

3rd NATIONAL SUMMIT
 ON
100 SMART CITIES INDIA 2017
 18th August 2017 • The Lalit, New Delhi



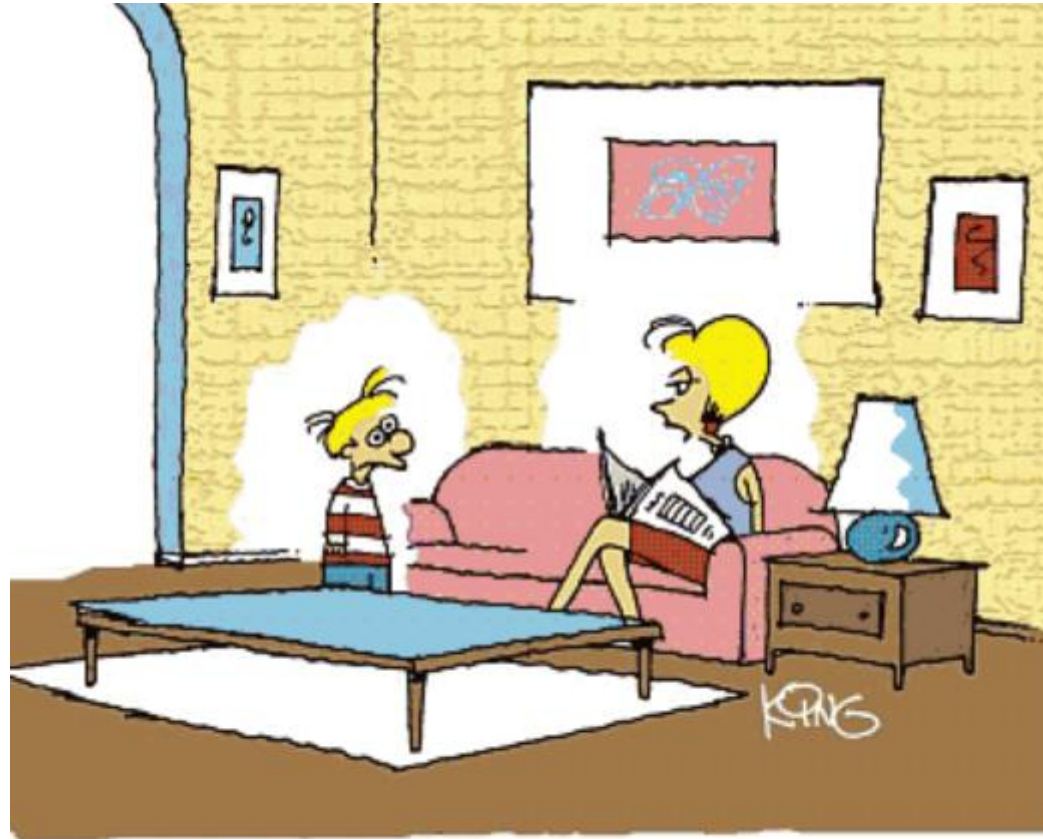
M2M Enablement for Smart Cities
 Management Team
 18 Aug 2017



Sensors Authentication Inter-operate
 Remote Management Data Collection
 Secure IoT Gateway Embedded
 SmartCities eUICC Service Analytics Lifecycle Management
OneM2M Network Identity
 eSIM Connected Objects

SENSORISE
 Connect & Serve

The online age can be challenging!



*"No, you weren't downloaded.
You were born."*

source: Internet Images

IoT Adds Insights and Accountability!



source: Internet Images

Smarter Things...a humbling human proposition!



You don't qualify for a Smart Car, but I do have quite a few Dumb Cars you may be interested in."

source: Internet Images

Dramatic Invasion of Devices – typical Family of Four



2012	2017	2022	
2 smartphones	4 smartphones	4 smartphones	
2 laptops/computers	2 laptops	2 laptops	
1 tablet	2 tablets	2 tablets	
1 DSL/Cable/Fibre/Wifi Modem	1 connected television	3 connected television	
1 printer/scanner	2 connected set-top boxes	3 connected set-top boxes	
1 game console	1 network attached storage	2 eReaders	
8	2 eReaders	1 printer/scanner	
	1 printer/scanner	1 smart metre	
	1 game console	3 connected stereo systems	
	1 smart metre	1 digital camera	
	2 connected stereo systems	1 energy consumption display	
	1 energy consumption display	2 connected cars	
	1 Internet connected car	7 smart light bulbs	
	1 pair of connected sport shoes	3 connected sport devices	
	1 pay as you drive device	5 internet connected power sockets	
	1 network attached storage	1 weight scale	
	24!	1 eHealth device	
		2 pay as you drive devices	
		1 intelligent thermostat	
		1 network attached storage	
		4 home automation sensors	50!!

Source: OECD

The Connected Car

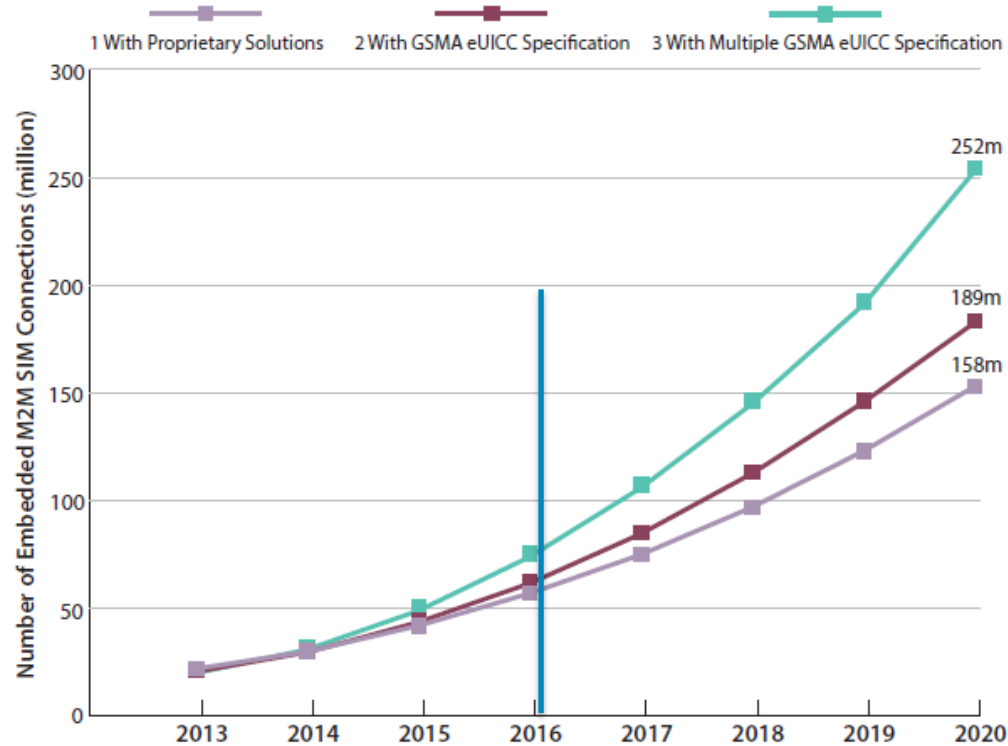
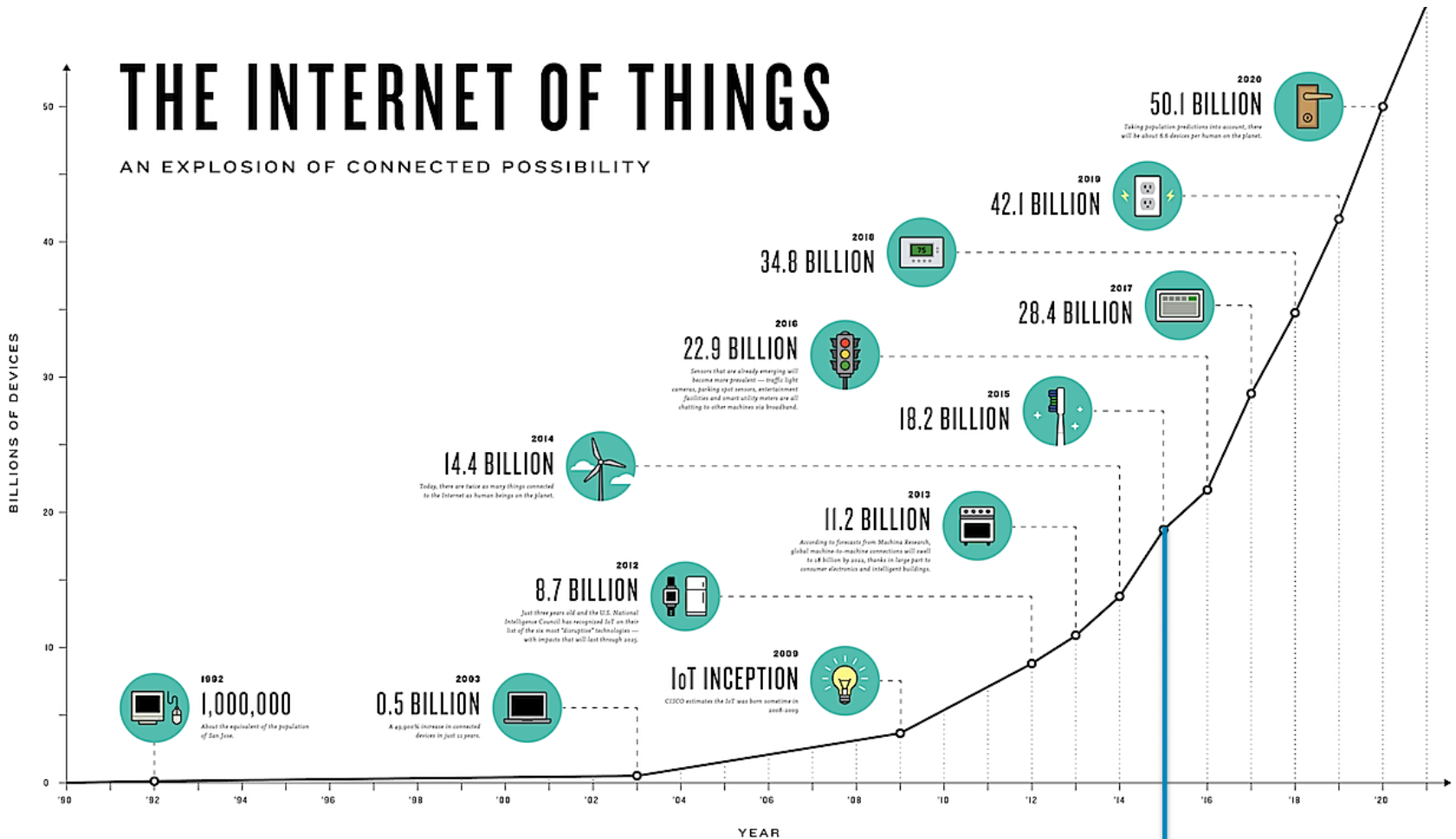


Figure 1.2: Projected Connected Car Connections worldwide with alternative scenarios

	2013	2014	2015	2016	2017	2018	2019	2020
1 With Proprietary Solutions	27,669	35,708	47,183	62,163	80,716	102,912	128,822	158,519
2 With GSMA eUICC Specification	27,669	36,780	50,420	68,680	91,651	119,424	152,093	189,755
3 With Multiple GSMA eUICC Specification	27,669	38,924	56,894	81,715	113,520	152,447	198,635	252,225

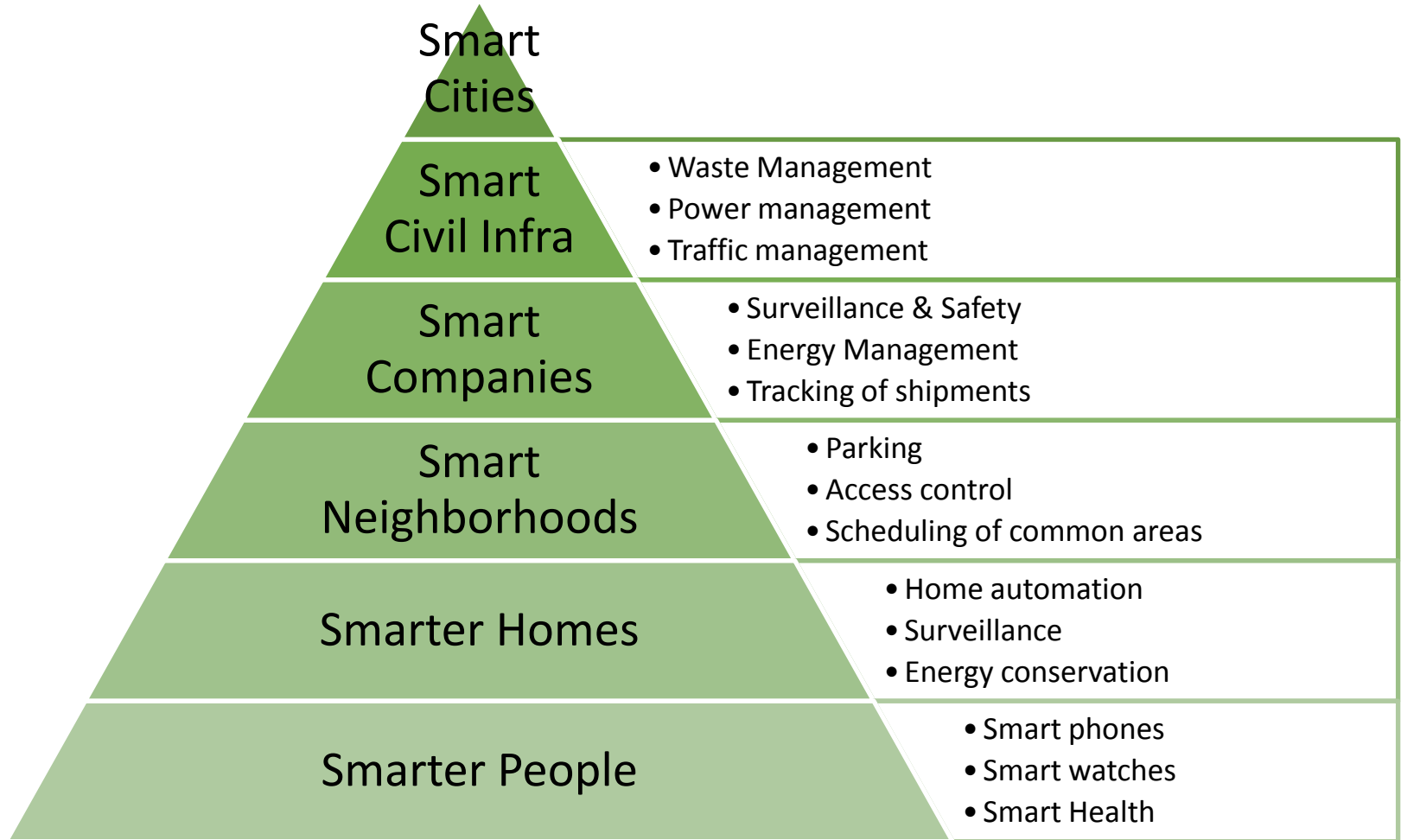
Source: GSMA

From the Telecom hockey stick, to the hockey stick of everything



Source: Earthdecks, based on data from Cisco

Cities cannot be smart without smart people, homes & communities



If IoT is a global challenge, India is likely to be a nightmare!



source: Internet Image

- Current mobile networks will not gracefully handle these billions of new devices, not in cities where population density is high, not in rural areas where the coverage is patchy
- Current QoS is not enough for simple person to person voice call, it is difficult to comprehend support for mission critical M2M use-cases

- Imagine a child safety device that cannot send out geo-fence break alerts?
 -a high tech motion sensor that cannot send out alarms?
 - ...a security camera that cannot assure timely dispatch of security pics?
 - ...a post operative care device that misses sending critical alerts?



So, what are the ICT
Challenges for a Smart
City?



1

Citizen Feedback

Swachh Bharat Mission Customer Feedback Device



ICT-based feedback polling system for capturing and reporting citizen feedback regarding cleanliness of public toilets

Swachh Bharat Mission
Ministry of Urban Development, Government of India

Date Time: Thu, 10 August 2017 09:57:43 AM Last Update On: 10-Aug-2017 08:00:02 Customers Feedback Till Date: 748

State	Connected Restrooms	Feedbacks (Lacs)	Good %	OK %	Bad %
India	42	401.0	23.81	33.33	19.05
Haryana	22	350.0	18.18	40.91	13.64
Gujarat	0	0.0	0.0	0.0	0.0

Collateral Benefits

- Safety Button for initiating a distress call
- Child Safety Helpline
- New method of engaging the target audience

Ministry of Housing and Urban Affairs
Government of India

स्वच्छ भारत
एक कदम स्वच्छता की ओर

Light

ഈ ടോയ്ലറ്റ് സൗകര്യം വൃത്തിയുള്ളതാണോ?
Is this toilet / facility clean ?
क्या यह शौचालय/सुविधा साफ है ?

ഈ സ്ഥലത്ത് പരസ്യം ചെയ്യാൻ
email at care@sensorise.net

ITI LIMITED
A Government of India Undertaking

SENSORISE
Connect & Serve

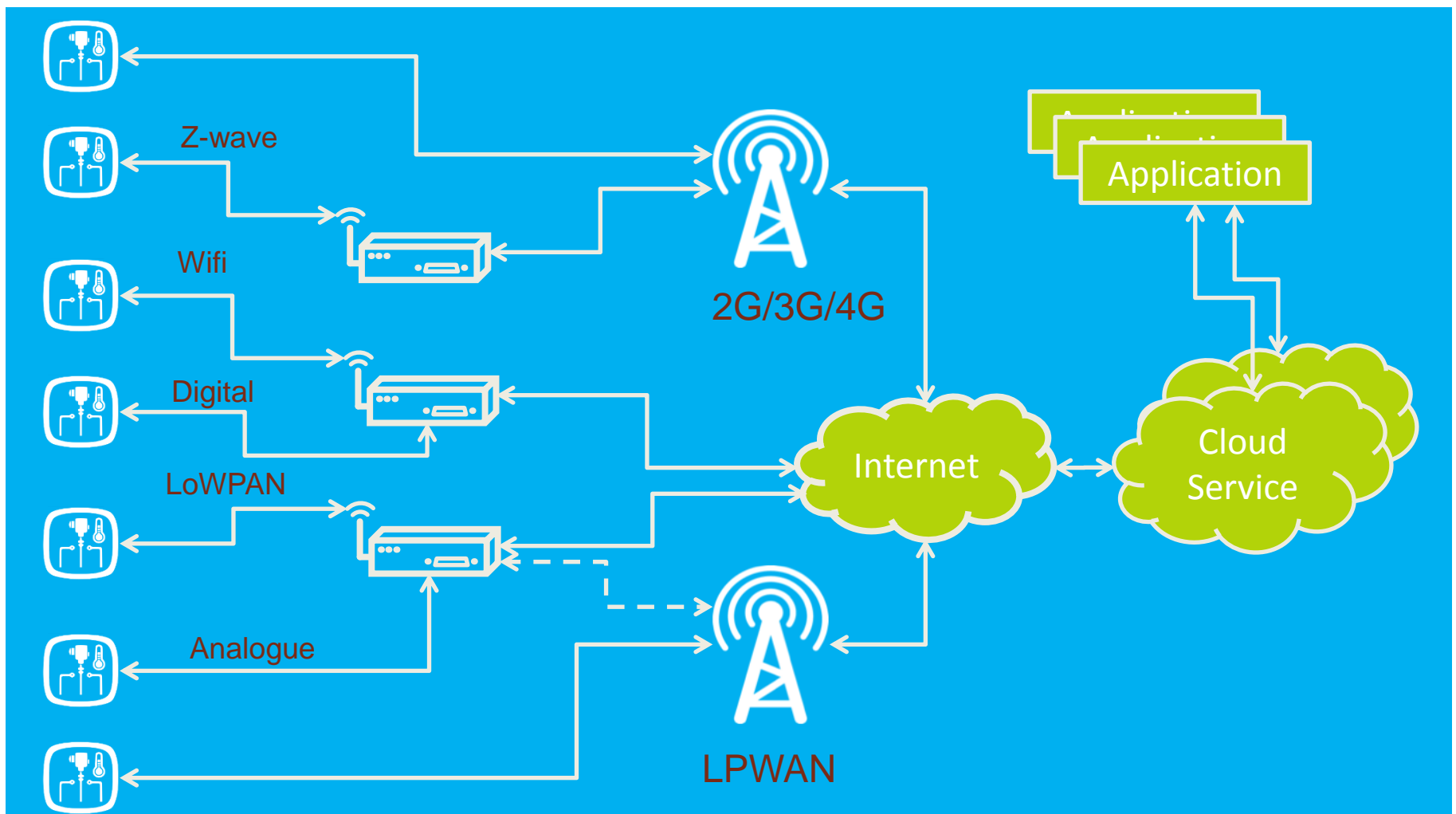
പ്രശ്നങ്ങൾ റിപ്പോർട്ട് ചെയ്യുക SMS വഴി
Report issues by SMS SNO to 7835080869
सहायता के लिए SNO SMS करें



2

Secure and Reliable Management of Public Data

Connect and Serve





3

**Secure, Reliable and
Mission Critical
Connectivity**



Connecting the Smart Cities

- **Smart Water**
 - River and Canals Water Balance & Usage
 - Drinking Water Supply
- **Smart Lighting**
 - Intelligent and weather adaptive lighting in streets and offices
- **Waste Management**
 - Detection of rubbish levels in containers to optimize the trash collection routes.
- **Disaster Aversion, Management & Control**
 - Monitoring soil moisture, vibrations and earth density to detect dangerous patterns
 - Coastal Area Warning
- **Woman's Safety and City Surveillance**
 - Wearable panic buttons and automatic detection and alarm in abnormal human conditions
 - City Surveillance and Crime Control
- **Pollution Control and Awareness**
 - Control of CO2 emissions of factories, pollution emitted by cars and toxic gases generated in farms
- **Intelligent Transport Systems**
 - Connected Cars, V2V and V2I communications

SenseL^{CM}

Broadband, Full Mobility | Reliable, Long Range

GSM

LoRa

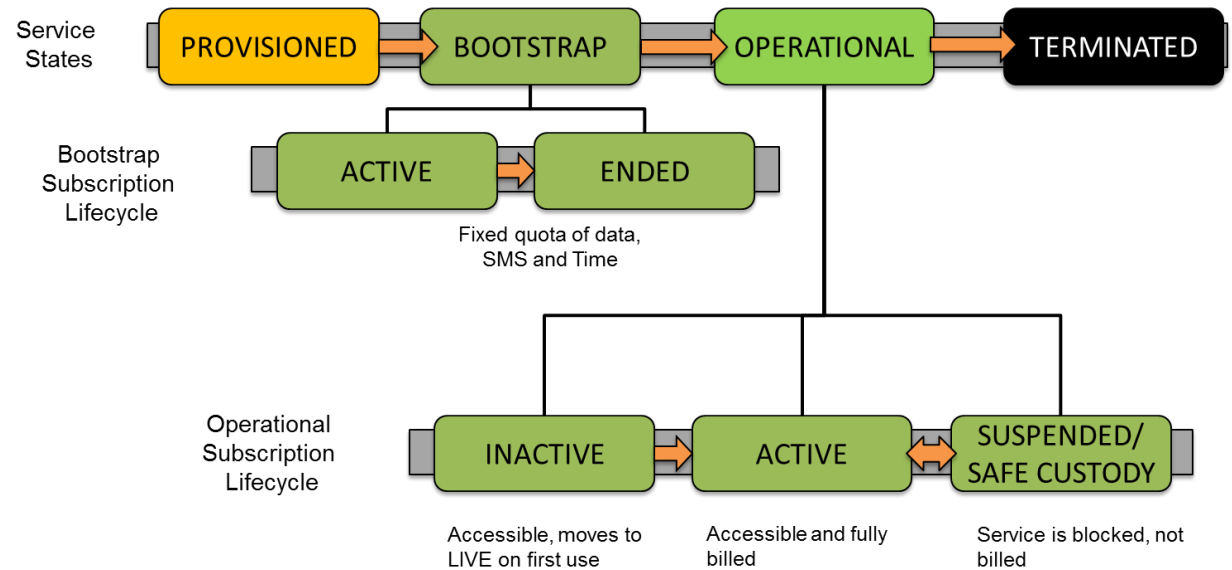
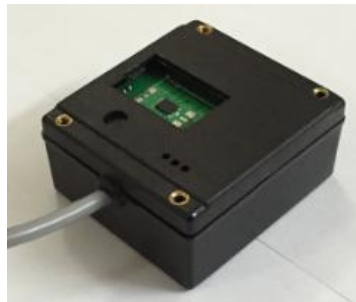


Smart Cities require mission critical **Connectivity**

Sensorise GSMA eSIM lifecycle management



- Solderable IC form factor SIM card for machines
- Industrial grade and tamper resistant
- Multi-Network SIM card
- Automatic Network Switching and Selection





ODISHA SPACE APPLICATIONS CENTRE (ORSAC)

Department of Science & Technology, Government of Odisha

No.: 1763 Date: 30/5/17

To,

The Managing Director
Sensorise Digital Services Pvt. Ltd.

Date: 30May2017

Subject: Appreciation Letter

Dear Mr. Sharad Arora,

This is to express our appreciation to Sensorise Digital Services Private Limited for providing the timely delivery of 35153 M2M e-SIM for Vehicle Tracking Devices for Mineral Transporting Vehicles in the State of Odisha as per the requirement of the Department of Steel & Mines, Odisha with multi network automatic switching capability.

Sensorise QoSim technology & SenseLCM platform provides industrial grade SIM with high security and a better Quality of Service, all of which are essential for this project.

Sensorise technology is tested at ICAT, Manesar in devices from five (5) VTS Device OEMs and has worked satisfactorily in the field from with all these devices.

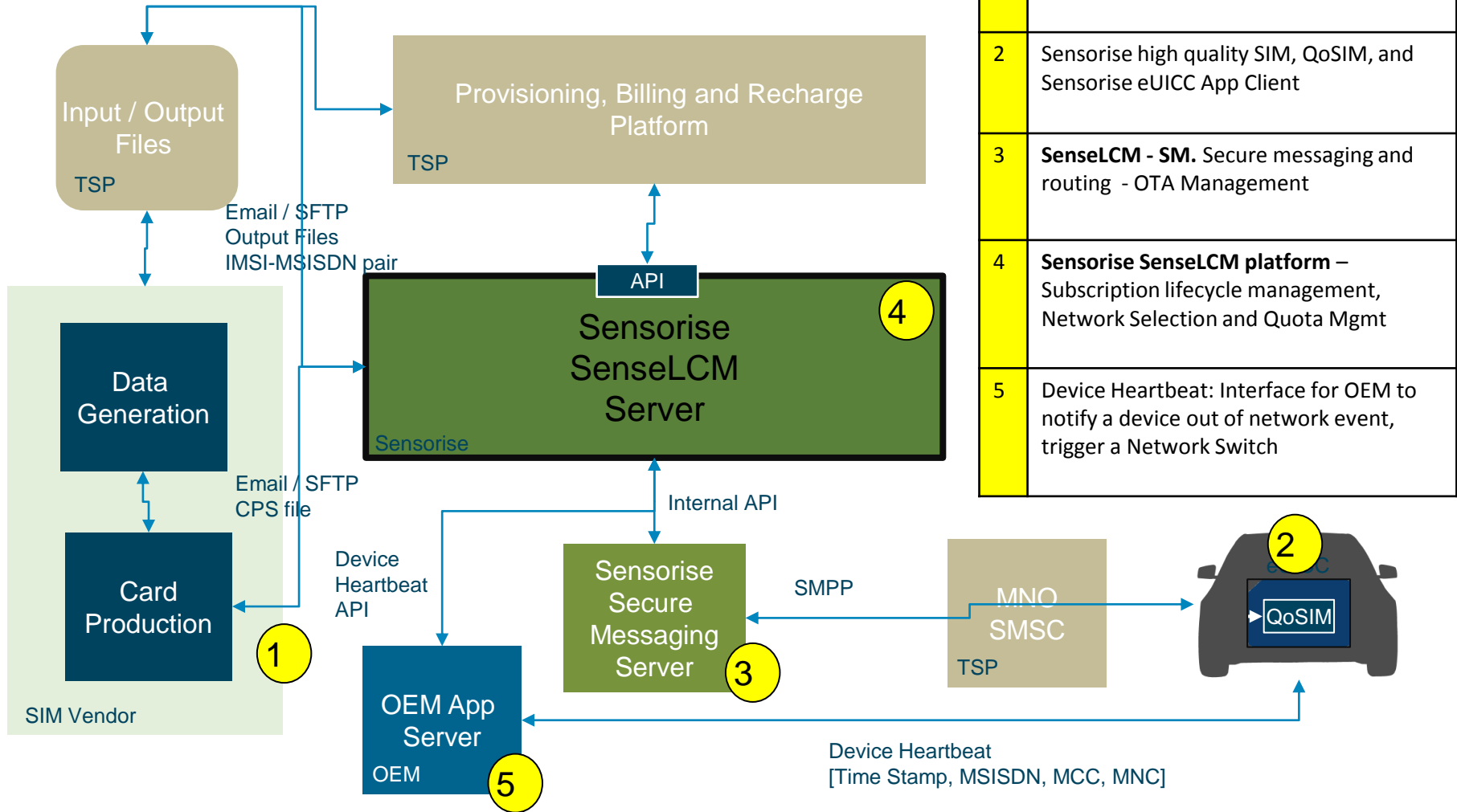
17%
improvement in
real time
connectivity!!

Dr. P. Mishra 30.05.2017

Dr.P Mishra
Scientist

Odisha Space Applications Centre (ORSAC)
Bhubaneswar, Odisha

The solution components





4

**Affordable and Rapid
Prototyping of IoT / M2M
solutions with commercial
grade scalability**



8 Alarms & Notifications



5 Analytics



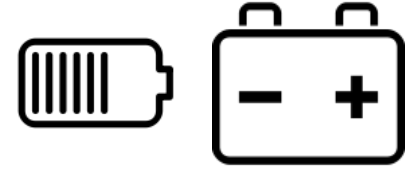
6 Cloud



7 Rules Engine



3 Power



1 Imaging & Signage



2 Sensors



9 Escalations



Sensorise Solution Components



SenseLCM : Lifecycle Management for Embedded SIM

Home Add Device Add Subscription Change Profile Greetings Customer Sign out

Sensorise My Devices Search

My device: Raspberry Device

Manufacture : Rasberry PI foundation
 Model: Rasberry PI 2 Model B
 Serial: 082476293475
 IMEI: 44-015320-34-3751

Subscription	Vodafone
Account balance	INR 400
Valid to:	3-Oct-2015
Remaining quota:	12 MB

SenseMatic : IoT Platform

Dashboard Installations Administration Notifications 24 Hello, sensorise enControl

Inside: Temperature, Humidity, ON 25°C Target Temp

Outside: 18°C Temperature, 14°C Forecast

Comfort Security Consumptions Control

Dashboard Installations Administration Notifications 24 Hello, sensorise enControl

Central Control

Temperature Control: ON 25 °C

Inside: Temperature, Humidity

Outside: 18°C Temperature, 14°C Forecast

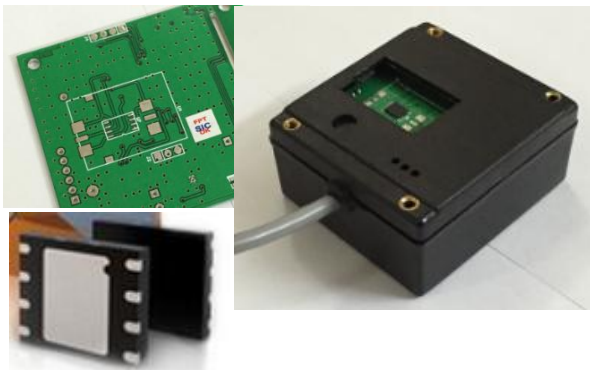
Dashboard Installations Administration Notifications 24 Hello, sensorise enControl

Control

22 December 2015 Tuesday

9:40 AM Office Sensing Demos The Water Machine located in the Main Hall area is Off

SenseTrack: Tracking device with eUICC

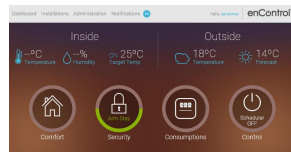
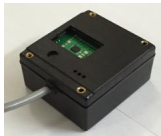
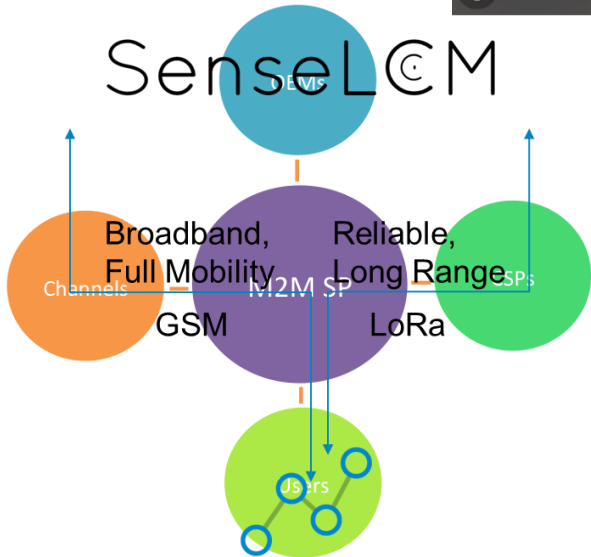
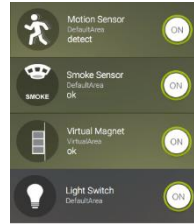
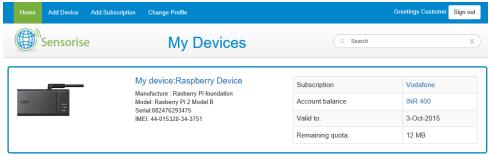


Sensors and Cameras: Choice of wireless devices

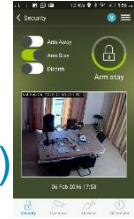




M2M Service Provider at Work



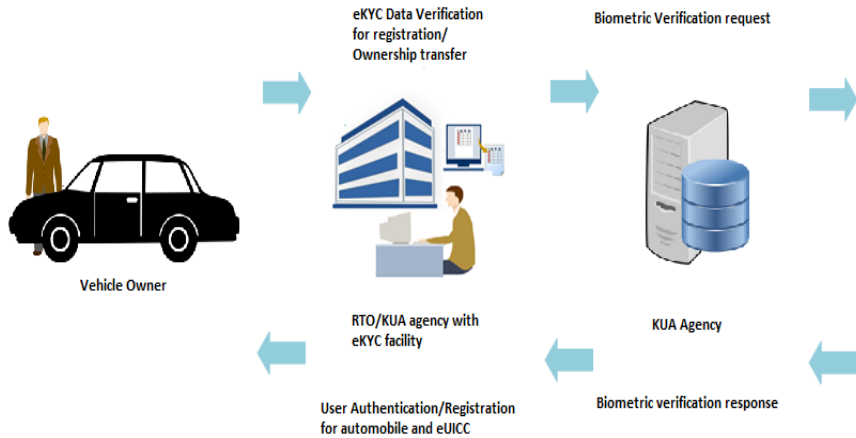
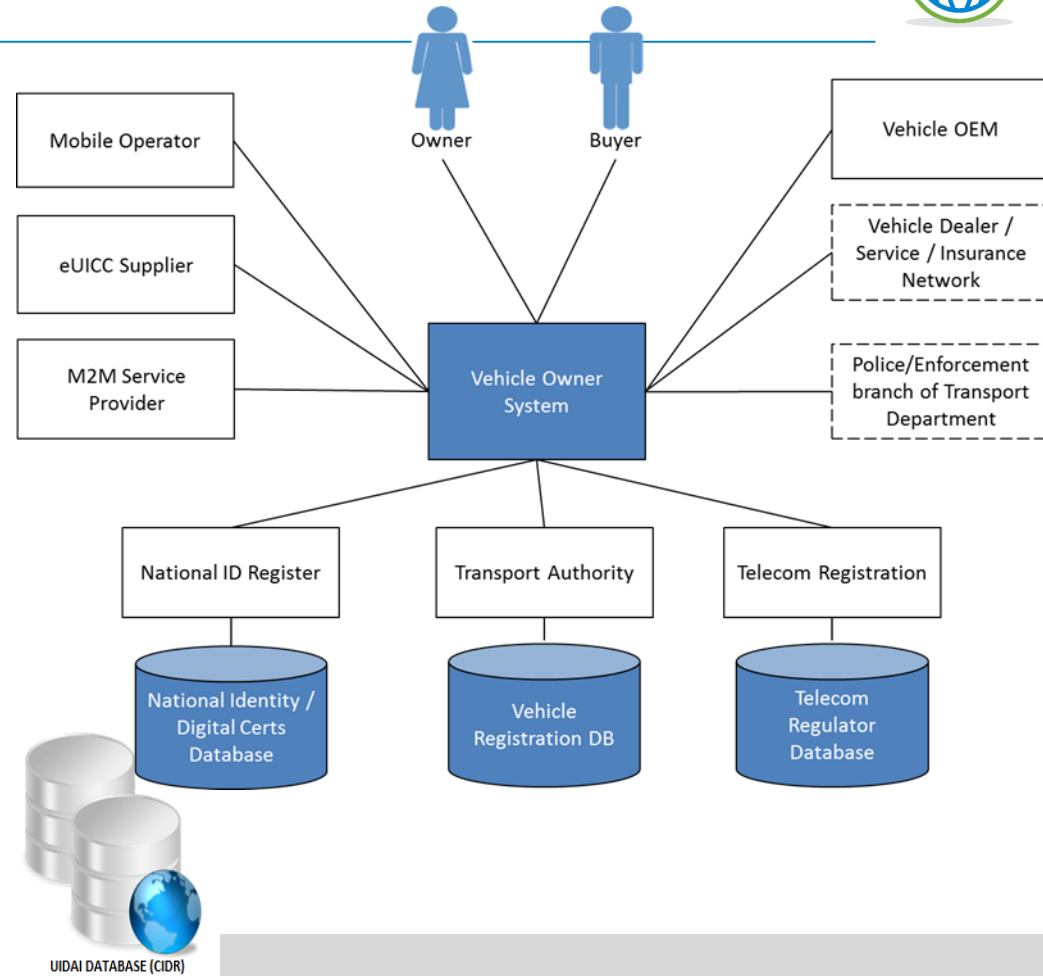
- Compliant to DoT, TRAI, TEC, MIETY and TEC guidelines and Standards
 - Build trust on all sides
 - Device and Motor Manufacturers (OEM)
 - Communication Service Providers (CSPs)
 - Government & Regulation
 - Corporate and Retail Users
 - Quality of Service solutions for IoT / M2M connectivity for improved service in national and international geographies
 - Solutions for factory fitment of connectivity, unrestricted choice of mobile operators in the after market operation with e-KYC convenience
 - Powerful and hassle free automation for homes and offices improving safety, convenience, comfort & control
- Smart Devices, Sensors and end to end Services using LPWAN / GSM connectivity, Portals and Applications



Ushering in the Connected Car



- Digital Identity for connected cars
- Real time diagnostics
- Real time online registration and transfers



Get ready for the 4th Industrial Revolution



source: Internet Image

- Progressive Government
 - National Telecom M2M roadmap published a year ago
 - Paving the road forward with Smart Cities initiative
- Technology exists
 - Cloud infra enables small enterprises
 - OneM2M for aligning service and data access
- Technology interested citizens
 - Passion for new things
 - Open to change
 - All to win

Time to connect the devices, and use them!