

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*

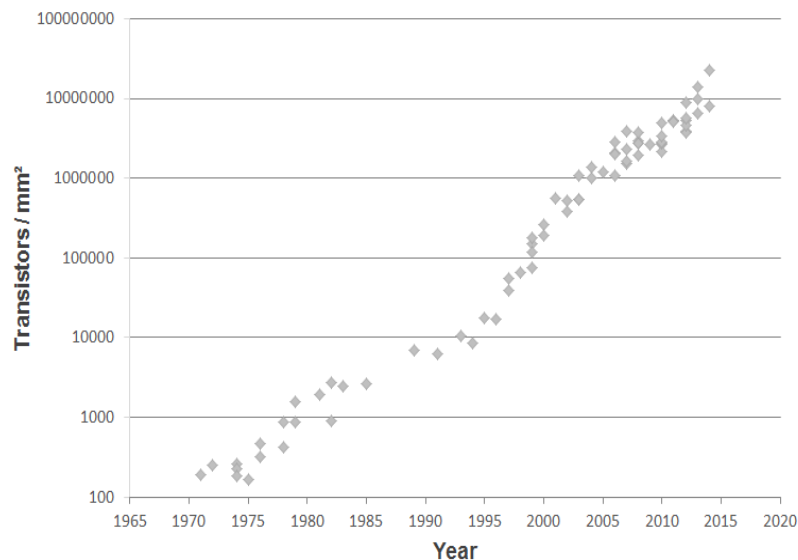
Why need new system

- **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*

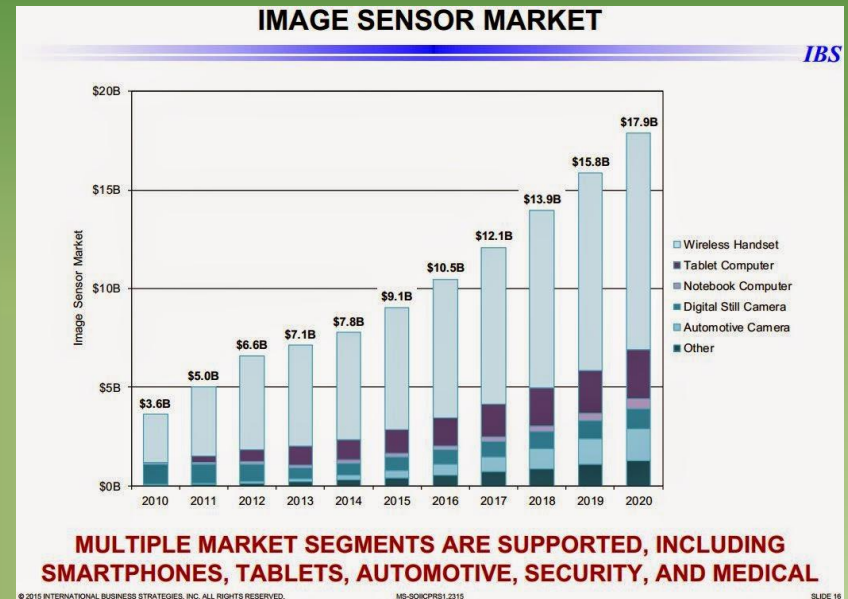
The New System

- *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/mm² 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*

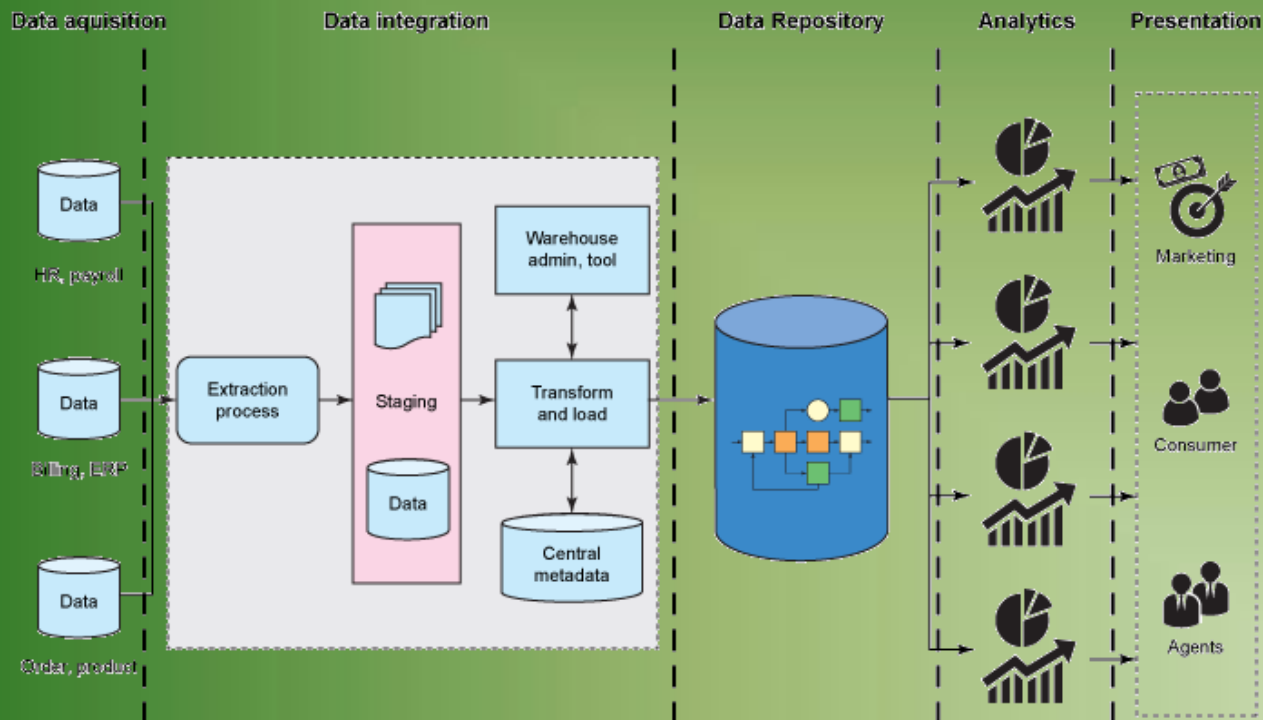
New micro level data Agent

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

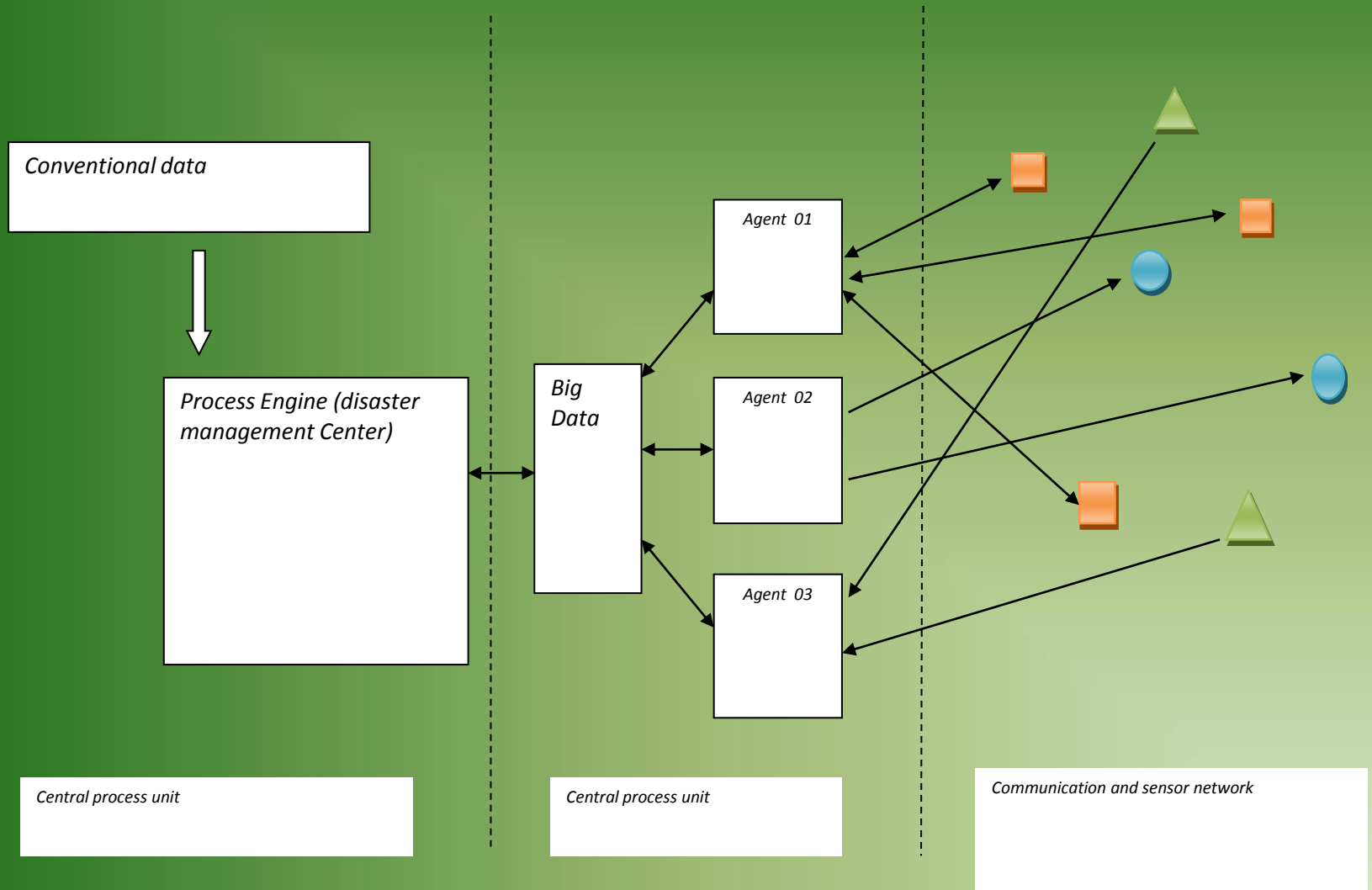


Data Storage Mechanism

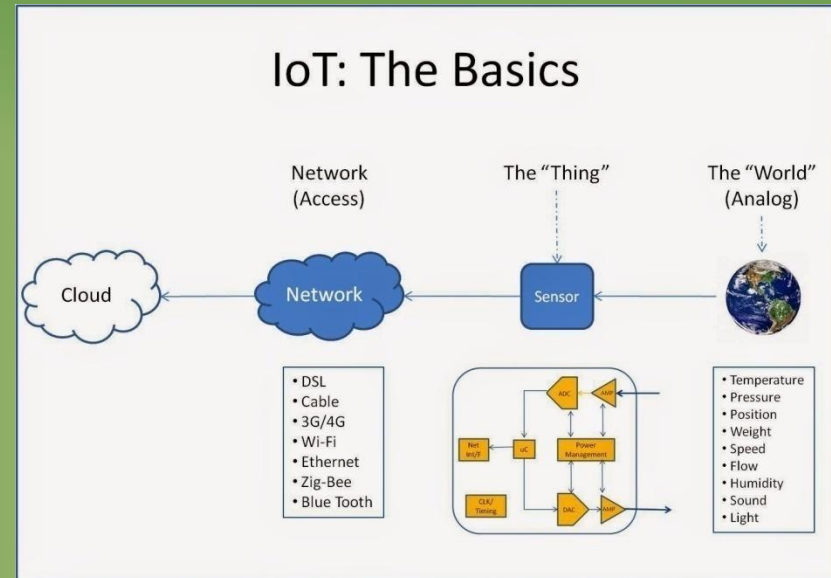
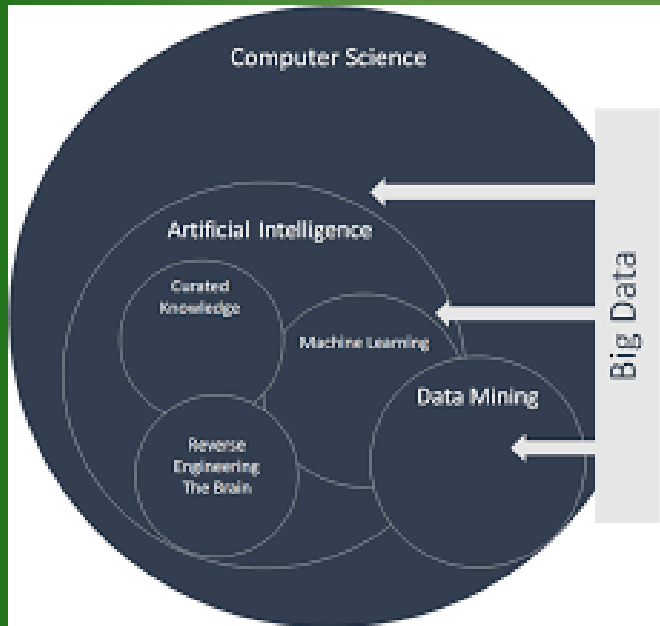
- Can Big Data help ?*



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!