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# Disruptive Technologies, **VOICE ASSISTANTS**

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Flow, Cable and Wireless

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# CONNECTING THE UNCONNECTED



## BENEFITS OF INTERNET

- CONNECTING WITH FAMILY (BEYOND VOICE)
- WEATHER
- NEWS
- INFORMATION
- JOB SEARCH/E-COMMERCE
- EMERGENCY SERVICES AND DISASTER RECOVERY

**INTERNET HAS TRANSFORMED THE WORLD'S SOCIAL LANDSCAPE.**

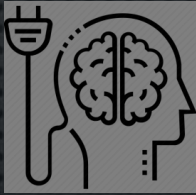
# KEY BARRIERS TO INTERNET ADOPTION



INFRASTRUCTURE



Affordability



User Capability



Lack of Incentives

Offline population is disproportionately rural, low income, elderly, illiterate, and female



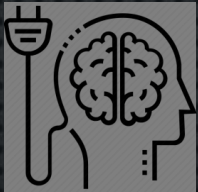
# KEY BARRIERS TO INTERNET ADOPTION



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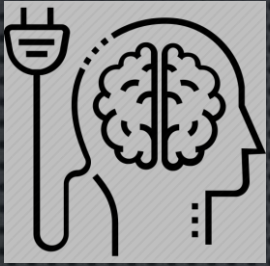
Affordability



User Capability



Lack of Incentives



# VOICE EQUALIZES USER CAPABILITIES



Digital Savvy: No Digital Literacy Required



Overwhelmed: Nothing to learn



Intimidated: Simple welcoming technology interaction

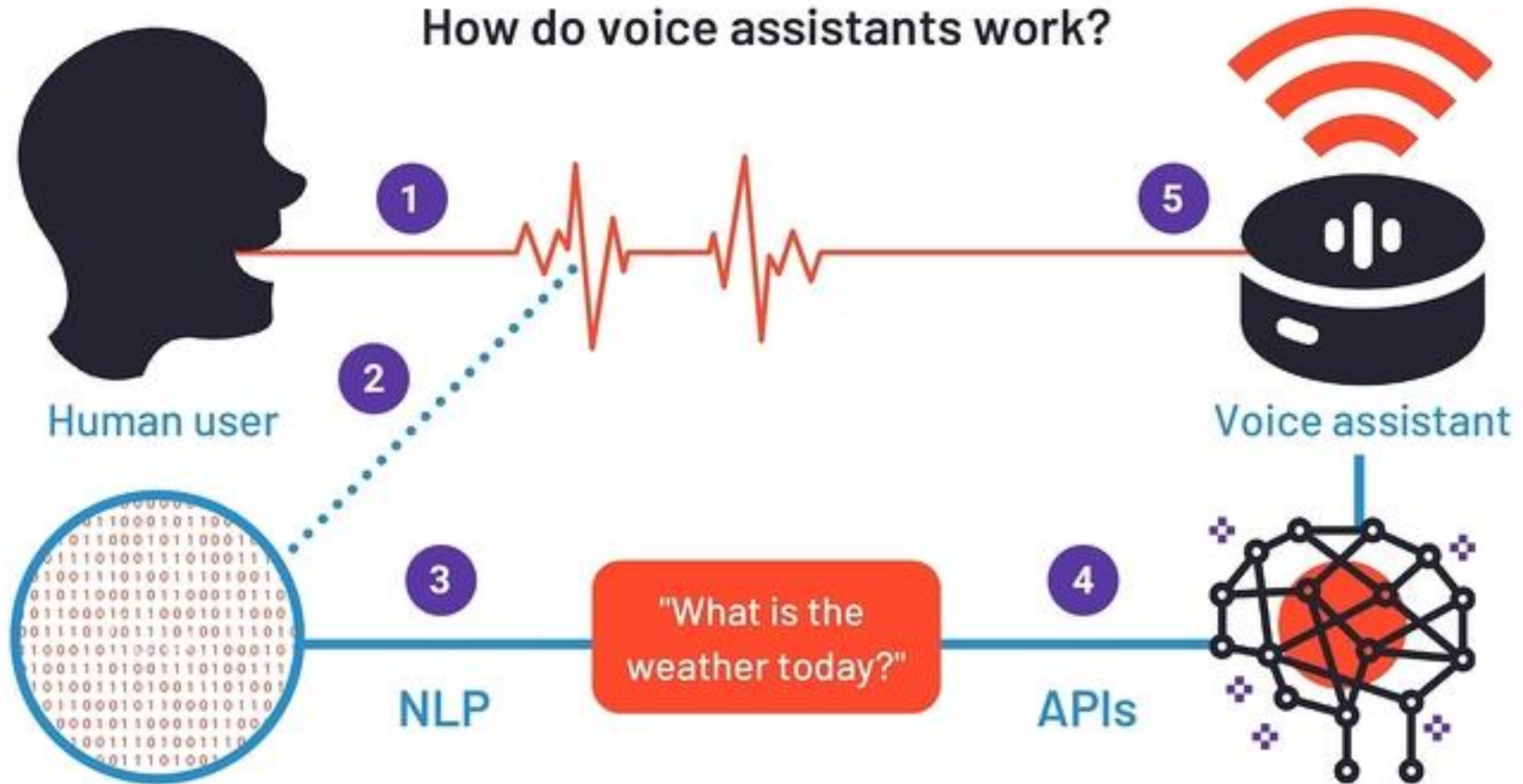


# VOICE IS A DISRUPTIVE TECHNOLOGY ENABLES VIRTUAL ASSISTANTS



Accuracy, Availability and Low Cost  
Voice/Virtual Assistants have reached the point of  
disruption

## How do voice assistants work?



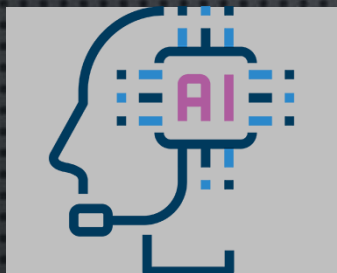




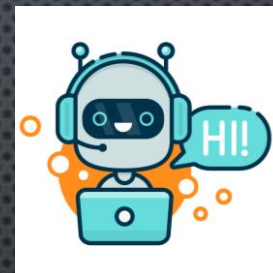
SPEECH TO TEXT  
AND TEXT TO  
SPEECH



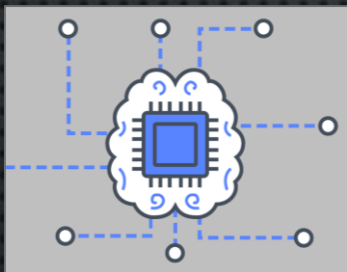
PREDICTIVE  
ANALYSIS



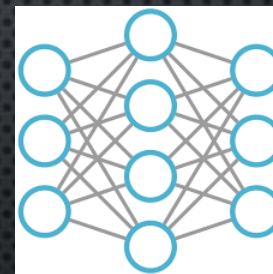
ARTIFICIAL  
INTELLIGENCE



CHATBOT



NATURAL  
LANGUAGE  
ENGINE



MACHINE  
LEARNING



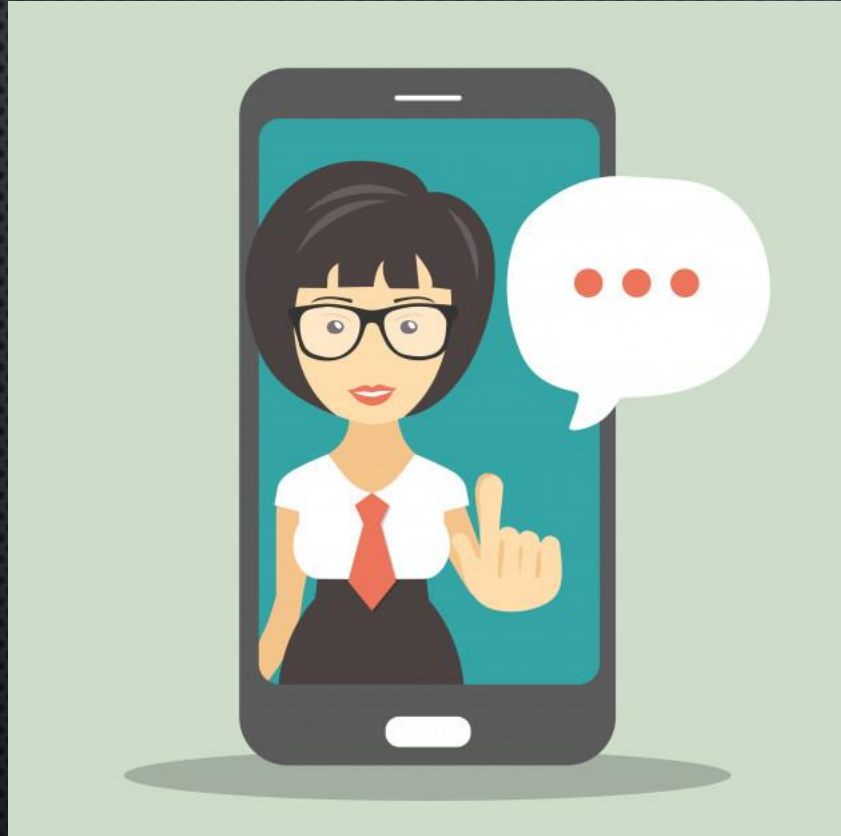
ENABLED BY CLOUD SCALE



# COMMON TASKS FOR VIRTUAL ASSISTANTS



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- Make and Receive call
- Weather Information
- News
- Get Directions and Bus Schedules
- Play Music & Video
- Set an Alarm
- Control Home appliances like lights
- Elder Care and Assistance
- Emergency Services
- Job Search, Shopping ...

# CASE STUDY - INDIA



## CHALLENGES IN CONNECTING INDIA

- HEAVILY RURAL
- LOW AFFORDABILITY
- LOW LITERACY RATES – MULTIPLE LANGUAGES

## 2015 to 2018

- Nationwide LTE Network
- Incentive Programs – 1 year of free internet
- New low cost handsets

**Introduction  
and use of  
Voice**



# CASE STUDY - INDIA



627M Internet Users

- **HIGH GROWTH**: DOUBLE DIGIT GROWTH
- **RURAL GROWTH**: 25% RURAL INDIA GROWTH — HISTORICALLY LOW LITERACY RATES AND HIGH DIGITAL DIVIDE
- **GENDER BALANCED**: 42% OF INTERNET USERS ARE WOMEN (GENDER DIVIDE)
- **MOBILE USAGE**: 97% ACCESS INTERNET ON MOBILE DEVICE

## Key Drivers

- Affordability – Lowest data rates in the world
- Infrastructure – LTE coverage and Build Out
- Incentive Programs
- User Capability – Voice

# WHAT CAN WE DO

## Cooperation among stakeholders

### PUBLIC AND PRIVATE INDUSTRY STAKEHOLDERS

- COMMON SPECTRUM ALLOCATION RULES
- EFFICIENT CAPITAL ALLOCATION AND INCENTIVES – FLEXIBLE RULES FOCUSED ON QUALITY
- SMART AND SIMPLE PRIVACY RULES AND PROTOCOLS -- DECREASES UNCERTAINTY AND DISTRUST
- INCREASED DEVELOPMENTS OF SMART CITIES
- INCENTIVES TO BUILD HIGH SPEED NETWORKS (INCLUDING 5G)

## Public Private Partnerships

### PROMOTE AWARENESS AND BENEFITS OF INTERNET

- PUBLIC SERVICE CAMPAIGNS SPONSORED BY THE INDUSTRY TO EDUCATE AND INFORM
- INCENTIVES FOR EARLY ADOPTERS
- CELEBRATIONS TO EXHIBIT TECHNOLOGY AND PROMOTE DECREASING THE DIGITAL DIVIDE



THANK YOU