

The digital gap and gas measurement techniques and their effects

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Abstract

The digital gap has many aspects, which prompted the different factions of society to define it, each according to its competence. We find that the digital gap is the gap that separates those who have knowledge and the ability to use modern technologies and those who do not have this knowledge and that ability. There are many reasons behind the widening of the digital gap between developing countries and the developed world, as a result of the Fourth Industrial Revolution and the acceleration in technologies, and there are still large digital gaps between them and this affects the climate, sustainable development and the increase of gases emitted, which requires bridging this gap and addressing the resulting challenges and their effects on the environment. Achieving the goals and objectives by adjusting the accuracy of measurement and calibration devices.

Introduction

The information revolution is the force on which people's economy depends. It depends on the existence of the means of communication available for these modern technologies and their proper use. Closing the digital gap contributes to the measurement of emitted gases and their effects in order to measure substances in the air. Units and measurement devices differ according to the different types of substance, whether it is solid, gaseous, or liquid.

Methodology

The study is focusing on several objectives which are:

- Providing and enhancing access to information technology and increasing its employment in gas measurements and calibration of its devices.
- Bridging the digital gap that operates within the scope of digital transformation to monitor gases and ensure the quality of life and the environment.

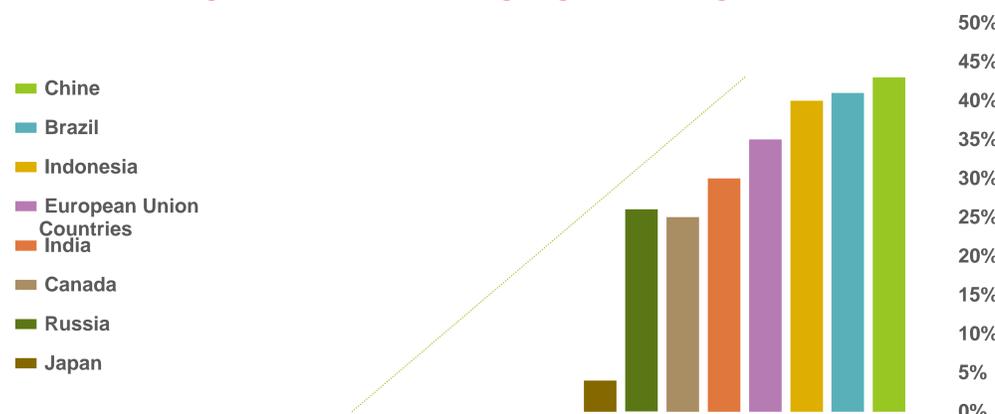
of digital transformation to monitor gases and ensure the quality of life and the environment.

- Addressing the challenges arising from the digital gap to reduce the amount of greenhouse gas emissions resulting from the industrial and technology sector
- Playing a leading role in the environment of measurement and Information and the industrial information society has become the dominant force on peoples' economy and climate based on accurate information, data and statistics that can achieve success in all fields.

Ranking of countries according to greenhouse gas emissions. There are 170 countries that are responsible for more than 90% of greenhouse gas emissions, including the following countries:

The Country	The percentage of gas reductions by 2030, ranging from - To
Chine	60- 65 %
Brazil	43 %
Indonesia	29 – 41 %
European Union Countries	40 %
India	35 %
Canada	30 %
Russia	25 – 30 %
United State	26 – 28 %
Japan	26 %
Iran	4 – 8 %

Ranking of countries according to greenhouse gas emissions



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1. Adopting modern technologies in the fields of measurement, calibration, gases and chemicals, and enabling scientific research to protect the environment and quality of life
2. Improving air quality and reducing pollution by reducing the concentrations of pollutants for suspended substances and gases of all kinds to the minimum permissible level according to national and international specifications, measurement and calibration
3. Encouraging digital integration, bridging the digital divide, providing open source information and data and exchanging them through emerging smart technologies and artificial intelligence, to raise the capabilities and competencies of pollution measurements, and to achieve the principle of metrological attribution to international units (SI), and the accuracy and quality of results.
4. Filling the digital gap in chemical measurements concerned with the production of approved reference materials (a mixture of gases with specific concentrations, pressures and volume), and monitoring environmental pollution, such as gases (CO - CO2 - NCO).
5. Raising the efficiency and diversity of testing and calibration laboratories reference to conduct tests and examine them to cover the demand. And finding solutions to the current challenge from the lack of laboratories supporting local manufacturers.

Conclusion

The need to bridge the digital divide in the most common mass flowmeters used for gases are heat flow meters, or Smart Measurement ATMFs. It uses the method of constant temperature difference to measure the flow rate of the gas mass, and the application of artificial intelligence techniques and modern techniques to monitor these gases and adjust the measurement and accuracy of uncertainty by applying modern technologies and digital transformation. Supporting the National Industry and Logistics Development Program and developing the national reference capabilities in the areas of examination and testing

Ref

Source: Global Innovation Index Report, 201

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