



The Intersection of information and energy technologies - Empowering women for digital age

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for

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MainOne

Technology & the Energy Sector

The oil and gas industry has always been at the cutting edge of technological innovation notably in upstream, and significant potential remains for technology to enhance operations. The next few years will see huge transformations in the entire industry.

What's new?

- Advances in data, analytics, and connectivity including Machine Learning and Artificial Intelligence (AI), provide new ways of interpreting Big data.
- Improved data storage with Data Centers and Public Cloud platforms like Microsoft Azure, Amazon Web Services and Google Cloud.
- Operational Efficiency and Asset utilization

Technology & the Energy Sector

Highly innovative industry + Latest digital technologies = Great pairing.

But there are some hiccups

- Slowness in technology adoption
- Open standards and Interoperability
- Government Policies
- New threats such as cyberattacks.
- Lack of Education and skills development



***"Digital skills are key for the transformation,
sustainability and improved competitiveness of the
Energy Sector."***



Adapting to the 21st century

New technologies such as Artificial Intelligence (AI), Virtual and Augmented Reality, Blockchain, Drones, Internet of Things (IoT), Robotics, 3-D Printing are transforming the Energy sector but there is a shortage of skilled labour for the digital jobs of tomorrow .

Skills affected by talent shortage in the Energy Sector

- Analogue technical
 - Analytical
- Commercial awareness
 - Digital
- Interpersonal
- Leadership
- Problem-solving
- Process management
- Strategic planning

Top Skill Sets required

- Data Visualization
- Data Engineering
- SEO/SEM Marketing
- Machine Learning
 - Coding
 - UI/UX Designs
- Network and Information Security
 - Cloud Computing
- Blockchain specialization
 - IoT
- Data Science and Analytics

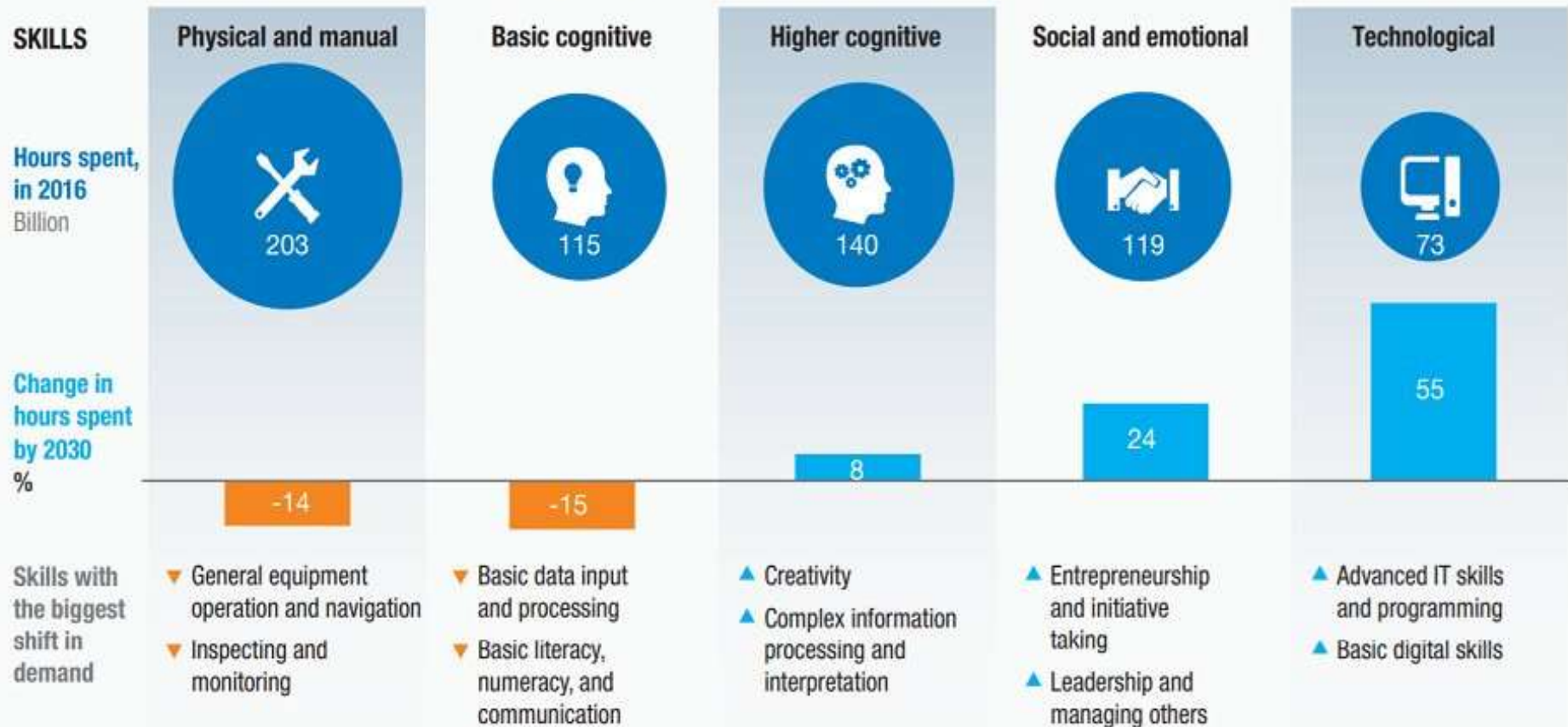
Source: Global Energy Talent Industry Report 2019



Digital skills required for the 21st century

Automation and AI will change the skills needed in the workforce

Total is for United States and 14 Western European countries



Source: McKinsey Global Institute Report on "Automation and the future of the workforce"

The role of women?

"If women in every country played an identical role in markets to men, as much as twenty-eight trillion dollars would be added to the global economy by 2025." - McKinsey Global Institute report



Empowering women for the digital age

Digital tools are empowering, and it is essential for everyone especially woman to take advantage of the digital transformation as a leapfrog opportunity to build thriving careers and a more inclusive digital world.

THE FACTS

250
million

Fewer women
than men are
online

35%

of STEM students
in higher education
globally are women

90%

of most used, "big data",
open-source software
packages are
authored by men.

12%
higher
pay

women who perform more
ICT-intensive tasks in their
job receive a 12% higher
pay increase than men

Potentials and Opportunities

- There is shortage of skilled labor for the digital jobs of tomorrow
- Over 90% of jobs worldwide already have a digital component and most jobs will soon require sophisticated digital skills.
- Digital skills offers “leapfrog” opportunities for women’s economic empowerment.
- Digital skills command higher labor market returns.
- Digital skills provide an important safeguard against the risk of automation.
- A bulk of the workforce especially in the energy industry are ageing and teetering on the brink of retirement.

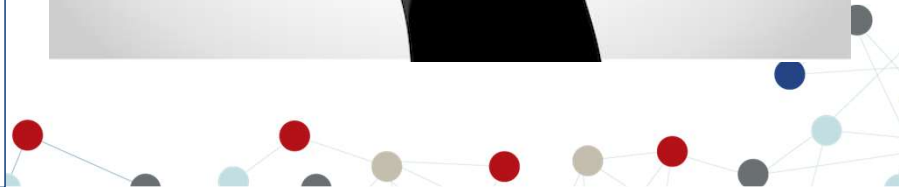


Limitations

- Gender gap in science, technology, engineering and mathematics (STEM) fields grows with age.
 - Lack of relevant knowledge and skills in using digital tools
 - Socio-cultural perceptions and stereotypes
- Lack of female role models and under-representation of women in senior roles within digital companies, energy industry.
 - Work- Life balance. Quit rate is twice as high for women than it is for men

Closing the Gender Gap.

- **Digital Literacy & exposure to tech.**
Encourage early participation, awareness and critical thinking for the girl child in STEM fields.
- **Mentorship:** More female role models in the sector act as encouragers and support system for the younger generation and colleagues in tech
- **Skills Development and Capacity building:**
women must be open to Re-training and ICT formal education
- **Networking** and increased women's confidence in tech and digital innovation
- **Government Policies** and intervention to support and increase number of females in STEM careers.



Skills Development enabled by new Learning Platforms



Online learning platforms offer women opportunities to improve digital skills, access new knowledge and markets, build capacity to grow their careers, add value and reduce the digital gender divide.



"Bringing more women into the industry solves two pressing issues: the skills gap and the gender gap -

The Global Energy Talent Index Report 2019

