

# eBusiness: Applications, Market Trends and Future Services

*...lowering barriers*

*eBusiness task force, N. Pace (CGI Italia)*

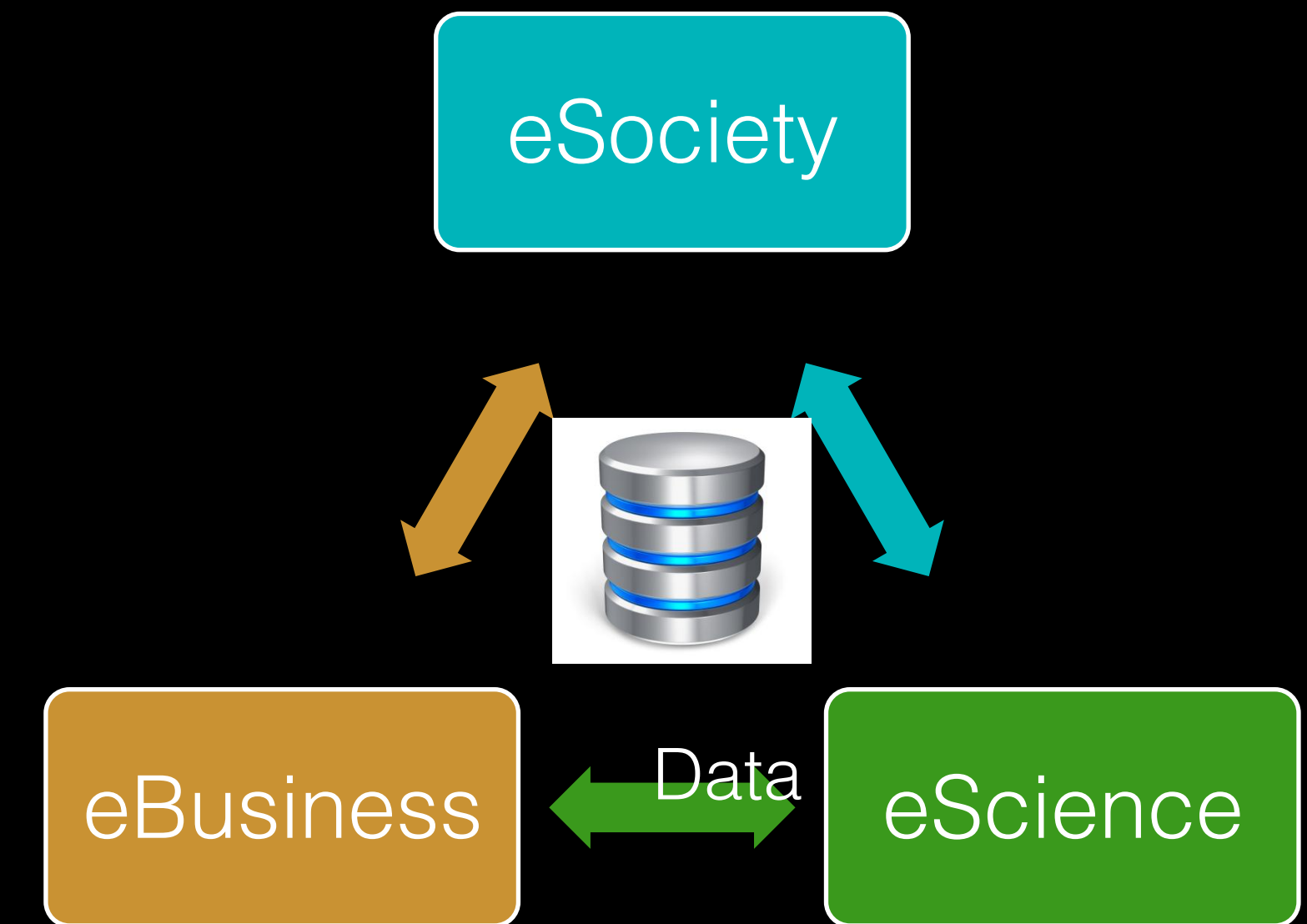
# eBusiness: some emerging models, JustEat, AirBnb, ...

- “The world’s largest taxi firm, Uber, owns no cars. The world’s most popular media company, Facebook, creates no content.
- The world’s most valuable retailer, Alibaba, carries no stock.
- And the world’s largest accommodation provider, Airbnb, owns no property. Something big is going on.”
- “that companies that control the interface between the consumer and the provider of the goods or services are in an incredibly valuable position. They carry none of the costs of providing the service but take a cut from the millions of consumers that buy from them. The interface is where the profit is.”



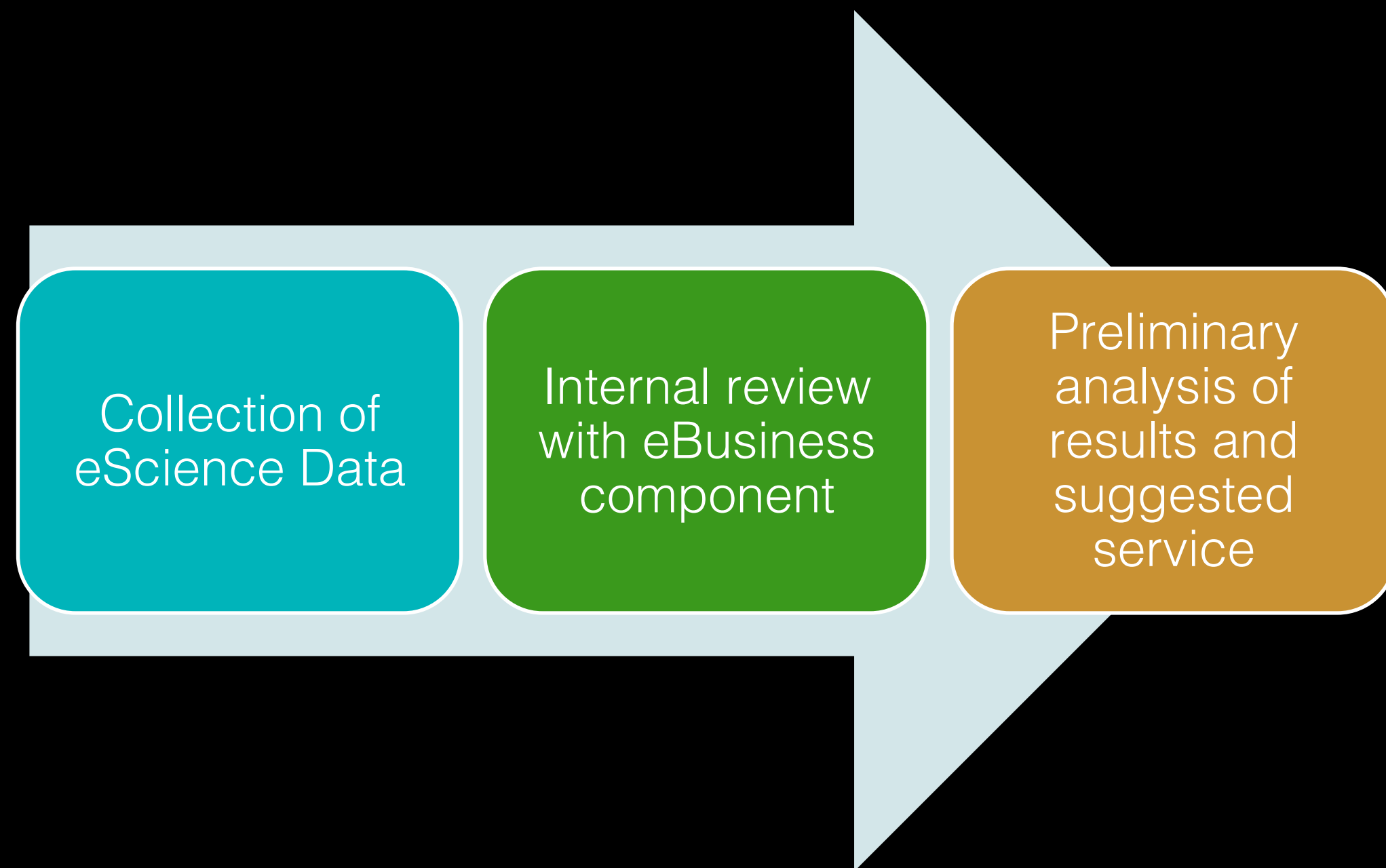
# eBusiness in Lazio Pulse

- eBusiness large, SME, start-ups
- Mandate of eBusiness TF is to:
  - Identify and pursue business opportunities
  - Help building an **ecosystem** of digital services to help overcoming existing entry barriers
  - Additional services: access to finance, legal and marketing support, incubation
  - In other words: *make the complex simple*
- Fully in line with Lazio *Smart Specialisation Strategy*



# What did we do so far ?

## The data analyses and business assessment

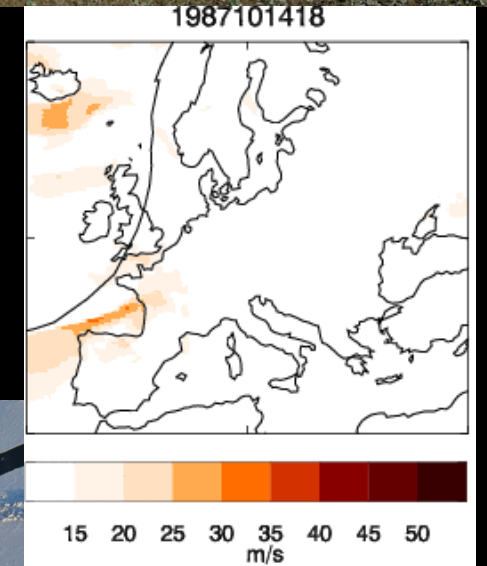
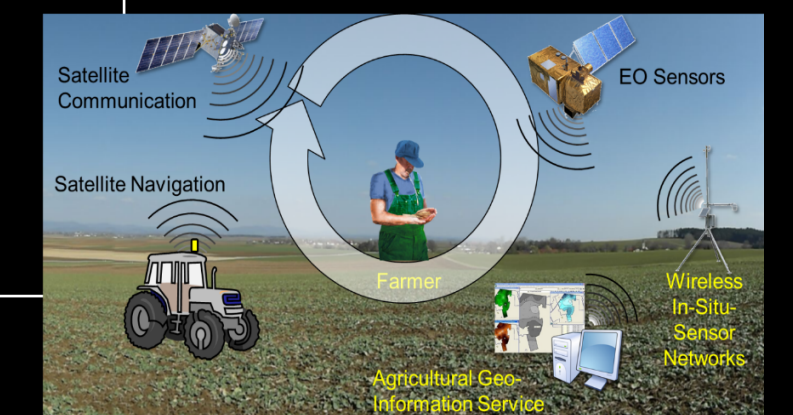
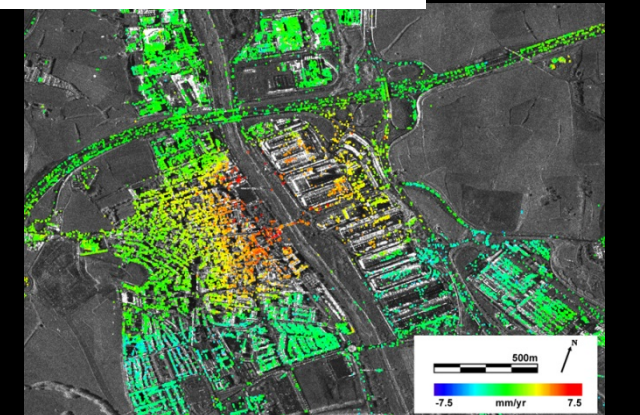
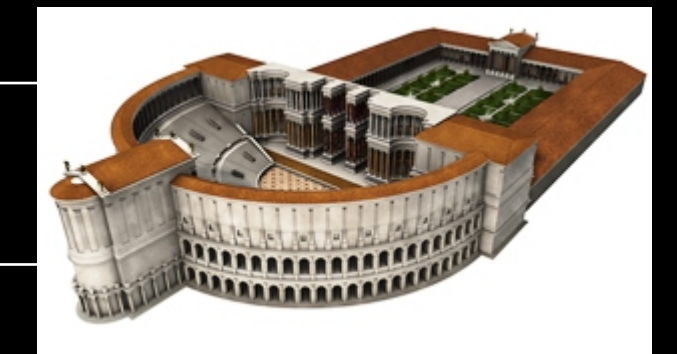


- Data deemed useful or very useful for the business and suitable for developing applications
- Identified applications areas are:
  - Defence and security
  - Construction industry
  - Environment and land protection
  - Health
  - Tourism
  - Agrifood

# Some examples from S3 Lazio: *Aerospace*

- Many organisations: ASI, CNR, ENEA, ESRIN, INFN, INAF, INGV, etc.

Item	Cross-fertilisation examples - Downstream
Cultural heritage (restoring, preserving and valuing)	<ul style="list-style-type: none"> <li>• Mapping assets, defining stability and exposure to environmental risks (earthquakes, volcanoes, flooding, etc.).</li> <li>• Advanced 3D modelling for accessing and understanding cultural assets (Lidar and 3D advanced visualisation).</li> </ul>
Food security, sustainable forest, precision farming, environment restoration	<ul style="list-style-type: none"> <li>• Vegetation mapping and monitoring</li> <li>• farming optimisation (e.g. fertilisers, etc.)</li> <li>• de-forestation monitoring</li> <li>• hydrological risk, etc.</li> </ul>
Climate services and climate change	<ul style="list-style-type: none"> <li>• EO based monitoring services</li> <li>• Windstorm risk analysis (for insurance companies) – e.g. like the WISC service</li> </ul>
Smart, green and integrated transport	<ul style="list-style-type: none"> <li>• Maritime, road and rail transport</li> <li>• Hazardous material transport</li> <li>• Aid to navigation in polar areas</li> <li>• Biomass monitoring for energy</li> </ul>



# Another example: Life Sciences and Health

- Strong positioning of Lazio region: ENEA, CNR, ISS, INFN, etc.
- A large role for ICT both directly and indirectly

Area	Cross-fertilisation examples – ICT impact
Food security and sustainable agriculture	<ul style="list-style-type: none"><li>• EO mapping for quality: water quality, pollution risk, etc.</li><li>• EO land degradation mapping, vegetation health</li></ul>
ICT Computing power	<ul style="list-style-type: none"><li>• Genomics proteomics &amp; bioinformatics</li></ul>
Telemedicine and diagnosis support	<ul style="list-style-type: none"><li>• Advanced image processing, data transmissions via secure means, workflow management, big data analysis, pattern recognition, <u>traceability</u></li></ul>



# How about agri-food ?

- Italy has a value adding capability of 2,000 Euro per hectare, twice as much as Spain, France and Germany !
- Innovation still very fragmented, small size of organisations, low innovation investment

Area	Cross-fertilisation examples – ICT impact
Food security and quality	<ul style="list-style-type: none"><li>• Food value chain <u>traceability</u></li><li>• Sustainable agriculture</li><li>• Climate change monitoring and adaptation</li><li>• Precision farming</li></ul>
Clean, smart and secure	<ul style="list-style-type: none"><li>• Business processes optimisation</li><li>• Smart transportation</li></ul>
Valorisation and promotion	<ul style="list-style-type: none"><li>• Integration of food and tourism</li><li>• enhancing local heritage</li></ul>



# What are our assets, then ?

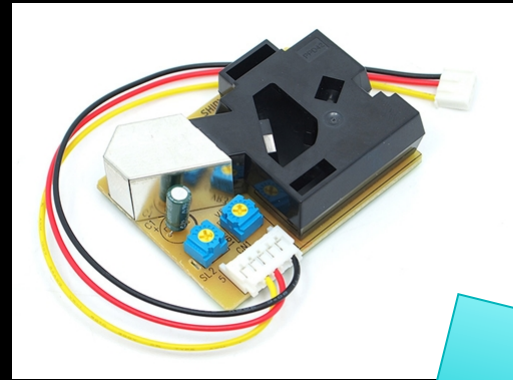
- Data sources:
  - Earth observation data mostly open
  - Small sensors and optimised data handling and transmission – low energy wireless devices
  - IoT as a result of experience in big plants management (for energy saving, smart grid, smart cities, etc.)
  - Crowdsourcing data (social media)
- Techniques:
  - Data mining data analytics
  - Data search and discovery, archiving
  - Data processing



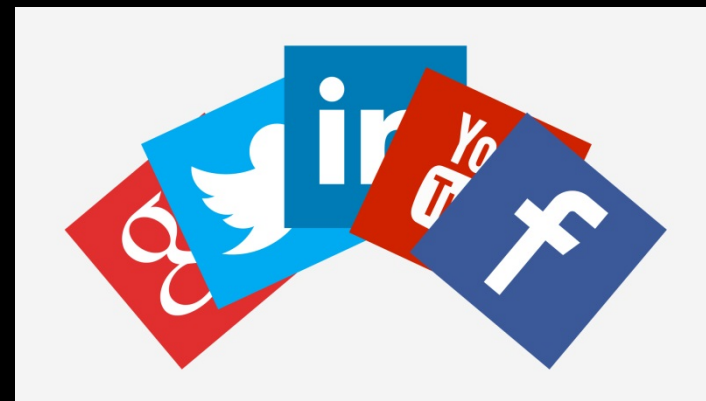
# How about this ?

## Copernicus + Crowdsourcing = air quality monitoring

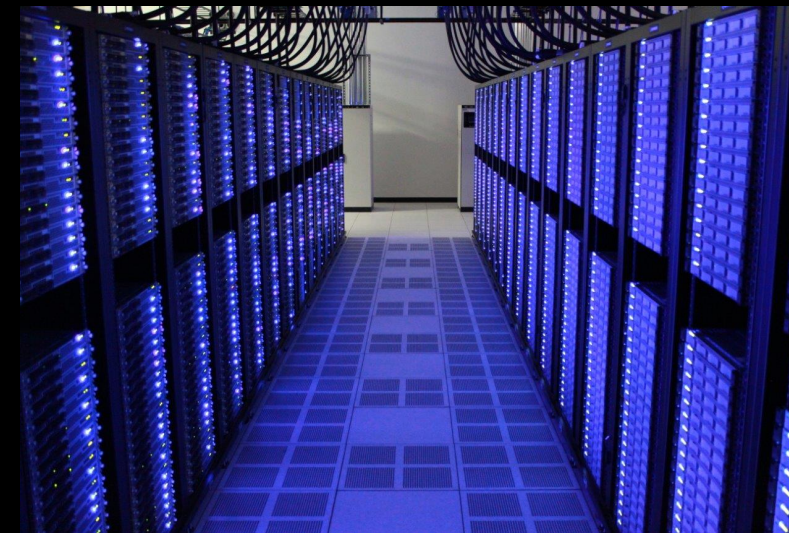
Small sensor



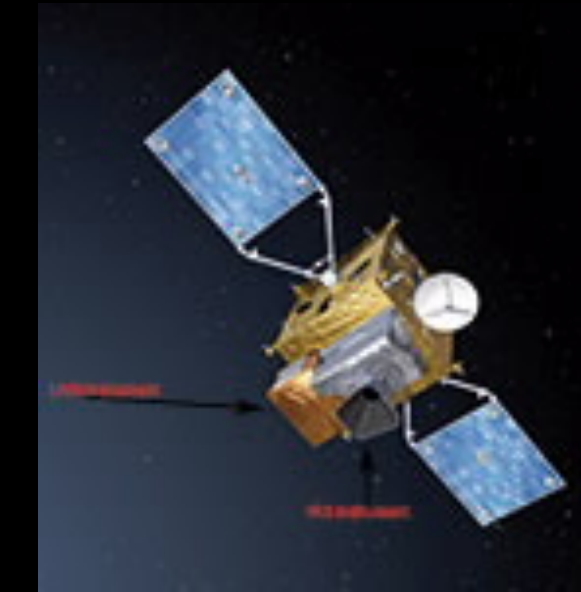
Social media



Data Center



MTG-S



NO<sub>2</sub>(nitrogen dioxide), O<sub>3</sub> (ozon),  
SO<sub>2</sub> (sulfur dioxide), HCHO  
(formaldehyde), CHOCHO (glyoxal), and  
aerosols.

Real estate business

Tourism

Local attractions

Agriculture

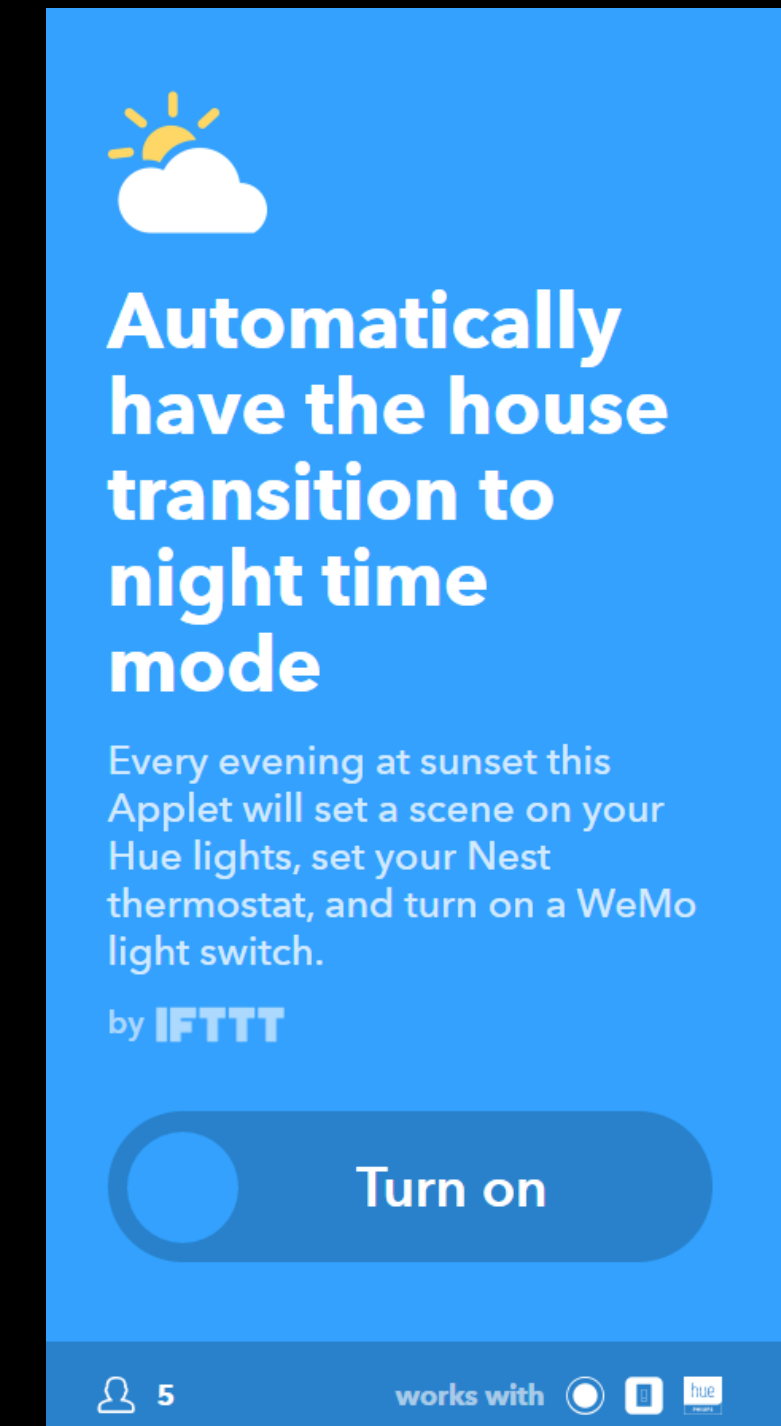
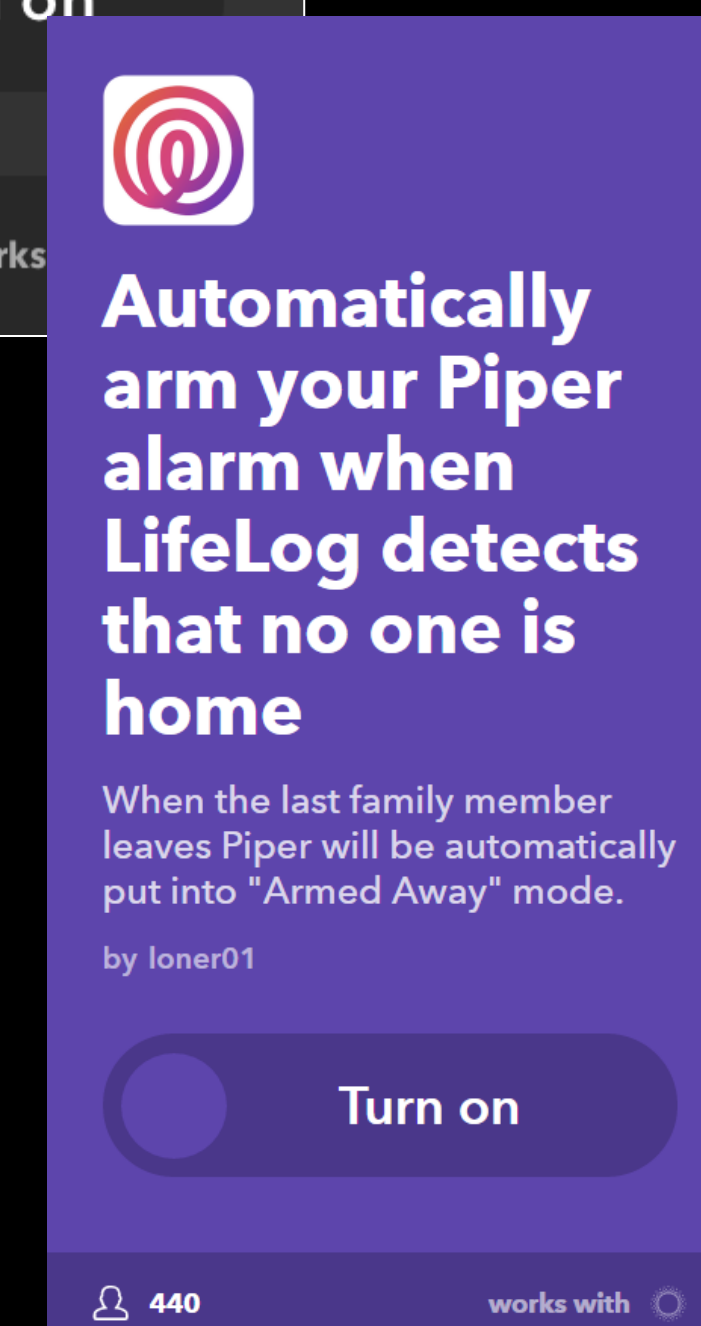
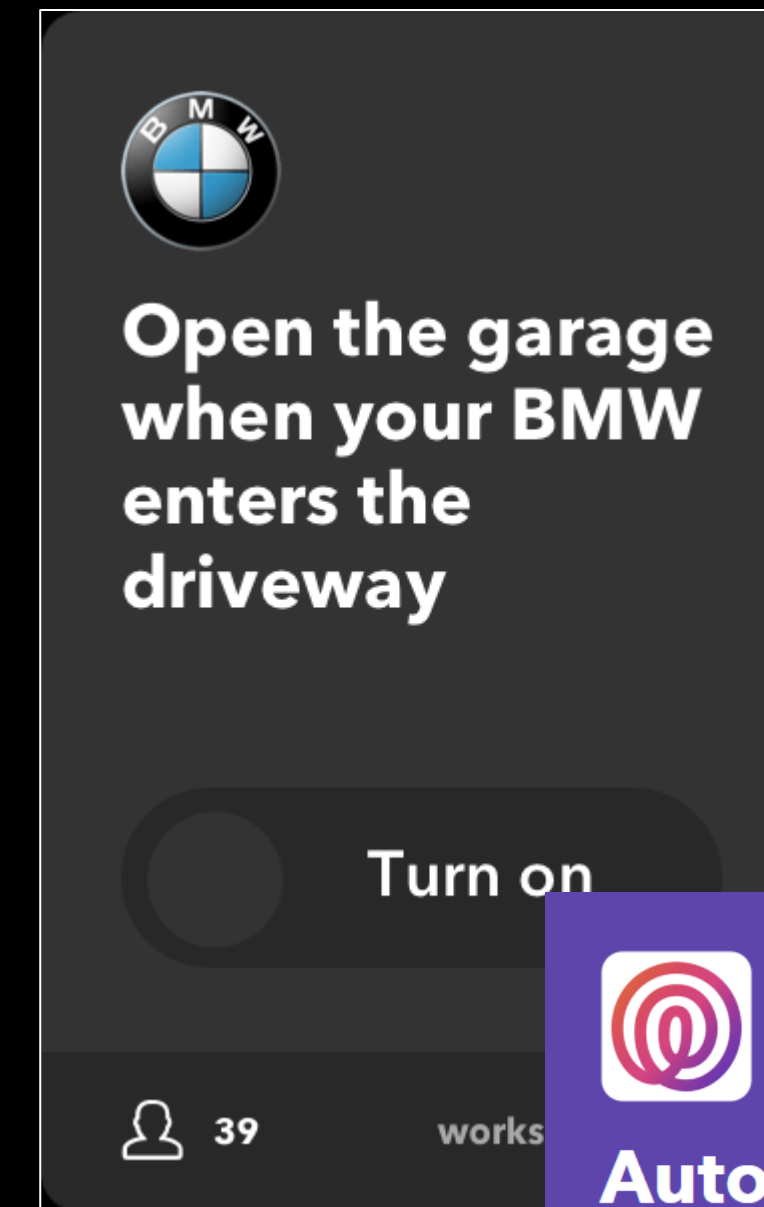
Health care

Apps



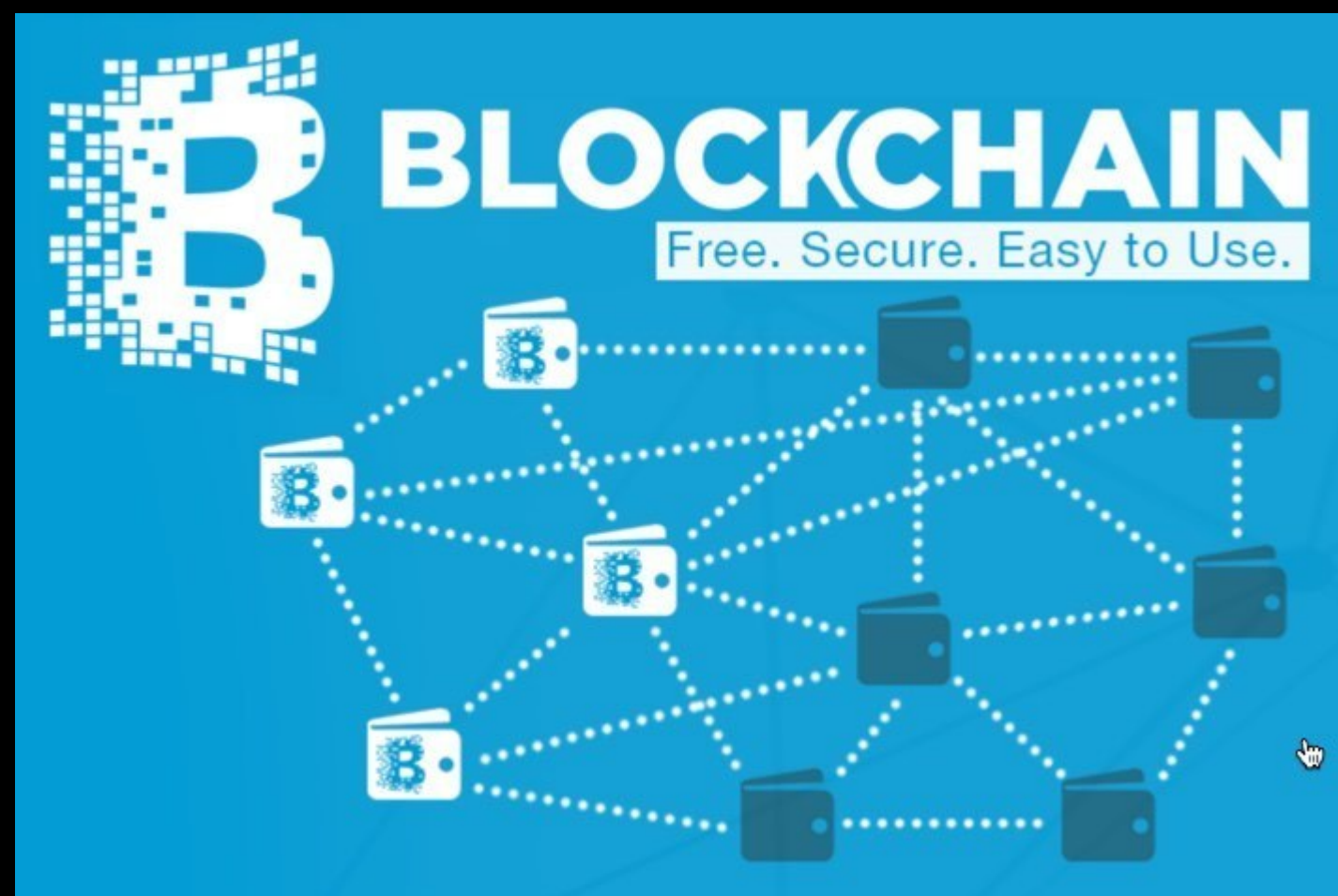
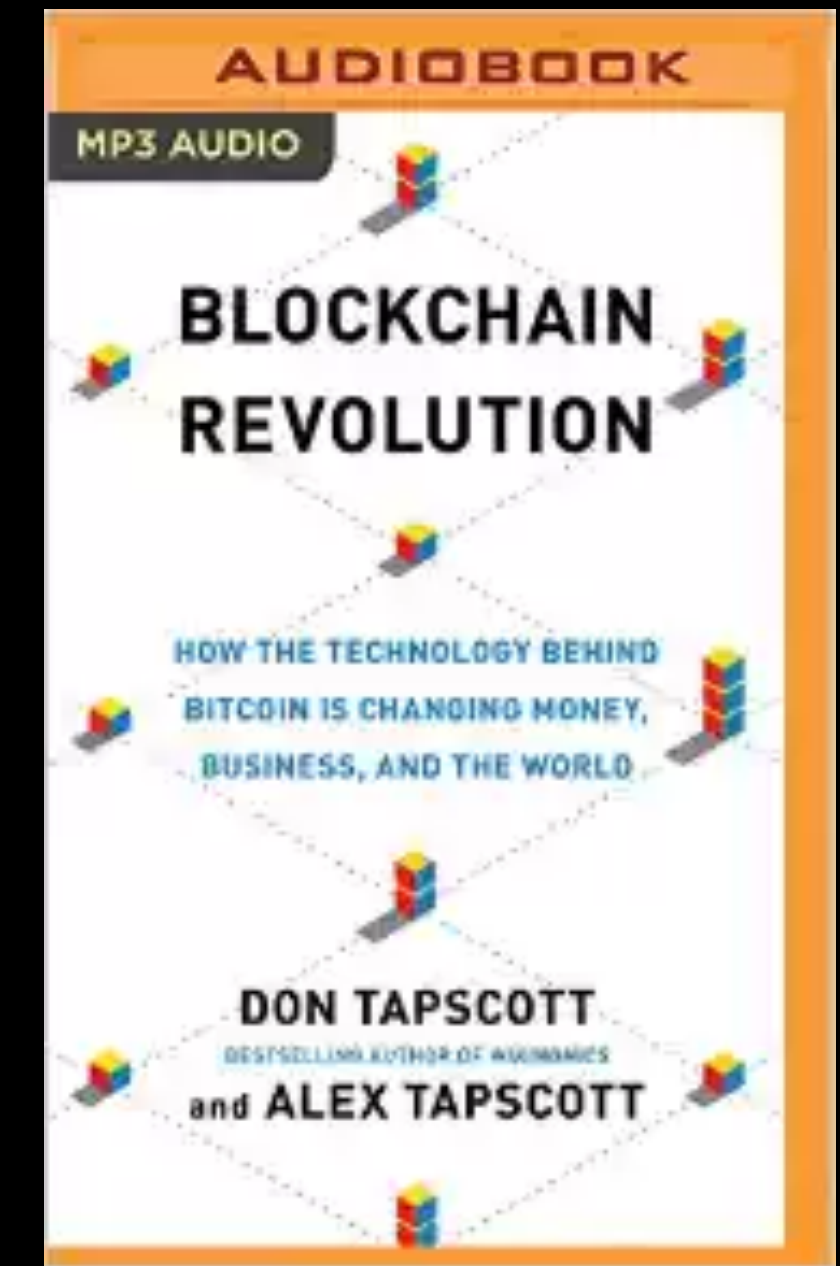
# Lowering barriers: today

- If This ... Then That !!!
- IFTTT is a free web-based service that allows users to create chains of simple conditional statements, called "applets", which are triggered based on changes to other web services such as Gmail, Facebook, Instagram, and Pinterest.
- A simple language allowing creative usage of big data for real concrete applications, fostering interoperability



# Lowering barriers: tomorrow Blockchain revolution

*Maybe you're a music lover who wants artists to make a living off their art. Or a consumer who wants to know where that hamburger meat really came from. Perhaps you're an immigrant who's sick of paying big fees to send money home to loved ones. You are a patient being cured through eMedicine protocol and want to ensure traceability of information. Or an entrepreneur looking for a new platform to build a business.*



- *As people transact in a Blockchain ecosystem, a public record of all transactions is automatically created.*
- *Computers verify each transaction with sophisticated algorithms to confirm the transfer of value and create a historical ledger of all activity.*
- *The computers that form the network that are processing the transactions are located throughout the world and importantly are not owned or controlled by any single entity.*
- *The process is real-time, and much more secure than relying on a central authority to verify a transaction.*

# Conclusions

- There is a huge innovation potential in the Lazio region including scientific, business and public administration components
- ICT advances are facilitating emerging business models, lowering barriers and allowing greater participation of all actors (incubation, start-ups, etc.)
- We established a consolidated process to pursue this, and ...



*...we cannot miss this chance !*

# A data-driven ecosystem: exploitation platform



End users  
Anchor tenant  
Mass market

