



Pierre Audoin Consultants

Embracing the Big Data Opportunity

Market Trends and Implications for Vendors & End Users

PAC at a Glance

The **specialist for the software and IT services industry**, providing support to IT services and software suppliers, IT users, influencers and investors.

The only **European group with global coverage**: strong local competences and global response covering 35 countries continuously and 100+ on an ad-hoc basis.

An integrated approach covering the totality of your **market insight needs**: business development, strategic consulting, marketing communications.

Over 35 years of success **servicing all major software and IT services players** globally.

- ▶ **Supports ICT vendors in optimizing their strategies;**
- ▶ **Advises CIOs and financial investors on evaluating ICT vendors and solutions;**
- ▶ **Helps public institutions and organizations shape their ICT policies.**



**> 95%
client loyalty**

PAC Research on Big Data



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Agenda



Definition of Big Data



A major shift for Vendors



Big Data Market Development



Challenges and Opportunities for Vendors & End Users



Definition of Big Data



Big Data is all this and much more...

“A buzz orchestrated by technology providers, analysts and the media”

“Relevant for us when we have petabytes of data to manage”

“An innovative path beyond traditional BI”

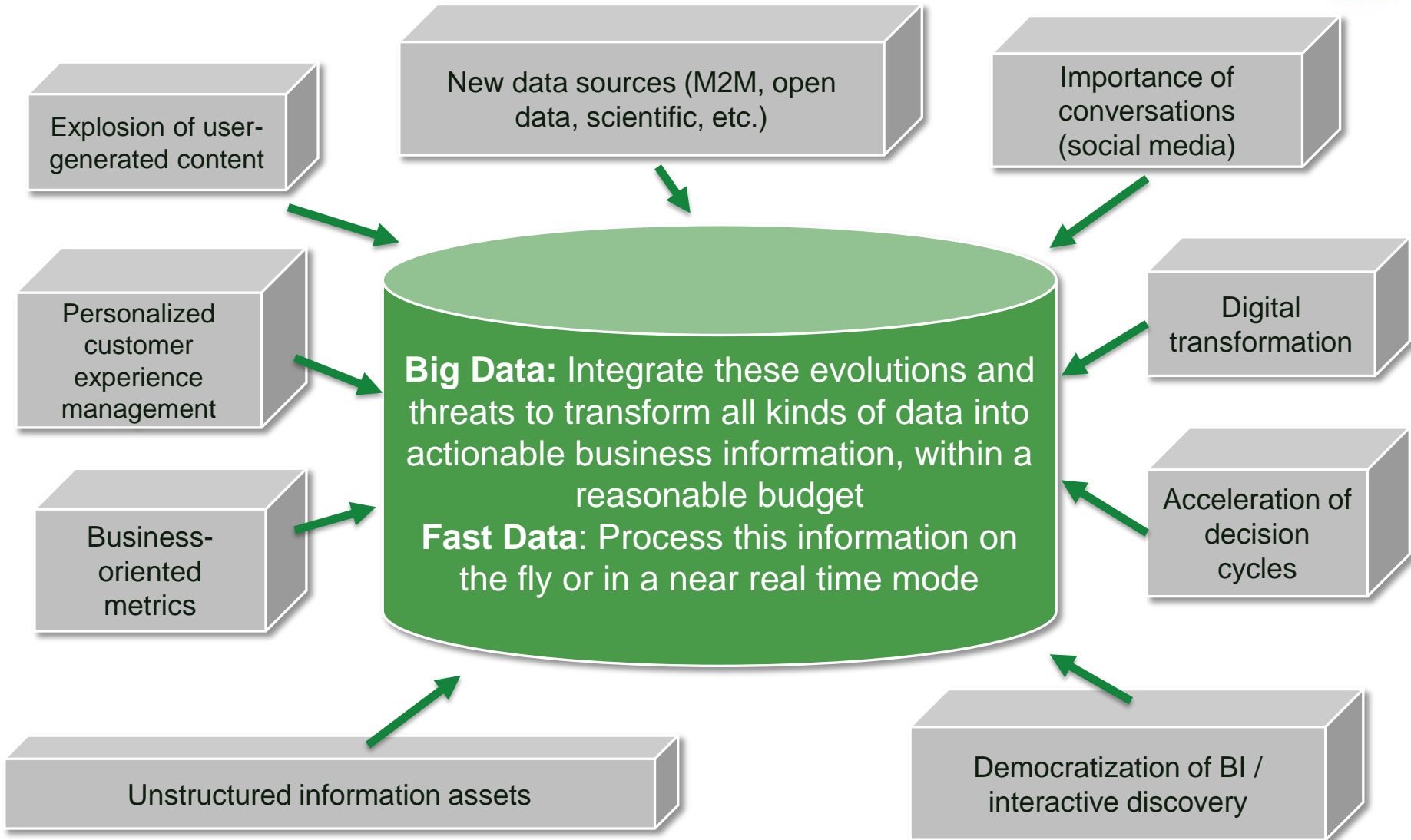
“BI’s future, the answer to any problem”

“Useful only to a few major web players”

“For large accounts only”

“Related only to Hadoop technology”

Big Data: a Natural Evolution



Big Data: Everybody's Challenges

- **Volume:** Inventory management, order management, transport/logistics/RFID, financial transactions, general public services, etc.
 - **Variety:** CRM, marketing, after-sales services, financial communication, production logs, etc.
 - **Velocity:** Fashion, online gaming industry, electronic goods, inventory management, order management, point of sale, etc.
- ...and finally:
- **Value:** For a fraction of the cost of traditional BI, you get real business outcomes:

- ⇒ **Better customer knowledge**
- ⇒ **Real-time information**
- ⇒ **Improvement of supply/production/purchasing/replenishment**
- ⇒ **Act ahead of the competition/before issues arise**

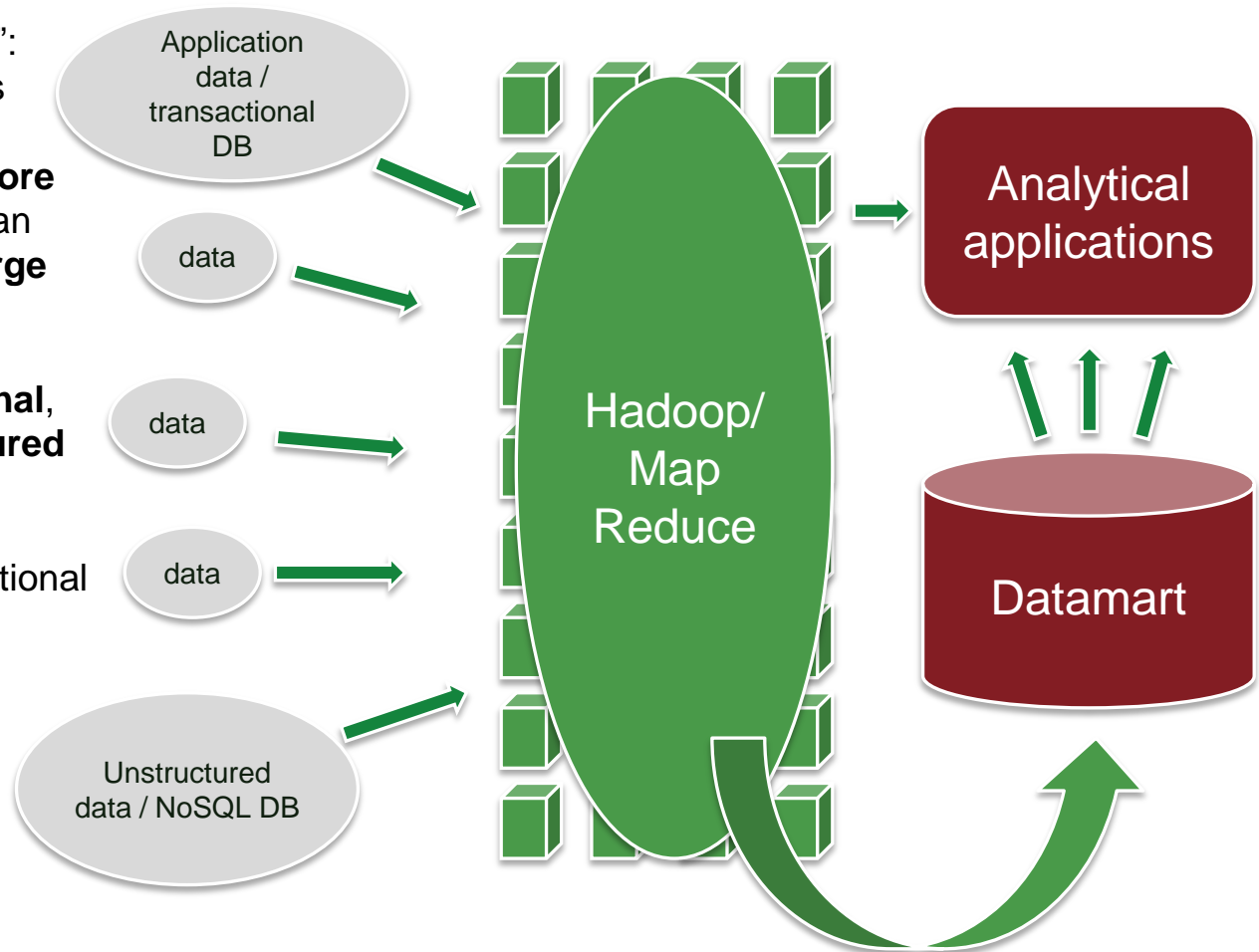


A major shift for Vendors

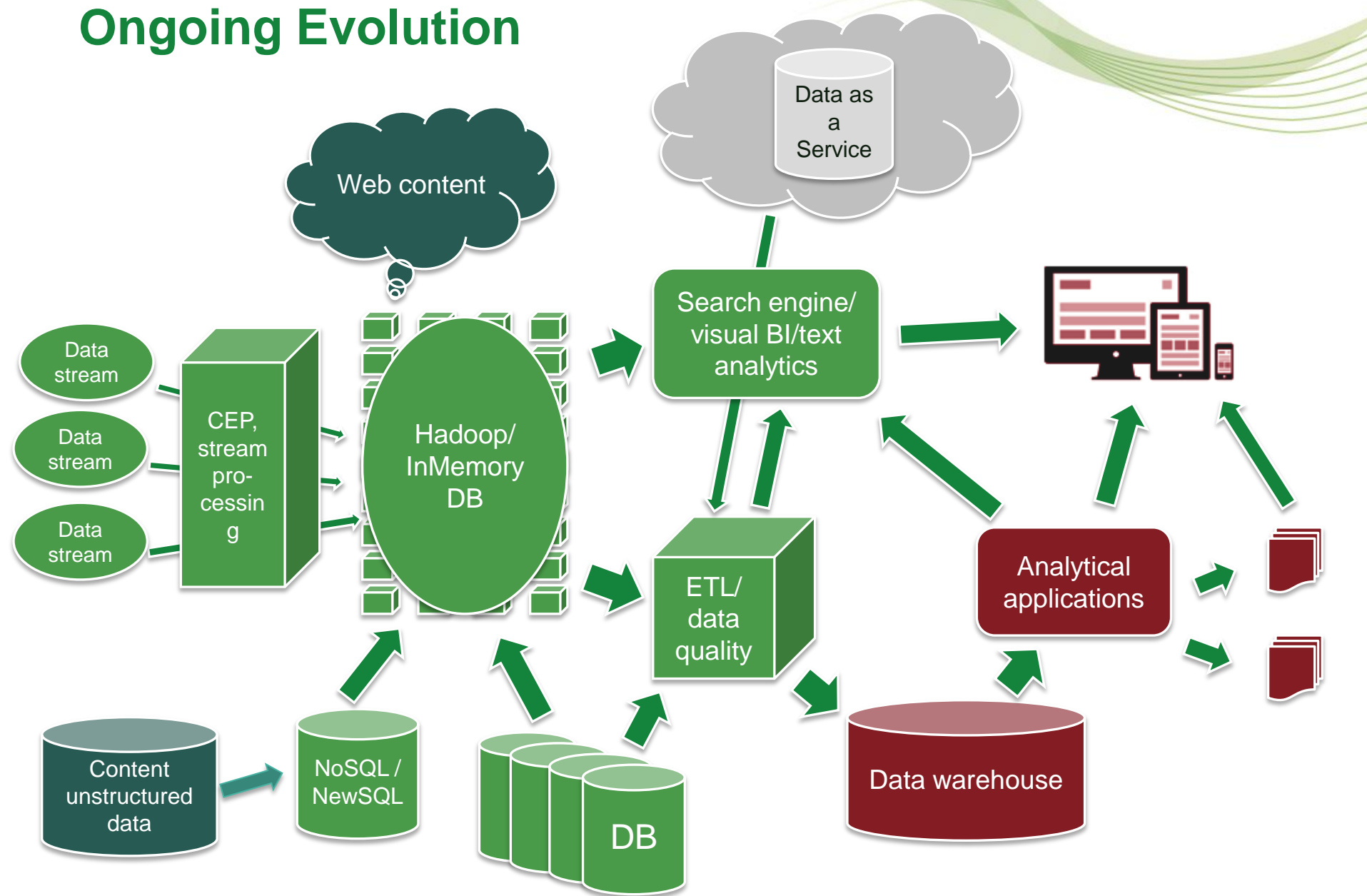


Big Data Shift: Emergence of Hadoop, MapReduce, NoSQL

- Issue emerged a decade ago among large data “producers”: finance, retail, online services
- Need for solutions that are **more efficient and parallelized** than standard RDBMS for **very large volumes of data**
- Need to process **non-relational, non-structured** or **unstructured data**
- Evolution **outside** major traditional DBMS players’ scope
- **Not only SQL**
- Consensus on **Hadoop / MapReduce**



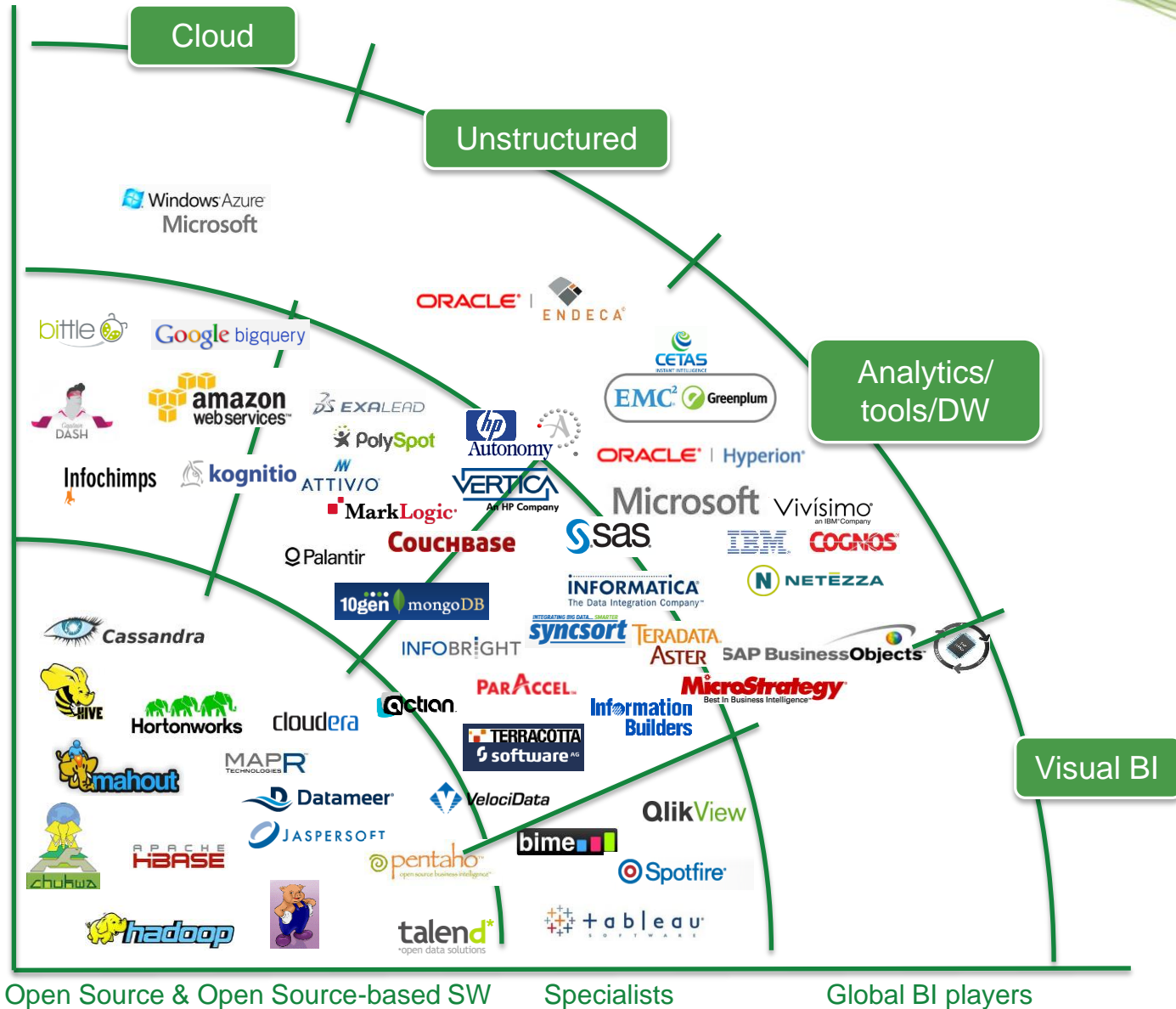
Ongoing Evolution



Key BI SW Vendors Yesterday



The New Landscape of BI SW Vendors



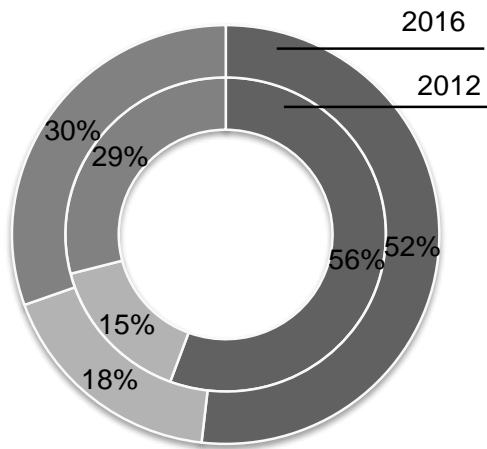


Big Data Market Development



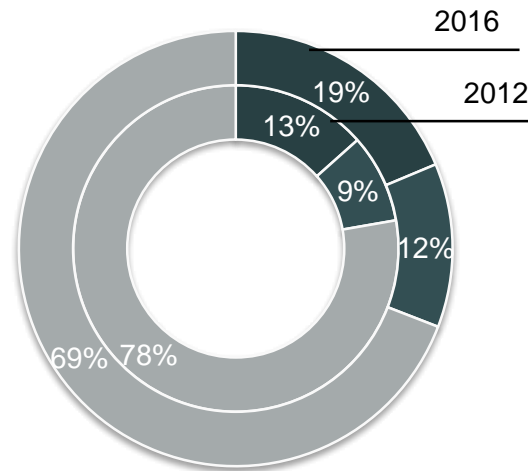
A Lot of Money Spent on Big Data Solutions

Over €12 billion (\$16 billion) by 2016 for software and services



- Americas
- APAC
- EMEA

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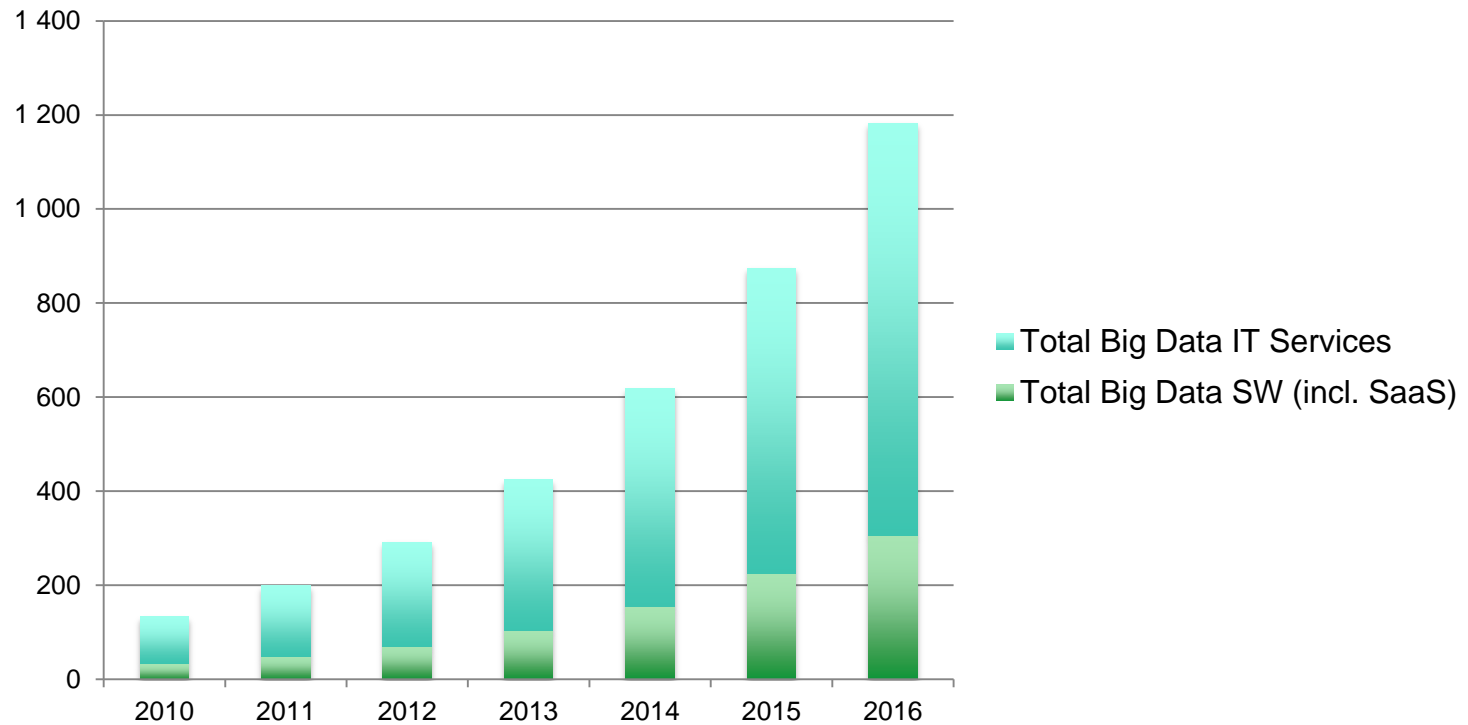


- Big Data Infrastructure
- Big Data Applications and Analytics
- Big Data Services

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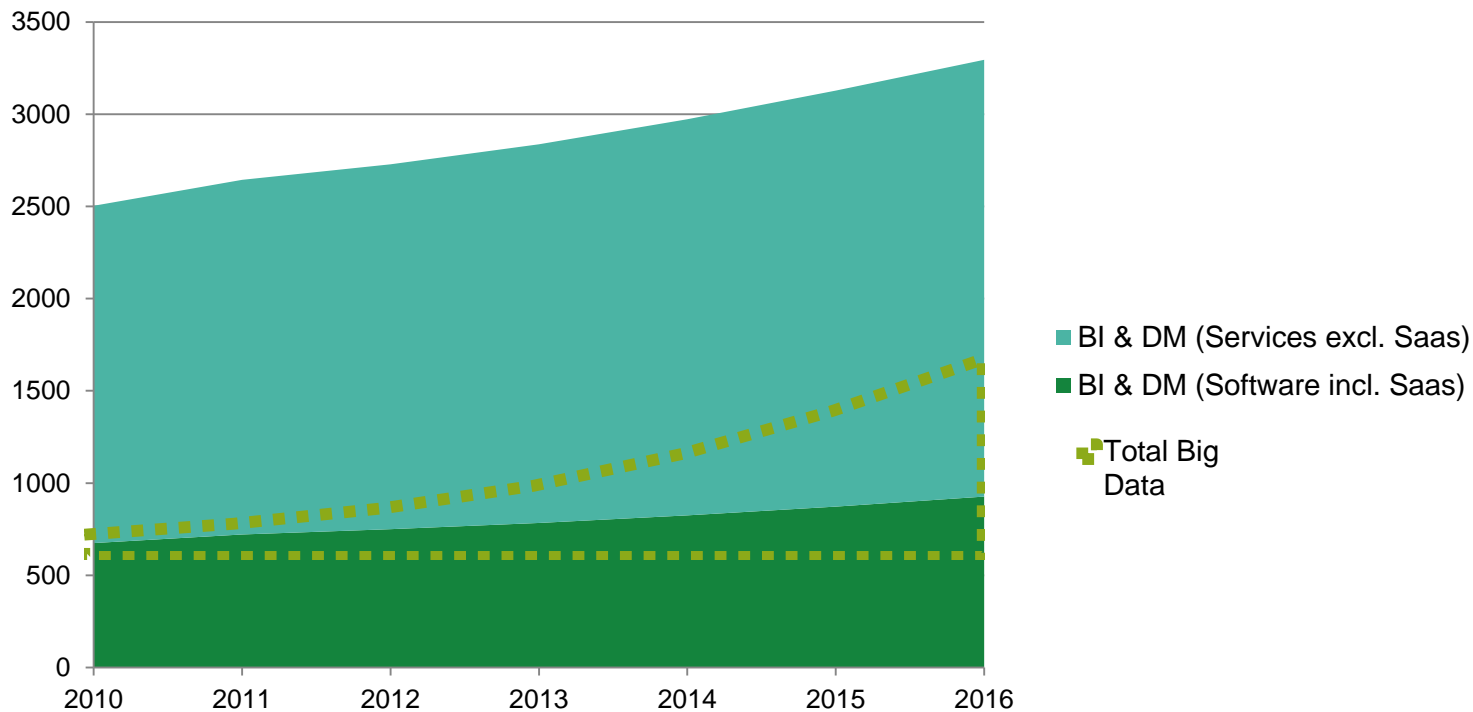
Services account for the largest share, but software is growing faster.

France: 42% CAGR



France market volumes & growth

A significant part of BI-DM market in 3 years from now



France market volumes & growth



Challenges and Opportunities for Vendors & End Users



A Wealth of Opportunities

Drivers	Obstacles
<p>Businesses are excited about the new possibilities, but need advice on how to deal with the data – and to identify the business opportunities.</p>	<p>Business cases can be difficult to create.</p>
<p>New types of data are becoming available (including web user statistics, social media, etc.).</p>	<p>Integration with current systems can be challenging.</p>
<p>Smartphones have led to an explosion in consumer data becoming available.</p>	<p>Immaturity of current toolsets coupled with lack of skill sets in newer and emerging technologies.</p>
<p>Introduction of cloud-based solutions will make Big Data solutions easier to deploy and scale out.</p>	<p>Businesses may be reluctant to store their own data off premise.</p>
<p>Demand for analytics of any kind of customer-related data as companies become more customer-centric.</p>	<p>Although storage costs are falling, data creation is outpacing Moore's law.</p>
<p>Push from many directions: Big Data is a focus topic for various segments of the IT market.</p>	<p>Businesses may prefer to wait until their current major suppliers have mature offerings.</p>

Service providers can help to overcome each of the obstacles to build business.

Sample Use Cases 1/2

Vestas Wind Systems (Danish energy company)

- Uses Big Data to optimize wind turbine placement and predict energy output
- Analyzes weather reports, sensor data, geospatial/deforestation data, etc.

Kobojo (French social network gaming provider)

- 400m+ logs per day to process almost in real time
- Adjusts scenarios, determines the best way to make users pay for playing

KTH (Swedish Royal Institute of Technology)

- Real-time road traffic analysis in Stockholm to improve the flow of traffic and reduce pollution through a myriad of interconnected sensors
- System analyses and correlation of events to act in real time and predict the evolution of traffic

Systagenix (UK health products manufacturer)

- Uploads traditional BI data to a cloud-hosted in-memory environment
- Provides on-demand BI capabilities from any device

CBS Interactive

- Website content optimization depending on what users are reading (235m unique users monthly worldwide)
- Web design optimization depending on target segments, every hour
- Scalability (50% data volume increase per year)

Walt Disney

- Built a flexible platform able to process all the data (+5 TB/day!)

Sample Use Cases 2/2

Lufthansa (German aviation company)

- Monitors data exchange generated by 100m passengers annually in real time
- Can detect transmission errors and act before they affect passengers

Voyages-sncf.com (French national railway company)

- 50% of tickets are bought via the website; peak: 1.5m unique visitors per day; 1 TB of logs per day
- Analyzes response times (including partners' apps) in real time; analyzes customer behavior

Telefonica (Spanish telecom provider)

- Smart steps service for retailers and city councils: aggregates and anonymizes data from mobile users (243m subscribers in 25 countries) to portray people's movements within a city over time
- Investigates other services for other industries

Sabre (US online reservations platform)

- Enables customers to access structured and semi-structured data in real time
- Ability to scale while maintaining performance and scalability

ChefJerome (French startup providing contextual advertising for food retailers)

- Reads and understands recipes published on websites in order to match them with ingredients sold by online food retailers

Datasift (US startup providing data on demand)

- Harvests social networks (2 years' history = 95bn tweets = 300 TB), archives and exports data

LMG (UK Loyalty Management Group)

- Performs analysis on 2 years' worth of all electronic point-of-sale data, rather than just a sample, in less than 5 minutes

Conclusions and Summary

Big Data is not hype, but each company (user and supplier) has its **own understanding of what belongs to Big Data.**

At present, there are few true Big Data deployments. **Most companies are in “look-and-learn” mode.**

In the coming three to five years, we expect a substantial increase in the number of enterprise Big Data projects and **attractive sales opportunities for services and software providers.** The bulk of the revenues will accrue to services companies.

At present, there are many technology providers fighting for position. However, we expect **the global BI providers to re-assert their dominance** over the next five years.

Ultimately, companies are not looking for Big Data solutions. **They are looking for business outcomes.** Service/technology providers need to solve business problems.

Technology vendors need an ecosystem, SIs need to provide business-oriented expertise, End Users have to move forward and invent their use cases.

About us

From strategy to execution, PAC delivers focused and objective responses to the growth challenges of Information and Communication Technology (ICT) players.

Founded in 1976, PAC is a privately held research & consulting firm for the software and ICT services market.

PAC helps ICT vendors to optimize their strategies by providing quantitative and qualitative market analysis as well as operational and strategic consulting. We advise CIOs and financial investors in evaluating ICT vendors and solutions and support their investment decisions. Public institutions and organizations also rely on our key analyses to develop and shape their ICT policies.

For more information, please visit: www.pac-online.com

PAC's latest news: <http://blog.pac-online.com>



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