge hub

Gen AI-powered research, developed in partnership with Capgemini and AWS, gives engineers access to previously siloed data

TE Connectivity (TE), formerly known as Tyco Electronics and now a global leader in connectivity and sensing solutions, has distinguished itself from the competition with the kind of cutting-edge industrial technology that makes our modern world possible. A broad range of industries, including automotive, aerospace, energy, consumer electronics, and healthcare, rely on TE's engineering expertise and innovations to transform their operations. Every year, the company produces more than 235 billion parts in 140 factories around the world.

Closely tracking recent breakthroughs in generative AI, TE was enthusiastic about how the technology could help search and summarize internal documents. These feature important proprietary information, and the company needed them to be readily available to staff.

During the request-for-proposal process, Capgemini and Amazon Web Services (AWS) proposed building a solution that would harmonize TE's diverse datasets, establish a central repository, and build an intuitive chat function in a clean user interface (UI).

"Based on that flexibility, that background, that proven experience, we felt Capgemini and AWS were right for us. We certainly haven't been disappointed. That was the right choice," said Phil Gilchrist, Chief Transformation Officer at TE.

Client: TE Connectivity

Region: USA

Industry: Technology manufacturing

Client challenges:

Product development teams needed to sift through countless documents scattered across dozens of incompatible systems to conduct background research.

Our approach:

Capgemini and AWS worked with TE Connectivity to create a Gen AI-powered platform that consolidates all internal research within an intuitive UI.

Business outcomes:

- Productivity increased five to 10 times for product development
- 2.5 million documents ingested in three months
- Access granted to 8,000 engineers at launch

The development process: Building an LLM with proprietary data

With 75 million engineering documents spread across 66 different databases, it was difficult for TE's research and development (R&D) teams to find the right information. The scattered nature of the information also meant subject matter experts often had to answer questions about specific projects when researchers could not locate relevant reference documents.

There was a tight deadline for producing a solution. In just over three months, the team ingested a wealth of marketing and operational data and 2.5 million engineering documents – many of which needed to be scrubbed – into a modern UI. AWS supplied the cloud infrastructure and fully managed services, such as Amazon Bedrock, that enable the integration of high-performing, Gen AI foundation models, and Amazon OpenSearch Service, which makes it easy to deploy and operate various search, analytics, and visualization capabilities.

Meanwhile, Capgemini used retrieval-augmented generation (RAG), an architectural approach for retrieving response from large language models (LLMs), to integrate these services into an enterprise-scale solution.

"What they were able to do was launch a safe, secure solution into our security framework and our document structure almost immediately that's very scalable, very secure, and something that so far has had a high quality of operation," Gilchrist said.

A cross-company team continues to improve the tool on an almost daily basis with the ingestion of additional content (including all 75 million engineering documents by April 2025) and tweaks based on user feedback.

"Honestly, the team worked flawlessly together to stay on it," Gilchrist said. "Everyone really wanted to make it work and we did make it work. So, I would say based on that common objective and a tight timeline, we had no choice but to work very closely together, and that was a fantastic experience."

The transformative solution: TELme

The result was TELme, a conversational platform powered by Gen AI that collects and organizes the company's diverse pool of internal knowledge about various industries and products in a single place.

TELme is TE's Gen AI implementation based on Claude 3.5, the AI assistant created by Anthropic, and trained on proprietary data. It is all organized under a single application programming interface.

"Finding the right document was like finding a needle not just in one haystack but in 66 haystacks," Gilchrist said. "TELme allows us to remove the haystacks and just find the needles."

TELme establishes continuity and allows the company to hand down knowledge from one generation to the next. "We believe TELme will come to represent the sum of intellectual knowledge of the company in one form or another. But not only that: it's a knowledge base that can be put into action. What that LLM will enable them to do is find the right piece of information right up front within seconds, rather than within a morning of trawling through extraneous documents."

TELme goes beyond knowledge management. It provides an enterprise-wide research environment that fosters collaboration and communication.

Change management expands AI proficiency

The company's products are mostly items like antennas, cables, tubing, and connectors, so the majority of its 88,000 employees specialize in hardware rather than software.

"That's why my job was created, frankly: to drive that transformation with some acceleration, to cut through some of the reticence and inertia in the organization and focus on what it really means and what it really can be," Gilchrist said.

To meet workers where they are, TE launched an AI training program that's mandatory for the 10,000 engineers and optional for others. Guiding the employee through four skill levels, the program fosters deeper fluency with LLMs generally and teaches prompt-engineering techniques. Workers can augment and enhance their skillsets with AI – just as they had with Excel, PowerPoint, and other tools in the past.

TELme's UI was designed to give employees the utmost flexibility. It features a search engine, chat functionality, and "small cheats" to accelerate prompt management.

"It changes the way we do things, (and) it changes the questions our management will ask of us, what we'll ask of ourselves, what our customers ask," explained Gilchrist.

But any company can invest a lot of money in a solution and get little from it if employees don't use it. "The change-management process is really where it's won and lost."

Controlling access to sensitive documents

Managing access to different types of documents was vitally important. TE employees are spread across various regions with different political sensitivities and cross-border issues. The cross-company development team was mindful of the heightened protection certain information required, such as commercially sensitive or defense-related materials.

"Given the complexity of the company, the breadth of the company, the 30,000 odd customers – some of them with NDAs or different forms of agreement – they need to be considered," Gilchrist said. "It's a very sophisticated and detailed and what I would say problematic solution space that we've been able to work through."

To maintain data security, the Capgemini and AWS teams used access control to determine who can see specific resources based on their roles within the organization. Everyone at TE will have clearance to access most documents through TELme, but certain files have greater restrictions.

Upon launch, TELme was available to more than 8,000 engineers. This access will extend to 35,000 users within one year and the entire workforce eventually.

TELme is going to be TE's main knowledge repository that can be put into action. Capgemini and AWS were the right choice for us."

Phil Gilchrist
VP, Chief Transformation Officer,
AI & Sustainability, TE Connectivity

Increasing productivity, elevating quality

The partners designed TELme with the understanding that it would continuously evolve to better suit the needs of the organization. Its scalability will allow TE to increase the number of users and the volume of data without compromising performance. And it will eventually have the power to serve as an AI assistant for each employee.

TE is deploying TELme globally across a variety of additional functions, including marketing, customer service, and operations. Everyone in each of TE's 140 different plants globally will have access to best practices, safety procedures, and so forth.

Following the solution's rollout, the company has seen productivity among all new product research, engineering, and development processes increase by between five and 10 times.

"It quite literally used to take an engineer half a day to trawl through to find a piece of information," Gilchrist said. "Scale that up to 12,000 engineers, all looking for pieces of information, sometimes multiple times daily, and pretty soon you get into real productivity numbers and really effective time saved."

But the business value goes beyond building the same products faster, because TE is now creating better products. Giving junior engineers access to the wealth of expertise from generations of more experienced colleagues enables them to make better decisions, which ultimately improves the products and solutions for the end customer.

"We have a very, very competitive, compelling platform that should work as our knowledge base and be a key tool for the company for countless years," Gilchrist said.

About Capgemini

Capgemini is a global business and technology transformation partner, helping organizations to accelerate their dual transition to a digital and sustainable world, while creating tangible impact for enterprises and society. It is a responsible and diverse group of 340,000 team members in more than 50 countries. With its strong over 55-year heritage, Capgemini is trusted by its clients to unlock the value of technology to address the entire breadth of their business needs. It delivers end-to-end services and solutions leveraging strengths from strategy and design to engineering, all fueled by its market leading capabilities in AI, cloud and data, combined with its deep industry expertise and partner ecosystem. The Group reported 2023 global revenues of €22.5 billion.

Get the future you want | www.capgemini.com

Capgemini

The information contained herein is provided for general informational purposes only and does not create a professional or advisory relationship. It is provided without warranty or assurance of any kind.

© Copyright 2025 Capgemini America, Inc.