

Scale your impact with AI-powered engagement

How nonprofit and government organizations can use Twilio + AI to drive intelligent interactions and achieve program outcomes at scale



About this eBook

Executive summary

This whitepaper explores how nonprofit and government organizations can leverage Twilio's AI-powered engagement solutions to drive increasingly intelligent interactions and achieve program outcomes at scale. We explore detailed insights into Twilio's natively supported CustomerAI capabilities as well as strategies for integrating Twilio with third-party AI platforms - featuring practical examples from the social sector that demonstrate the impact of AI-powered solutions in real-world scenarios. We will also discuss Twilio's commitment to responsible AI use, focusing on transparency, responsibility, and accountability. By the end of this whitepaper, you will have a comprehensive understanding of how AI can be strategically implemented to accelerate your organization's engagement goals and drive significant impact.

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Introduction

AI is here to stay



There's no question, Artificial Intelligence (AI) is here to stay. Generative and predictive AI have the potential to transform the way we work, live, and interact with the world around us. Just like companies seeking to transform their businesses, nonprofits and government organizations are exploring how to harness the power of AI to scale their impact and operate more efficiently.

These emerging technologies offer profound possibilities for social impact organizations to better serve their clients. When implemented well, AI has the potential to accelerate program personalization, make precise predictions to drive better decision-making, and supercharge staff through automation.

To make this more concrete, consider the following opportunities for AI to enhance the social sector:

- **Healthcare:** Reducing friction in the patient experience and enhancing clinician workflows
- **Education:** Personalizing student and parent engagement for better learning outcomes
- **Humanitarian Aid:** Streamlining aid delivery and scaling individualized support
- **Public Sector:** Tailoring communications based on each resident's unique needs and preferences

Twilio.org is your trusted AI partner

Despite the opportunities that AI presents, it can be difficult for nonprofits to separate the signal from the noise when it comes to AI:

- Determining where AI will **add real value** for client experience and create tangible ROI for programs isn't always clear
- How to handle **risk associated with AI** use – data use, privacy, and compliance – is top of mind for many organizations who work in highly sensitive contexts
- Lastly, the technology is **evolving so rapidly**, it's easy to feel like you're constantly out-of-date

That's where Twilio.org comes in – we have a proven track record of making complex technology accessible for social impact organizations. We started by doing this for communications – making digital channels like SMS and Voice a key part of delivering social programs. Then, we did this for data – helping personalize engagement through contextual information about the person receiving those communications.

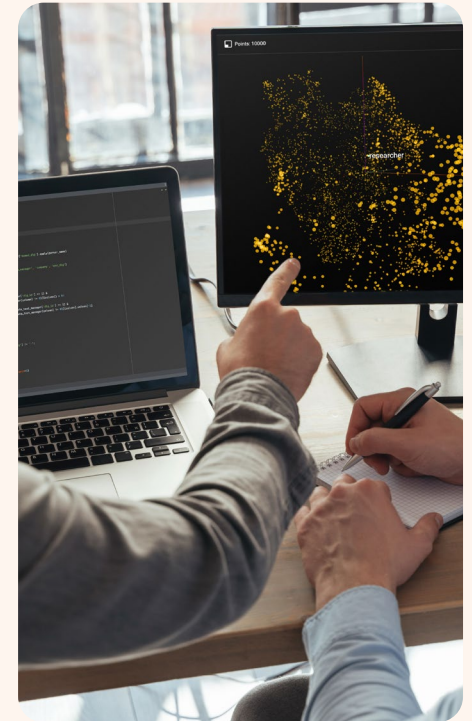
Now, we're turning our attention to AI, and how nonprofits and government entities around the world can maximize their use of this powerful technology. We're ready to partner with you on how to bring AI into your programs in a strategic and responsible way.

Two ways nonprofits can use AI with Twilio

At its core, Twilio is a Customer Engagement Platform (CEP) – combining communications and data – empowering social impact organizations to effectively engage with their clients as part of their programming. AI can be thought of as an accelerator to digital engagement, catalyzing personalization, workflow automation, and predictive capabilities.

There are two main ways of augmenting Twilio-powered engagement with AI that we'll discuss in detail in this whitepaper:

- **Twilio CustomerAI** - Twilio's built-in predictive and generative AI capabilities, seamlessly integrated with our data and communications platforms





- **Twilio + Third-Party AI** - Integrating external AI capabilities with Twilio's CEP. Specifically, combining Twilio Communication channels with third-party AI providers

Based on your organization's unique goals and requirements, it may make sense to choose either one of these approaches, or in some cases, it may make sense to combine both. Let's take a deeper look at CustomerAI, as well as how you can use Twilio Comms with a Third-Party AI platform.

Twilio CustomerAI

CustomerAI is Twilio's natively supported set of AI capabilities that sit atop our Customer Engagement Platform. Twilio's CustomerAI technology helps you combine real-time engagement data with AI to know and serve your clients better than ever before.

Twilio customerAI accelerates your engagement Flywheel

Twilio is built around the simple idea that better data drives better communications. Data-driven, personalized communications increase engagement, which in turn gives you even better data about the people you serve. This creates a virtuous cycle, or a flywheel, that builds deeper and more durable relationships, which ultimately can bring more ROI to your programs. When a clear, data-driven understanding of every individual (using Segment, Twilio's data platform) constantly informs the next interaction they have with you (using Twilio's communications platform) – the CEP flywheel begins to spin:

CustomerAI is the intelligence layer of Twilio's CEP that accelerates this flywheel and can help scale your programs to even greater heights. It uses powerful AI-insights to hyper-personalize every interaction, predict individual needs to drive targeted action, and improve staff workflows to streamline program delivery. In short, CustomerAI can make every client feel like they're the only person your organization serves.

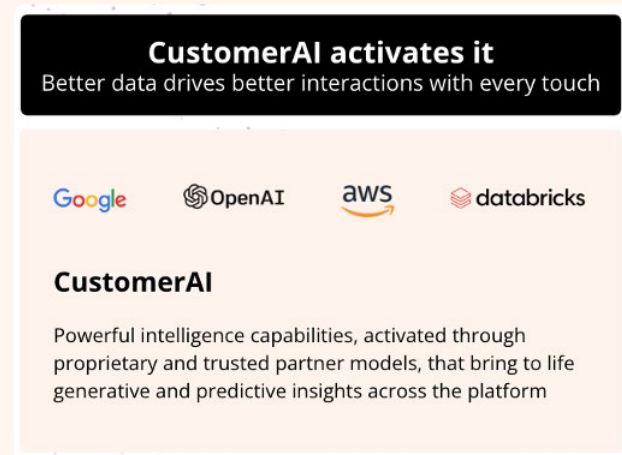
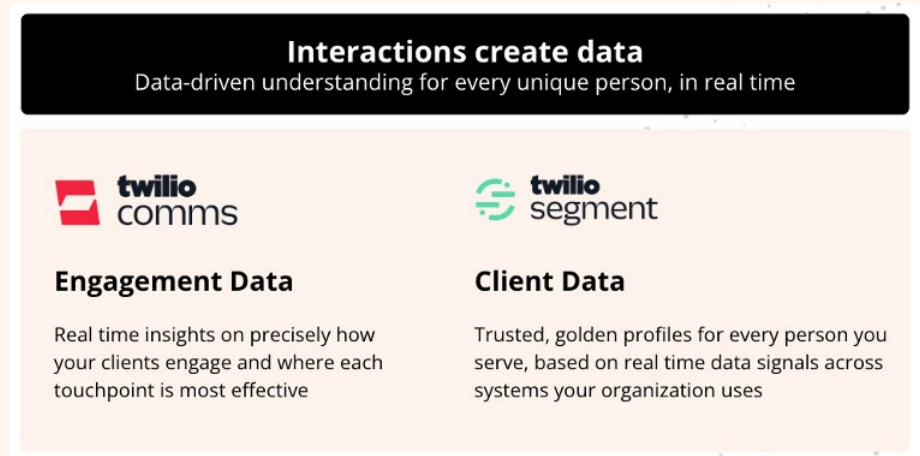


How does Twilio CustomerAI work?

CustomerAI combines the power of large language models (LLMs) with all of that realtime first-party data that flows through Twilio's Engagement Platform. It produces intelligent insights about the people you serve through a set of predictive and generative AI capabilities woven throughout Twilio's platform.

The interaction data that feeds CustomerAI combines engagement data from communication touchpoints with client data aggregated across your organization's systems, providing a 360-degree understanding for every unique person you serve. Put simply, interactions create data, and CustomerAI activates it accelerating truly personalized engagement:

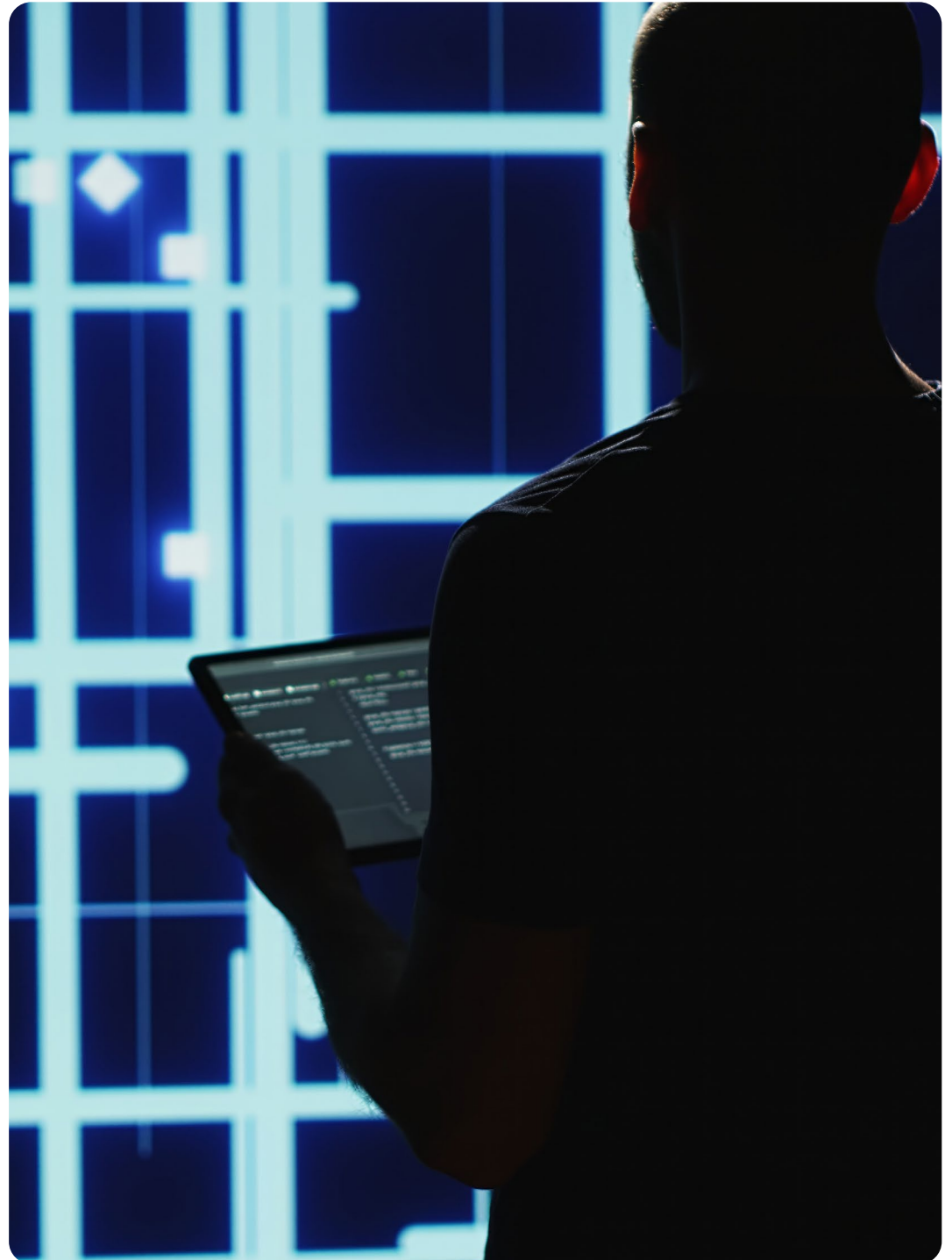
Twilio partners with leading AI providers like Google, OpenAI, and AWS that provide the trusted models underlying CustomerAI. Importantly, trust & privacy are a top priority in how we're building CustomerAI, which we'll cover in more detail in a later section.



CustomerAI features available now

CustomerAI is a rapidly expanding set of AI capabilities woven throughout Twilio's Communication and Data platforms. Let's take a closer look at a sample of the CustomerAI features that are available today, and how they can be used to scale the impact of social impact programs.

To learn more about CustomerAI features and how they could benefit your organization contact the [Twilio.org sales team](https://www.twilio.com/sales).



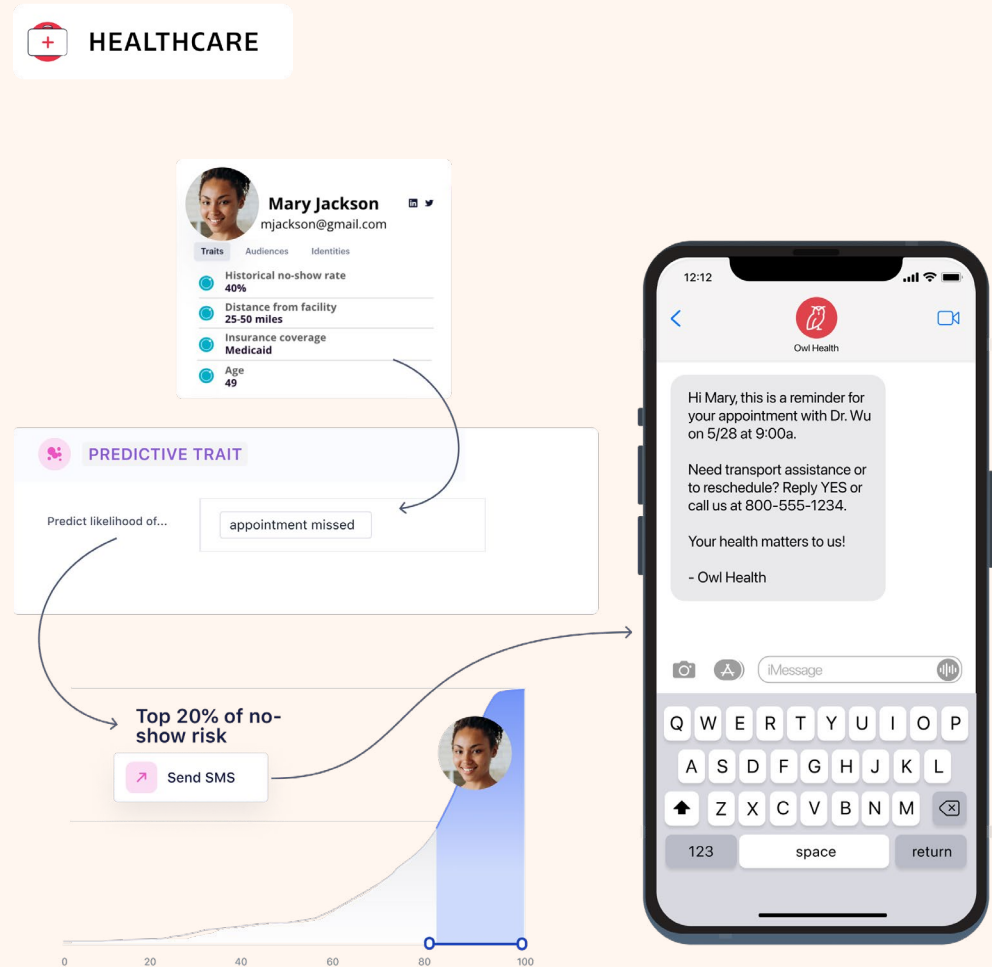
Predictive traits

With CustomerAI, you can predict future client behaviors and use these predictions to power personalized communications outreach. Built atop Golden Profiles in Segment, Prediction Traits uses machine learning models to estimate the likelihood that users will perform any event tracked in Segment. Predictive Traits get added to the client's Segment Profile, which then can be used to power more timely, targeted, and precisely personalized communications on any channel.

One practical example of AI Predictions for healthcare is the ability to predict the likelihood of patients missing their appointments. By identifying patients with a high likelihood of no-shows, healthcare providers can proactively target these individuals with additional SMS outreach and resources to ensure they attend their appointments. For instance, sending personalized reminders, offering transportation assistance, or providing flexible rescheduling options:

With Predictive Traits, any future client behavior can be predicted without needing to tap data science teams. Once you've assigned Predictive Traits, you can then leverage Twilio Segment's Audiences and Journeys features to target AI-tagged users with personalized communications campaigns. An additional use case for social impact organizations include predicting repeat donations to trigger targeted fundraising appeals.

| Example: Predict missed appointment to reduce no-shows



Generative audiences

Similar to AI Predictions, **Generative Audiences** is meant to simplify the process of launching personalized communications campaigns. This feature allows you to create precise cohorts of clients simply by describing them using a natural language prompt – rather than setting Audience parameters manually. From there, Segment will automatically build the audience with generative AI to enable targeted outreach to this group.

An example for educational institutions is using a simple plain-English prompt to identify students at-risk of dropout based on their GPA and attendance. Then, this school can use Journeys to push an SMS notification to this group of students to ensure they're aware of available tutoring services:

Generative Audiences can significantly reduce the time it takes to create groups of your program population, and use these Audiences to drive desired behaviors with intelligent, automated outreach.

| Example: Identify cohort of at-risk students to reduce dropouts

The screenshot displays the Segment 'New Audience' configuration interface. At the top, there's a 'New Audience' header with a progress bar showing steps: 'Select Type' (checked), 'Configure' (active), 'Select Destinations', and 'Review and Create'. A 'Cancel' button is in the top right. Below the header, the main area is titled 'Configure and Preview Your Audience' with a 'Realtime enabled' indicator. The interface is divided into two main sections. On the left, under 'This audience contains...', there's a text input field with 'All users who...' and an '+ Add Condition' button. Below this are two checkboxes: 'Include Anonymous Users' and 'Include Historical Data', with a note that the audience will include users who met the criteria in the past. On the right, a 'Help me build' dialog box is open, titled 'Help me build - Beta'. It contains a text prompt: 'Create an audience of at-risk students who have a low GPA and poor attendance.' Below the prompt, it says 'Use between 20 and 300 characters. Character count: 0 / 300.' A 'Build' button is at the bottom of the dialog. At the bottom right of the main interface, a summary box shows 'GENERATIVE AUDIENCE' and 'At-risk: 2,200 students'.

Flex agent copilot and Unified Profiles^{beta}

CustomerAI also extends to Flex – Twilio’s contact center platform – with Agent Copilot and Unified Profiles (in public beta as of June 2024).

- Unified Profiles embed rich, real-time data about clients directly into the agent UI from their Segment Golden Profile. Agents can view customer details and a timeline of previous activities, including wrap-up notes from previous interactions
- Agent Copilot uses generative AI and first-party data from the conversation to automate agent tasks – like auto-assigning sentiment, disposition codes, and summarizing the call

With CustomerAI in Flex, you can finally free agents to focus on what they do best—serving your clients. These features can help speed up agent workflows while surfacing critical insights needed to serve the people reaching out for assistance.

One example of how Unified Profiles and Agent Copilot is being used is in the humanitarian sector. Displaced individuals often contact humanitarian aid organizations multiple times through their resettlement process – these tools to supercharge aid agents in their wrapup workflows can help get these individuals the support they need faster, with less administrative burden.

| Example: AI wrap up for displaced persons contact center

The screenshot displays the Twilio Flex interface for a Humanitarian Aid project. The interface is divided into several sections:

- Header:** Shows the Twilio Flex logo and the current project name, "HUMANITARIAN AID".
- Client Profile:** Displays the name "Nataliya Panchenko" and a "Wrap up" button. Below this, there are fields for "Sentiment" (set to "Neutral") and "Disposition code" (set to "Requested legal services").
- Automated wrap up:** A callout box on the left states: "Automated wrap up: Assist agents with artificial intelligence to reduce time away from clients".
- Summary:** A text box provides a summary of the client's request: "Client is requesting legal support for immigration purposes. Specifically, client is aiming to achieve permanent resident status in Germany where she and her family have resettled."
- History Summary:** A callout box on the right states: "History Summary: Align quickly with a client overview and details on their full experience".
- Call History:** A list of interactions is shown, including "Inbound call" (Mar 18 2021), "Inbound call" (Jan 5th), "Inbound WhatsApp" (Sep 21st 2021), "Outbound call" (Jul 21st 2020), and "Inbound WhatsApp" (Jul 19th 2019).

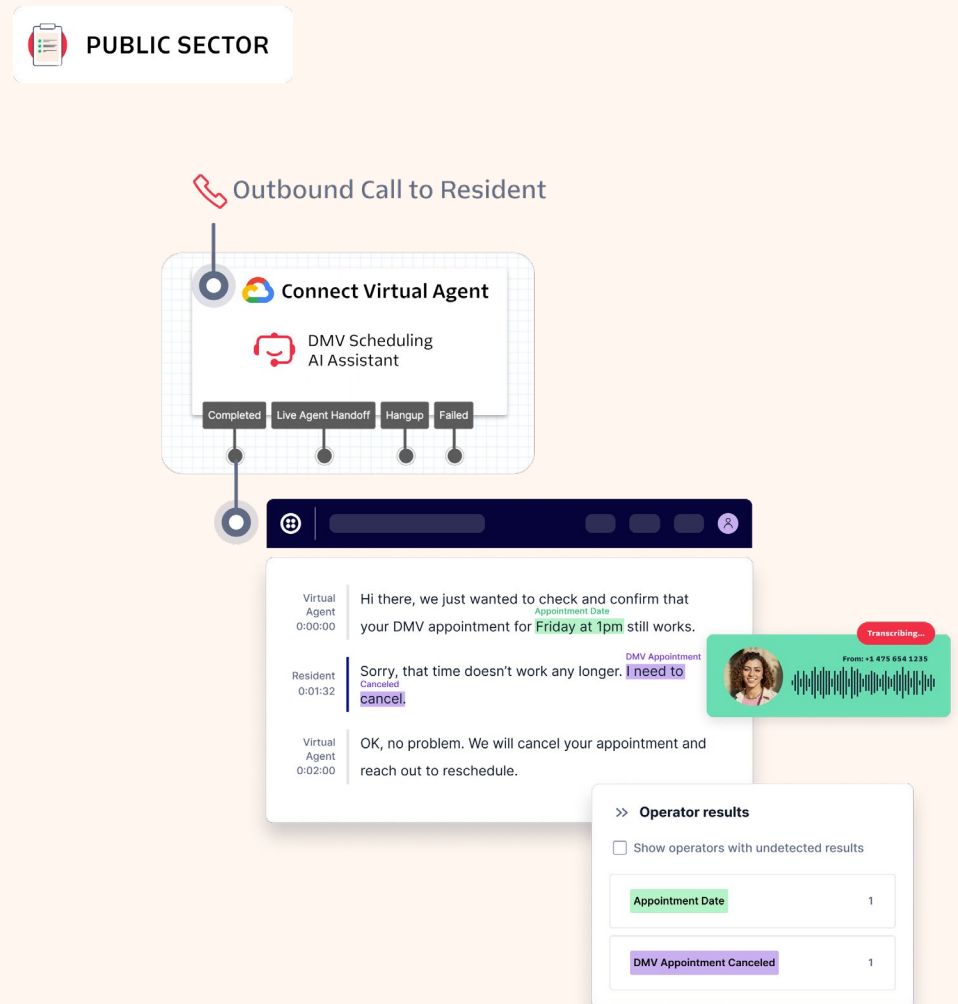
Virtual agents & voice intelligence

The traditional – and often frustrating – model of touch tone phone trees (press 1 for scheduling) is quickly being replaced with intelligent and conversational virtual agents. With Twilio's Virtual Agents & Voice Intelligence, you can provide frictionless self-serve experiences to your clients via voice and translate calls into actionable business insights. The combination of these features allows your organization to begin automating repetitive client-facing tasks to increase efficiency and keep staff focused on higher value work.

Virtual Agents lets you replace static Interactive Voice Response (IVRs) with a natural conversational experience powered by AI. Twilio partners with Google to bring industry-leading configurable AI agents to our Voice channel. While your clients speak with a virtual agent, Voice Intelligence can capture every actionable insight from the call – including multi-language call transcription, as well as AI language operators that can automatically detect key phrases. The results from language operators can be used for task automation, or for call analysis.

One example of how this can be used for a government program is deploying a Voice AI assistant for entirely automated DMV appointment confirmations. An outbound call is placed, and the resident is connected to the scheduling assistant on pickup. The resident's conversational responses are automatically handled by the Virtual Agent, and Voice Intelligence language operators are used to kick off the proper back-end processes to act on resident input.

Example: Voice AI assistant for automating appointment confirmations





AI trust & privacy

At Twilio, we recognize that AI does not come without risk, and we're committed to ensuring that CustomerAI's foundations (like all of our capabilities) are rooted first and foremost in trust. We realize this is especially important given the sensitive nature of engagement for many Twilio.org customers.

We view the use of AI and the protection of privacy as a shared responsibility between our customers and Twilio. To support this, we have adopted a set of CustomerAI Trust Principles to guide the responsible development, use, and deployment of predictive and generative AI across all of Twilio's products and features.

Twilio Customer AI Trust Principles



Transparent

We provide transparency about our use of AI and give our customers the ability to control their data.

We help our customers make informed choices about whether to use different types of AI models by being fully transparent about the AI vendors and type of models we are using, and how customer data is used by those models.

One of the ways we provide transparency to customers is through our [AI Nutrition Facts Labels](#). These labels are assigned to each AI-driven product and feature that we launch, bringing all of the key details front and center in a simple and easily understandable format.



Responsible

We select responsible AI vendors, and strive to use, and help our customers use, AI in a way that respects privacy, keeps data secure and minimizes the risk of bias or other harms.

Twilio performs a privacy and security assessment prior to working with any AI vendor to ensure they meet our privacy and security standards and requires specific contractual commitments. These include a specific commitment not to use customer data to train their models.

An example of responsibility in practice is [Twilio's AI Privacy Ladder](#) – For each AI-driven product or feature that you may opt to use, this ladder shows the type of data used to train or fine tune a model, and whether the model is exclusively for your use or the use of multiple customers.



Accountable

We monitor the functioning of AI to address harm and fitness for purpose in partnership with our AI vendors and customers.

Twilio exercises auditing, logging, and monitoring to ensure our AI is operating as intended. Additionally, we offer a number of guardrails to prevent unintentional harm from use of AI, including requiring human approval when appropriate as well as continuously monitoring for toxicity and other harms.

Twilio + third-party AI

In addition to natively supported CustomerAI features, there's another way to use AI with Twilio – integrating Twilio Communications products with Third-Party AI platforms.

This type of AI deployment strategy may be valuable if:

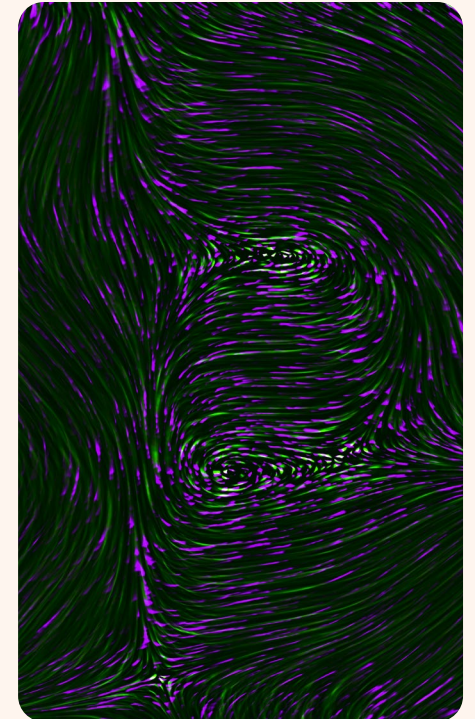
- You want full control and customizability of underlying AI/ML technologies and how they are used for client-facing engagement workflows
- You need a predictive or generative AI feature not currently supported by CustomerAI
- You want to use your own proprietary AI models

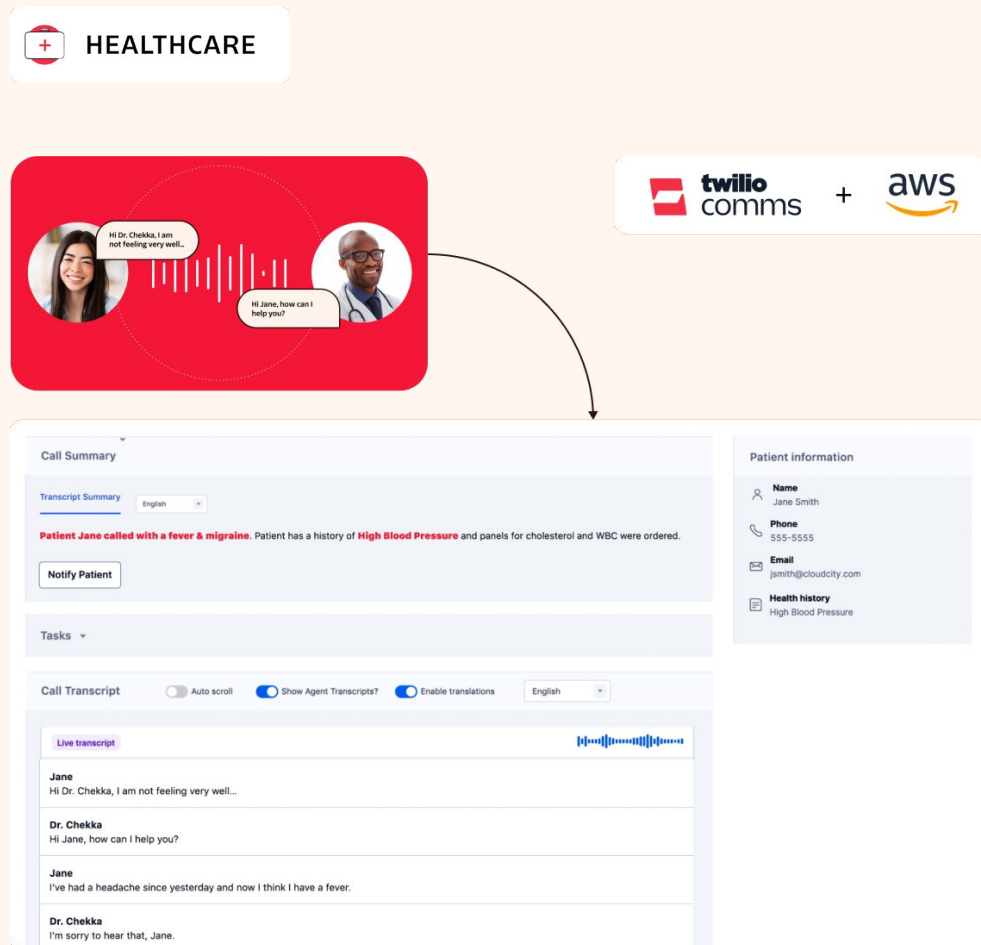
How do I use Twilio with third-party AI?

We'd suggest starting with one of Twilio's recommended Third-Party AI vendors – Google Cloud, OpenAI, AWS, and/or Databricks. You'll need to select the specific AI product/feature(s) from your chosen vendor based on your use case. This could be something like text-based generative AI, real-time language transcription, or predictive analytics.

Then, Twilio's Developer APIs can be used to integrate with one or more of these AI platforms. Twilio's APIs are open and extensible by nature. At Twilio, we've always believed builders should be free to build with tools, products, and services that work beautifully (and intuitively) with the rest of your stack. This is no different with AI, our Channel APIs are interoperable with generative and predictive AI layers.

All of this can be packaged together into an "AI App" for end-users combining Twilio's APIs with your AI platform of choice. This will likely require some custom development to integrate these services together, and serve the end-user experience. This type of Twilio + Third-Party AI architecture often includes a back-end application that acts as this orchestration layer.





This type of AI-powered application, integrated with Twilio communication channels (such as SMS and Voice), can free up healthcare providers to focus more on the patient's needs, and less on mundane administrative tasks.

Over the long term, this could mean less clinician burnout and higher patient satisfaction.

*AI clinician app built as an illustrative demo and is not available for purchase as a combined solution.

Use case examples

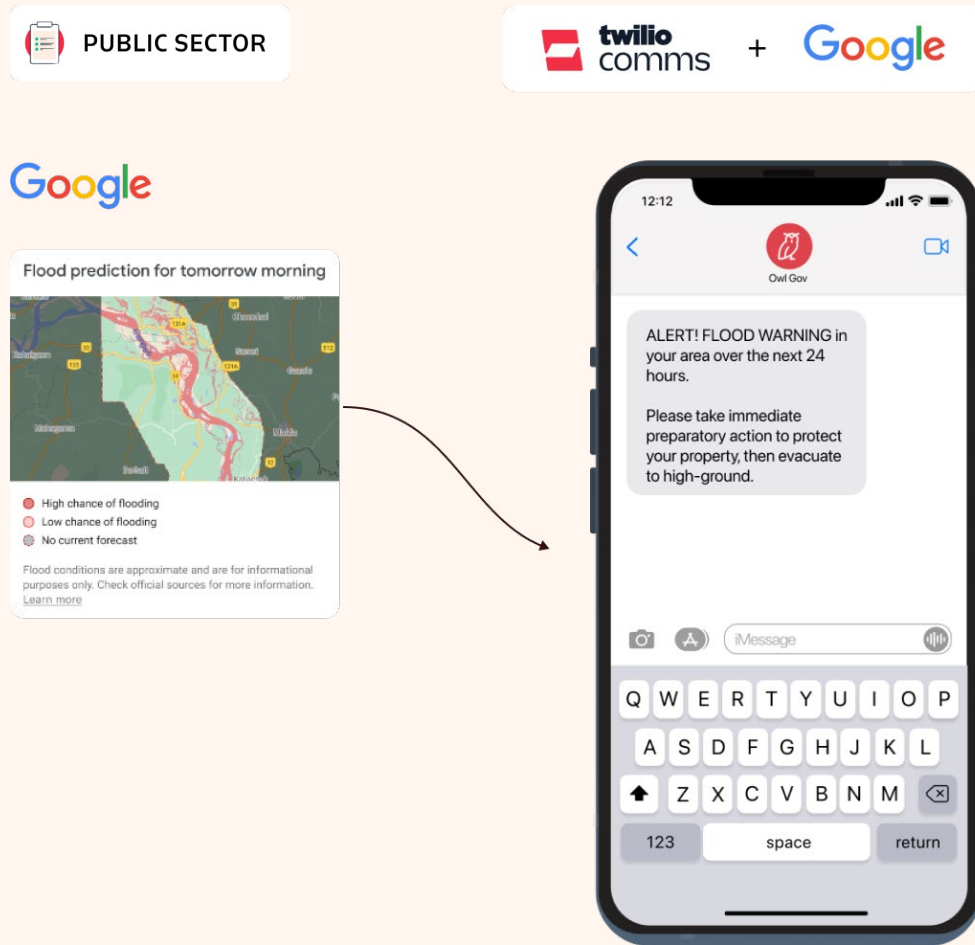
For additional examples of using Twilio with Third-Party AI platforms, as well as detailed architecture diagrams, please contact the [Twilio.org sales team](https://www.twilio.com/sales).

Improve clinician productivity with AI

One example of combining Twilio with a Third-Party AI platform: Twilio.org partnered with AWS to create a demo app that equips healthcare clinicians with an AI copilot to improve their productivity while seeing patients*.

While the clinician is conducting a telehealth visit, AWS AI capabilities handle real-time call transcription, and translation, while Twilio's Voice Channel provides the connectivity for the telehealth visit.

Once the visit is over, AWS AI generates a post-call summary capturing any follow-up tasks discussed during the call. Twilio SMS is integrated to be able to send this recap to the patient – in multiple languages – instantly. Twilio's Comms channels and AWS' AI capabilities are seamlessly integrated into a clinician-facing application used to review the results of the visit and confirm next steps.



AI-powered early flood warnings

Another example of combining Third-Party AI with Twilio is an Early Flood Warning alert system. [Google Flood Hub](#) uses sophisticated AI models to predict water levels that are hyper-targeted to specific locations around the world. This is increasingly important to mitigate the impact of water emergency disasters through saving lives and property damage as climate change worsens.

FloodHub can then be configured to integrate with Twilio communications channels like SMS or Voice, to be able to notify people in real-time when there is increased flood danger. This is relevant for public sector emergency response organizations that would like to notify residents and/or staff of impending flooding to encourage precautionary measures.

Conclusion

Get started on your AI journey today

Twilio.org's AI-powered engagement solutions provide nonprofit and government organizations with the tools to scale their impact and achieve program outcomes efficiently. By starting to invest strategically in AI today, you can set your organization on a path to serving clients and supporting staff like never before.

By leveraging CustomerAI and/or integrating Twilio with third-party AI platforms, organizations can deliver personalized, predictive, and automated interactions, enhancing overall participant experience and program effectiveness. As AI technology continues to evolve, Twilio.org remains committed to being your trusted partner, ensuring responsible and secure AI deployment.

To explore how AI can accelerate your organization's unique engagement goals, please contact the [Twilio.org sales team](#) today.



Thanks for reading

[Twilio.org](https://www.twilio.org) exists to bring the power of Twilio's Customer Engagement Platform to organizations advancing social good – from nonprofits and NGOs, to universities, hospitals and local governments.

If you would like to learn more about what Twilio products can do for your organization please [contact the sales team](#).