

SMART CITIES 2nd NATIONAL SUMMIT, INDIA, 2016

Sep 2016

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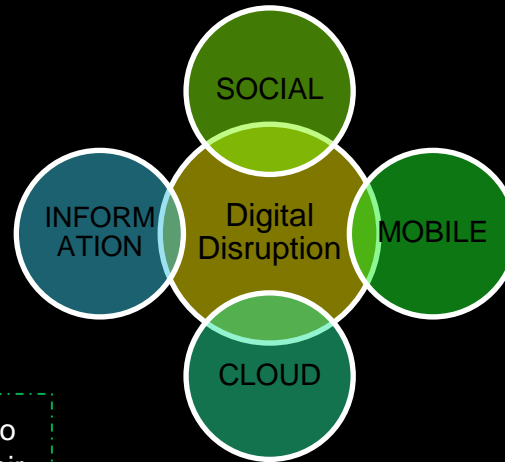
CONVERGENCE DRIVING DIGITAL DISRUPTION

DIGITAL DISRUPTORS

2/3 of the world's mobile data traffic will be **video** this year

By **2020**, ~**50 billion** objects **connected** to the **Internet**

50% of shoppers want to integrate mobile into their grocery experiences



An estimated **77 billion apps** were downloaded in **2014**

Megacities (with **10M+** people) is projected to increase to **27+** in **2025**

BEING FUTURE READY HAS NEVER BEEN SO IMPORTANT



Growing population, demands of security, affordability & comfort



Thriving culture, innovative ways of creating & consuming demand



Economic opportunity, education & job creation

City Challenges

- ❖ URBANIZATION
- ❖ ECONOMIC CONSTRAINTS
- ❖ ENVIRONMENTAL SUSTAINABILITY



Rapid Growth Puts Pressure on City Infrastructure, Making it Harder to Maintain Citizen Quality of Life



Greater Need to Manage Carbon Footprint and Improve Sustainability



Boosting Livability Index Is More Crucial Than Ever to Retain and Attract Trade, Commerce, and Talent

This Fragmented Approach Is Inefficient, has limited effectiveness, and is not economical. The ability to improve city infrastructure management is crucial to defining and achieving social, Environmental, and Economic Success.



Traffic Management



Public Safety



City Lighting



Pollution/Environment



Waste Management



Parking Optimization

DEFINING THE FUTURE-READY CITIES

Old model for a city

Attract industry and raise revenues which fuels investment back into the community for infrastructure, the arts, services, education and healthcare

The city of the future

The hub of social cohesion where citizens choose to live based on the available amenities, social and economic opportunities

SMART TOWNSHIPS ARE ...

... ones that use technologies and data to enhance a Town's economic development, sustainability, and provide a higher quality of life for its citizens

Smart Buildings



Municipal Services & Energy



Citizens Services



POWER OF DIGITIZATION...

...CONNECTED ENVIRONMENT

UNLOCK HIDDEN DATA...



Transportation



Utilities



Safety and Security



Environment

Smart CITY - Vision



Smart Building Management System

brillio

Smarter Revenue Collection



brillio **Property Tax**

City Administration

Smarter Transportation



brillio **Vehicle Tracking**

Smarter Waste Management



Works management

brillio

Smarter Education



Schools

Smarter engagement with citizens



brillio

Smarter Health



Public Health

brillio

City

IBM Intelligent Operations Center

(Process Optimization, Predictive Analytics, Real-Time Analytics, Business Intelligence)

Integrated Information

(Data Acquisition, Data Management, Data Storage)



Brillio Offerings



Consulting

- Customizations & Continuous Upgrades
- Application Support and Operations



Implementation

- Sensor Data Analytics
- Mobile apps for Sensor data
- Sensor Applications Cloud deployment



Management

Services include:

- Device management
- End to end security
- Big data services
- Cloud enablement
- Appification of sensor data



Engineering

- IOT Device design
- Platform selection
- Modular and Flexible solution
- Cloud engineering
- Architecture Blue Print and Roadmap

BRILLIO OFFERINGS- DOMAINS

Smart Cities

- Safety & Security
- Smart Transportation
- Smart Citizen Apps
- Smart HealthCare
- Smart Building Management
- Smart Waste Management

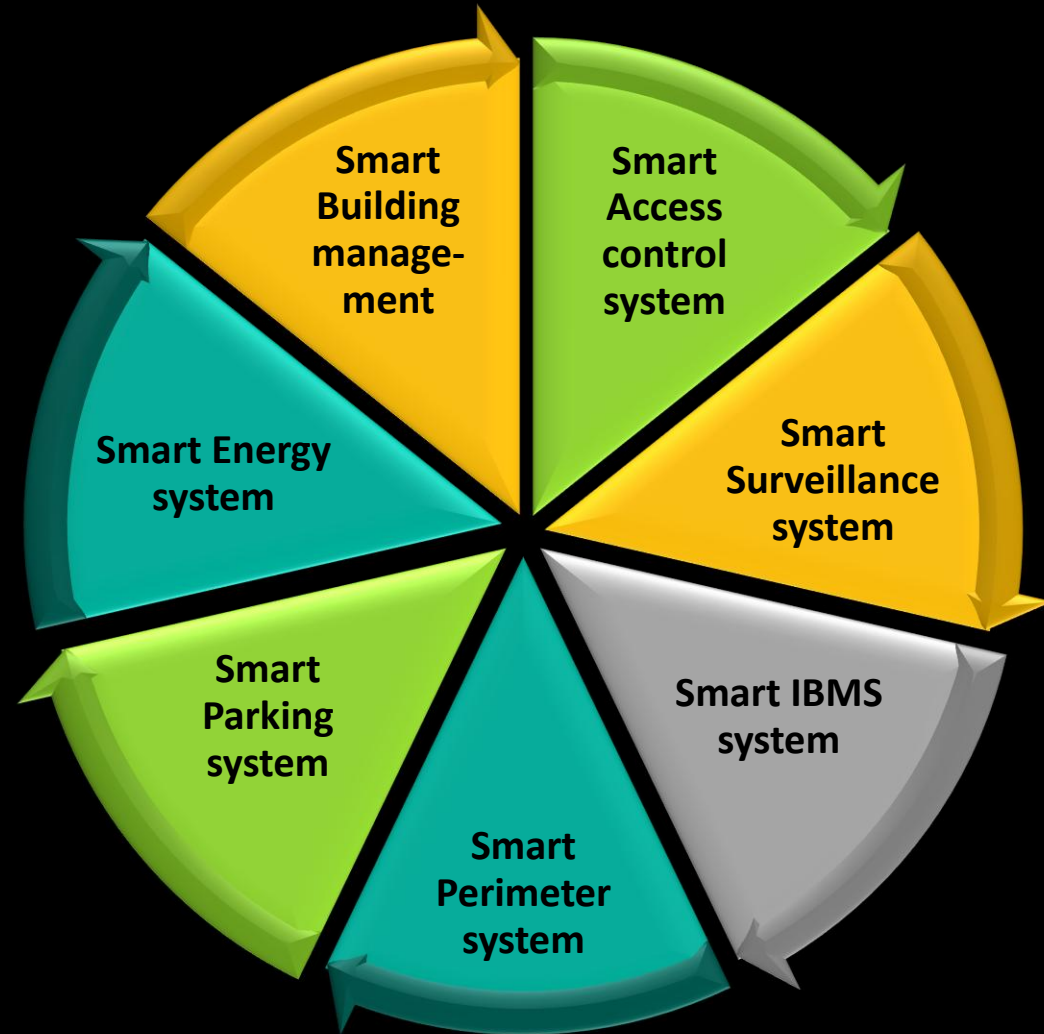
IOT Solutions

- Device Engineering
- System Integration
- Platforms & Applications

Mobility Solutions

- Smart Grocery App
- Master Transit App
- Collaboration Platform
- Chatbot App

BRILLIO-Smart city accelerators



BRILLIO IMAGINE

Imagine
Art of the Possible

Imagine Impressions
Imagine Accelerators

Selected, Pre-packaged, domain specific Micro-experiences which help in visualizing the impact of Imagine in a given Domain

Imagine Transformation Team
People and Methodology Frameworks

Hands-on, immersive services which handhold the in the realize journey and help identify more Imagine opportunities along the way



IPs and Accelerators

Mobility

Cross Platform Mobile Application Development
Multimodal Mobility Solutions

UX

Unified UI Framework
Rapid Prototyping
Reusable UI assets

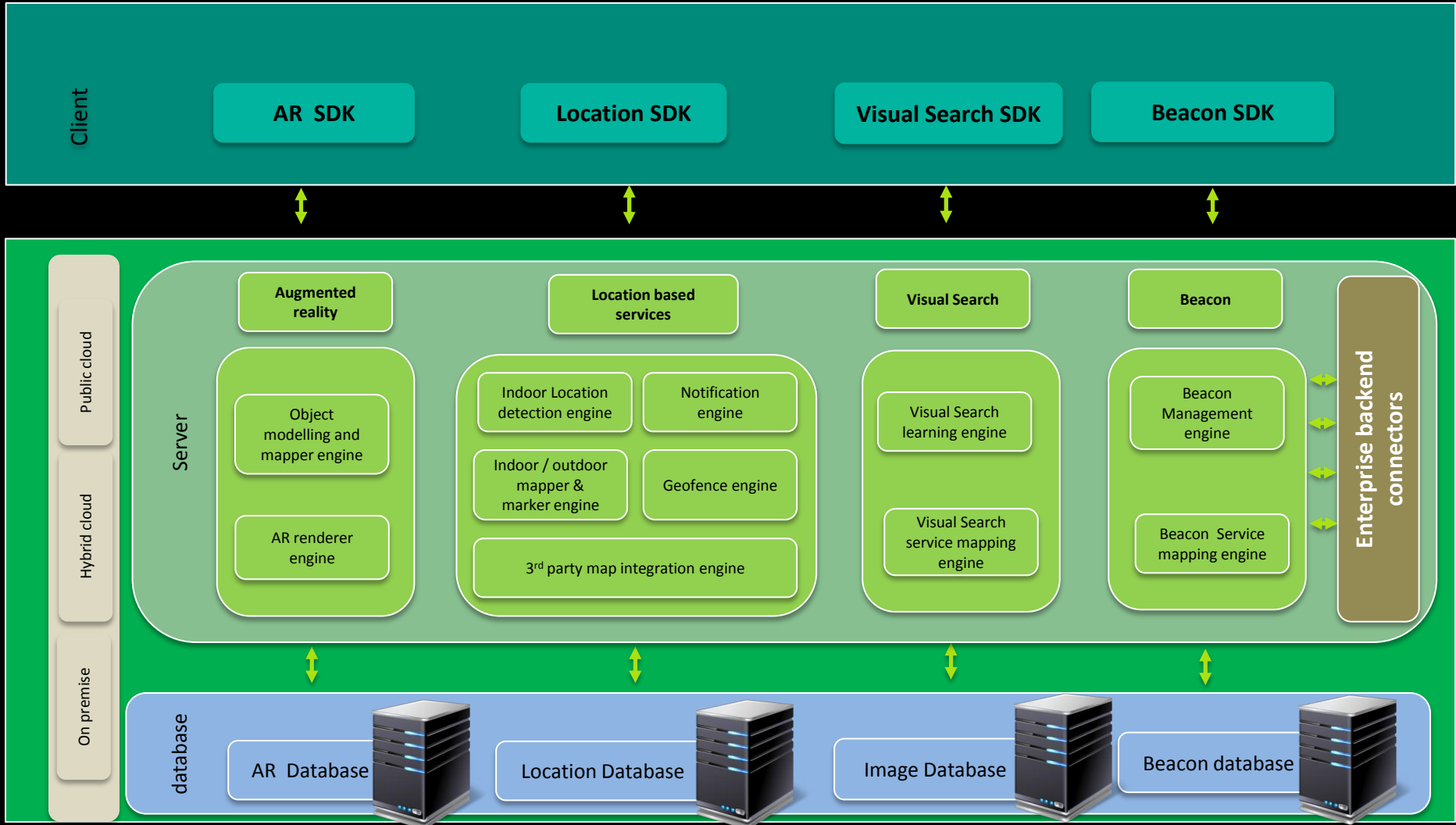
IOT

Smart Spaces Framework (support for LBS, Visual Search, Augmented reality, beacons), Wearable Framework

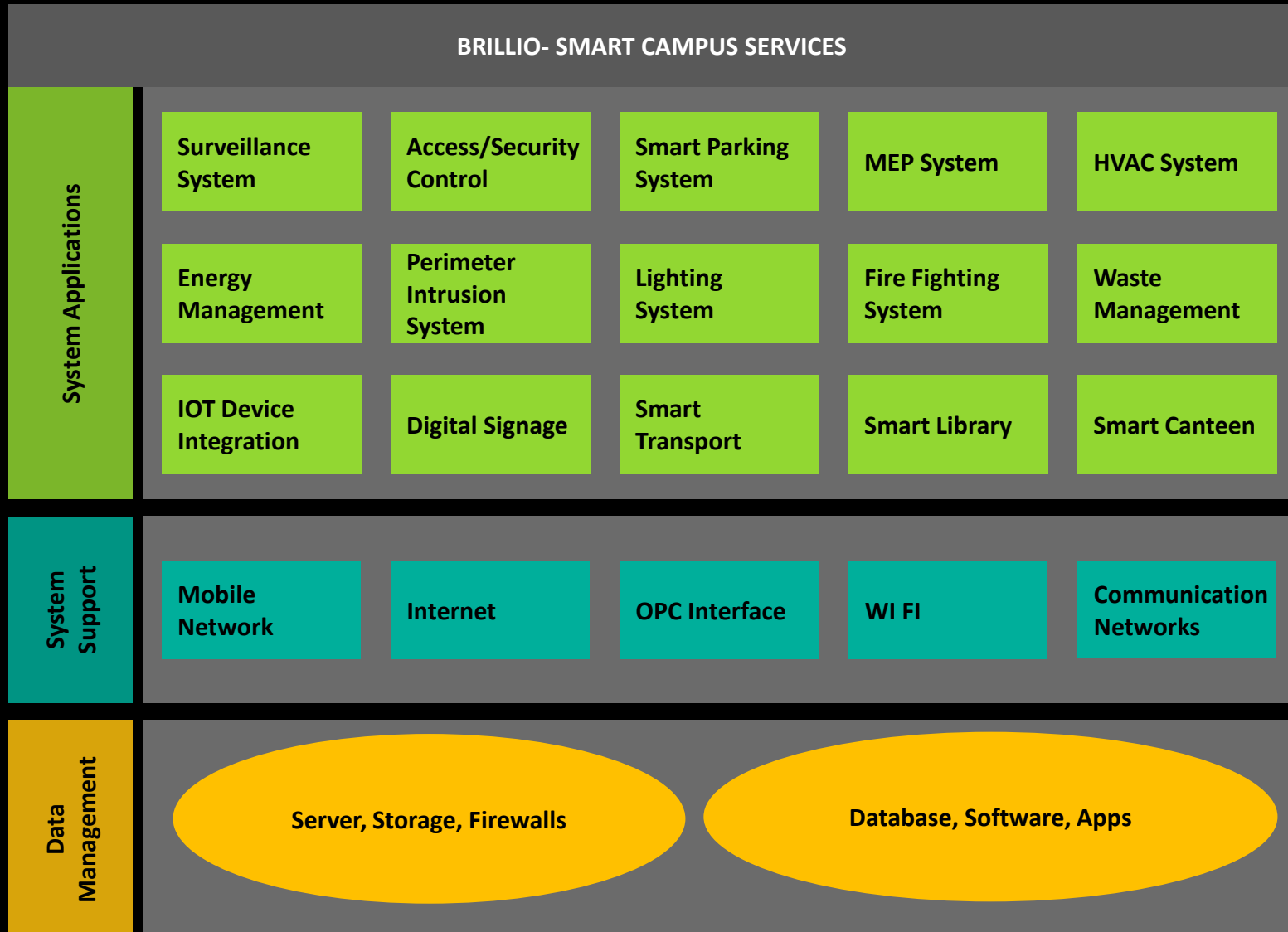
Prototyping Lab Infra

Smartphones (iOS, android), smartwatches, smart glasses (google, vuzix), beacons. MindRdr

Brillio's smart spaces digital platform



Brillio - Smart Campus Services



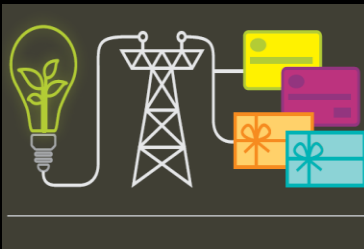
Brillio industry targeted solutions

INDUSTRY TARGETED SOLUTIONS



ASSET TRACKING

To enable real time tracking and bring in efficiency in the entire supply chain in a warehouse



SMART METERING

Smart solutions for Energy/water/gas for better visibility into consumption, enable demand response to peak load



PREDICTIVE MAINTENANCE

To bring about predictability in maintenance need of remotely monitored equipment to bring the down time



FLEET MANAGEMENT

Monitoring driving behaviour with the help of sensor technology for improved route optimization and alerts when vehicles need maintenance

IOT ACCELERATORS



Native/Hybrid framework for Application development



Cloud Migration strategy, Assessment and Accelerator framework



Cloud Management Solutions



MDM (Air watch) Integration for renowned Hi-Tech company



IoT Platform Provider



IoT Product Management solution



Azure IoT cloud service for products and applications



Energy management solution connected products.

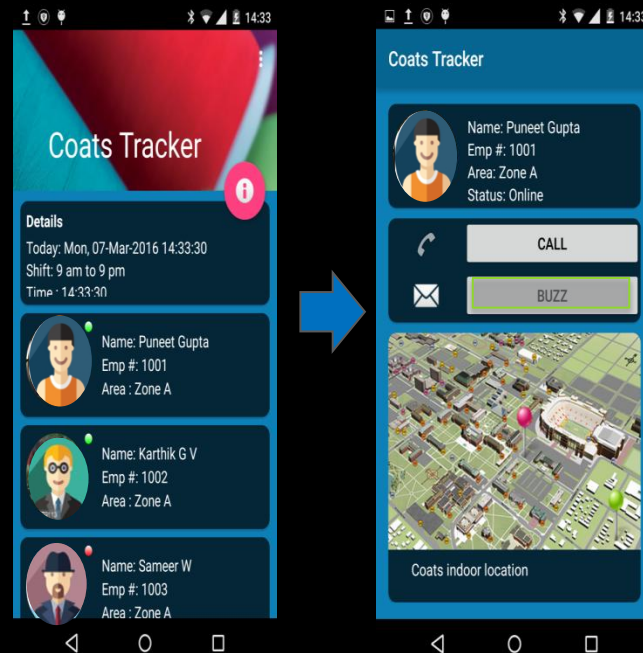
Real time asset tracking and alerting

GAMMA APP



1. All the connected devices are visible on the list
2. Status of each machine is available : Online/Offline
3. For online machines user can get detailed information as shown :
 - a. Complaint can be logged for electrician or mechanic
 - b. Machine details like last repaired by, reason is also visible

TRACKER APP



1. Mobile app for electricians/mechanics
2. Information for each electrician is available : Name, Emp#, Area, Status etc.
3. For electrician or mechanic who is available online
 - a. Locates the zone of the electrician/technician and displays in the app under area
 - b. Call: In built calling feature on the respective electricians mobile
 - c. Buzz: Real time Notification on the wearable(Wrist band) in order to immediately alert the electrician



Smart metering and Demand – Response Solution

Smart Metering Analytics Dashboard

Smart Metering Dashboard tool which can enable key stakeholders – Electricity provider, Energy consultant & Electricity consumer to take actionable data driven decisions with respect to their individual needs by extracting & visualising information from the data at various levels of granularity (Region, county, feeder, transformer, household levels and date & hour ranges). The tool provides an integrated view of the various data points captured through the Smart Meter & can be seamlessly integrated with existing data collection infrastructures.

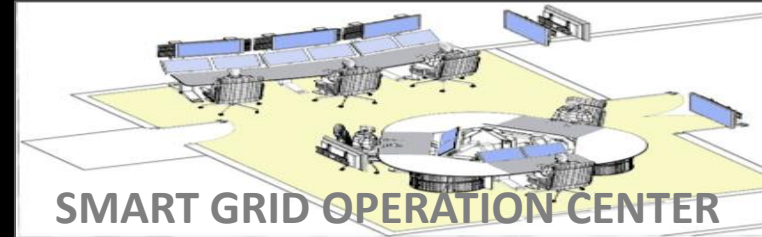
Leveraging the Smart Meter and Smart Grid data to study load patterns, rate fluctuations and forecasting

Reduce energy use during peak price

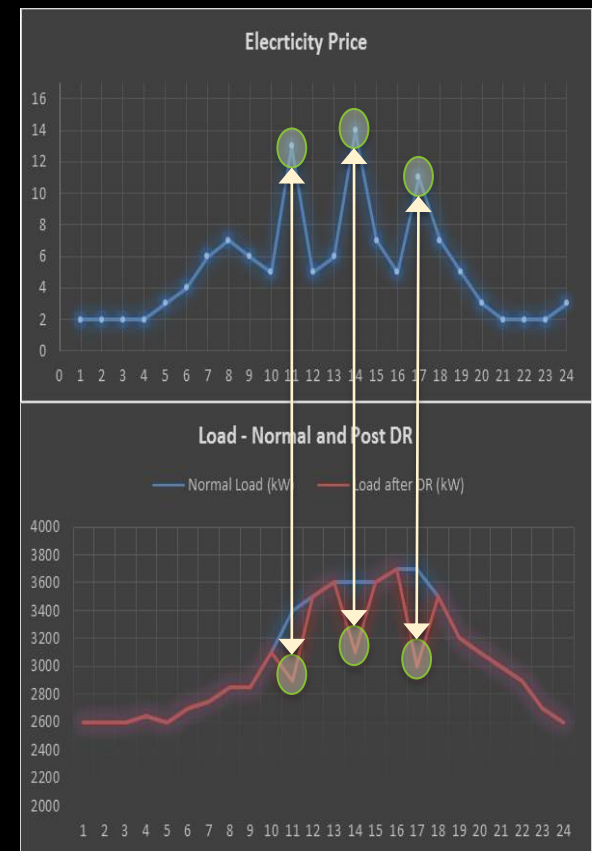
Improve grid reliability

Integrate renewable energy sources and distributed generation

Increase accuracy and reliability of load management decisions



Illustrative Demand Response Scenario



BRILLIO MOBILITY SOLUTIONS



Smart Grocery App
GRASP



Modular Brillio Collaboration
Platform



Digital Smart Lock



Pharma Event Management
App



Master Transit App



Dealership solution



Chatbots



Q-Management
System



Safe App

TRANSIT APP

ENHANCING CUSTOMER ENGAGEMENT THROUGH DISRUPTIVE INNOVATION

BUSINESS CHALLENGE

Commuting customer challenges

Additional sources of revenue

Need to enhance customer footprint

Additional channel offering customer's portfolio



ABOUT THE CUSTOMER

Customer is a global leader in payment gateways that leverages technology to connect individuals, businesses and organizations.

BRILLIO SOLUTION

Brillio engaged with the customer in realizing their solution through Brillio Imagine™. Brillio demonstrated the *Smart Transit App* that provided a user centric seamless experience blending with customer's priceless experience.

KEY BENEFITS



Commuting Customer convenience



Cross-sell and up-sell customer offerings



Increased customer engagement

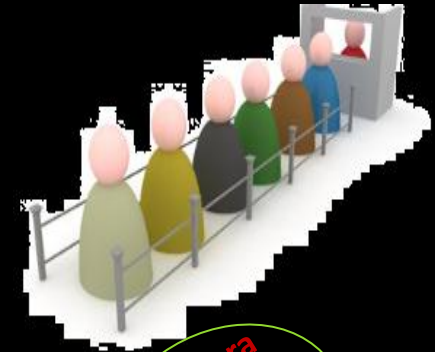
LIVE IMPLEMENTATION - ROI

Target is focused on optimising the in-store experience for its 13M users of its Cartwheel app. Using iBeacon technology, Target hopes to guide customers through the store, provide helpful recommendations and product suggestions, and optimise the location data. In store conversion has increased by two fold and store trips has zoomed by 28% .

Q management system

Business Context – Utilities customers are sensitive to wait time at Branches. Long wait hours contributes to drop in customer satisfaction. Customers would prefer to trigger a request based on their availability and need, have a prior appointment and expect prompt delivery of the services requested.

- Solution – Geo Fence and Beacon based Auto Q Management system



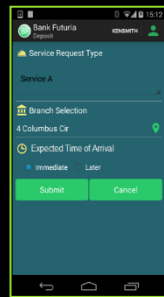
Configurable Algorithm



Customer Logs into Corp App



customer's location proximity displayed on a map



Customer selects Branch, Service Request Type and ETA



Customer starts for Corp. , and enters Geo Fence

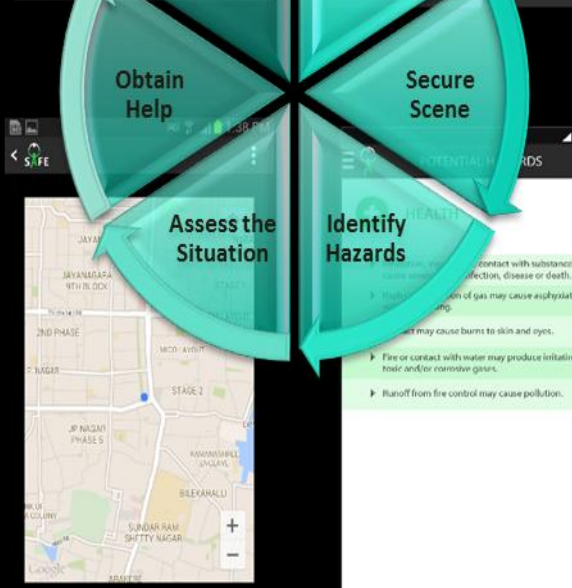
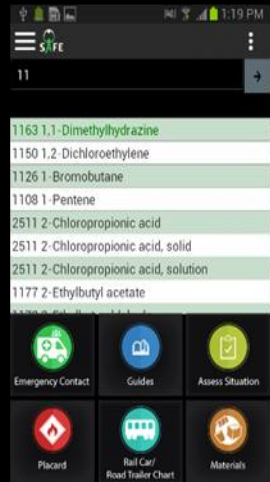
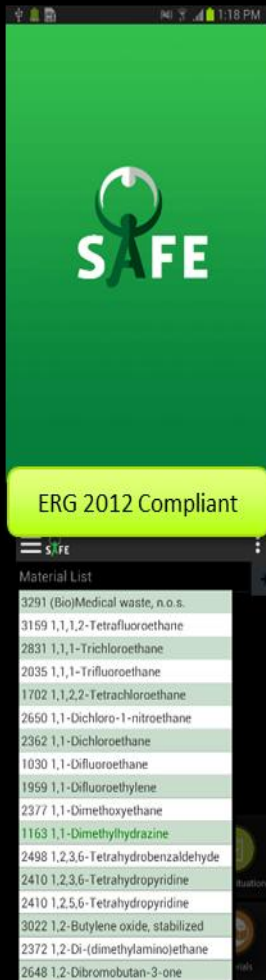


Based on Geo Fence range customer is in and Beacon detection, Q priority in CRM updated.

First Name	Last Name	Category	Request	ETA	Location	Priority	Branch
Tom	Buster	Person	Service-A	2:00pm		1	Stanton Blvd
Katherine	Kelly	Person	Service-B	11:00 am	parking	1	Stanton Blvd
Ken	Smith	Business	Service-A	04:30PM	Power line	2	Stanton Blvd

Q logic can be a combination of factors like Customer segment, age, Request type etc.

Brillio safe app for hazmat first responders



GRASP

INTELLIGENT PREDICTIVE GROCERY APP

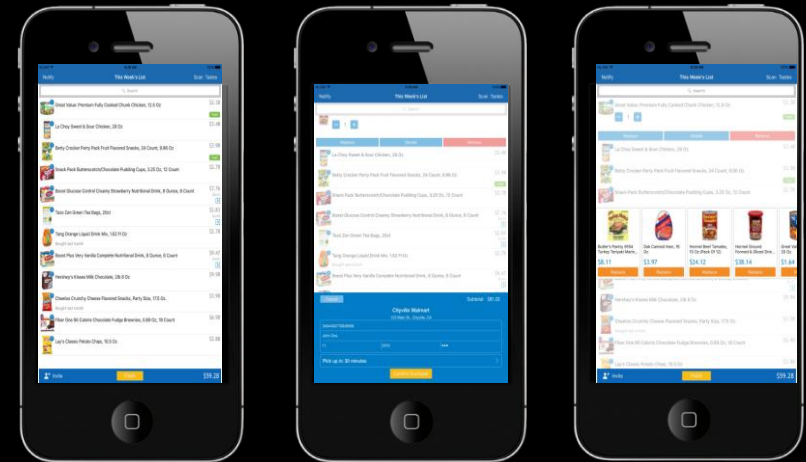
BUSINESS CHALLENGE

Understand customer's preferences to predict shopping behavior

Need to save customer's time and money

Integration of brick and mortar with click and order

Enhancing the customer experience and satisfaction



ABOUT THE CUSTOMER

Customer is the world's largest retail corporation that operates a chain of hypermarkets, discount department stores and grocery stores

BRILLIO SOLUTION

Brillio engaged with the customer in realizing their solution through Brillio Imagine™. Brillio demonstrated the *Grasp app* that provided a user centric shopping experience by suggesting the customer a pre populated cart based on his preferences and previous buying behavior

KEY BENEFITS



Understand Personalized Customer Insight -Marketing Analytics



Increased customer engagement



Operational Efficiency

LIVE IMPLEMENTATION - ROI

Staples, a US based supply chain store uses predictive analytics to forecast sales by processing close to 10 million data transactions every week as input and forecasts the daily and weekly sales of the office supplies across 1100 outlets in US. Staples was able to see a significant drop – close to 25% in their overall promotion costs with the use of retail analytics

CHATBOTS

ORGANIZATIONAL INTERFACE OF THE FUTURE

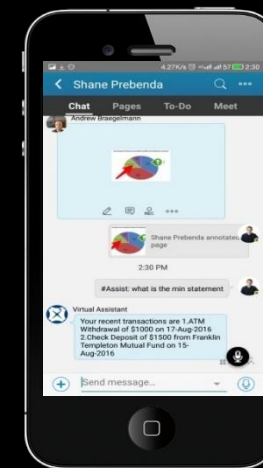
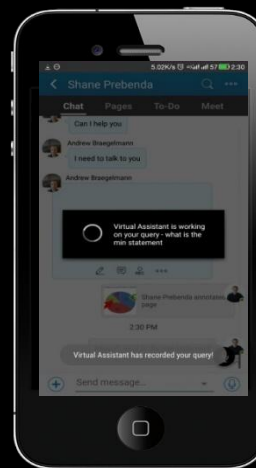
BUSINESS CHALLENGE

Need to simplify and enhance the banking experience

Personalized customer support and ease of use

Increased adoption of conversational commerce

Reduce labor intensive work and overhead



BRILLIO SOLUTION

A solution suite conceptualised, designed and implemented with Artificial Intelligence at its core. Chatbots act as virtual assistants in understanding user's queries and respond in real time with appropriate answers. In a world that is changing from app based commerce to conversation based commerce, smart chatbots play a major role in attracting and retaining customers by providing personal and exceptional customer engagement platform

KEY BENEFITS



Enhance Employee Productivity



Source of Differentiation



Data Insights – Customer Queries



Reduced Transactional Costs

Case Study

A British multinational banking and financial services company has introduced a pilot scheme in Africa, where chatbots are used for customer support. The chatbots would answer simple customer questions quickly, enabling staff to focus on more complex issues

MODULAR BRILLIO COLLABORATION PLATFORM

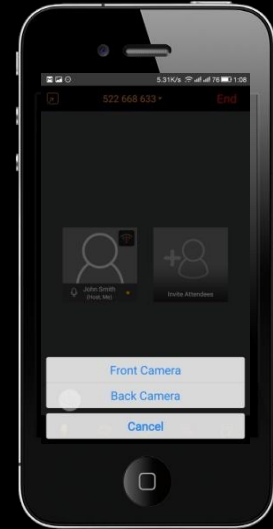
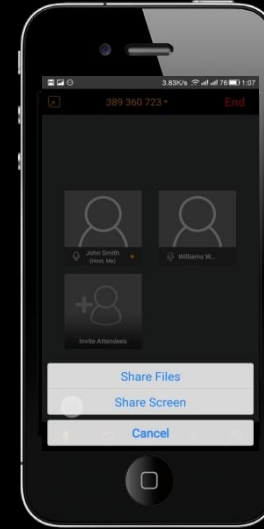
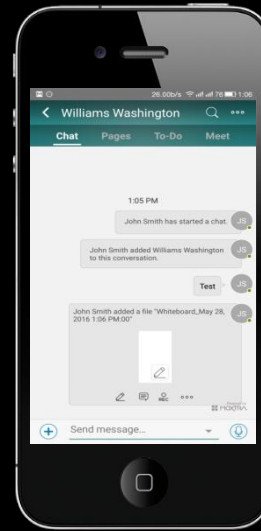
BUSINESS CHALLENGE

Need to provide seamless communication channel

Increase employee productivity

Provide exceptional customer service

Integration with existing channels



BRILLIO SOLUTION

A fully customizable, cloud based, mobile-to-mobile chat platform which can be leveraged by clients to give a branded, industry grade and rapid mobile to mobile chat experience targeted at customer acquisition and customer servicing scenarios

Key Features: Start Chat, Share Screen/Screenshot/File, Start/Join Meet, Group Chat, Video Chat, Push Notifications

LIVE IMPLEMENTATION - ROI

KLM Royal Dutch Airlines started servicing customers in China over a live chat platform which has enabled it to set new benchmark. Operational efficiency and customer satisfaction has seen a phenomenal increase. The brand engagement has increased on various channels. Synchronized data intelligence has allowed KLM to monitor and learn from the response data

KEY BENEFITS



Reduced Cost-
Increased Efficiency



Effective Training
Medium



Sales and Retention-
Increased revenue



Competitive
Advantage



Customized Service
& Ease of Use

DIGITALLY ENABLED DEALERSHIP SOLUTION

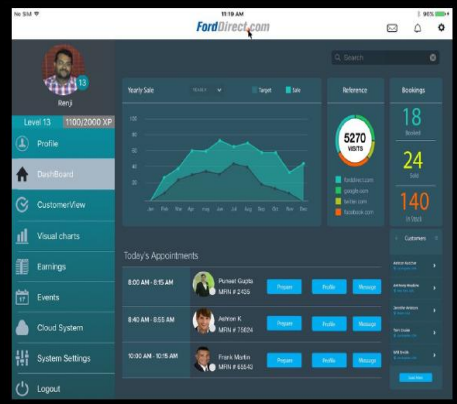
BUSINESS CHALLENGE

Understand customer 's expectations

Empowering dealer with the required information

Create a memorable buying experience for the customer

Need to increase customer footfalls



BRILLIO SOLUTION

A digitally enabled solution, powered by social analytics engine to equip the dealer with all the required information to create an impact on the customer. Integrated with cutting edge technologies like augmented reality, proximity beacons, air play etc. the solution can be effectively configured to create an engaging and immersive experience to the customer. The solution adds value to the business by strategically integrating the visions of customer, car manufacturer and customer

LIVE IMPLEMENTATION - ROI

A Japanese car manufacturer conceptualised and implemented a smart dealership solution across its outlets in Japan. The efficiency of dealers increased significantly, which was reflected by the increase in rate of conversion. The sales jumped by 14% and the customer satisfaction index showed a steady rise of 22% from the previous year

KEY BENEFITS



Increased Dealer Productivity



Social Analytics



Increased Footfalls- More Revenue



Competitive Advantage



Customized Service & Ease of Use





Case Studies

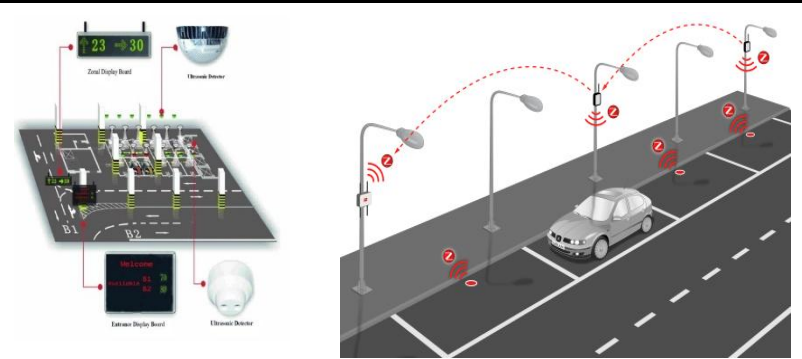
BRILLIO-Smart Security Solution

- Deploying Campus CCTV and its seamless Integration with Access Control System
- App based Time Management , Mobile Integration with Alerts and Notifications
- ANPR (Automatic Number Plate Recognition) CCTV with Visitor Management Integration.
- Perimeter Security with Intrusion



BRILLIO-Smart Parking Solution

- RF ID Enabled Parking Access
- Lighting Controls based on Vehicle Movement
- Digital Display for Real Time Parking
- Mobile based Parking Alerts.
- Sensor based Parking Management System



IoT Enablement of Legacy Devices

Legacy Device IoT Enablement

CLIENT OVERVIEW

A 125 Years Old Pump Manufacturing Company with Global Foot Print

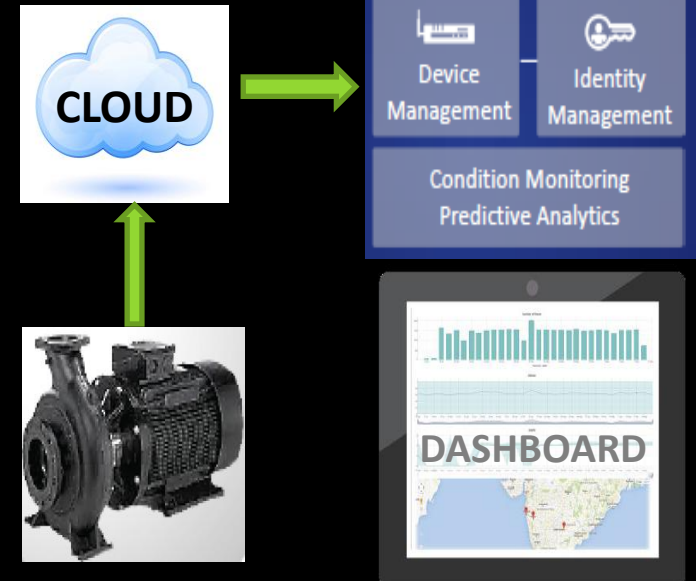
BUSINESS DRIVERS

Maintenance and servicing of pumps installed in remote location.

BENEFITS

- Direct visibility into the operating parameters of the pump.
- Threshold breach and downtime alerts.
- Understanding usage patterns.

BRILLIO SOLUTION



- Cloud platform acting as central sensor data repository for thousands of connected pump
- Build SDK compatible with pump hardware to safely and securely transmit parameters using GPRS connectivity

Smart asset management and tracking

SMART ASSET MANAGEMENT

CLIENT OVERVIEW

An Indian multinational company with \$2.27 Billion revenue, manufacturer and distributor of tea and coffee.

BUSINESS DRIVERS

- RFID based efficient package tracking and monitoring.
- Automates all manual process to track the status, reports and other relevant information pertaining to an asset in the operations area or processing area or in transit.

BENEFITS

- Efficient package tagging system like Barcode and RFID.
- Smart tag-reader handheld device, facilitating offline tag entry.
- Capable of handling more than 20,000 packages per center per day. Scalable design.
- Accelerators for integration with SAP ERP.

BRILLIO SOLUTION



- Our solution automates tracking of individual package using RFID/barcode technology.
- Custom application support for rugged devices with RFID/barcode technology.
- Provide indoor navigation within warehouse using Brillio Beacon Management Platform for indoor Asset tracking and Geo-Fencing.
- Solution is support for SAP ERP.

Energy sustainability solution— a case study

CLIENT OVERVIEW

Customer is leading IT Services company. Rising energy costs are linearly linked to customer expenses. There is need for customer to create sustainable business practices and manage resources at a macro level, and prove itself to be greener than others.

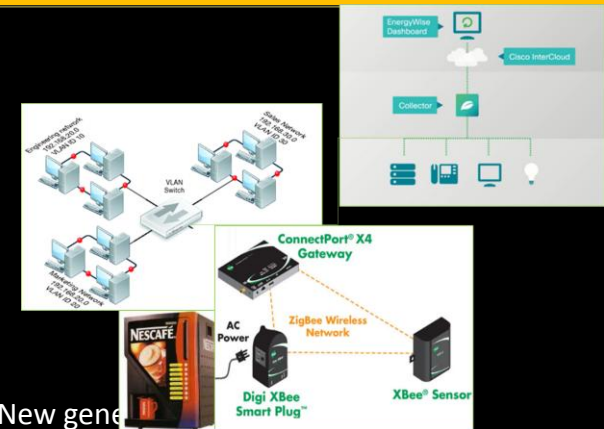
BUSINESS DRIVERS

- Reduce energy costs by gaining better understanding of energy consumption of PC, servers, switches, IP phones, printers and non-IP devices.
- Reduce carbon emissions
- Find management solution providing visibility into enterprise energy consumption

BENEFITS

- Deployed Cisco EnergyWise Management in under one hour
- Achieved visibility into energy consumption and utilization for all IP network devices
- Identified high consumption devices and created policies to reduce usage periods
- Company has new tool to help implement unique environmental strategy as part of sustainable business model

BRILLIO SOLUTION



- New generation of energy management solutions
- Our solution to Energy management is established in partnership with Cisco Energy Wise.
- This solution enables IP and Non-IP devices to be managed for power saving in a connected environment.
- The solution supports centralized management of wired and wireless connected endpoint - IP systems (such as computers, printers), non-IP devices, devices connected over RS485, RS232, WM bus ZigBee and Ethernet PoE in residential or commercial environments.

BRILLIO ENGAGEMENT WITH Municipal Utility

SMART GRID PILOT IMPLEMENTATION PROGRAM

- Brillio is partnering with the Utility on a long-term technology initiative designed to create an intelligent, digital power supply & management network

- **Brillio will help Utility in following programs**
 - Implementation of Smart Grid Operations Center
 - Demand Response
 - Electric Vehicle Initiatives
 - Customer Engagement Programs

- **Key Benefits of these Programs** - Advanced Smart Grid Infrastructure will help
 - Generate better insights into energy consumption patterns
 - Greater predictability and demand management
 - Proactively identify and prevent outages
 - Streamline demand generation and distributed automation
 - Improve response time
 - Drive an efficient data driven approach to operations
 - Improved customer service
 - Consumers can enjoy the benefits of greater choice and control over their energy usage
 - Personalized service to customers
 - Actively manage their energy consumption, utility bills and carbon footprint

DIGITAL SMART LOCK

DIGITALLY ENABLED PHYSICAL SECURITY SOLUTION FOR ASSETS DISTRIBUTED IN FIELD

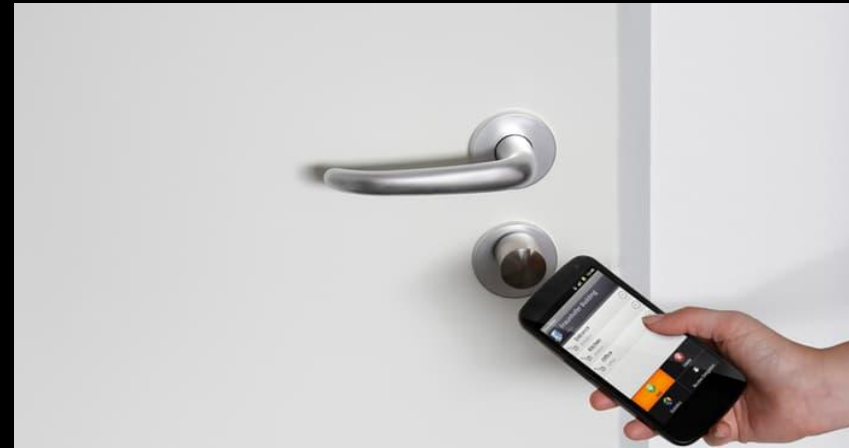
BUSINESS CHALLENGE

Enhancing the security of business critical components distributed in Field

Need to restrict the access based on time and credentials

Productivity challenge in management of Physical Keys

No analytics or reporting on critical operation data from the field



BRILLIO SOLUTION

A cloud-based platform for rapid deployment and management of digitally enabled smart solution for physical security of assets distributed in field. The platform has a Digitally Enabled lock which can be opened by a mobile. The platform manages cloud based Digital Key management, can undertake analytics on access of critical resources and can communicate with stakeholders using any possible computing channel – mobiles, smart watches, etc.

LIVE IMPLEMENTATION CASE STUDY WITH ROI

A leading broadband provider was facing a challenge with physical security of its routers distributed in field. Distribution of physical keys to secure the routers was a significant productivity challenge due to staff turnover, loss of physical keys, remote ness of locations and wastage of time in procuring duplicate keys etc. Brillio Digital Lock solution with Secure Key Management solution has reduced the theft by 80% during last one quarter. On productivity front, effort required to maintain and use physical keys has reduced from 176 person days to 22 person days in one quarter.

KEY BENEFITS



Convenience - No loss of key



Ease of Distribution



Competitive Edge



Operational Efficiency

30

SAMPLE IMPLEMENTATION OF SMART LOCK – AMAZON LOCKER

Amazon Locker lets the customer pick up his package at a time of his convenience. Once the package is delivered to the Amazon Locker, customer will receive an e-mail notification with a unique pickup code that includes the address and opening times for the selected locker location. When customer arrives to collect the package, he can enter the pickup code or scan the barcode using the barcode scanner and follow the instructions on the screen

TALBOT

CUSTOMER CENTRIC E-COMMERCE APP

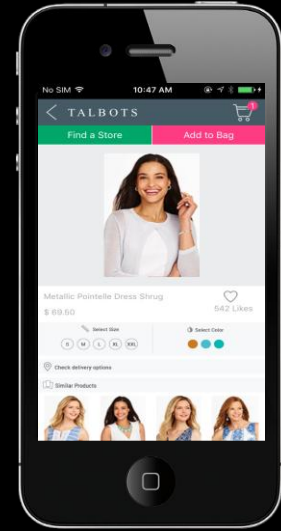
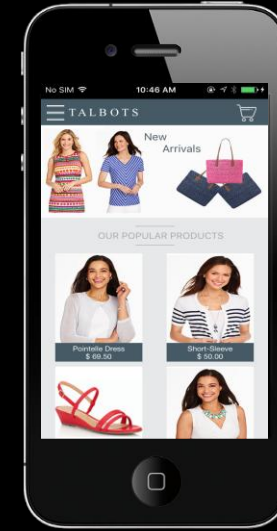
BUSINESS CHALLENGE

Need to enhance customer experience

Additional sources of revenue

Build loyalty & brand identity

Need to provide an omnichannel shopping experience



ABOUT THE CUSTOMER

Customer is an American specialty retailer and direct marketer of women's clothing, shoes and fashion accessories

BRILLIO SOLUTION

Brillio engaged with the customer in realizing their solution through Brillio Imagine™. Brillio demonstrated the *Talbots app* that provided a user centric shopping experience incorporating the standard design guidelines so as to enhance the user experience and customer delight

KEY BENEFITS



Wider Reach- Larger customer base
Personalized Marketing



Competitive Edge



Revenue through promotions

LIVE IMPLEMENTATION - ROI

Macy's, an American department-store giant employed an omnichannel strategy by going online and mobile. The sales from online and mobile channels jumped by 40%. Revenue was 5.5% higher than a year earlier, at \$8.7 billion. Net profits were up by 11.7%, at \$745m. This reflects Macy's efforts to expand its online business.

PHARMA EVENT MANAGEMENT APP

BUSINESS CHALLENGE

Difficult to track and manage events being conducted (more than 20,000 in a year)

Lack of consolidated dashboards for management to track events as well as HCP agreements

Regulatory fines due to non-adherence to latest event compliance guidelines

Delays in managing the event operations & reimbursements due to significant manual intervention



ABOUT THE CUSTOMER

Customer is an Indian pharma and biotechnology MNC with global revenue crossing US\$ 1 Billion.

BRILLIO SOLUTION

Brillio engaged with the customer in realizing their solution through Brillio Imagine™. Brillio demonstrated the Event Management app, a multi-channel and cross-platform application which helps the organization to effectively manage as well as track its speaker / non-speaker events and agreements. Tablet/mobile based solution

KEY BENEFITS



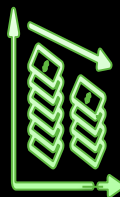
Business Process Efficiency



Less error prone



Accuracy, Data Integrity, Better Insights



Operational Expense Reduction

LIVE IMPLEMENTATION

A leading US based Global pharma MNC with the help of Brillio is moving from from a paper based manual system to an automated , reliable and scalable system when it comes to managing the operational and financial aspects of its events which are held globally.

WELCOME TO THE
NEW KNOW
HOW !!

brillio

IBM

**Business
Partner**