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PoV

Intelligent Automation:

Charger For Energy & Utilities
Industry in Future

A 3-D future

The energy and utilities industry is in the midst of transcendental changes that will define the next decade. These changes are centered around the three Ds or 3-D as we'll call them.

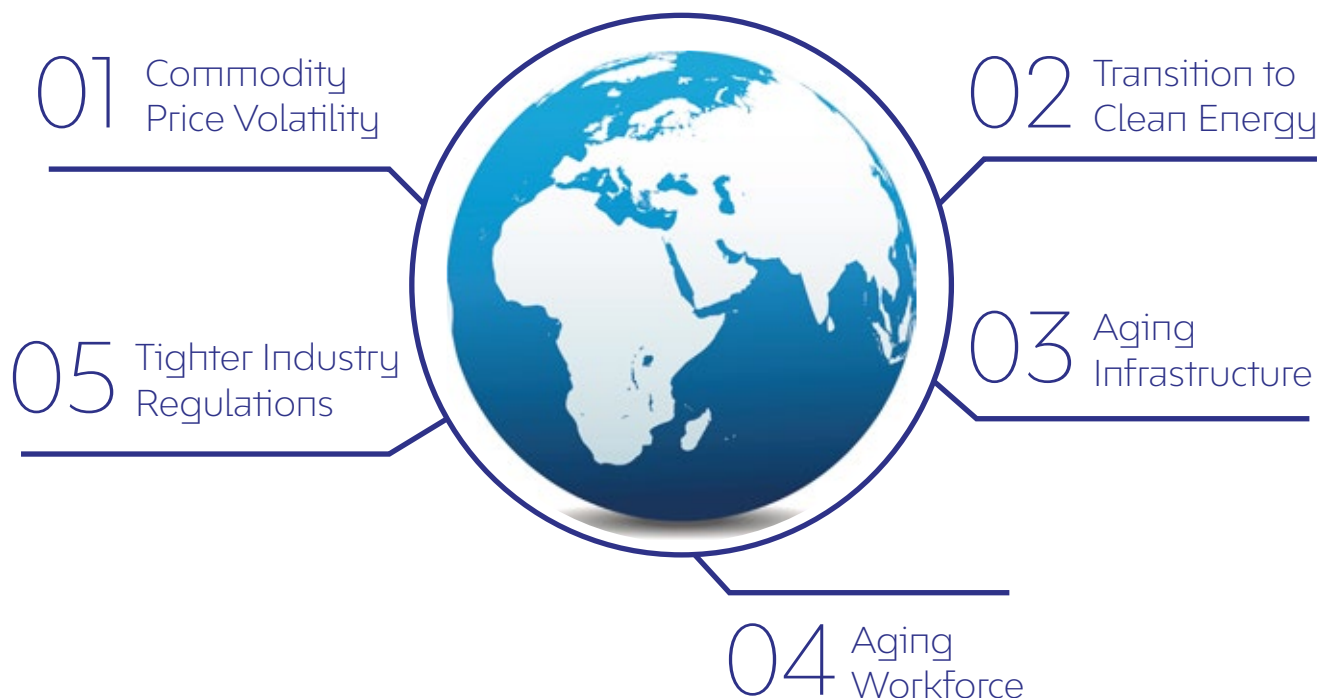
These are:

Decarbonization | **Decentralization** | **Digitalization**

These three will help the industry to break away from its conservative, regulated and monolithic past. And instead move towards becoming an innovative, adaptive and service-oriented industry.

The recent global COVID-19 pandemic has accelerated the industry's shift towards the adoption of these three Ds in a more cohesive form. These events have also showcased why the three Ds adoption has become ever so important due to disruptions caused at various levels in operations, supply chains, workforces, etc.

What challenges is the industry facing?



01. Commodity Price Volatility

is happening due to rising geopolitical uncertainties, COVID-19 pandemic and slowing down of economies. These factors are leading to an imbalance of supply & demand.

02. Transition to cleaner energy sources

such as solar and the introduction of electric vehicles will have a significant impact on oil consumption in the near future.

03. Depleted infrastructure

such as pipelines, tanks and vessels are increasing the cost of maintenance, which will further entail higher expenditure for their upkeep

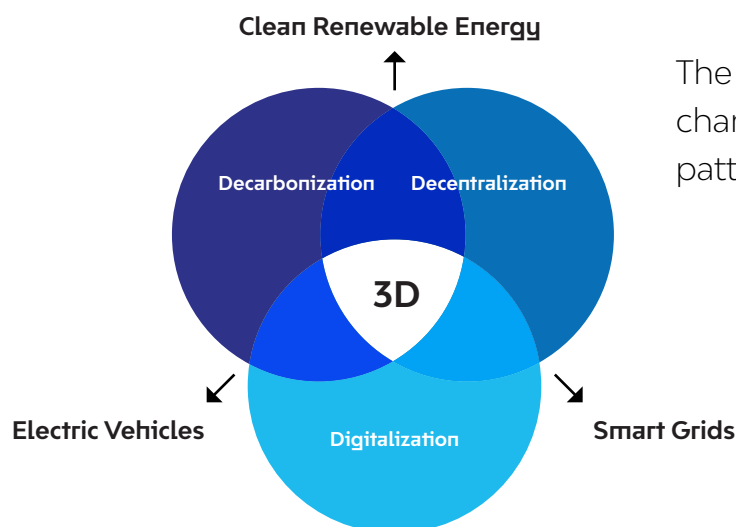
04. The aging workforce

presents a “big crew” change, as approximately 40% will hit the retirement age by 2025, and companies will experience difficulties in attracting young, innovative talent to replace the retiring staff

05. Increasing industry regulations

across functions and moving

How is the industry adapting?



The transition towards 3 Ds has been due to the changes in energy production, consumption patterns and way of working.

Let us briefly look at how each pillar will play a crucial role in the transformation of the industry:

- **Decarbonization**

Increased environmental consciousness is making the world switch to clean renewable energy sources such as hydro, wind, solar, nuclear. Clean technologies such as electric vehicles, high energy storage, etc. are becoming the new normal. This will have a significant and lasting impact on fossil fuel production & consumption in the coming decades.

- **Decentralization**

Economic activities are no longer concentrated in high-density cities. Due to changes in industries and the mode of working, a lot of decentralized smaller economic hubs are coming up, outside the main cities. These are significantly changing power consumption trends. In such scenarios, large central power stations will be replaced by decentralized small-scale power generation units. These will make use of **"smart-grids"**, which store excess energy and share it as per the demand-supply patterns.

- **Digitalization**

This is the most crucial pillar without which, we will be unable to achieve the goal of a clean, efficient and service-oriented industry. Digitalization will alter the way how power is generated, distributed and consumed. As industries become more customer-centric, digital solutions will play a key role in this transition. The rise of the digital workforce using different digital levers will significantly enhance the work capabilities both on and off the field. This will result in unmatched levels of efficiency.

Keeping these primary goals in mind, 3-D changes are geared towards not only meeting the existing challenges but also future challenges

Intelligent Automation is a digital enabler







Intelligent Automation will play a crucial role as a digital enabler, which will help in achieving the overall digitalization objectives. These comprise increased cost savings, higher customer satisfaction, enhanced incremental revenue sources and efficient usage of infrastructure resources. Many organizations have taken a proactive approach by embarking on various “digital transformation” programs to keep pace with the changing industry trends. On the other hand, many others have become aware of the need and necessity due to the impact of the COVID-19 pandemic. Intelligent automation technologies (RPA, AI, ML, NLP) are one of the most versatile and flexible sets of technologies which can be incorporated in an organization’s digital transformation strategies. That’s because they have agility, applicability, capability and cost-effective practicality with minimal disruptions. These aspects make intelligent automation as one of the most crucial levers of digitalization, which can help companies to achieve their end business goals within well-defined timelines and budgets.

Where can IA help?




Due to COVID-19, disruptions have occurred across varied functions related to operations, supply chain, back-office, workforce, etc. These disruptions have not only highlighted the importance but also the need for digitalization of different functions at multiple levels across the business value chains. However, like all technologies, intelligent automation also does not follow a one-size-fits-all strategy. Depending upon the specific pain points, intelligent automation can be customized at different levels across the value chain. Such an approach helps in maximization of benefits realization, reduction of unnecessary costs and achievement of high degree automation.

The business value chain functions can be broadly classified into core and support functions. And the accompanying use case examples can give an idea about the wide-scale applicability of [intelligent automation solutions](#) and how organizations can benefit from their implementation.

Core business value chain functions

Functions	Use case examples
 Exploration	Yield optimization Forecasting Data optimization
 Generation	<ul style="list-style-type: none"> • Transactive energy solutions • Predictive maintenance • Asset maintenance decision support
 Transmission & distribution	<ul style="list-style-type: none"> • Grid behavior • Leak / failures • Optimized energy consumption • Load forecasting • Transport operations • Energy storage • Energy theft prevention • Demand Management
Core functions	Use case examples
 Trading	<ul style="list-style-type: none"> • Energy Trading • Data Management
 Energy Services	<ul style="list-style-type: none"> • Meter Reading • Correct Misreads • Customer Data Processes • Pricing Updates • Complaint Management • Self-Services • Billing & Settlements • Metering
 Sales & marketing	<ul style="list-style-type: none"> • Sales chatbots • Automated marketing campaigns

Support business value chain functions

Functions	Use case examples
 Procurement	<ul style="list-style-type: none">• Vendor management• Inventory records• Contract management
 Finance & accounting	<ul style="list-style-type: none">• Order entry• Reconciliation• General ledger accounting
 Human Resources	<ul style="list-style-type: none">• Hiring management• Onboarding• Payroll management
 Research Development	<ul style="list-style-type: none">• Defect detection• Data quality management• Regulatory compliances
 Customer Service	<ul style="list-style-type: none">• Customer service chatbots• CSAT tracking• Self service
 Information Technology	<ul style="list-style-type: none">• Query resolution• Event correlation• Server automation

With such Intelligent Automation solutions at different business function levels, energy & utility companies can safeguard themselves from the ongoing pandemic-related disruptions. Not only that, they can future-proof themselves from the expected changes in the industry which are bound to happen due to the adoption of 3-D in the coming future.

Author



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Omar is a seasoned global Business Development and Consulting executive, with focus on the IT sector, across domains. He is responsible for leading efforts under presales and marketing in LTI's Intelligent Automation practice. As part of his experience, he has built a track record in building purposeful digital transformation solutions leveraging technology in the context of the customer's business.

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