

SOLUTION BRIEF

AI Call Center by ICT

Prepared by: ICT Team

ICT W.L.L. | Doha, Qatar
www.ict.com.qa | info@ict.com.qa



Table of Contents

TABLE OF CONTENTS	2
1. EXECUTIVE SUMMARY	3
2. BUSINESS CHALLENGE	3
3. SOLUTION OVERVIEW	4
4. CORE PLATFORM CAPABILITIES	4
4.1 FULL VISIBILITY ACROSS THE CONTACT CENTER	4
4.2 REAL-TIME ANALYTICS AND MACHINE LEARNING	5
4.3 GLOBAL SPEECH AND DATA ANALYTICS	5
4.4 RAPID INVESTIGATION WITH SMARTSCORE	5
4.5 AZURE AI ORCHESTRATION AND KNOWLEDGE ENRICHMENT	5
5. SOVEREIGN ARCHITECTURE	5
6. SECURITY, ACCESS, AND COMMUNICATION PROTECTION	6
6.1 OMNICHANNEL DEVICE AND CHANNEL CONTROL	6
6.2 SESSION BORDER CONTROL AND ENCRYPTION	6
6.3 AI SPEECH ANALYTICS AND SENTIMENT DETECTION	6
6.4 FLEXIBLE RESPONSE AND ESCALATION OPTIONS	7
7. ICT AI CALL CENTER ADVANTAGE	7
7.1 EXTENDED VOICE INTELLIGENCE DATA MODULE	7
7.2 INTERACTION INSIGHTS	7
7.3 CALL FORENSICS	7
7.4 BEHAVIORAL ANALYTICS AND ITDR	7
7.5 ADVANCED SEARCH AND HUNTING	8
7.6 MANAGED CONTACT CENTER OPERATIONS	8
8. UNIFIED MANAGEMENT AND REPORTING	8
9. DEPLOYMENT MODEL	8
10. PLATFORM TIERS	ERROR! BOOKMARK NOT DEFINED.
11. RECOMMENDED NEXT STEPS	9

1. Executive Summary

The ICT AI Call Center protects the entire customer experience through a sovereign, AI-powered contact center platform designed for modern service operations. Legacy contact center environments often depend on fragmented voice channels, slow response handling, limited operational visibility, and disconnected customer data. These constraints increase service risk, reduce agent productivity, and make it difficult for organizations to meet rising expectations for speed, personalization, and compliance.

ICT delivers a production-ready AI Contact Center architecture that unifies voice, data, and intelligence across Genesys Cloud, Twilio, Cisco, Azure Communication Services, and enterprise data platforms. The solution enables real-time routing, agent assistance, speech intelligence, incident-level analytics, and secure data governance while keeping AI processing and customer data inside the organization's controlled environment.

The platform is built for organizations that require enterprise-grade customer experience operations, measurable service improvement, and sovereign cloud delivery. By combining self-hosted AI, real-time speech processing, secure Azure services, and ICT managed operations, the ICT AI Call Center helps teams detect issues early, respond with precision, and continuously improve service quality.

2. Business Challenge

Customer-facing teams need fast, consistent, and compliant responses across every interaction. In many environments, the contact center is constrained by siloed telephony platforms, disconnected CRM workflows, limited speech analytics, and manual investigation processes. Even when organizations deploy multiple communication tools, they can still lack enterprise-wide visibility, real-time AI assistance, and a trusted approach to data sovereignty.

These operating gaps create measurable business exposure. Service teams spend valuable time reviewing fragmented alerts, agents do not always receive the right knowledge at the right moment, supervisors lack complete context during escalations, and compliance teams struggle to trace interaction evidence across voice, chat, identity, and line-of-business systems. A new operating model is required: one that brings every interaction, customer signal, AI model, and operational workflow into a secure and intelligent contact center architecture.

3. Solution Overview

The ICT AI Call Center is a sovereign AI-powered contact center platform that integrates communication channels, enterprise knowledge, customer data, and operational intelligence into one controlled architecture. The solution enables operations teams to prevent poor experiences, detect service issues, and respond to customer interactions with speed and confidence.

The platform brings together intelligent call routing, real-time agent assistance, live monitoring, speech-to-text and text-to-speech processing, interaction analytics, identity governance, and centralized incident response. It supports enterprise-grade deployment on Microsoft Azure with private endpoints, secure data staging, containerized AI workloads, and integration with the organization's sovereign data center.

Capability Area	ICT AI Call Center Response	Business Outcome
Contact Center Visibility	Unifies voice, chat, CRM, EDW, and operational data streams across supported communication platforms.	Creates a single operational view of the customer experience and reduces blind spots.
Real-time Intelligence	Applies speech processing, sentiment analysis, machine learning, and SmartScore-based prioritization.	Accelerates detection of service failures, compliance risks, and high-impact escalations.
Agent Productivity	Provides contextual knowledge retrieval, AI-guided responses, and live support workflows for active interactions.	Improves response consistency and helps agents resolve issues faster.
Sovereign AI	Runs AI models and speech workloads inside the controlled data center and Azure private architecture.	Protects sensitive customer data and supports compliance-driven operating requirements.
Operational Response	Groups related signals into incidents, supports live monitoring, and automates enrichment through integrated playbooks.	Reduces investigation effort and enables coordinated response from one console.

4. Core Platform Capabilities

4.1 Full Visibility Across the Contact Center

The ICT AI Call Center automatically unifies voice, chat, and data streams from Genesys Cloud, Twilio, Cisco, and Azure Communication Services. The platform correlates third-party alerts with call data, customer records, and operational context so supervisors and analysts can identify service gaps without manually switching across systems.

4.2 Real-Time Analytics and Machine Learning

The platform continuously profiles call patterns, agent behavior, queue activity, and interaction outcomes. Machine learning models detect anomalous activity that may indicate service failures, compliance exposure, fraud attempts, or compromised agent accounts. Interaction risk scoring gives teams a prioritized view of the issues that require immediate action.

4.3 Global Speech and Data Analytics

The AI analytics engine identifies advanced patterns across interactions, including emerging complaints, repeated call drivers, sentiment shifts, and agent performance trends. By combining voice, enterprise data warehouse, CRM, and line-of-business data, the platform detects subtle issues that siloed telephony and CRM tools routinely miss.

4.4 Rapid Investigation with SmartScore

Every interaction includes a complete view of the customer journey with call artifacts, AI-generated intelligence, transcripts, metadata, and sentiment details. SmartScore uses machine learning to identify high-risk interactions, helping teams assess escalation scope and operational impact before a situation worsens.

4.5 Azure AI Orchestration and Knowledge Enrichment

The solution integrates with Azure AI Search, Azure Cosmos DB, Azure SQL, and on-premises knowledge bases to power automated agent assistance and customer response workflows. AI playbooks ingest transcripts, retrieve relevant knowledge articles, enrich incidents, and update CRM fields in real time.

5. Sovereign Architecture

The ICT AI Call Center architecture is designed for end-to-end sovereign AI operations. Communication channels and enterprise data sources are onboarded into a controlled platform layer where speech workloads, analytics, and orchestration services operate within the organization's sovereign data center and Azure private architecture. This approach broadens the scope of customer intelligence while helping the organization protect sensitive customer information.

The platform detects service failures with AI, analytics, and preconfigured routing rules. It simplifies investigations by revealing root cause, sentiment, interaction sequence, and related operational signals. By grouping related events into incidents, the platform reduces alert fatigue and enables supervisors to focus on the interactions that matter most.

Architecture Layer	Primary Components	Purpose
Communication and Voice Integration	Genesys Cloud, Twilio, Cisco, Azure Communication Services, SIP/RTP, MPLS SIP trunk, Session Border Controller	Connects core communication channels and provides controlled voice session management.
AI and Speech Processing	Self-hosted AI models, on-premises STT/TTS engine, sentiment analytics, SmartScore, behavioral analytics	Processes interactions securely and converts live communication into actionable intelligence.
Data and Knowledge Services	Azure SQL, Azure AI Search, Azure Cosmos DB, enterprise knowledge base, CRM and EDW integrations	Stages, indexes, enriches, and retrieves enterprise content for automated assistance and reporting.
Security and Governance	Azure AD RBAC, Key Vault, Defender for Cloud, F5 WAF, encryption, private endpoints	Protects access, secrets, workloads, network paths, and customer data across the platform.
Operations and Observability	Azure Monitor, dashboards, incident console, public APIs, managed AI operations	Provides continuous monitoring, reporting, response coordination, and integration with third-party tools.

6. Security, Access, and Communication Protection

6.1 Omnichannel Device and Channel Control

The platform monitors and manages inbound and outbound voice sessions to protect the contact center from unauthorized access and data leakage. Administrators can restrict channel usage by carrier, device type, endpoint, Active Directory group, agent, queue, or supervisory function without adding unnecessary complexity to telephony infrastructure.

6.2 Session Border Control and Encryption

The solution uses Session Border Controller capabilities, F5 WAF, and end-to-end encryption controls to reduce communication risk and support regulatory requirements across voice channels. Inbound and outbound SIP/RTP communications can be governed centrally across carrier networks and enterprise networks.

6.3 AI Speech Analytics and Sentiment Detection

The on-premises STT/TTS engine analyzes every call and continuously learns from new interaction patterns. Behavioural analytics examines sentiment, language, agent activity, and related interactions to identify compliance risks and service degradation as they occur. Integration with Azure AI Search strengthens the accuracy and coverage of agent assistance workflows.

6.4 Flexible Response and Escalation Options

The unified console enables operations teams to contain voice, digital, and data risks from one location. Supervisors can restrict activity to and from specific queues, update blocked-number lists, perform silent monitoring, run whisper coaching, or use barge-in controls during active interactions when escalation handling requires immediate intervention.

7. ICT AI Call Center Advantage

7.1 eXtended Voice Intelligence Data Module

Data collection is central to effective contact center intelligence. The eXtended Voice Intelligence Data Module enhances the Professional tier by onboarding additional voice event types and strengthening AI analytics capabilities. It supports proactive operations by giving leaders deeper insight into call flows, agent performance, customer behavior patterns, and interaction outcomes.

7.2 Interaction Insights

Interaction Insights provides a holistic view of customer journeys and issue containment. The module helps teams identify and resolve service failures by combining customer sentiment assessment, agent performance inventory, and targeted pattern search for problematic interactions.

7.3 Call Forensics

Call Forensics gives analysts a structured triage and investigation capability. Teams can review interaction evidence, search for compliance issues, simplify investigations, and perform service quality assessments from one console. Deep call recording and metadata collection provide immediate access to transcripts, sentiment scores, and related artifacts.

7.4 Behavioral Analytics and ITDR

Identity Analytics uses machine learning and data collection to identify abnormal agent and entity behavior. By ingesting activity feeds from endpoints, telephony systems, Active Directory, and related platforms, the solution helps organizations detect compromised accounts, malicious insiders, and identity-related risks. The Identity Threat Detection and Response module supports investigation, scoring, and impact assessment.

7.5 Advanced Search and Hunting

Analysts can use Query Builder and XQL Search to uncover hidden service failures, targeted issues, fraud attempts, and insider threats. Queries can be saved, scheduled, and visualized to help teams continuously monitor hard-to-find interaction patterns across customer intelligence and operational data.

7.6 Managed Contact Center Operations

ICT Managed Contact Center Operations provides expert-led monitoring, tuning, optimization, and service management for the voice and AI estate. ICT specialists, AI engineers, and operations analysts help customers scale quickly, maintain operational excellence, and focus internal teams on customer experience innovation.

8. Unified Management and Reporting

The management console provides end-to-end support for channel policy management, AI model monitoring, investigation, reporting, and incident response. Custom dashboards show the operational status of contact center queues, AI workloads, service trends, incidents, and compliance indicators. Reports can be scheduled or generated on demand, while public APIs extend management into CRM, workforce management, and third-party operational platforms.

Through centralized management, the ICT AI Call Center enables teams to retrieve incidents, update records, collect agent information, and contain voice threats from the management environment that fits their operating model. This unified approach reduces manual work, improves response consistency, and supports better governance across the customer experience estate.

9. Deployment Model

The ICT AI Call Center is delivered through a sovereign Azure cloud architecture that minimizes operational complexity while protecting sensitive workloads. Organizations can deploy the platform across private and public cloud environments, including Microsoft Azure, AWS, and Google Cloud, with Kubernetes integration through Azure Kubernetes Service for containerized AI voice workloads.

The platform can begin delivering value with one CCaaS integration, then expand coverage by adding more channel sources, enterprise data sources, and knowledge repositories. Additional integrations eliminate blind spots, reduce response time, improve cross-channel insight, and consolidate call recordings and interaction data into a scalable repository.

Deployment Step	ICT Activity	Customer Outcome
1. Discovery and Design	Assess contact center channels, data sources, security requirements, compliance priorities, and integration dependencies.	A clear implementation blueprint aligned to operational objectives and sovereignty requirements.
2. Platform Foundation	Deploy Azure infrastructure, private endpoints, governance controls, monitoring, and secure data staging services.	A controlled foundation for AI, speech processing, and interaction analytics.
3. Channel Onboarding	Integrate Genesys Cloud, Twilio, Cisco, Azure Communication Services, SIP/RTP, and required telephony enforcement points.	Unified visibility across the active communication estate.
4. AI Enablement	Deploy self-hosted AI models, STT/TTS services, knowledge retrieval, sentiment analytics, and SmartScore workflows.	Real-time intelligence for agents, supervisors, and operations analysts.
5. Operations Handover	Configure dashboards, incident rules, response playbooks, managed operations, reporting, and continuous improvement cycles.	Production-ready operations with measurable service governance and ongoing optimization.

11. Recommended Next Steps

ICT recommends a structured engagement to validate the contact center operating model, confirm integration priorities, define sovereignty requirements, and establish a phased deployment roadmap. The next step is to conduct a focused discovery workshop covering channels, voice architecture, customer data sources, knowledge repositories, security controls, reporting needs, and managed operations expectations.