Microsoft

CITY THAT TALK TO YOU

Absolute ~~Fantasy~~ ~~Reality~~ Possibility

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Fantasy

City: Hey, it seems raining tomorrow, did you buy Umbrella which you were planning?.

Build the core service as solution

Collective decision to kick start Smart city project are not yet seeing the bright light

Collective engagement & commitment [Crowd sourcing, PP model]

Reality

Scale, compute and secure platform available. Data platform in place and sensing cost getting slashed year on year

Possibility

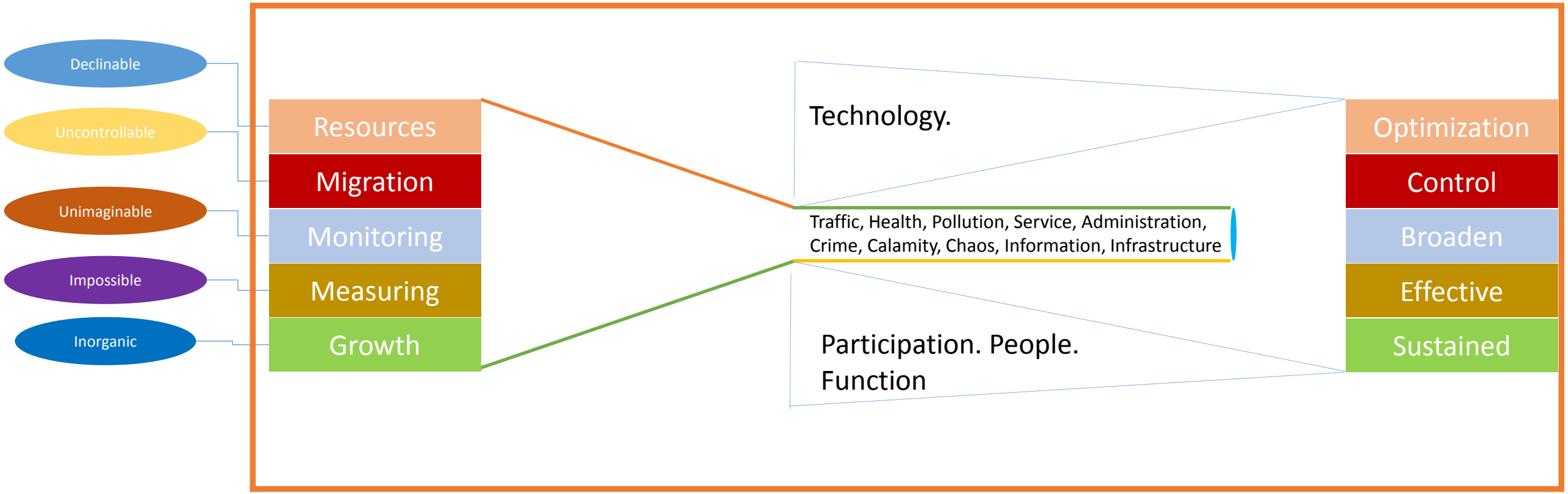
Possibility

Smart city is beyond technology. It is a multitude approach and collaboration from different parties

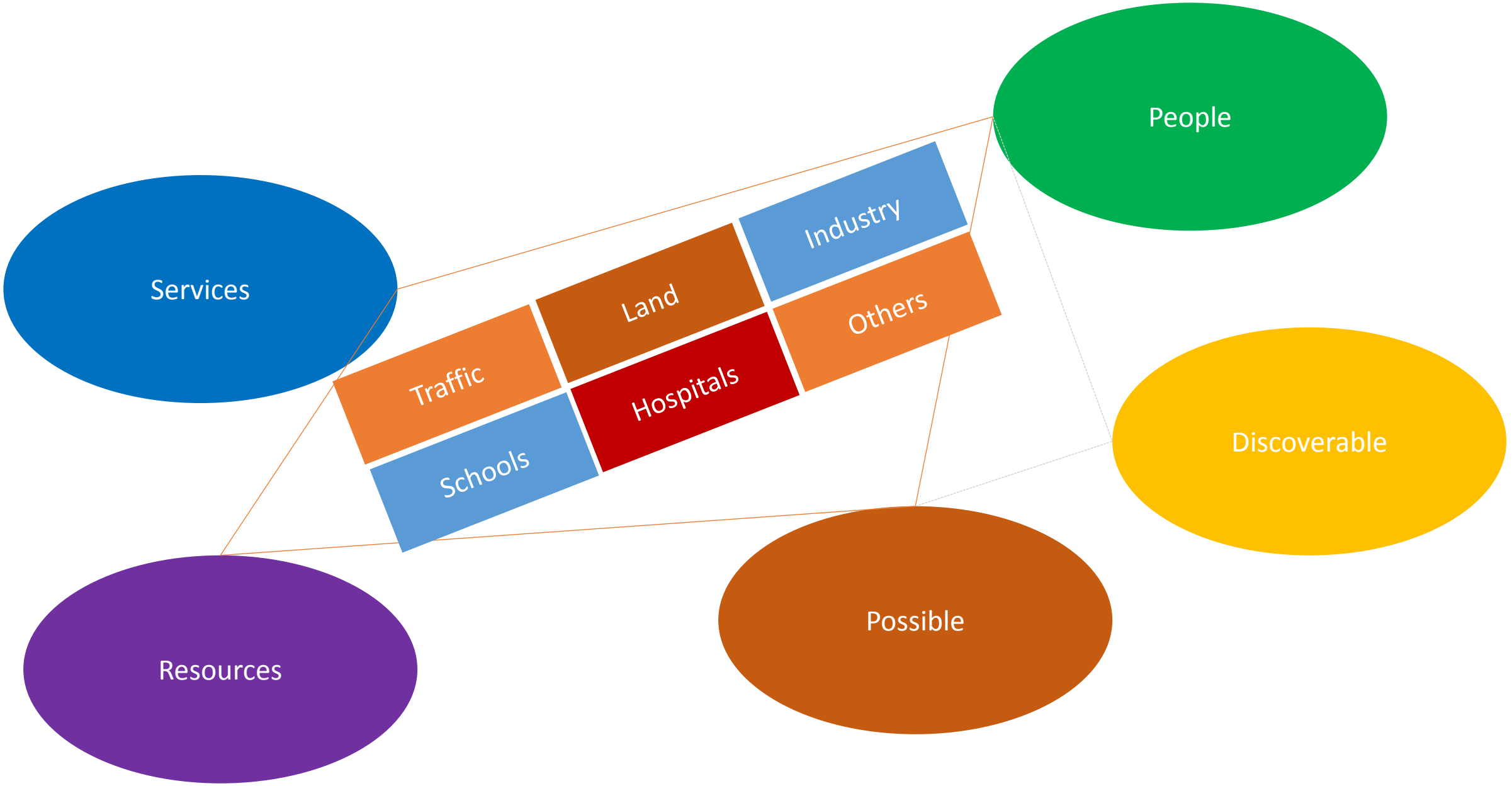
Cities We heard are better - A reference

Amaravati	Mohenjo -Daro	World's Top 10 City	India's Top 5 City
Before the roll out of yugas	2500 BCE	Ex. Sydney Australia	Ex. Bengaluru
Heard in Purana's	Read in History	Heard in News & Surveys – lived or visited	Born or living
Created by creator himself	Fresh from caves or tribal pains	Thoughtful planning, usage of technology	Meaningful yet short sighted planning, usage of natural surroundings/resources.
Illusionary or imaginative	Real attempt to build best place to live	More resources and less population	Abundant natural resource and less population
No relevance	Only evidence	Only Challenges	Only bottleneck
Imagination	Design	Administration	Nature & people
		Economy, Migration, Policies, Unrest	Growth, Environment, Migration, Population, Administration, Corruption, pollution

Core Challenges & Priorities



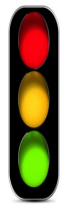
City – Is full of Data [== THINGS]



CITY THAT TALK TO YOU - CLIMAX

First Hand Information Available to Citizen

Possible integration and intervention – Auto & Seamless



Fixed timing to variable based on density

Sense and Alert. Provide details for quick service

Meet – City of MINOKAMO

Japan Minokamo Disaster Prevention Department

SCADA system for flood warning and prevention

"There is no doubt that the residents of Japan rest easier knowing that their municipal authorities have installed state-of-the-art technology to help protect them from the risk of unexpected flood damage."

In Reality City is Talking

Remember: Tsunami – Early warning after we were hit by.

City as Data – General Data Rule

Let us take one aspect of city – Which is data. Smart City – A possibility [with IOT] can be explained, explored & Applied with a "DATA" approach in a simplest way.

- Every thing – is a Data
- Everywhere there – is a Data

} Digital Transformation [IOT]
Make Sense out of data [Analytics]

- Traffic Jam – High density
- Water level – leakage somewhere

} Approach

Redefine IOT

Data [about the THINGS] available over network [Internet] for processing [store, analyze, stream] to create business value

IOT- Opportunity

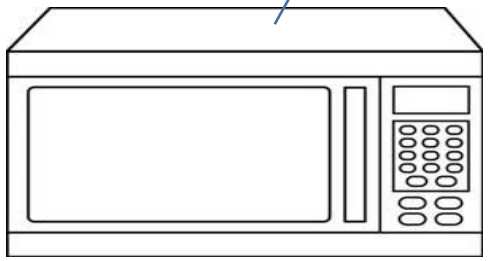
Our society – our behaviors are driven towards – getting things done quickly, convenience of using things and replace the things. Convenience of using things win over all (off course it comes with price)!.

Show me my favorite when I am free

Give me coffee when I feel fatigue

You buy bean when it gets over – Please buy my - Coorg one

Give me water as service – When I am Thirsty



Cook my favorite recipe when I am hungry

My dear factory – I enabled you with I4.0.

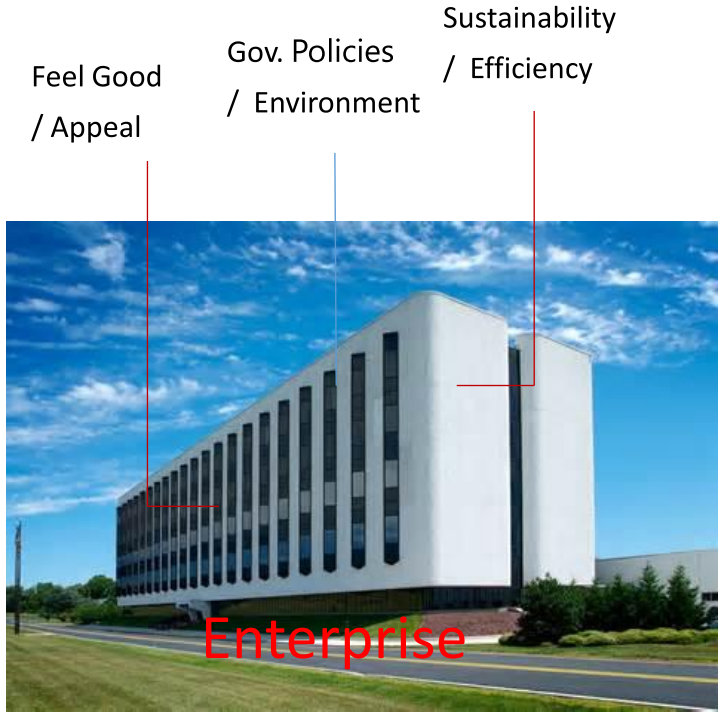
Boss,

I am on predictive maintenance – No worry I will never break down

Pick me up when I am ready and drive yourself buddy

IOT- Opportunity

Beyond Business Transformation – Enterprise is changing way it look how it operate due to social and environmental impact.
Convenience and digital transformation touching every nuke and corner of Enterprise – driving change



- Milenials @ work
- Connected workforce
- Mobility redefined
- Smart living condition at home/community
- Smart Infrastructure around
- Optimization of resources
- Environment responsibilities

DON’T YOU THINK?

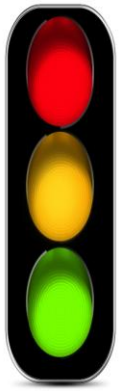
- Smart Home
- Smart Office
- Convenience everywhere.

YOUR CITY SHOULD BE SMART?

Internet of THINGS

CAN BE

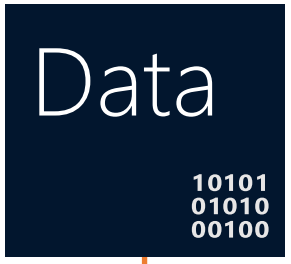
- Sensed
- Felt
- Seen
- Heard
- Discussed
- Imagined



Traffic	Land	Industry
Schools	Hospitals	Others

Data about Things

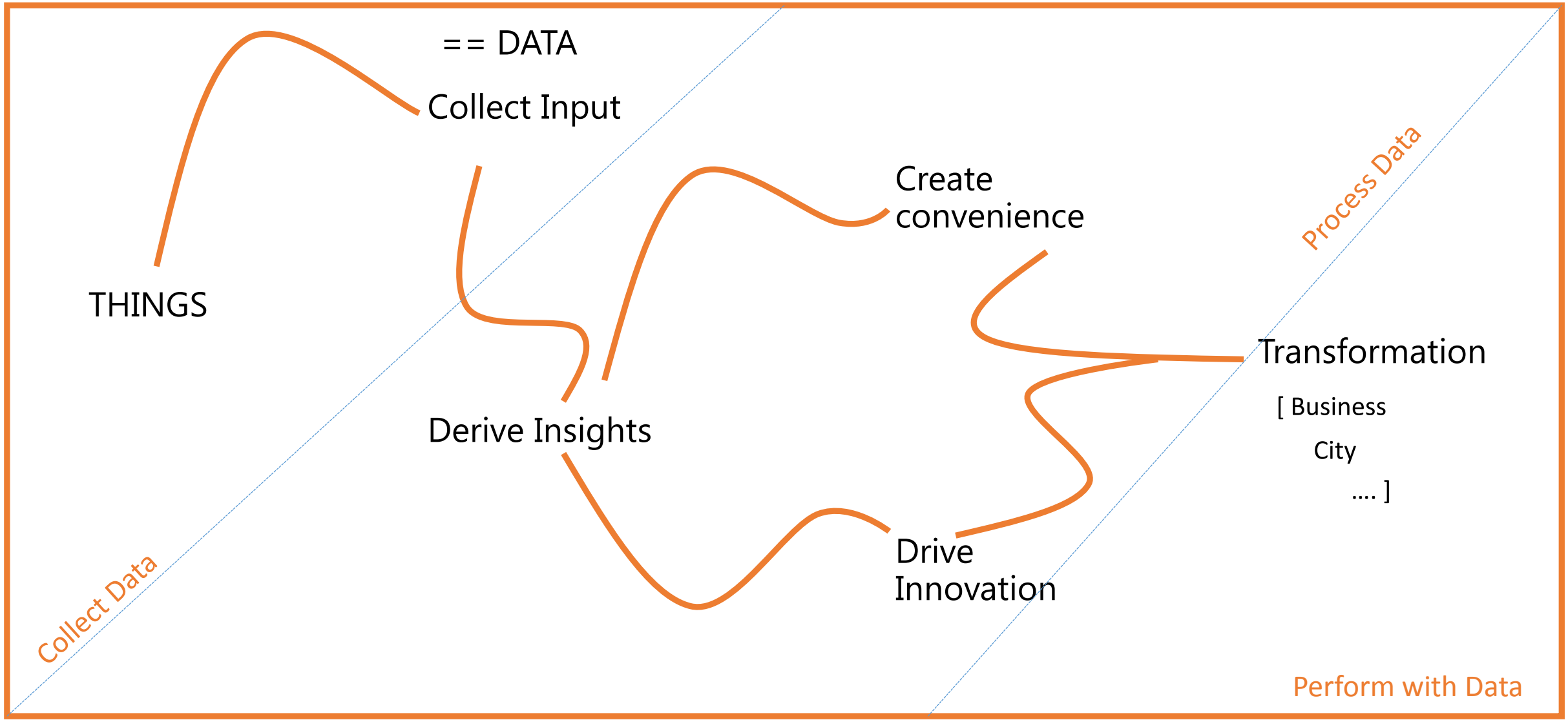
- Know & Validate
- Understand
- State & Behavior
- Usage & action
- Conclusion



cerebrum

cerebellum

Internet of DATA



{Getting – Data into Action}

Movement Sensor

Occupancy Sensor

Digitize the Things
Sensorize
Connect
Send Data
Receive Data

Collect & Collate
Store
Rules
Logics
Insights

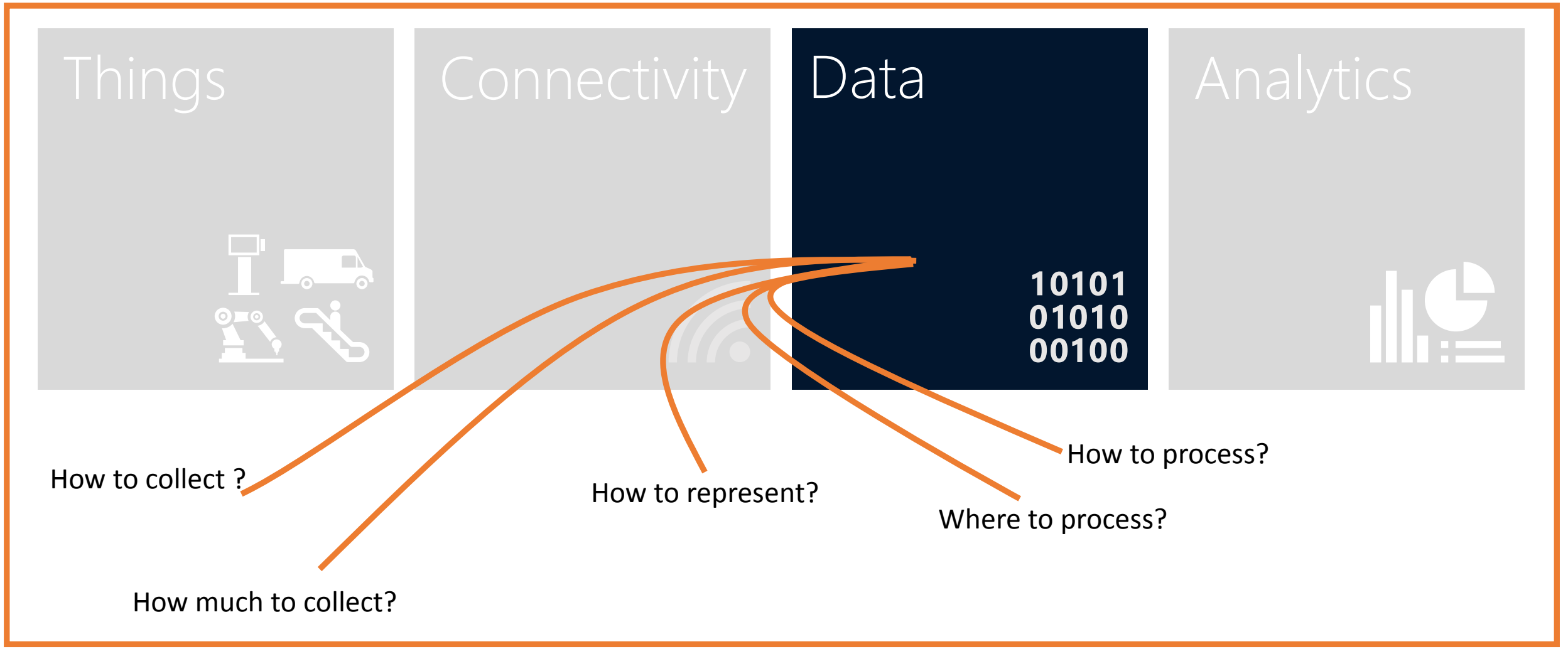
Act on Data
Actions
Insights
Value
Convenience

Receive data

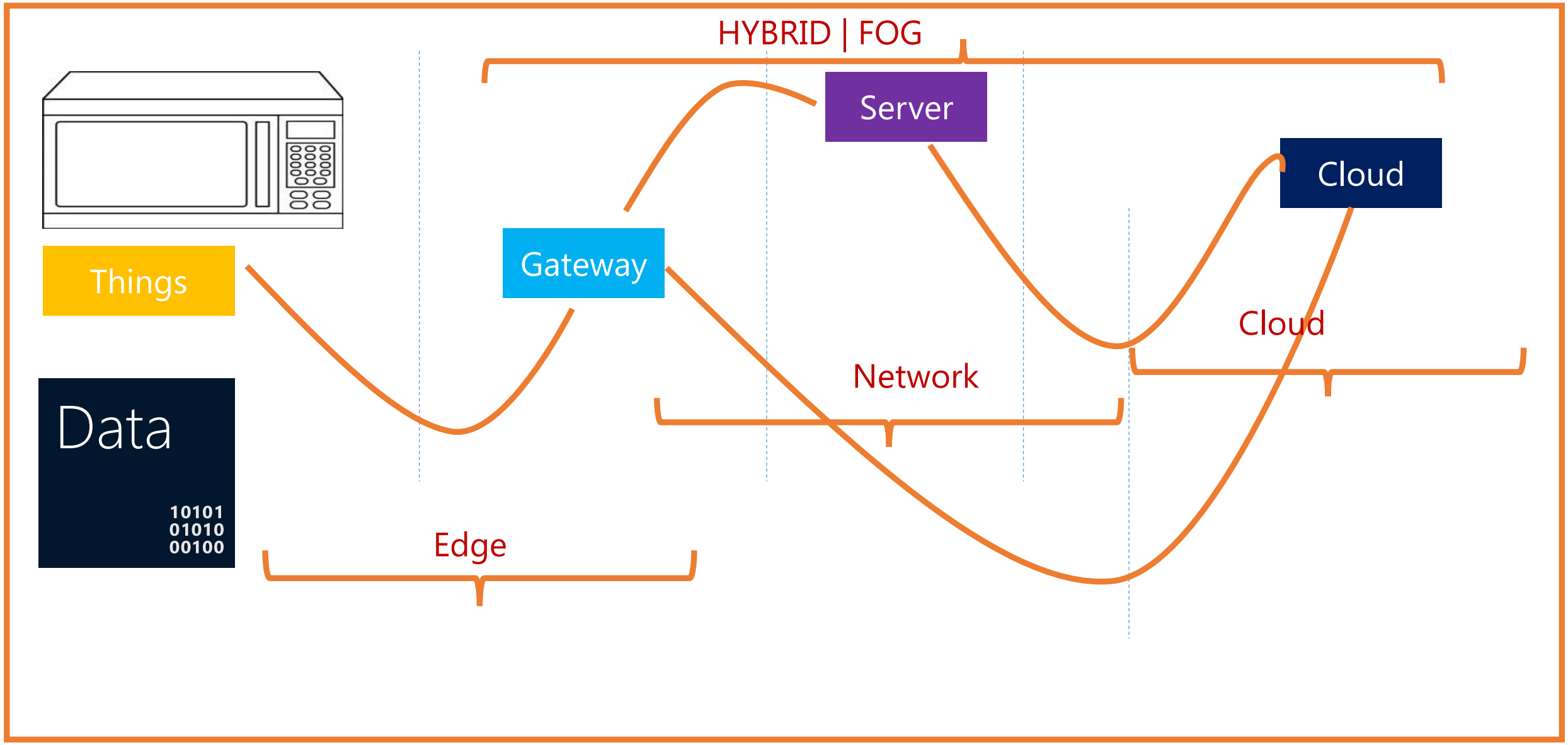
Process Data

Action / View / Solution

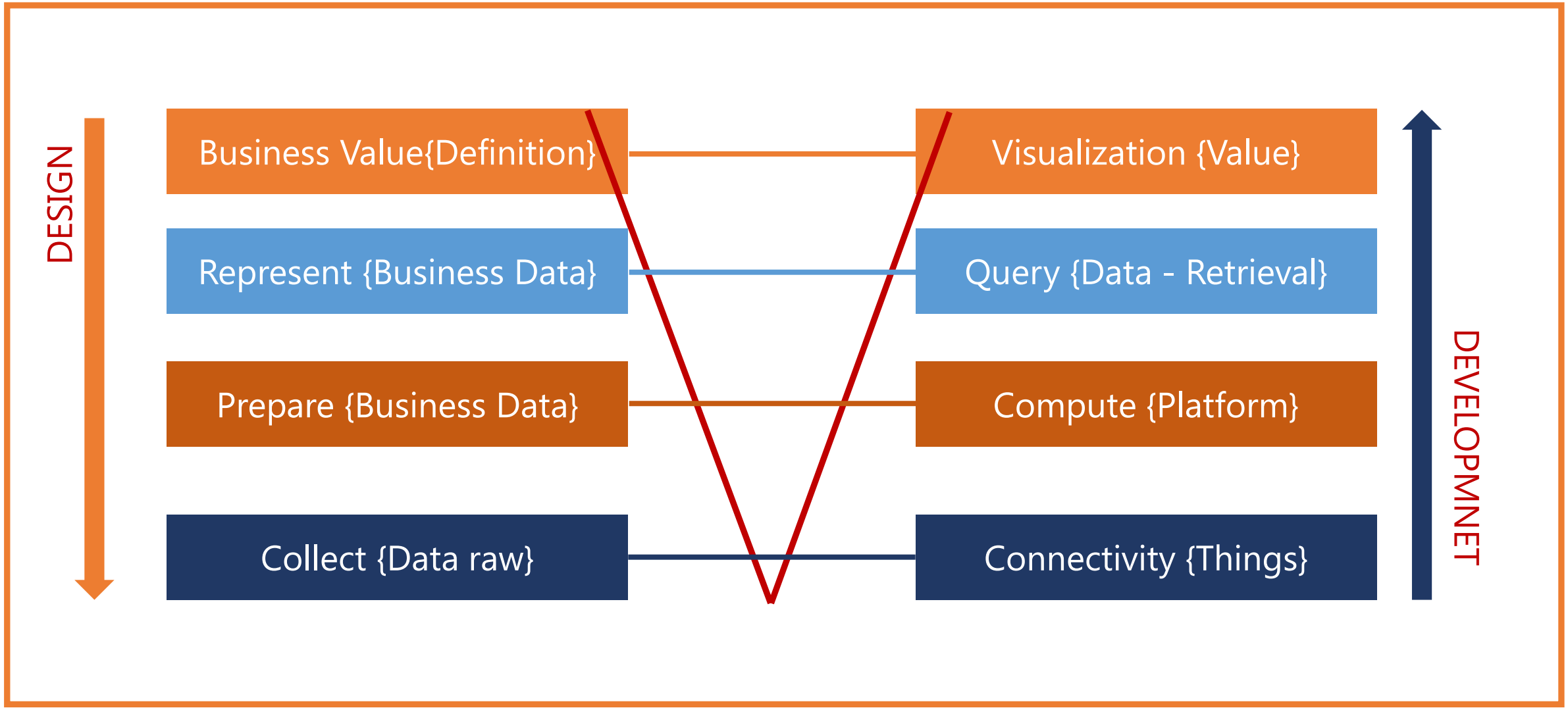
Building Blocks of IOT – A Glance



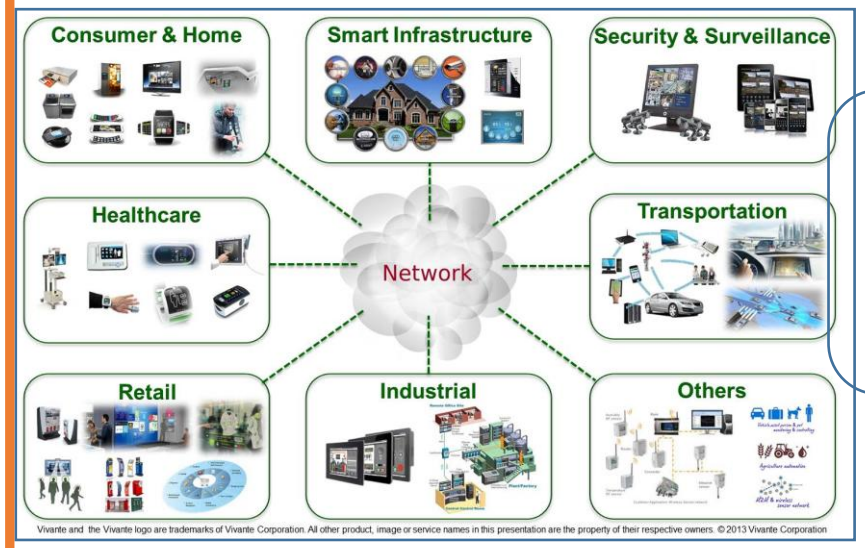
Compute on Internet of THINGS [== DATA]



DATA Centric Solution Approach



DATA Centric – Next Possibilities



Data

10101
01010
00100

bot

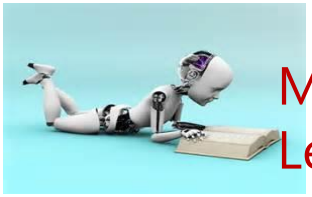
Missions not commands.

Cognitive Ability

Intelligent

ACTION

Search



Machine Learning

Analytics

Business Logic

```
Main ()
{
  x > y ?
}
```

Things

Connectivity

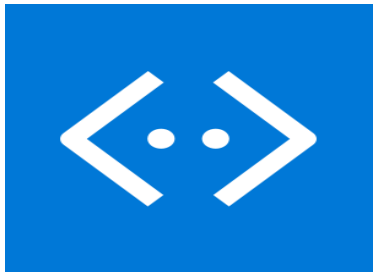
Cloud

Intelligence

Do you know of any single platform provide all these?

DATA Centric Implementation Approach for IOT

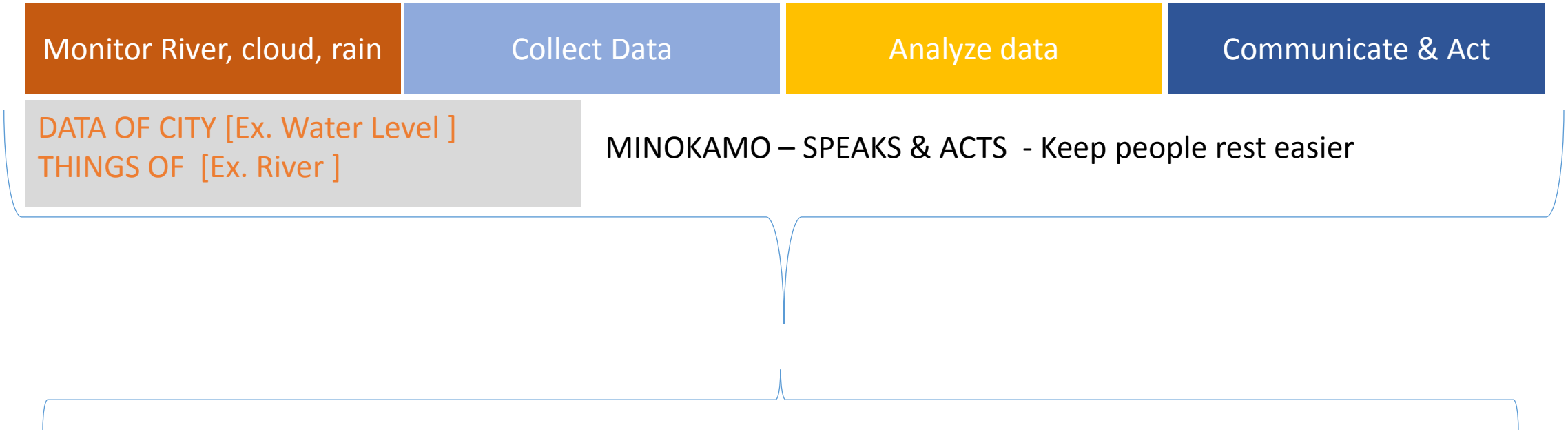
Devices	Device Connectivity	Storage	Analytics	Presentation & Action
	Event Hub	SQL Database	Machine Learning	App Service
	IoT Hub	Table/Blob Storage	Stream Analytics	Power BI
	Service Bus	DocumentDB	HDInsight	Notification Hubs
	External Data Sources	3rd party Databases	Data Factory	Mobile Services
			Data Lake	BizTalk Services



Azure

A platform offering to realize your IOT aspiration with ease, scale and agility

Possible – Data/Things of City can Talk to You



Are you ready ?

Thank you for your Time

Microsoft Azure