

# Augmented Reality a key enabling technology

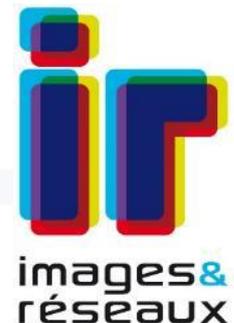


## Example of French AR industrial plan



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# Augmented Reality: one of NFI industrial plans



- French plans
- AR what and for what?
- AR plan roadmap & actions

# French industrial plans



- Launched in 09 2013
  - 34 subjects: from 2liter motor to health via ICT, next gen rocket or ship...
  - Project management by industrial people
    - I&R cluster (V Marcatté-President) responsible for AR plan
    - Involved in several other: Telecom sovereignty, Cyber, cloud, big data
- All Roadmaps validated in July 2014
- Event in Palais de l'Elysée September 2014



# AR plan objectives



- **Set up the virtuous circle of economic growth → having working together**

- AR technologies provider Companies

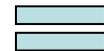
Market 2020

28B€



- Markets related companies potential AR users

67B€



95B€

- **Ensure access to content sovereignty when mastering the complete AR value chain**

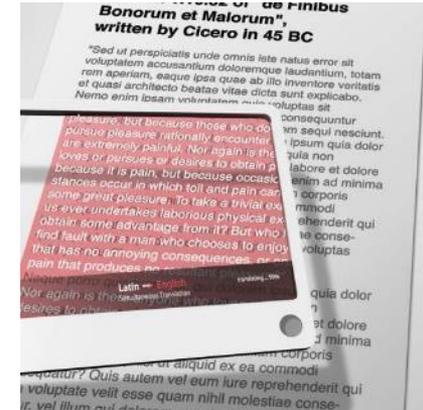
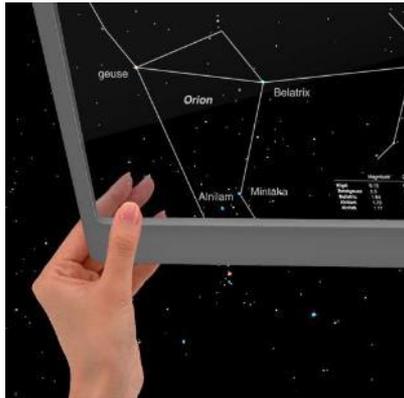
# Working process

- **A common team with all the stake holders**
  - → 80+ people involved with a reduced steering board
  - Participation of French Ministry for Economy services (DGCIS)



# What is Augmented Reality?

- Real-time « enrichment » of our perception of reality (what we see, what we hear, what we feel, ...) by digital and contextual information



The virtuality continuum is a concept introduced by Paul Milgram

# Analyzed Domains

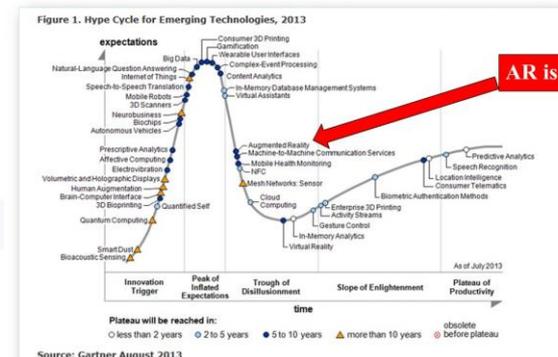
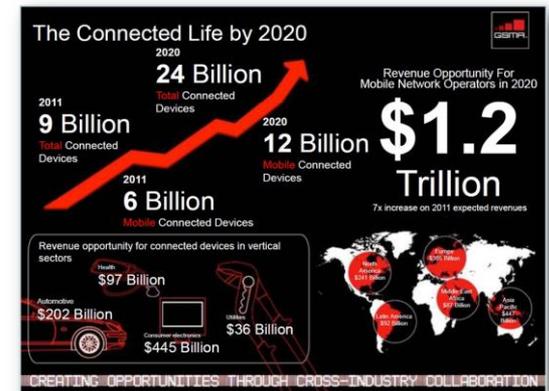


- top industry sectors to become the AR favorite domains
  - creative & cultural Industries (including Entertainment and tourism);
  - e-Commerce, m-commerce, retail, ... commerce of the future, branding and marketing;
  - smart industry;
  - smart home, smart cities, smart territories, urban and architecture;
  - augmented driving, autonomous vehicles.
- and also :
  - healthcare and well being;
  - education, learning, training;
  - (Military & Gov).

Note: all of them need high bandwidth and low-delay networks !

# Key findings

- AR is a key business value
  - As a tool of digital society (x value by 12 to 15)
  - With huge announced market for IoT
  - But the hype is behind us and AR has to demonstrate that it is useful



# Key findings

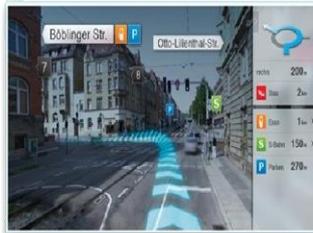
- Some real business added value of AR

## Commerce of the future



AR is one of the only ROI based (and measured) emerging technologies

## Vehicle of the future



Connected car and augmented driving will be largely deployed

## Industry of the future



Use of AR tools in real industrial environments will change the way to produce/monitor

## Smart home & territory



AR will be used in almost all dimensions of smart territories (urban mediation / simulation; citizen information, health....)

# Market forecasting

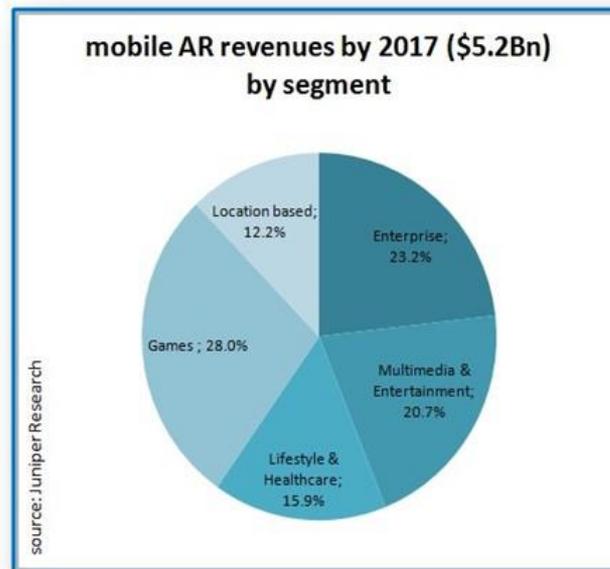
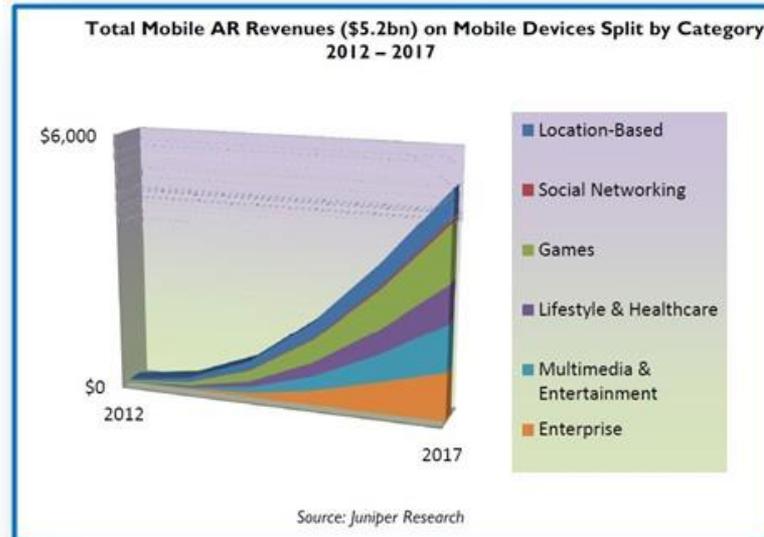


As of today, only 0.1% of the users are using augmented reality (AR) products in the total market of products under study. It is estimated that in the coming five years, 1% of the population will be using this application; which is an exponential rise in the overall market.

The growth of the augmented reality market is expected to be exponential with the revenue growth from \$181.25 million in 2011 to \$5,155.92 million by 2016, at a CAGR of 95.35% from 2011 to 2016.

The most attractive of all the segments is the smartphones segment; followed by the tablets, and so on.

The major players that provide software for augmented reality are Total Immersion (France), Metaio (Germany), Wikitude (Austria), Zugara (U.S.), and Layar (The Netherlands).



# AR plan concrete actions

- A set of quick win projects covering different domains

## Culture



- Orsay museum
- AR used to bring added information during the painting refresh

## Health



Personal voice restitution for disabled people

## Industry



Use of AR tools in real industrial environments  
Assistance to industrial actions

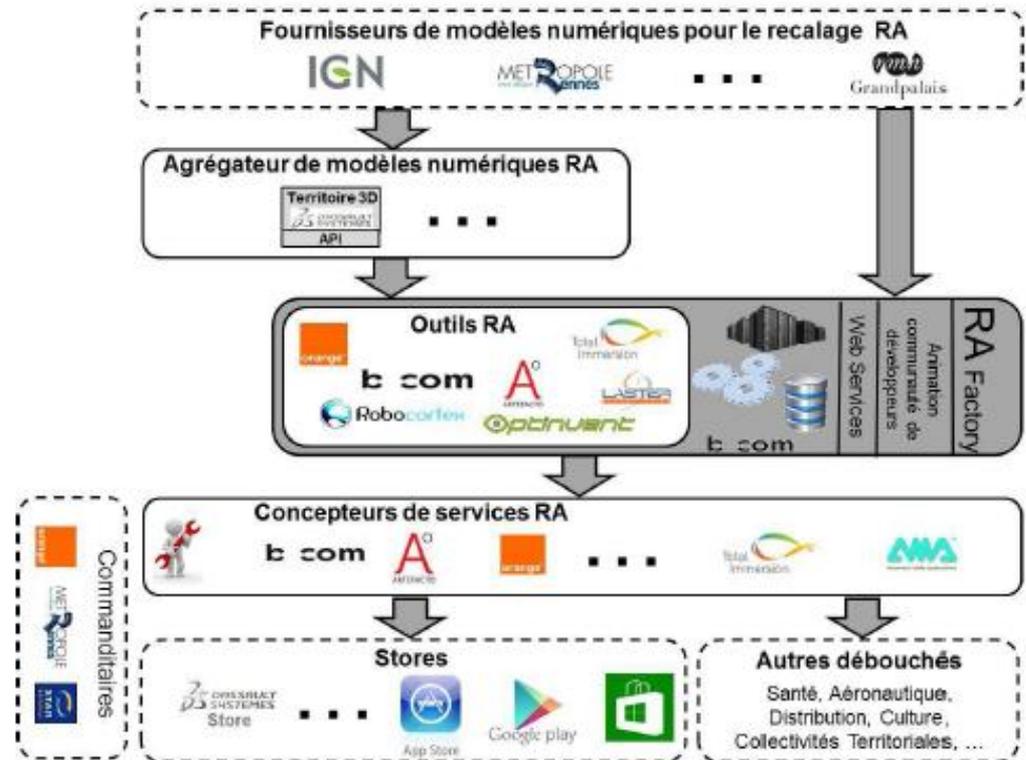
## Urbanism



AR for urban mediation

# AR plan concrete actions

- Launching of the RA factory
- A software factory to speed up application development and deployment



# AR plan concrete actions



- Organizing the ecosystem
  - Using existing organization (clusters) and events (e.g. Laval virtual)



- Dedicated call for projects as from Q12015

# And now?



- Steering committee continues
  - Actions followed
  - Setting up of the coordination between clusters
- Follow up at French State level every 6 months (Minister of economy)

# Thanks!



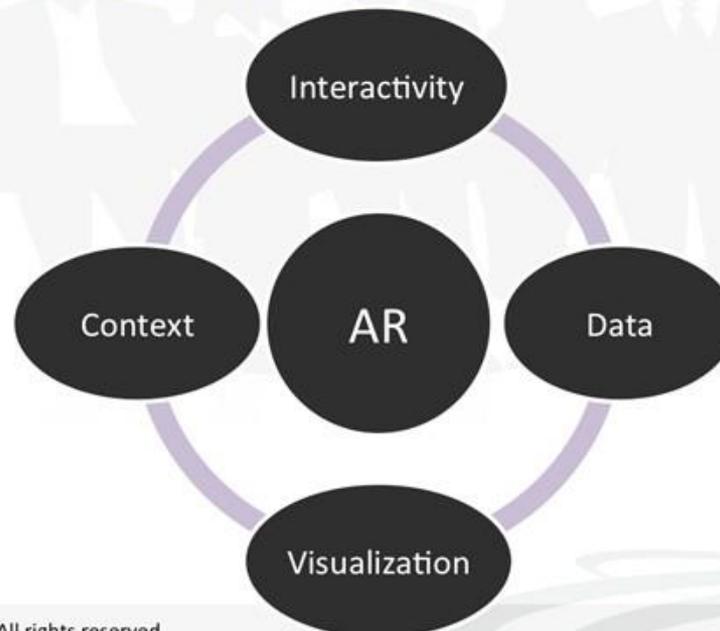
**Merci !**



# APPENDIX

# AR allows fine synchronization between virtual and real worlds for the best customer/operator experience

**Augmented reality brings contextual experiential models to life**

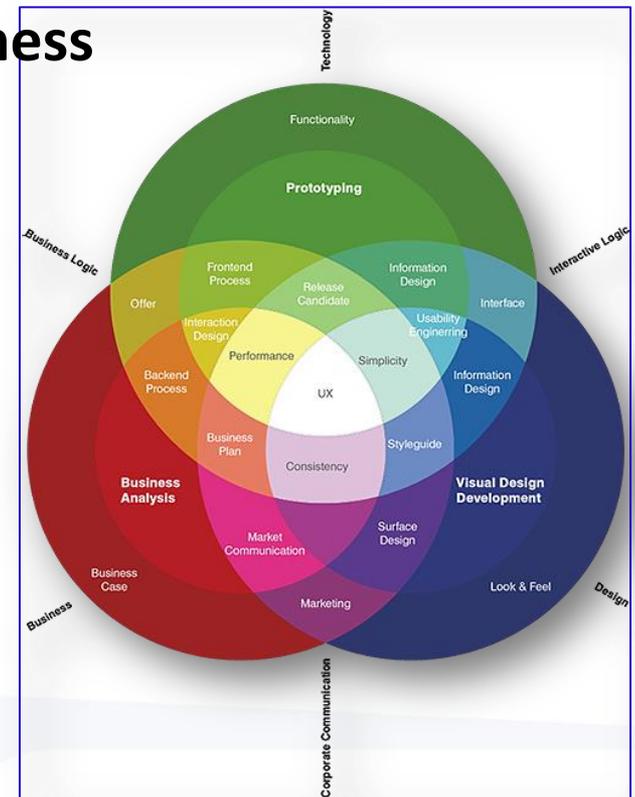
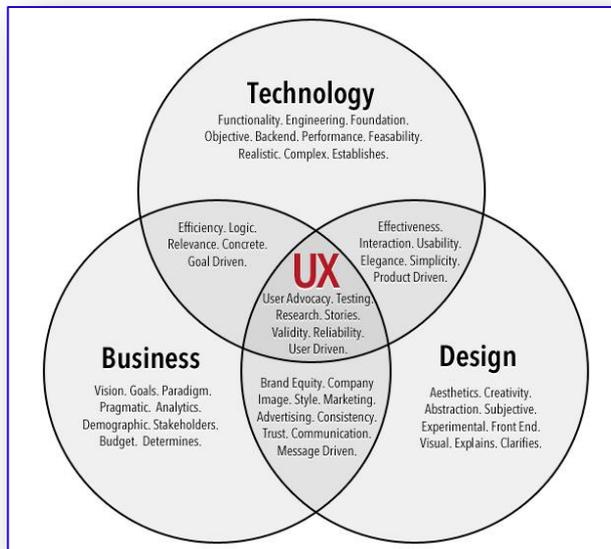


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# Some examples of Success stories



# UX: User Experience, is at the border of technology, business and design





## Efficiency (performance) is highly correlated to enhanced user (customer) experience

**80%**

of viewers leave if a video buffers once

**20%**

of performance improvement for France Televisions will immediately generate an increase of audience and revenues by **10%**

**69%**

of viewers leave a website if pages are too long to load

### Some impacts on performance

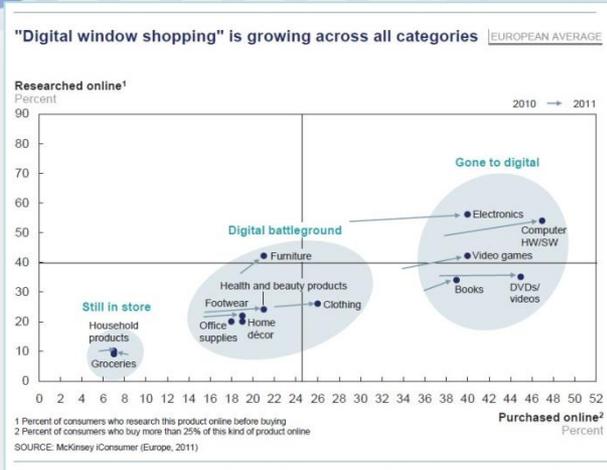
Google discovered that an increase of change of **0,5 seconds** in page loading time decreased traffic and ad revenues by

**20%**

Every **100ms** increase in load time of Amazon.com decreased sales by

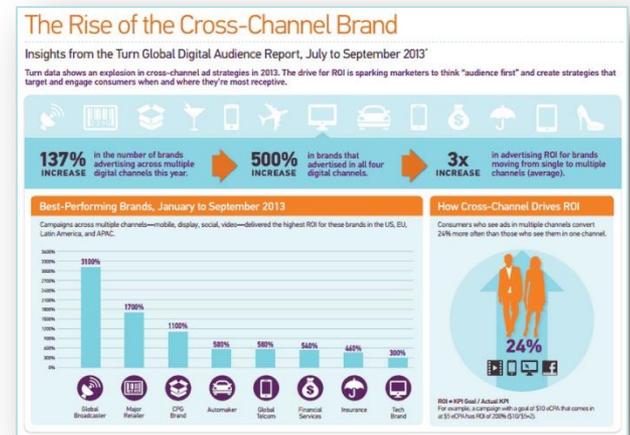
**1%**

# Commerce of the future



ROPO (Research on-offline, Purchase off-online), from store-to-Web or from Web-to-store, « digital window shopping » is gaining momentum.

Cross-Channel is also gaining Momentum.



+ On-demand marketing  
 + Analytics & big data  
 + ...

AR is one of the only ROI based (and measured) emerging technologies.

# Commerce of the future

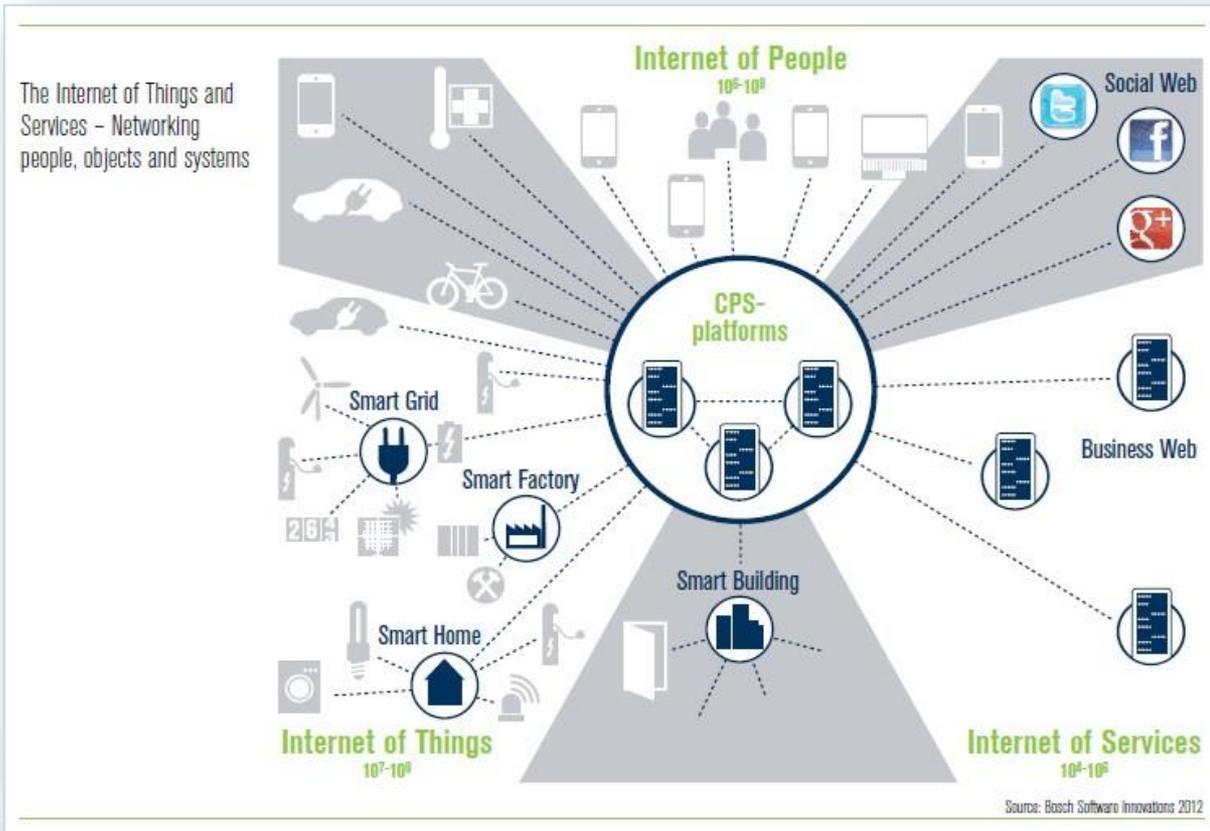


**Exhibit I: Ten-Year Forecasts of AR-Related Retail and Promotional Activities (\$ Millions)(1)**

Source: Smartech Markets

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
AR-enhanced conventional retailing	8.0	11.6	16.8	24.4	35.4	51.3	74.4	107.8	156.3	226.7
AR-enhanced advertising and media	30.0	48.6	78.7	127.5	206.6	334.7	542.3	878.5	1,423.1	2,305.5
AR-enhanced Web retailing (Software + service revenue)	5.0	9.3	17.1	31.7	58.6	108.3	200.4	370.8	686.0	1,269.2
<b>Total (\$ Millions)</b>	<b>43.0</b>	<b>69.5</b>	<b>112.7</b>	<b>183.6</b>	<b>300.6</b>	<b>494.4</b>	<b>817.1</b>	<b>1,357.1</b>	<b>2,265.5</b>	<b>3,801.3</b>

# Industry (manufacturing) of the future



CPS Platforms –  
Cyber  
Physical Systems  
–  
at the border of  
IoT, IoP  
and IoS.  
CISCO, INTEL,  
GE, SIEMENS,  
IBM, ..., are  
preparing the  
next steps.

# Industry (manufacturing) of the future



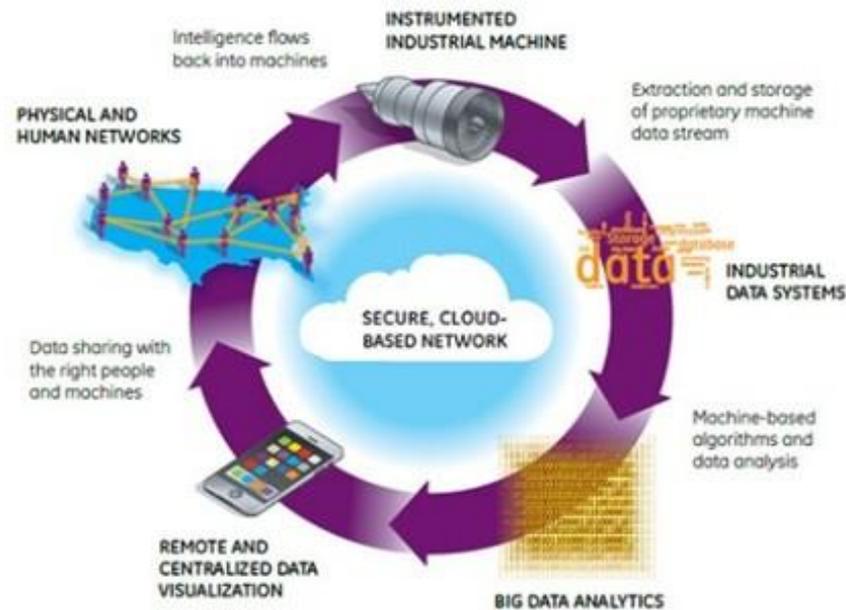
GE Reports

<http://files.gereports.com/wp-content/uploads/2012/11/ge-industrial-internet-vision-paper.pdf>

FEATURED

New "Industrial Internet" Report From GE Finds That Combination of Networks and Machines Could Add \$10 to \$15 Trillion to Global GDP

The Industrial Revolution radically changed the way we use energy and make things. The Internet Revolution altered...



Building

Moving

Powering

Curing

# At the border of commerce, retail and industry

## THE VALUE PROPOSITION OF AR

✓ New content  
channel for consumers



✓ Consumers interact  
in both digital &  
physical worlds



✓ Mobile-native



✓ Convergence of  
social, location &  
context



✓ Highly inexpensive,  
interactive & targeted



✓ Extends life of  
direct mail (DM)  
campaigns



✓ More measurable &  
trackable results from  
DM campaigns

✓ High emotional &  
repeat engagement

# Smart home, city and territory

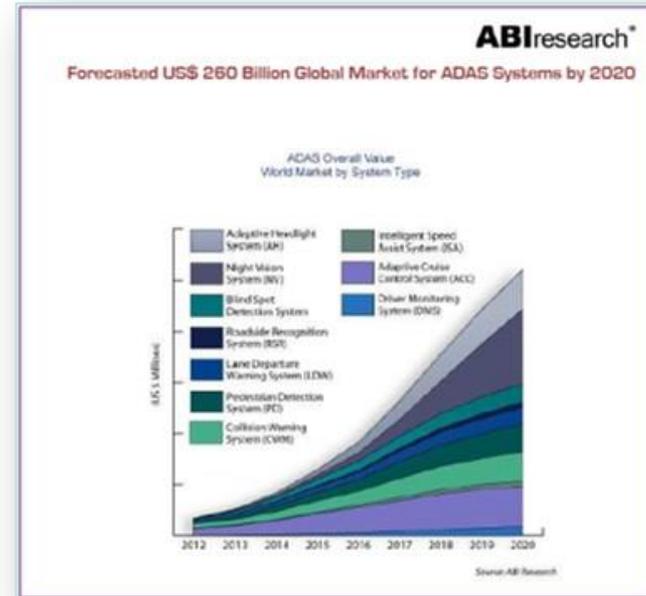


- Urbanism and Architecture,
- Tourism,
- Public transportation,
- Utilities (water and energy distribution, energy management),
- Healthcare, e-Health,
- Home monitoring,
- Field engineering, maintenance,
- ...

## Architecture for the Augmented City



# Vehicle of the future



Source: Bixa-media

...AND AUTOMOBILES

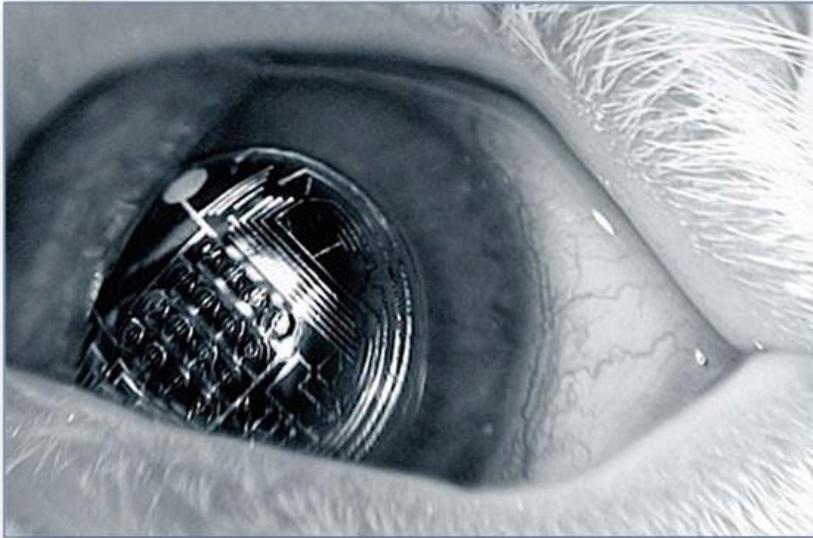
**103 million** automobiles will contain AR technology by 2020

# Key AR competitors

## KEY AR COMPETITORS

LOCATION-BASED INFO	INTERACTIVE PRINT MEDIA, SHOPPING & GAMES	ENHANCED PRINT MARKETING CAMPAIGNS
 <b>wikitude</b>		
<b>metaio</b>		
 Nokia's City Lens		
<i>Telefonica</i>		

# The next step



AR is also at the border of bio, neuro, brain and information technologies.

It means that the next step will cross the border in order to reach:

- augmented body,
- augmented vision,
- augmented sense,
- augmented ...

And augmented emotion !

# Thanks!



**Merci !**

