Watson on Wheels

…Connected, Cognitive, Autonomous

"Let's co-create a more intelligent future"

Sachin Lulla- TU Automotive West 10/13/2016

The idea of an AI-enabled car is not new…

"Knight Rider is an American television series created and produced by Glen A. Larson. The series was originally broadcast on NBC from **1982** to 1986.

"The Knight Rider is **an advanced artificially intelligent, self-aware** **and nearly indestructible car."** Wikipedia
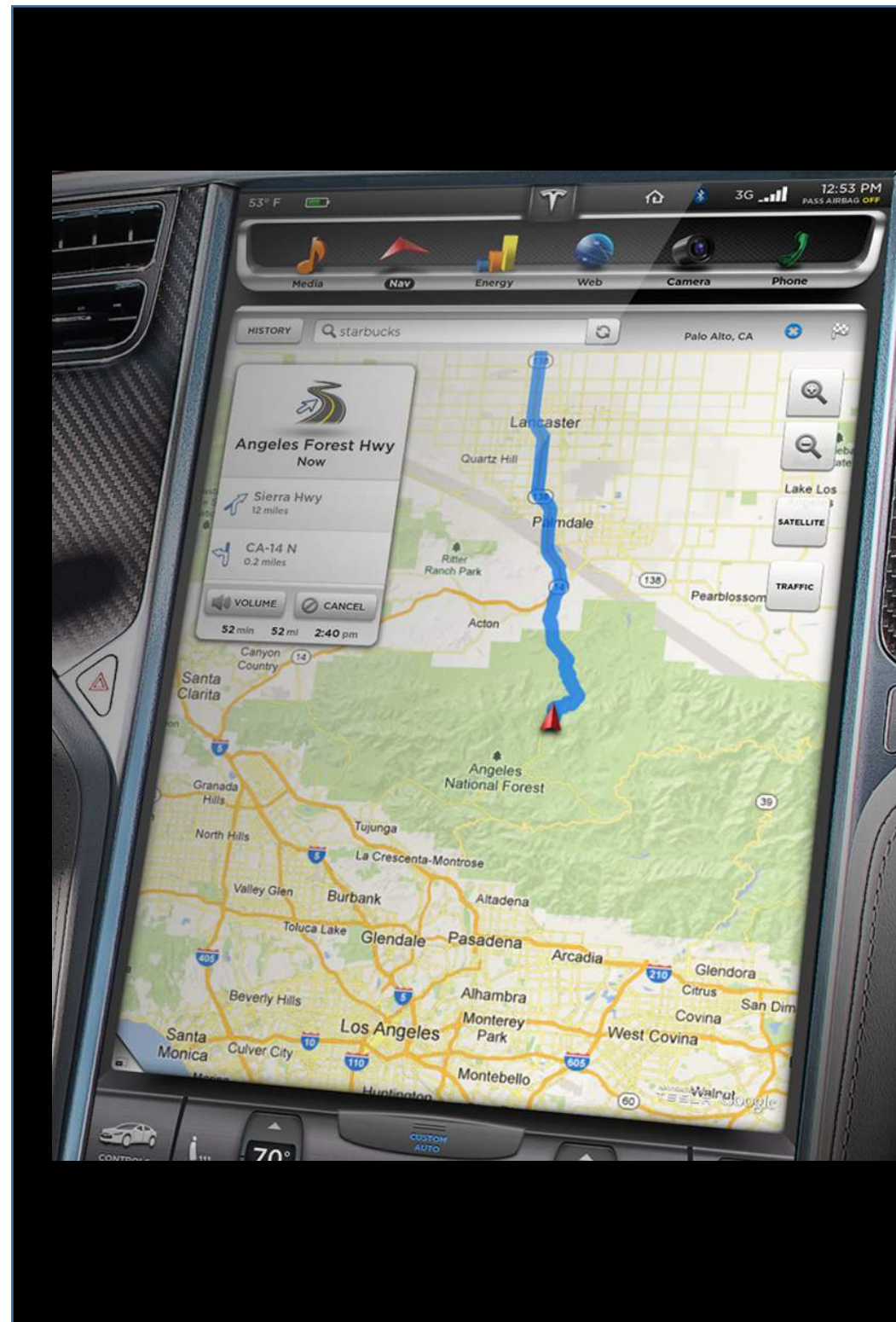
However, the customer experience today is anything but impressive or intelligent…
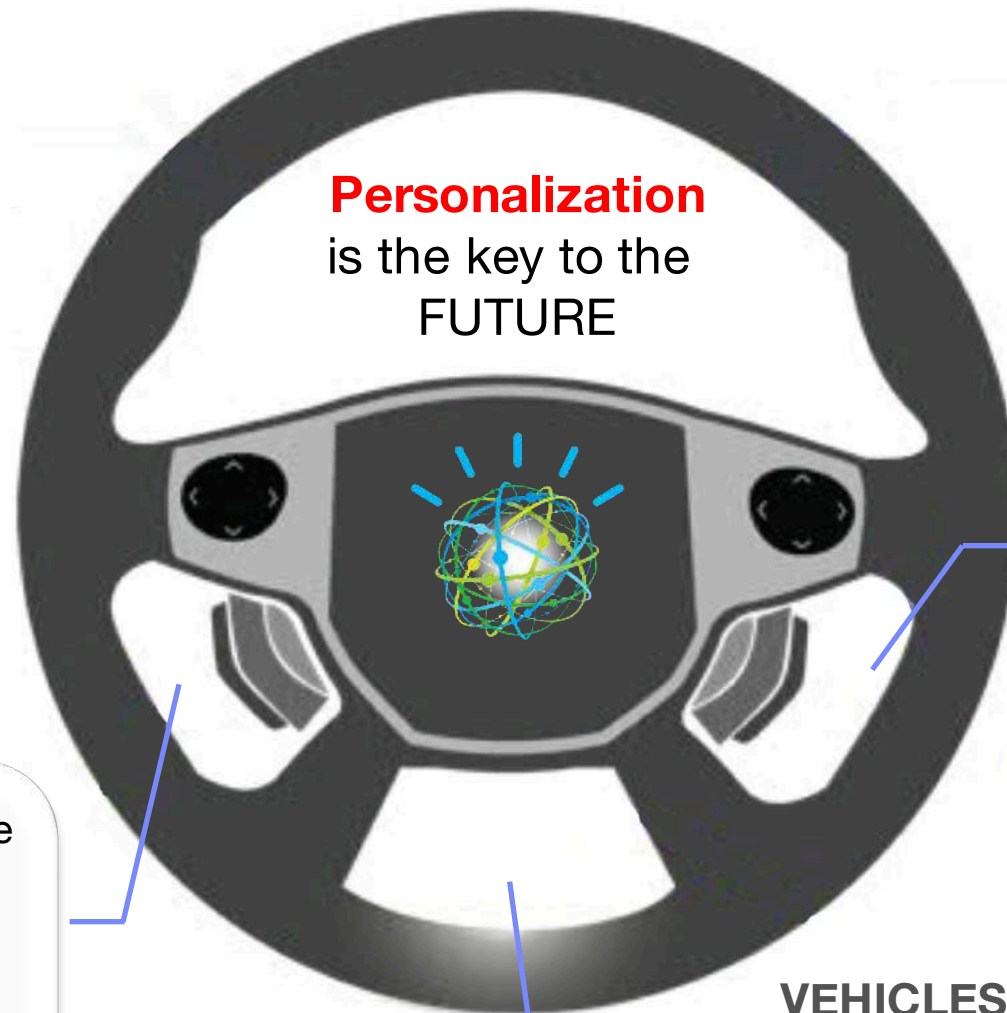
Btw- Is there room for more buttons?

We have made progress along the way, but…is this the answer?

Is this the best we can do?

Knock Knock? Who's there – An unprecedented opportunity

Personalization
is the key to the
FUTURE

THERE IS A MARKET TO BE MADE

- **$78.6B** in revenue opportunity will be enabled by self learning vehicles by 2025
  –Frost & Sullivan

- **$1.5T** in additional revenue potential could be created by on-demand mobility services and data-driven services
  –McKinsey

SOON EVERY VEHICLE WILL BE CONNECTED

- **250M** vehicles will be connected by 2020
  –GARTNER

- **10M** Self-Driving Vehicles will be on the road by 2020
  –Business Insider

VEHICLES WILL BE DATA CENTERS ON WHEELS

- Connected Vehicles will produce **350MB/sec**
  –IBM

- Self Driving vehicles will produce **1GB/sec**
  –Computerworld

"Only 1% of the world's data is analyzed today" - GIGAOM
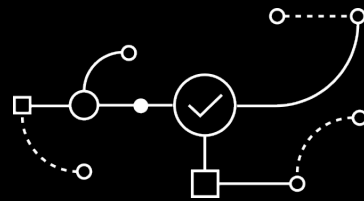
What are Cognitive systems?

Cognitive systems understand, reason, and learns from structured and unstructured data sources, and have the ability to interact in natural language

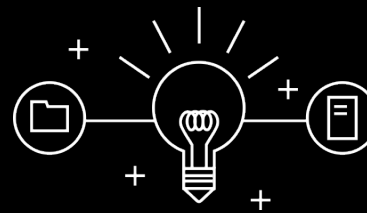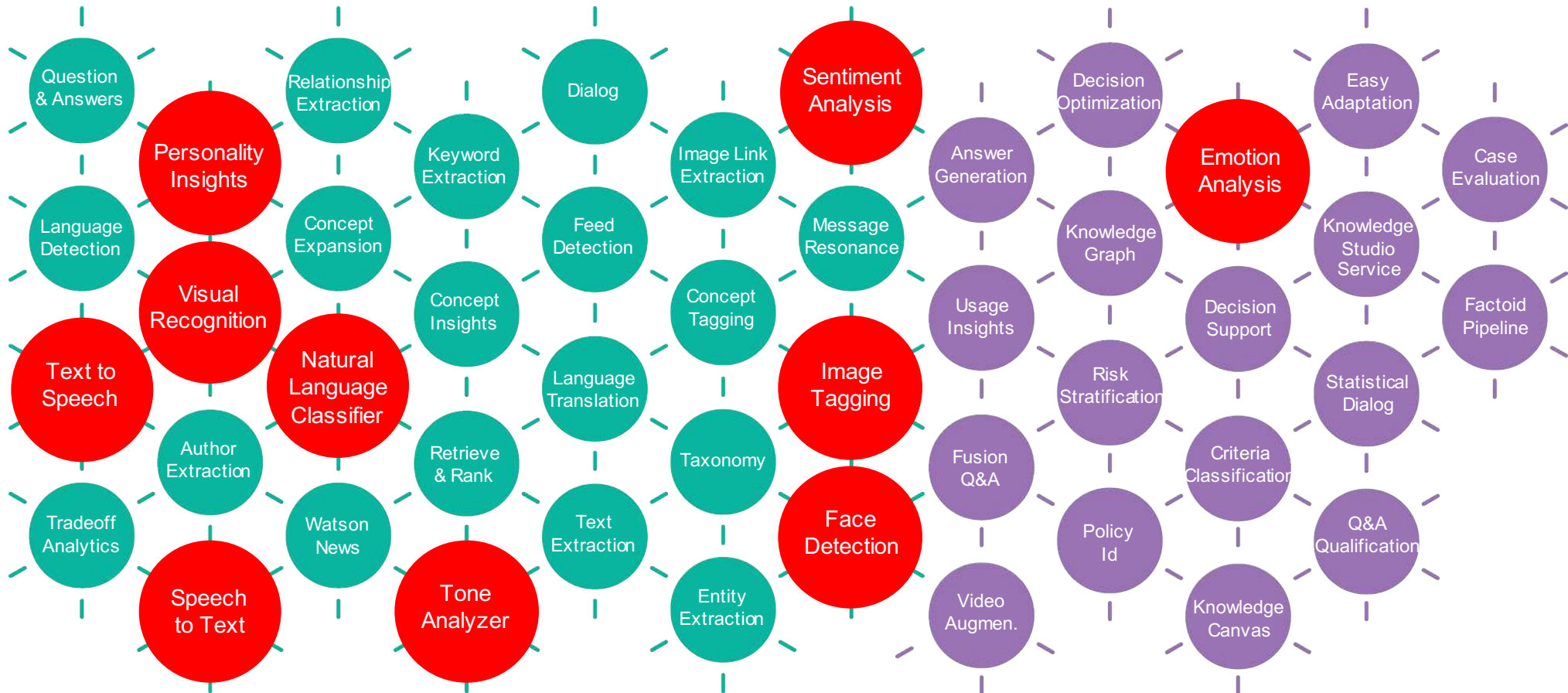| 1. UNDERSTAND	2. REASON	3. LEARN	4. INTERACT
Cognitive systems understand imagery, language and other unstructured data like humans do.	They can reason, grasp underlying concepts, form hypotheses, and infer and extract ideas.	With each data point, interaction and outcome, they develop and sharpen expertise, so they never stop learning.	With abilities to see, talk and hear, cognitive systems interact with humans in a natural way.

We are creating the future TODAY, with the power of Watson…

Watson APIs are the foundation for understanding the driver in new ways and continuing to learn and personalize

- Question & Answers
- Personality Insights
- Relationship Extraction
- Keyword Extraction
- Dialog
- Image Link Extraction
- Sentiment Analysis
- Decision Optimization
- Answer Generation
- Emotion Analysis
- Easy Adaptation
- Case Evaluation
- Language Detection
- Concept Expansion
- Visual Recognition
- Concept Insights
- Feed Detection
- Message Resonance
- Knowledge Graph
- Knowledge Studio Service
- Text to Speech
- Natural Language Classifier
- Author Extraction
- Language Translation
- Concept Tagging
- Usage Insights
- Image Tagging
- Decision Support
- Factoid Pipeline
- Tradeoff Analytics
- Retrieve & Rank
- Taxonomy
- Risk Stratification
- Criteria Classification
- Statistical Dialog
- Speech to Text
- Watson News
- Tone Analyzer
- Text Extraction
- Fusion Q&A
- Face Detection
- Video Augmen.
- Policy Id
- Knowledge Canvas
- Q&A Qualification
- Entity Extraction

#Monetization follows personalization
(e.g. I always pick up Starbucks on my way to work)

However, a holistic approach to personalization is needed...

Taking care of its occupants

Working with others

Taking care of itself

...IBM sees a future where cars will enable themselves

#ShowMe

Video: Local Motors reinvents the vehicle in three months
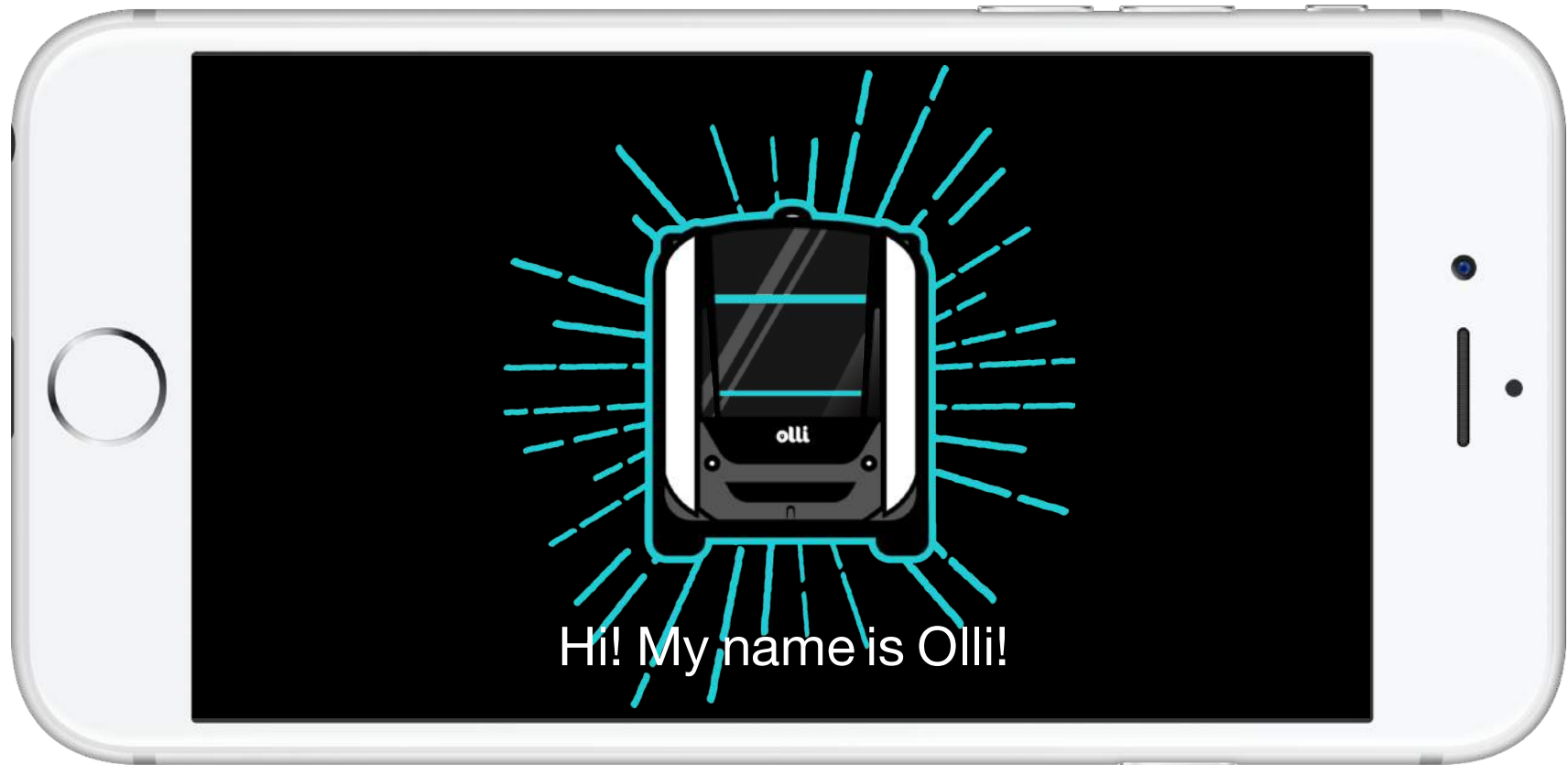
Co-creation is the key to Olli's rapid innovation
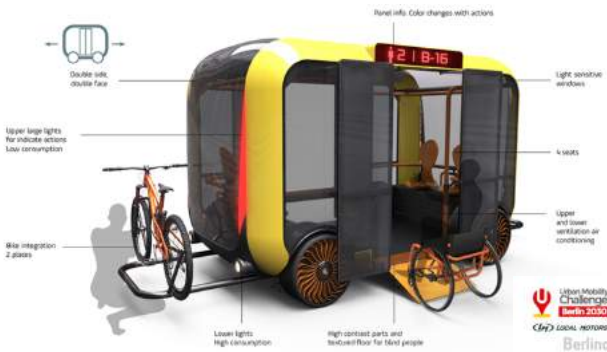
From Design to Development to Manufacturing

Berlin 2020 Challenge
held in 2015

+

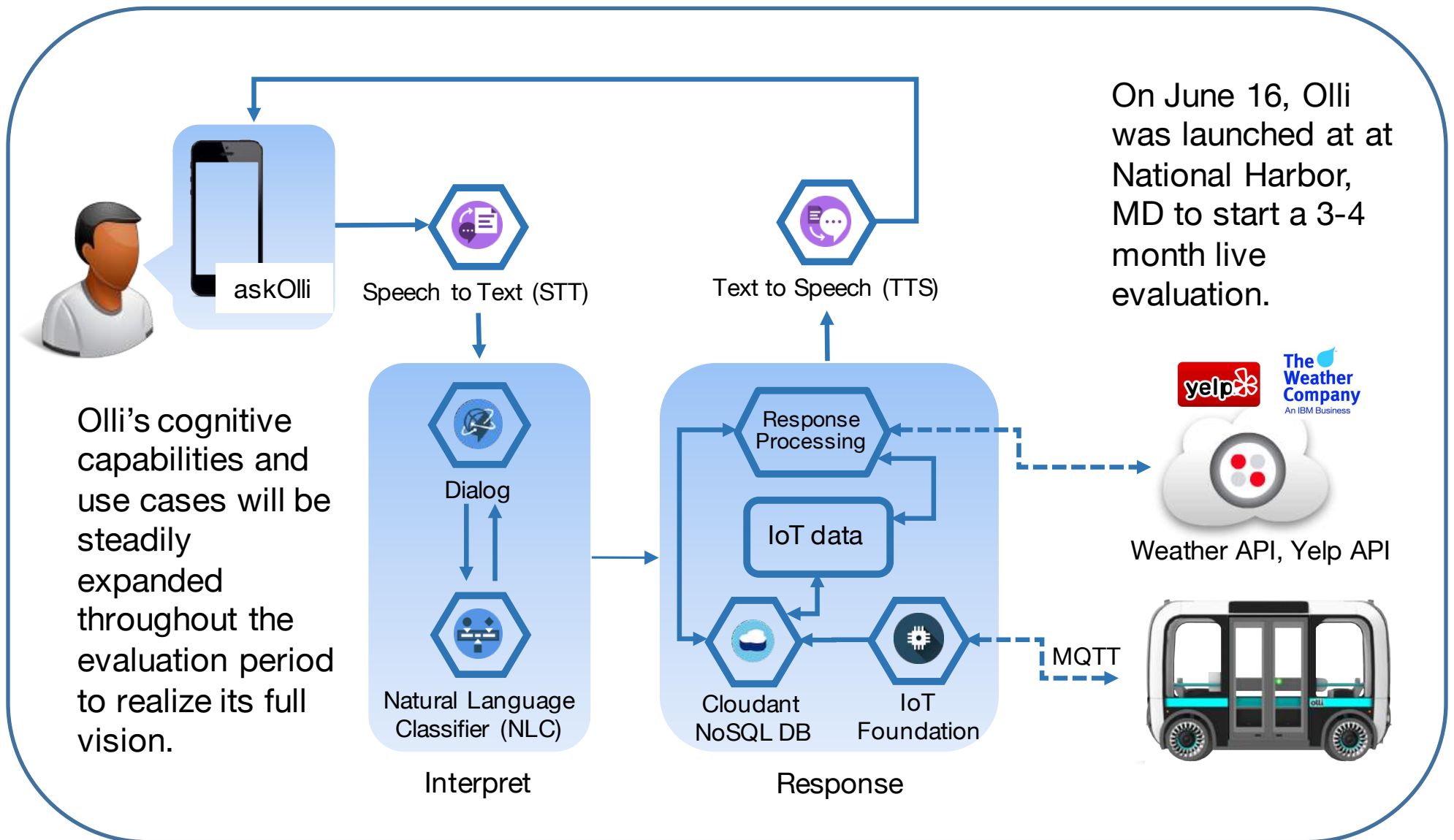3 Months

+

8 Weeks

24- yr old Italian design student, Edgar Sarmiento won the competition

Sourcing and manufacturing with partners began in 2016

Watson IoT is at the heart of Olli's development

"Olli has a personality, will welcome you by name, learn your preferences, and be your local guide"

IBM Watson APIs are core to Olli's cognitive rider experience

askOlli

Speech to Text (STT)

Text to Speech (TTS)

On June 16, Olli was launched at at National Harbor, MD to start a 3-4 month live evaluation.

Olli's cognitive capabilities and use cases will be steadily expanded throughout the evaluation period to realize its full vision.

Dialog

Natural Language Classifier (NLC)

Interpret

Response Processing

IoT data

Cloudant NoSQL DB

IoT Foundation

Response

Weather API, Yelp API

MQTT

Come ride the Olli at the World of Watson, Las Vegas Oct 24-27

Meet #Allison

Allison
Soccer Mom, Part time Physical Therapist

- Age 36

- Lives in Washington DC, married with two children – Ethen and Sarah

- Picks up children periodically at Elementary school from her work location

- Can be extremely impatient with delays and inefficiency

- Allison loves Starbucks, and kids love McDonalds

- Not tech savvy, but does use social media to keep up with news and her interests.

Scope of MVP-
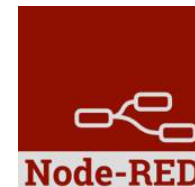
Cognitive Route Guidance

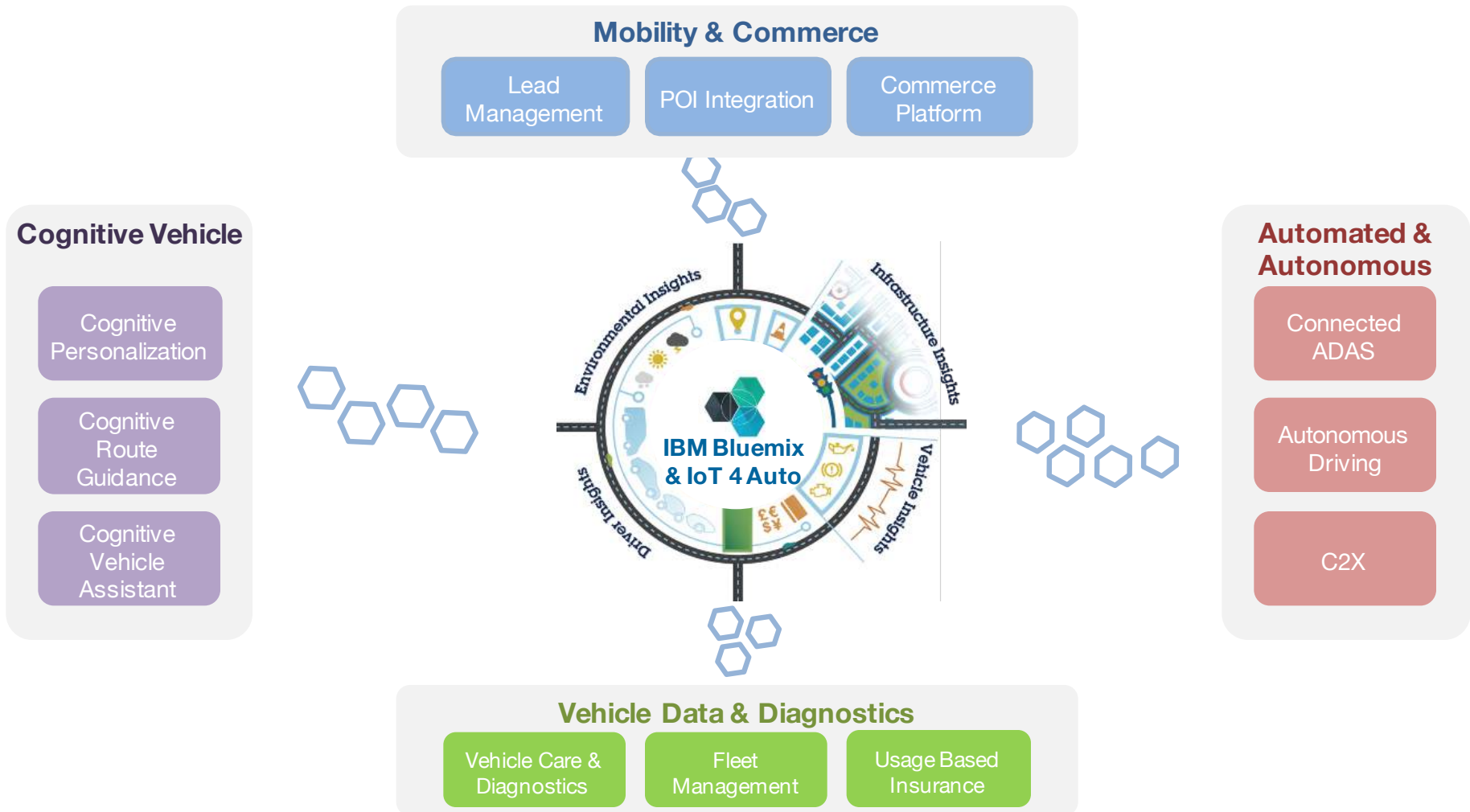In-Vehicle Personalization

POI Integration – YELP

Weather Integration

Social Media Integration – Twitter

Cognitive Commerce

The AutoLAB has a use case library of 240+ use cases that are grouped into four major categories

Mobility & Commerce
- Lead Management
- POI Integration
- Commerce Platform

Cognitive Vehicle
- Cognitive Personalization
- Cognitive Route Guidance
- Cognitive Vehicle Assistant

Automated & Autonomous
- Connected ADAS
- Autonomous Driving
- C2X

Vehicle Data & Diagnostics
- Vehicle Care & Diagnostics
- Fleet Management
- Usage Based Insurance

IBM Bluemix & IoT 4 Auto

Environmental Insights
Infrastructure Insights
Vehicle Insights
Driver Insights

#ingredients

So what do you need to get started?

You can start developing for free and pay based on actual consumption (pay as you go)

Inputs

A Disruptive Idea/
Use Case

Design Thinking
to define an MVP

Cross-Functional
SCRUM team

Agile Development
Tools

+

**Bluemix
Microservices
(Watson APIs)**

PaaS

IBM Bluemix

| Compute | Network | Storage | Data & Analytics | Watson |
| Internet of Things | APIs | DevOps | Security | Application Services |

+

Build & Run

Public

Dedicated

Local

https://console.ng.bluemix.net/   https://www.ibm.com/watson/developercloud

Come visit the Watson IoT AutoLAB…

Sachin Lulla
Global Watson IoT AutoLAB Leader
sglulla@us.ibm.com
+1 310 430 5393

San Francisco, US HQ
44 Tehama St, San Francisco, CA 94105

Watson IoT Global HQ Munich, Germany

…lets co-create a more intelligent future together!!!

IBM Watson IoT AutoLAB