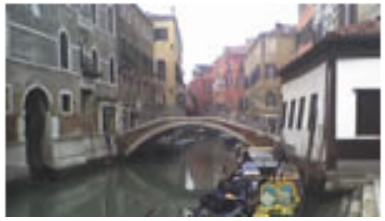

The Second International Conference on Mobile Services, Resources, and Users

MOBILITY 2012

PANEL MOBILITY/INNOV

Next Steps for Enhanced Mobility

Moderator

Alessandro Bazzi, CNR - IEIIT, Italy

Panelists

Josef Noll, University of Oslo/UNIK, Norway

Gabriel Pestana, Inesc-ID, Portugal

Petre Dini, Concordia University , Canada | China Space Agency, China

Alessandro Bazzi, CNR - IEIIT, Italy

Consiglio Nazionale delle Ricerche
Istituto di Elettronica e di Ingegneria dell'Informazione e delle Telecomunicazioni
Torino, Bologna, Genova, Milano, Padova, Pisa
www.ieiit.cnr.it

Next Steps for Enhanced Mobility

Intelligent Transportation Systems, Vehicular Networks and Smart Mobility

A. Bazzi

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CNR IEIIT – Wireless Communications Group

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UNIVERSITÀ DI BOLOGNA

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Intelligent Transportation Systems (ITS)

To make road traffic more safe and more efficient

What it means?

Alert Messages *(soon?)*

Driving Assistance and Cooperative Driving *(soon?)*

Smart Navigation *(today beginning...)*

Fleet Management *(increasingly)*

Other services...

...park assistance, entertainment, geo-localized information ...

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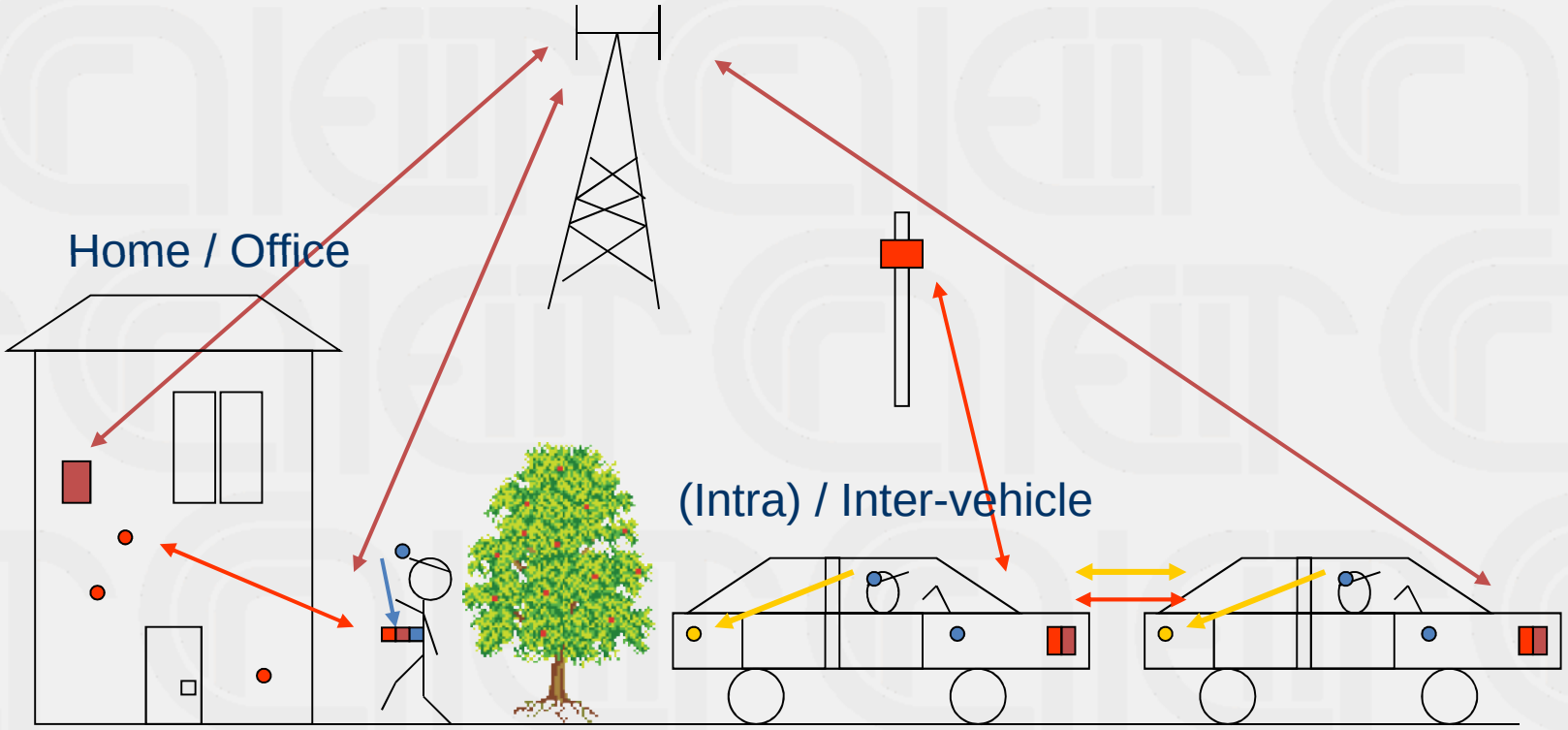
Wireless Technologies for ITS

Several wireless technologies and sensors in the vehicular scenario...
integration of acquisition and communication



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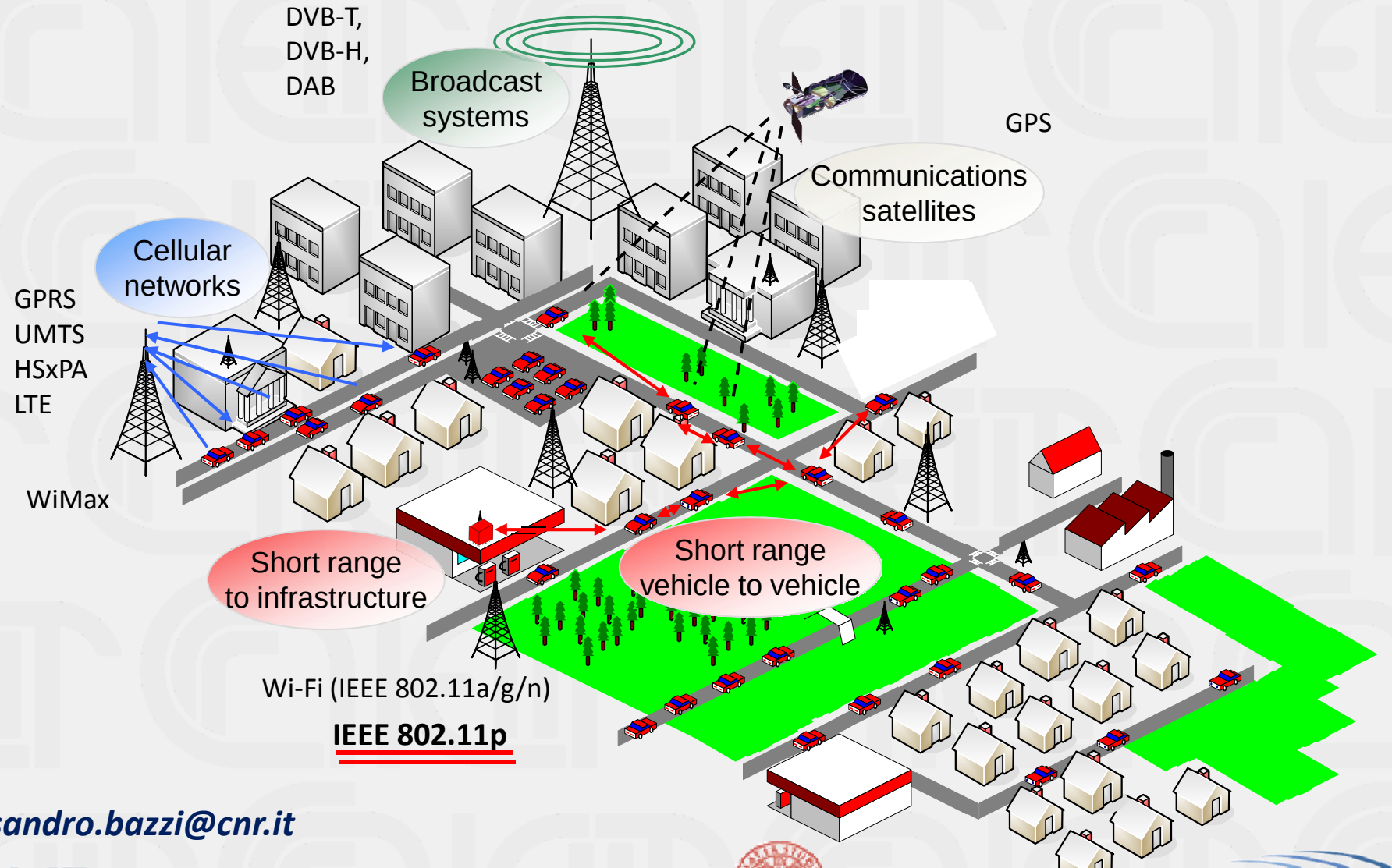
Wireless Technologies for ITS: standards are mature enough?



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It’s not so far the time when vehicles will not need drivers (...and roads will be more safe)

Google gets first self-driven car license in Nevada

Consiglia 410 people recommend this.

By Mary Slosson
Tue May 8, 2012 6:39am EDT

(Reuters) - Google's self-driven cars will soon be appearing on Nevada roads after the state's Department of Motor Vehicles approved on Monday the nation's first autonomous vehicle license.

The move came after officials rode along on drives on highways, in Carson City neighborhoods and along the famous Las Vegas Strip, the Nevada DMV said in a statement.

The Nevada legislature last year authorized self-driven cars for the state's roads, the first such law in the United States. That law went into effect on March 1, 2012.

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Technology Lifecycles and Opportunistic Mobility

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China Space Agency, China

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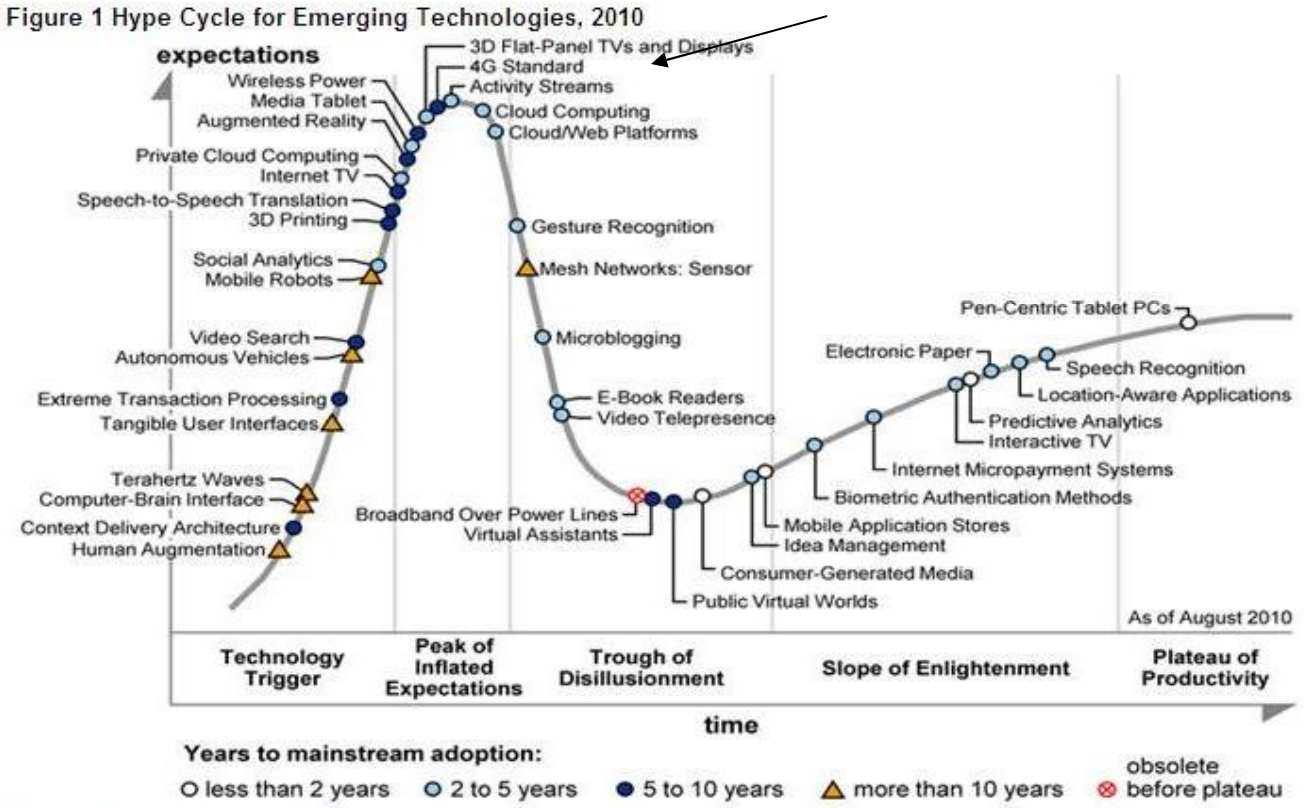
Gartner Hype Curve 2010/2011



Source: Gartner (August 2010)

Opportunistic and Participatory Sensing Using Mobile Phones

- - Participatory sensing, crowdsourcing, and opportunistic sensing paradigms and applications
- - Novel architectures to support participatory sensing applications
- - Large-scale mobile and sensing data mining, learning, and reasoning
- - Mobile cloud computing
- - Availability and research prototypes of miniature sensors and their integration into cellular phones
- - Integration of on-phone and off-phone sensing
- - Incentive paradigms for mobile sensing applications
- - Energy-efficient and computationally inexpensive privacy preservation and security mechanisms
- - Data validation techniques to deal with erroneous data (intentionally and unintentionally)
- - Data visualization techniques
- - New business models for mobile sensing data and applications
- - Software platforms for remote sensing using smartphones
- - Effect of mobility models on opportunistic collaboration

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Int. Conference on Mobility 2012, Venice, Oct2012

New Challenges in Mobility

Josef Noll, Oslo
Chief technologist at Movation AS, Prof. at University Graduate Studies (UNIK), University of Oslo (UiO)

Steering board member, Norway section at MobileMonday
IARIA Fellow, Chairman of IARIA's Intern. Conf. on Mobility
Past: Research Manager/Researcher at Telenor R&I (R&D)
Staff member at ESA ESTEC
Chip designer at SIEMENS

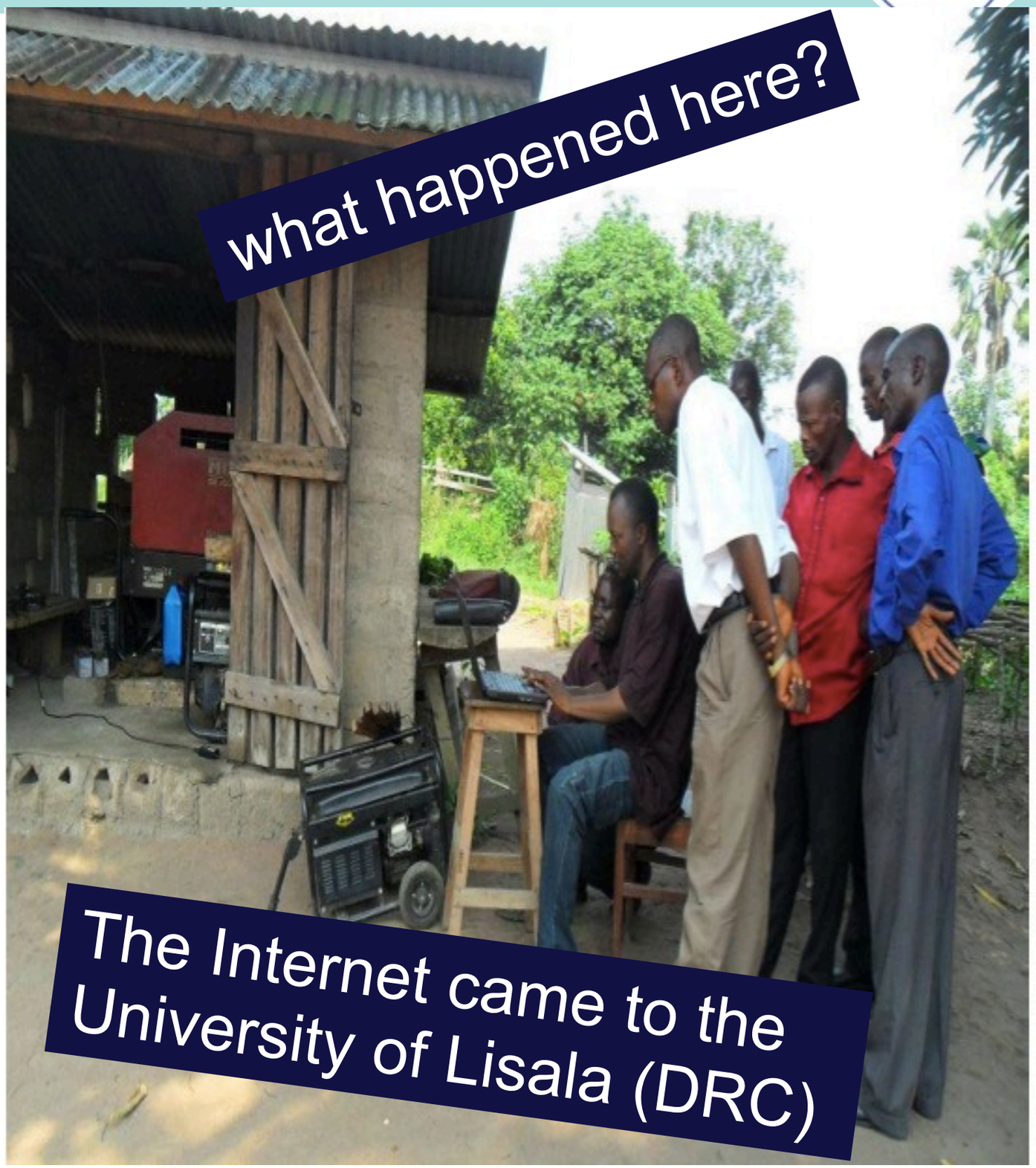
Internet is a basic human right

- Is Internet access and online freedom of expression a basic human right?
- **All people should be allowed to connect to and express themselves freely on the Internet.**

- The United Nations' Human Rights Council unanimously backed that notion in a resolution on 5July2012. All 47 members of the Human Rights Council including China and Cuba signed the resolution.

(1) The user owns the network

- Is access to information based on a revenue model?
  - Infrastructure from operators
  - Hot Spots from Satellite providers to “valuable customers”
- How to reach the remaining 1.5 Billion people who don’t have (reasonable) access to information?
- “The user owns the network”?



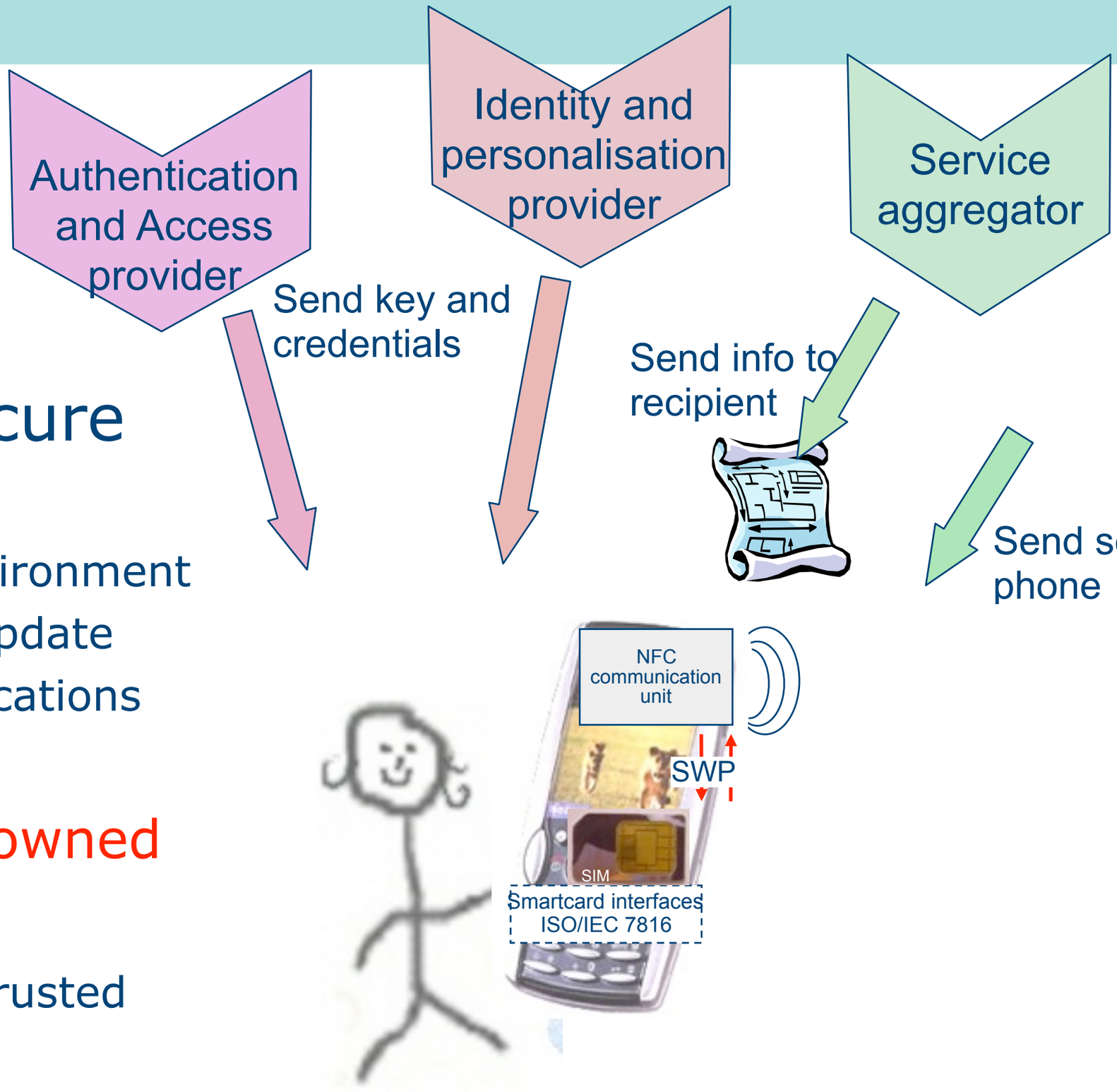
(2) A (European) driver licence for Internet Access

- "Driver License for Internet Access"
- Whatever network you are, you will have "slow" (10-20 kbit/s) access

- Costs to just cover administration of card (30 €/year)

- Access to everything (but slow) - always online
- "Autobahn" (Motorway) button for high bandwidth access.

(3) Who ownes the SIM?



- SIM is secure element
  - controlled environment
  - over-the-air update
  - open for applications

- SIM will be owned by user?
  - managed by trusted third party

Monitoring business activity nowadays – How to?

Gabriel Pestana

INOV Inesc Inovação, Portugal

25 October 2012, Venice, Italy

Business Activity Monitoring (BAM)

- Defines the concept of providing **real-time access** to critical business performance indicators to improve the speed and effectiveness of **business operations**.

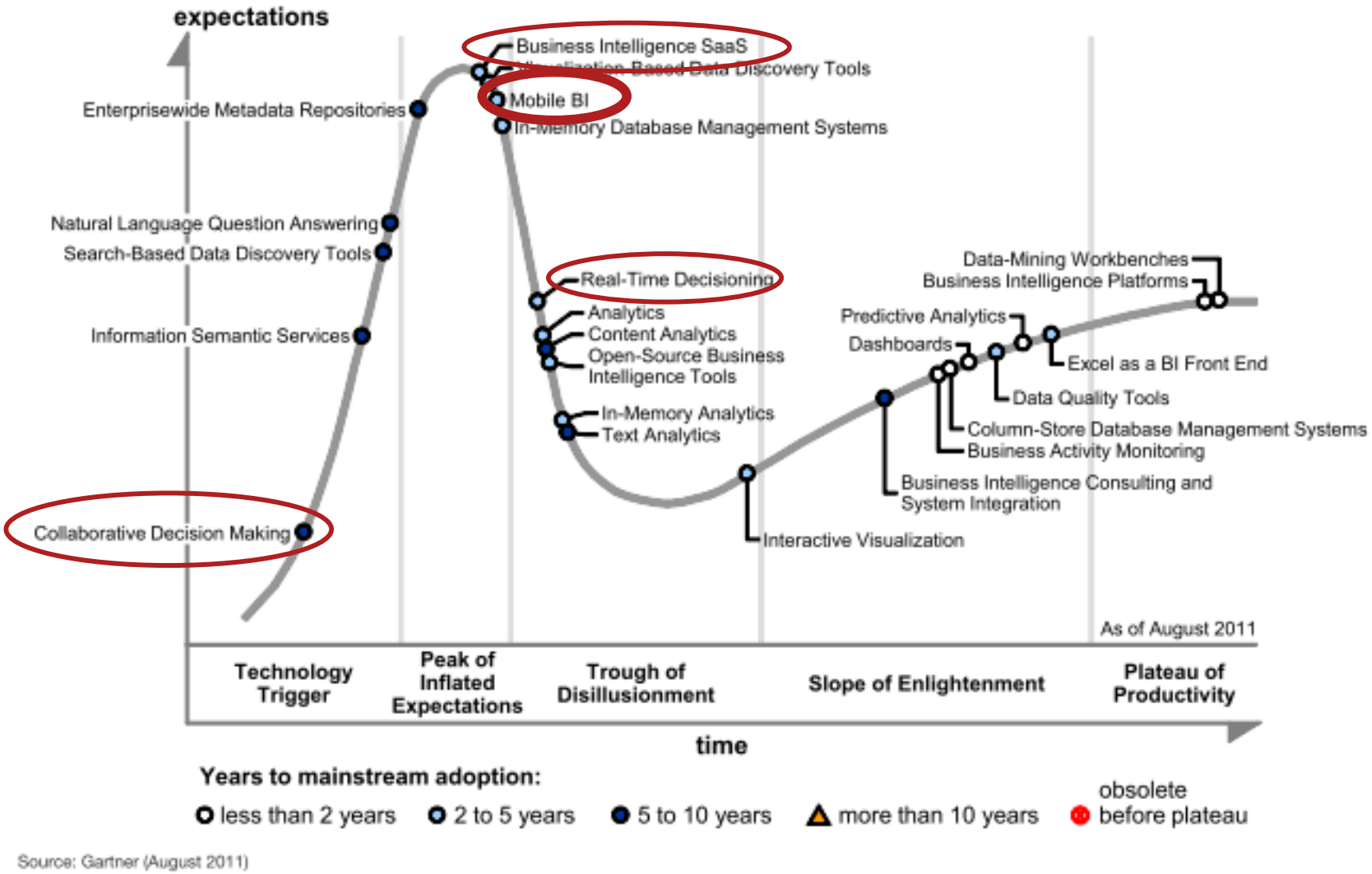
  [Gartner 'Business Activity Monitoring: The Promise and Reality' , 2001]

- A management discipline that treats processes as assets, it encompasses measuring business performance, **monitoring real-time processes**, detecting problems in the execution of business processes, **diagnosing their root cause**, and reporting on business operations to enable cyclical improvements.

  [Gartner 'Hype Cycle for Business Process Management', 2011]

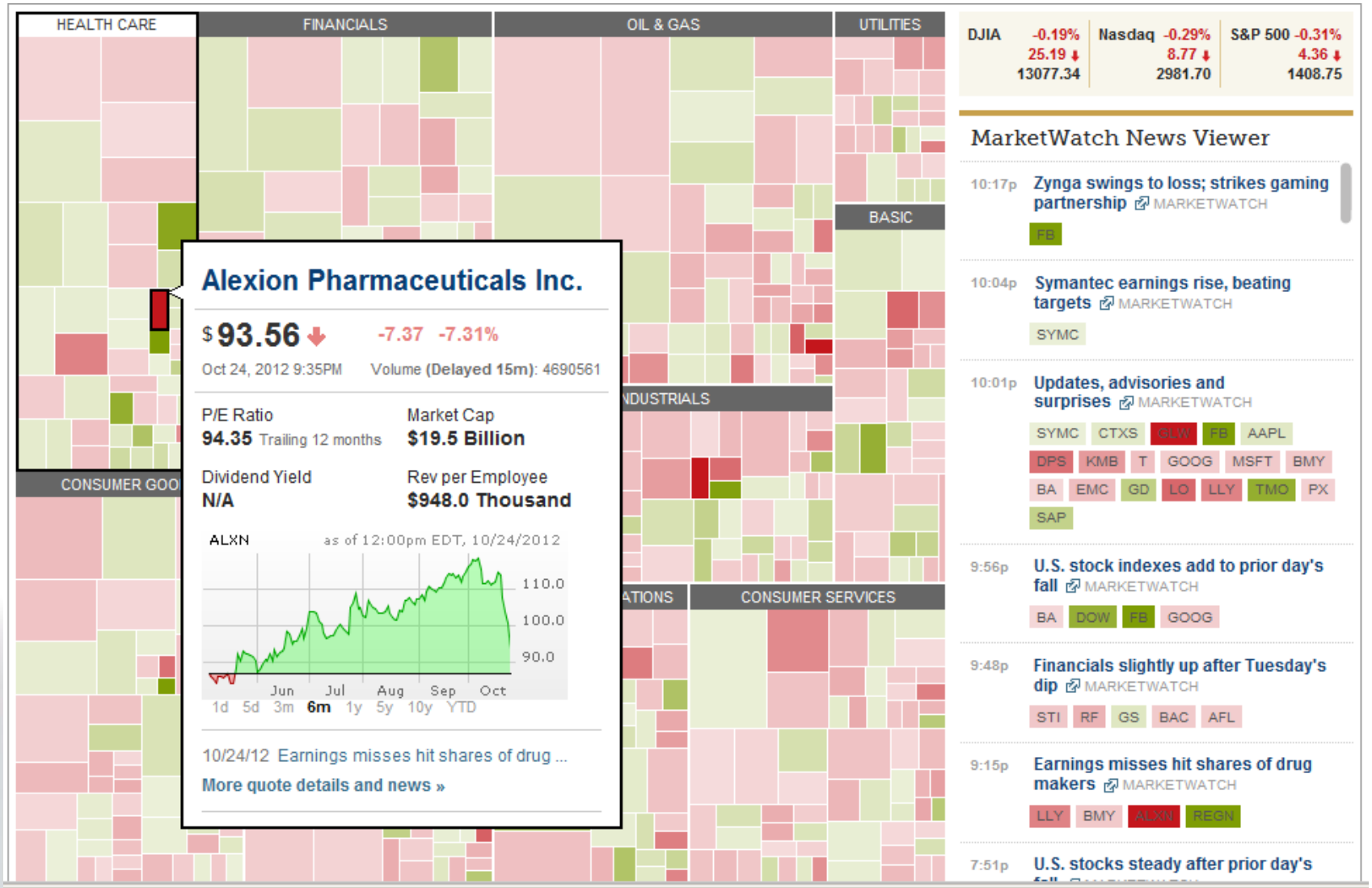
- IT or infrastructure monitoring focuses on how the equipment are running, BAM focuses on how the **business/people** are performing

Figure 1. Hype Cycle for Business Intelligence, 2011



Source: Gartner (August 2011)

Market Stoks - dashboards are started to be used as a technique to synthetize huge amount of information



Oct 2012,
Gabriel Pestana

Clinical dashboards – technique to synthetize huge amount of information

Key concepts

- The overall market for BI, Analytics and Performance Management continues to grow at between 8 to 12% per year
- Decision Support, analysis of non-traditional data and “Big Data” are the areas of the greatest innovation today

In a world where decision makers are increasingly demanding how to help them to improve their capacity to deal with such amounts of information?

Thanks for your attention

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Panel Mobility/Innov: Next Steps for Enhanced Mobility

Technology, human rights and freedom.

The panel of MOBILITY 2012, focused on “Next steps for enhanced mobility”, started with short presentations given by panellists on very different aspects related to mobility. Prof. Noll from the University of Oslo (Norway) started from a resolution signed by the members of the United Nations’ Human Rights Council, stating that Internet is a basic human right, and asked how this right can be honoured. Then, Prof. Pestana from the Technical University of Lisbon (Portugal) focused on the new business models enabled by the enhanced mobility and the related challenges. Prof. Dini from the Concordia University of Montreal (Canada) added to the topics a consideration about the unexpected and unusual growth of the smart-phone market: differently from all other technologies, that take years from their first invention to the mass market, smart-phones fell in our life as a sudden lightning. Finally, I discussed the intelligent transportation systems that the achieved mobility make possible: more safety on roads, increased traffic efficiency, advanced services to the drivers.

Then, the discussion opened to the audience. And immediately turned to unexpected issues. The panel was intended to discuss mobility and technology, new services and new possibilities, but soon the focus was moved to rights and freedom. Instead of being felt as an improvement in our life, the present technology appears like a big brother that controls us and reduces our freedom. For example, too much information is collected from our smart-phones and sent to someone somewhere. Even when Prof. Pestana highlighted that privacy should not be an issue when an emergency comes, someone from the audience disagreed and said that he prefers not to be saved. And the concerns were even worst when thinking to cars driving their own: maybe more safety, but no more a free world. As Prof. Dini suggested, it appears that technology is going too fast, and we are not able to adapt.

Wireless communications, electronics, and software engineering, are increasing the opportunities to improve people quality of life. But the feeling is that we are loosing freedom, and that this will be a crucial issue for the future.