

DIGITAL TRANSFORMATION

Connecting Foundations with Frontiers



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OBJECTIVES –AGENDA

1

EVOLVING TECHNOLOGIES IN DIGITAL GOVERNMENT.

2

FOUNDATIONAL & FRONTIER TECHNOLOGIES.

3

GLOBAL TRENDS AND KEY SUCCESS FACTORS

4

DIGITAL TRANSFORMATION OF GOVERNMENT SERVICES

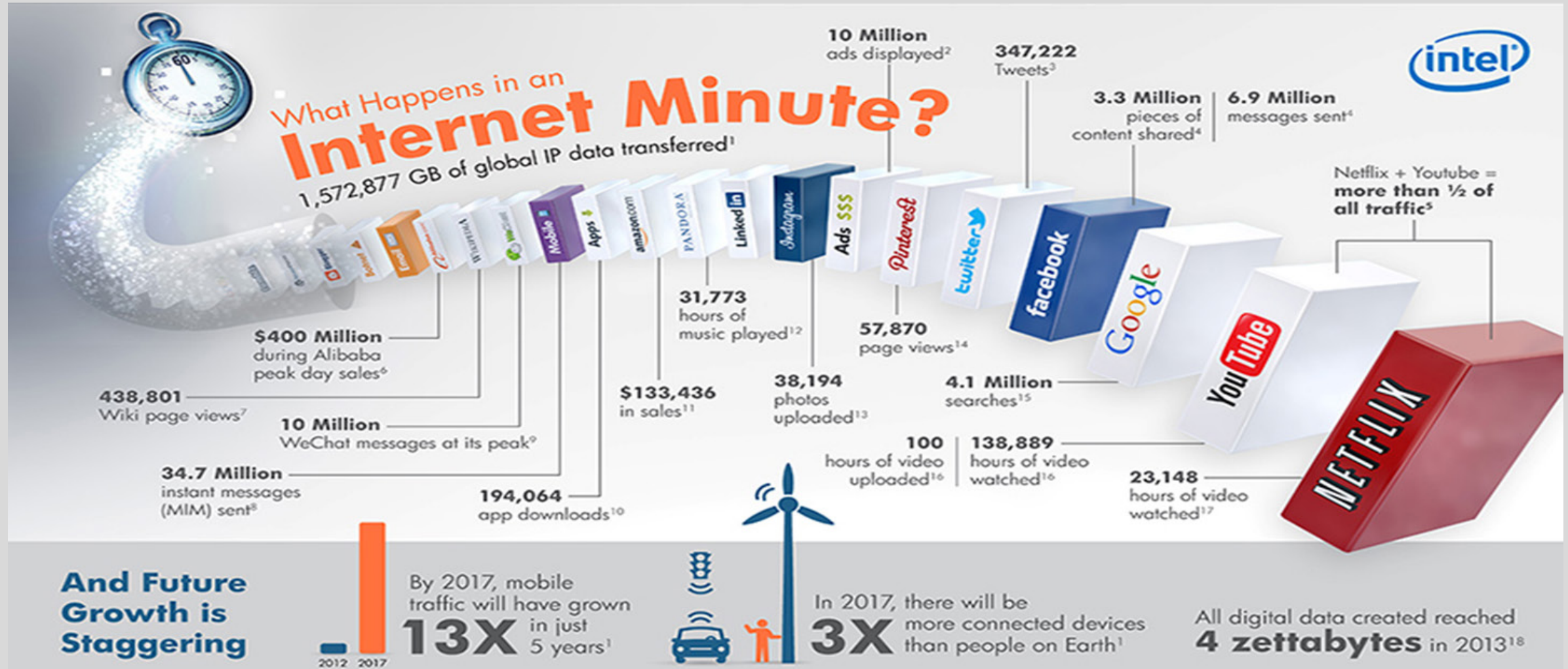
"We are just in the beginning stages of thinking about disruptive technologies for development and what we want is for everyone in the World Bank Group to be asking those questions and take an idea, a technology, and move it into practice."

President Jim Yong Kim

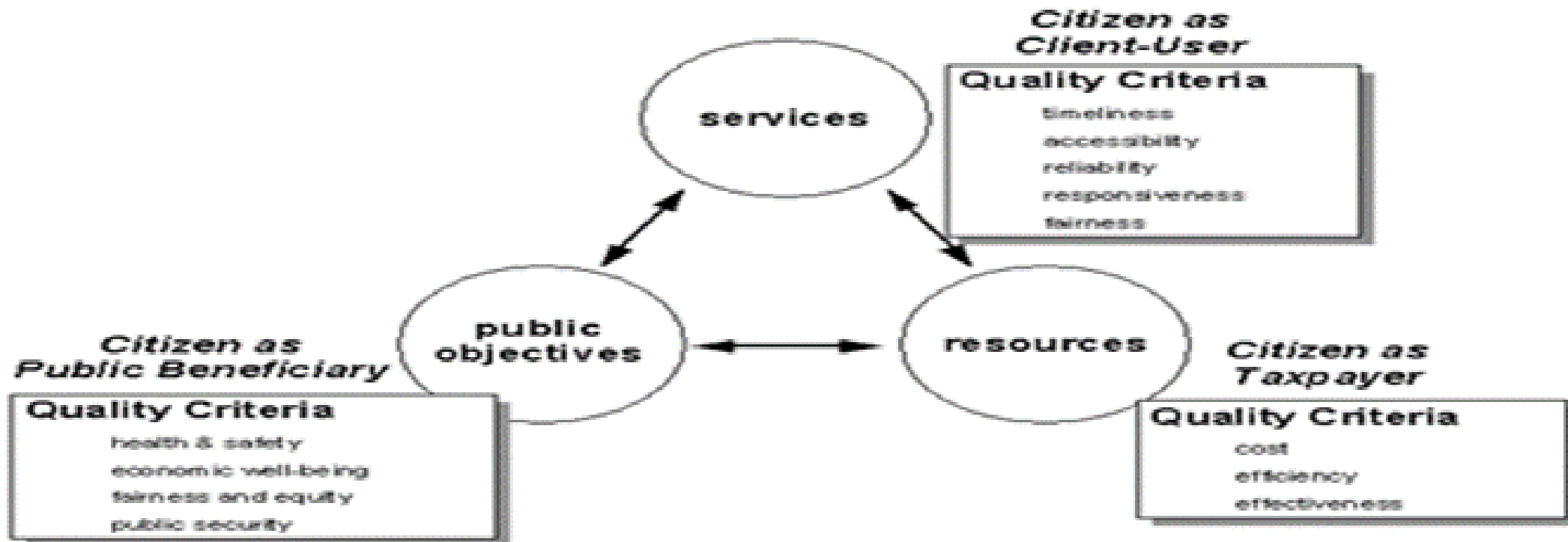


Context

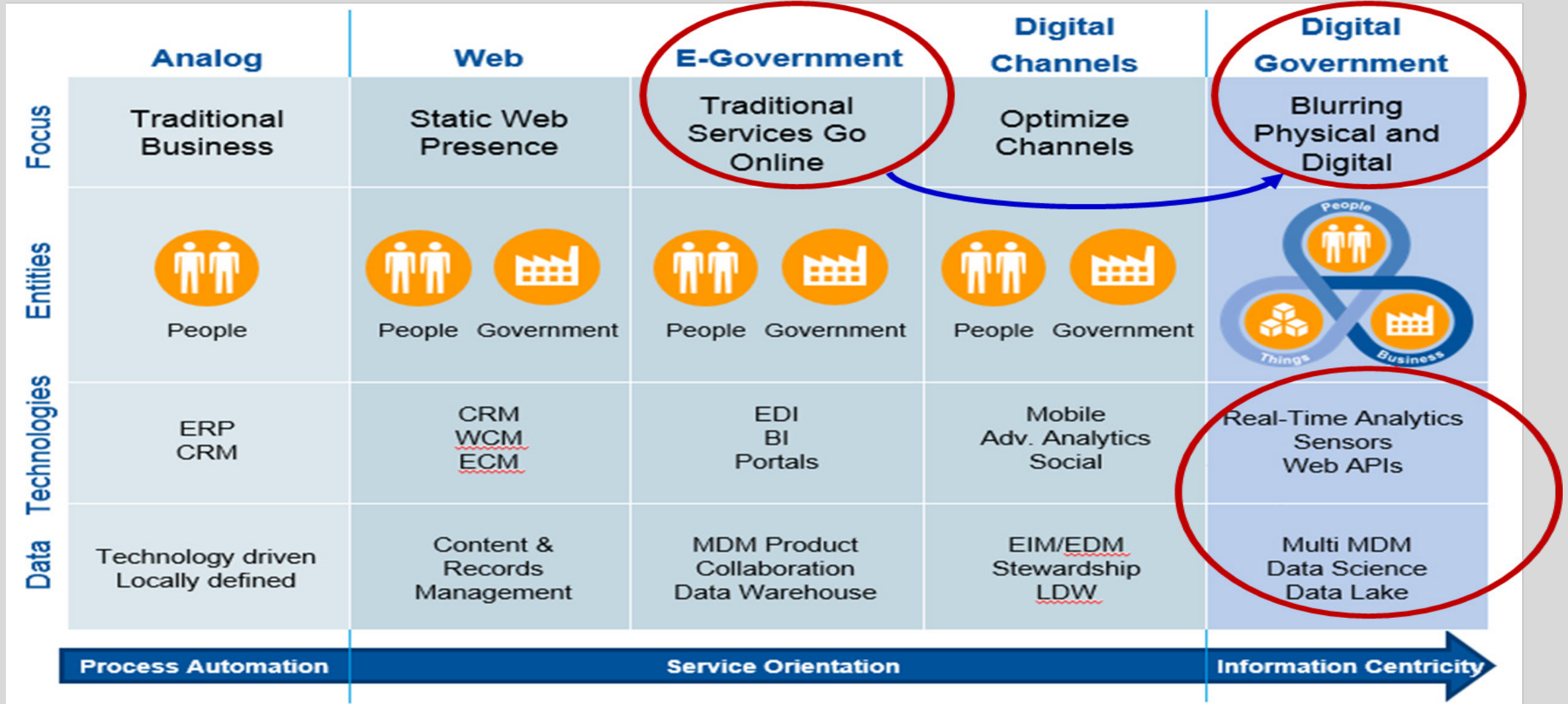
Technology landscape.....



The Citizen and Government Services



Evolving Technologies in Digital Government



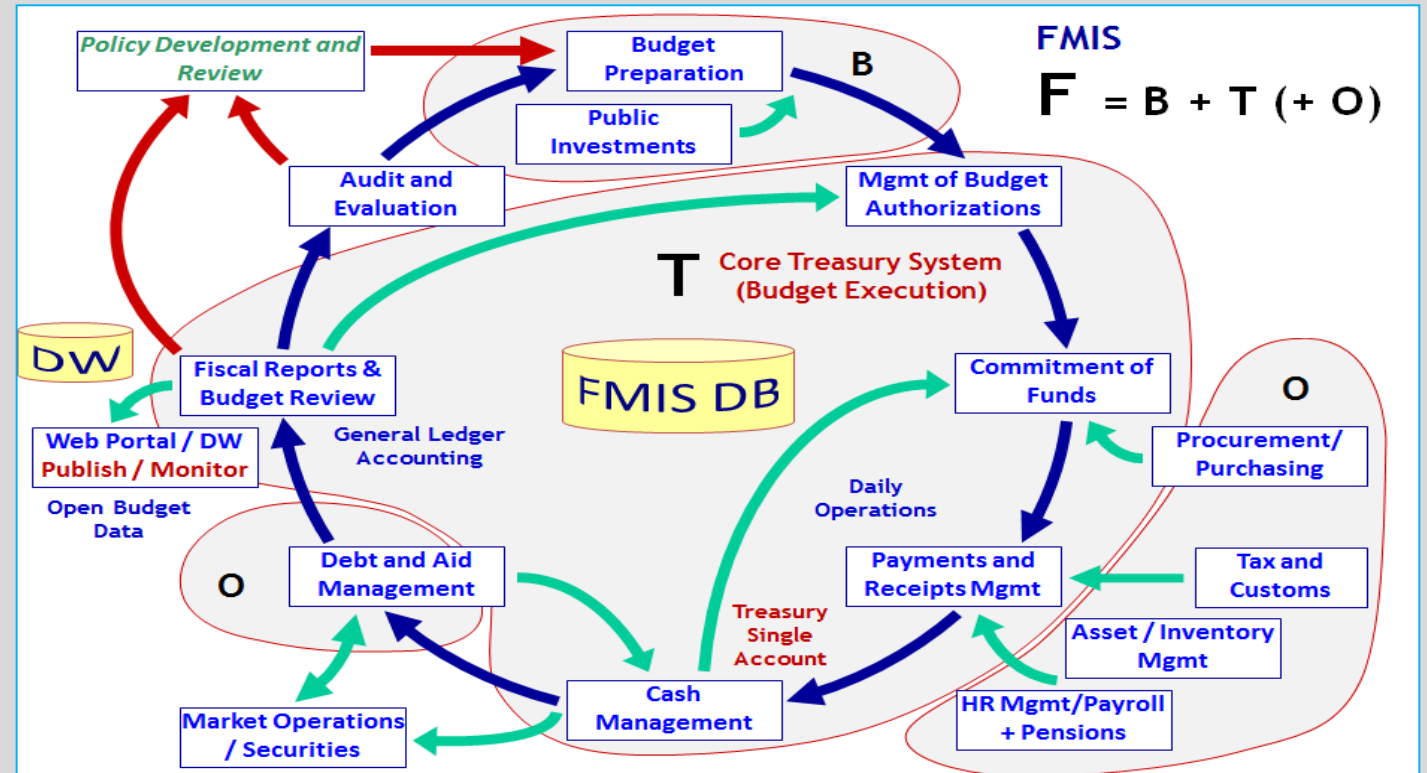
ERP: Enterprise Resource Planning; CRM: Citizen Relationship Management; WCM: Web Content Management; ECM: Enterprise Content Management;
 EDI: Electronic Data Interchange; BI: Business Intelligence; EIM/EDM: Enterprise Information/Data Management; LDW: Logical Data warehouse;
 MDM: Mobile Data Management; API: Application Program Interface Source: EU Joinup July 2017 <https://joinup.ec.europa.eu/document/recommendation-10>

What is Integrated FMIS?

Core Financial Management Information Systems (FMIS) can be broadly defined as a set of automation solutions that enable governments to **plan, execute and monitor the budget.**

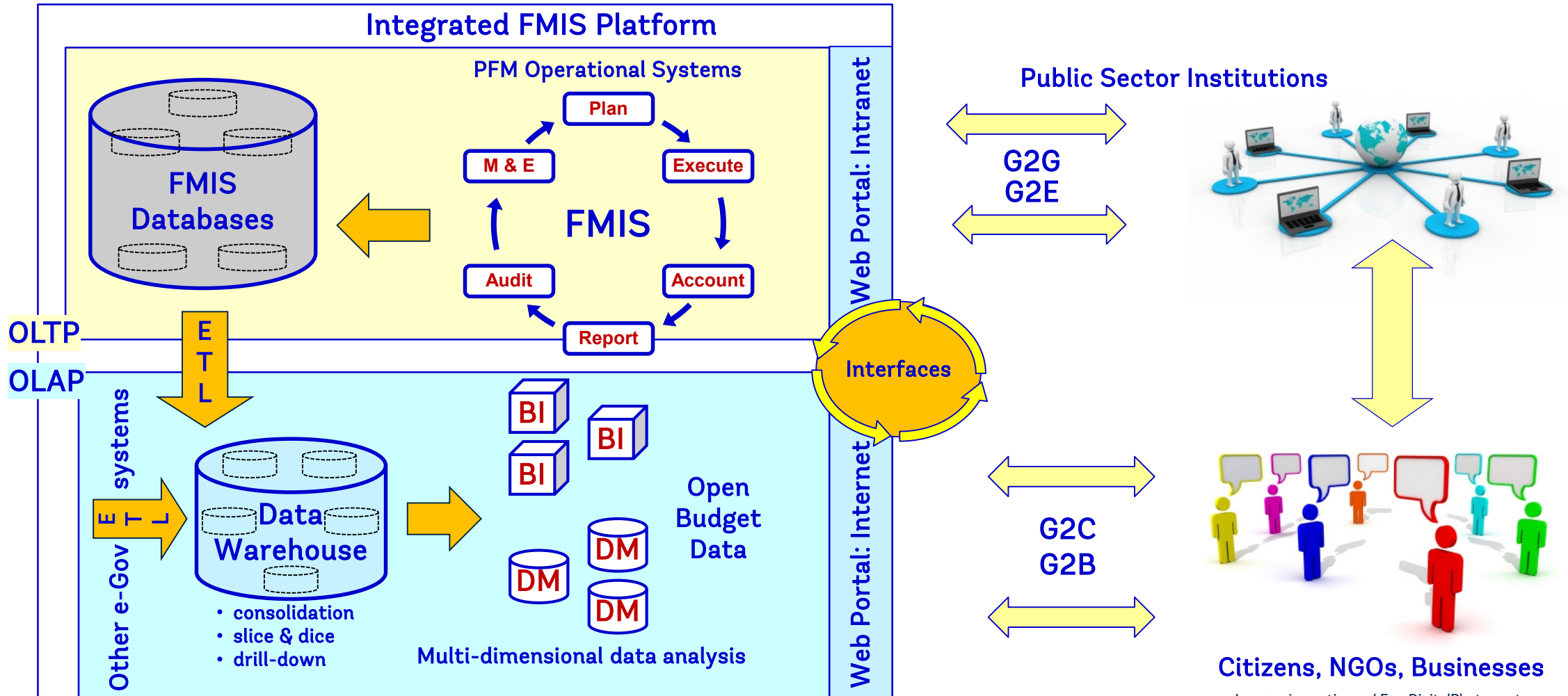
Core FMIS = OLTP
IFMIS = OLTP + OLAP

Core FMIS functional modules and interfaces



Integrated FMIS (or IFMIS) combine core FMIS modules (OLTP) with powerful Data Warehouse (DW) capabilities and multi-dimensional data analysis tools (OLAP) for effective planning, decision support, service delivery, and performance monitoring.

IFMIS = OLTP + OLAP



OLTP: Online Transaction Processing DW: Data Warehouse BI: Business Intelligence
 OLAP: Online Analytical Processing ETL: Extract, Transform, Load DM: Data Mining

Foundations & Frontiers

Governance Global Practice (WBG) is continually looking to effectively use **digital technologies** to improve public resource management, productivity, and service delivery through innovative solutions in two categories:

Foundations

1. Modernization of Gov Systems **IFMIS**
2. e-Procurement
3. Online Services (e-Services)
4. Open Government
5. WBG Client Connection API
6. Modernization of WBG Systems

&

Frontiers

1. Big Data
2. Machine Learning (AI)
3. Mobile Applications
4. Distributed Ledger (blockchain)

1



Strengthening
Public Policy
Processes

2



Managing
Resources
Effectively

3



Strengthening
Public-Private
Interface

4



Supporting
Service
Delivery

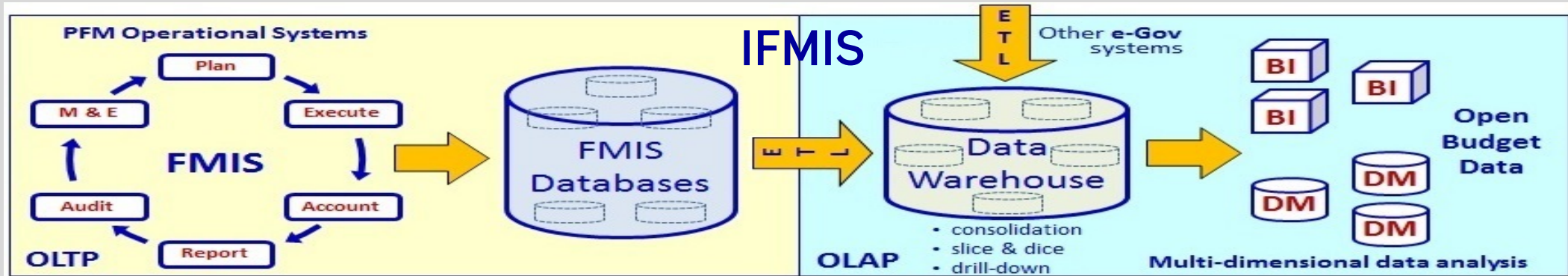
5



Drivers and
Enablers of Policy
Effectiveness

Key areas to bridge implementation gaps facing clients

Connecting Foundations & Frontiers



Provide feedback to IFMIS for improving data quality & value

Apply Machine Learning (AI)

Open Source Tools for Big Data

The word cloud features terms like 'BIG', 'DATA', 'ANALYTICS', 'TECHNOLOGIES', 'SCALE', 'SPEED', 'DIFFERENT', and 'UNCERTAINTY'. Below it, logos for various tools are shown: python, cloudera, hadoop, talend, redhat, openstack, Hortonworks, tableau, pentaho, mongoDB, and MySQL. At the bottom is the SKYTREE logo with the tagline 'THE MACHINE LEARNING COMPANY'.

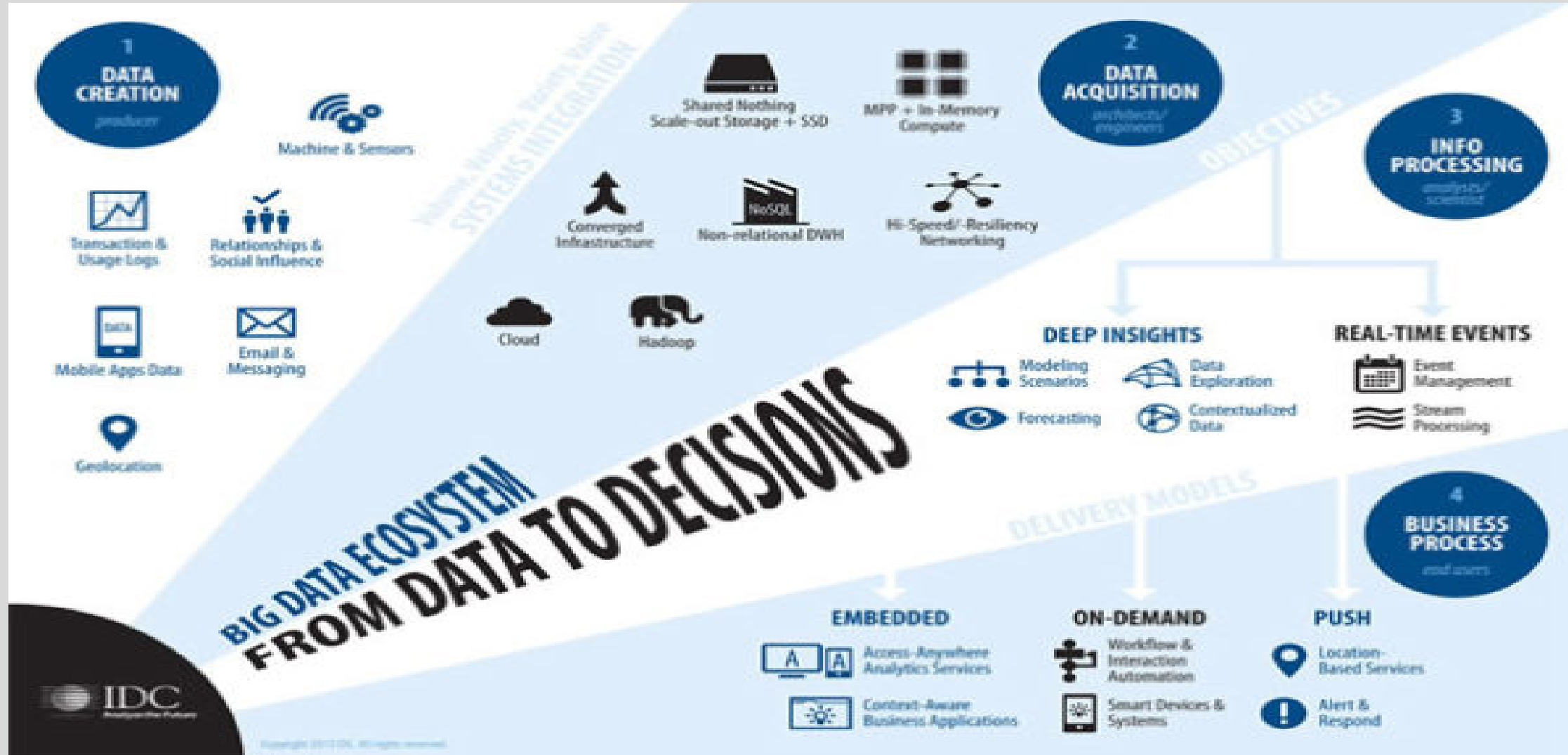
Machine Learning Engine	<ul style="list-style-type: none">• Volume• Velocity• Variety• Veracity	<ul style="list-style-type: none">Scale of dataSpeed of analysisDifferent formsUncertainty of data
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Combine "digital value" of IFMIS with "out of government" data with

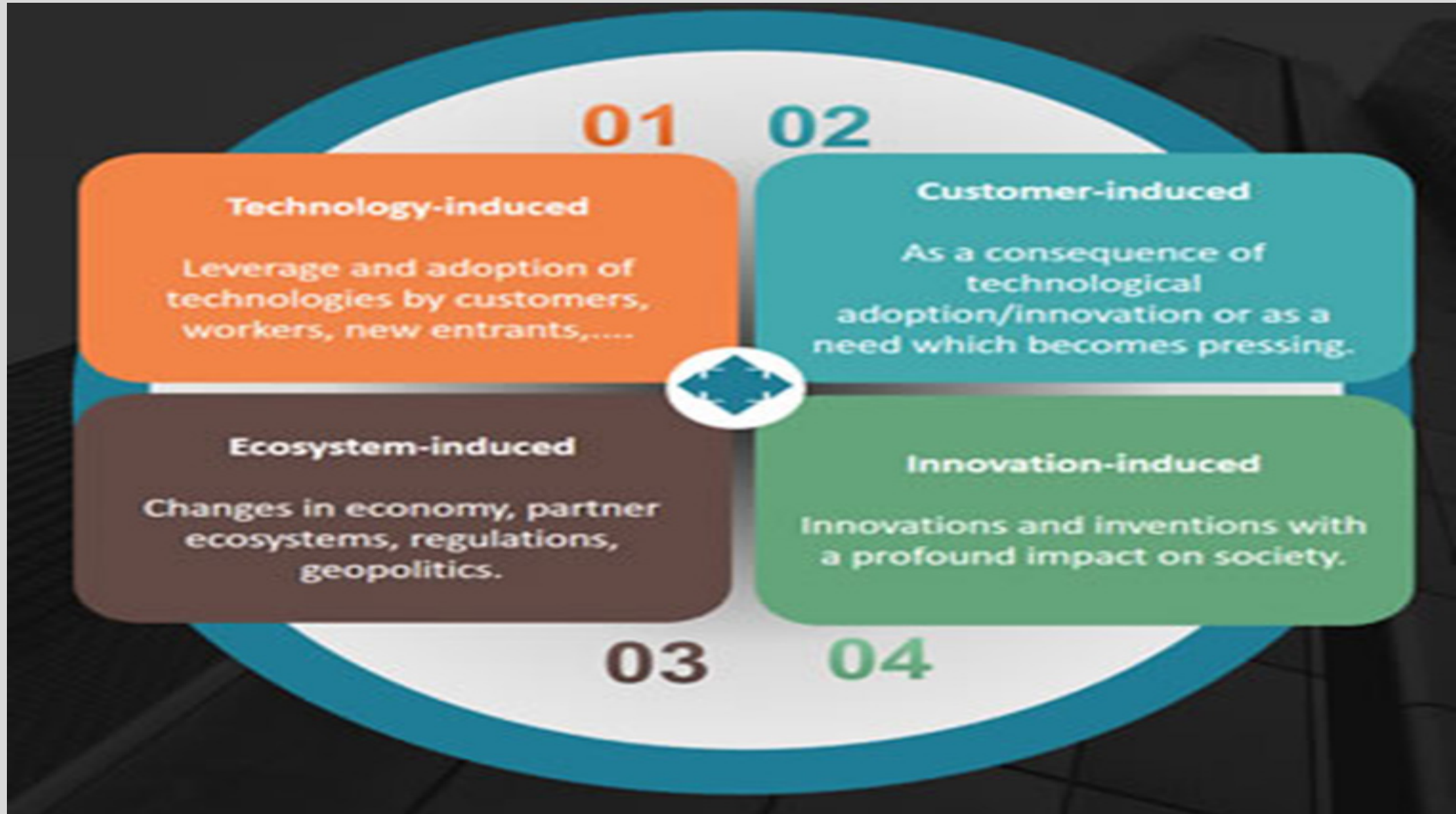
Satellites, Sensors, Smart phones, ...

Focus on BIG DATA...

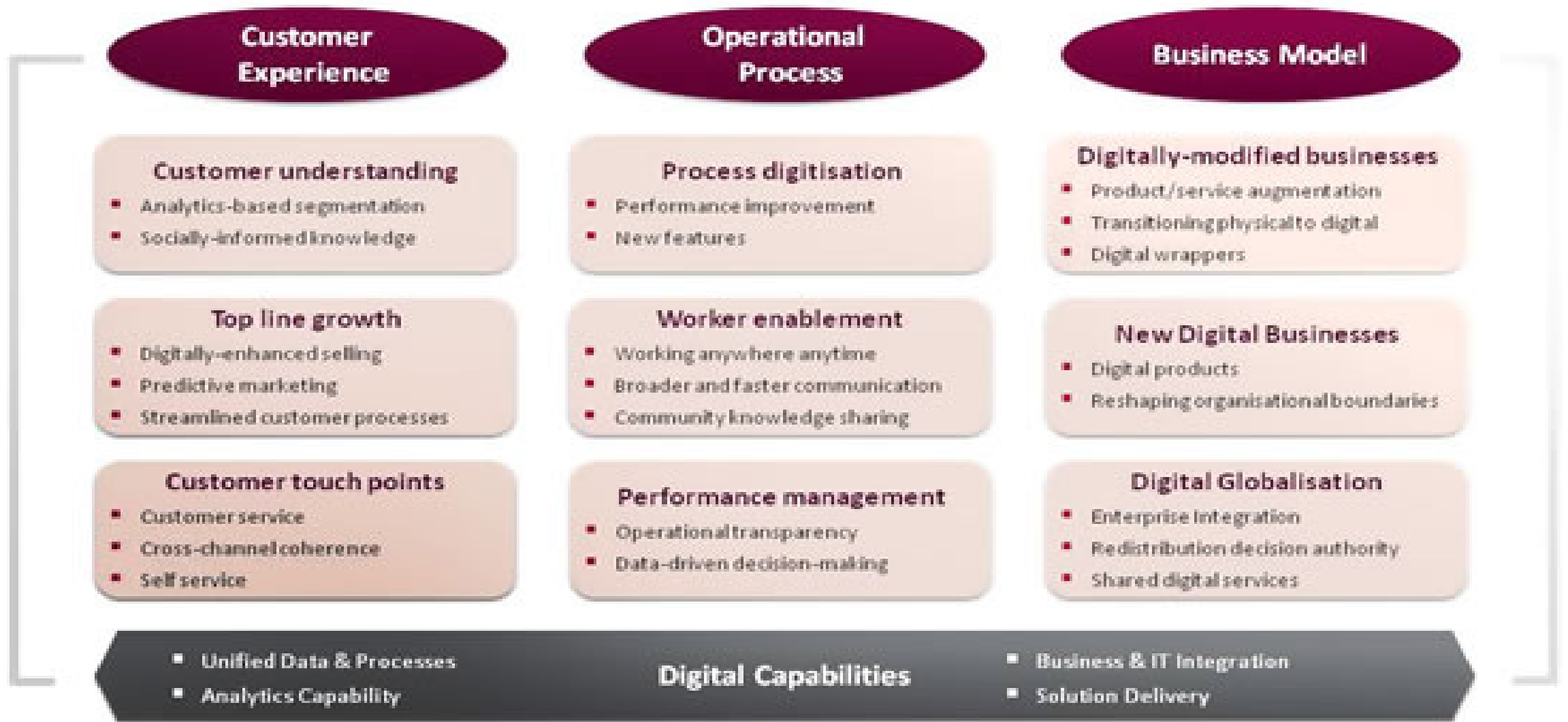
Big Data ecosystem – from data to decisions – source IDC



Causes of disruption and transformation



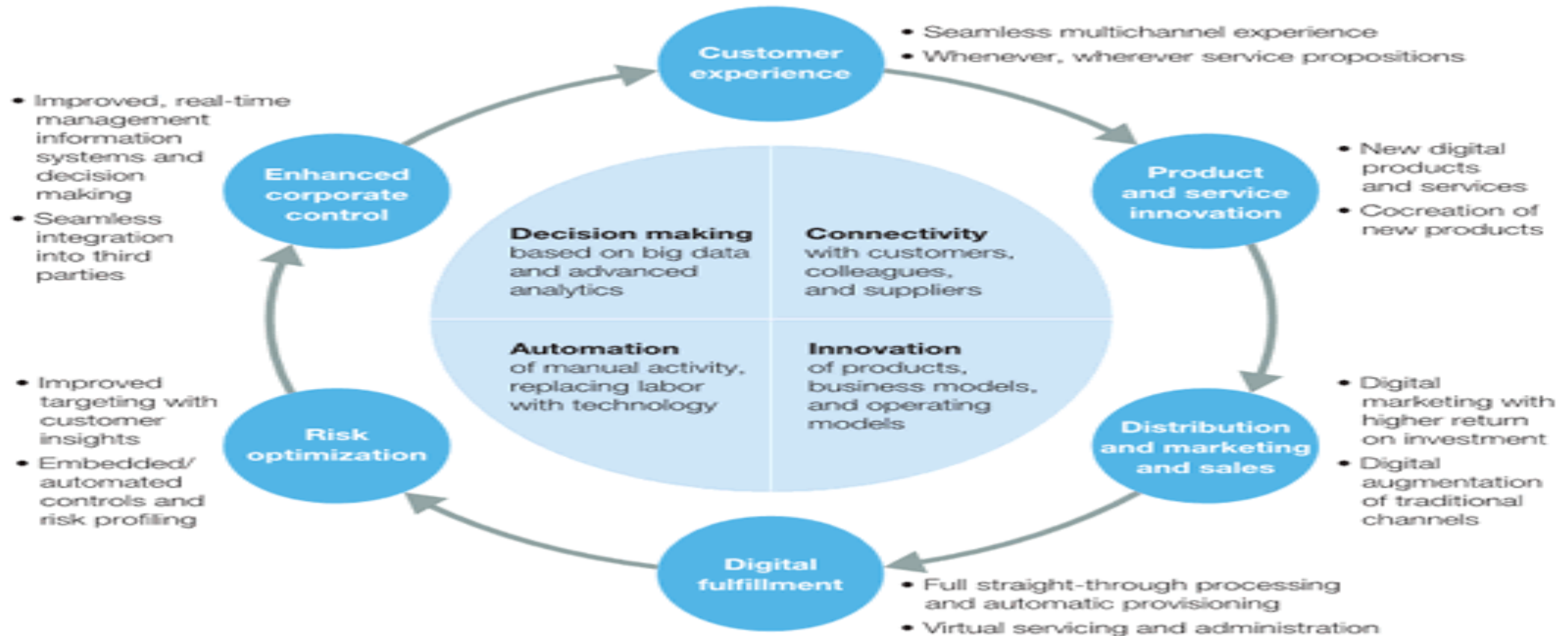
Digital transformation framework



by Capgemini Consulting and the MIT center for digital business

How Digital can reshape an organization....

Digital can reshape every aspect of the modern enterprise.



Source: Expert interviews; McKinsey analysis

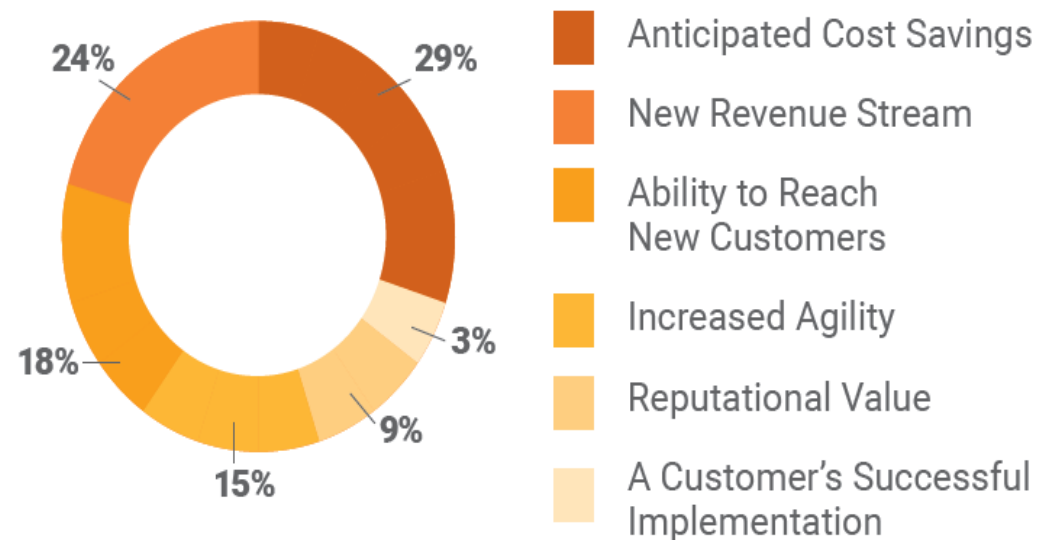
Myths and realities of digital transformation

Myth	Reality
1 Digital is primarily about the customer experience	Huge opportunities exist also in efficiency, productivity and employee leverage
2 Digital primarily matters only to technology or B2C companies	Opportunities exist in all industries with no exceptions
3 Let a thousand flowers bloom; bottom-up activity is the right way to change	Digital transformation must be led from the top
4 If we do enough digital initiatives, we will get there	Transformation management intensity is more important for driving overall performance
5 Digital transformation will happen despite our IT	Business/IT relationships are key, and in many companies they must be improved
6 Digital transformation approach is different for every industry and company	Digital Leaders exhibit a common DNA
7 In our industry we can wait and see how digital develops	There are digital leaders outperforming their peers in every industry today

Some facts

Source: ISACA's 2017 Digital Transformation Barometer

Top Motivators for Implementing an Emerging Technology



Technologies Facing the Most Organizational Challenges or Resistance



**AI/Machine Learning/
Cognitive Tech**



Public Cloud



**Internet of
Things**



Blockchain



**Big Data
Analytics**

Some facts...

Evaluating Opportunities

Arising From Emerging Technologies

22%



organizations
rarely evaluate

31%



organizations
frequently evaluate

Who is Responsible

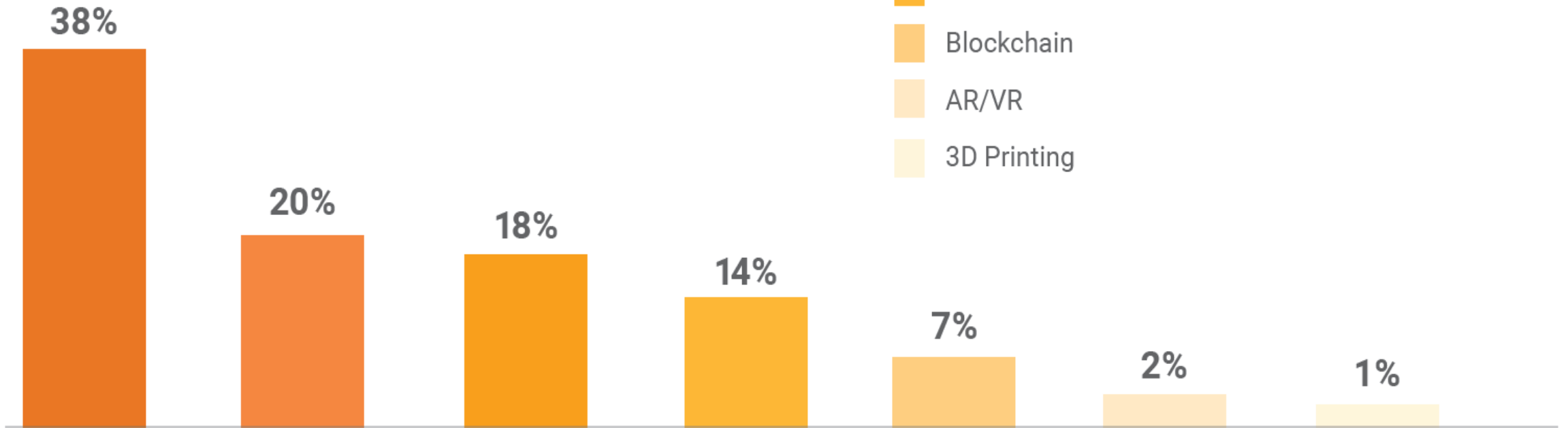
for Evaluating Emerging Technologies?



Some facts...

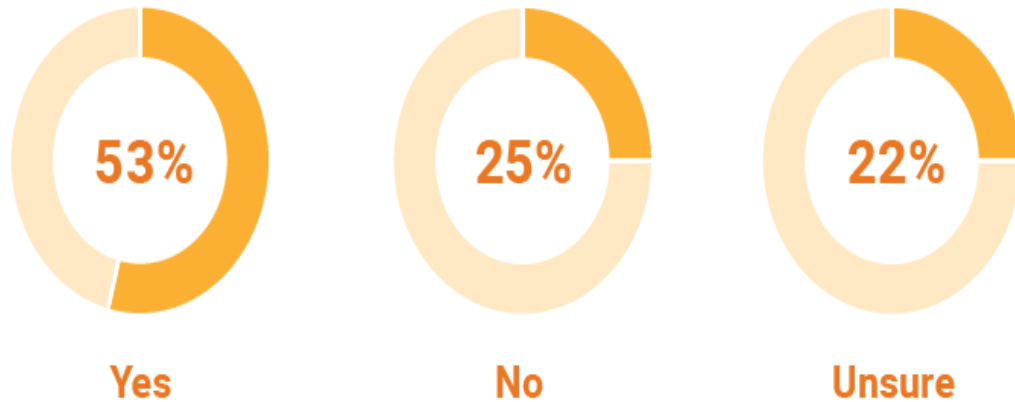
Technologies With Most Potential to Deliver Transformational Value

- Big Data Analytics
- AI/Machine Learning/Cognitive
- Public Cloud
- IoT
- Blockchain
- AR/VR
- 3D Printing

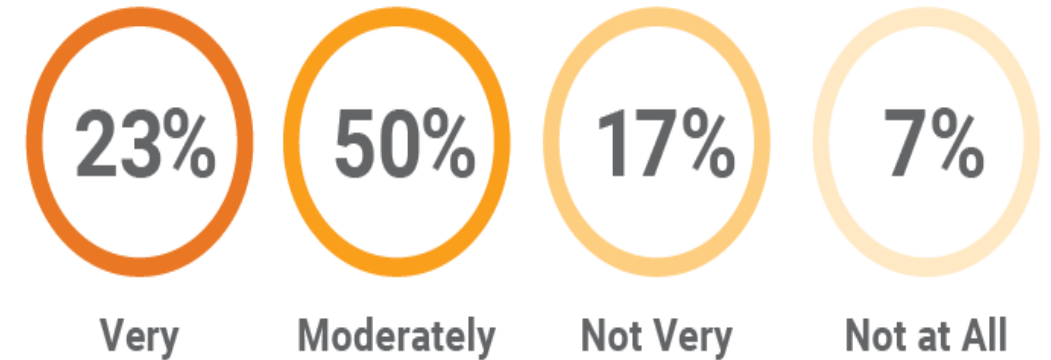


Some facts..

Are Your Organization's Leaders
Digitally Literate?



Are Your Organization's Leaders
Receptive to Emerging Tech?





Thank you !