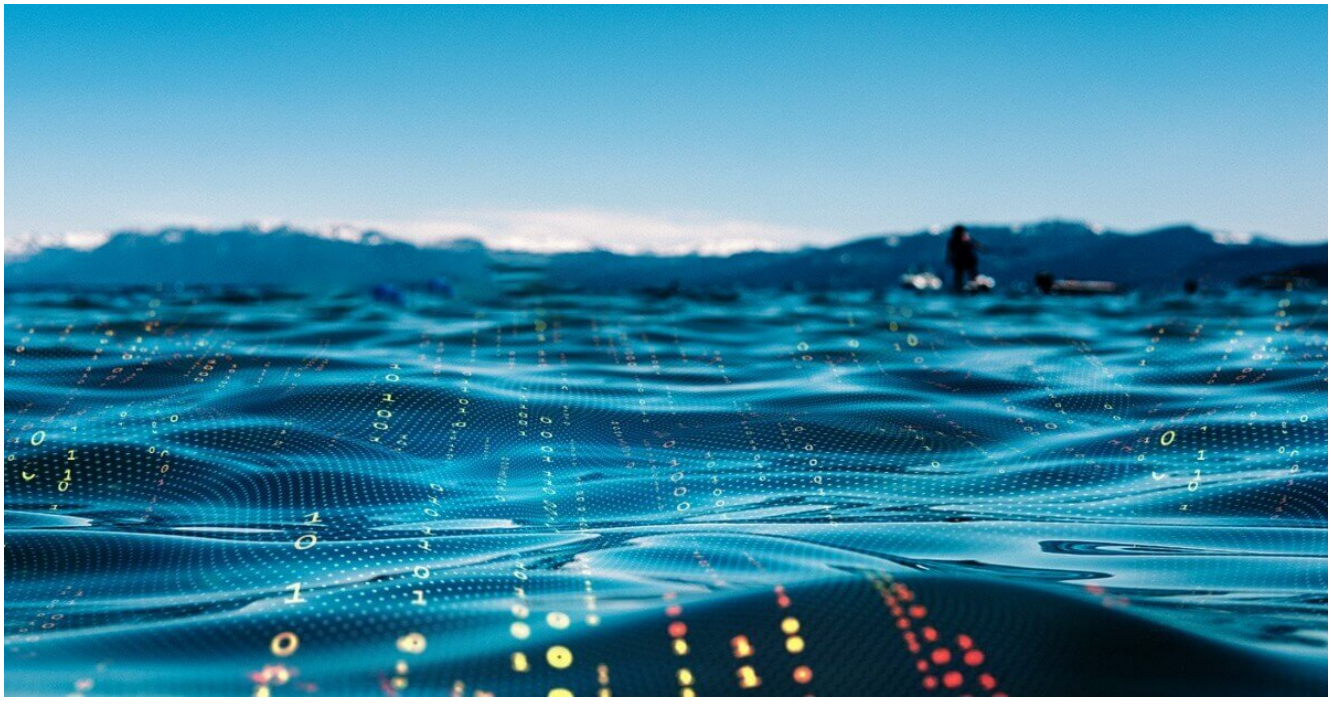
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Data Lakes for Driving Seamless Digital Transformation

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Almost every organization is thinking digital today. And thinking out of the box to quicken digital transformation. It's not an obsession but an exigent need for enterprises to navigate complex business challenges in a post-pandemic world. One research pegged the market for digital transformation worldwide in the range of $350-470 billion in 2020 with an expected growth of 15 per cent CAGR over the next few years. But there is more to the digital transformation story than only deploying **emerging technologies**. It's as much about infusing a data-driven culture and adopting an agile data management strategy. Just think how challenging it is to manage an avalanche of data streaming from all sources- mobile apps, IoT devices, social media- primarily unstructured. The time can't be riper to switch from legacy data infrastructure to data lakes- repositories that can ingest data from any source, in any form.



How Data Lakes Are Critical for Any Digital Transformation

Research shows around 70 per cent of the digital transformation projects have failed during some stage of implementation. Most of the projects floundered as companies lacked definitive KPIs to engineer the transformation. Adopting data lakes can smoothen the digital transformation journey because of known strengths:

- **Single source of truth:** Capable of storing all forms of data, the data lakes can act as the single source of truth for insightful decision making.
- **Decoupling from transactional systems:** Data lakes helps to decouple data requests from the transactional systems, thus helping the teams to run the systems effectively.
- **Clean and harmonizing data:** Data emanating from numerous sources have quality issues. Having a data lake can detect issues.
- **Automation:** Data lakes enable automation of data extraction and can refresh datasets on a near real-time basis.
- **Data Democracy & Real-Time Insights:** In large enterprises, conventional data sets are restricted to specific user groups. Adopting data lakes is the way forward for the democratization of data.

Data lakes have other clear benefits for enterprises. They can transform raw data into a deliverable insight, create a pervasive, data-driven culture, offer elastic storage and computing horsepower capabilities, etc.

The Widening Use Cases

Data lakes can have many use cases as nearly every organization needs to mine the data right for drawing actionable insights.

- **Oil & Gas:** It is estimated that the oil & gas industry generates 1.5 terabytes of IoT (Internet of Things) data every day. The legacy data stored in data lakes can be used for directional drilling, minimizing unexpected downtime, lowering operating expenses, improving safety, and ensuring regulatory compliance. Figures from the World Economic Forum (WEF) say that the oil and gas industry can unlock $1.6 trillion of value by 2025 by leveraging data lakes.
- **Smart Cities:** Governments and private organizations are collaborating to build connected and liveable Smart Cities. Using data lakes can leverage the immense volume of data generated by pedestrians, daily commuters and vehicles.
- **Cyber security:** Cyber security is a challenge that every organization is battling as data breaches can wreak havoc. Data lakes offer a secure and safe repository for housing any company’s digital assets.
- **Marketing:** Data lakes enable better targeting and segmentation of customers. They can collect any information from demographics to preferences of customers and

prospects from myriad sources and assist in personalized marketing campaigns. Data lakes can also help marketers to monitor and analyze data in real-time- this is particularly useful when you are working with streaming devices and need to take strategic decisions on segmented campaigns.

Into the Future of Data Management

The last year and a half have seen an upsurge in the adoption of cloud-based data lakes. The market for data lakes is growing. From **$4 billion in 2020**, the global market for data lakes is tipped to reach **$15.9 billion by 2026**, marking a CAGR of 25.3 per cent. Data lakes have emerged as a must-have for any data stack. But organizations are using data lakes in conjunction with enterprise data warehouses. A fresh concept being bandied about is data lakehouses- they merge the best features of lakes and warehouses. The future could see more efficient hybrid data lake architectures- scalable, flexible, and capable of processing complex and disparate datasets.



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