



Trade, contract and settle on platform

End-to-end provenance tracking

Enables accurate ESG reporting

Access on desktop and mobile devices

**Platform: Corda Enterprise**

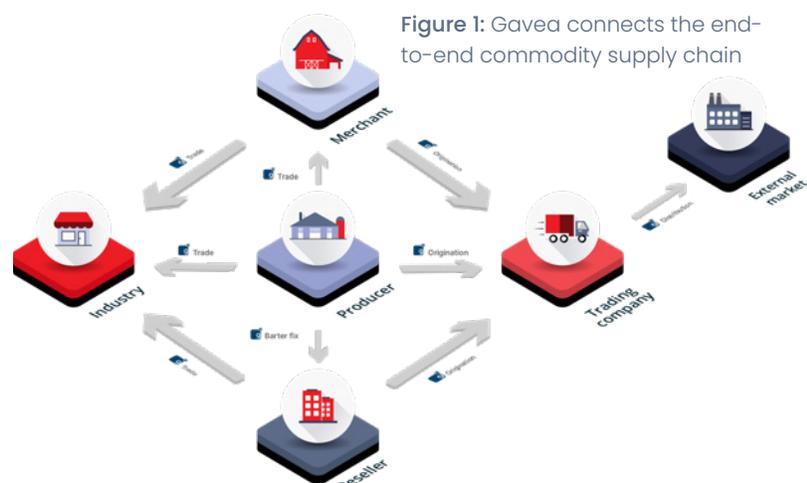
**Gavea** is a Brazilian startup company in the agricultural technology space. Their solution is an exchange that connects commodity buyers and sellers. This unique exchange makes the negotiation and trading process traceable, cheaper and more efficient.

Gavea's exchange automates the commodity trading process. This enables product traceability, full price transparency and eliminates the need for a middleman. Built on **Corda Enterprise**, Gavea allows commodity buyers and sellers to trade peer-to-peer and on a need-to-know basis in a completely trusted environment.

## Challenge

Brazil is the leading producer of some of the world's most valuable crops. But because of a lack of digital infrastructure, transactions between producers and resellers often take place by phone. These manual processes make it challenging to track provenance and ensure both parties have access to fair pricing information. They also cause a lack of transparency across the supply chain and create a cost-prohibitive environment for producers whose margins are reduced by middlemen. These problems are compounded by requirements to provide proof of environmental impact, which can significantly impact a company's reputation if not verified.

Existing digital solutions are limited to a small segment of the commodity lifecycle. For producers, these solutions mainly address seed and harvest optimization, irrigation systems and machinery. Trading companies and resellers utilize CRMs, ERPs and other logistics tools. While these solutions improve automation, they are restricted to intra-organization optimizations and do not enable data synchronization across multiple trustless participants. For example, binding orders with contract signing and settlement still require manual processes. Privacy concerns also arise around onboarding because new users can join these solutions without proper identity verification.

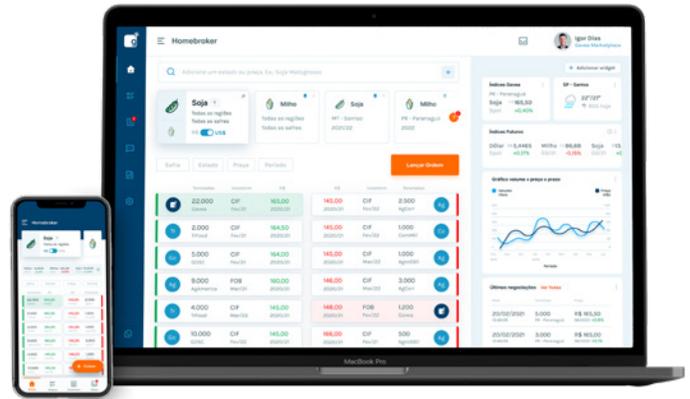


## Solution

In response to these challenges, Gavea created a digital commodities exchange where producers and consumers can trade, track and settle commodities all on one platform. To create the exchange, Gavea first tested if a traditional database would meet their requirements. The team recognized that Brazilian trading companies are highly competitive and would not join a platform where control is centralized, even by a neutral third party. Gavea then explored the array of blockchain platforms and decided that a public blockchain would not meet their data privacy and security requirements.

After further narrowing their search, Gavea chose **Corda Enterprise** for its purpose-built private architecture which allows participants to retain control over their data, while transacting peer-to-peer on a multi-party exchange. Corda's development tools such as **Token SDK** enables Gavea to reduce time-to-market and standardize the creation, issuance and trading of commodity tokens. Gavea valued the support from R3's Brazil team that helped them leverage R3's partner ecosystem to accelerate growth. They also chose **AWS** for cloud deployment because of its proven support and ecosystem, such as access to **AWS Data Lab**.

The exchange process begins when a verified producer inputs the origin data on Gavea's platform, resulting in the creation of a commodity token. Gavea then validates environmental and labor sources with local agencies. Once these sources are verified as compliant with local regulations, the producer and reseller can come to a fair purchase price based on official data sources integrated into the platform. Resellers then offer the commodity to trading companies that transact and contract directly on the platform in local currencies. Finally, the trading company sells the commodity to the end-consumer, transferring commodity tokens and signing directly on the platform. Each step of the process is traceable, providing the end-consumer with a full picture of the commodity's lifecycle.



## Results

Built on Corda Enterprise, Gavea has created a commodities exchange that enables traceability throughout the supply chain, as well as full price transparency and symmetry, positive environmental, social and governance (ESG) impact and higher profit margins for producers. Commodity tokenization allows participants to weigh the product's value based on pre-defined parameters such as origin and quality, proving the provenance to the next participant on the supply chain. Gavea's platform is unique in that it has digital processes in place for every step of the commodity's lifecycle. Participants no longer have to rely on costly and inefficient manual processes and can transact on platform knowing for certain the identity of their counterparty. Buyers also can now access new markets and lower operational risks with no additional fixed costs and reduced transaction and execution costs.

Looking forward, Gavea is launching a membership program to create a more robust ecosystem to increase liquidity for the exchange. They are also exploring leveraging **R3's work with Central Bank Digital Currencies** (CBDCs) to integrate with local and foreign CBDCs to settle trades and enable new ways of processing payments end-to-end on platform. At the moment, the exchange supports soybean and corn commodities but, in the future, they plan to support a wider range of products. It is clear that Gavea's Corda Enterprise-powered exchange is leading the way for the future of multi-party supply chain provenance.

Learn more [here](#) about how you can leverage Corda Enterprise to build a trusted multi-party application.