

LEADING DIGITALLY

Petar Kočović
Digital Dreams
CIO LEADERSHIP FORUM
October 25 and 26, 2018

Yugoslavia 1983

Only 5 IT Roles



Programmer



Technician



Punch tape
Operator



System
Engineer



Chief of
Computer
center

How Many Companies were in SFR Yugoslavia?

https://www.polleverywhere.com/multiple_choice_polls/mhYuOsE3yRqwB4



6,381 (1988)



Serbia Today



No of Citizens (excl. Kosovo): 7,040,272

No of Companies: 147,989

Entrepreneurs: 254,496

Top 150

- 0 Employees - 25

- 0-500 Employees - 1





Serbian CIOs Today

Top 10 - 4 CIOs
Top 150 - 27 CIOs

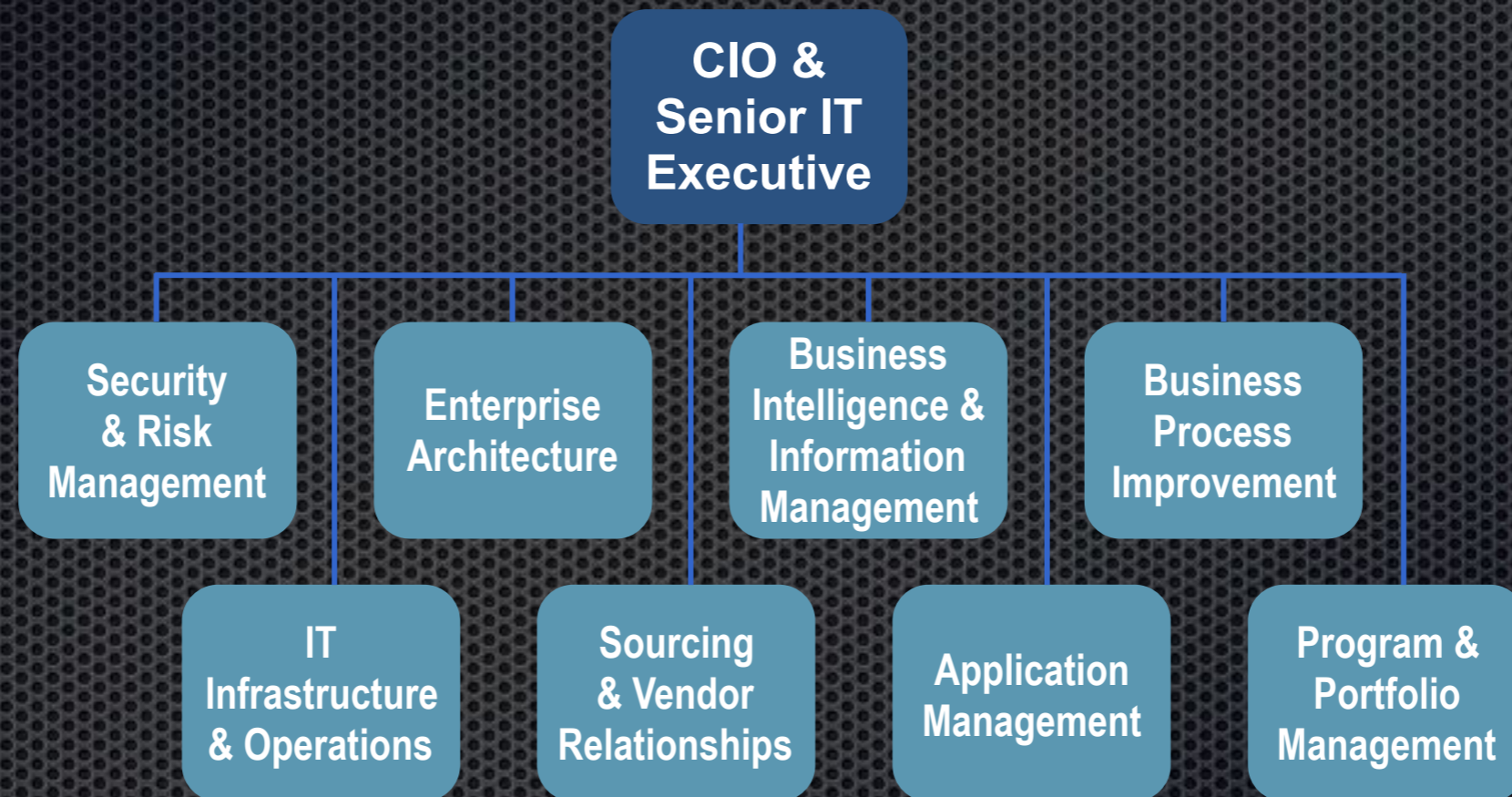
Banking and Financial Institutions: 33 -12 CIOs

Insurance: 10-2CIOs

Government: 5

Who is CIO?

Roles prevalent in most user IT organizations



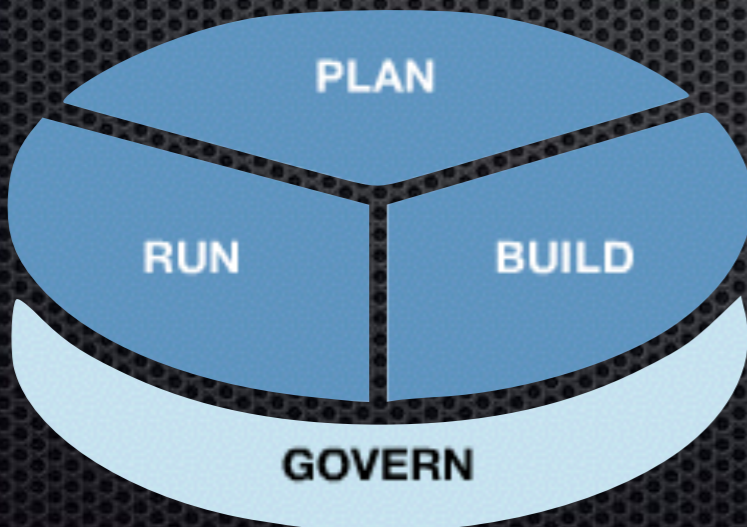
Activity Cycles developed for each role



Infrastructure & Operations



Enterprise Architecture

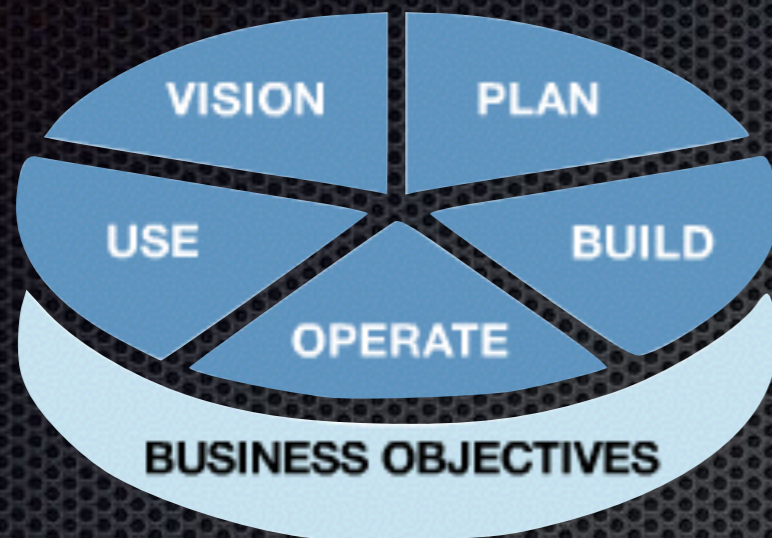


Security and Risk Management



Applications

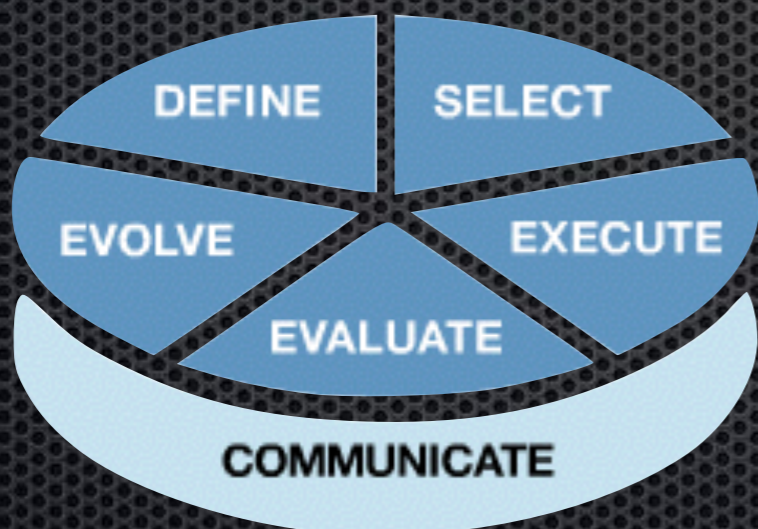
Activity Cycles developed for each role



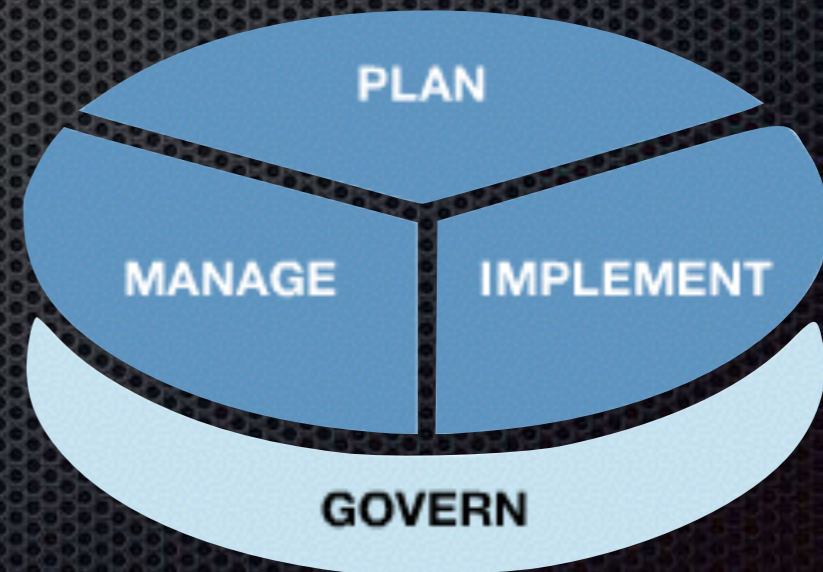
Business Intelligence &
Information Management



Business Process Improvement



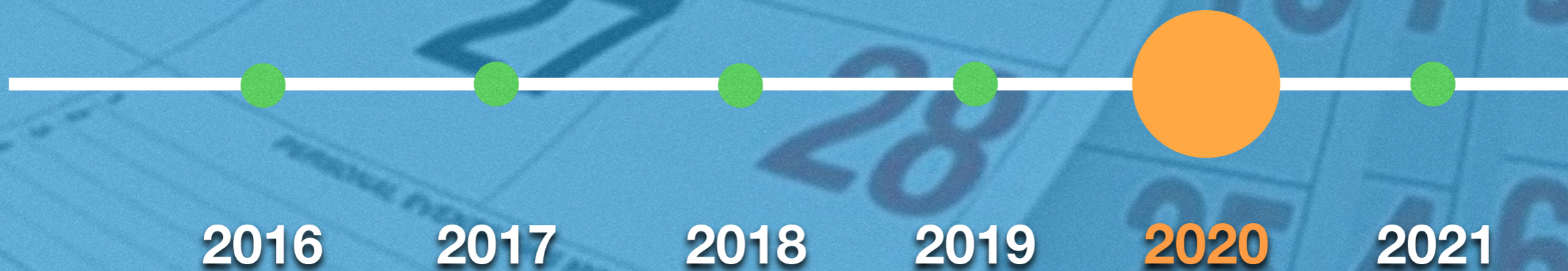
Program&Portfolio Management

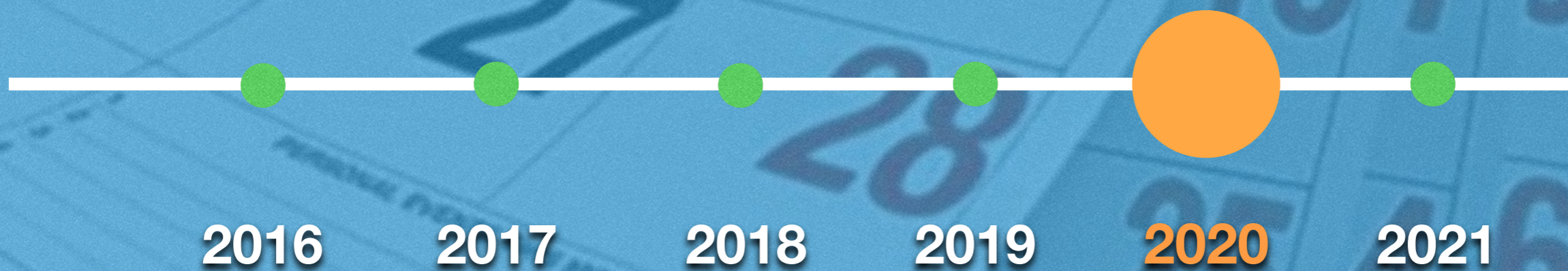


Sourcing and Vendor
Relationships



THE DIGITAL INDUSTRIAL ECONOMY





- 
- Digital Technology Architecture
 - Enterprise Information Architecture
 - Cyber Security & Risk
 - Industrialized IT Infrastructure
- 2016 2017 2018 2019 2020 2021

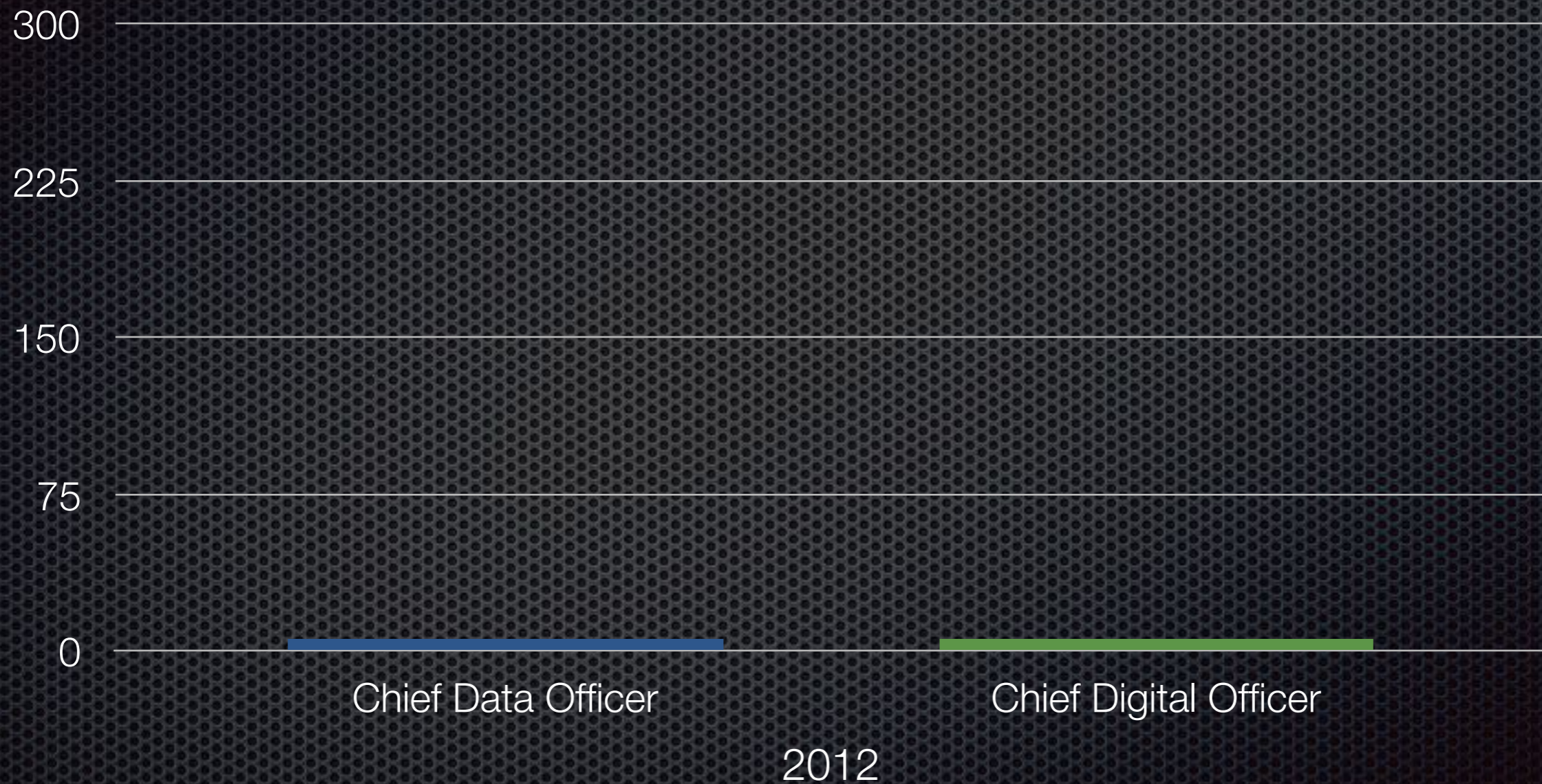
2020

The diagram features a large orange circle at the top left, connected by a vertical line to a horizontal line. This horizontal line branches into two vertical lines, each leading to an orange rounded rectangle containing text. The background is a blue-toned image of a calendar grid with numbers 9 through 25 visible.

**Chief Digital
Officer**

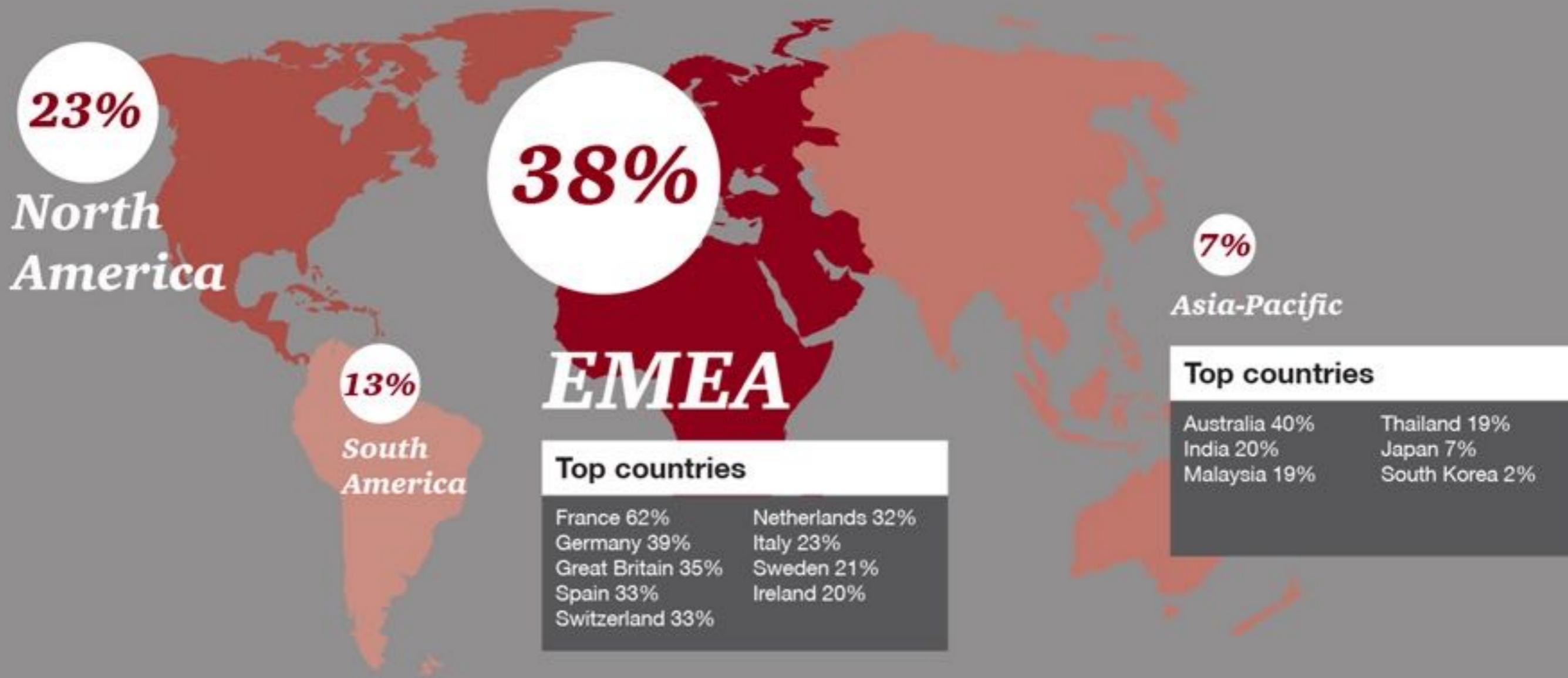
**Chief Data
Officer**

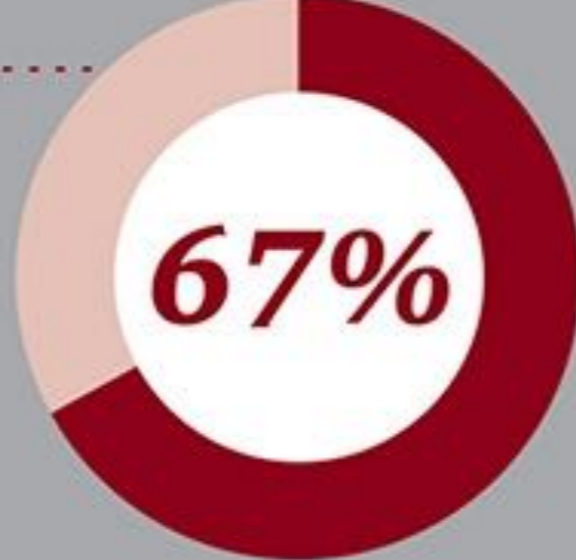
New Leadership Roles



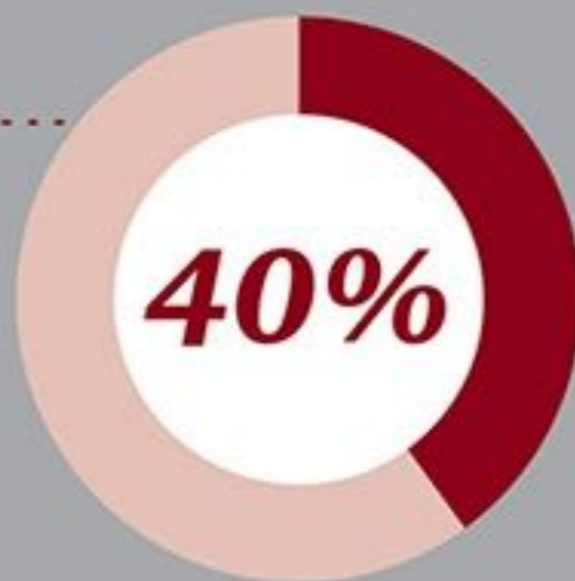
Facts about Chief Digital Officer Role

Companies in EMEA have more CDOs than elsewhere

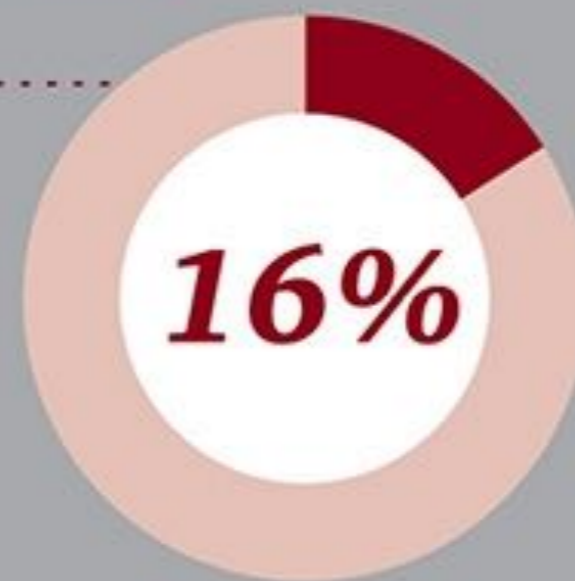




have the title
"Chief Digital Officer"



are C-level
members

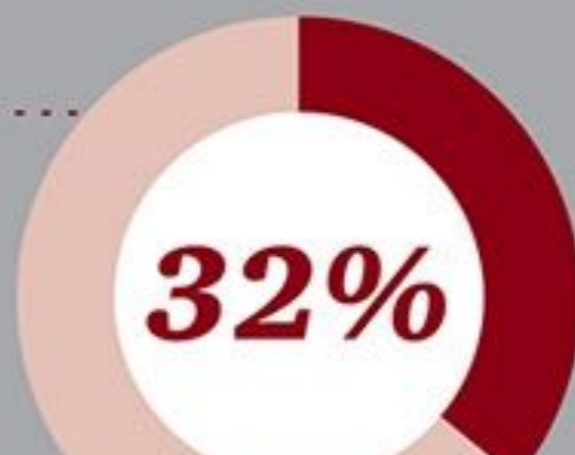


are women



46%

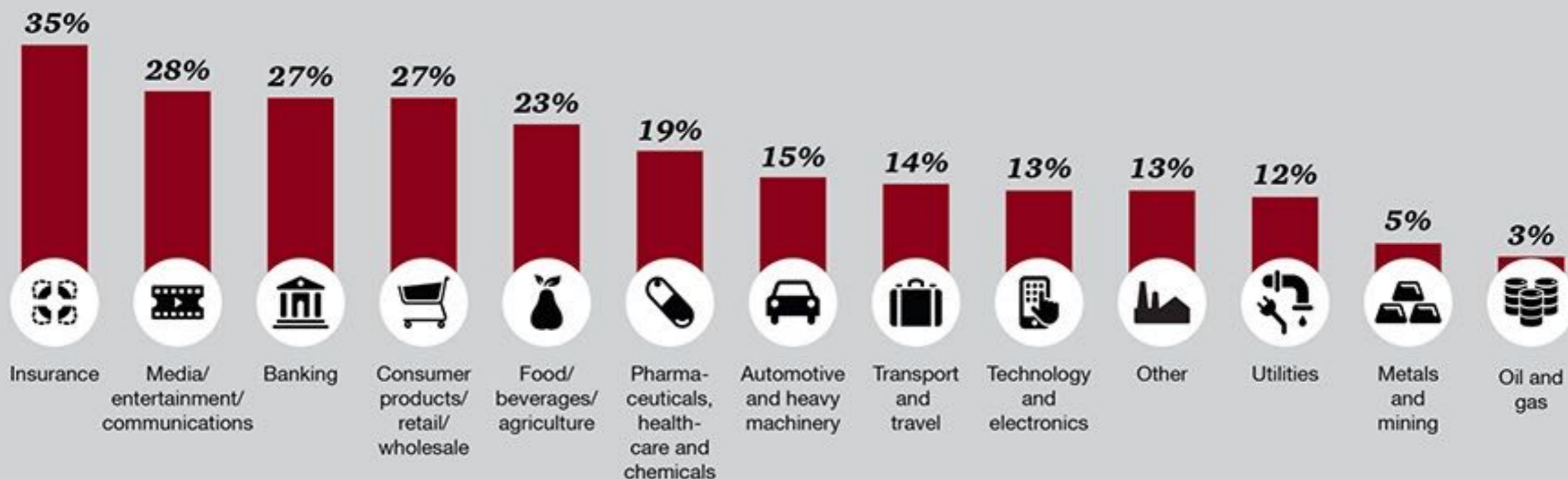
have been hired
externally



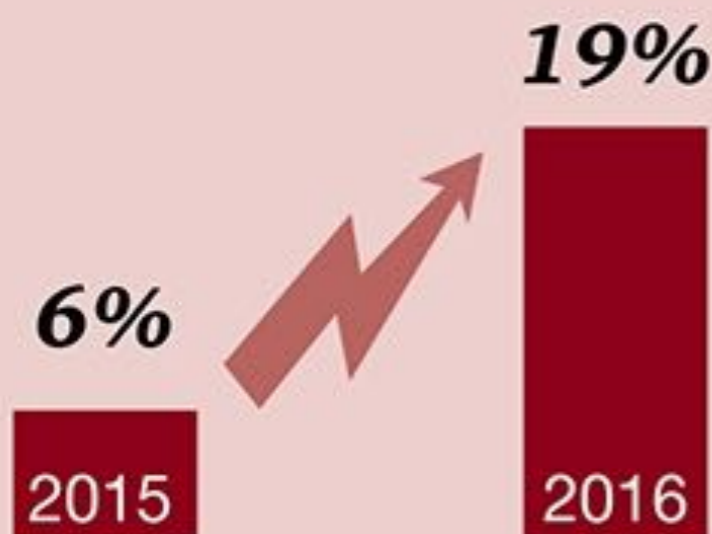
have a technology
background



Consumer-facing industries lead the way appointing a CDO



Companies recognize the growing importance of a designated digital leader



60%
have been hired
since 2015



THE
***DIGITAL
INDUSTRIAL
ECONOMY***

2013

2017



2014

2015

2016



2018

Digitalization

Suppliers

Information



dig-i-ta-li-za-tion(1880)

noun: dij'i tl ə zā'shən

Unprecedented combination of
new technologies generating
revenue and value.



dig-i-ti-za-tion(1985)

noun: dɪdʒɪtʌɪ'zeɪʃ(ə)n

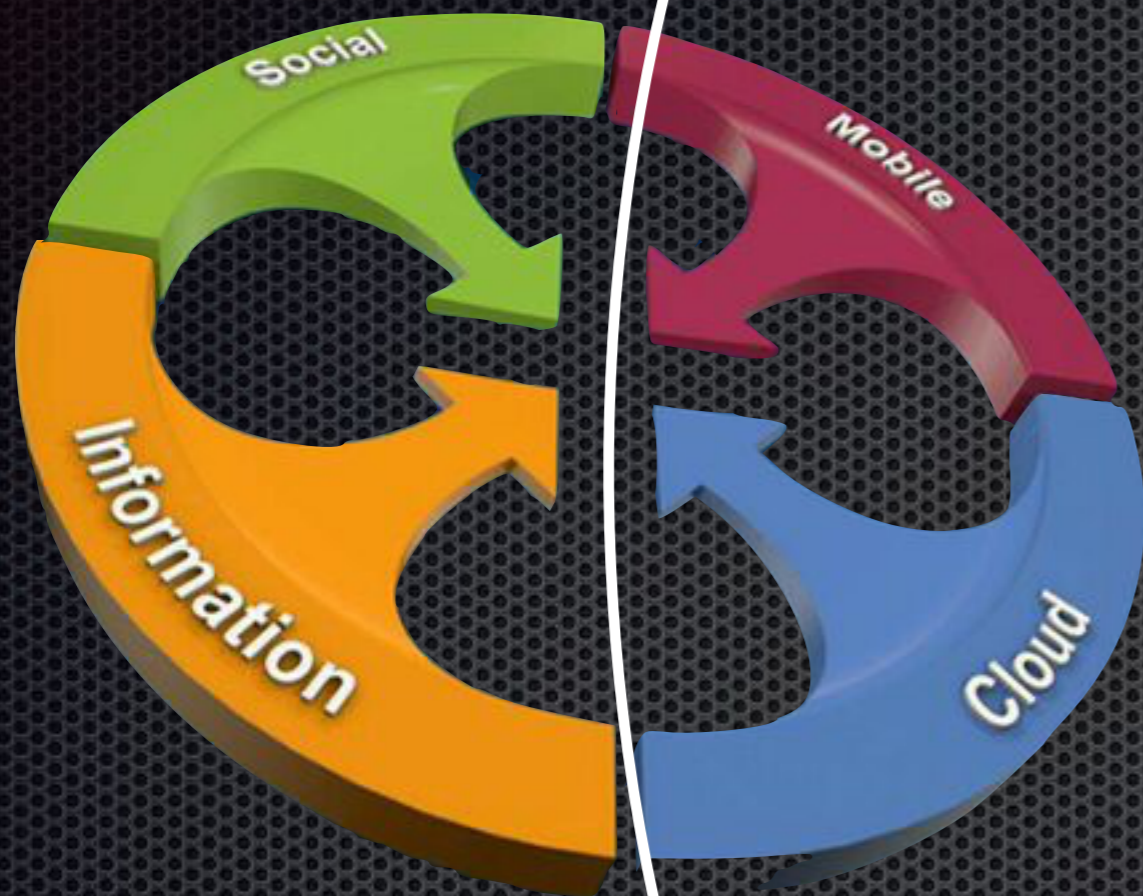
**The conversion of text, pictures,
or sound into a digital form that
can be processed by a computer.**



The NEXUS OF FORCES

DIGITAL

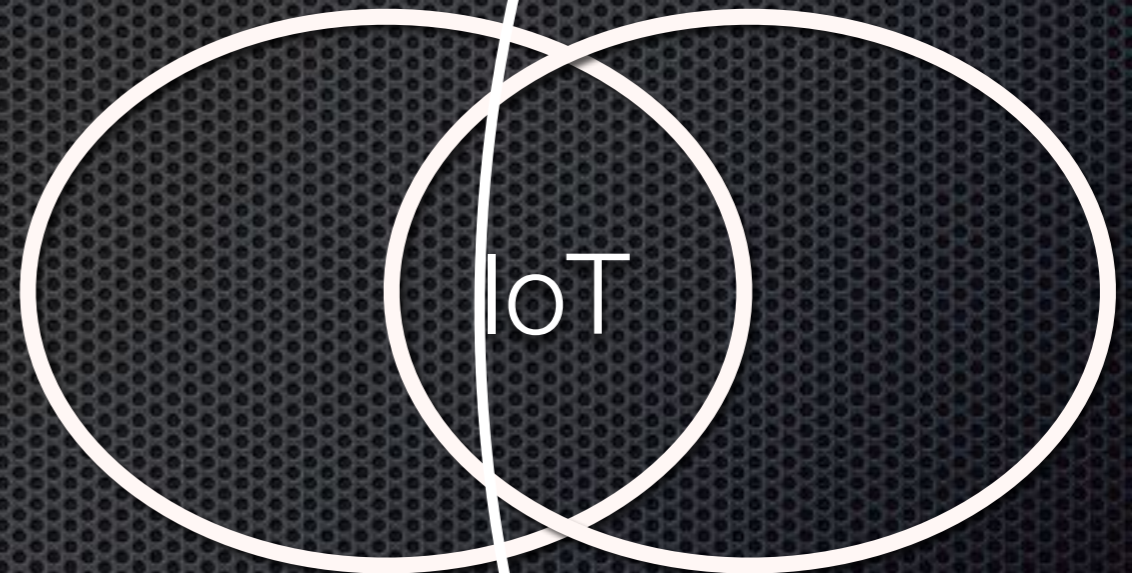
REAL



+

Systems

Things



Places

People

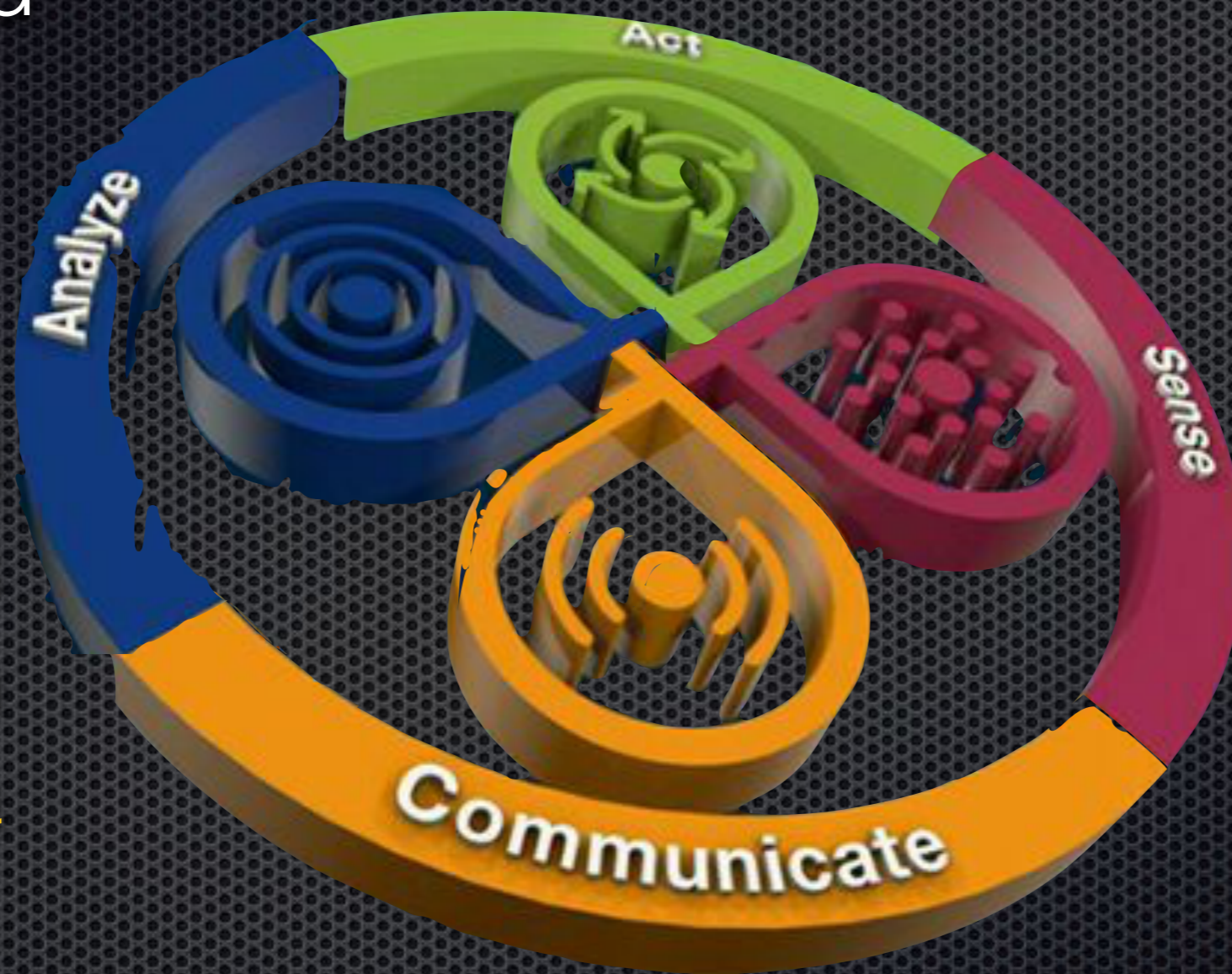
Customer
Connected
Objects

IoT Analytics

DIGITAL

Enterprise
Connected
Object

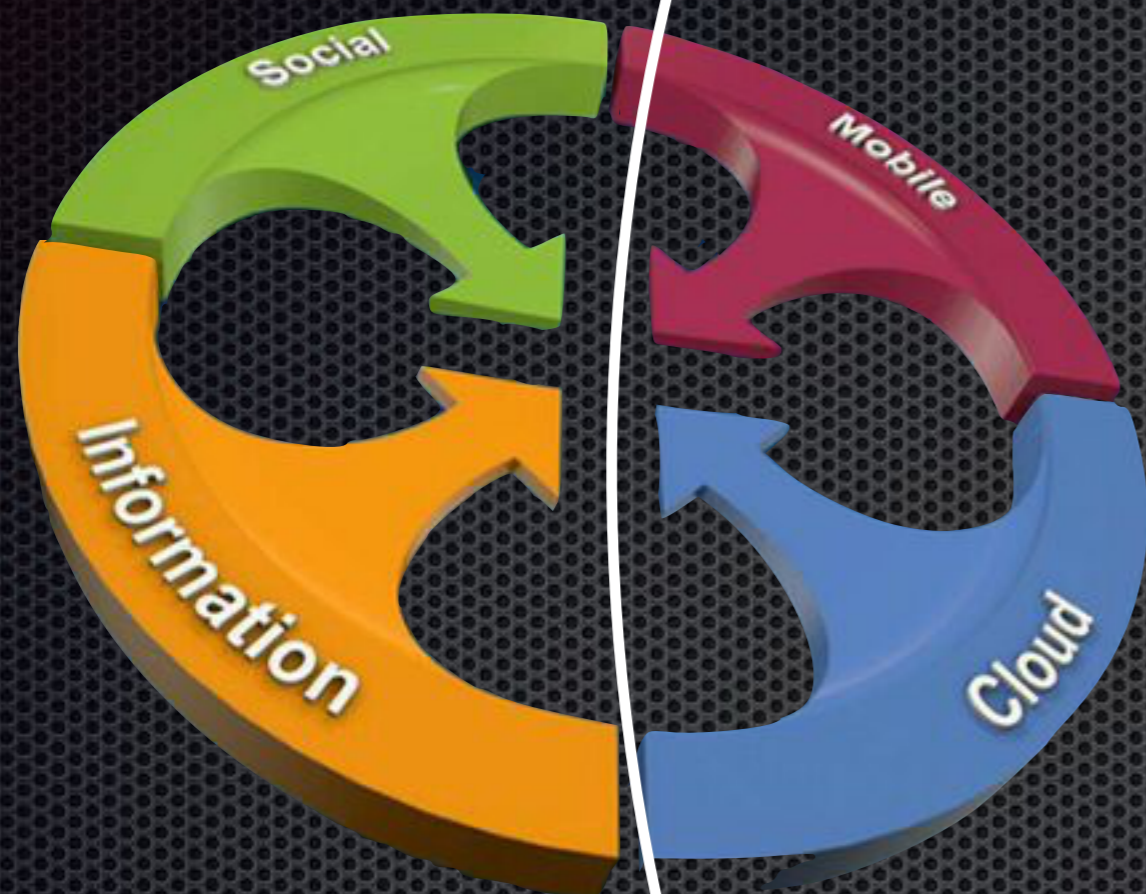
Devices
Processes
Application
Data



IoT Integration Platform

DIGITAL

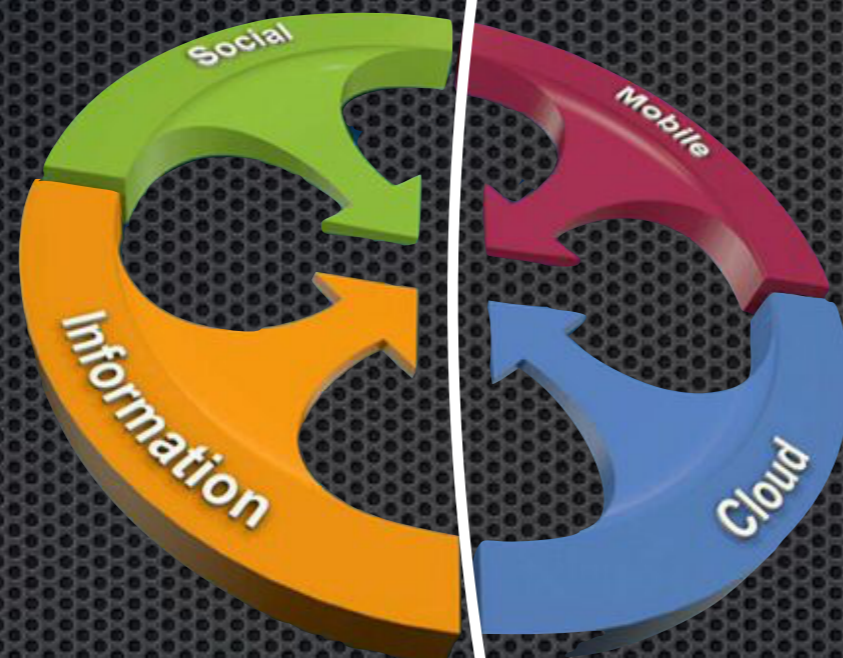
REAL

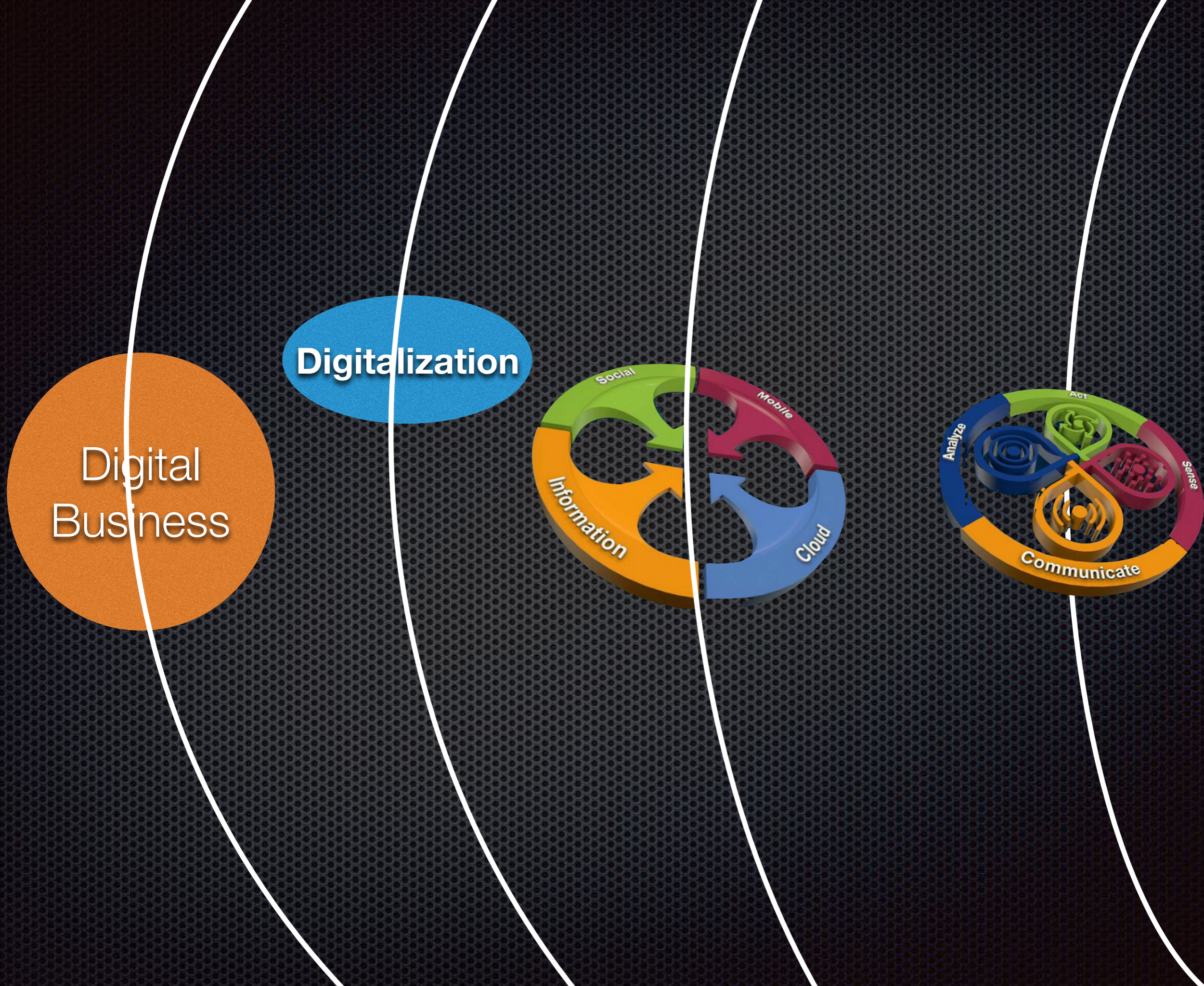


+



Digitalization

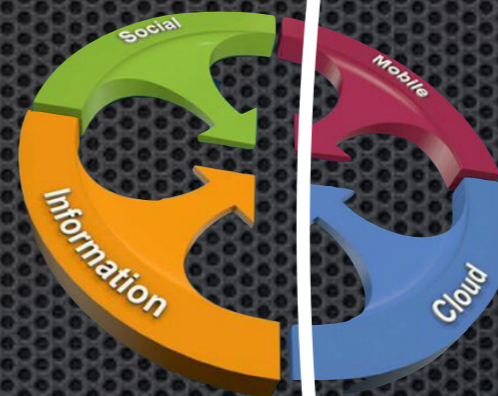




Digital
Industrial
Economy

Digital
Business

Digitalization



Gartner predicts

**By 2020, 15% of computers
will be learning rather than
processing**

Gartner predicts

By 2020, 1 of 3 knowledge workers will be replaced by enterprise owned smart machines they trained

Gartner predicts

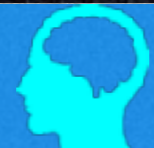
By 2024, 10% of activities potentially injurious for human life will use a mandated “smart machines”

1



Mobile Internet

2



Automation of Knowledge work

3



Internet-of-Things

4



Cloud technology

5



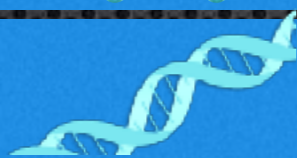
Advanced robotics

6



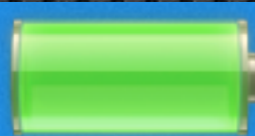
Autonomous and near-autonomous vehicles

7



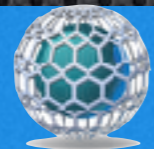
Next generation genomics

8



Energy storage

9



3D Printing

10



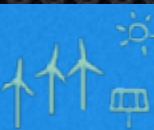
Advanced materials

11











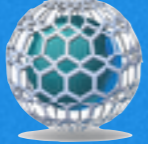
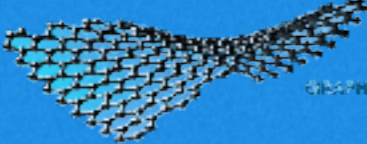


Advanced oil and gas exploration and recovery

12










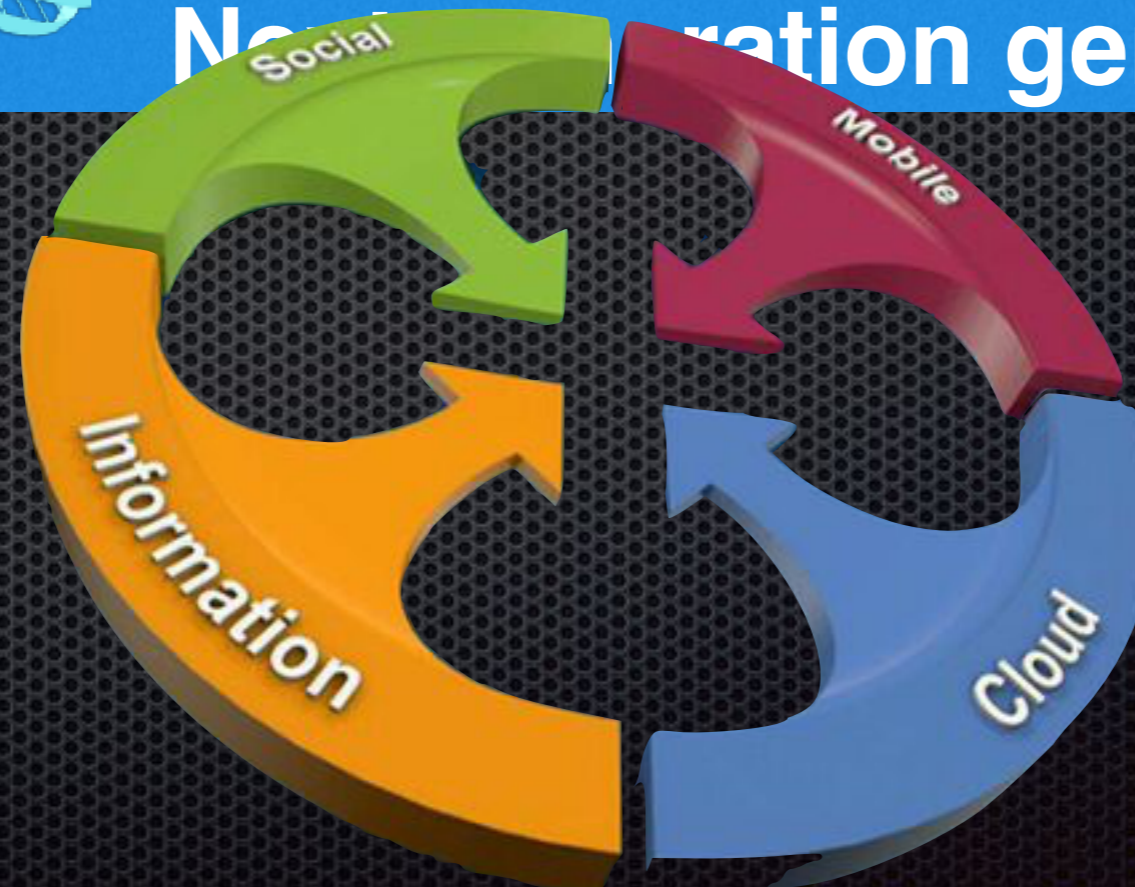
Renewable energy

Disruptive dozen

- 1  Mobile Internet
- 2  Automation of Knowledge work
- 3  Internet-of-Things
- 4  Cloud technology
- 5  Advanced robotics
- 6  Autonomous and near-autonomous vehicles
- 7  Next generation genomics
- 8  Energy storage
- 9  3D Printing
- 10  Advanced materials
- 11  Advanced oil and gas exploration and recovery
- 12  Renewable energy

Disruptive dozen and Nexus of Forces

- 1  Mobile Internet
- 2  Automation of Knowledge work
- 3  Internet-of-Things
- 4  Cloud technology
- 5  Advanced robotics
- 6  Autonomous and near-autonomous vehicles
- 7  Next generation genomics



CIO Technology Priorities

2014

BI/Analytics

Infrastructure and Data Centre

Mobile

ERP

Cloud

Networking, voice and data communication

Digitalization/Digital Marketing

Security

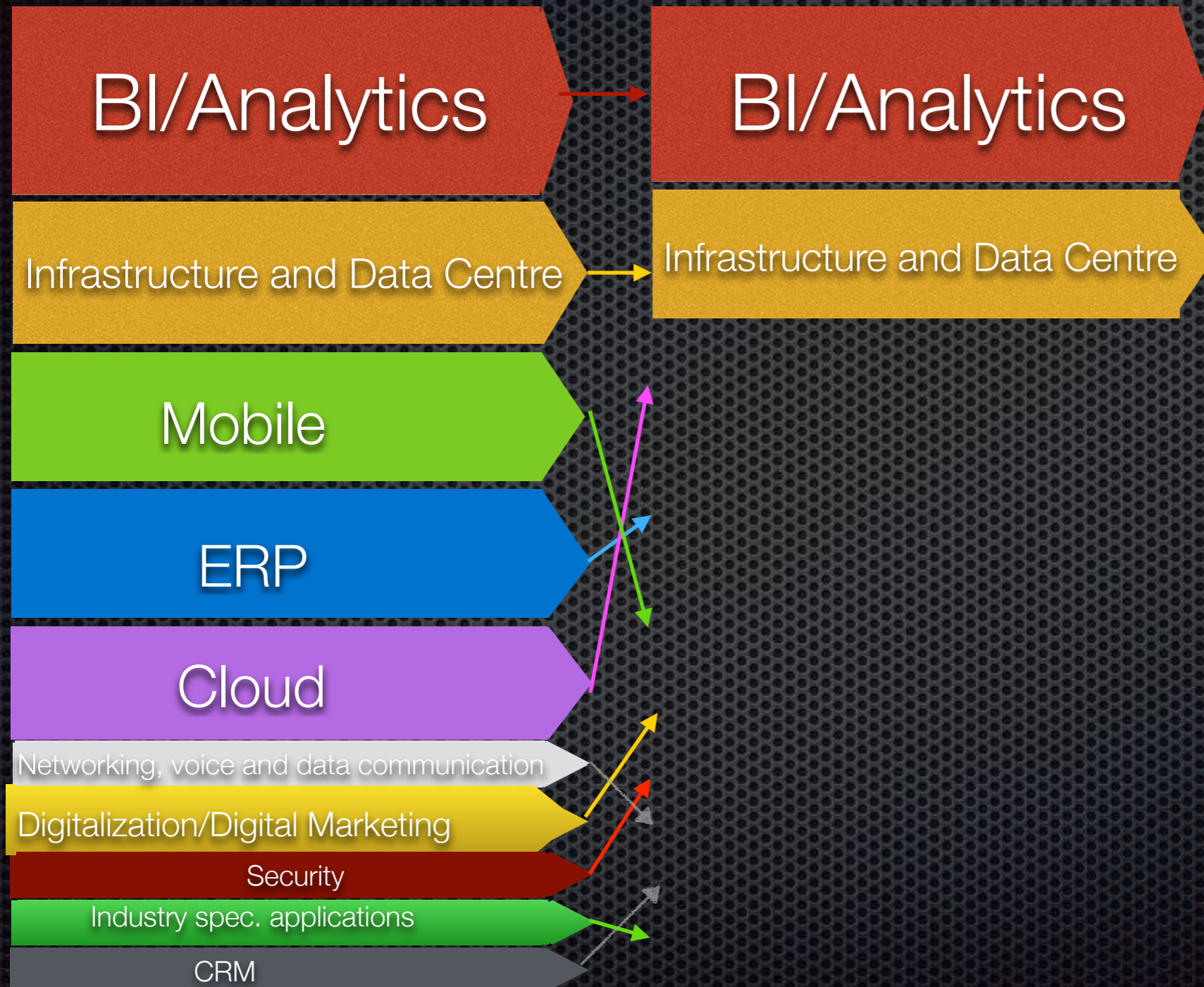
Industry spec. applications

CRM

CIO Technology Priorities

2014

2015

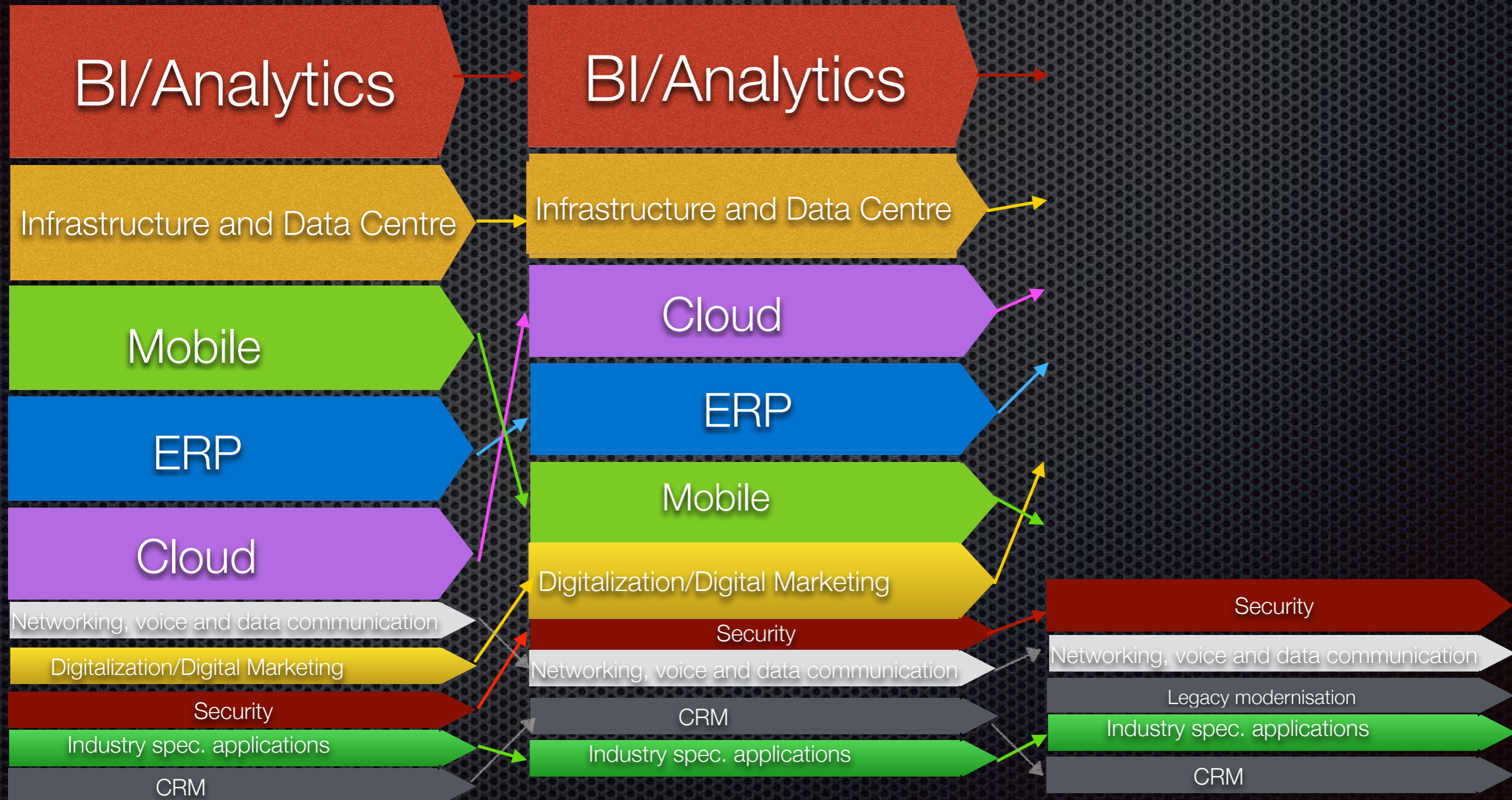


CIO Technology Priorities

2014

2015

2016

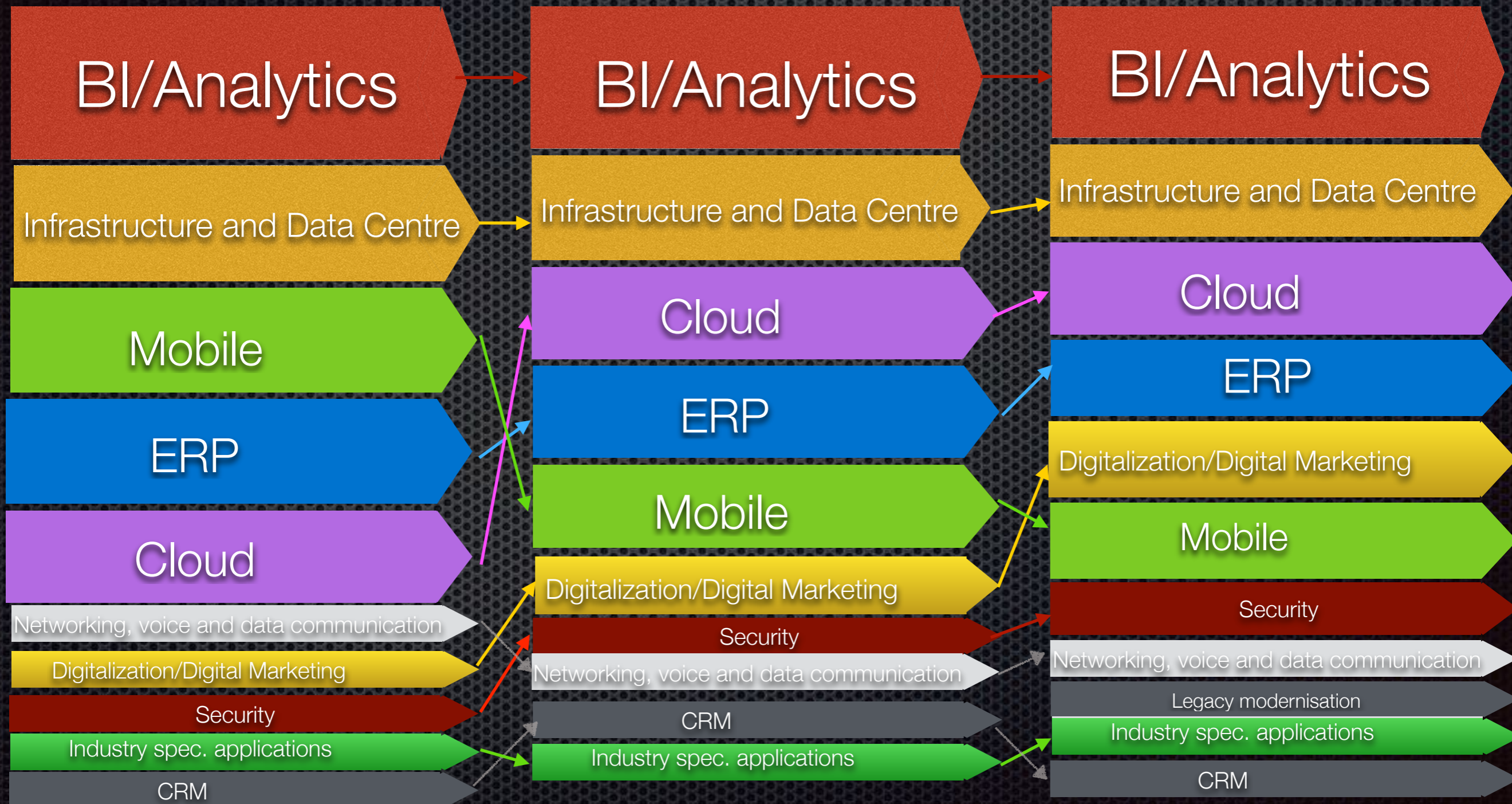


CIO Technology Priorities

2014

2015

2016

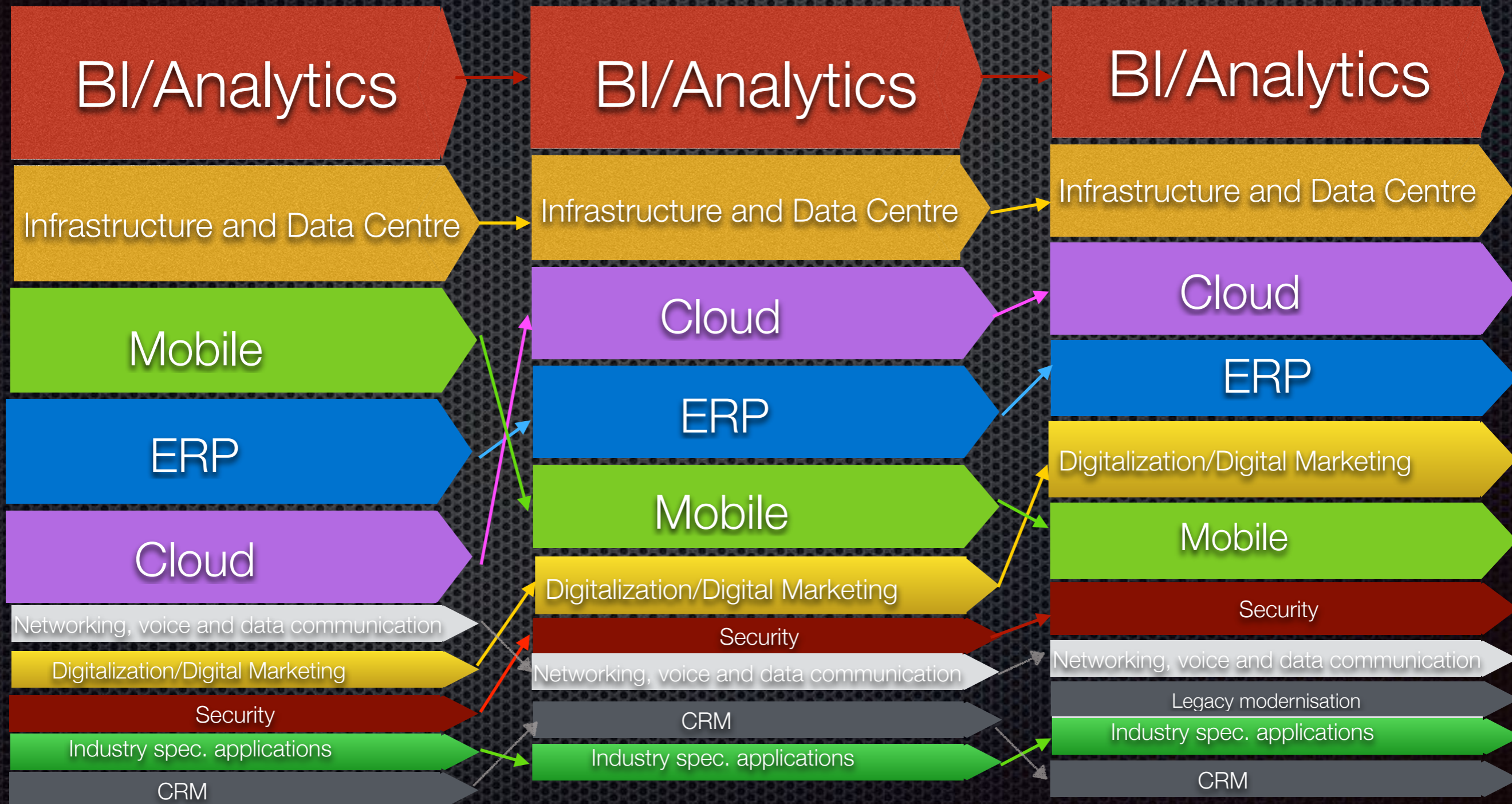


CIO Technology Priorities

2014

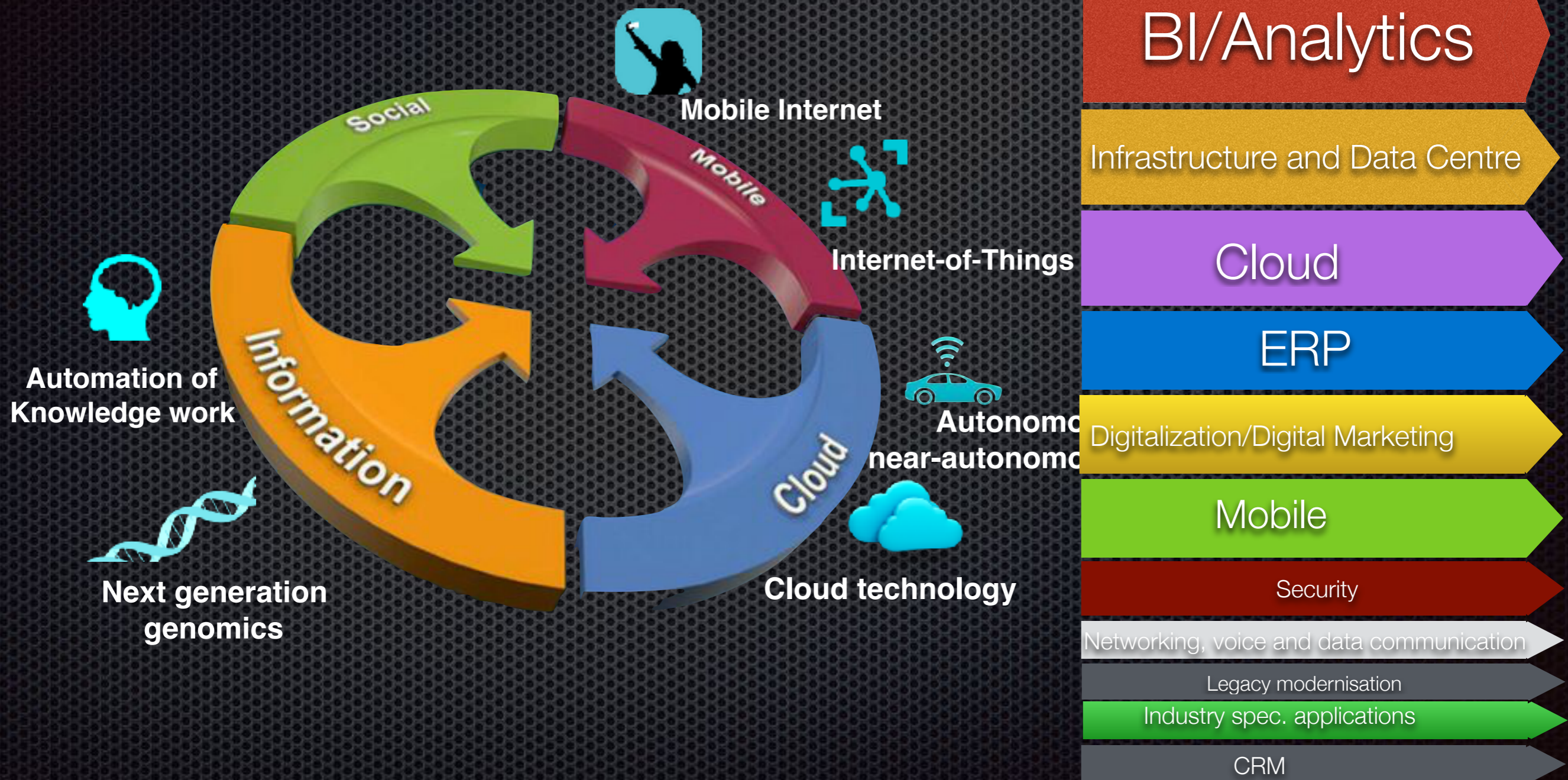
2015

2016



CIO Technology Priorities

2016



```
graph LR; A([Digitalization]) --- B([Suppliers]); B --- C([Information]);
```

Digitalization

Suppliers

Information



2009
Personal Devices
1.6 Billion

2009
Internet of Things
0.9 Billion

World Population: 6.8 Billion

2020

Internet of Things

30 Billion

2020

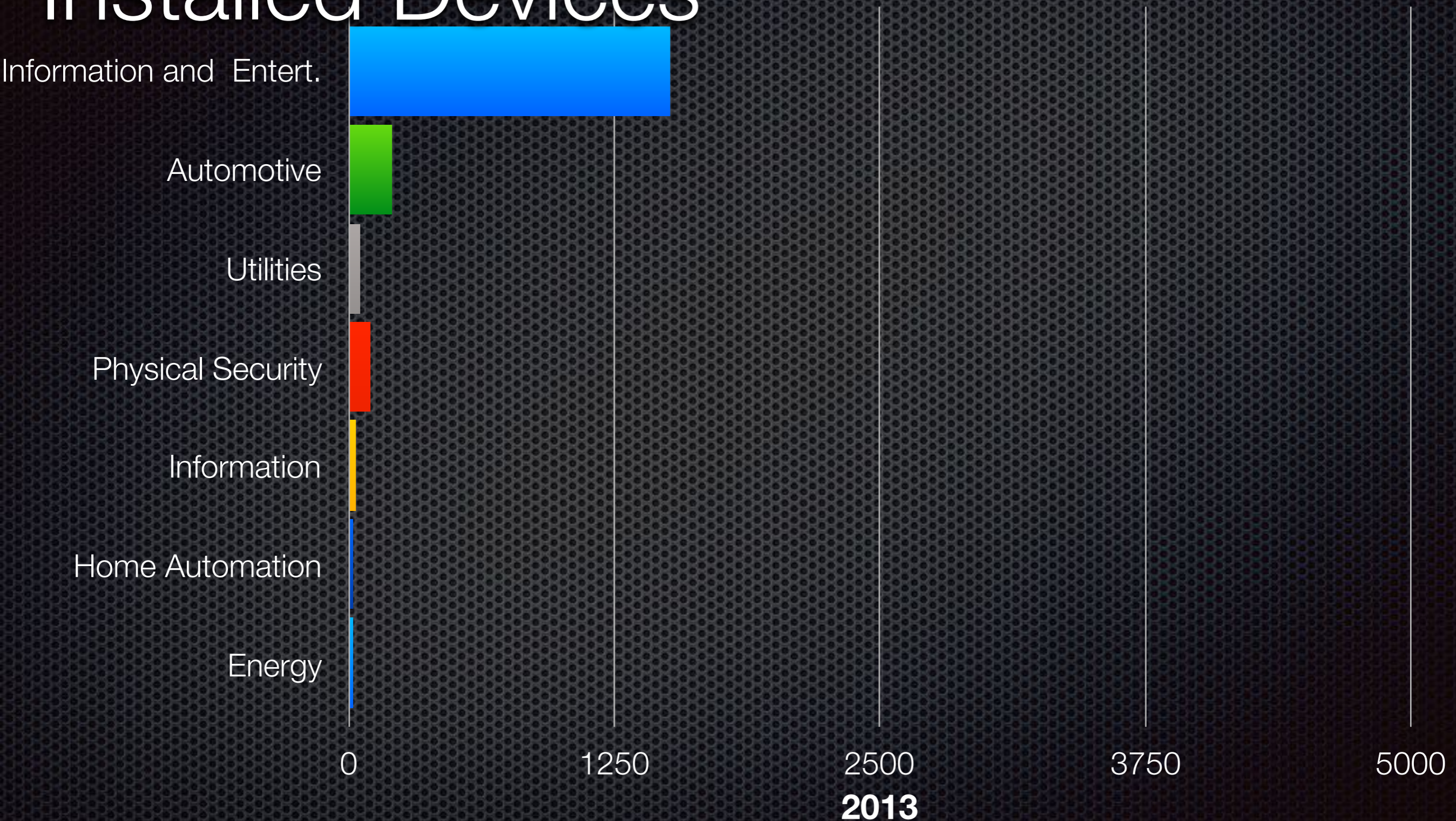
Personal Devices

7.3 Billion

World Population: 7.6 Billion

INTERNET OF THINGS

Installed Devices





Vehicle

Autonomous vehicles
and condition-based
maintenance
\$210-740B



Home

Chore automation
and security
\$200-350B



Offices

Security and
Energy
\$70-150B



Cities

Public health
and transportation
\$930B-1.7T



**\$3.9-11.1 trillion
per year in 2025**

Factories

Operations and
equipment optimisation
\$1.2T-3.7T



Outside

Logistics and navigation
\$560B-850B

Human

Health and
fitness
\$170B-1.6T



Worksites

Operations optimization/
health and safety
\$160-930B



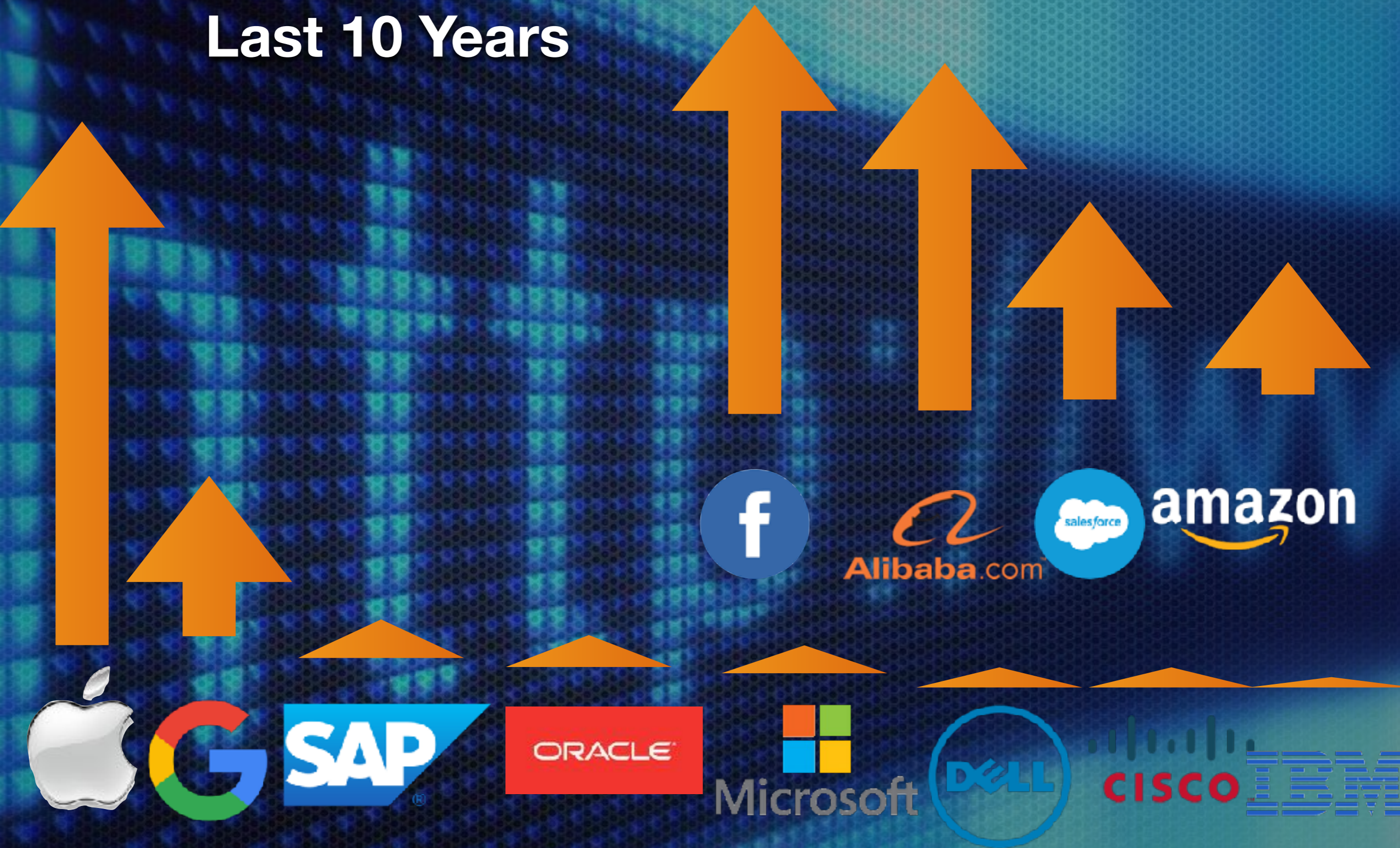
Retail environments

Automated checkout
\$410B-1.2T



Most Influential Vendors

Last 10 Years



A diagram illustrating the relationship between three concepts: Digitalization, Suppliers, and Information. The background is a dark blue field with a pattern of glowing binary digits (0s and 1s) and out-of-focus light circles. Three ovals are arranged horizontally. The left oval is blue and contains the text 'Digitalization'. The middle oval is orange and contains the text 'Suppliers'. The right oval is blue and contains the text 'Information'. A thin white line connects the right side of the 'Digitalization' oval to the left side of the 'Suppliers' oval. Another thin white line connects the right side of the 'Suppliers' oval to the left side of the 'Information' oval. Each connection point is marked with a small white circle.

Digitalization

Suppliers

Information

70% of companies have a Chief Marketing Technologist today



80% of them report to Marketing

2012

2013

2014

2015

2016

2017

2018

2019

2020

Chief
Digital
Officer



2014

2015

2016

2017

2018

2019

2020

2021

2022

Chief
Digital
Officer



2020



17

2018

2019

2021



**ALL LEADERS ARE
DIGITAL LEADERS**

```
graph LR; A([Digitalization]) --- B([Suppliers]); B --- C([Information]);
```

Digitalization

Suppliers

Information



Business **Process**

Business **Model**

Business **Moment**



Business **Process**

Business **Model**

Business **Moment**

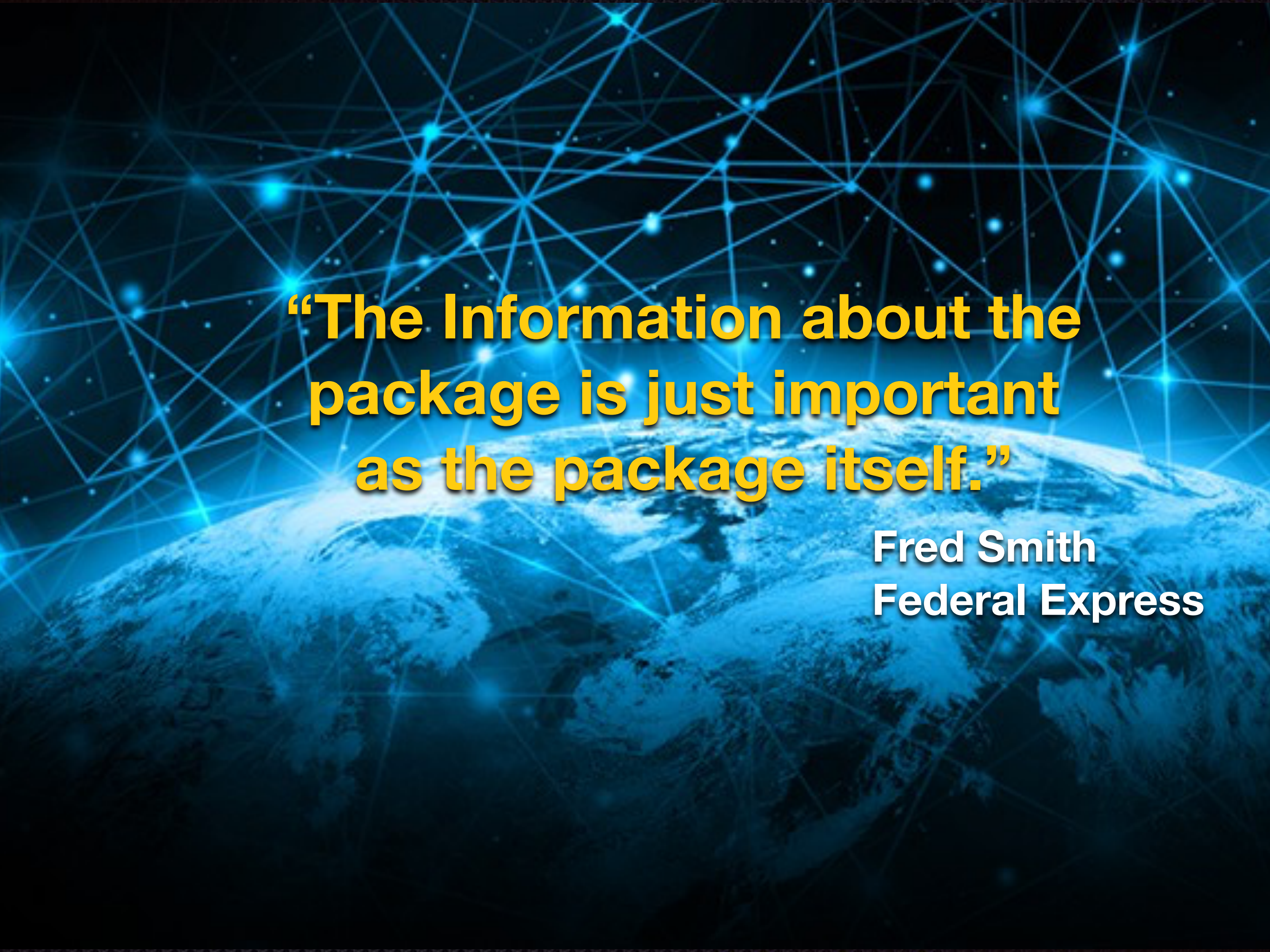


FedEx

fedex.com

1.800.GoFedEx

Exp



**“The Information about the
package is just important
as the package itself.”**

**Fred Smith
Federal Express**



Business **Model**

izettle

Mobile Payments

 **bitcoin**

Virtual Currency

KICKSTARTER

Crowdfunding



TRANSIENT OPPORTUNITIES EXPLOITED DYNAMICALLY

Business **Moment**



airbnb

The background of the image is a deep blue space scene. In the lower half, a curved horizon of the Earth is visible, showing cloud patterns and landmasses in a monochromatic blue palette. Overlaid on this is a complex network of thin, light blue lines that connect numerous small, bright blue dots or nodes. These nodes are scattered across the upper half of the image, creating a sense of global connectivity and digital infrastructure. The overall aesthetic is high-tech and futuristic.


**BUSINESS MOMENTS
COME FROM NOWHERE**



**EVERY PERSON IS A
TECHNOLOGY COMPANY**

The background of the image is a blue-toned photograph of the Earth from space, showing the curvature of the planet and cloud patterns. Overlaid on this is a complex, glowing network of thin blue lines connecting numerous bright blue nodes, resembling a global communication or data network. The text is centered in the upper half of the image.

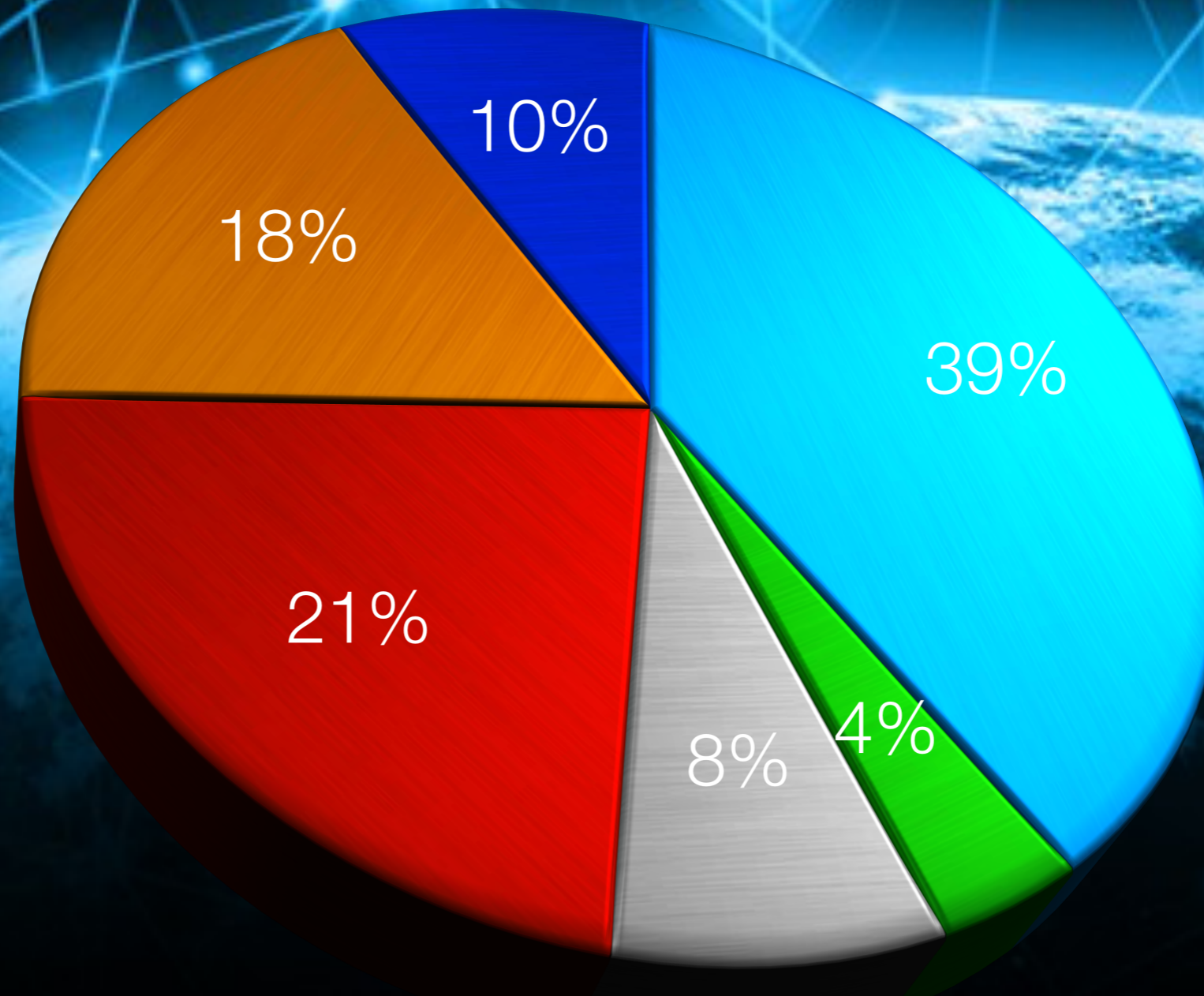
**EVERY BUSINESS UNIT IS A
TECHNOLOGY START-UP**



Business Technology Spending

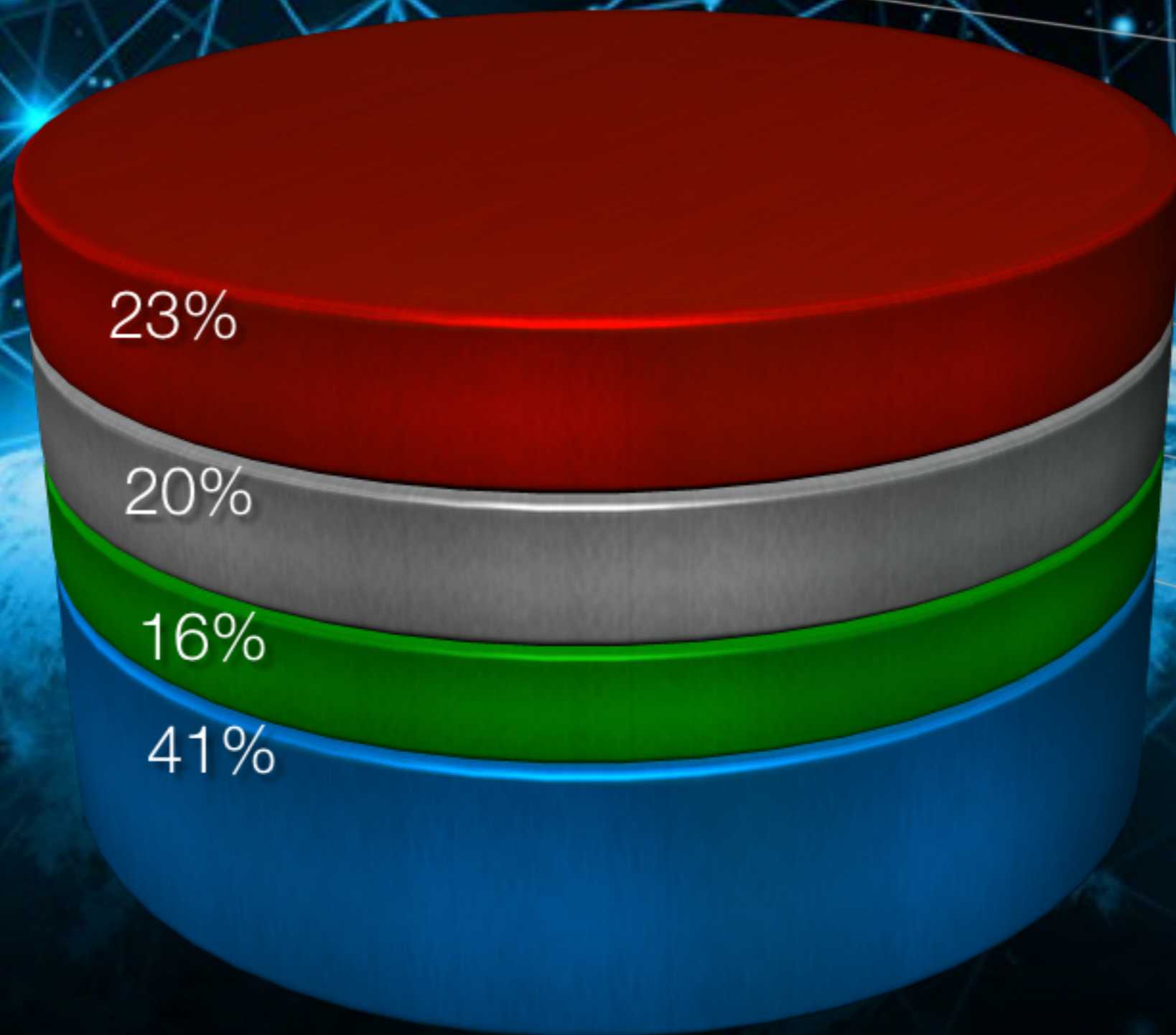
2017: **50+** outside of IT

IT Budget Allocation



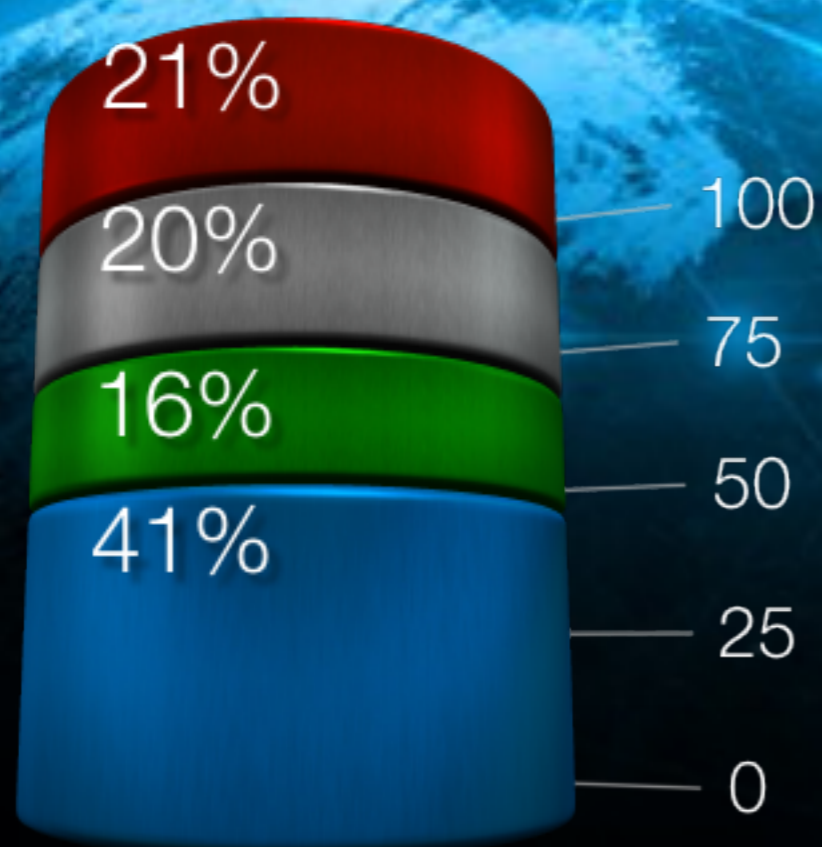
IT Budget Allocation

■ Personnel ■ Hardware ■ Software ■ Services

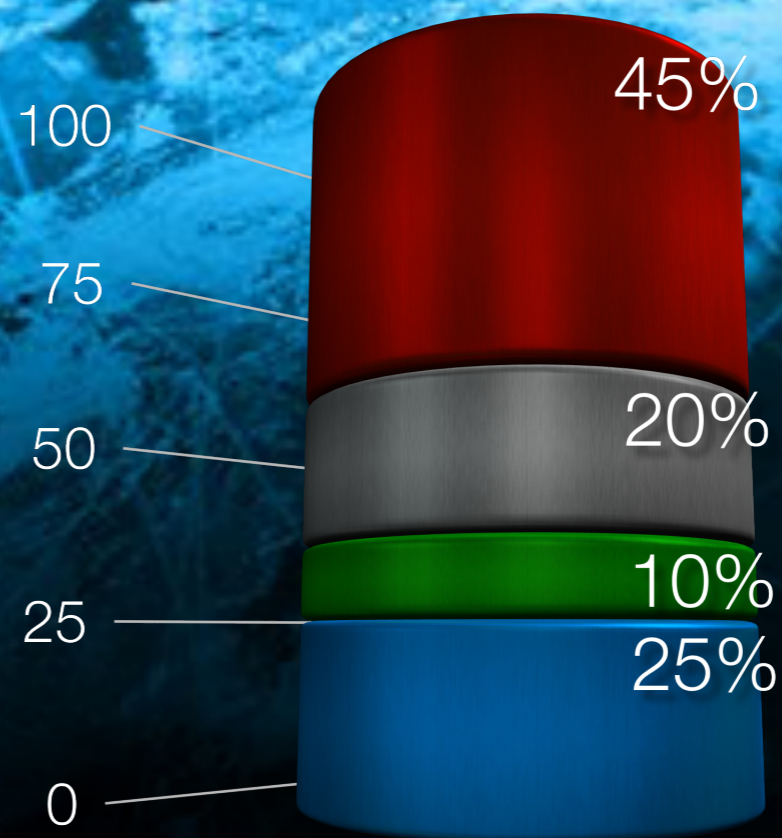


■ Personnel ■ Hardware ■ Software ■ Services

IT Budget



Digital Budget

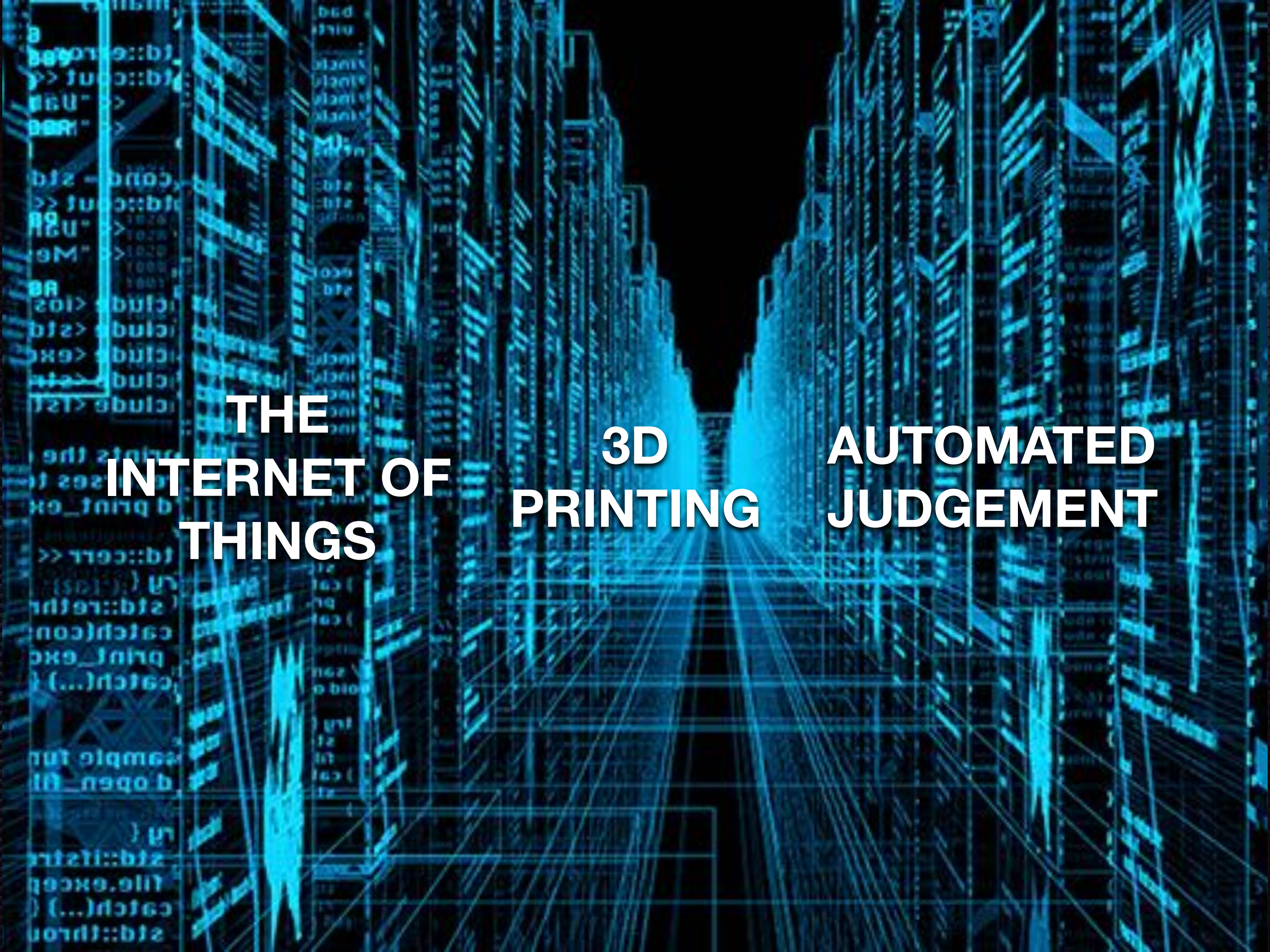




**DIGITALIZE
BUSINESS
PROCESSES**

**PURSUE
DIGITAL
BUSINESS
MODELS**

**COMPETE FOR
BUSINESS
MOMENTS**



**THE
INTERNET OF
THINGS**

**3D
PRINTING**

**AUTOMATED
JUDGEMENT**

THE INTERNET OF THINGS









HUGGIES® Tweet Pee



The first diaper that
tells mommy when
it's time to change.

Situation

Huggies are super awesome. They're really comfortable, but mommy is new at being a mommy so she doesn't always know when I need a change. Also, I don't really talk yet, so I can't tell her when I need one.

Idea

TweetPee: A diaper gadget that sends mom with "diaper condition" information; saves money by preventing unnecessary changes and allows mommy to buy diapers on-line.

Results

Huggies is proving that diaper innovation can go beyond just comfort and absorption for babies. Moms are excited at the possibility that one day every diaper will be able to speak for itself. And babies that are dry and happy.



My name is Sarah. Mom
of the experiment.
www.huggies.com/20

How it works



A diaper sensor sends data to the app on your phone.



The app sends a notification to your phone when it's time to change.



The app sends a notification to your phone when it's time to change.



The app sends a notification to your phone when it's time to change.

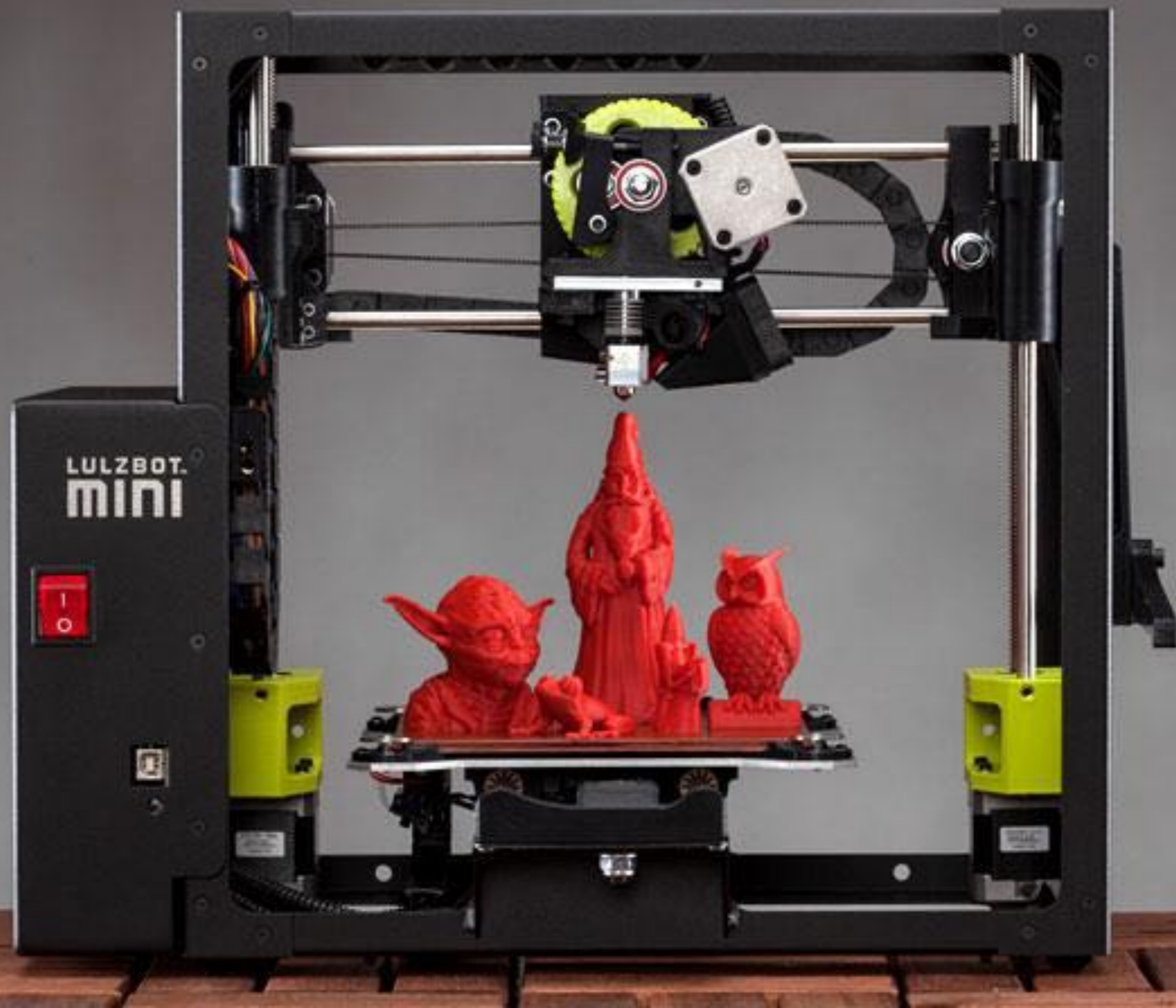


3D PRINTING









BLOCKCHAIN



ECOSYSTEMS

Independent Business networks
offering innovation and productivity
benefits to members through
electronic interchange.

APIs

**CUSTOMER
APIs**

API
MANAGEMENT

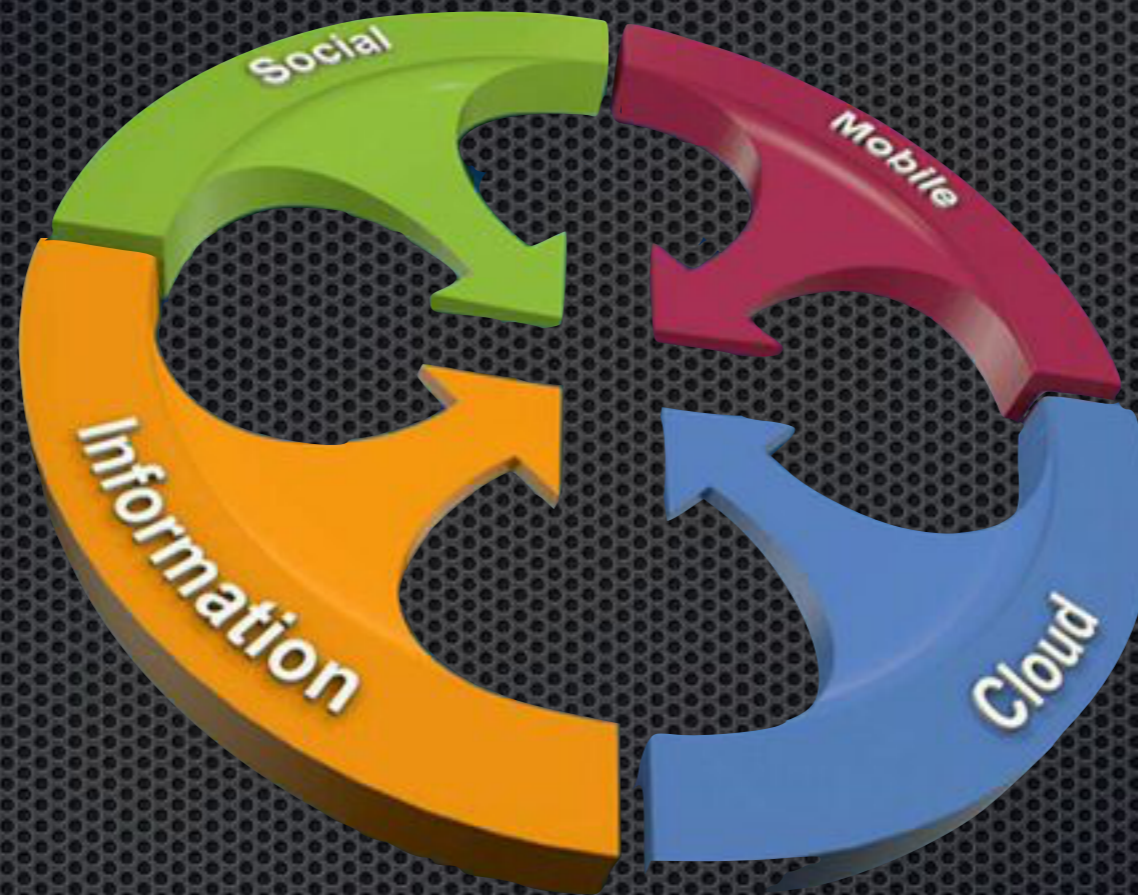
Partner &
Supplier APIs





APIs Implement Business Policies in the Digital World

Nexus of Forces



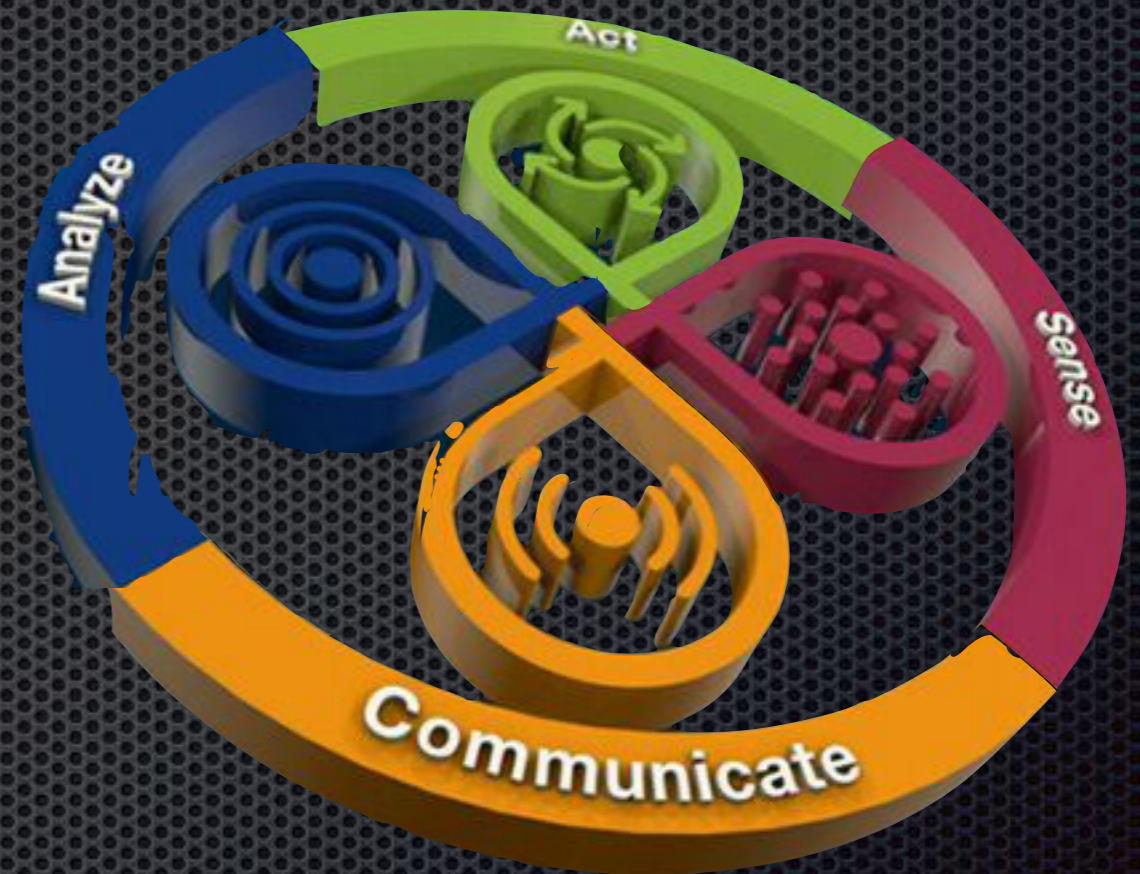


Nexus of Forces



Digital Business

2013 IMAGINE



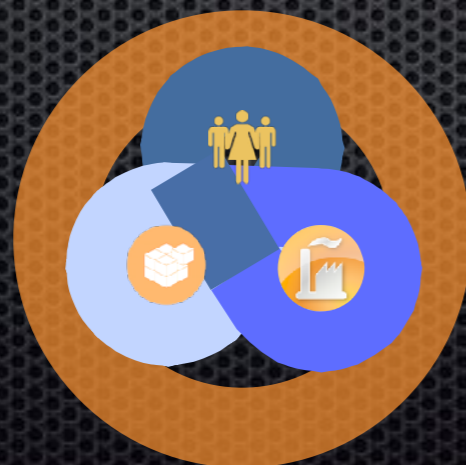
Nexus of Forces



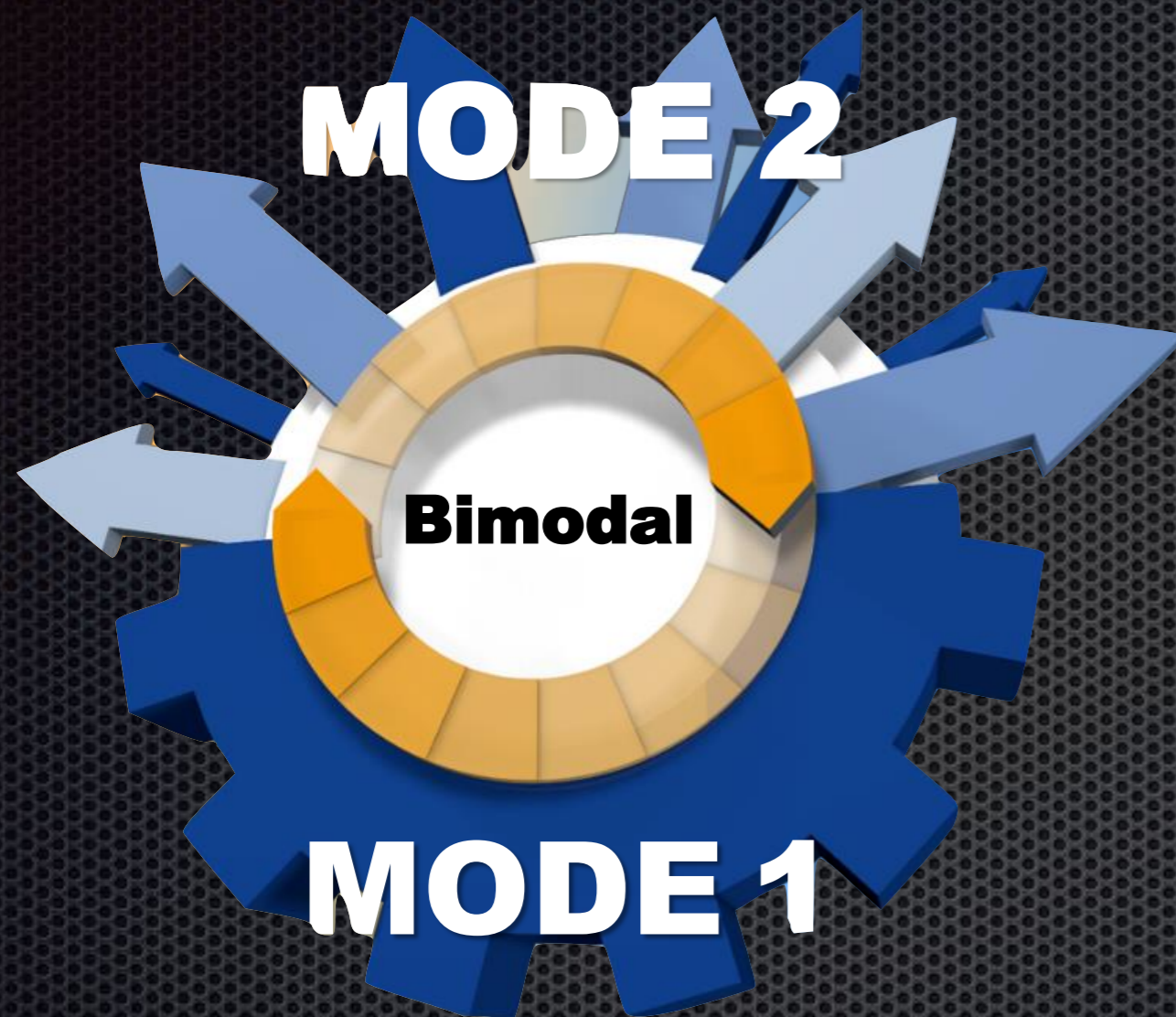


Digital Business

Nexus of Forces



Bimodal Business



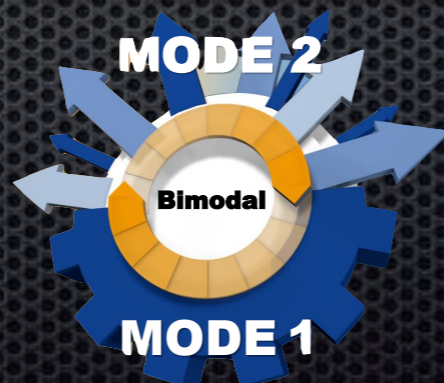
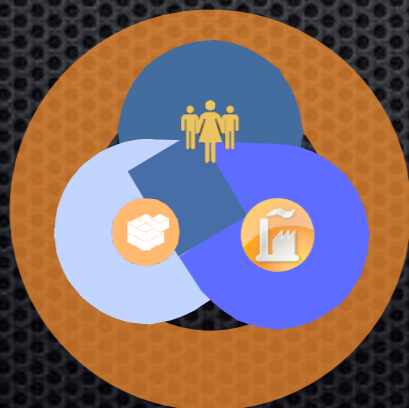
Bimodal is the practice of managing two separate but coherent styles of work: one focused on predictability; the other on exploration.



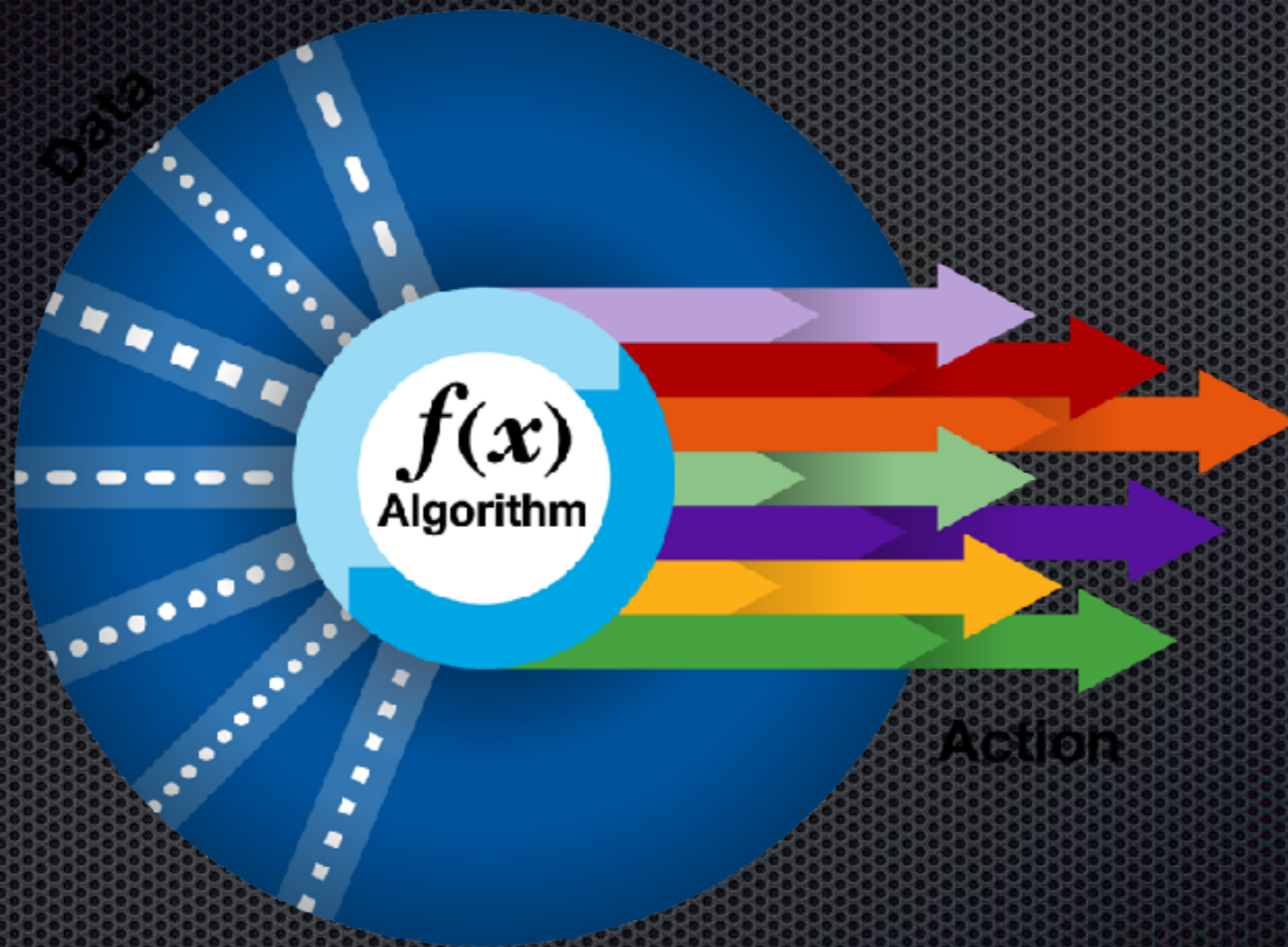
Digital Business

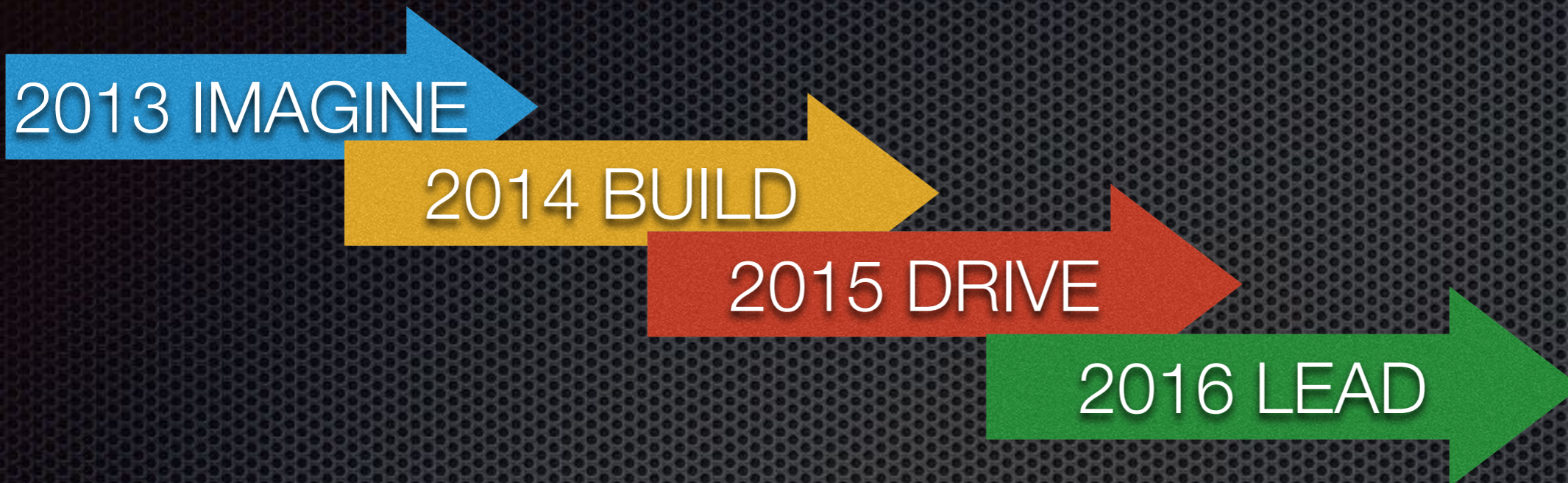
Bimodal Business

Nexus of Forces



Algorithmic Business





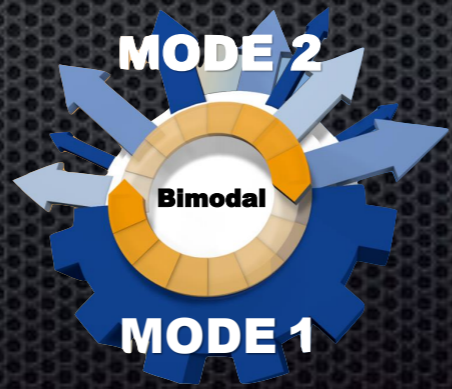
Nexus of Forces



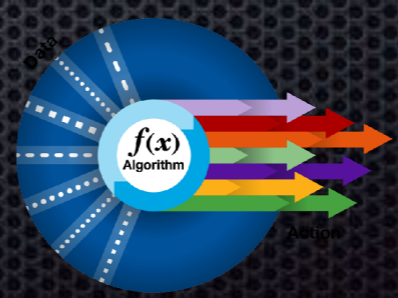
Digital Business



Bimodal Business

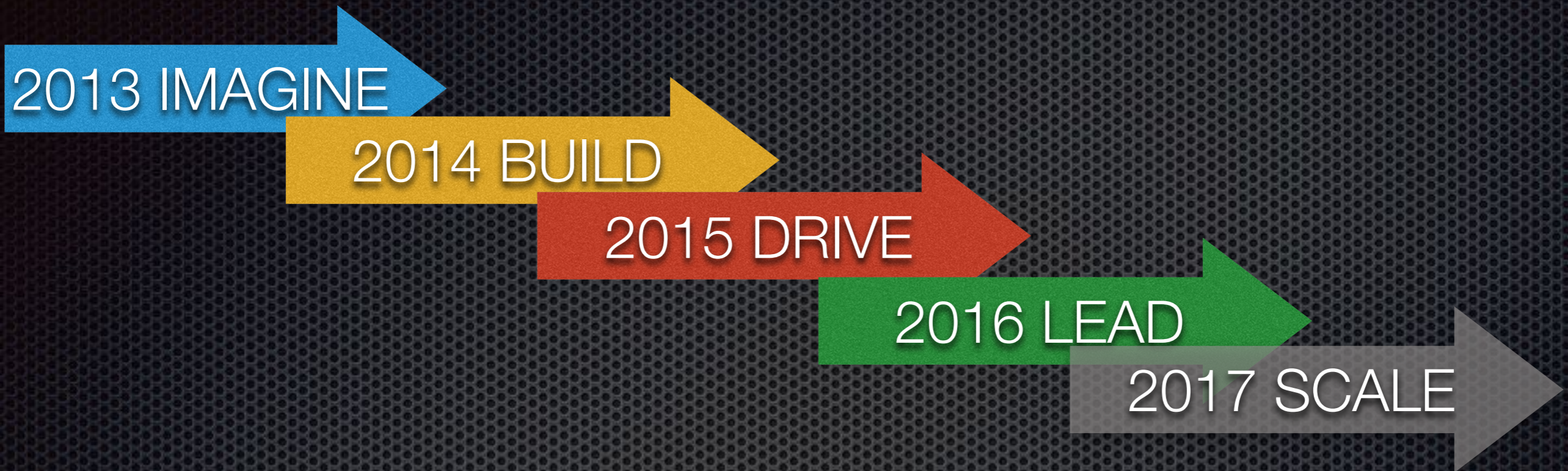


Algorithmic Business



Artificial Intelligence



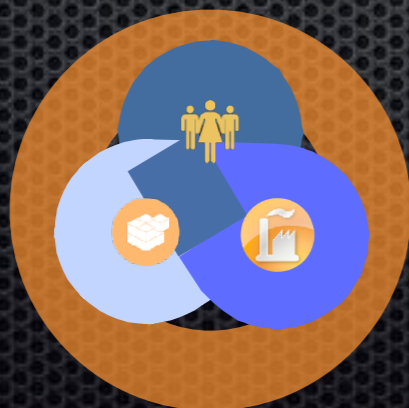


Artificial Intelligence

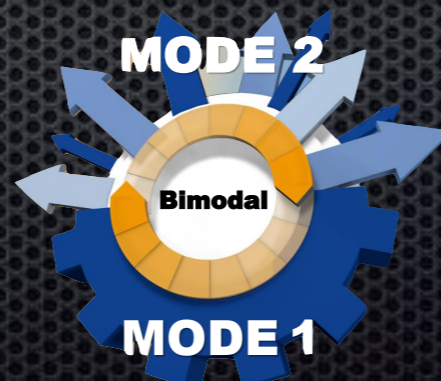
Nexus of Forces



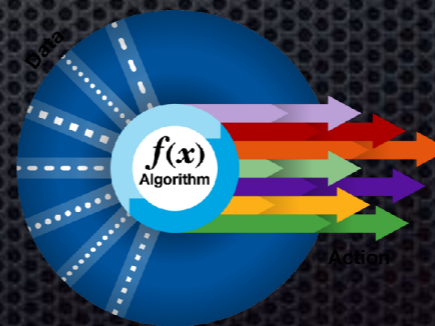
Digital Business



Bimodal Business

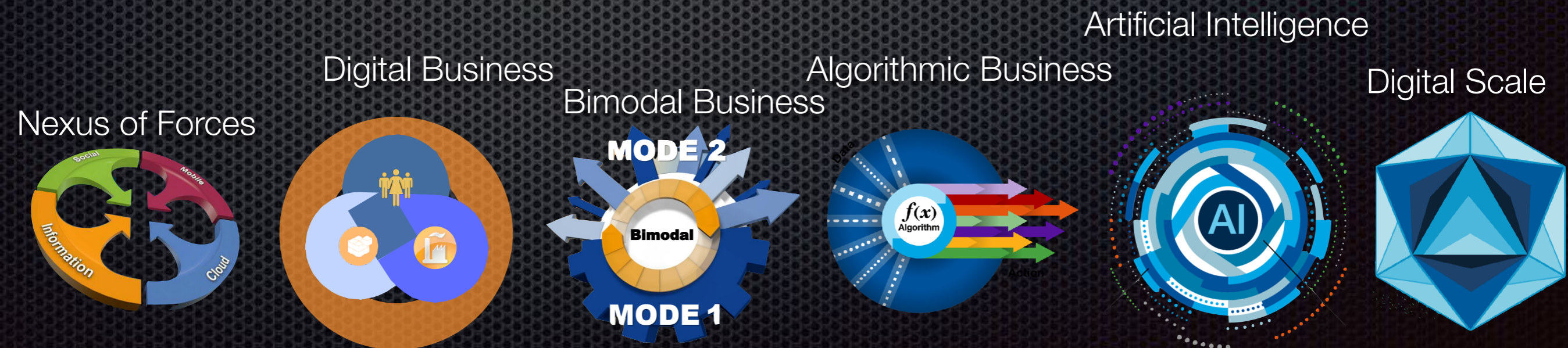
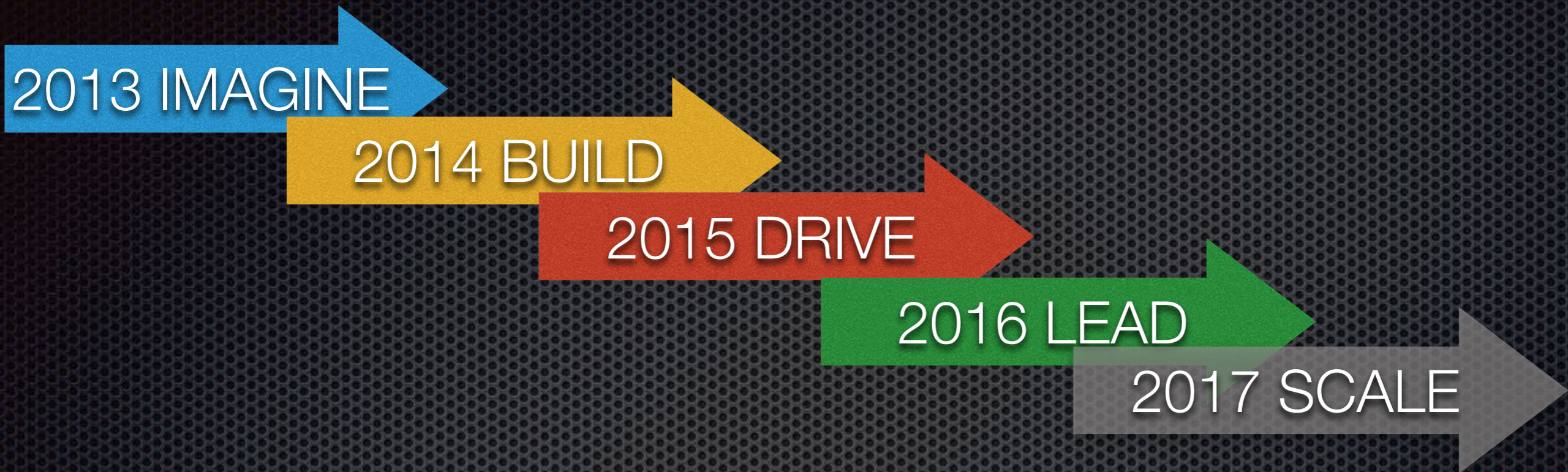


Algorithmic Business



Digital Scale





STRATEGY





Leadership

decision

strategy

ethic

vision

integrity

contribution

communication

motivation

influence

responsibility



**BE THE
INFORMATION
& TECHNOLOGY
LEADER**

**ENABLE THE
DIGITAL
FUTURE**

INNOVATE

digital

LEADING DIGITALLY

Petar Kočović
Digital Dreams
CIO LEADERSHIP FORUM
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