

## What is Internet of Things (IoT)?

IoT refers to any smart interconnected devices (e.g. RFID, sensors, etc.) that enterprises or organisations adopted to obtain more visibility into the identification, location, and condition of products, assets, transactions, or even people.



## The Story Begins In 1999...

"Internet of Things" was first coined in 1999 by the Auto-ID Center at the Massachusetts Institute of Technology. The Center was launched in collaboration with GS1.

In 2003, the original ideas of the Center based on RFID-tags, unique identification and internet technology was formally released and called "Electronic Product Code" (EPC).

EPCglobal Inc. was formed under GS1, and EPC was transferred to EPCglobal Inc. for further development and management to realize IoT.



## Why IoT is Important?

IoT connects data visibility to process automation. It enables companies and organisations to trace the movement of objects, to perform data analytics and extract consumer insights, to drive more effective, timely business decisions, and to enhance customer experience.

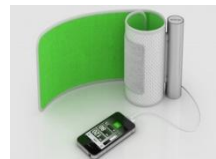
## IoT Challenges - Systems Work Independently and Proprietary

IoT hardware: not "smart" enough as they only work for proprietary application

**Interoperability is the Key**



IoT applications: cannot interoperate as different companies use different data format



Smart Devices

Cloud

**Proprietary Data**

Object Tracking and Monitoring Applications



Smart Tag

Cloud

**Proprietary Data**

Object Journey & Analytics



Smart Sensor

Cloud

**Proprietary Data**

Object Management System

NO COMMUNICATION

## 40% of the Total Potential of IoT Value Enabled by Interoperability



Standardisation in the technology stack and ability to integrate across technology vendors



Standard protocols for sharing between IoT systems



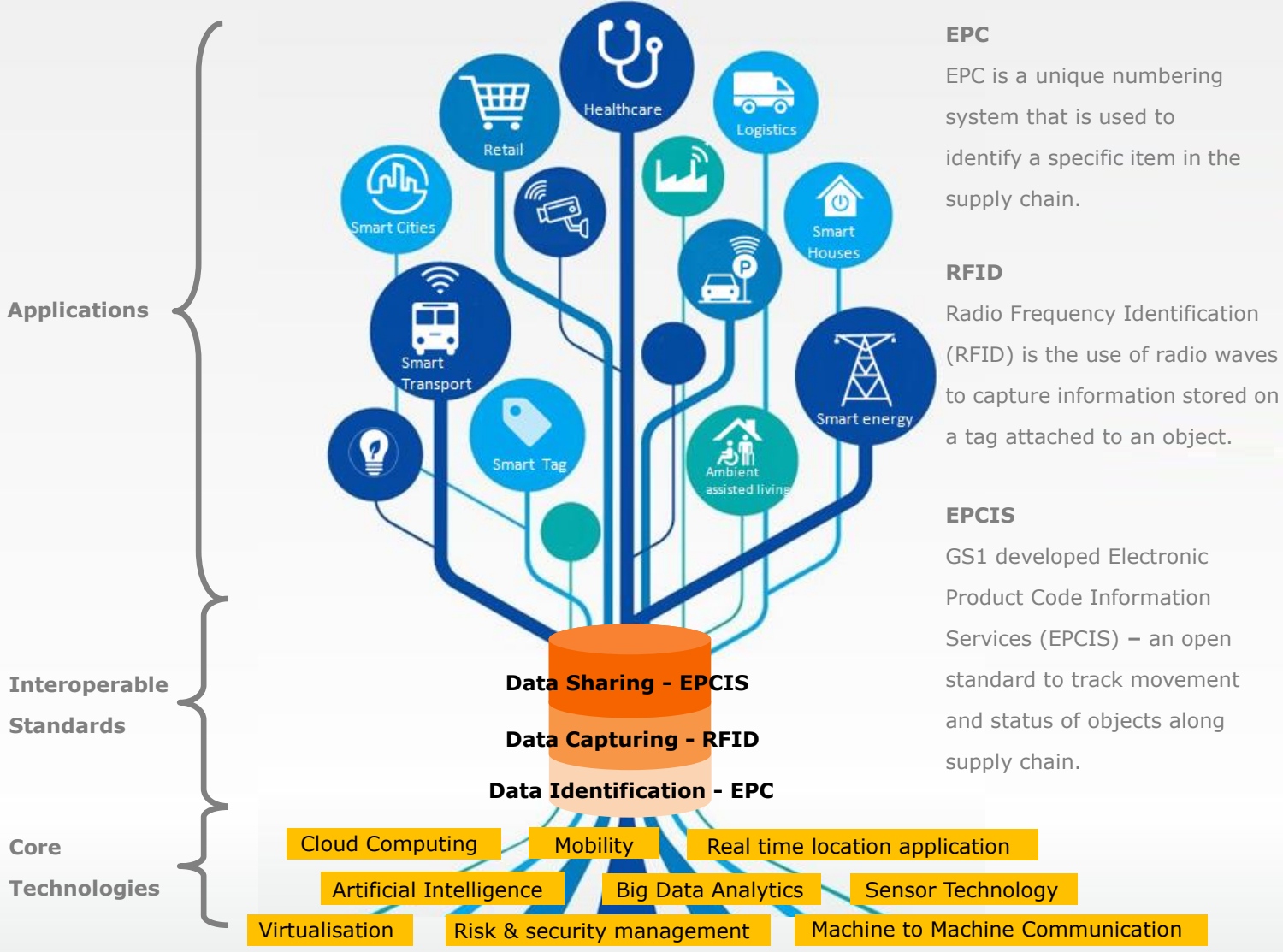
Standard access to external data sources

\* Source: McKinsey & Company: Unlocking the potential of IoT 2015

## GS1 Enables Interoperability

GS1 has created a global standard providing a common foundation for product identification and traceability. Objects can seamlessly be identified; data can be interoperable across domains efficiently and effectively.

### How GS1 Standards Empower Smarter Business, Better Living?



#### EPC

EPC is a unique numbering system that is used to identify a specific item in the supply chain.

#### RFID

Radio Frequency Identification (RFID) is the use of radio waves to capture information stored on a tag attached to an object.

#### EPCIS

GS1 developed Electronic Product Code Information Services (EPCIS) – an open standard to track movement and status of objects along supply chain.



### Based on EPCIS, GS1 HK Developed ezTrack™, Enabling Data Visibility that Facilitates

#### 1) Object Traceability

**Case:** DCH Logistics  
Globalised Tracking to  
Ensure Food Quality



#### 2) Process Optimisation

**Case:** APEC Global  
Data Standard Pilots  
2015 and 2016



#### 3) Product Authentication

**Case:** Fukui Shell  
Nucleus Factory and  
V-moda



**GS1 Standards Empower IoT for Smarter Business, Better Living**

## What is GS1 HK Doing on IoT?

### Constructing a Collaborative IoT Ecosystem

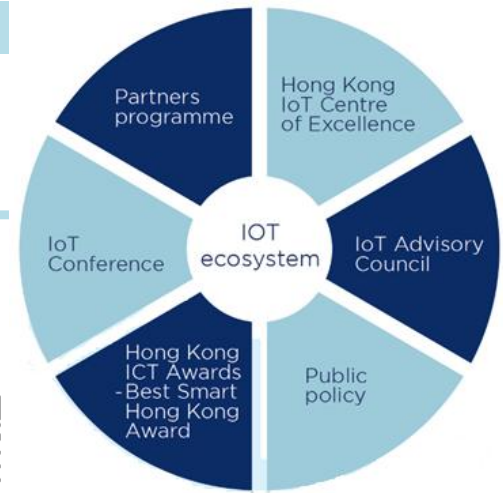
1. **IoT Advisory Council** - Aims to drive IoT development and promote IoT adoption in Hong Kong, fostering an IoT ecosystem development in Hong Kong.

*For more info, please scan QR code:*



2. **Public Policy** – Supports the government on policy advocacy and promote a comprehensive smart city development. Provide recommendations and responses on different issues like ICT development, with special emphasis on IoT interoperability and applications.

*For more info, please scan QR code:*



3. **Partners Programme** - Designed to create a business solution network which can provide best of breed IoT solutions conducive to driving the growth of our corporate members.

*For more info, please scan QR code:*



4. **Hong Kong IoT Conference** - An annual event that gathers industry practitioners to exchange expertise and discover how IoT is adopted to meet different market needs.

*For more info, please scan QR code:*



5. **Hong Kong ICT Awards – Best Smart Hong Kong Award** - Aims to recognise and promote outstanding ICT inventions and applications, thereby encouraging innovation and excellence among Hong Kong's ICT talents and enterprises in their constant pursuit for creative and better solutions to meet business and social needs.

*For more info, please scan QR code:*



6. **Hong Kong IoT Centre of Excellence** - Embedding the state-of-the-art IoT technologies with the objective to inspire innovations and sparkle IoT deployments. It features live demonstration in six thematic zones. Feel free to visit us! (Reservation needed)

*For more info, please scan QR code:*



