

Annex A: Examples of gen AI solutions built by organizations from the AI Trailblazers Initiative

AI Trailblazers from Government	
<u>Ministry of Trade and Industry (MTI)</u>	<p>Problem Statement: The Singapore Ministry of Trade and Industry (MTI)'s mission is to promote economic growth and create good jobs for Singaporeans. It ensures, through its policies, that Singapore's economy remains competitive, is able to attract investments, and nurtures a deeper base of globally-oriented Singapore enterprises. The ministry developed National Economic Research and Visualisation Engine (NERVE), which is a data hub intended to support economic monitoring, data-driven strategy, and service delivery. NERVE serves as a useful resource to access data and can be further enhanced by addressing two challenges:</p> <ol style="list-style-type: none">1. Lowering the barriers for non-technical users to query NERVE's database tables using programming languages2. Reducing the volume of manual data requests and queries received by the NERVE data team <p>Solution: To enable a self-service approach and further democratize access to data-driven insights, MTI has built Ask NERVE Anything (ANA), a gen AI-powered conversational agent that helps non-technical users easily retrieve the information they need through queries in natural language. By further conversing with ANA, users can interrogate the data to obtain data-driven insights and generate charts, accompanied by the Structured Query Language (SQL) statement used to generate the response. ANA turns tasks that used to be tedious into quicker conversational explorations. MTI plans to gather user feedback on the solution and enhance it to become more context-aware.</p> <p>ANA was developed using Google Cloud's <u>Vertex AI platform</u> and <u>foundation models</u>. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by Smart Nation Group (SNG).</p>
<u>People's Association (PA)</u>	<p>Problem Statement: Through its network of over 100 community clubs / centers, PA offers a wide range of programs and facilities to cater to the needs of Singaporeans from all walks of life – connecting people to people, and people and government. Badminton is one of the most popular sports played leisurely by Singaporeans with more than 100,000 bookings yearly. The experience of booking a badminton court can, however, be frustrating for residents, as they would have to input multiple selection fields (i.e., location, date, time) on a PA website to find an available facility. If there are no available options, they would need to repeat the process with a different selection.</p> <p>Solution: To redefine how bookings are being carried out, PA partnered with GovTech to build the onePA Facilities Booking Recommender, a conversational agent that allows a user to easily and quickly find available PA facility options, including badminton courts. Through a gen AI-powered chat interface, a user can simply describe what they are looking for in any of the four official languages. The conversational agent would extract the relevant information and respond accordingly. This prototype will be piloted with community center reception desk staff with resident inclusivity as our foremost concern.</p> <p>The onePA Facilities Booking Recommender was developed using Google</p>

	<p>Cloud's Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by the SNG.</p>
<p>Nanyang Polytechnic (NYP)</p>	<p>Problem Statement: An institute of higher learning (IHL), NYP not only offers 40 full-time diploma courses and common entry programs for post-secondary students, it also offers a full suite of continuing education and training (CET) options for adult learners, from specialist and advanced diplomas, to SkillsFuture modules and courses. The course design process, including developing curriculum and assessments, can take weeks or months. As industries evolve, there is a pressing need for IHLs like NYP to offer new or updated courses in a more timely and adaptive manner to stay relevant and free up the limited time of academic staff to focus on value-added tasks like personalized learner and classroom engagement.</p> <p>Solution: To enhance its agility and improve the responsiveness and relevance of its educational offerings to changing market needs, NYP has built the NYP Course AutoBot, an automated course content creation system. This gen AI-powered system guides academic staff through the course content generation process (for teaching slides, e-learning content, assessment questions, etc.), offering curated reference materials based on inputs like module / course synopsis and desired learning outcomes, thereby reducing the overall amount of time required for course preparation. This solution is set to be implemented for academic staff at NYP. It could also eventually be rolled out to academic staff at other IHLs in Singapore.</p> <p>The NYP Course AutoBot was developed using Google Cloud's Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by SNDGO.</p>

AI Trailblazers from Industry (Enterprises)

<p>GSK</p>	<p>Problem Statement: GSK is a global biopharma company with the ambition and purpose to unite science, technology, and talent to get ahead of disease together. A leading global biopharma company and one of the largest contributors to Singapore's biomedical sciences industry, GSK aims to positively impact the health of 2.5 billion people by the end of 2030, with an R&D focus on four therapeutic areas: infectious diseases, HIV, respiratory / immunology, and oncology.</p> <p>Across GSK's biopharma manufacturing operations in Singapore, a huge amount of data is continuously used and retained across a complex set of processes and systems. This includes data on regulatory standards, operating procedures, manufacturing records, or quality trends, making it challenging for employees to extract data at pace for decision-making. When process deviations occur, engineers and chemists would perform a thorough investigation and engage in problem solving, all of which would be documented in formal reports for continuous improvement.</p> <p>Solution: To make it more efficient for employees to retrieve and extract data from GSK's extensive pool of internal documents for better decision-making, a</p>
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	<p>proof-of-concept (POC) use case was explored to prototype an advanced search and conversational agent. This gen AI-powered agent uses a chat interface that comprehends natural language queries to transform unstructured data from documents into a searchable repository. Another POC use case was explored to enhance the deviation investigation process, leveraging gen AI to draft document reports for initial review, based on key inputs from engineers and chemists.</p> <p>These solution prototypes were developed using open source and synthetic data on Google Cloud's Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by Digital Industry Singapore (DISG).</p>
<p>TDCX</p>	<p>Problem Statement: TDCX is a leading provider of business process outsourcing (BPO) services globally. It employs more than 17,800 customer experience (CX) professionals across its 30 campuses in Asia, Europe, and the US. Due to natural attrition and a growing demand for its services, the company frequently needs to hire and train customer service professionals. Every new hire inevitably faces a learning curve. For newly hired CX specialists to reach the level of proficiency demanded by TDCX, it can take an average of four to eight months of training, on-the-job coaching, and ongoing assessment, depending on the complexity of the product or solution and the employee's aptitude. The process of having quality assurance (QA) experts manually listen to large volumes of audio recordings as part of TDCX's QA process, to score the CX specialist's performance individually and to recommend areas for improvement, is also tedious and time consuming.</p> <p>Solution: To accelerate the learning curve of new hires and reduce the time required for them to meet QA standards, the company built TDCX FastTrack, a gen AI-powered assistive tool that automatically converts audio recordings from speech to text, analyzes and scores customer service specialists' interactions, and generates customized performance enhancement strategies. This solution also provides CX team managers with visibility into the top customer issues that their agents are encountering, actionable insights and recommendations on specific areas that can be improved with further coaching, and week-on-week performance analysis to determine if training interventions have been effective. To help agents more efficiently access the information they need during calls with customers, the TDCX FastTrack solution also includes a gen AI-powered TDCX Live Call Assistant that transcribes the call in real-time, categorizes the customer concern, and provides a set of recommended actions—curated from TDCX's knowledge database of best practices—that the agent can choose from to address the concern. This solution adheres to a human-in-the-loop design, which means that the agent still ultimately chooses the recommended action most relevant and helpful to the customer. TDCX is currently testing and refining TDCX FastTrack and TDCX Live Call Assistant with two key clients, before implementing both tools at scale and across multiple languages.</p> <p>TDCX FastTrack and TDCX Live Call Assistant were developed using Google Cloud's Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by DISG.</p>
<p>Temus</p>	<p>Problem Statement: Temus was established in 2021 by Temasek and UST to</p>

	<p>provide digital transformation solutions for the private and public sectors. The company has experienced substantial growth since, doubling its workforce from 200 to 400 in 2023 to meet the demands of its expanding operations. The manual processes associated with talent acquisition and management have proven to be a significant challenge impacting operational efficiency and overall productivity. This was identified as a potential bottleneck to future growth, and prompted the need for optimization. Specifically, the company faces the challenge of managing the scale of role applications. With each filled position preceded by over 100 applications and varying requirements for each role, there is a pressing need to enhance the evaluation process for hiring managers. Furthermore, Temus acknowledges the importance of gaining a nuanced understanding of its in-house skills landscape. This insight is crucial for the strategic development of existing talent and the optimal assignment of individuals based on their skillsets to various projects. Addressing these challenges in talent acquisition and management is essential for Temus to sustain its growth momentum and achieve operational excellence in a neutral and objective manner.</p> <p>Solution: To more effectively hire for new roles, Temus has developed a talent acquisition platform that can ingest candidate CVs, with a conversational agent that a hiring manager can interact with through voice or text prompts to obtain fully-customizable, individual level evaluations to aid their candidate selection process. The hiring manager can also ask the conversational agent to assist with drafting an email to invite a chosen candidate for an interview. This solution has been rolled out across the company, reducing the time spent evaluating candidate profiles by 80 to 90 percent. To more effectively nurture its talent, Temus has developed a talent development platform that aggregates data sources like resumes and performance reviews to provide a visual assessment of skills competencies and skills gaps, with a conversational agent that can assist managers in delivering actionable feedback and recommend options for precision training to catalyze professional growth. This solution is undergoing further user testing ahead of being implemented across the company.</p> <p>Temus' gen AI-powered talent acquisition and talent development platforms were developed using Google Cloud's Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by DISG.</p>
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AI Trailblazers from Industry (Startups)	
<p>Ai Palette</p>	<p>Problem Statement: The Consumer Packaged Goods (CPG) industry is known for short product life cycles. CPG companies often face restricted timelines and high costs associated with identifying, validating research for, and creating hyperlocalized product concepts. Ai Palette is an insights-driven concept-to-launch platform underpinned by over 61 billion F&B domain-based data points accumulated from over 150 data sources. The company enables CPG brands like Monde Nissin, Kellogg's, Olam Food Ingredients, Symrise, Nestlé, and more to accelerate their new product development cycles.</p> <p>Solution: Ai Palette has developed its Creative Suite, a gen AI-powered platform that enables CPG brands to reduce their research and marketing costs by providing users (i.e., product innovation, R&D, and marketing managers) with</p>

	<p>the ability to identify consumer trends as they emerge, develop product concepts, and craft marketing collateral. The Creative Suite offers FoodGPT, an F&B domain-specific conversational agent that users can interact with in natural language to quickly <i>discover</i> insights on trending ingredients and consumption themes across countries and categories with references and source citations; <i>create</i> downloadable product concepts accompanied by a product description and product claims by customizing specific parameters like tone, target audience, demographics, and keywords; <i>envision</i> how the product can be launched in the market by generating image collateral for product packaging; and <i>promote</i> the product across various marketing channels by generating creatives that are tailored for different target audience groups.</p> <p>Ai Palette’s Creative Suite, including FoodGPT, was developed using Google Cloud’s Vertex AI platform and foundation models. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by DISG.</p>
<p>STEPVR</p>	<p>Problem Statement: Video marketing is now essential for businesses to reach their target audience and boost visibility, engagement, and sales. Video marketing is, however, out of reach for many micro, small, and medium-sized enterprises (MSMEs) that lack the financial means and human resources to professionally produce a video (i.e., rent equipment; hire actors; film and edit footage). Such videos also typically take weeks, if not months, to produce. Beyond that, video has become a common way for people to express themselves in the digital age. Yet, the high learning curve associated with editing software keeps the number of video creators relatively low on major platforms and applications. STEPVR, a provider of metaverse services infrastructure and AI Generated Content (AIGC) technology, aims to democratize video production for Southeast Asia’s 71 million MSMEs and content creators all over the world.</p> <p>Solution: STEPVR has developed a gen AI-powered video generation platform for businesses that makes video production as simple as creating a slide presentation. Through this platform, a business user can choose from several virtual, humanlike avatars, or even create a customized one based on uploaded footage of their company spokespersons; drag and drop a chosen avatar onto a digital canvas; have the avatar verbally articulate a written script in a selected Southeast Asian language (e.g., English, Bahasa Indonesia, Thai, etc.), generate AI images and videos based on prompts; and apply fonts for text overlays or access an extensive database of stock images and footage to fill the background of the digital canvas. An MSME’s sales and marketing team can now generate a short video in a short space of time to promote their company’s products and activities, turning a laptop with an internet connection into their own professional video production studio.</p> <p>STEPVR’s gen AI-powered video generation platform was developed using Google Cloud’s Vertex AI platform, foundation models, and AI-optimized infrastructure. These are amongst the Google Cloud toolsets that were made available to organizations participating in the AI Trailblazers initiative through the Gen AI Innovation Sandbox administered by DISG.</p>