QUARTZ

Quartz™ – Powering Enterprises and Ecosystems through DLT & AI

Overview

Rapid disruption from digital technologies. The gradual blurring of geographical and market boundaries. The greater need for cooperation and collaboration. These are the global influences that are driving organizations today. Today's IT teams are focused on implementing robust systems that provide real-time, efficient transaction processing, instant updates and the ability to reduce costs. Smart companies will adopt a strategy of customer centricity, both in the range of business services offered and in the sophistication of solutions being provided to the customers.

In such a dynamic environment, cutting-edge technologies such as Distributed Ledger Technology (DLT) and Artificial Intelligence (AI) [including Machine Learning (ML)] can deliver a paradigm shift in the way businesses operate. These technologies are poised to bring real-world, transformational change for enterprises across industry verticals, and doing this by focusing on the art of the possible.

Organizations once afraid to dip their toes in the water of digital technologies have now fully embraced the practical, efficient use of these technologies. They have seen them streamline their businesses, increase speed and efficiency, and create new business pathways. And perhaps most importantly, these implementations haven't required a full platform transformation or the need to re-evaluate an entire organizational technology infrastructure.

However, there still are adjustments and accommodations to be made when adopting modern technologies.
An inconsistent and evolving landscape has left many organizations reticent and uncertain about how to move forward.
Having to navigate the landscape of niche players, large providers that simply white-label point solutions, and a lack of end-to-end connectivity and interoperability have resulted in failed implementations, and solutions that do not maximize the available technology.

Co-existence. Integration. Interoperability

From the very beginning, our product strategy for Quartz was centered around a solution led approach. Based on our extensive experience of implementing solutions globally, we knew that firms are best served by adopting a philosophy of coexistence, of retaining the best of their existing solutions, even while moving appropriate parts of the business into a distributed architecture. This approach helps organizations manage risks, save costs and progressively roll out new business services. The introduction of new technologies into an ecosystem demands that it integrates with all connecting systems, allowing the ecosystem to leverage standard messaging networks and data standards to manage the change.

Similarly, interoperability with multiple DLT platforms, and a judicious use of AI to drive business automation and productivity, are fast emerging as critical elements to ensure that organizations can create a competitive advantage for their business. Quartz can bring together all of these critical threads to create a thoughtful and measured approach to new technology adoption.

Powering Enterprise Transformation: Quartz

Quartz effectively lays these concerns to rest by offering solutions across diverse industries, that address the entire value chain - across development, integration and governance of ecosystems. Quartz comprises:

- **Quartz Smart Solutions** – Next-generation business solutions for ecosystem use cases architected using cutting-edge technologies such as DLT and AI.

- **Quartz Gateway & Command Center** – Enables the seamless integration of existing applications with DLT ecosystems/other networks, and facilitates their administration and governance.

- **Quartz DevKit** – A low-code development kit that enables the development of high-quality code for different mainstream Distributed Ledger technologies.

Quartz Smart Solutions

Quartz Smart Solutions are comprehensive solutions built for specific business processes across a variety of industries. The solutions are designed using a flexible architecture with a unique on-chain/off-chain approach that allows the right parts of the business process (ones which would benefit from the use of DLT) to be deployed on blockchain, while other parts of the business continue to work outside of blockchain, on conventional technology.

Currently available solutions include those for Digital Guarantees, the Digital assets lifecycle, Central Bank Digital Currencies (CBDCs), Insurance Repository, Proxy Resolution, Reward Points, Contract Authoring, Surveillance, Settlements, Announcements, Crypto Services, Contract Performance Monitoring, KYC and Compliance, including for Sanctions Screening and Fraud Monitoring operations.

Quartz Gateway and Command Center

Quartz Gateway is a single, smart channel that can help integrate applications across various DLT platforms, traditional systems, industry networks and ecosystems. Gateway uses simple REST APIs, thereby eliminating the need for large-scale and continuous changes to be made to their existing systems.

The Command Center helps administer and maintain oversight of the entire business ecosystem, providing a powerful visual representation of all the activities taking place within the ecosystem.

Quartz DevKit

Quartz DevKit, an intuitive, low-code smart contract development kit, is designed to help software developers in writing blockchain code. DevKit can generate, compile, package, and deploy business code on a variety of underlying blockchain technologies including Hyperledger Fabric, Corda, Ethereum, Quorum, and Tezos, among others. It comprises a standard set of architectural features covering security, data privacy, access controls, business and technical domain libraries, audit trails, unit testing, and logging framework. These features allow for automatic code generation, which roughly translates to more than 60% of the overall smart contract code, significantly enhancing productivity in the build phase and aiding a quicker GTM for the customer.
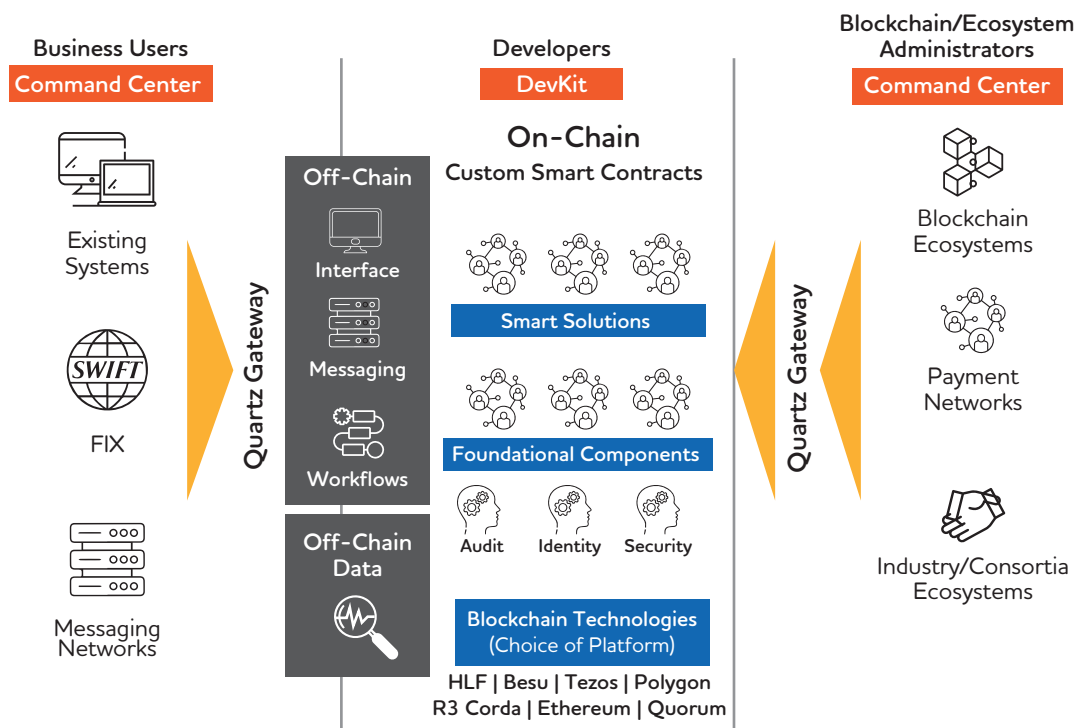
Art of the Possible with Quartz

Using Quartz, organizations can:

- Create decentralized architectures to power their business ecosystems

- Automate business processes and functions with Smart contracts, AI/ML

- Eliminate data duplication and associated reconciliation issues

- Ensure data integrity with cryptographic encryption of data, making it immutable

- Deploy solutions on multiple hyperscalers or in an on-premise/hybrid model.

Backed by awards from **The Asian Banker** Middle East and Africa (Best Fraud Prevention Technology Implementation Award 2023), **Financial Technology Forum** (Best New Post Trade Solution of the Year 2022), **Asset Servicing Times** (Outstanding Innovation Award 2022), and recognition from Analysts (ranked #1 Best Performing Fraud Management Solution by **IBS Intelligence,** ranked #2 for delivery footprint and #3 for its vision and strategy by **HFS Research**, cited **Leader in Everest Group PEAK Matrix Assessment 2022** and named **'Cryptonaut'** by **Celent in 2021**), Quartz can help you operate at the forefront of technology innovation and spearhead technology adoption successfully within your enterprise and beyond.

Quartz is a startup incubated in TCS to create innovative solutions that leverage the emergence of next-gen technology.

Quartz provides foundational technology, tools and business components that harness the power of next-gen technologies including DLT, AI/ML for organizations across varied industries. Quartz caters to organizations across Industry segments including Financial Services, Banking, Supply Chain, Energy & Utilities and eGovernance.

To know more about Quartz, please visit our website
https://www.tcs.com/what-we-do/products-platforms/quartz

About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for over 56 years. Its consulting-led, cognitive powered, portfolio of business, technology and engineering services and solutions is delivered through its unique Location Independent Agile™ delivery model, recognized as a benchmark of excellence in software development.

A part of the Tata group, India's largest multinational business group, TCS has over 601,000 of the world's best-trained consultants in 55 countries. The company generated consolidated revenues of US $29 billion in the fiscal year ended March 31, 2024, and is listed on the BSE and the NSE in India. TCS' proactive stance on climate change and award-winning work with communities across the world have earned it a place in leading sustainability indices such as the MSCI Global Sustainability Index and the FTSE4Good Emerging Index. For more information, visit www.tcs.com