

# Adaptation of Modern Consumer Technology for Disaster Management and Mitigation

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# Introduction

*Disaster mitigation and Disaster management*

## Complex and Hard

- *unpredictability*
- *lesser availability in estimations*

# Conventional Systems

- **Disaster awareness**
  - *Television messages, radio messages, newspapers notifications, public notifications and public announcements, etc..*
- **Disaster identification**
  - *conducting researches and other sophisticated mechanisms such as satellites and weather analysis*

# Why need new system

- **not effective due to**

- *availability,*
- *trustworthiness,*
- *relevantness*
- *power of communication*

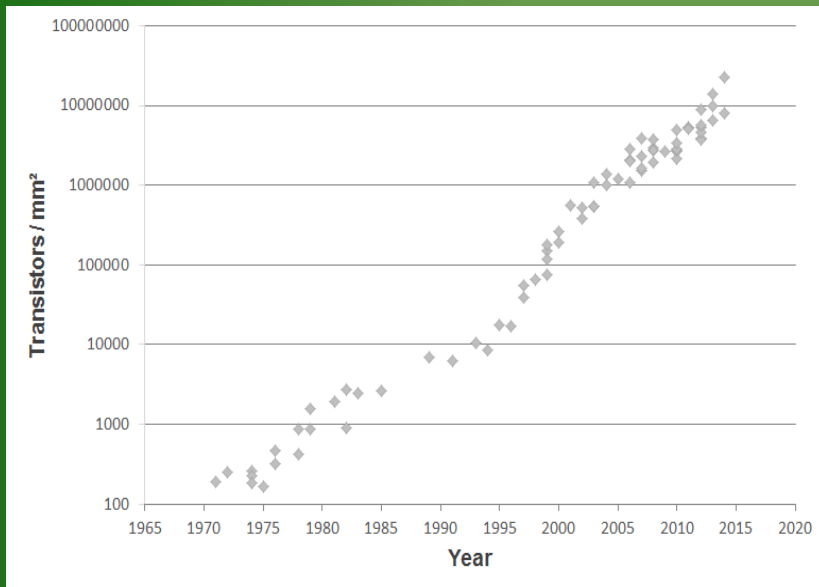
- **expensive due to**

- *lack of knowledge on geographic insight*
- *sociological insight of the relevant victims*

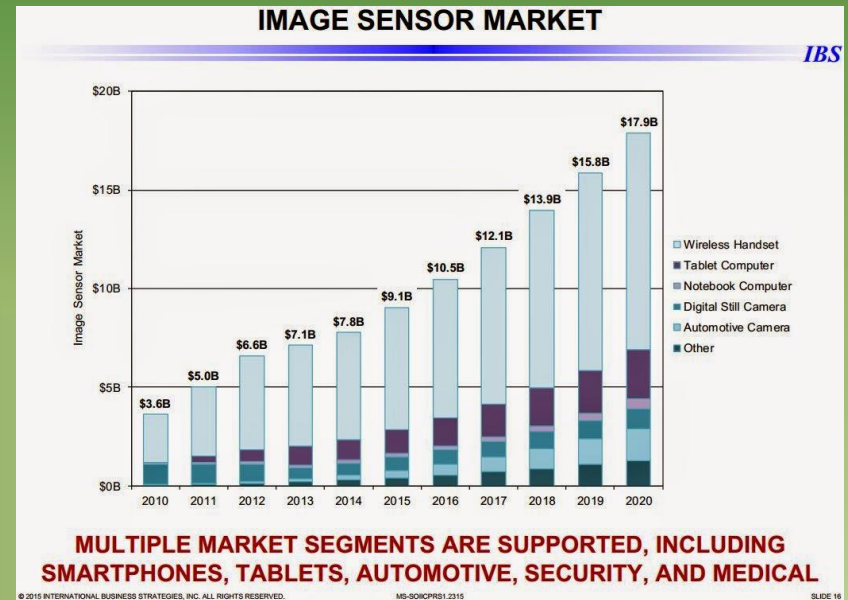
# The New System

- *Wanted:*
  - *New Source of micro level data collection mechanism*
- *Data and Information:*
  - *Weather conditions*
  - *Climate conditions*
  - *Geographical measures*
  - *Sociological measures.*
- *Preferable*
  - *Cheap*
  - *Reliable*

# The Trends



Graph: Transistor/mm<sup>2</sup> vs Time



Graph: image sensors market vs Time

# “A Solution”

- *could be the consumer mobile phone?*
  - *Has communication*
  - *Has sensors and actuations*
  - *Has micro level*
  - *Has Sociological measures*
  - *Has Geographical measures*

## *Other benefits*

- *Already well established*
- *Available almost everywhere*
- *Self evolving*

# *Benefits of the new system*

- **Disaster identification**
  - *Identify natural anomalies*
  - *Validations*
  - *New patterns and trends*
- **Disaster awareness**
  - *Direct method*
  - *Lowest cost*
- **Disaster mitigation, recovery and rescues**
  - *Fast locating*
  - *Social and geographical information availability*
  - *High level of Predication accuracy*



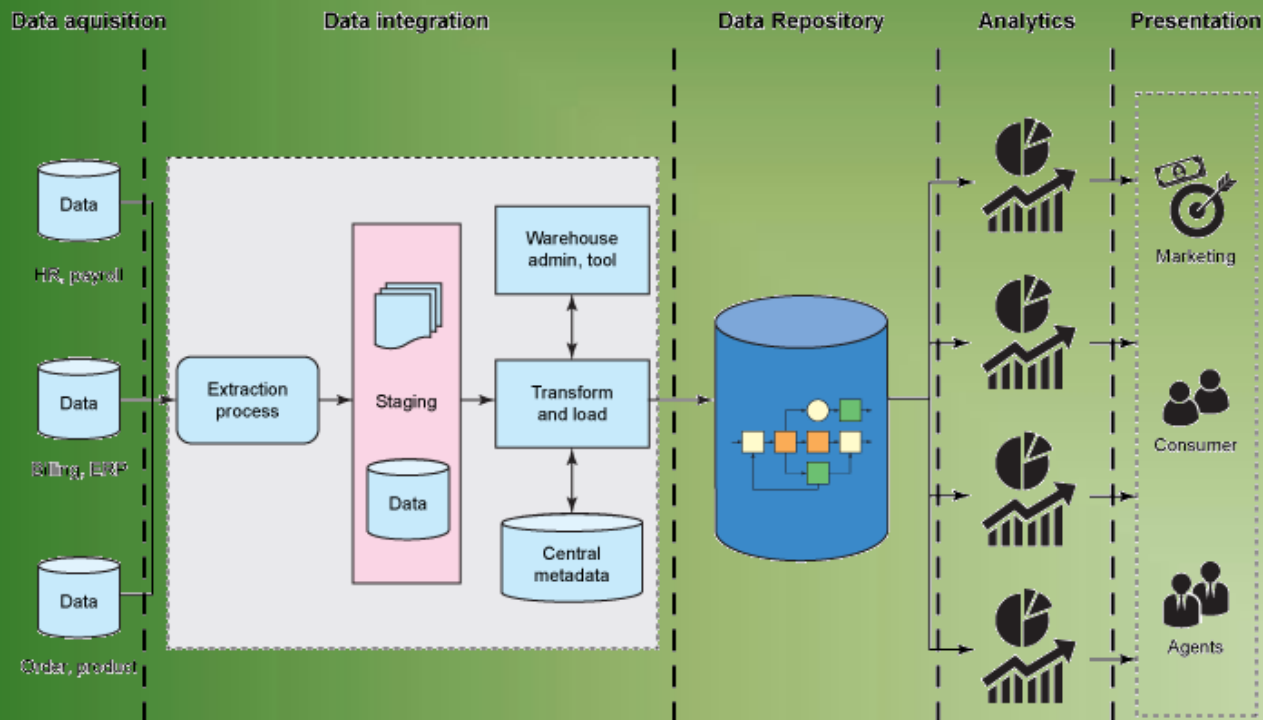
# New micro level data Agent

- *A single data source*
  - *more complex*
  - *Not reliable*
- *Multiple data sources*
  - *Can eliminate nuisances*
  - *more reliable*

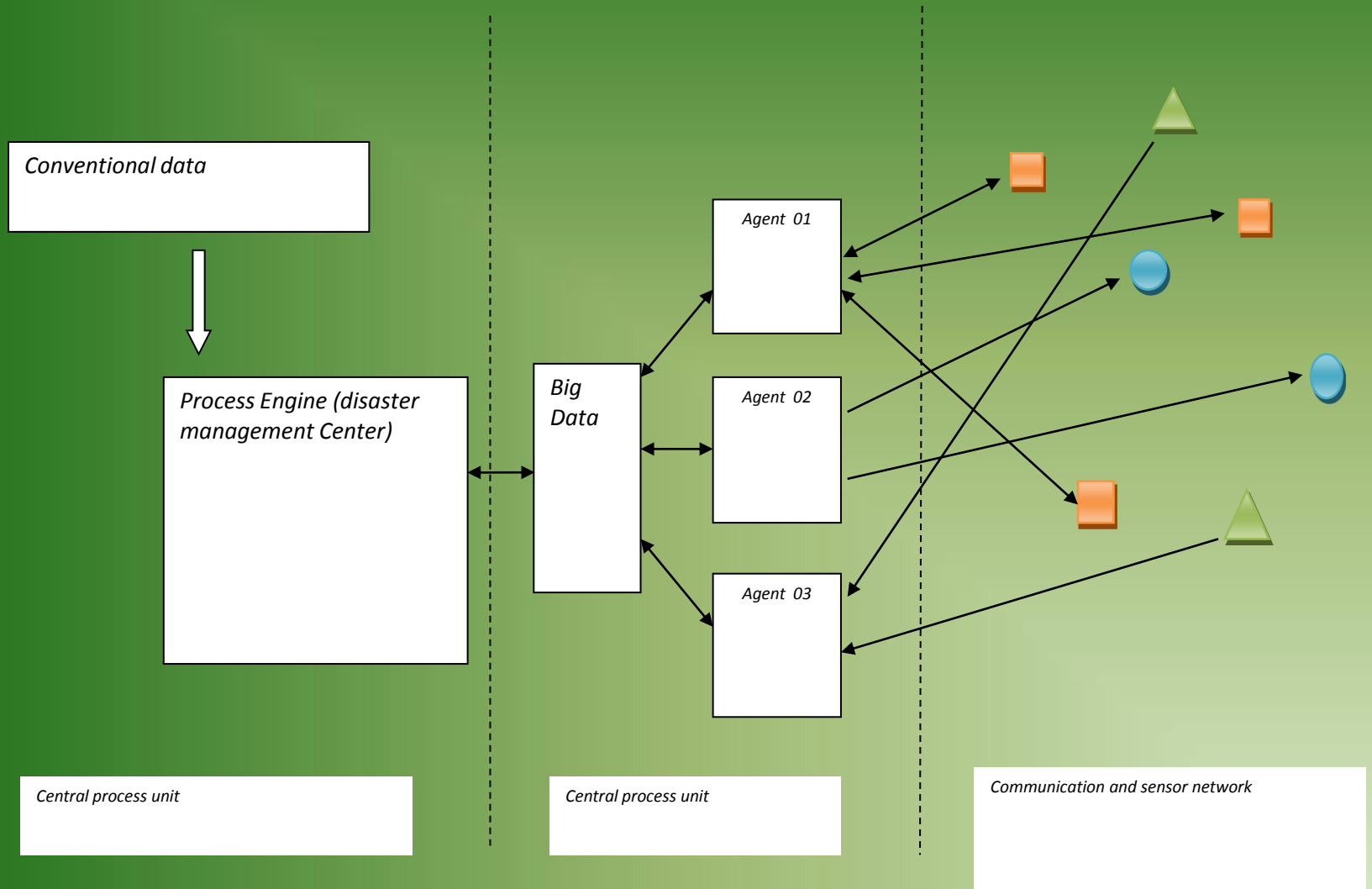


# Data Storage Mechanism

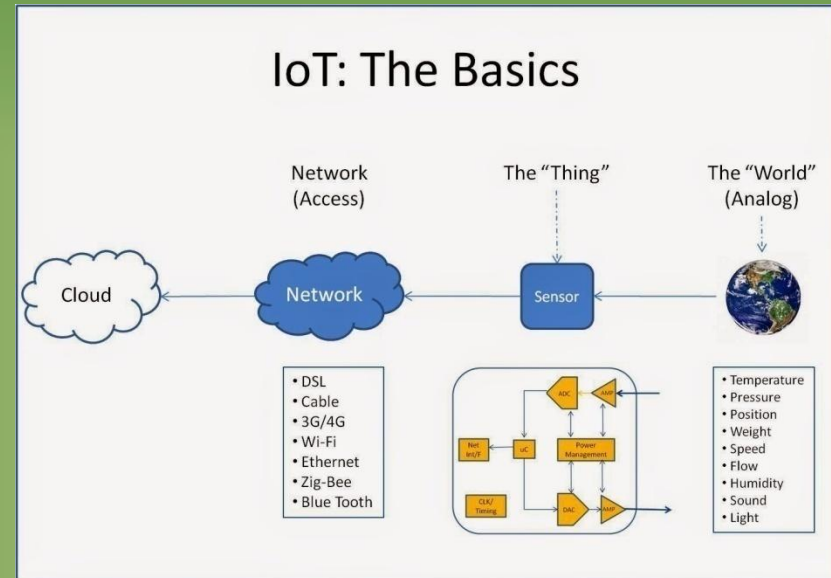
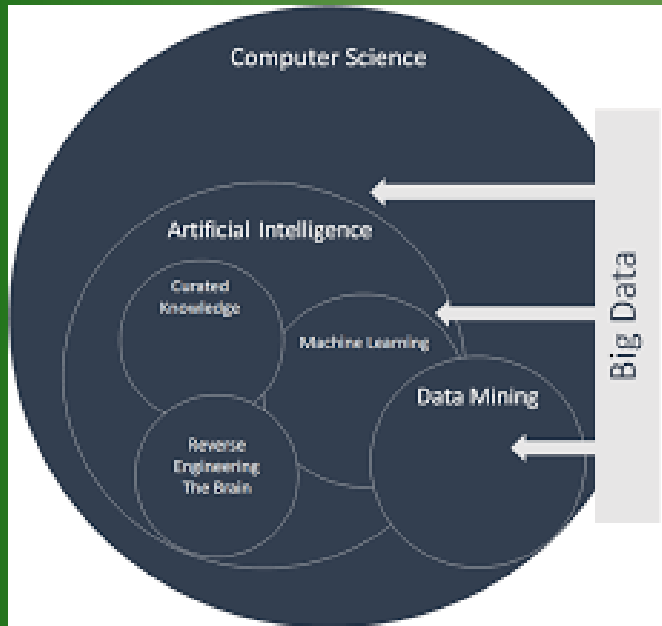
- *Can Big Data help ?*



# The New System



# The New System....



# Discussion

- **Capabilities**
  - *Minimum cost*
  - *Minimum maintenance*
  - *Co-exist with current system*
- **Apart from disaster management**
  - *micro level data or information*
    - *confidentiality*
    - *trustful manner*

*Thank you!*