# Shanghai's Data Exchange to fuel Fourth Industrial Revolution

## Why in news?

With Shanghai's launch of data exchange, Chinese companies are starting to join government-backed platforms that aim to create open marketplaces for data.

## Why is data so significant?

- It's widely perceived that the Fourth Industrial Revolution, characterized by a fusion of technologies would undoubtedly be driven by data.
- The digital universe is now expected to be doubled every two years, and by 2025, an estimated 463 exabytes of data will be created each day globally.
- A 2011 World Economic Forum report described data as a "new asset class" and argued that personal data is generating a new wave of opportunity for economic and societal value creation.
- Data is considered as a new factor of production— a resource like oil that shapes the entire economy.

## What is the history of data exchanges in China?

> *A Data Exchange Platform is the most advanced environment where organizations can distribute, source, exchange, share and commercialize data and/or orchestrate data ecosystems creating powerful data partnerships.*

- The idea of setting up data exchanges in China began in 2013 when a Chinese businessman named Wang Sanshou (nicknamed the 'Data King') proposed to set up a platform to trade the big data owned by local governments and state-owned enterprises.
- China's initial small-scale experiments of data trading, however, failed to reach critical mass.

- The **Guiyang Data Exchange**, established in 2015, never saw significant trading volume.
- Over the past 6years, about 30 big data trading platforms have been established by various local government authorities and private enterprises in China.
- The **Shanghai Data Exchange** was established in 2016 and opened for business in November 2021.
- The Shanghai Data Exchange provides over 20 data products offered for trading with an initial batch of 100 enterprises signing up as data merchants.
- The Exchange will incorporate services such as data compliance consultation, quality assessment, and asset valuation.
- It may be the first time major private companies have offered data for sale on a Chinese data exchange.
- The first Shanghai Data Transaction Expert Committee was also established, including 31 experts to provide advice and professional guidance for data circulation transactions, making safety, standardization and order the key features of the exchange.

*The Monetary Authority of Singapore (MAS) also launched the Singapore Financial Data Exchange last December to enable Singaporeans to consolidate their financial information.*

## What are the advantages of data sharing?

- **Problem solving**- Businesses can collaborate using data to develop new technologies, insights, and capabilities that they would otherwise be unable to solve.
- One interesting possibility is a hackathon, where external data scientists are given access to the data to work on problems defined by industry problem owners for a fixed period.
- **Supply chain optimization**- By launching a data-sharing platform that is utilized by supply chain partners, supply chain efficiency can be increased by designing processes that will reduce the time.
- **Sector-specific challenges**- The availability of trusted data makes it easier to benchmark organizations and address sector-specific challenges.
- This might range from improving safety within specific industries to ensuring adequate capacity on the national grid as nations transit towards renewable energy.

## What are the challenges in data sharing?

- **Privacy concerns-** Data about people's behaviour is supposed to be anonymized before sale, but security researchers have repeatedly shown that they can use clues in big data sets to identify individuals**.**
- **Legal hurdles-** Absence of data protection architecture is another major concern in many countries.
- **Data recovery**- There is the issue of abuse, stemming from the fact that data isn't a physical item that can be recovered once shared.
- **Unfair advantage**- Organizations would also be concerned about competitors gaining an unfair advantage through access to some of these data.
- **Other challenges**- There are many foundational challenges to solve, including standardizing data valuations, ensuring the availability of good quality data, etc.

## How to overcome these challenges?

- Addressing these concerns call for a complex analysis that necessitates the
    - Balancing of multiple elements such as business objectives and measurable benefits
    - Operationalizing the actual sharing of data to reduce overheads and prevent oversharing.
- A local law specifically for data usage and management covering detailed regulations about how the government handles data collected from residents has to be in place.
    - Just weeks ago, the European Union (EU) Parliament and Council reached an agreement on the new **Data Governance Act (DGA)** which lays out a framework for sharing industrial data across the bloc.

### Reference


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