Avaya IoT

Digital Transformation is Accelerating

Disruptive Technology Adoption is Increasing
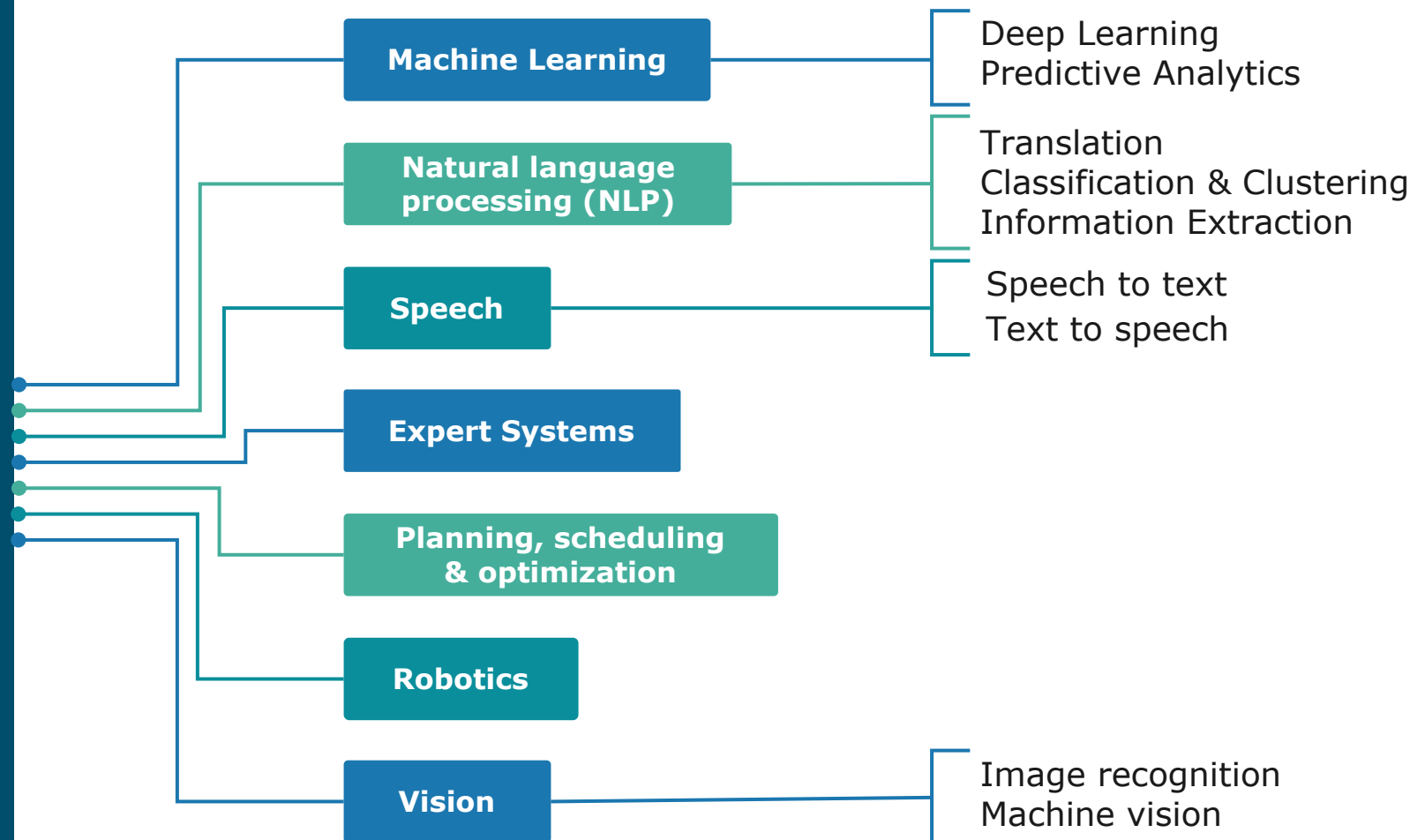
Technology	Percentage
Digital Security	71%
Internet of Things	37%
Artificial Intelligence	25%
Conventional Interfaces	21%
Virtual Reality	17%
3D Printing	17%
Smart Robots	16%
Digital Team	12%
Blockchain	9%
Autonomous Vehicles	6%
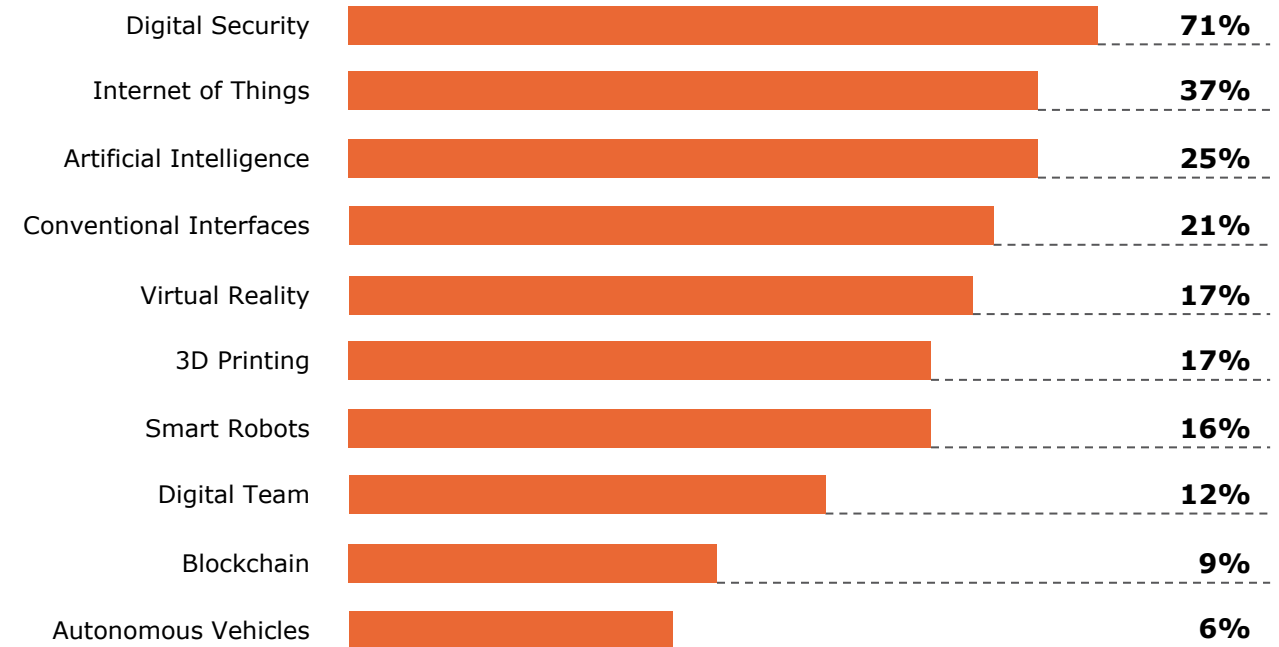
Gartner.

PREDICTS
Through 2020 60% of your time and cost to build a digital platform is on **INTEGRATION**
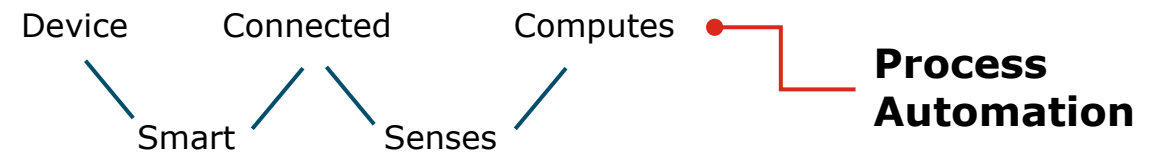
Artificial Intelligence (AI)

Machine Learning
- Deep Learning
- Predictive Analytics

Natural language processing (NLP)
- Translation
- Classification & Clustering
- Information Extraction

Speech
- Speech to text
- Text to speech

Expert Systems

Planning, scheduling & optimization

Robotics
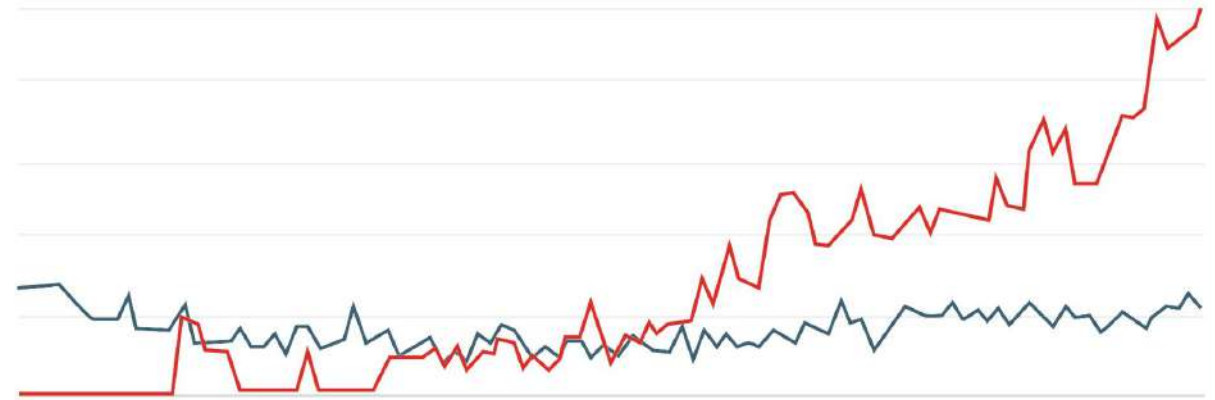
Vision
- Image recognition
- Machine vision

Gartner predicts that by 2020, customers will manage 85% of their relationships with the enterprise without interacting with a Human
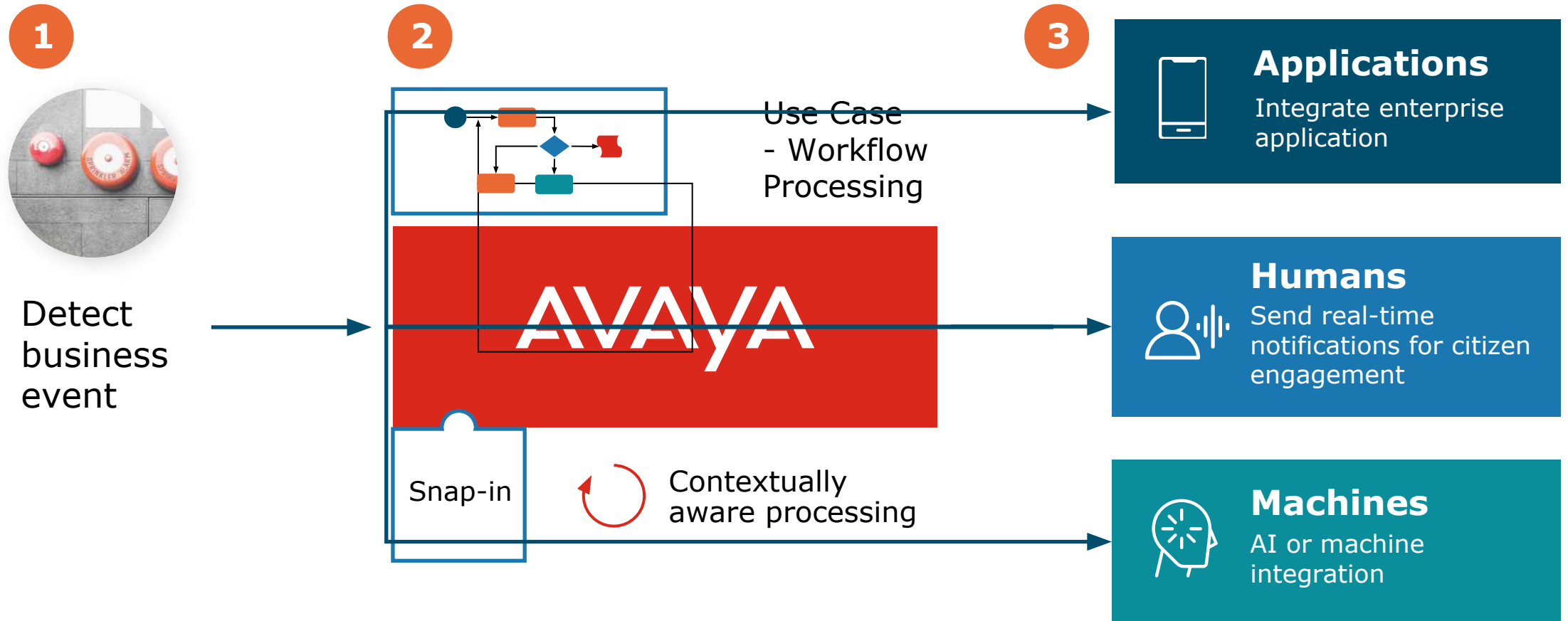
IoT-enabled Ecosystem

- IoT is about interconnecting devices with systems

- The IoT Platform as enabler, **gathering** and **analyzing** the data

- **Real value** will come applying the resulting insights to **create great IoT services**

  - e.g. predictive maintenance, proactive customer engagement or advanced analytical insights

- Enabler for new compelling Use Cases across key Verticals

Trends
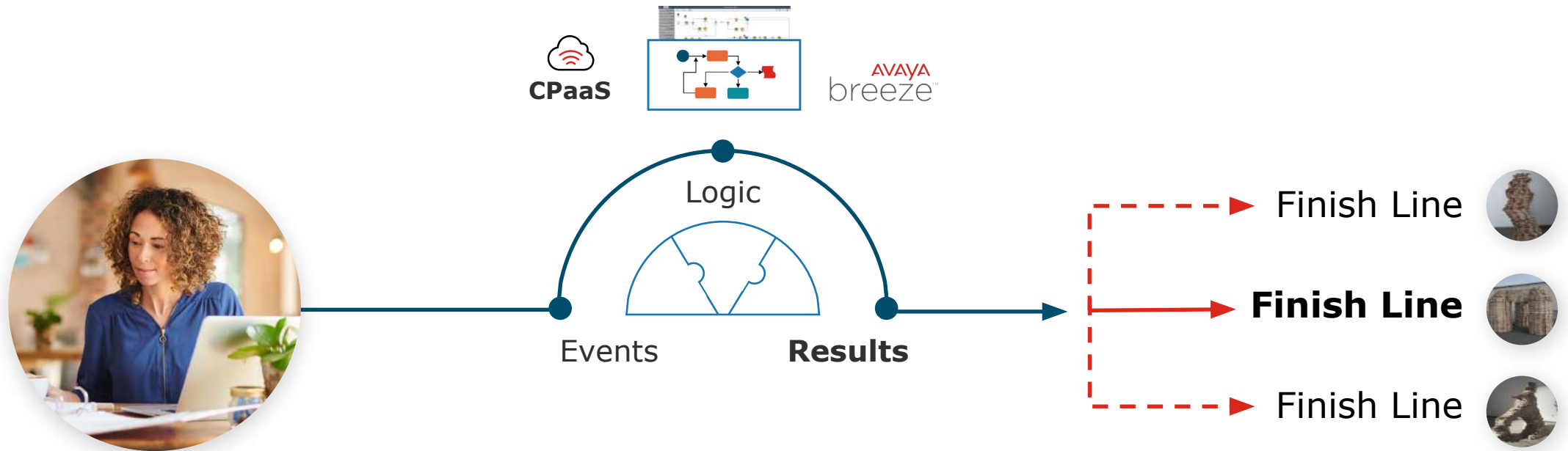
- Internet of Things
- Machine to Machine

Device   Connected   Computes   **Process Automation**

Smart   Senses

"If This Then That" 2.0 For Organizations

1 Detect business event

2

Use Case - Workflow Processing

Snap-in

Contextually aware processing

3

Applications
Integrate enterprise application

Humans
Send real-time notifications for citizen engagement

Machines
AI or machine integration

Service Automation & Orchestration

Open and Agile by Default

CPaaS

AVAYA breeze

Logic

Events

Results

Finish Line

Finish Line

Finish Line

Discovery Workshop	Definition Use Case	Value Proposition		Implementation		Design for Change

Quick and flexible implementation

Agile

AVAYA

Create and Customize Workflows

Avaya Engagement Designer

Browser-based visual designer for workflow design and automation

- Quickly **create applications** with **minimal programming experience**

- Seamless integration into **IoT, AI and LOB Applications**

- **Create your own task types** and dynamically incorporate them into the palette

- **Visual, drag-and-drop model** for tailoring and customizing workflows
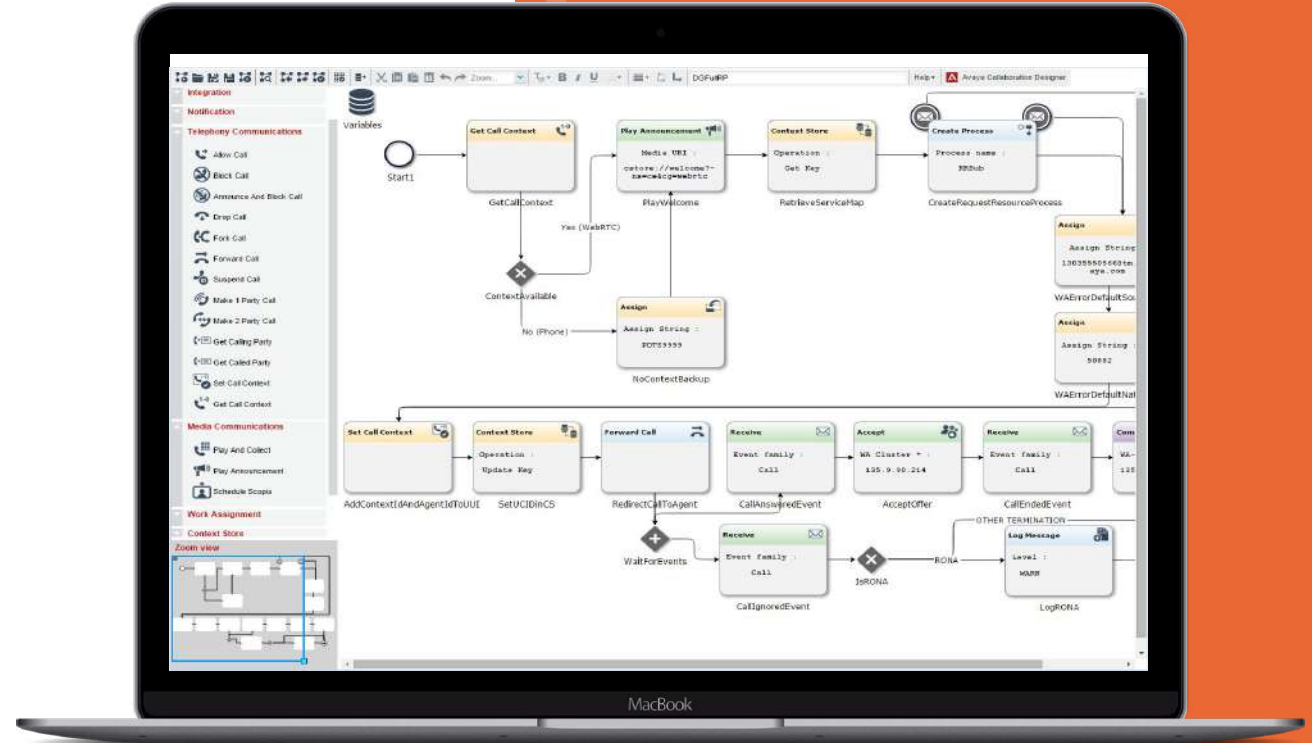
Simplify creation and control over Business Processes

Modality of Interactions
UC Evolution

Telephony

UC + Presence

UC + RT - Context

AI + IOT + UC

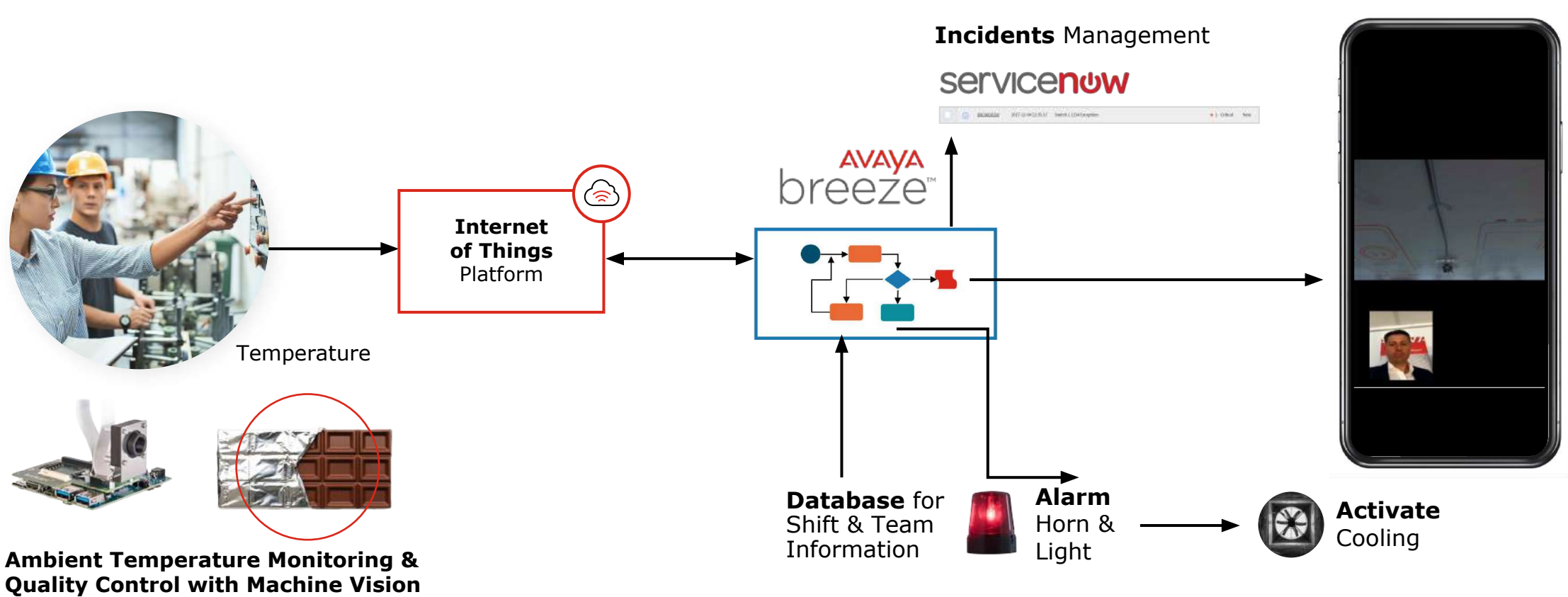| Agent Services	Self Services			Automated services
Voice Channel	Multichannel	Omnichannel with Context	Automated Channel with Real Time Contextual Analytics	AI & IoT CRM – EHR fully integrated Real-Time Experiences

IoT & Collaboration
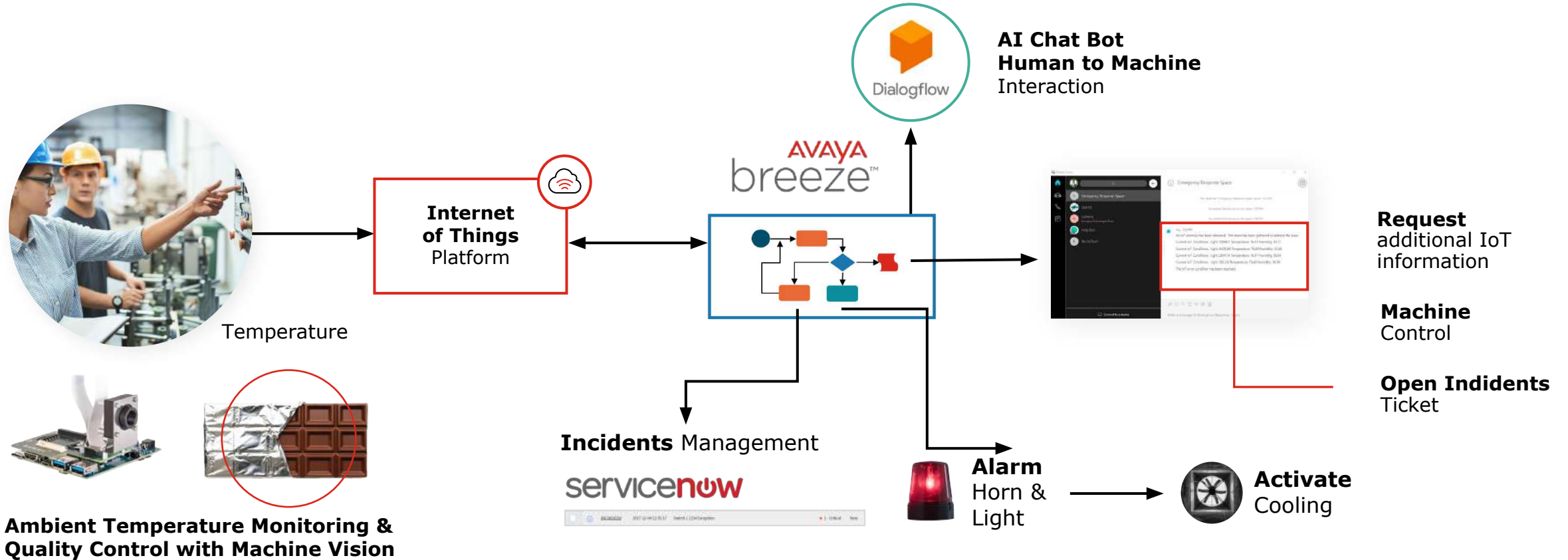## Real Time Information for Better and Faster Reactions

Incidents Management

servicenow

AVAYA breeze™

Internet of Things Platform

Temperature

Ambient Temperature Monitoring & Quality Control with Machine Vision

Database for Shift & Team Information

Alarm Horn & Light

Activate Cooling

Team Space is dynamically created

Add required Team members

Report IoT Data into the Team Space or **Create Tasks**

IoT & Mobile Collaboration
Real Time Information for Better and Faster Reactions

Temperature

Ambient Temperature Monitoring & Quality Control with Machine Vision

Internet of Things Platform

Incidents Management

servicenow

AVAYA breeze™

Database for Shift & Team Information

Alarm Horn & Light

Activate Cooling

IoT & Mobile Collaboration
Real Time Information for Better and Faster Reactions

Dialogflow

**AI Chat Bot
Human to Machine** Interaction

AVAYA breeze™

Internet of Things Platform

Temperature

Request additional IoT information

Machine Control

Open Indidents Ticket

Ambient Temperature Monitoring & Quality Control with Machine Vision

Incidents Management

servicenow

Alarm Horn & Light

Activate Cooling

"Dialogflow" is the trademark of Google or its affiliates in the United States and/or other countries

Avaya Engagement Designer
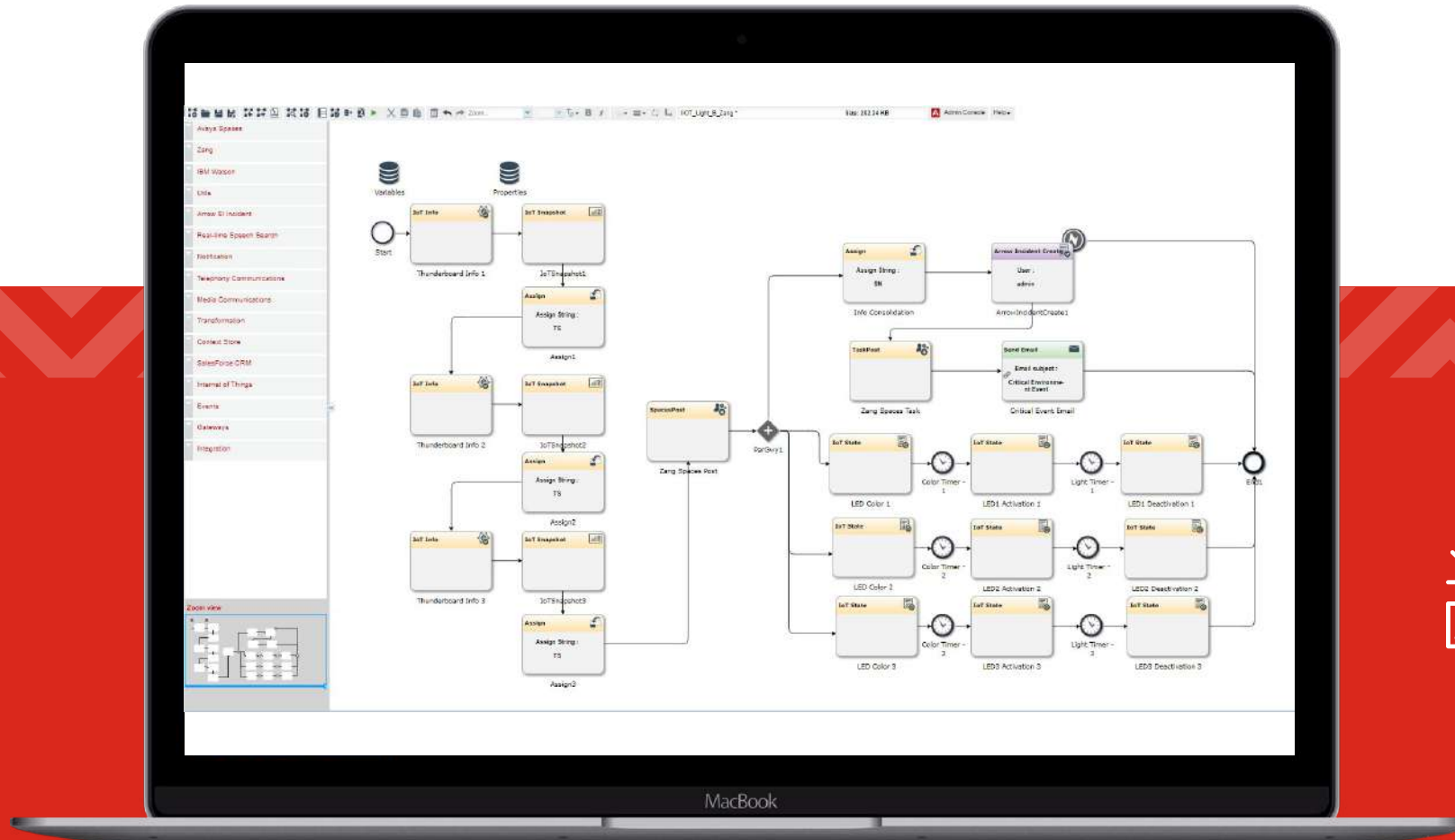
Avaya Apps & API Cloud (OneCloud CPaaS)

Triggered **Environment Exception Process**

Triggered **Quality Assurance Process**

Manually **Activated Machine Task**
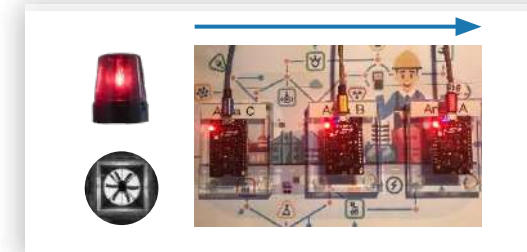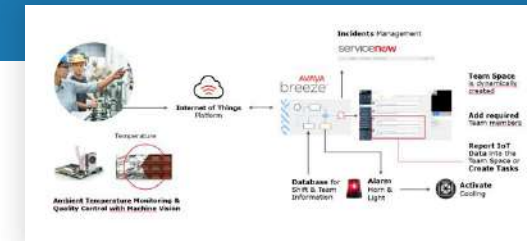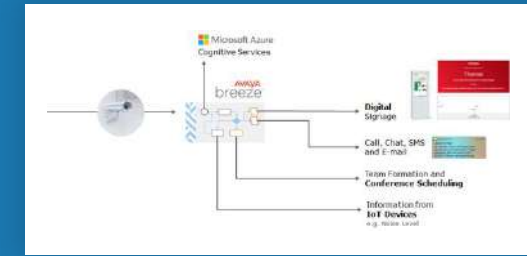
Smart Solution with Vantage

Voice Control

Room Statistics

Ambient
Preferences & Control

- Appliances
- Lights
- Thermostat

Face Recognition
& Room Surveillance

Detect
Human Presence

- Presence Detection
- Personalized Ambient
- Face Recognition
- Room Surveillance
  & motion detection
- VA Ambient Control
- Room statistics

Modality of Interactions
CC Evolution

AI
(Agent Coaching)
(Customer/Agent paring)

Machine to Machine/Human

IVA

Digital Channels

IVR

| Co-Browsing |
| Blended Channels |

| Human to Machine/Bot | Social Media Feed |

| Human to Human With Machine |

| Human to Human | Human to Human |

| **Agent Services** | **Self Services** | | **Automated services** |

Voice Channel

Multichannel

Omnichannel with Context

Automated Channel with Real Time Contextual Analytics

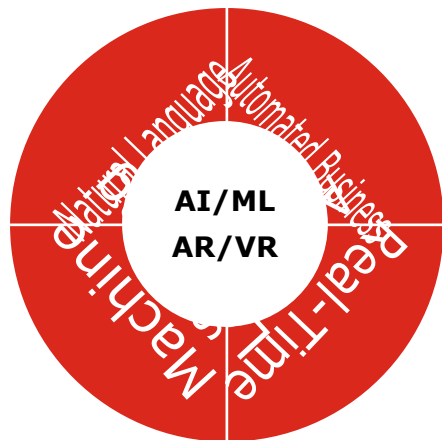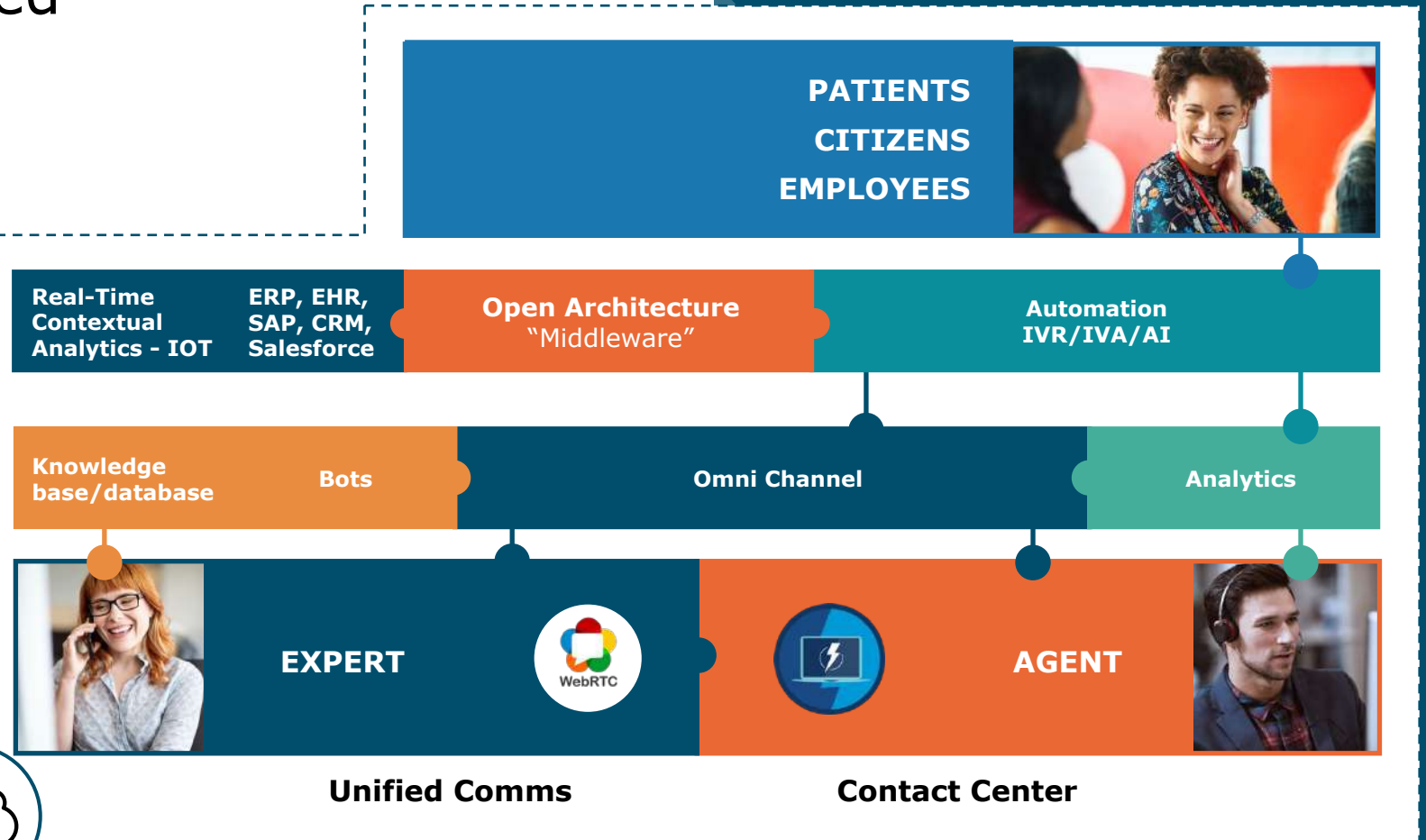AI & IoT CRM – EHR fully integrated Real-Time Experiences

IoT & Customer Engagement
Real Time Machine Information for
Better and Faster Services

Household Appliance (fridge)
**below operating
temperature**

Internet
of Things
Platform

Sensor detects condition and
machine sends **Telemetry &
Diagnostic information to
Service Center**

Customer

Real-Time
Contextual
Analytics - IOT

ERP, EHR,
SAP, CRM,
Salesforce

AVAYA
breeze

Automation
IVR/IVA/AI

AVAYA
ava

IntelligentWire

afiniti

AVAYA
oceana

Knowledge
base/database

Bots

Omni
Channel

Avaya
Analytics

WebRTC

Expert

Agent

AVAYA
oceana
workspaces

Unified Comms

Contact Center
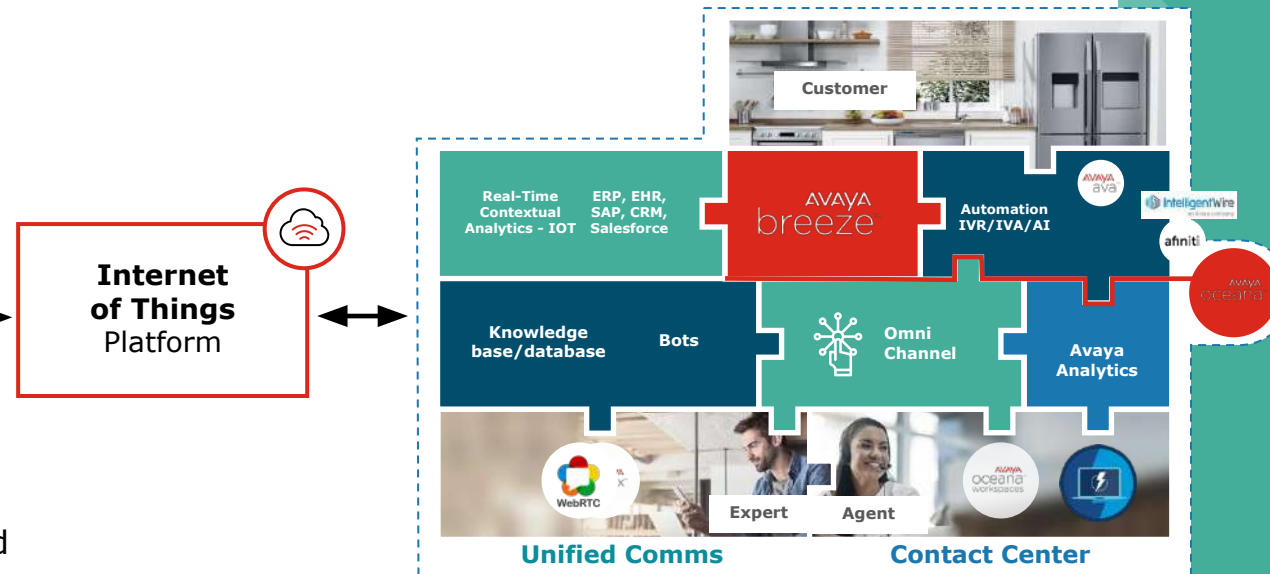
- **Service Center** receives contextual information and combines them with customer **CRM** records
- **Customer** will be engaged by preferences
  - BOT notification, if fridge door is open
- **Clear approach** and recommendation can be provided to the **customer,** based on correlated info
- **Customer dialog transcribed** and made available to **CRM** Application

Modality of Interactions
A Significant Change
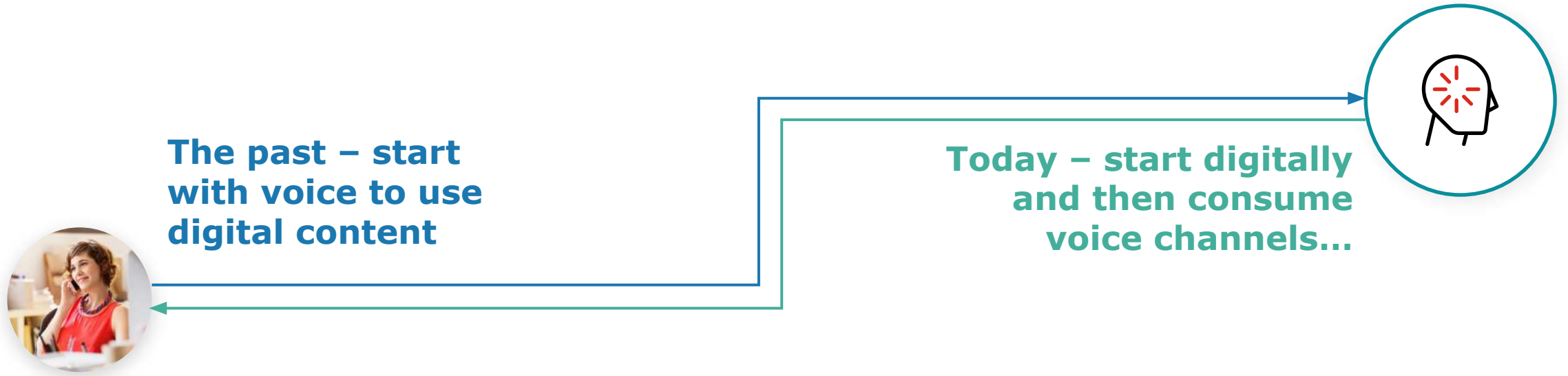
The past – start with voice to use digital content

Today – start digitally and then consume voice channels...

Voice Channel

Multichannel

Omnichannel with Context

Automated Channel with Real Time Contextual Analytics

AI & IoT CRM – EHR fully integrated Real-Time Experiences

Connections

Traditional channels

Future channels

DATA Insights

INTEGRATION SERVICES

Omni-Experience Platform Managing Data, Actions And Insights

DEVELOPMENT SERVICES

DATA Actions

Physical channels

Digital channels

Emerging channels
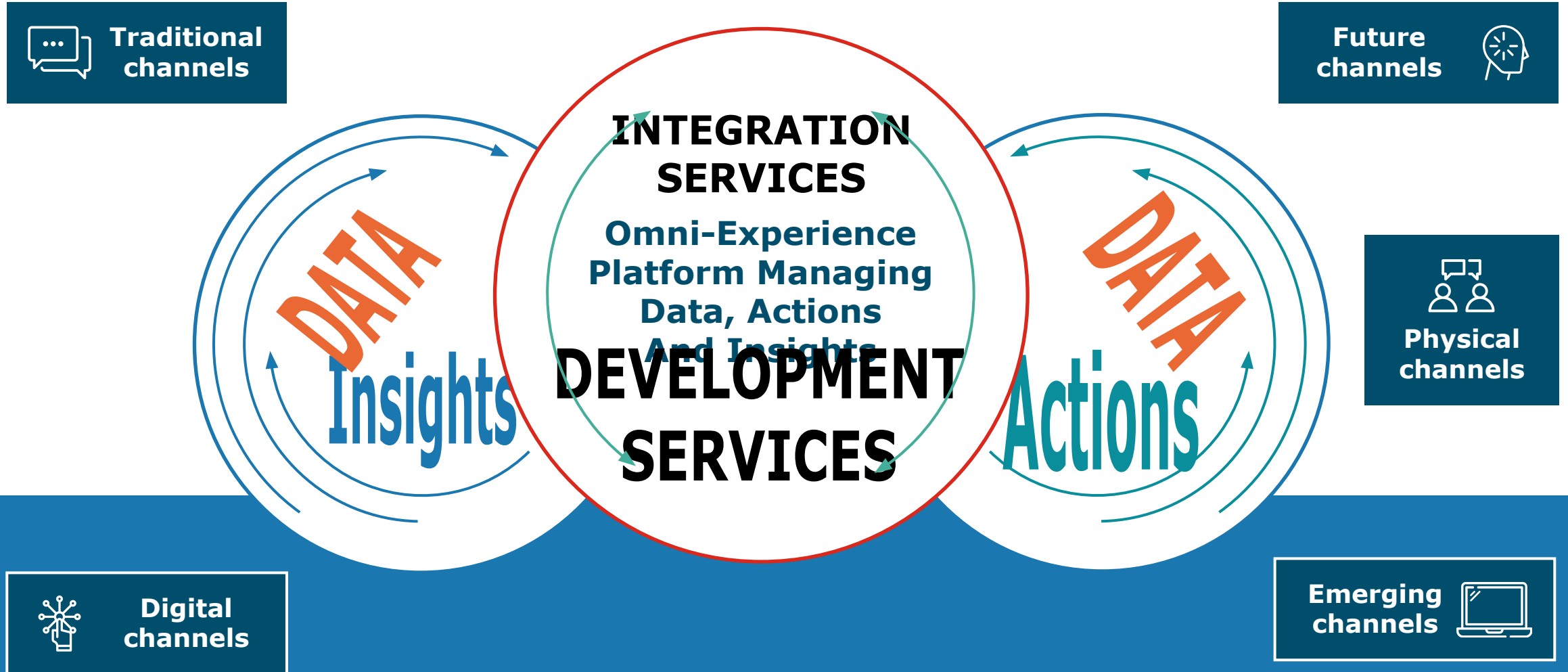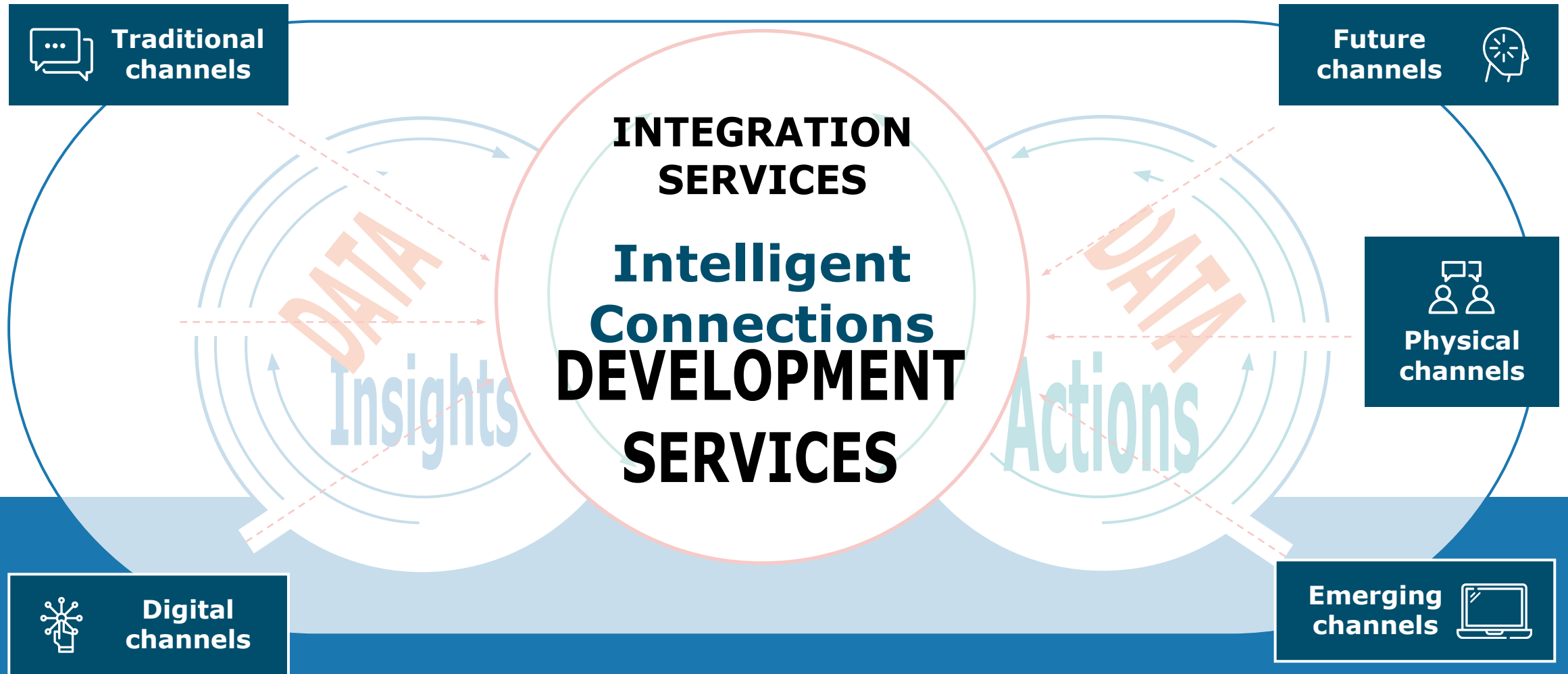
Connections

Digital Framework

An Ecosystem is Required

Convergence of Mobile UC & CC + Open + Automation

- Next best action
- Customer – agent selection
- Segmentation
- Voicebots, chatbots

AI/ML AR/VR

Natural Language • Automated Business Processes • Machine • Real-Time

ANY

PATIENTS
CITIZENS
EMPLOYEES

Real-Time Contextual Analytics - IOT	ERP, EHR, SAP, CRM, Salesforce	Open Architecture "Middleware"	Automation IVR/IVA/AI

Knowledge base/database	Bots	Omni Channel	Analytics

EXPERT | WebRTC | AGENT

Unified Comms   **Contact Center**

Avaya & IoT

Smart Communications for
Smart Engagement

Delivers Intelligent Outcomes

Contextually-aware
Processing

Agile **Workflow
Automation**

Actionable
IoT Data

Open Ecosystem for
Smart Communication

Seamless and contextual connections between
machines, humans and LOB applications
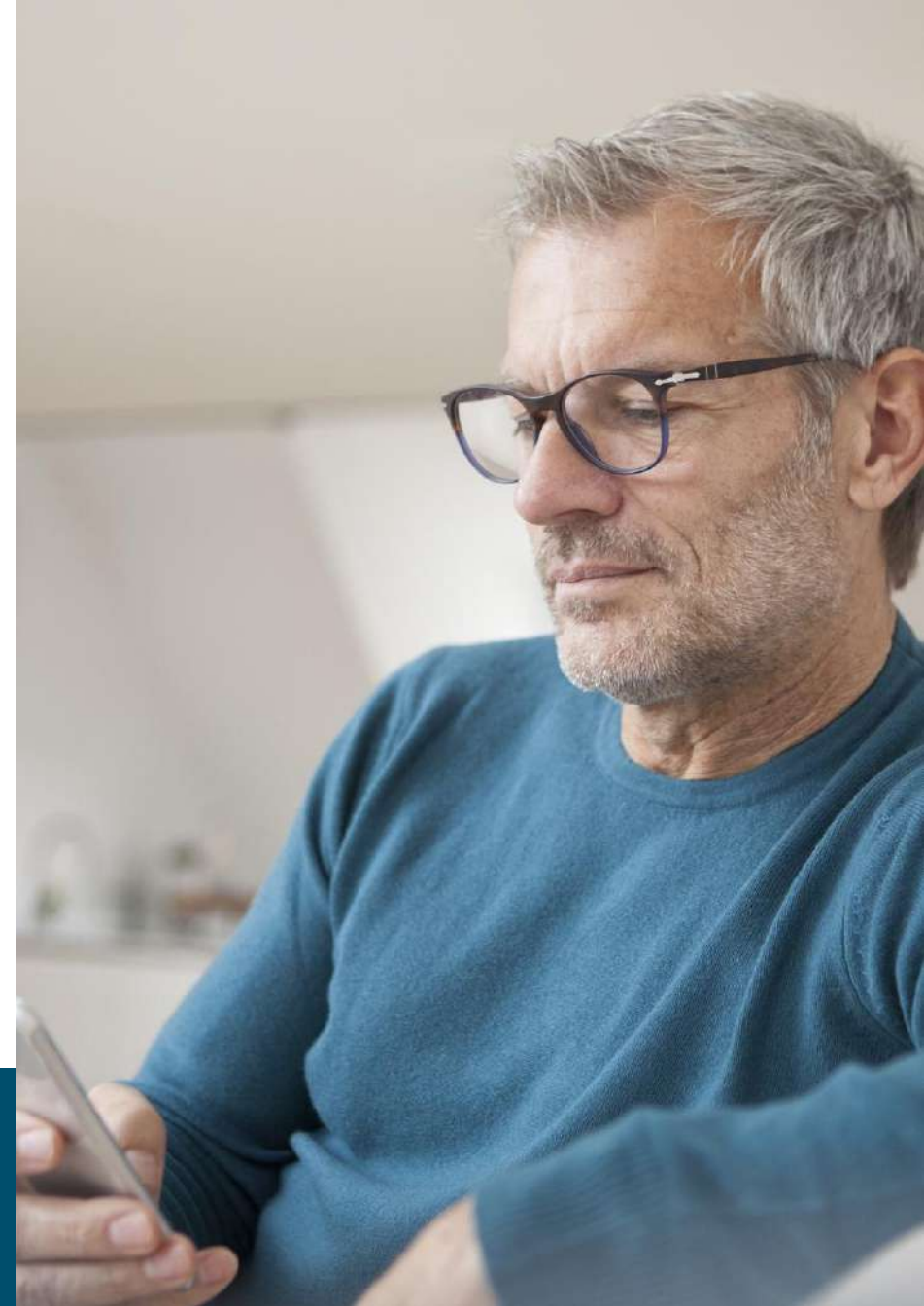
Events Trigger Engagement

Event Triggers to Orchestrate Critical Activities with Ambient Context

Agriculture
Smart Farming

Retail
Equipment Maintenance

Healthcare
Equipment Location

Transportation
Asset and Fleet Management
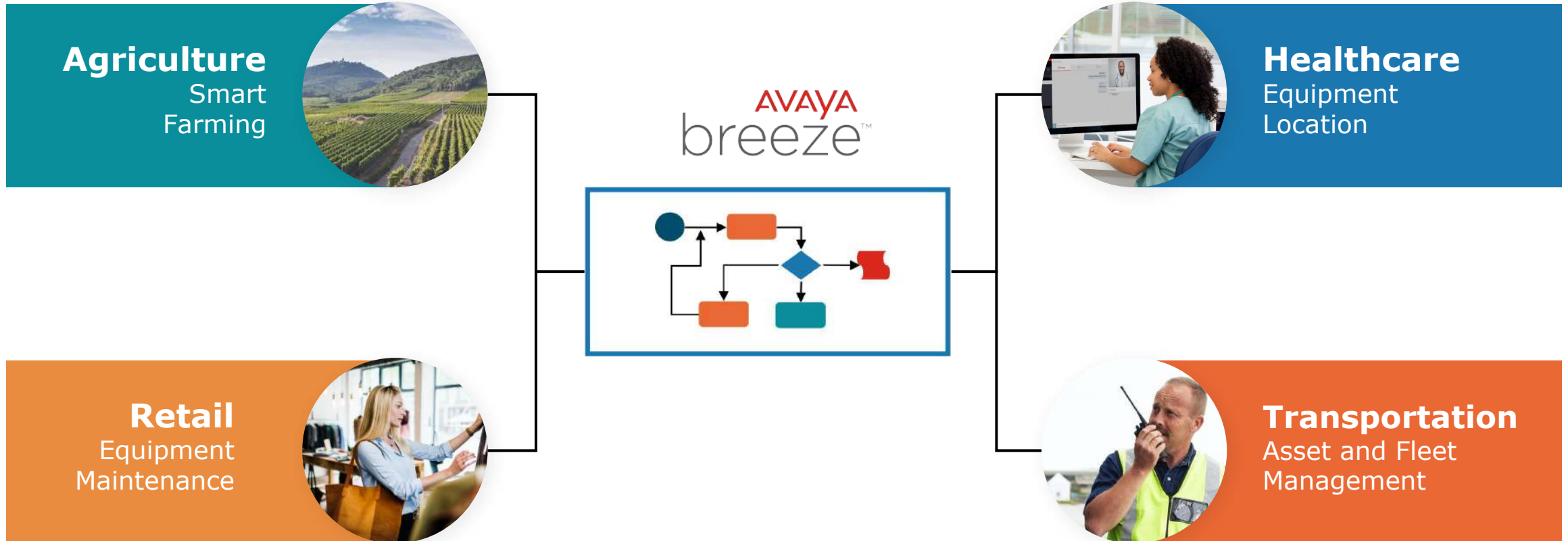
Blending Digital Into The Physical Experience
Seamless Integration of Stand-alone Technologies

- **Queue** Management
- **Occupancy**
- **Event**
- **Smart Access** Control
- **Demographics**

Microsoft Azure
Cognitive services

AVAYA breeze™

Digital signage

Call, chat, SMS and email

Team formation and **conference scheduling**

Information from **IoT devices**
e.g. Noise Level

23
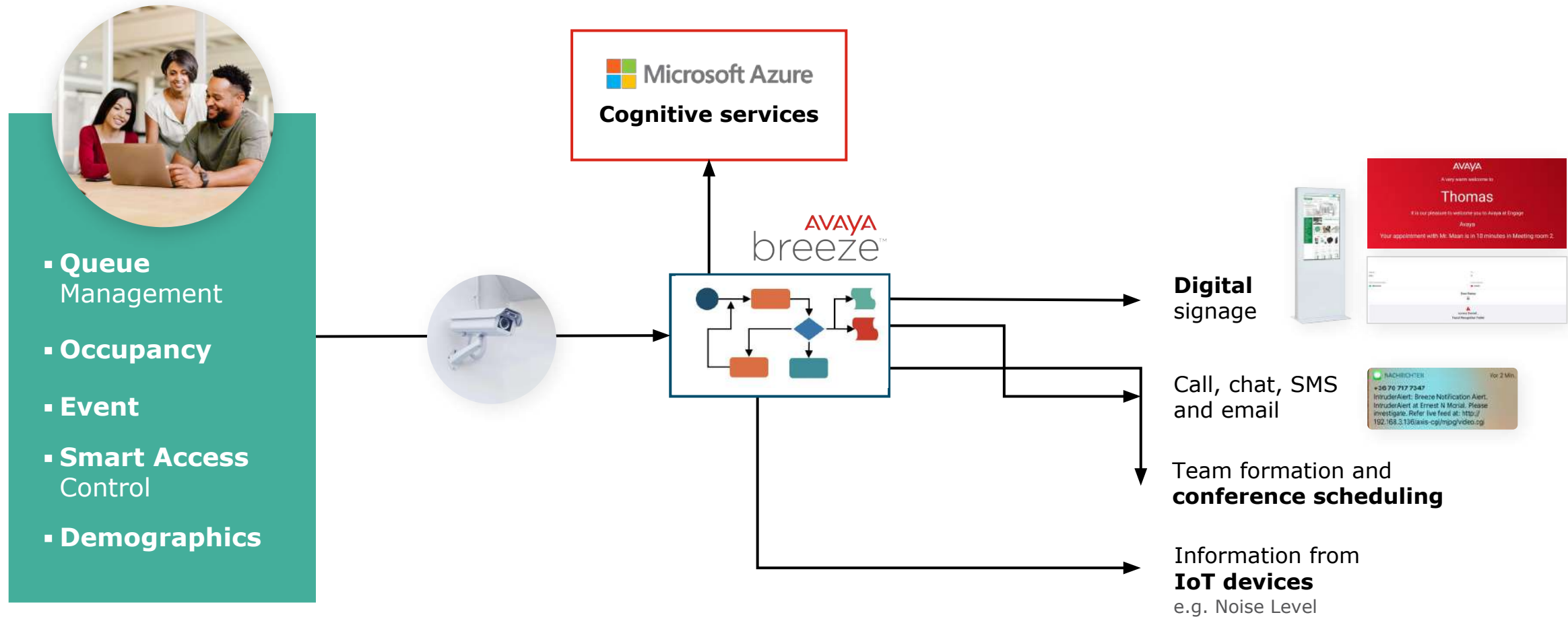
Avaya IoT Reference Architecture
Open by Default
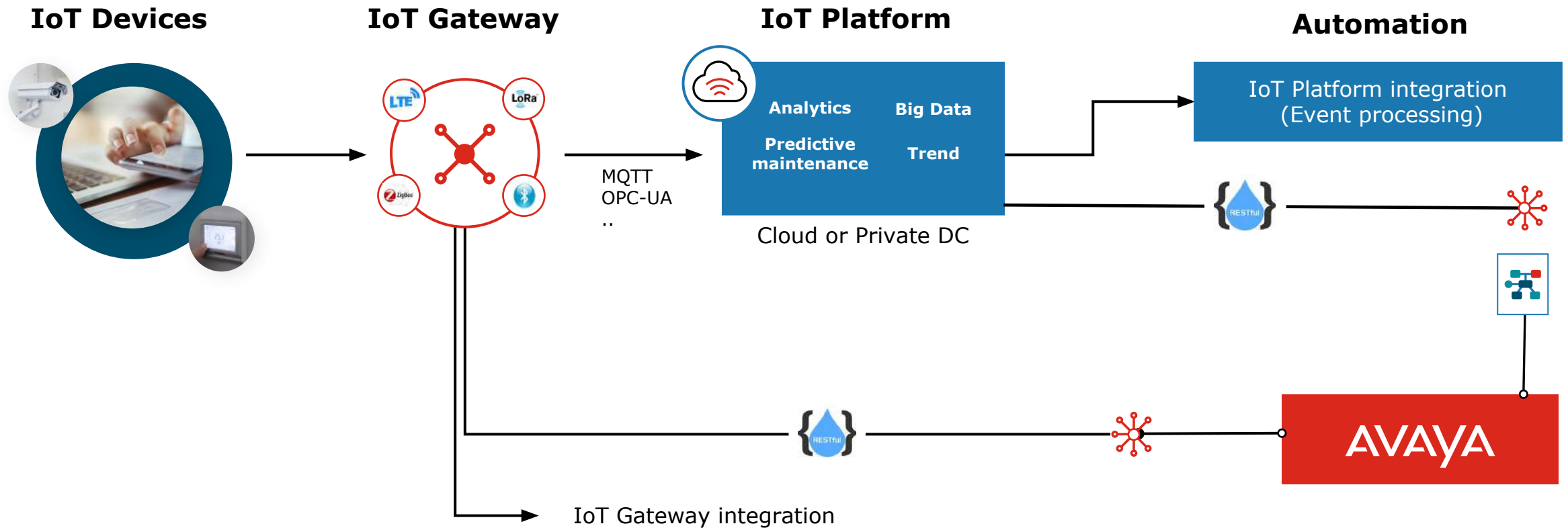
Actionable IoT Data

Turning IoT into Effective Business Actions
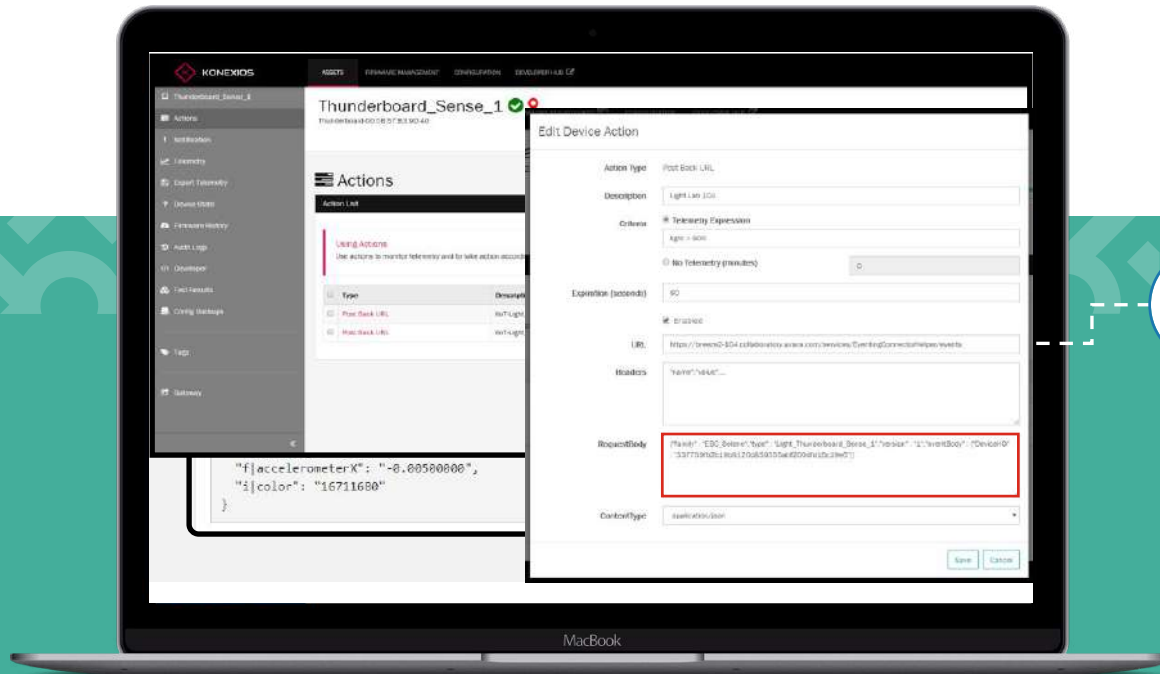
IoT Platform
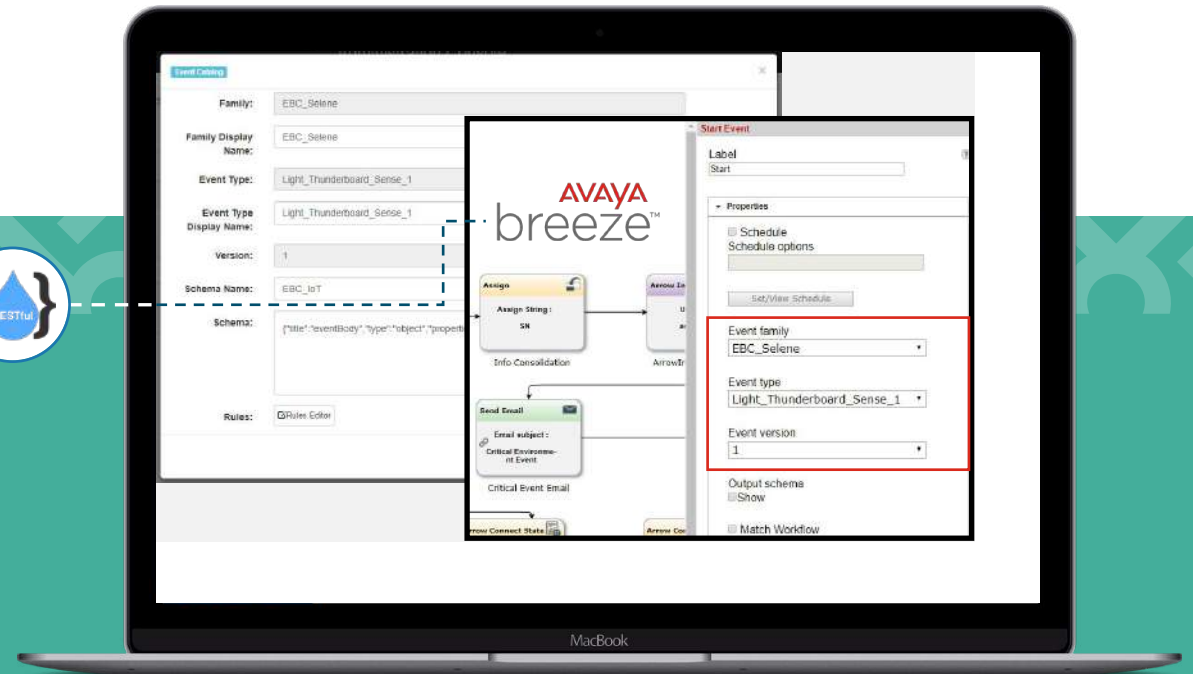
Avaya Automation Platform

Web Service POST to Breeze

Simple Test Environment

- Postman Application can trigger the postback URL directly through REST

- Skipping the IoT infrastructure
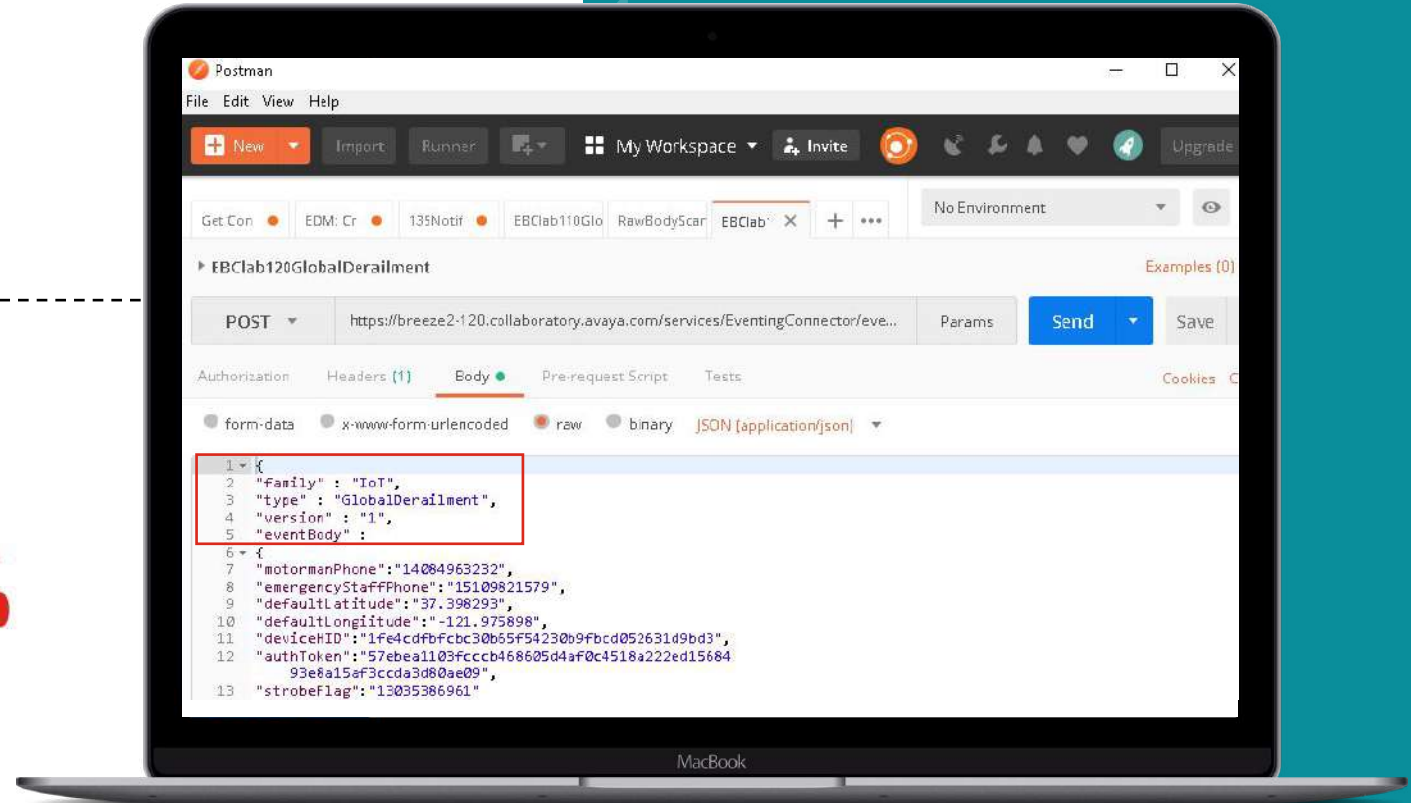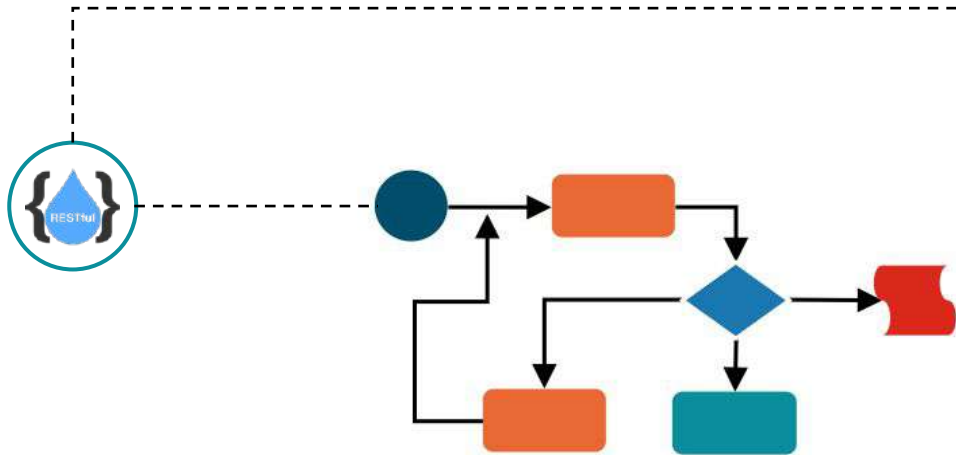
YouTube Demo Videos

Industrial IoT

https://www.youtube.com/watch?v=LFtDKVs9YHw

Smart Ordering

https://www.youtube.com/watch?v=sKgdi5IXv7w
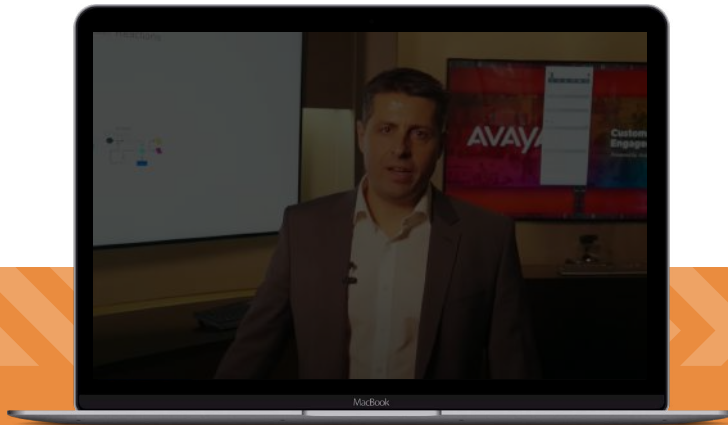
Quality Management
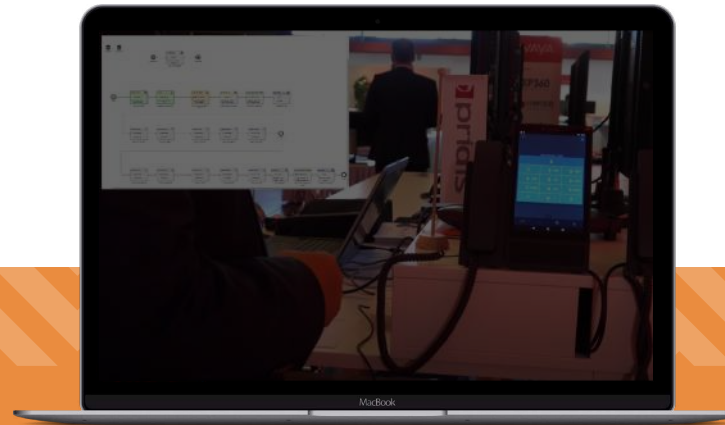
https://www.youtube.com/watch?v=9Q1qdeZZvWU
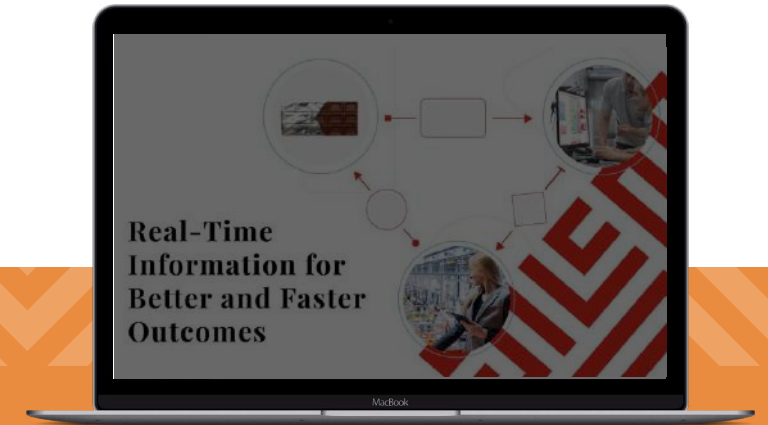
YouTube Demo Videos

Smart Parking

https://www.youtube.com/
watch?v=rd267Nwn-M0
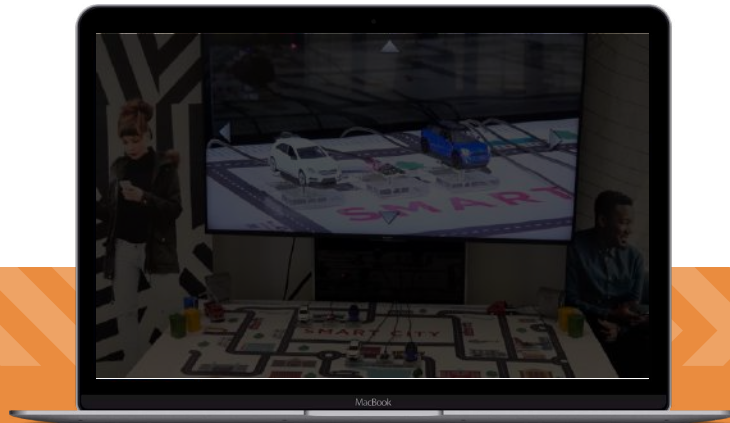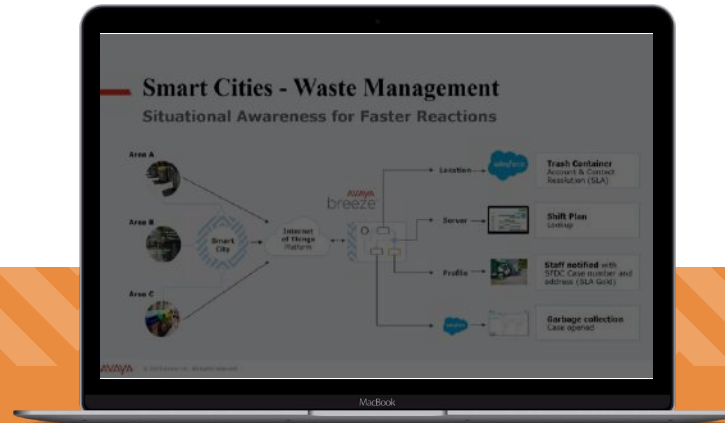
Smart Waste Management

https://www.youtube.com/
watch?v=MGiLYo1j_X8

Cops & Robbers

https://www.youtube.com/watch?v=Pu1ror6r0BQ

https://youtu.be/24qBOciIOd4

AVAYA

https://www.avaya.com/smartcity/

https://www.avaya.com/IoT/

How to Get Hands-on Experience?

Use a Mobile Device or buy an IoT Sensor
- Thunderboard React/Sense, Simba Pro, Sensor Puck
- Mobile Device can be Gateway and IoT Device

→

Request a **Free Konexios Trial Account**

https://portal-helios.konexios.io/ - /signupz

→

Install **Konexios Gateway** from **App store** (Google/Apple)

→

Sign up for **Avaya CPaaS** (Zang Cloud)

https://zang.io/
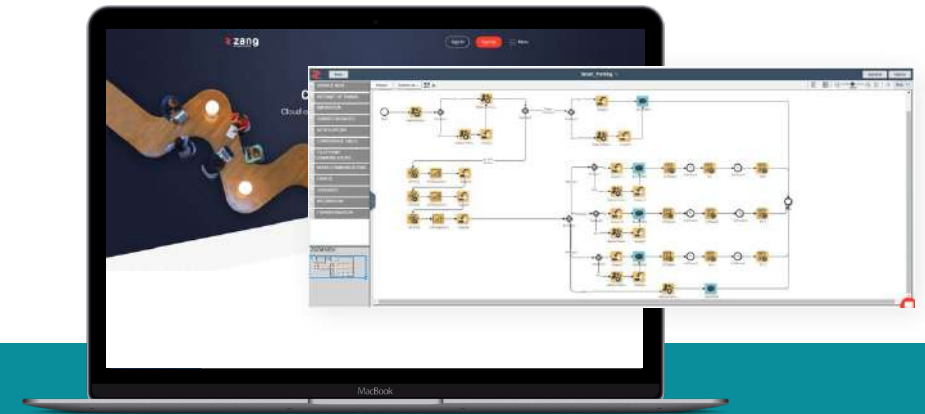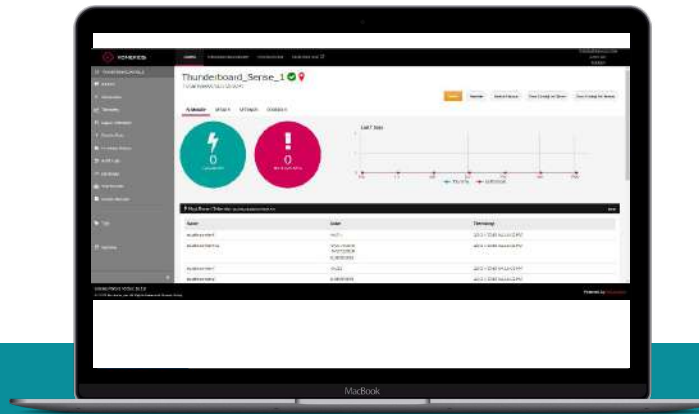
Vertical Industry Solutions

Art of the Possible

Healthcare

Hospitality

Government & Public Safety

Finance & Insurance

Manufacturing

Vertical Industry Solutions

Art of the Possible

Healthcare

AVAYA

Healthcare Solutions – Remote Patient Monitoring

Any IoT Device

POE IP Camera (any model)

USB Camera

Video and/or Audio Analytics detects patient event

Speakerphone two-way Audio connection to patient

Event Automation

Caregivers and Doctor Presence detection

IoT Devices integrated

Video

Audio

34
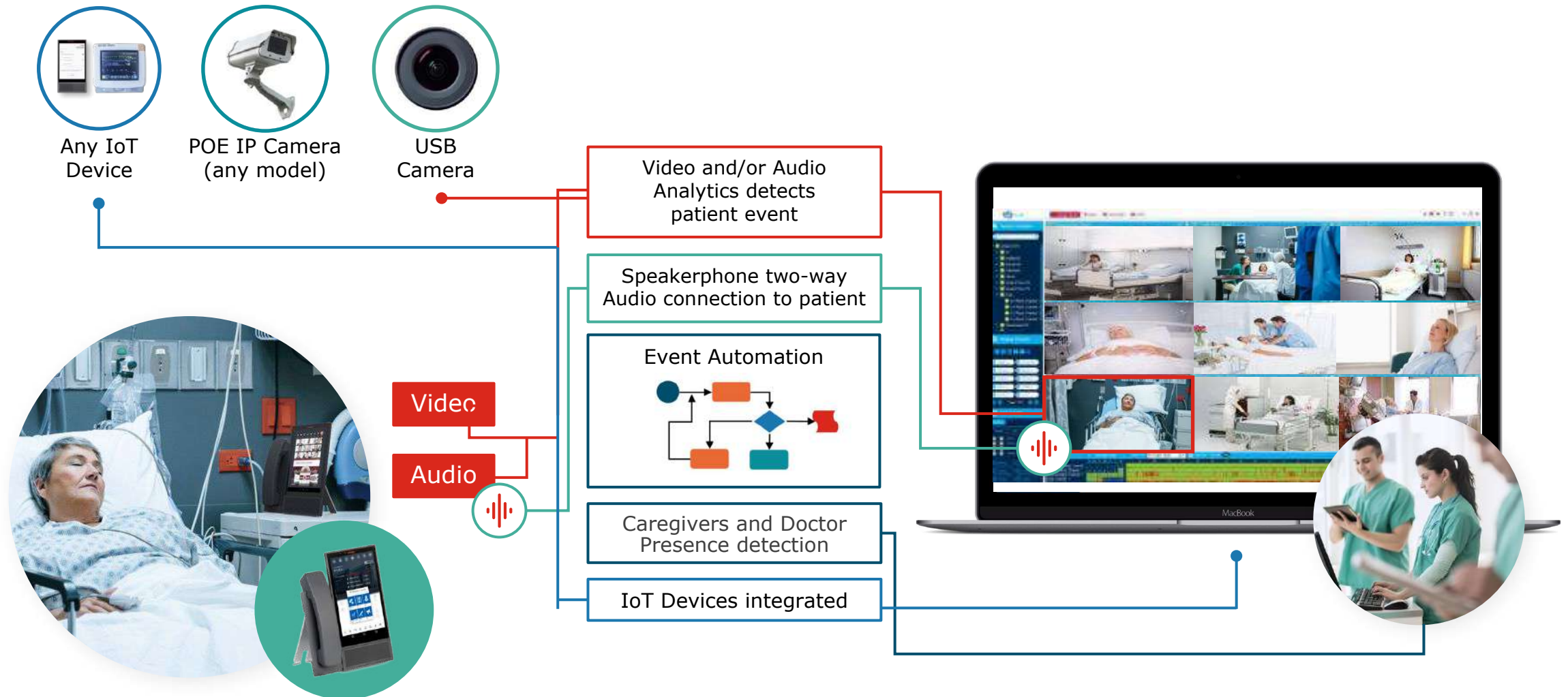
IoT Healthcare
Automation for Surgical Teams

Entering Operation Room

Operation Room

Leaving Operation Room

Surgical Teams **leave Mobiles** at charging station

Surgical Teams **take Mobiles** at charging station

NFC

NFC

Announcement with Transfer option to OR Dispatching

NFC TAG detected in charging station

Call Redirection Automatically **Enabled**

Avaya Breeze™

Call Redirection Automatically **Disabled**

IoT Healthcare

Use Real Time Information to Make Better Decisions

IoT Platform Initiates Alert Process with Measures

Critical Patient Event

Internet of Things Platform

Avaya Breeze™

Database Lookup for Patient Information

Monitoring Team receive contextual alert

IoT Clinical Wearable Monitoring Patient

Medicine Reminders and Drug Guidelines

Patient has no Medicine left

BOT

Medicine Reminders and Drug Guidelines

Pharmacy Robot collects drug

Shipped to Patient

Relevant, Real-time Information | **Better, Faster** Decision Making | **Better** Patient Outcomes

Disinfection Dispenser Refill
Critical Event Monitoring

Location

Alarm

Event

Staff hospital hygiene

Inventory management system
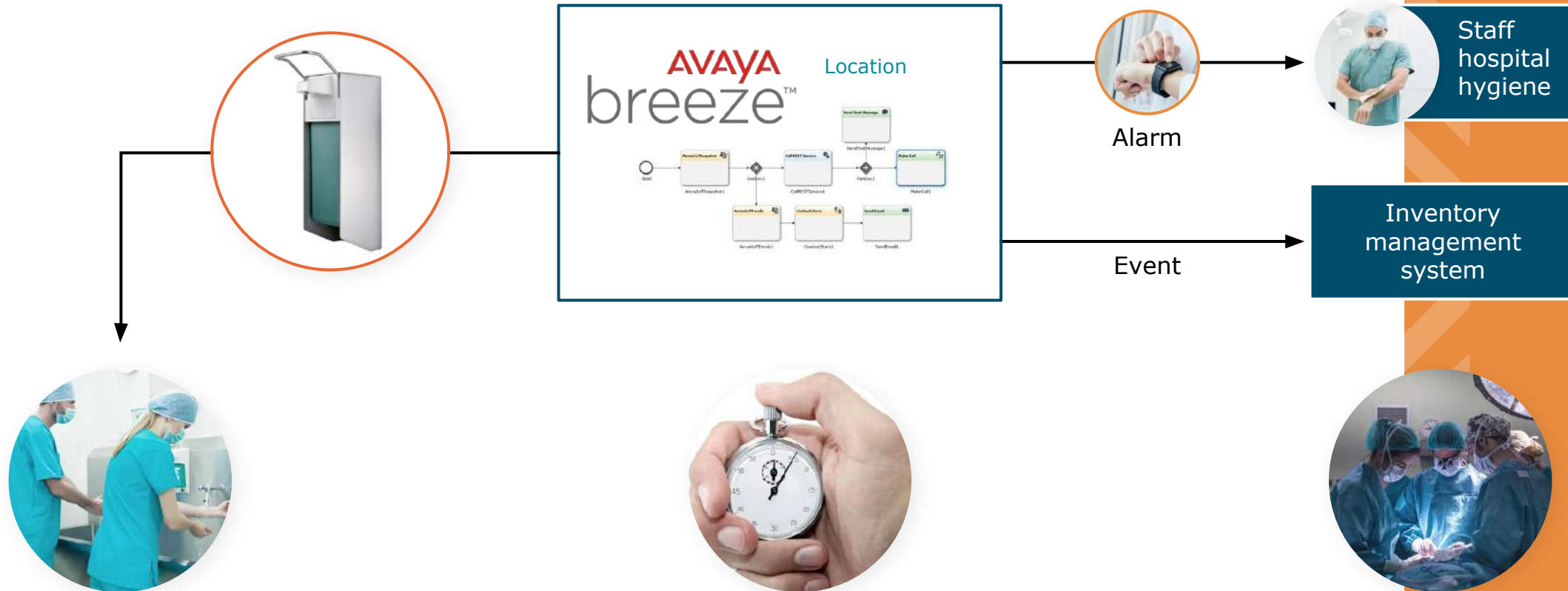
Use Case: Smart Health Care Team Space

SOLUTION

- At time of admitting a patient into the hospital, a virtual patient space is assigned

- The healthcare team and patient room is added to the Space

- Patient vital signals are monitored

- Information is sent into the Space and visible thru the mobile device, anywhere, anytime

- Bot supports the healthcare team

BENEFITS

- Patients care improvement

- Tools for healthcare team at hand

- Lower costs of operation

Patient Z Care Team

Patient N Care Team

Event Automation

IoT Smart hub

Nurse

Tech Med

Doctor

Healthcare BOT

Patient N Team Space

Patient Z Team Space
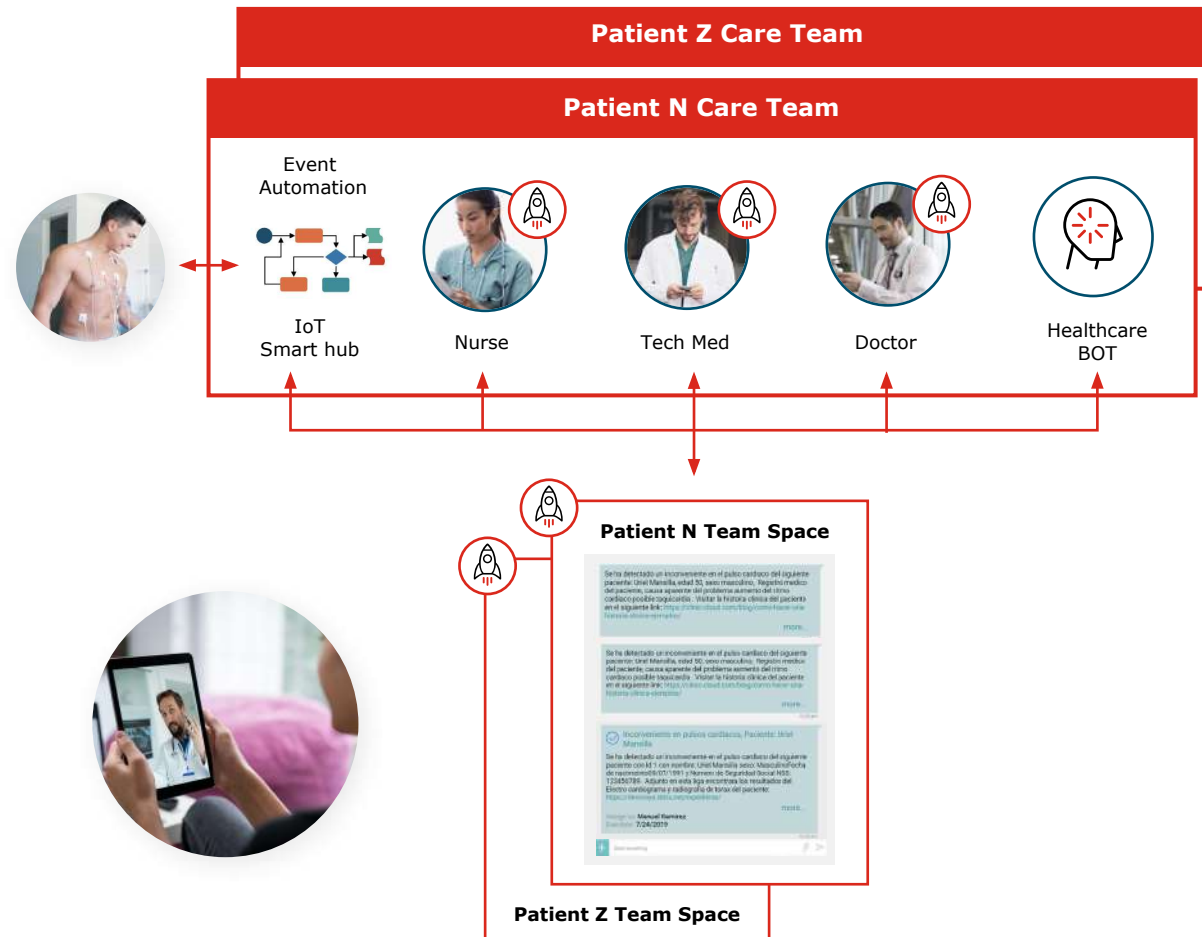
1 **Sensors attached to patient body send data to Avaya Automation Platform** which determine if vital signal thresholds are exceeded

2 **A task is posted** into the respective Patient Space

3 **Medical team real time collaboration**

4 **Medical questions and requests are raised to BOT**

5 **Team** can **control patient room equipment,** changing the ambient conditions, stopping, accelerating or slowing the fed of certain medicines

6 **Doctor** can **open tasks to be completed** by other members within certain period

Vertical Industry Solutions

Art of the Possible

Government & Public Safety

Finance & Insurance

AVAYA

Connected Vehicles – eCall
Improving the Most Critical Service

In the case of a **car accident, eCall automatically triggers** a call to the Emergency service

Contextual Insight – Transmitting data („MSD" Minimum Set of Data) in-band of the voice call using a modem

Breeze is creating an **eCall specific call flow** and extracts/delivers MSDN information before presenting the call to the call taker

Sensor

Crash

MSD
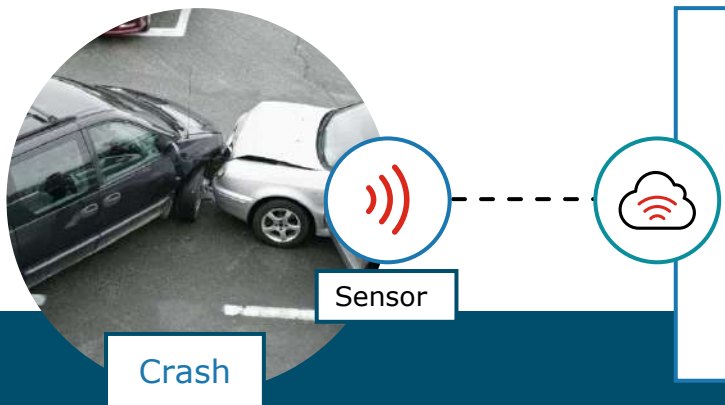
Minimum Set of Data (140 byte)

- Location: GPS latitude /longitude
- Activation: manually / automatically
- Call type: real emergency / test call
- VIN: Vehicle identification number
- …
- …

Public Safety Answering Point

Avaya Breeze™

eCall Snap-In

eCall SW Modem (Oecon)

6…10 s

modem
MSD transmission

voice call

time

Insurance - Connected Vehicles
Extended Services & Customer Loyalty

Onboard Telematics → **IoT PLATFORM PI Automation**

Car door **open**

Car light **on**

Monitoring
Car lock status & location
Owner's iPhone location
Onboard Telematics

Trigger:
Engine opened and iPhone
service light on location

Search

Initiate call from support center to **car owner**

Advice on
problem resolution or
schedule car checkup

AVAYA breeze™

Police

Insurance Company

AVAYA

41

Drones Become Active Team Members
Communication and Collaboration

Communication

Collaboration

Context

Drone Chat Bot
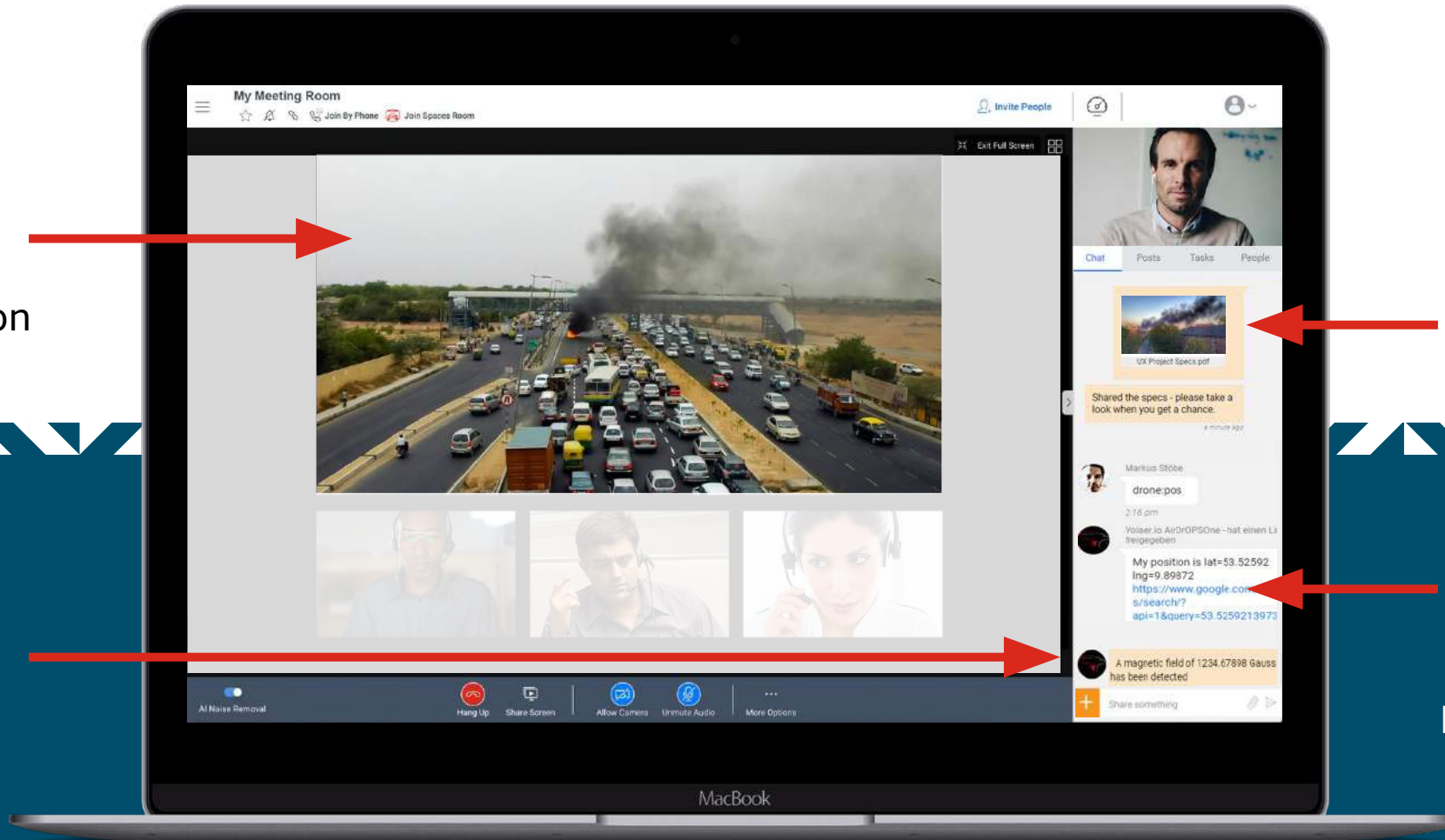
Smart Parking
Save on Time, Fuel Costs and Emissions

Area A

Area C

Smart City

Any
Modality
Language
Phrase

2 Internet of Things Platform

Area B

Activation of visual reservation signal **4**

City Council

Smart Parking Service

AVAYA

Modality

Available parking spots in requested area. Option for booking **3**

Booking confirmation and parking spot location map SMS **3**

1 IBM Watson

Detects language and Translates Message

Analyzes the message and assigns it to an intent

"Watson" is the trademark of IBM or its affiliates in the United States and/or other countries

Smart Parking – Automated Workflow
Avaya Communications Platform-as-a-Service (CPaaS)

Detects language and **translates** message

Analyzes the message and **assigns** it to an intent

CPaaS
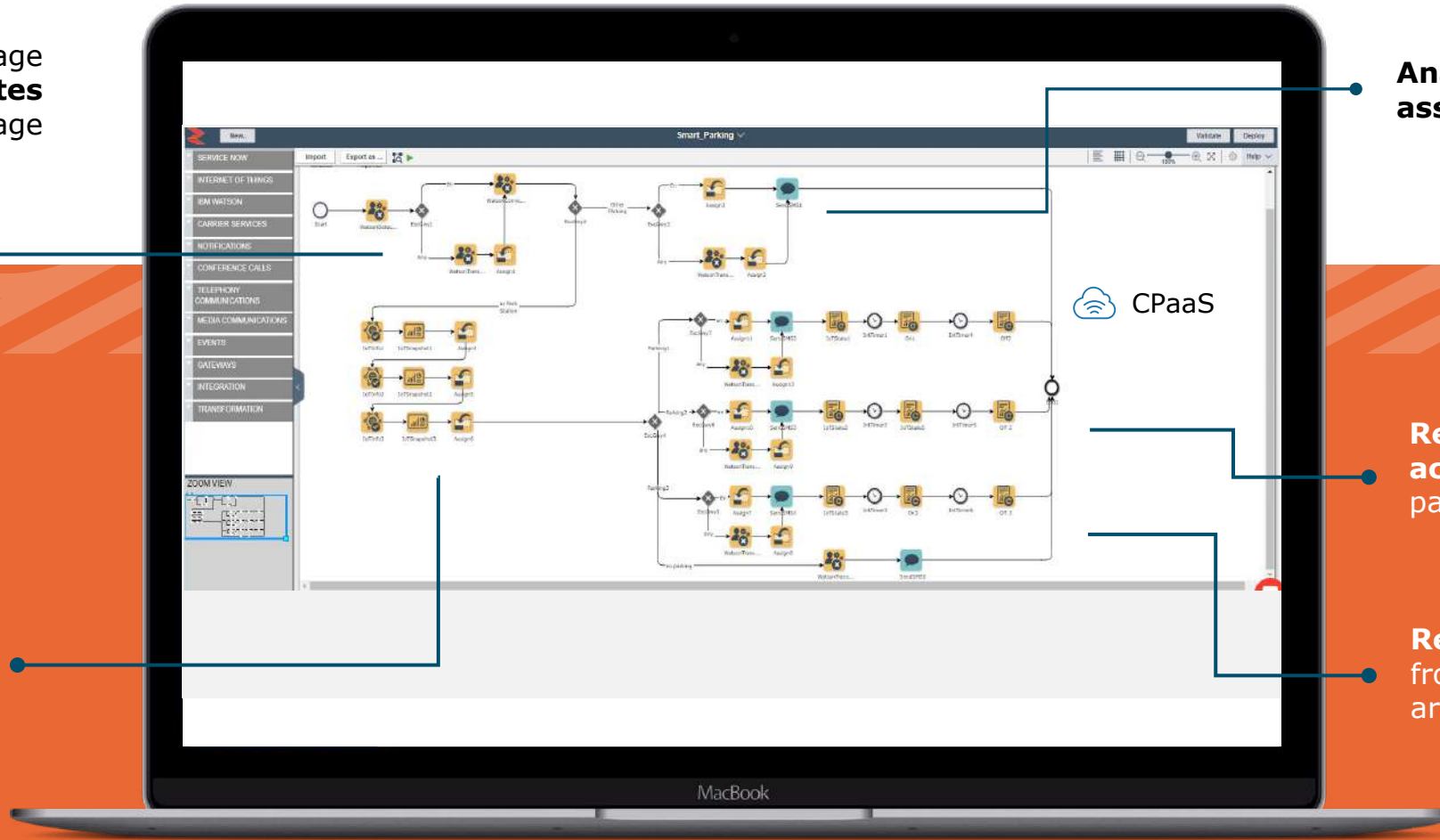
Reservation signage activated at booked parking space

Requests sensor info from all parking spaces around the station

Requests sensor info from all parking spaces around the station

Smart Cities - Waste Management
Situational Awareness for Faster Response Time

Area A

Area B

Area C

Smart City

Internet of Things Platform

Avaya breeze™

Location → salesforce

1 **Trash Container** Account & Contact Resolution (SLA)

Server →

2 **Shift Plan** Lookup

Profile →

3 **Staff notified** with SFDC Case number and address (SLA Gold)

salesforce →

1 **Garbage collection** Case opened
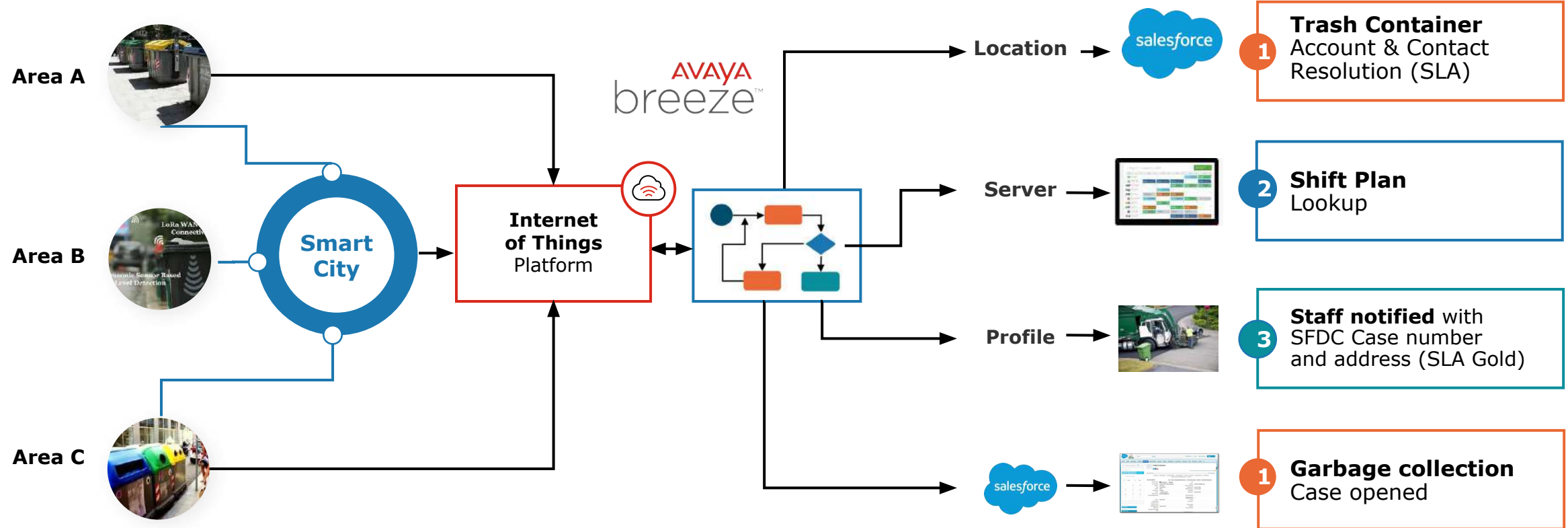
Smart Cities - Waste Management
Situational Awareness for Faster Response Time

Waste Management – Automated Workflow
Avaya Breeze

Salesforce contact resolution

Create Salesforce case

Salesforce Account resolution

Requesting trash level and location

Shift plan database lookup

Staff notification of new case with SLA

Text message with case and location

47
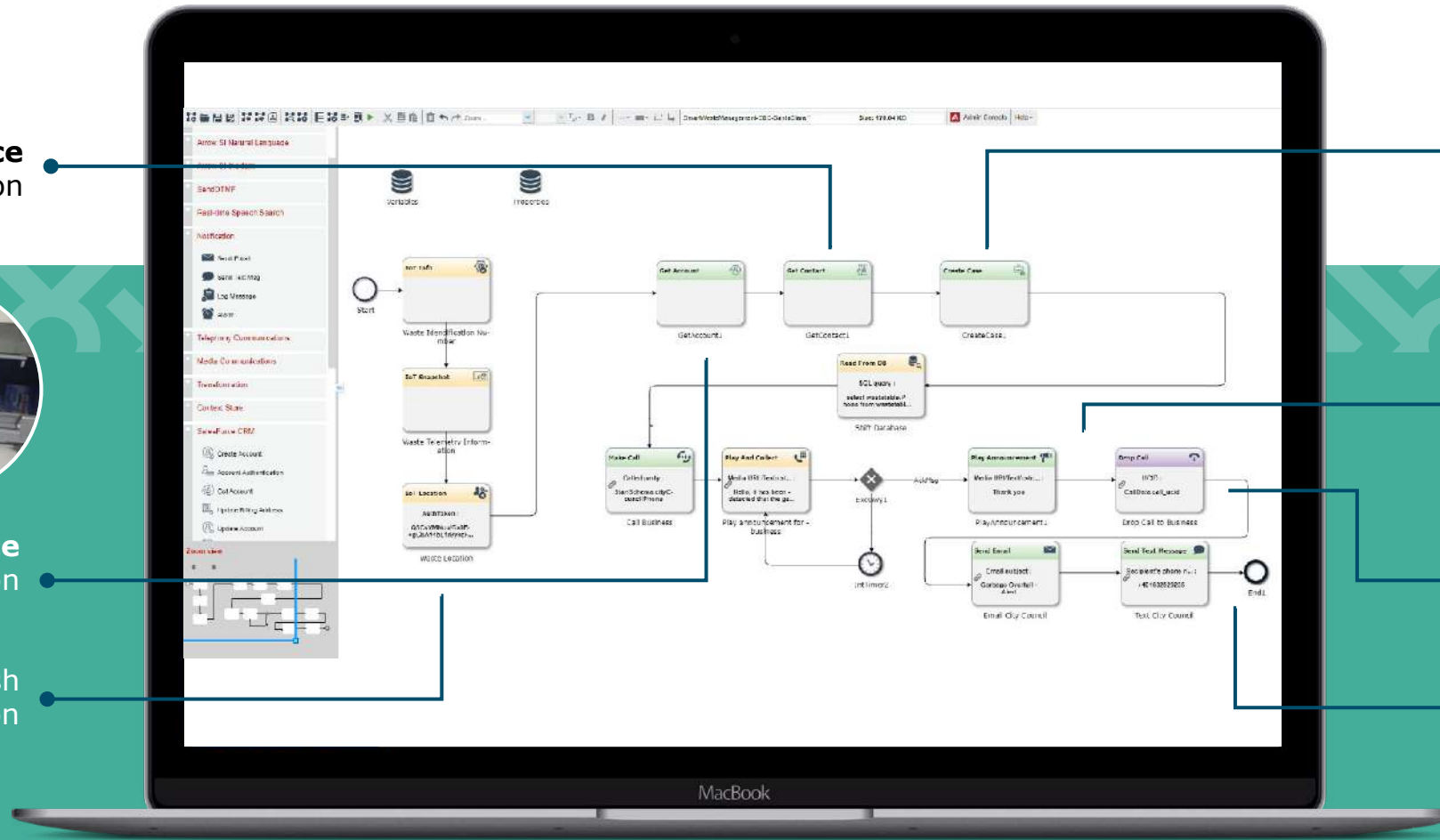
Smart Cities – Air Pollution
Situational Awareness for Faster Response Time

Area A

Area B

Area C

Smart City

Internet of Things Platform

Avaya breeze™

servicenow

1 **Incidents** management

2 **City council** notification

2 **Dynamic team** formation/action plan

Air Pollution Alarm in Area A. Please leverage public transport or switch Cars from gasoline to electric.

3 **Citizen** mass notification (Action)

Traffic Lights

3 **Traffic light** control (action)
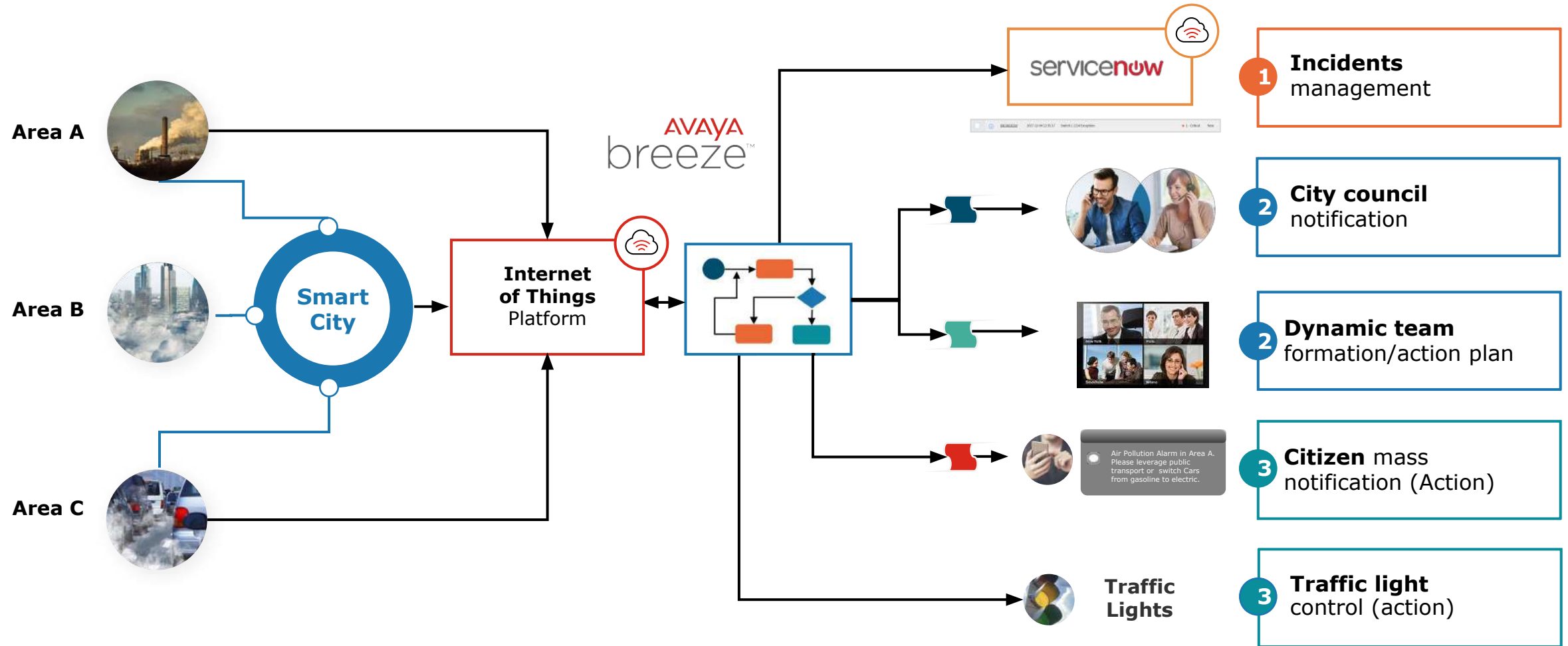
Smart Cities – Urban Noise Monitoring
Situational Awareness for Faster Response Time
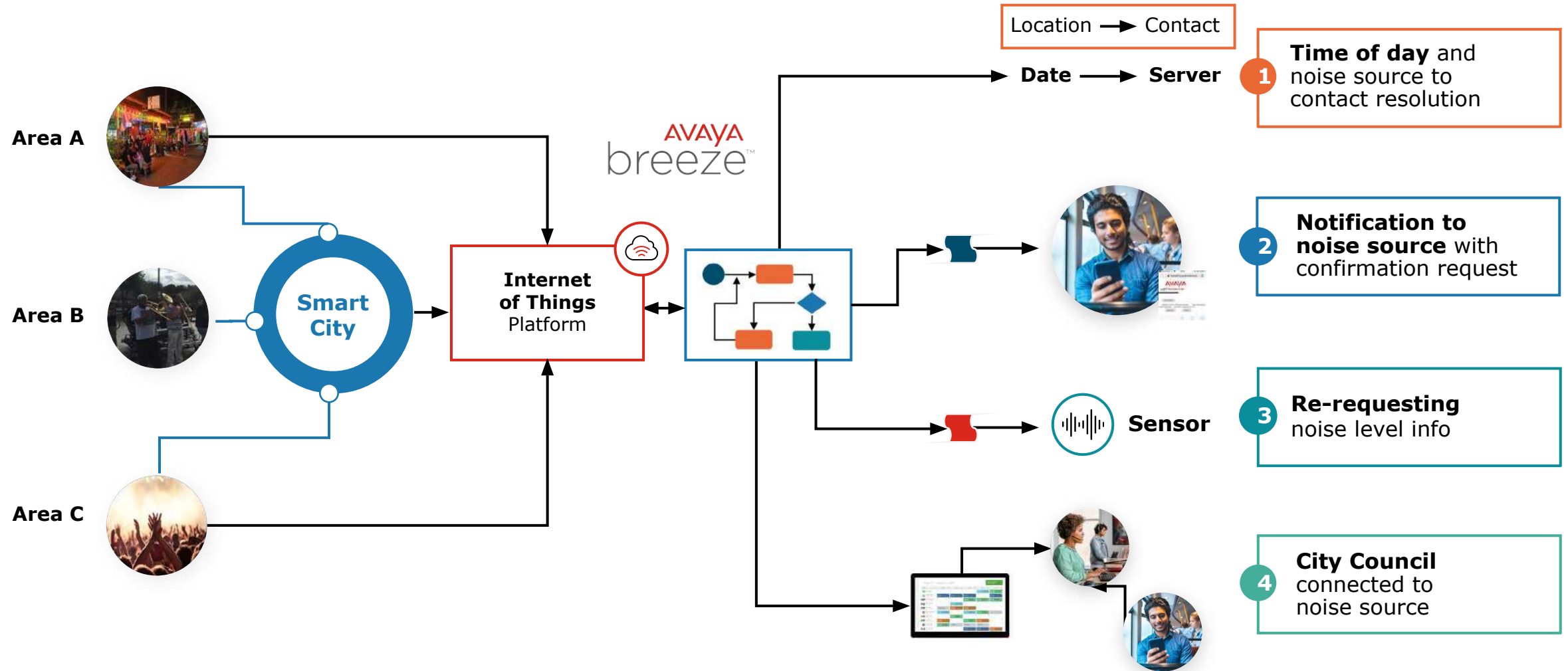
Smart Cities - On-demand Cleaning Services
Situational Awareness for Faster Response Time

Area A

Area B

Area C

Smart City

Internet of Things Platform

AVAYA breeze™

Location

Server

Profile

salesforce

1 **Toilet location** resolution (SLA)

2 **Shift plan** lookup

3 **Staff notified** with SFDC case number and address (urgency)

1 **Cleaning service** case opened
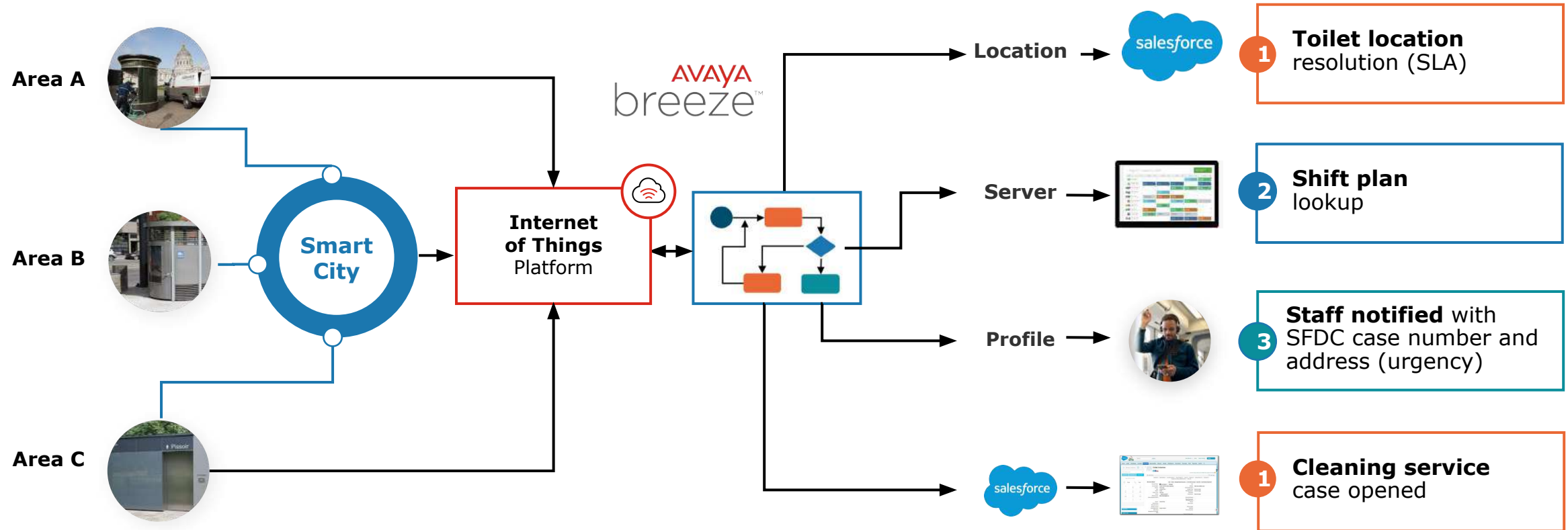
Smart Cities - Smart Metering
Creates a Win-win with IoT Data Insights

Customer transparency on energy consumption

Smarter decisions on energy usage (adjust habits)

Any
Modality
Language
Phrase

Transparency

Stay **fully informed** about the daily energy use and trends

Individual grid management combining smart home & meters to magnify energy efficiency

1 **Internet of Things** Platform

Temperature

Smart Meter

Area A

Smart City

Area C

Utility Bill

2 **Automatic billing** and customer notification

1 IBM Watson

Analyze grid conditions in real-time

Detects language and translates message

Analyzes the message and assigns it to an intent

AVAYA
breeze™

Vertical Industry Solutions

Art of the Possible

Manufacturing

IoT Manufacturing with PLC System
Connects Machines with Humans & Shop Floor with IT
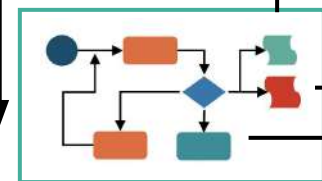
IoT Manufacturing
Real Time Information for Better and Faster Reactions

Internet of Things Platform

Avaya breeze™

Production Management receives **contextual information**

Incidents Management

servicenow

Hazards of abnormal environmental conditions are detected when special **compliance criteria** must be met

- Air Quality monitoring
- Man-Down detection

Location & Shift Information

Alarm Horn & Light

Exhaust Ventilation
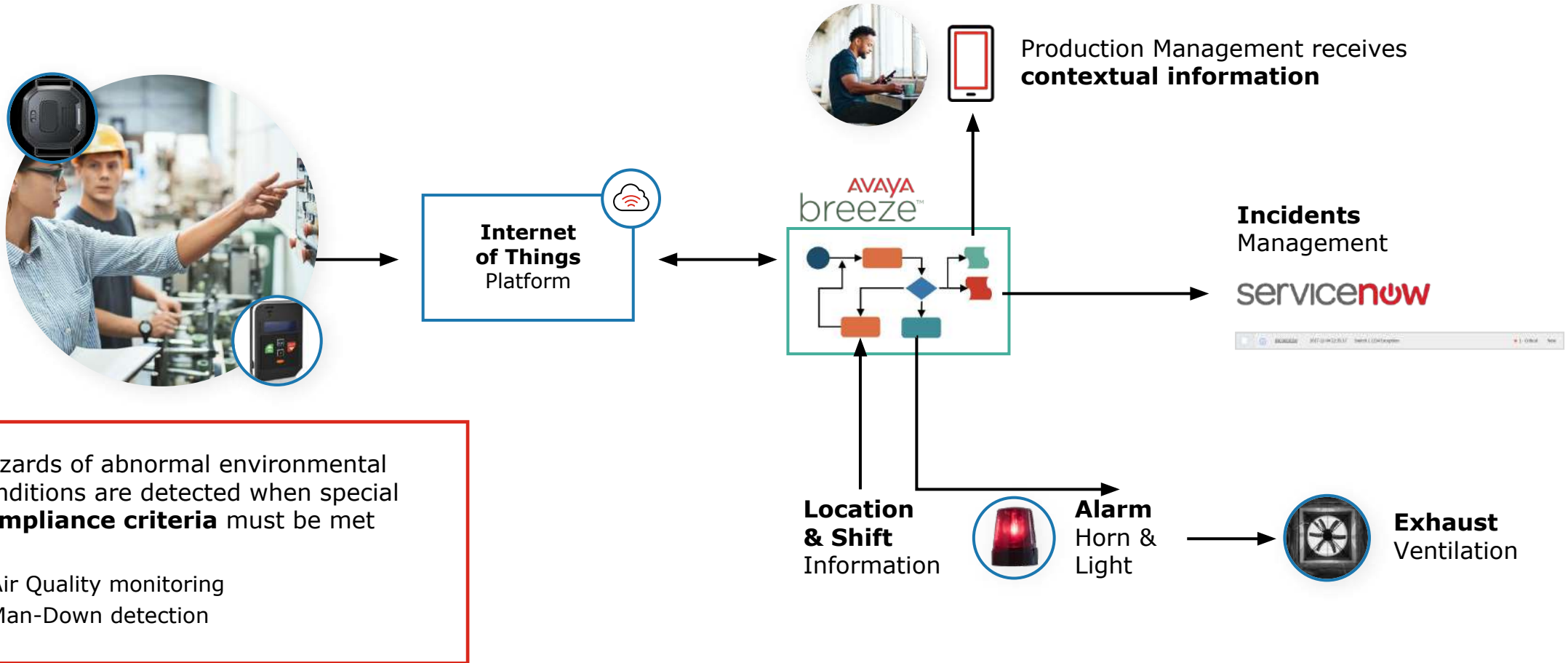
Avaya provides the ability to seamlessly enable **IoT ecosystems** to communicate with any user or device **with the right information, in the right place at the right time.**"

AVAYA | Experiences That Matter

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