



# Artificial Intelligence for Market Transparency

**LNG Producer - Consumer Conference 2019**

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**Tokyo**



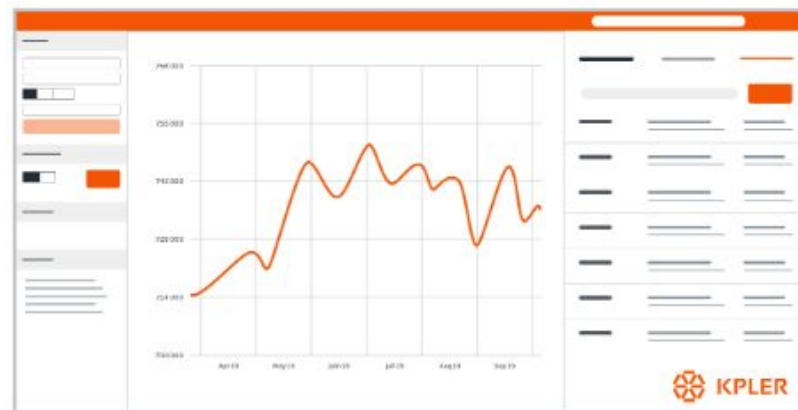
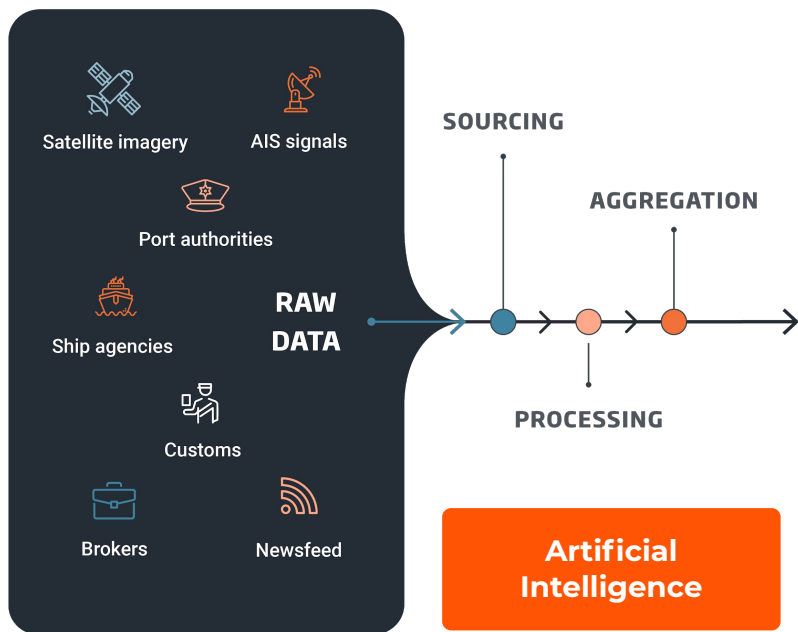
# An Opaque Market



For years, market information was difficult to access, with “insiders” and “outsiders”.

Market players used to rely on scattered sources, all giving a partial view of the market.

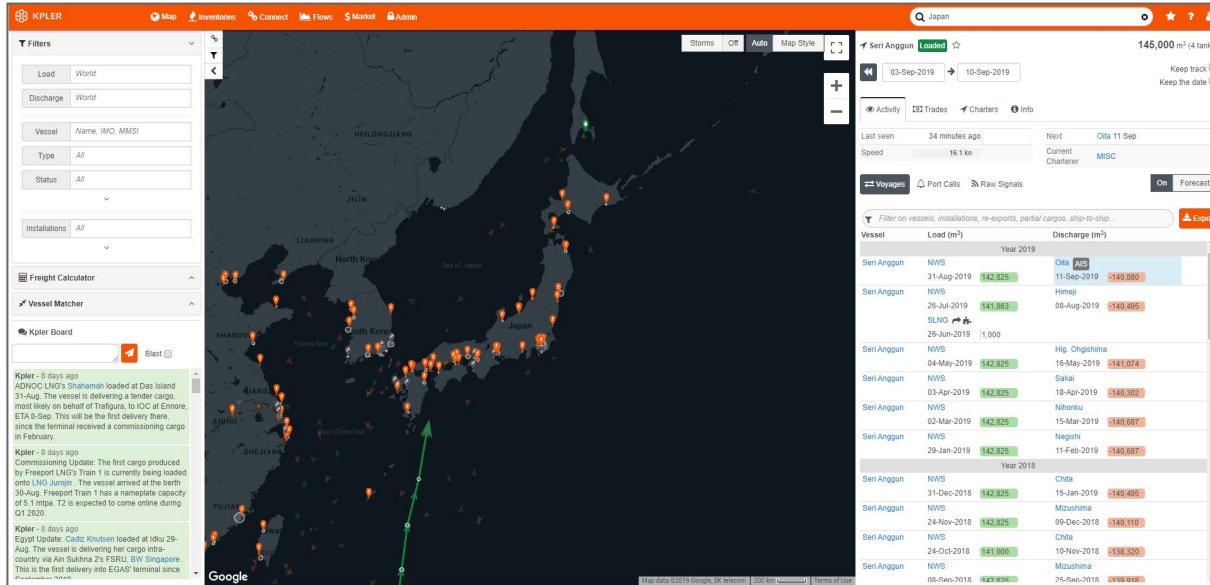
# Artificial intelligence for Transparency



AI technologies makes it possible to automatically gather, process and aggregate large amounts of raw data coming from multiple sources.

The result is a clear picture of the market updated in real-time and accessible to everyone.

# More Transparency, more Tradability



Trading houses, majors and final buyers quickly adopted AI-based transparency solutions.

More recently, producers have also started to adopt such solutions, which shows the market is getting more mature.

# Towards Machine & Deep Learning?

## ARTIFICIAL INTELLIGENCE (AI)

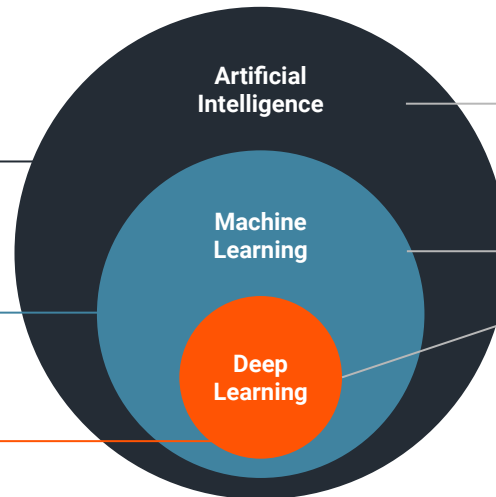
Programming systems to perform tasks which usually require human intelligence

## MACHINE LEARNING (ML)

Training algorithms to solve tasks by pattern recognition instead of specifically programming them how to solve the task

## DEEP LEARNING (DL)

Training algorithms by using deep neural networks with multiple layers



Real-time transparency

Better predictions,  
less uncertainties

Vessel	Load (bbl)	Discharge (bbl)
Year 2019		
Nordic Cygnus	North Sea 33% Model	Estim. Departure: 19-Sep-2019 17:30
crude/co	24-Sep-2019 1,058,229	Estim. Arrival: 18-Sep-2019 08:12
Nordic Cygnus	Covenas	ETA: 16-Sep-2019 18:00
Castilla	30-Aug-2019 1,058,229	16-Sep-2019 -1,058,229

Example: Port congestion

**Machine Learning** and **Deep Learning** are not magic bullet solutions but can help make better predictions and reduce uncertainties.