

# Quartz – Blockchain Solutions for Enterprises and Ecosystems



## Overview

Today, when we think of a disruptive technology, we often think of blockchain. And, when we think of blockchain, we think of real-time processing, transparency and collaboration. Blockchain is best leveraged when applied to business problems involving siloed legacy systems, data duplication, reconciliations, excessive messaging, and the lack of trust and transparency between stakeholders.

Blockchain today is fostering collaboration between multiple organizations in a value chain, eliminating redundancies, and reducing risk and time. It is being explored in areas as varied as digital identities and registries, payments, settlements, information exchange, trade finance, e-Governance, healthcare, insurance, supply chain, provenance of commodities, music, art, among others. Blockchain has the power to bring organizations together by creating ecosystems that amplify the value delivered by each on a stand-alone basis.

## Co-existence. Integration. Interoperability.

Organizations are working towards enabling truly connected ecosystems with real-time, efficient transaction processing, without the intervention from intermediaries. Blockchain, with its ability to synchronize data across participating entities, builds trust and encourages firms to collaborate in setting up such ecosystems. Firms will be well served to adopt a philosophy of 'co-existence', of combining the best of their legacy infrastructure with blockchain. Reusing existing systems and infrastructure, even while moving parts of the business or operations onto blockchain, can help remove risk and save costs.

The introduction of blockchain into an ecosystem implies that it needs to integrate all connecting systems or nodes. Such an integration is needed, to not only connect various connecting systems to blockchain, but to also allow the ecosystem to leverage standard messaging networks as applicable.

Blockchain is an evolving technology with different platforms that are likely to provide varied features. There is therefore a need to interoperate with multiple blockchain technologies, platforms and ecosystems to realize its true benefits. Data exchange between various blockchain networks will be the first step towards interoperability, which will further expand to transaction flows.

## Quartz Blockchain Solutions

Quartz Blockchain solutions are targeted at helping organizations across multiple domains leverage blockchain meaningfully for their businesses. They comprise the following:

- **Quartz Smart Solutions** - A set of 'Designed for Blockchain' business solutions across industries
- **Quartz DevKit** - Smart contract development kits that enable development of high quality code for different Blockchain technologies
- **Quartz Gateway** - Solutions which easily integrate existing applications with blockchain ecosystems/networks
- **Quartz Command Center** - Solutions that facilitate administering and monitoring of the entire ecosystem

## Quartz Smart Solutions

Quartz Smart Solutions are comprehensive solutions with business and domain aware 'Smart Contracts' that help drive processing on the blockchain platform.

A Smart contract is a 'self-executable' software that is stored on the ledger and triggered either because of specific events occurring within it or from pre-configured rules that are programmed into these contracts. Participants can provide, consume and instruct these transactions on the ledger based on their role and privileges.

Some of the readily available Smart Solutions include Quartz Contract Authoring, Quartz Reward Points, Quartz OTC Settlements, Quartz Announcements, Quartz Loan Securitization, Quartz Facultative Reinsurance, Quartz Cross Border Remittances, Quartz KYC, among others.

## Quartz DevKit

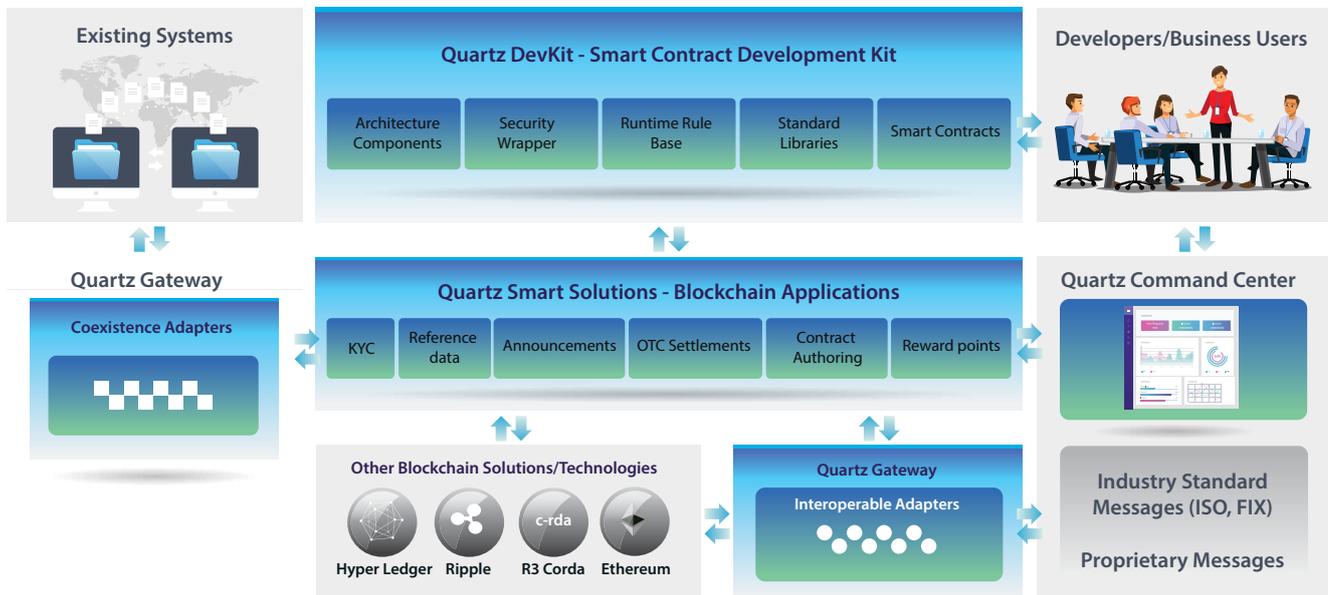
The Quartz DevKit is designed to help software developers introduce blockchain into their business processes, and generate, compile, package, and deploy business code on the blockchain. The Quartz DevKit also comprises a standard set of architectural features covering security, data privacy, access controls, user management, audit trails and logging framework represented as Quartz Foundation. By deploying a combination of the Quartz DevKit along with Quartz Smart Solutions, the blockchain implementation is simplified for an organization. This can together compress the development life cycle significantly, and enable organizations in targeting faster launch timeframes on blockchain.

## Quartz Gateway

The Quartz Gateway is a single, smart channel that can help integrate applications with various blockchain platforms and technologies. Using the Quartz Gateway, organizations can connect seamlessly to the blockchain, thereby eliminating the need for large scale and continuous changes to be made to their existing systems. It facilitates interoperability between blockchain and other messaging networks. It also supports orchestration of services across multiple blockchain platforms.

## Quartz Command Center

The Quartz Command Center helps a blockchain sponsor, to administer and maintain oversight of the entire blockchain network. It provides a comprehensive visual representation of all the activities taking place within the blockchain ecosystem at any point in time, and allows the system administrator of the sponsor to make key decisions when administering the network.



## The Quartz Advantage

- **Co-existence and Interoperability:** Quartz Smart solutions and Quartz Gateway are built on this philosophy and can integrate with third-party solutions and various blockchain based systems and networks.
- **Integration:** The Quartz set of solutions are simple, lightweight and can seamlessly bring together third-party solutions, legacy applications and messaging middleware. They can therefore reduce entry barriers to blockchain adoption by insulating connecting systems from the complexities of the underlying blockchain.
- **Agile Development and Deployment Framework:** Quartz DevKit along with Quartz foundation can provide an agile framework for faster development and deployment of Smart solutions on multiple blockchain platforms.

Leveraging these architectural principles and using Quartz, your organization can:

- Automate business processes and functions with Smart Contracts
- Eliminate data duplication and associated reconciliation issues
- Ensure data integrity with cryptographic encryption of data, making it immutable
- Restrict access (private permissioned ledger) to ensure greater security
- Help integrate existing/legacy systems with blockchain solutions

Blockchain is a disruptive technology and, as it evolves, markets are finding newer ways to leverage its benefits. Quartz can help you operate at the forefront of technology innovation and spearhead blockchain adoption successfully within your enterprise and beyond.

Connect with us to know more about how we can help your organization tap into the full potential of blockchain technology.

To know more about Quartz Blockchain Solutions, please write to us at [tcs.quartz@tcs.com](mailto:tcs.quartz@tcs.com), or visit our website.

<https://www.tcs.com/quartz-blockchain-solutions>

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