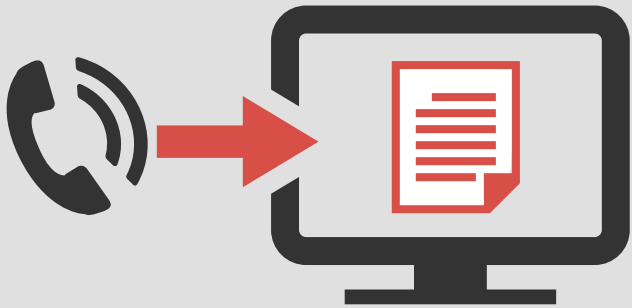




Supporting the Singapore Government's Smart Nation initiative Sabio enables digital Ask Jamie self-service capability for GovTech – the Government Technology Agency of Singapore



sabio  
DIGITAL



**50%**  
call deflection into  
government websites  
Improving call centre  
productivity for agencies



**No wrong door Policy**

Simplifying citizen  
interactions with  
Virtual Assistant



**15million**  
answers since 2014

Resolving citizens'  
questions promptly



The Government Technology Agency (GovTech) drives Singapore's Smart Nation initiative and public sector digital transformation.

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We are going through an age of digital transformation, with technology changing the way we live, work and play. Singapore's Smart Nation initiative drives adoption of digital and smart technologies throughout the country, and a core pillar of the initiative is our focus on building products and services that help make citizens' lives better.

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Dominic Chan, Director, Moments of Life, GovTech Singapore

As part of this, GovTech had been exploring the use of Virtual Assistants and Artificial Intelligence technology to help Singapore's citizens and businesses navigate online government services and improve service delivery. The idea

to create an intelligent chatbot for government agencies was originally seeded in 2014, after a survey revealed that approximately half of the queries by visitors to government agencies were general enquiries.



## The Challenge

In looking to support its Virtual Assistant project goals, GovTech looked for a solution that would be cost-effective, customisable and agile. At the same time, any solution would have to be engaging and easy-to-use, particularly given the projected volume of people using the Virtual Assistant. Citizens would need to have a positive user experience when they needed information about Singapore Government services.

## The Solution

After an initial proof of concept across four Singapore websites, GovTech selected Sabio's Digital Assistant solution as the core platform for its Whole of Government Ask Jamie Virtual Assistant. Instead of simply using FAQs that just provide a list for citizens to read through, the Ask Jamie solution gives direct answers, using its Natural Language Processing (NLP) engine to understand the questions posed by the public and responding with an appropriate answer.

## The Results

In the 5 years since launch, Ask Jamie has delivered impressive results including:

- **Scalable support for Ask Jamie expansion** – Ask Jamie supports 80 Singapore Government websites and 9 Intranet sites.
- **Handling millions of citizen enquiries** – Ask Jamie has already answered over 15 million questions from citizens.
- **Self-service** – Ask Jamie exerts downward pressure on contact volumes, with up to 50% reduction in enquiries that would have previously gone to call centres.

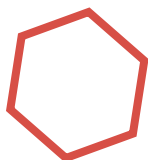
## Developing GovTech's Ask Jamie project

### Understanding the importance of self-service for citizen engagement

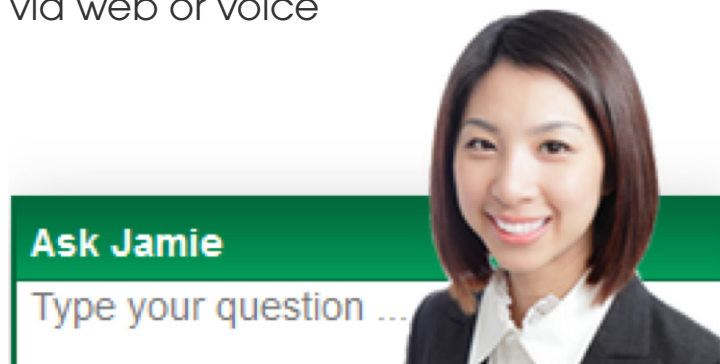
In developing its self-service proposition, GovTech was looking for new ways to engage citizens, allow users to self-help, and improve call centre productivity for Singapore's government agencies. As part of the Smart Nation initiative, GovTech was also committed to a 'no wrong door' approach, providing citizens with access to the answers they need regardless of the agency site they originally visited.

GovTech's vision was for a Virtual Assistant that could be implemented on agency websites and trained to be able to answer queries within specific domains. Virtual Assistant technology would help to provide direct responses to citizens who prefer to search for information online and, in turn, contact centre agent resources could be refocused on handling more complex citizen queries and issues.

After initial pilot projects investigating potential self-service approaches, GovTech engaged Singapore-based Sabio - former flexAnswer - to provide core full-stack Virtual Assistant technology, to support the roll-out of its Ask Jamie self-service project.



**Ask Jamie's responses are customised for GovTech's various customer channels**, and answers that citizens receive may vary depending on whether they access the Virtual Assistant via web or voice



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Ask Jamie has been a cost-effective solution. The team has been agile in customising the solution to meet our needs.

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Dominic Chan, Director, Moments of Life, GovTech Singapore

## Accelerating Ask Jamie deployments for GovTech

### Continually training the Ask Jamie chatbot to improve service delivery

Once GovTech had selected Sabio for the Ask Jamie programme, the deployment phase moved quickly.

Trained on a vast repository of Q&As between citizens and staff at government agencies, Ask Jamie has become proficient at identifying keywords in questions and giving accurate replies. And should a question prove more complex than it can handle, Ask Jamie knows how to escalate it to the relevant party, either via a form or via a live chat. Critically, any government officer that subsequently responds to an 'escalated' query will have already received the conversation history between Ask Jamie and the enquirer, which helps set the context for follow-up correspondence.

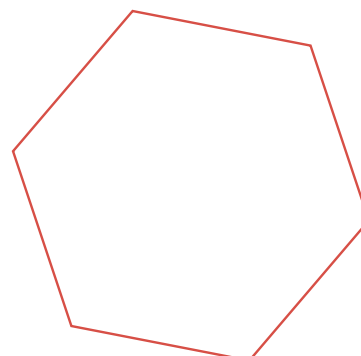


**Deployed over 80 sites**

**One of the largest Whole of Government deployments worldwide**

Ask Jamie uses the Sabio Digital Assistant Natural Language Processing (NLP) engine to understand the questions posed by the public and responds with an appropriate answer. When an answer entails multiple permutations, Ask Jamie can be trained to ask follow-on questions. This helps to refine the answer to one relevant to the user's query.

GovTech's goal is to provide support for multiple web-based customer service solutions for Government departments and agencies across Singapore. After four sites were initially deployed as a proof of concept, and following the selection of Sabio's full-stack Digital Assistant technology from the whole-of-government tender, a further 23 sites were deployed in 2016 and 48 more in 2017.



## Enriching the digital customer experience with Ask Jamie

Ask Jamie has been an instrumental platform in the Singapore Government's efforts to improve service delivery, with the Virtual Assistant solution bringing about a number of key benefits, including:

- Greater convenience and accessibility to the government, 24/7;
- Quick and direct answers to queries;
- Availability of self-help and reduced need for call centres;
- Ability to get help without the need to know which agencies to go to; and
- Better user experience through conversational digital interactions

### Embracing 'No Wrong Door'

Thanks to its strategic 'No Wrong Door' approach, the Ask Jamie Virtual Assistant is able to pull information from the relevant government agency and display an answer where the query was originally posed.

For example, a citizen may ask about Primary 1 registration on the Singapore Land Authority (SLA) website and Ask Jamie will be able to retrieve and offer an answer from the Ministry of Education's Virtual Assistant in the same SLA chat window. Another example could be a citizen asking about her Baby Bonus eligibility on the Ministry of Manpower website, and Ask Jamie being able to retrieve and offer an answer from the Ministry of Social and Family Development's site.

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Ask Jamie simplifies citizen interactions and enables customers to self-serve. This reduces the need for citizens to call in to Government contact centres.

Dominic Chan , GovTech

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### Evolving Ask Jamie from conversations to transactions

Ask Jamie started out as an interactive service for citizens to find information easily, instead of having to trawl through FAQ pages for what they required. Today, Ask Jamie's capabilities have grown significantly. Working with Sabio, GovTech has now been able to extend Ask Jamie's outreach capabilities to help citizens perform hands-free voice transactions over the phone, without using buttons or dials.

For example, Singapore citizens who want to opt-in for their Central Provident Fund (CPF) statements online can now do so using Ask Jamie. Citizens can also go to the Inland Revenue Authority of Singapore (IRAS) portal and use Ask Jamie to check if they need to file taxes for the year. For this, they will be directed to log in using SingPass, and can immediately proceed with their transactions thereafter.

### Transitioning towards Ask Jamie Voice

GovTech is continually working on ways to improve the Ask Jamie Virtual Assistant and its ability to address general queries. Ask Jamie's capabilities have been extended with a brand new Ask Jamie Voice functionality, where the Virtual Assistant recognises speech. This relieves call centre agents from tending to routine enquiries, leaving them free to focus on more complex citizen queries.

### Creating a broader ecosystem of multi-avenue citizen engagement

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As technology continues to improve, we're working to ensure that Ask Jamie becomes even more functional and helpful.

Dominic Chan , GovTech

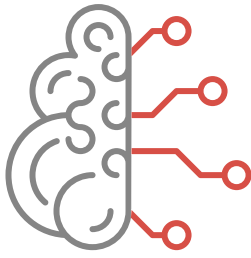
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By combining voice recognition and speech-to-text technology, Ask Jamie can answer calls directly. This function has been rolled out initially for Singapore's Ministry of Social and Family Development (MSF) – where a project on automated call answering has now been extended to 12 more hotlines – and the Ministry of Education. These developments bring us closer to integrating Ask Jamie into a broader ecosystem of multi-avenue citizen engagement.

GovTech will continue to roll out Ask Jamie Voice to other government agencies, and is also working on building Ask Jamie's multi-channel capabilities to improve the service's accessibility to citizens. One such channel currently being developed is an Ask Jamie bot on Facebook Messenger. GovTech is also exploring ways in which the National Speech Corpus can be leveraged to improve speech recognition technology. Developed by IMDA, the National Speech Corpus contains over 2,000 hours of locally-accented audio samples and corresponding text transcriptions.

With Ask Jamie moving to multi-channel, our goal is to provide Singapore citizens with seamless communication and access to government services





**42,000**  
question and  
answer pairs

## Ask Jamie – bringing citizens closer to government services

Now almost five years old, Ask Jamie has become an instrumental platform in the Singapore Government's efforts to improve service delivery, with the Virtual Assistant solution bringing about a number of key benefits.

- Ask Jamie has answered over 15 million citizen questions to date
- Largest single Whole-of-Government Virtual Assistant deployment worldwide
- The Ask Jamie knowledgebase now holds some 42,000 question and answer pairs, with escalation to live chat should further escalation be required
- Ask Jamie is now deployed on 80 separate Singapore Government and agency websites, and supports a further 9 intranet sites
- With its ability to recognise and respond to general citizen queries, Ask Jamie now successfully answers over 50% of the questions that would previously have required contact into a Government call centre
- As a result, traffic into Singapore Government call centres has been significantly reduced, resulting in the lowest call centre volumes for the last five years
- Reduced call centre traffic volumes have also freed agents to focus on resolving more complex citizen queries instead of spending time on routine queries

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Ask Jamie deals with over 50% of the citizen enquiries that would previously have gone through to Singapore Government call centres.

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Dominic Chan, Director, Moments of Life, GovTech Singapore

