

Electronics use cases

How blockchain can solve problems in the electronics industry

Managing the virtual supply chain

Buy/sell

Problem

Critical component suppliers want to deal directly with the OEM, but the components need to be delivered to an electronics manufacturing services (EMS) provider, via a third-party logistics (3PL) provider. The OEM is forced to manually execute transactions based on manual notifications from the 3PL and EMS.

Blockchain solution

Use a blockchain shared ledger to manage a separate financial flow (supplier to OEM to EMS) and physical flow (supplier to 3PL hub to EMS) with a smart contract that automatically executes the financial transactions when physical actions have occurred.

Production tracking

Problem

OEMs working with EMS providers can spend a large amount of time tracking and determining exactly how many products have been completed.

Blockchain solution

Use a blockchain shared ledger to track and trace product all the way from the EMS's production line, through the shipping process, to each possible destination.

Brand protection

Conflict minerals management

Problem

Companies are complying with the requirements of the Dodd-Frank Act, but audits are only a partial solution.

Blockchain solution

Use blockchain's "Provenance" (asset tracking) capabilities to track and trace minerals from mines to smelters to component manufacturing to the product assembler.

Counterfeit prevention

Problem

High-end semiconductors are sometimes faked and sold on the grey market.

Blockchain solution

The semiconductor manufacturer adds a unique code to each device, then registers it in a ledger where it is tracked and traced.

Supplier management

Supplier certification

Problem

OEMs make individual demands on suppliers for detailed tests; for highest trust level, use third-party labs. Interaction is point-to-point, manual and time-consuming.

Blockchain solution

Use an established blockchain ledger visible to the supplier, the lab and OEM(s), with security permissions by supplier. As soon as the lab completes its tests, results are visible to the supplier, which can then share with multiple OEMs.

Supplier on-boarding

Problem

There is no easy mechanism to ensure that the data in the OEM's and the supplier's systems stay in sync.

Blockchain solution

Use an established blockchain ledger that automatically updates all information and is applied to OEM systems.