



### *CoinTel Network*



Bridging the gap between Telecommunication & Cryptocurrency with Blockchain From concept to reality.

### **Bringing Blockchain/cryptocurrency to telecom Industry**

Most communications service providers (CSPs) are in the midst of large digital transformation programs in response to the disruptions plaguing them. Adding Blockchain to this equation offers potential to both rationalize a CSP's current operations and develop new Blockchain-based services. Moreover, as demands for transparency and trust continue, a robust Blockchain foundation can be the springboard for increased ecosystem involvement, enabling new business models for revenue generation. Blockchain's importance is only expected to grow. CSPs should seek a long-term view as they evaluate how Blockchain can help drive revenue growth and platform business opportunities, as well as internal efficiencies.

### **Executive summary**

Blockchain is currently one of the most talked-about technologies. Across industries, organizations are exploring blockchain’s potential impact in their space and how they can benefit from this emerging technology. The communications service provider (CSP) industry is no exception. The biggest questions for CSPs, however, are “Where is the bang for the buck?” and “Where and how do we get started?” The good news is the opportunity to benefit appears real. The core attributes of blockchain’s shared ledger approach help provide trust, security, transparency and control across the participating ecosystem for all points in a transaction process. This results in the potential for lower costs, faster throughput and improved experiences for all players. According to our recent global consumer survey, CSPs typically are among the most trusted organizations for handling personal data and securing privacy-even exceeding the trust level of financial institutions and governments in some countries.<sup>1</sup> This leaves us well positioned to decentralize telecom industry with Blockchain. For the CSP, Blockchain opens up the potential for improved efficiencies as well as new revenue growth. CoinTel Network model shows the development of two key

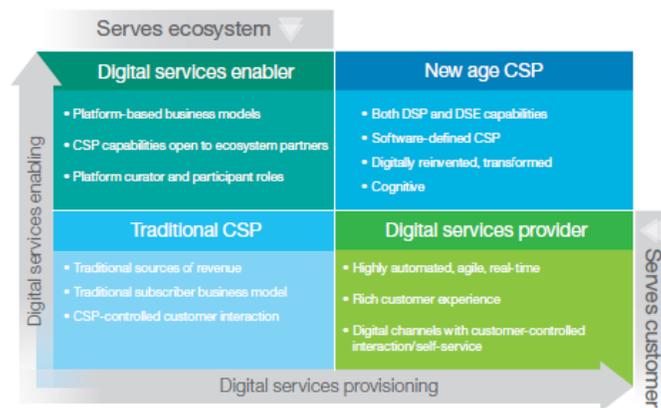
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**36%**  
of CSP organizations surveyed are already considering or actively engaged with blockchains
- 

**41%**  
of CSP organizations surveyed said blockchain could support their enterprise strategy by assuring data quality and accuracy
- 

**46%**  
of surveyed CSP organizations already exploring or engaged with blockchain said they invested in it to develop new business models

**Figure 1**  
*Blockchain technology provides opportunities to improve efficiencies and grow revenue for CSPs in both the DSP and DSE roles*



In the DSP space, multiple opportunities exist for blockchain to help take out cost and improve customer experience, including contract delivery, dispute resolution and supply chain. CSPs can also provide customer services built on blockchain as new sources of revenue (in areas like micropayments and identity management, for example).

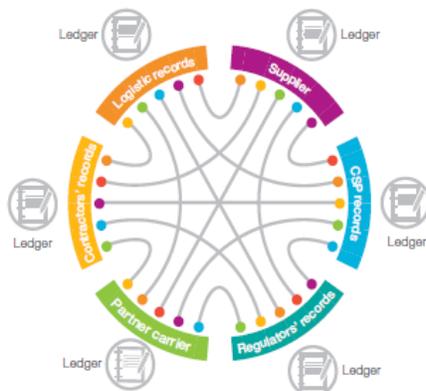
plays: the customer experience/efficiency play to become digital services providers (DSPs) and the growth play to become digital services enablers (DSEs).

CoinTel Network will provides opportunities to improve efficiencies and grow revenue for CSPs in both the DSP and DSE roles 36% of CSP organizations surveyed are already considering or actively engaged with blockchains 41% of CSP organizations surveyed said Blockchain could support their enterprise strategy by assuring data quality and accuracy 46% of surveyed CSP organizations already exploring or engaged with Blockchain said they invested in it to develop new business models Digital services enabling Digital services provisioning Digital services enabler Traditional CSP Digital services provider •

Platform-based business models • CSP capabilities open to ecosystem partners • Platform curator and participant roles New age CSP • Both DSP and DSE capabilities • Software-defined CSP • Digitally reinvented, transformed • Cognitive • Traditional sources of revenue • Traditional subscriber business model • CSP-controlled customer interaction • Highly automated, agile, real-time • Rich customer experience • Digital channels with customer-controlled interaction/self-service Serves ecosystem Serves customer In the DSP space, multiple opportunities exist for Blockchain to help take out cost and improve customer experience, including contract delivery, dispute resolution and supply chain. CSPs can also provide customer services built on Blockchain as new sources of revenue (in areas like micropayments and identity management, for example). In the DSE space, as CSPs move to create and operate platforms serving ecosystems such as the Internet of Things (IoT), healthcare and managed services, Blockchain could become a foundational building block to handle complex transactions across multiple participants. Early stage examples include blockchains for patient health records, advertising sales and media monetization.

## Thinking blockchain in telecom

**Figure 2**  
Managing assets across the business network is challenging without blockchain



In the past couple of years, companies in a variety of industries — including healthcare and banking — have been investigating or deploying blockchain technology. But what's in it for CSPs? What positive impact will blockchains have on existing processes and costs? Will it help create opportunities to generate more revenue and develop new services? And how can blockchains help CSPs better position themselves — as DSPs or DSEs — in a world that is increasingly all about data, customer experience, trust and digital ecosystems?

The relationships between participants — suppliers, regulators, partners, customers and even competitors — in a CSP's business network have become more and more complex. These business networks cross geographic and regulatory boundaries. Value is generated by the flow of products and services across business networks in transactions and contracts. The business network operates by transferring assets between parties. Anything that is capable of being owned or controlled to produce value is an asset.

There are two fundamental types of assets: tangible (a cell phone, for example) and intangible (a service agreement, for example). A shared ledger is key to successfully managing assets across the network (see page 5 sidebar: *The key components of blockchains*). Businesses have multiple ledgers, which are systems of records, for the multiple business networks in which they participate. Ledgers include transactions (an asset transfer onto or off the ledger) and contracts (conditions for a transaction to occur).

The simple example of provisioning a customer contract provides some insight as to how blockchain can benefit all parties. Consider the business network depicted in Figure 2, which illustrates what many CSPs must navigate when dealing with outside plant work in preparation for service to a customer building.

### The key components of blockchains

Blockchain technology includes the following components to permit effective collaboration among players in a business network:

- **Shared ledger** – An append-only distributed system of records shared across the business network that provides transaction visibility to all involved participants.
- **Smart contract** – Business terms embedded in the transaction database and executed with transactions so that the appropriate contracts are executed when a transaction occurs.
- **Privacy** – Transactions are reliable, authenticated and verifiable.
- **Trust** – Transactions are endorsed by relevant participants.
- **Transparency** – All participants in the network are aware of all transactions that impact them.

Each participant keeps one or more ledgers that are updated to represent business transactions as they occur. This is not cost effective nor efficient due to duplication of effort and intermediaries that add margin for services. It is clearly inefficient as the business conditions – the contracts – are duplicated by every network participant. This system is also vulnerable: A central system compromised due to an incident – such as fraud, cyberattack or simply mistakes that create inconsistencies – could affect the entire business network. Consider the same network using blockchain as depicted in Figure 3.

The blockchain architecture enables participants to share a ledger that is updated every time a transaction occurs through peer-to-peer replication. Cryptography is used to help ensure that network participants see only the parts of the ledger relevant to them and that transactions are reliable, authenticated and verifiable. Blockchain also allows the contract for asset transfer to be

**Figure 3**  
Blockchain facilitates asset management across the business network



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**The CoinTel Network architecture** enables participants to share a ledger that is updated every time a transaction occurs through peer-to-peer replication. Cryptography is used to help ensure that network participants see only the parts of the ledger relevant to them and that transactions are reliable, authenticated and verifiable. Blockchain also allows the contract for asset transfer to be embedded in the transaction database determining the conditions under which the transaction can occur. Network participants agree how transactions are verified through consensus or similar mechanisms. Oversight, compliance and audit can be part of the same network. The participants are the same as before-in this case, it is not a disintermediation play. Blockchains can help CSPs operate much more effectively within their business network because they support consensus, provenance, immutability and finality (see sidebar: The key characteristics of blockchain). Potential benefits of CoinTel include:

- Time savings-Transaction time is reduced from days to near instantaneous.
- Cost removal-Administrative overhead and cost of intermediaries are reduced or eliminated.
- Enhanced data quality-Data accuracy is maintained during all transactions.
- Reduced risk-Tampering, fraud and cybercrime are reduced.
- Increased trust-Shared processes and recordkeeping are visible to all concerned parties.
- Reduction/elimination of disputes-Absolute transparency is established as the process executes. Some CSPs have already started the journey with blockchain. For example, in 2015, Orange launched its ChainForce initiative to support collaboration between corporate partners and startups exploring new blockchain technology and use cases.<sup>4</sup> Other CSPs exploring and piloting blockchain programs include Verizon and Du.<sup>5</sup> And in 2017, Sprint, SoftBank, Far EasTone and TBCASoft launched a consortium to explore blockchain-based services, inviting other operators to join.

The key characteristics of blockchains The blockchain provides the following:

- Consensus-All participants agree that a transaction is valid.
- Provenance-Participants know where the asset came from and how its ownership has changed over time.
- Immutability-No participant can tamper with a transaction once it is complete. If a transaction was in error, a new transaction must be used to reverse the error, with both visible.
- Finality-There is one place to determine the ownership of an asset or completion of a transaction. This is the role of the shared ledger.

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### **Key Features of CoinTel Network Sim Toolkit/Advantages for Token Holders**

Distribution of sim card to our investors, the sim card is design as Plug N Play once inserted on any device, you are connected to all the benefiting services installed on the network. i.e:

- 5G Network Signal fast and speedy.
- Customer Care Service.

This is where all our customers can relate with us and all complaint are solve automatic.

- Check Main Balance.

This is where our customer can easily navigate and check there existing main account balance. i.e total amount of CoinTel you have.

- Free Data Services.**

Our network will use automatic proxy address and APN configuration that will enable all our customer to enjoy decentralized data service

- Cheaper Call Rate

Our entire customers are equal to enjoy first ever cheapest call rate in the world of telecommunication industry and it is our sole aim and mission to deploy CoinTel network on Blockchain environment. Rate \$0.001 per Minute

- Cheaper SmS Rate

Our entire customers are equal to enjoy first ever cheapest SMS rate in the world of telecommunication industry and it is our sole aim and mission to deploy CoinTel network on Blockchain environment. Rate \$0.001 per SMS

- Anonymous Mode

How to go anonymous: Go to sim toolkit and click on advance features then you select normal mode or anonymous mode NB: Once you select anonymous mode all your calls, sms, internet surfing will also go anonymous.

- Distributors Virtual TopUp
- Advantage of Distributors

Sim Card would be given out to distributor at the rate of \$0.20 and distributors call sell at the rate of \$0.50 to 60 and make some profit. While Bonus are also been paid to distributor account every month.

**CSP views on Blockchain**

More than one-third of the CSP executives from our study are already considering or actively engaged with blockchains. But what plans do they have for this technology and how do they think it will add value to their organizations? Selling trust in the world of data Data is the new natural resource of the digital economy. This resource continues to rapidly grow in volume as the use of smart devices increases and the IoT expands. And thanks to their networks, CSPs are in the middle of all the data transport and transactions. Recognizing the importance of data integrity, CSP executives from our survey expect blockchains to help ensure data quality and accuracy as well as increase trust in transactions from end to end **“Blockchain will provide a secure platform, the possibility to omit third-party intermediaries, and security measures against fraud and cybercrime.”** CSP CIO from the United States.

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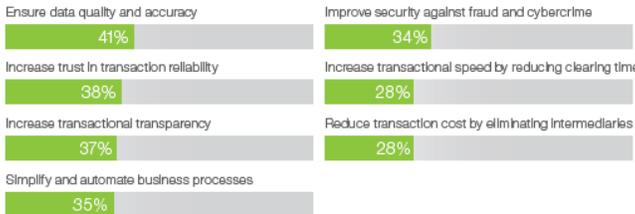
**Selling trust in the world of data**

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**CSP CIO from the United States**

**Figure 4**  
CSPs identified numerous ways that blockchain could support their enterprise strategies



## **Areas of Blockchain usage on our network**

Payment using CoinTel Token: CoinTel Token would be only major currency payment accepted on network services.

Creating Demand for our token on major Exchangers

Free Internet surfing 100%

Ensure data quality and accuracy 41%

Increase trust in transaction reliability 38%

Increase transactional transparency 37%

Simplify and automate business processes 35%

Improve security against fraud and cybercrime 34%

Increase transactional speed by reducing clearing time 28%

Reduce transaction cost by eliminating intermediaries.

Trust is the cornerstone of any type of business transaction. CSPs understand that the key contributing factors that define trust are transparency and security. Respondents said that blockchain technology will support them in their enterprise strategy by increasing transaction reliability (38 percent) and transparency (37 percent), while 34 percent expect blockchains to improve security against fraud and cybercrime. Thirty-five percent said blockchains will also help them simplify and automate business processes, as a blockchain provides the opportunity to rationalize various aspects of a CSP's operations. According to 28 percent of respondents, blockchains will increase transaction speeds by reducing clearing and settlement time.

## **Aiming for new platform business models**

Cyberattacks are increasingly common – and make headlines globally. As custodians of the networks, CSPs play a pivotal role in fighting the new threats that are emerging. CSPs are expected to support proactive protection against these threats with a range of technical and operational innovations. As such, it's not surprising that 76 percent of CSPs exploring or actively engaged with blockchain cited security as an important reason to invest in the technology (see Figure 5). Almost half of those exploring or using blockchain (46 percent) see it as an opportunity to develop new business models, and 35 percent view it as a viable way to respond to shifting profit pools. Traditional business models are like pipes, pushing connectivity products and services out to customers; the value chain is linear. New business models are not linear. They require platforms that connect CSPs, partners, developers and consumers to create new value in far less structured ecosystems. According to a recent IBV study on ecosystems, 57 percent of surveyed CSP executives want their organization to become an ecosystem

platform provider.<sup>7</sup> Providing blockchain services as part of the platform is an important emerging capability. Eighty-seven percent of all CSP executives surveyed said that the customer is an important participant affecting their organization's ability to move forward with blockchain technology at commercial scale. This is not surprising since the customer experience should be a key consideration in designing an organization's processes. Four out of five respondents (82 percent) view partnering with technology providers as an important part of developing and delivering real and relevant solutions to the industry. Seventy-six percent said that regulators play a key role since blockchains need to comply with existing and future legislation (like those related to data protection, for example). And 72 percent recognize that industry consortia are important to their blockchain projects as they can facilitate agreements on standards. Early familiarity with opportunities and challenges associated with blockchains will help CSPs gain advantages in cost savings, revenue growth and new business models. We believe CSPs will see the greatest impact from blockchain in the following three areas: • Streamlining internal processes: Employing blockchain primarily for internal efficiencies within the CSP, including interactions with suppliers and other CSPs • Providing services built by CSPs on blockchain: Services developed for customers and delivered and controlled by CSPs • Collaborating in business ecosystems – including the IoT: Serving each ecosystem participant as a peer and trusted partner.

### **Streamlining internal processes.**

The modularity provided by smart contracts enables various aspects of CSPs' operations to be streamlined, which helps make them cheaper and faster, as well as more reliable, scalable and transparent. Blockchain cryptography protects information and creates a fully recorded transaction audit trail. There are various opportunities for blockchains to streamline internal processes. Implementation of blockchain within the CSP environment will likely have the greatest impact on a CSP's core management systems, such as billing, eSIM provisioning and network function virtualization (NFV) management, where it can help provide cost savings through efficiency gains. Another obvious area for significant cost savings with blockchain is roaming (Deploying blockchain for roaming).

### **Improving supply chain management**

Blockchain has triggered a new wave of innovation in supply chain management. Blockchain helps track a multitude of supply chain transactions more reliably and transparently. Each time value changes hands-whether it involves physical products, services or money-the transaction can be documented, creating a traceable permanent history of the product or transaction, from source to ultimate destination. In telecommunications, supply chain management impacts areas such as wire and cable, handsets, accessories and telecommunications construction for CSPs working with network suppliers, regulators and contractors to effectively track the lifecycle of their assets. Improvement of the end-to-end supply chain across partners can help CSPs improve their speed to market and continuity of product supply, and well as achieve greater flexibility and lower cost structure, which helps increase profitability.

We already see examples of blockchain projects in supply chain management emerging in other industries. In a pilot, Walmart, one of world's largest food chains, was able to track a product from a farm all the way to its store shelves. The company expects that the tracking process, which historically

has taken days or weeks, could be cut to minutes or even seconds.<sup>8</sup> And Maersk, a global leader in transport and logistics, is piloting a blockchain platform that connects all participants in the transport supply chain.<sup>9</sup> Another example where blockchain clearly results in improvements is supply chain finance. The complexity and scale of existing supply chain finance solutions have posed major challenges in ensuring adequate funding and efficient operations, as disputes in the supply chain can have serious impacts. In most cases, the dispute resolution process involves three main parties:

- Suppliers: Suppliers want to be paid when products are shipped, but there are often many product delivery disputes, which cost time and resources to resolve. These issues sometimes result in higher interest rates and failure to fulfill contracts.
- Receivers: When products are not delivered on time, delivered incorrectly or not delivered at all, a dispute is often filed to put payment on hold until the issue is resolved. This, in turn, can result in reduced trust between parties.
- Financiers: Financiers need to monitor dispute interactions between partners and suppliers. In the end, they need to recover money financed to partners and, at the same time, keep customer satisfaction high. A number of case studies have shown that applying blockchain in supply chain finance has the potential to increase control, speed and reliability-and lower costs.

### **Deploying blockchain for roaming**

Today, roaming forces CSPs to integrate highcost systems and provide complicated access/authentication settings for enabling roaming calls across networks. A blockchain ledger and a smart contract could manage-in a centralized and shared way- roaming subscriber identification, roaming billing, fraud identification and overage management. Blockchain provides valuable benefits for both CSPs and subscribers. Benefits for CSPs include faster identification of visiting subscribers, prevention of fraudulent traffic and claims reduction. The clearing house could be completely eliminated as an intermediary, which could lead to significant cost savings. And subscribers could gain more control of their bills (no bill shock), an improved experience and increased satisfaction.

***“With blockchain, we could offer convenience to the users by offering an authenticated identity service for use across devices and organizations.”***

CoinTel CEO From Africa.

### **Providing services built on blockchain**

The success of digital services cannot be ignored. CSPs transforming into DSPs recognize the opportunity to provide value-added digital services that meet rising customer expectations. But they haven't been able to capture significant value at the scale and speed of digital disruptors. Today, there are new opportunities in different areas, such as services based on trust. CSPs have a trusted position in dealing with sensitive data, even more so than banks and governments in most economies.<sup>11</sup> In this context, CSPs can provide a variety of customer services built on blockchain. CSPs frequently interact with their customers, have access to vast quantities of data about their customers, and already provide valuable services through mobile, internet and other channels. Adding new services built on blockchain is a natural extension. Areas in which CSPs should consider deployment of blockchains include micropayments in exchange for digital assets (for example, music, mobile games), mobile money

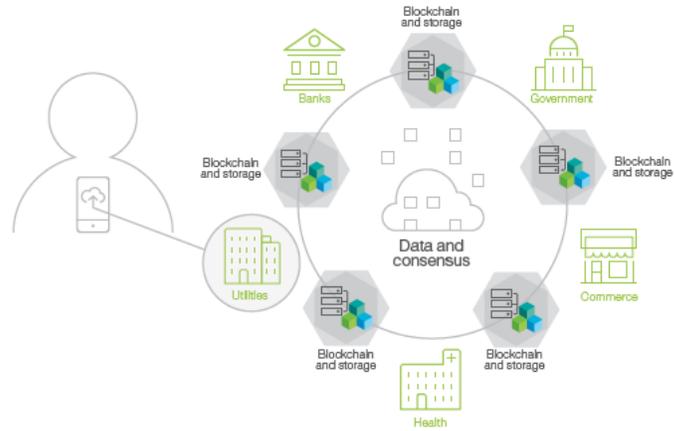
(subscriber-to-subscriber money transfers, international remittance) and more secure handling of electronic health records. In addition, a key area where CSPs should leverage blockchain is

### **identity-as-a-service.**

**Identity-as-a-service** While CSPs power some of consumers' most technologically advanced devices, the ways CSPs interact with customers-primarily in-store and through call centers-have largely remained unchanged. Online activations for many CSPs remain single-digit percentages-not for lack of interest, but rather lack of reliable, low-risk and convenient digital methods to validate a user's identity.

New digital identity ecosystems are coming, and CSPs should be among the leaders and early adopters (see sidebar: Why hurry?). The vast amount of data CSPs possess and the proliferation of smartphones put CSPs in a unique position to act as a source of identity and authentication, bringing new revenue streams. CSPs could provide and manage blockchain-based identity-as-a-service to consumers, not only for use with their provider, but also to identify themselves to other organizations like hospitals and government agencies. In a blockchain, identity authentication could be applied across devices, apps and organizations, helping consumers reduce the hassle and privacy threat of identifying themselves to government agencies, banks and other businesses. There are no costly discussions with representatives, pictures of driver's licenses to store, lengthy forms to fill out or skill testing questions required. The blockchain's decentralized nature eliminates single points of failure, dramatically improving resilience. As important, it maintains complete privacy for individual users while maintaining convenience and ease of access. Because providers enjoy a high level of customer trust, they are well positioned to offer such a service. The result is a CSP-verified identity that can be used via a mobile app provided by the CSP. A user could access all services that require identity verification, such as building access, airline service and smart vehicle use, as well as verify personal documents such as driver's licences and passports.

**Figure 6**  
*Through an app on their smartphones, users would be able to control what identity information to share*



Users would be able to control —right from an app on their smartphone— what identity information they share from the blockchain-stored trusted credentials with the organizations of their choice. Those organizations could then quickly validate user identity to arrange new services.

**Study approach and methodology**

We interviewed 2,965 C-suite executives from over 80 countries, including 174 CSP executives. Information was collected through a combination of live phone interviews and face-to-face meetings conducted from January through March 2017. The study draws input from CEOs, CFOs, CIOs, CMOs, COOs and CHROs.

**Collaborating in business ecosystems**

CoinTel Network would use Blockchain in digital business ecosystems to handle complex transactions across multiple participants. In this role, our Network is the trusted partner and deploys Blockchain technology to streamline processes and improve trust among the parties. Based on new business models, our network will create additional revenue streams.

For example, Blockchain could play a role in machine-to-machine (M2M) and IoT environments, where devices connected to the internet automatically interact with each other by collecting and exchanging data. Blockchain and smart contracts could both monitor and orchestrate these interactions. Recognized as a trusted party, CoinTel Network is best placed to accelerate this development to materialize our ambitions in the IoT space.

**Blockchain for advertisement sales**

The convergence of telecom and media companies has been happening for some time. Numerous mergers and acquisitions have closed or are in process, including Verizon’s purchase of Yahoo’s web business and AT&T’s acquisition of DIRECTV and pending acquisition of Time Warner (under U.S. regulatory review as of November 2017).<sup>12</sup> CSPs are currently working with media content in various ways including creation, distribution and broadcasting.

Advertisement sales are critical to monetizing the media content for CSPs working in the area. The advertisement sales process for media companies is complex and involves multiple players, including ad agencies, broadcasters and advertisers. Successfully managing the entire ad sales process is critical, and Blockchain can play an important role.

There are various pain points related to the interactions in the ad sales process (see sidebar: The ad sales process and its key pain points). Many of these pain points could be alleviated by moving to a shared collaborative environment using Blockchain technology for centralized, consistent and shared information (see Figure 7). In this environment, each player owns a copy.

# ROAD MAP



## STARTUP & YEAR 1 EXPENSES



### CoinTel Network Expansion Plane

CoinTel have identified 6 strong markets (Nigeria, South Africa and 4 other African countries), that for

Competitive reasons CoinTel Network want to keep under wraps. CoinTel Network will be deploying into those

Locations between late 2018 and 2023 as a part of our rollout plan

## CONCLUSION

CoinTel Network will be one of the leading CSP/ISP's in the world and with implementation of blockchain

technology, also one of the 1<sup>st</sup> CSP/ ISP's to offer free internet services to our customers.

With your support, CoinTel will not only be a success, but the metric all other CSP/ ISP's will look to

Emulate.

Thank you!

Sincerely,

Olamide S. Khalifa

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CoinTel Network

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