

The Fourth Industrial Revolution



EURAXIND Employers' Workshop

Dr. Isser Peer- IPD Ltd.

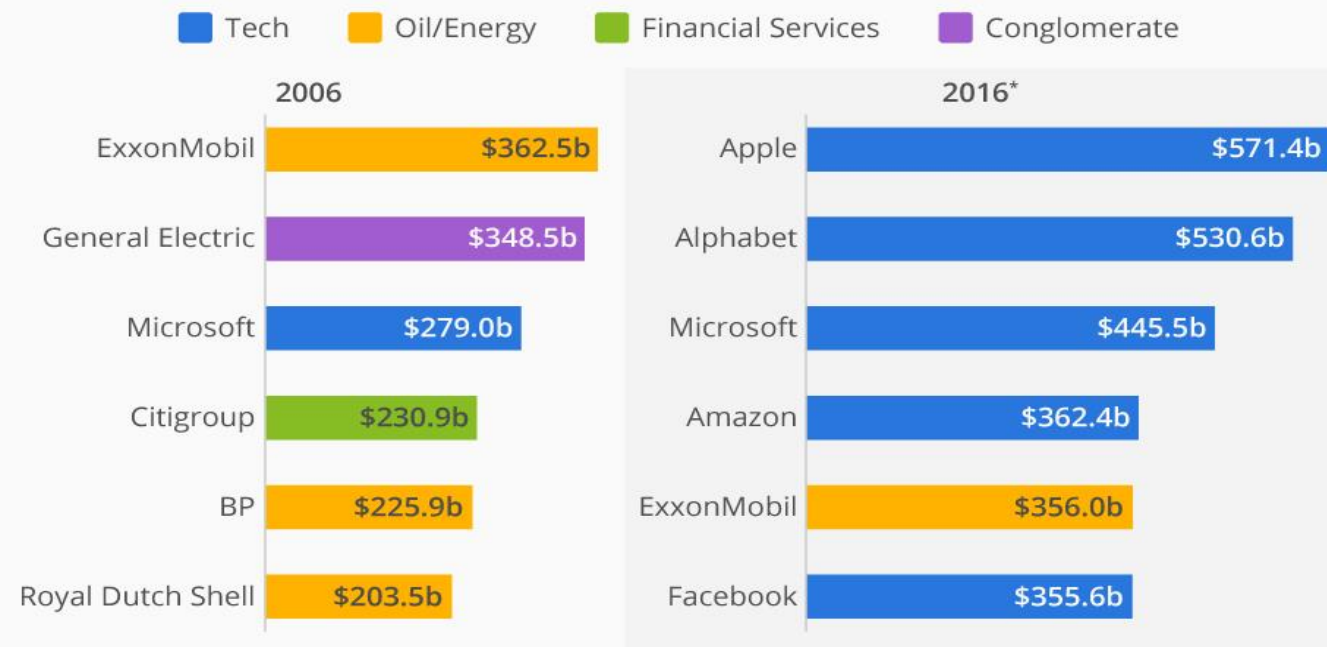
Madrid - 17/10/17



The Fourth Industrial Revolution

The Age of Tech

Market capitalization of the world's most valuable public companies





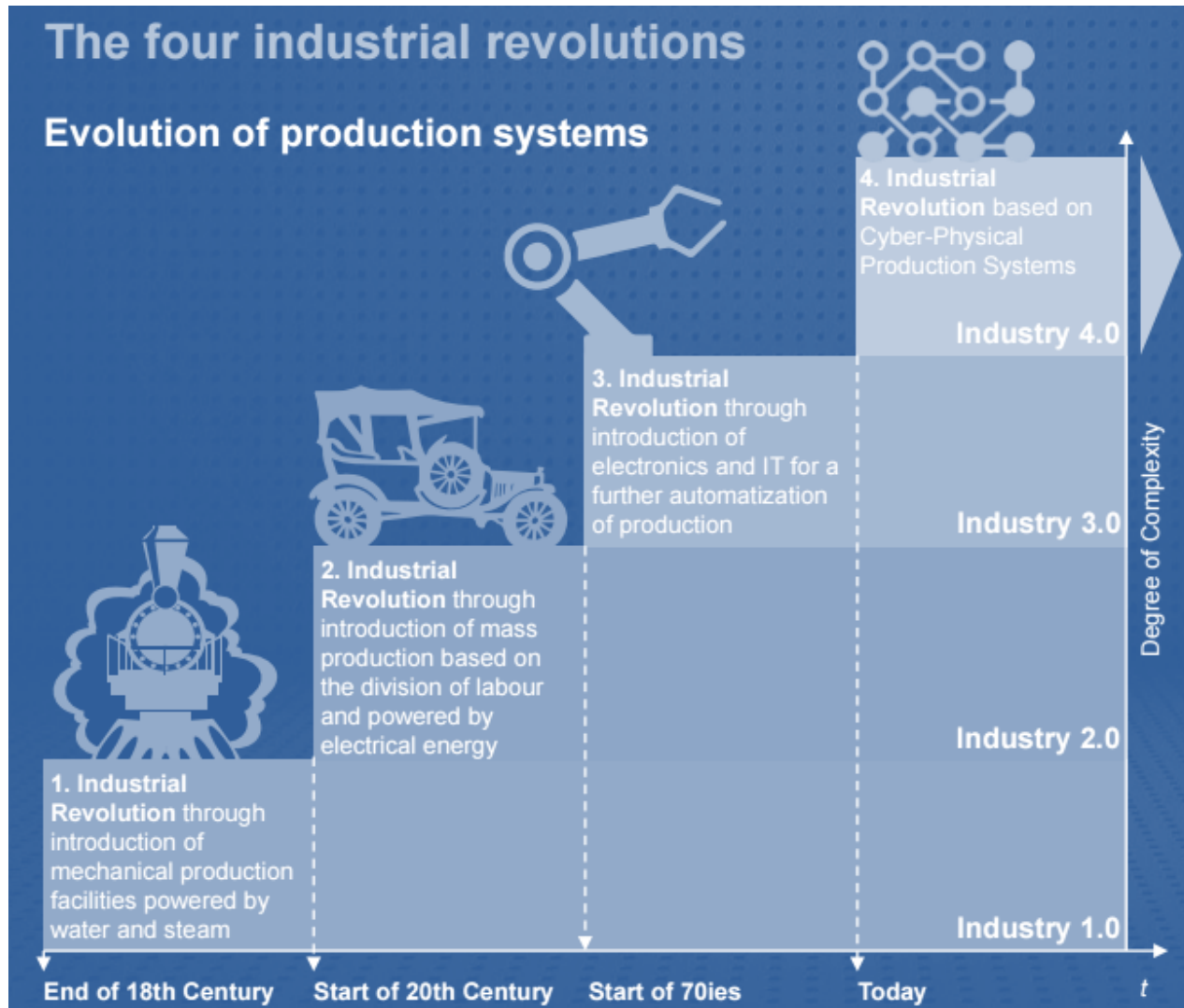
[La Cuarta Revolucion Industrial | Lo esencial](#)- World Economic Forum



The EURAXIND project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No. 710294



Four Industrial Revolutions Have Transformed the Global Production System



Systems are being transformed
– not specific products or services

Cyber physical systems

combine communications, IT, data and physical elements integrating a number of core technologies:

- Sensor networks (receptors)
- Internet communication infrastructure (IP)
- Intelligent real-time processing and event management (CPUs)
- Actors for mechanical activities
- Embedded Software for logic
- Big Data and Data Provisioning
- Automated operations and management of system activities
 - Advanced Robotics
 - 3D/4D Printing

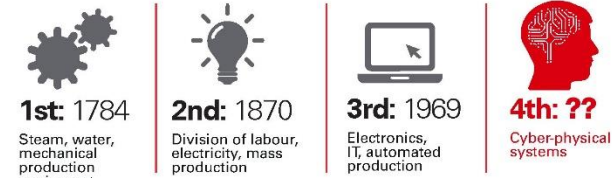


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Source: Accenture

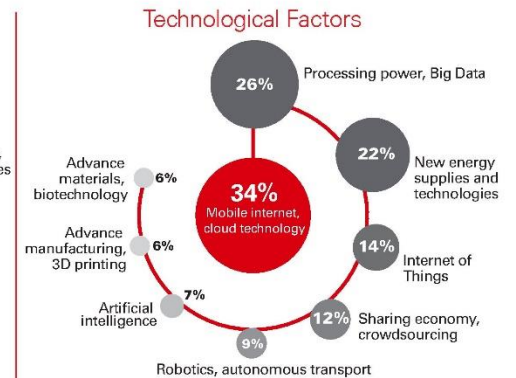
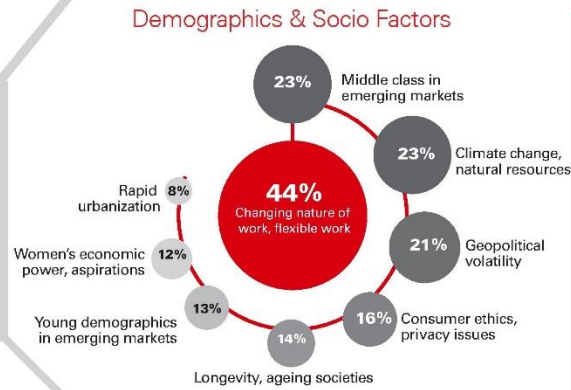
The 4th Industrial Revolution

Historical Industrial Revolutions:



Source: World Economic Forum

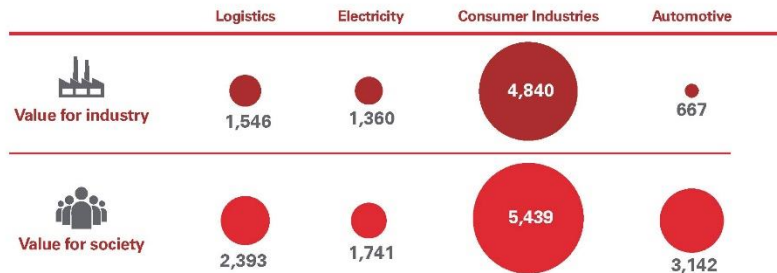
Drivers of 4th Industrial Revolution:



Source: World Economic Forum, Future of Jobs Survey 2016

Impact on Key Industries:

Impact of Digital Transformation until 2025 (USD BN)



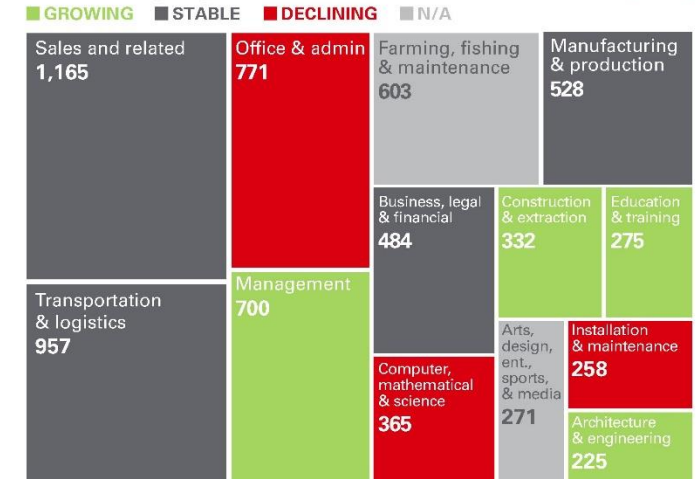
Source: World Economic Forum, Accenture analysis

Future Workforce Strategies:

Share of respondents pursuing strategy (%)



GCC Employment Outlook Current Workforce (000s)



Source: World Economic Forum

How will jobs be affected?

- Oxford Martin School (2013): 47% of US jobs at risk
 - Bruegel (2014): 45 - 60% of European jobs at high risk
 - CSIRO & ACS (2016): 44% of Australian jobs under threat
-
- **“Robots take jobs from travel to translator”**
The Australian, 14 May 2017
 - **“Why robots and AI won't replace most jobs”**
TechRepublic, 17 May 2017
 - **“Robots aren't destroying enough jobs”**
Wall Street Journal, 10 May 2017





35% of core skills will change
between 2015 and 2020

Disruption across countries and industries

43% Financial Services & Investors
42% Basic & Infrastructure
39% Mobility

48% Italy
42% India
41% China
41% Turkey
39% South Africa
39% Germany
38% France
37% Mexico

35% Information & Communication Technology
33% Professional Services
30% Energy
30% Consumer
29% Health
27% Media, Entertainment & Information

31% Brazil
29% United States
28% United Kingdom
27% Australia
25% Japan
21% Gulf Cooperation Council
19% ASEAN

average
disruption

Change of the skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence **NEW**
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility **NEW**

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity



Source: Future of Jobs, World Economic Forum

The Fourth Industrial Revolution

- Technological change and its impact on labor markets **call for a renewed focus on how the world's human capital is invested in and leveraged** for social well-being and economic prosperity for all.
- Many of today's **education systems are already disconnected from the skills needed** to function in today's labor markets and the exponential rate of technological and economic change is further increasing the **gap between education and labor markets.**



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- Current education systems are also time-compressed in a way that may not be suited to current or future labor markets. They force **narrow career and expertise decisions in early youth.**
- The divide between formal education and the labor market, needs to be overcome, as learning, R&D, knowledge-sharing, retraining, and innovation take place simultaneously throughout the work life cycle, **regardless of the job, level or industry.**

World Economic Forum- The Global Human Capital Report 2017

- **Privet sectors might replace the Academia as education and knowledge providers.**
- Public sectors' mission – increase wellness of society
- Private sectors' mission – increase value





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