Fundamental Analysis Of

ICON

Created by G3 Partners, Publishers of The Iconist

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A community resource for

- Existing members of the ICON Republic
- Developers interested in building on ICON
- Blockchain companies keen to explore partnerships with ICON
- Prospective ICX investors
- Journalists and multimedia content creators

Introduction and Purpose

Created by G3 Partners, publishers of The Iconist, this fundamental analysis of ICON aims to furnish you — existing as well as would-be participants in the ICON community — with honest, clear information to help you make informed decisions about ICON. It is also intended as an 'informational hub', with links out to other relevant resources.

Our team worked with ICON in the run-up to their successful ICO in 2017 and we have reported on ICON via The Iconist since 2018. We have combined this extensive knowledge with additional research to create this analysis report.

We aim to publish updates to this document at regular intervals. Drop us an email at hello@theiconist.com if you have something to add or update.
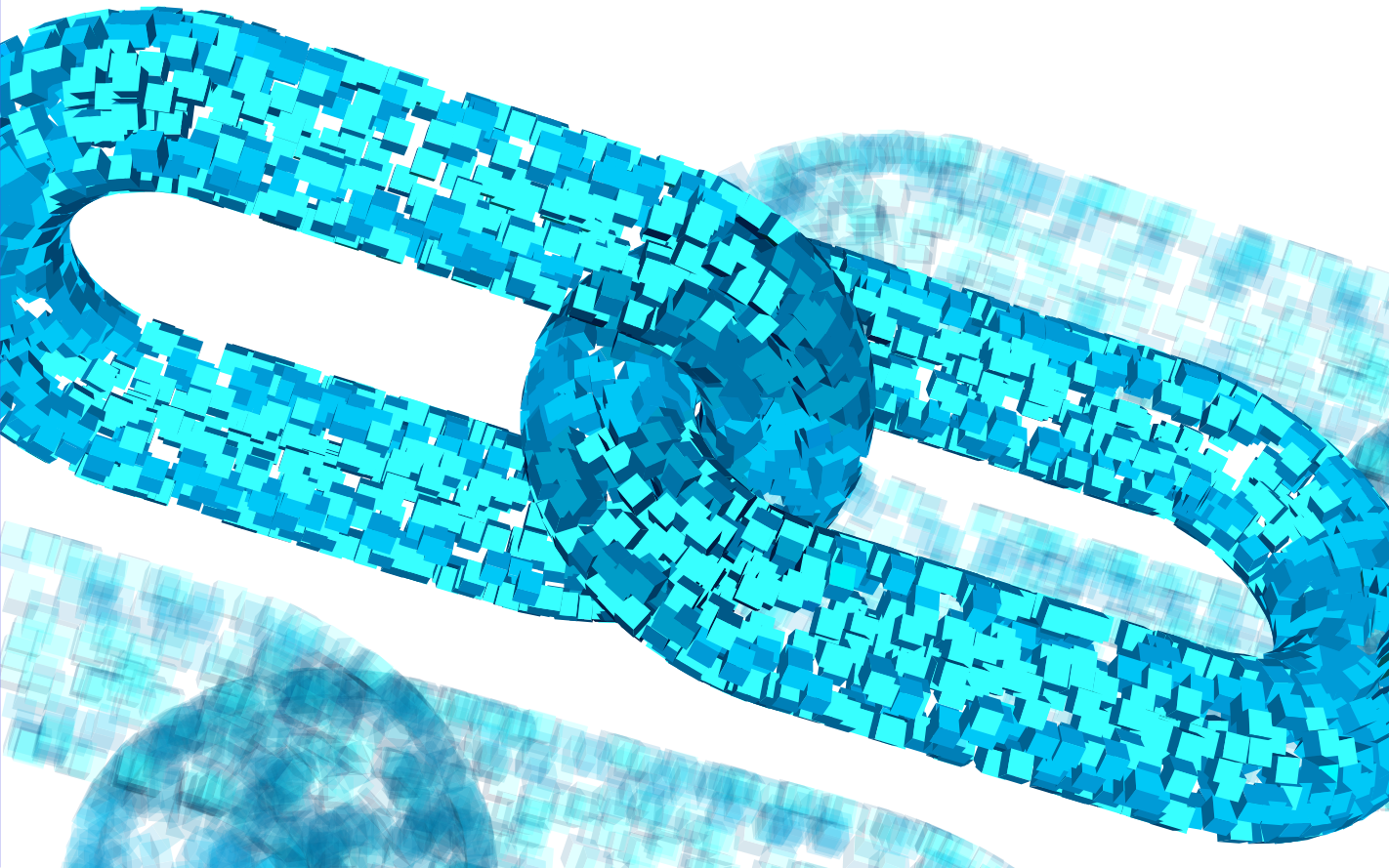
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Why Fundamental Analysis is especially important for blockchain companies

The decentralized and largely unregulated nature of the blockchain industry, as well as companies within it and their associated cryptocurrencies, means that determining the real value and future potential of a blockchain organization can be especially difficult. That in turn makes decision making difficult.
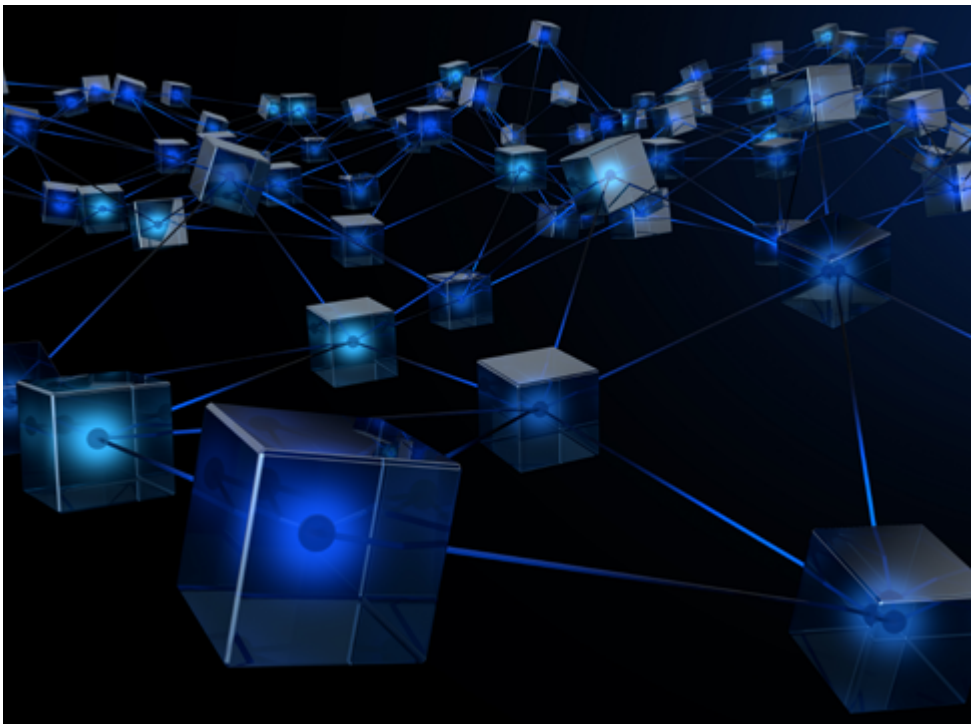
There are no standardized reports, as with publicly listed companies, and there are often minimal case studies against which to draw comparisons or predict future performance. Many of the solutions and business models developed by blockchain organizations are untested or in frontier technologies. This means that there is often a lack of verifiable information upon which to base decisions.

Blockchain companies and their associated cryptocurrencies are notoriously quick to respond to external events — to the upside as well as to the downside. This makes them especially unpredictable and potentially risky. **Solid fundamental analysis can help existing ecosystem members and future participants predict how well a project might handle stresses and volatility.**

What is
ICON?

ICON aims to connect blockchains and communities. The organization's core goal is to enable easy development of solutions that are interoperable across multiple blockchains, to deliver as broad a suite of solutions as possible and to reach as large a potential market as possible. In achieving this, ICON aims to bring the benefits of blockchain technology to the masses.

Paraphrasing ICON's 1-liner, ICON is a public blockchain protocol that is committed to building a hyperconnected future with BTP, their chain-agnostic interoperability solution.

And, according to their website, "ICON is an open-source layer 1 delegated proof-of-stake (DPoS) blockchain and smart contract platform focused on connecting unique blockchains and their respective communities. ICON's Blockchain Transmission Protocol (BTP) is a trustless and chain-agnostic interoperability solution that supports generic smart contract calls between connected blockchains. ICON offers a unique high-performance smart contract execution environment powered by the Java Virtual Machine (JVM) that is ideal for developing minimal-latency cross-chain dApps. The ICON blockchain is governed by validators elected through the network's ICX staking and delegation mechanism."

Additional resources:

ICON's official website: https://icon.community/
The Iconist: https://theicon.ist/

Medium blog:

Discord: https://discord.com/invite/7a75Hf3cFm
Buy ICX: https://icon.community/learn/icx/#where-can-i-buy-icx

ICON
Use Cases

While the situation is changing for the better, many organizations in the blockchain space are still criticized for having developed only ideas and technology and not enough real world use cases. We'd like to demonstrate that ICON is used by many people today, with new products and services added at a reasonably fast pace.

Below we have detailed some of ICON's most compelling use cases, along with some up-and-coming projects that we believe are worthy of note.

The below list is by no means exhaustive — ICON has already funded almost 50 projects and continues to fund new development projects every month. It has allocated more than USD $800K towards those projects and has devoted an additional 200 million ICX fund toward financing projects that are implementing BTP to bridge to other blockchains. And of course there are many solutions launched on ICON that are not funded by the organization.

With BTP almost ready to launch, it is expected that there will be an explosion of new development in the ICON ecosystem. What is also worthy of note is that BTP's goal is to deliver on ICON's promise of interoperability. We can expect not just more use cases, but also a very considerable increase in the reach of solutions delivered on ICON. Many will be immediately accessible to users of other, partner blockchains, dramatically increasing ICON's market presence.

Details about other ICON ecosystem projects and partners can be found on ICON.community and a wiki is being built for the ICON community that will also include this type of information. That said, like many organizations in the fast-paced blockchain world, securing an exhaustive list of available solutions is difficult.

DeFi

- **Omm Finance:** Omm Finance is a DeFi money market where anyone can lend and borrow assets, earn interest and own a share of the protocol. Its Bridge wallet is an easy sign-in option and fiat on/off ramp. You can stake their native token, OMM, to receive daily rewards or provide liquidity on Balanced to earn more. Anyone can use Omm as a high-interest savings account by supplying ICX, sICX, USDS or IUSDC to a liquidity lending pool.

- **Balanced:** Balanced Network is a DAO / decentralized bank, where ICX holders can take out a loan, swap assets and supply liquidity. It incentivizes people to deposit their ICX as collateral and borrow tokens pegged to real world assets. Balanced makes Defi accessible, high performance and cost effective:

  - **Fast** - it can handle 1,300 transactions every two seconds, with just two second transaction times

  - **Cheap**, with $0.005 transaction fees

  - **Easy** - getting started on Balanced does not require advanced technical skill to use

  - **Better than Ethereum?** - Balanced is more than 3,200x cheaper, completes transactions 150x faster, and can process 45x more transactions per second.

- **Optimus:** Optimus is a web-based yield optimizer DeFi app that interacts seamlessly with Balanced and Omm. A yield optimizer is a service that invests your funds on DeFi platforms for you and continually adjusts your position to keep your level of risk at an acceptable level.

- **Karma:** Karma Finance is a soon-to-be-released DeFi protocol aimed at helping other DeFi protocols more safely bootstrap liquidity by putting liquidity ownership into the hands of the DeFi protocol instead of liquidity providers (LPs).

- **Convexus:** Convexus is a soon-to-be-released automated market maker with concentrated liquidity aimed at offering Liquidity Providers (LPs) higher capital efficiency, while enabling low-slip-page trade execution for traders.

Other Finance Apps

- **Contribution Proposal System (CPS):** The CPS is ICON's fund platform for community projects. Over USD $800K has been distributed via the CPS fund to date. Participating P-Reps judge proposals that are submitted on the site each month. The CPS receives many proposals every month, and is sometimes even oversubscribed. The Iconist is also funded through the CPS.

CPS

- **ICONFi:** ICONFi is a custodial wallet that provides ICX staking as well as compound yields on cryptocurrency held in it. One of its primary functions is ease of use. Simply send assets to ICONFi to receive yields of up to 8.33% on BTC, 7.25% on ETH, 11.67% on USDT and USDC (APY). ICONFi's fixed savings provide compound yields six times per day.

ICONFi

- **MetrICX:** MetrICX is an app that connects to your ICX wallet to give you an overview of all the connected DApps and where your funds are. It also shows you how much you've staked, which P-Rep teams you've voted for, and whether you have any un-claimed rewards on ICON's various DeFi sites.

MetrICX

Gaming

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Zen Sports

- **ZenSports:** ZenSports is a peer-to-peer sports betting market-place that runs on ICON smart contracts. Users can fund, bet and trade in ICX in a completely trustless environment. ZenSports' aims to integrate more fully into the sports ecosystem, including the offline gaming industry. The WSJ featured ZenSports and its founder Mark Thomas in August 2021. Also in 2021 the Nevada Gaming Control Board approved ZenSports for a non-restricted gaming license in Nevada.

Project Nebula

Project Nebula: Project Nebula is a sci-fi strategy game that features valuable collectables. Players can explore a vast universe, create new consumables, upgrade spaceships and even create new spaceship NFTs, which are tradable in the NFT Project Nebula Marketplace.

HAVAH

HAVAH: ICONLOOP signed a strategic partnership with the ICON Foundation and 2bytes Corp. to establish HAVAH, a new block-chain-based interchain NFT entertainment platform. The platform will connect NFTs issued on different blockchain networks and platforms, making them interoperable using ICON's BTP technology. Additional game studios are expected to join the project as partners.

ICONBet: ICONBet is a fully decentralized gambling platform that awards house winnings to everyone who plays, removing the house edge. To achieve this ICONBet issues daily TAP tokens to everybody who gambles on their site, from winnings that would otherwise go to the house — the more you gamble each day, the more TAP you can claim.

ICONBet

Wonder Game: Wonder Game is a collaborative DeFi game launched initially on the Harmony blockchain, but linked to ICON via ICON Bridge — the first use case of ICON's "BTP Lite" solution. This enabled an early example of cross-chain NFT minting. Inspired by Alice and Wonderland, the P2E risk protocol game allows characters in the game to risk and gain Mushroom Tokens — $SHROOM — from each other.

Wonder Game

ICX Staking Lottery: The ICX Staking Lottery is a lossless lottery that allows players to buy one ticket and play it again and again week after week, regardless of how many times they win or lose. The ticket is also fully refundable at any time.

ICX Staking Lottery

NFTs

- **Craft Network:** Craft is an NFT marketplace allowing you a smooth and low fee NFT trading and minting experience. Users can earn $CFT tokens for each of their trades on Craft and discover the best NFTs in the ICON ecosystem. $CFT is awarded based on users' buying and selling activities. $CFT token ownership also allows votes for platform development and governance decisions.

- **NFT Bazaar:** NFT Bazaar is an NFT marketplace by P-Rep team Spartan Node that has a large collection of digital art. Its low gas fees make it competitive against other NFT markets such as Open Sea. Artists must use Spartan Node's own token — LambdaX ($LDX) — to mint NFTs, though customers purchase NFTs using ICX.

- **GangstaBet:** GangstaBet is a collection of digital characters based on classic gangster films of the 1980s and 1990s. GangstaBet distributes GangstaBetToken ($GBET) to its holders on a daily basis. These tokens are used to change the name and skills of the characters.

Claws

- **Claws:** Claws is an eye-catching collection of 3D dinosaur images that creates "mutation" interactions by deploying mutator contracts on target blockchains via BTP. For each Claw "bridged" for the first time from ICON to a newly integrated ecosystem, the user will be able to mint a new NFT exclusive to the new ecosystem.

Studio Mirai

- **Studio Mirai:** Japan-based NFT studio Studio Mirai has put together Tamashi, a collection of 100 uniquely-created characters with unplugged TV screen heads, with each screen representing different themes, individuals and aspirations. Studio Mirai is backed by a passionate community of supporters, the Tamashi Tribe.

Alter

- **Alter:** Alter is an upcoming clothing brand that ties its clothing line with collectible figurines that exist in both physical form and as ICON-based NFTs.

Projects Developed on ICON by ICONLOOP, ICON's Technology Partner

ICONLOOP is a private blockchain company that develops blockchain solutions for enterprises. It is also the ICON network's chief technology partner and the developer of ICON's general-purpose blockchain protocol. Many of the solutions ICONLOOP has developed utilize ICON's core blockchain technology.
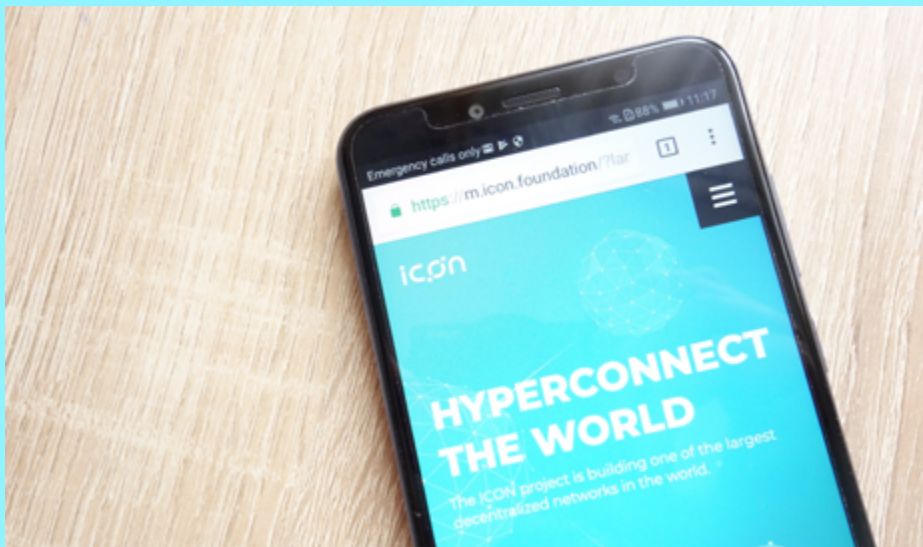
- **VisitMe:** VisitMe is a [smart visitor management solution](#) that provides value at each stage of the 'visiting' process, from event invitations, to speedy check-in and one-touch event entry. [VisitMe](#) can be linked to various services such as KakaoTalk (Korea's Whatsapp / Facebook), Slack, Google Calendar and SAML.

- **Broof:** [Broof](#) issues 'fraud-free' blockchain-based certificates as well as permanent records of those certificates. Any institution can issue blockchain-based certificates via broof and the recipient can get and manage the certificates in an easy and safe manner. [POSTECH issued diplomas](#) stored on blockchain using broof in 2020.

- **Zzeung:** [Zzeung](#) is an authentication service using ICONLOOP's "MyID" decentralized ID service that provides real-name authentication, QR authentication and certificates.

  - NH Bank uses the mobile app Zzeung to issue IDs, while Shinhan Bank launched a Zzeung-based ID service in 2020, making it the first financial company to commercialize DID.

  - VisitMe and Broof are integrated into Zzeung. So, too, was Jeju's ubiquitous Jeju Safety Code tracing app during the COVID-19 pandemic.

  - Zzeung provides an ID service for Gangwon Province's "Health Up" platform for managing chronic diseases.

  - Zzeung also provides a driver's license authentication service for rental car services.

  - The MyID alliance — the network of partners pledged to use or promote MyID — has 86 members, including major commercial banks, securities firms, local governments, e-commerce companies and manufacturers.

The ICON Team

Broadly speaking, the ICON "team" consists of three major players:

- **The ICON Foundation,** the "founder" of the project and its most important actor.

- **ICONLOOP,** ICON's chief technology partner and primary developer of the blockchain network's infrastructure

- **The community of node validators, or P-Reps,** who also develop many of the services that operate on the network.

All three of these groups are composed of teams with years — and in some cases, decades — of experience across a wide range of fields, including finance and fintech, software development, network architecture and business development.

They have also demonstrated a willingness and ability to not only keep the network functioning at peak performance, but also to push the technological envelope, most notably through the development of the network's signature interoperability solution, BTP.

Beyond the core team outlined above, the broader ICON ecosystem includes partner blockchains in the BTP network. This includes some of the largest blockchain networks in the world, including the Polkadot ecosystem and BNB Chain, as well as compatibility with Ethereum Virtual Machine.

The ICON Foundation

The ICON Foundation led the development of the ICON network prior to its decentralization, and is arguably still the network's most important actor, playing an outsized role in promoting the development of the project. It's also the No. 1-ranked P-Rep.

Key figures in the ICON Foundation include:

- **Min Kim, Founder:** Min received an education in business, graduating from UC Berkeley and Columbia Business School. Prior to founding ICON Foundation in July 2017, he had built a 15-year career in the finance and business sector with companies such as Deutsche Bank and DAYLI Financial Group.

- **Scott Smiley, Strategist:** In addition to being an ICON strategist, Deutsche Bank veteran Smiley was also a co-founder of ICON accelerator ICX Station and decentralized finance platform Balanced, as well as Web3 investment company Lydia Ventures. He started building a professional network in the blockchain technology industry in early 2017, and began work on the ICON Project in April 2018

- **TJ Hunt, Product Manager and Strategy Associate:** A recent graduate with a finance degree from the University of Minnesota, TJ has been an ICON investor since late 2017. He is focused on core ICON strategy and product management, including improving the Contribution Proposal System (CPS), MyIconWallet coordination, BTP and other ICON-based products.

- **Daeki Lee, Head of Ecosystem:** A graduate of UC Berkeley's Haas School of Business, Lee helps build out ICON's ecosystem, largely through his role as co-founder of ICX Station. Lee started his career as venture capitalist at TransLink Capital, one of the leading cross border VC funds based in Silicon Valley, Beijing, Seoul and Tokyo.

- **Elise Shin, Director Of Strategic Communications:** The ICON Foundation's chief communication's officer joined the team in 2021. A graduate of Yale University, Shin was also the COO and co-foudner of crypto donation platform Reached and an investment associate at blockchain VC Deblock.

ICONLOOP

Seoul-based blockchain developer ICONLOOP is ICON's chief technology partner, responsible for building the blockchain engine that powers the network.

- **Jonghyup Kim, CEO:** A graduate of Korea's prestigious Pohang University of Science and Technology with a degree in computer engineering and science, Kim has been CEO of ICONLOOP since 2017. Prior to this, he spent about two decades in the data security sector, founding security solution BTWorks in 2002. Kim first started working with blockchain technology in 2016, when he began applying blockchain technology to security solutions for banks.

- **Hyeokgon Ryu, CTO:** Ryu is an experienced CTO with a long history of working in the internet industry. Skilled in blockchain, embedded software, J2ME, Android, mobile applications and Java, Ryu earned his MS in Computer Science from Pohang University of Science and Technology. He began his career as an engineer at LG Electronics before moving on to become CTO at Infraware Technologies and managing director at SELVAS Healthcare.

- **Junghoon Lee, CSO:** Also a director with the ICON Foundation, Lee was formerly a researcher with Woori Financial Group's strategic planning team. He has a PhD from Seoul National University's technology management school.

- **Jay Kim, CFO:** ICONLOOP's chief financial officer spent seven years as a manager with PwC before becoming the CFO of Dayli intelligence, a business technology company in the field of artificial intelligence and blockchain services and part of the larger DAYLI Financial Group, one of Korea's leading fintech companies. He joined ICONLOOP as CFO in 2016, and is also a director with the ICON Foundation.

- **Yujin Sohn, COO:** Sohn got her MBA from NYU, and then joined New York-based online marketing company Oddcast as director of marketing. She then joined Korean internet giant Kakao, where she headed their Indonesia office and was VP of international business development. She was also management director at Kakao's Singapore-based subsidiary Path Mobile.

P-Reps

P-Reps are central to the ICON ecosystem. While their primary function is to validate blocks on the ICON blockchain, they play many other roles as well. They are the network's policy makers, deciding all network decisions. They also build or support the development and launch of many of the services and products built on the ICON network.

Major P-Reps include:

Lydia Labs

- **Lydia Labs:** Formerly ICX Station, Lydia Labs is a venture studio focused on building blockchain-based applications. Lydia Labs has built or supported some of the most important services on ICON, including DeFi protocols Balanced and OMM Finance and NFT marketplace Craft Network.

  - Its co-founders are Scott Smiley and Daeki Lee, who are also members of the ICON Foundation (see above),

- **GangstaBet:** GangstaBet is an international collaborative project between artists and developers from across the globe. They launched the popular GangstaBet NFT project, a collection of digital images based on classic gangster films of the 1980s and 1990s. They are also building Emerald City, a metaverse powered by GangstaBet's digital characters.

  - Gangstabet's core team has prior experience building NFT projects on the Ethereum blockchain.

- **ICONFi:** One of ICON's premier financial platforms is a cryptocurrency staking-and-earn service built for beginners.

  - Prior to founding ICONFi in 2020, CEO Sean Kim had a long career in financial services, having served as a senior manager at financial consulting firm EY and as a financial services advisor at PwC.

P-Reps

- **Binance Node:** Globally top-ranked cryptocurrency exchange Binance also serves as one of ICON's major node validators. Binance also operates BNB Chain, a major blockchain network in its own right and a key partner in ICON's BTP interoperability solution.

- **Everstake:** Ukraine-based Everstake is one of the world's biggest decentralized staking providers with over 600,000 users and over USD 6 million staked. The Everstake team includes experienced developers, financial experts and blockchain enthusiasts.

  - CEO Sergii Vasylchuk: Also the CEO of blockchain technological company Attic Lab, Vasylchuk has over a decade of experience in web and software development in finance, investment, banking, crypto and blockchain.

  - Everstake is collaborating with the Ukrainian government to enable crypto donations to Ukraine.

- **PARROT9:** New Zealand-based design house Parrot9 is "here to design the user experience of the future." Their expertise in UX writing and design is most evident in ICON's DeFi platforms Balanced and OMM, for which they led the product design and marketing.

ICON OSPHERE

- **ICONOSPHERE:** Led by San Francisco-based fintech and block-chain development company Ibriz, ICONOSPHERE has helped develop some of ICON's major DeFi solutions, including Balanced and OMM. It was also heavily involved in the development of ICON's CPS grant program, designing its front end/back end and UI/UX system.

  - CEO Bijay Niraula: Niraula has been involved in the Silicon Valley incubator and tech scene for two decades. He is also a veteran organizer of hackathons and conferences in the Bay Area.

ICONDAO

- **ICONDAO:** This decentralized autonomous organization of ICON community members has been heavily involved in not only building services on ICON, but promoting the network through hackathons and education programs. Most recently, they helped spearhead the effort to integrate ICX into leading crypto wallet Ledger Live.

  - CAN (Community Alliance Network): ICON DAO is powered by CAN, which provides a comprehensive set of SaaS (Software-as-a-Service) tools to build Internet/mobile community platforms without an in-house tech team.

Official Blockchain Partners

BNB Chain

Formerly called Binance Smart Chain, BNB Chain is a blockchain network built for running smart contract-based applications In essence, it's the layer-1 blockchain network of crypto exchange giant Binance, though with a real emphasis on interoperability.

• Learn more: https://www.bnbchain.org/en/smartChain

Near

NEAR Protocol is a decentralized application (dApp) platform and Ethereum competitor that focuses on developer and user-friendliness. Its native NEAR tokens are used to pay for transaction fees and storage on the Near crypto platform.

• Learn more: https://near.org/

Moonbeam

Moonbeam is a new Polkadot smart contract platform that makes it easy to build natively interoperable blockchain applications.

• Learn more: https://moonbeam.network/

Harmony

Harmony is a layer-1 blockchain using sharding and Effective Proof of Stake to achieve scalability, security, and decentralization. Its speed and cost-efficiency make it a strong contender in the smart contract blockchain industry .

· Learn more: https://www.harmony.one/

Algorand

Algorand is an eco-friendly proof-of-stake blockchain cryptocurrency protocol with an impressive number of serious applications. Algorand's native cryptocurrency is called ALGO.

· Learn more: https://www.algorand.com/

ICE

ICE aims to become a crowdloan-funded Polkadot parachain that serves as an extension network and application hub for the ICON ecosystem. ICE is the first network to use the Substrate SDK to extend the feature-set of an existing layer one blockchain.

· Learn more: https://icenetwork.io/

ICON Governance

ICON moved to a decentralized governance structure in late 2019. The network's community of main node validators, or P-Reps, vote to determine network policy. Main P-Reps are selected by ICX holders through staking.

Network participants are rewarded based on the ICON Incentives Scoring System (IISS). This includes rules regarding compensation for P-Reps for participation in governance decisions. A more in-depth description of the IISS rules can be found at ICON's developer portal.

ICON: a DPoS Network

ICON is a delegated proof-of-stake (DPoS) network, an evolution of the simple proof-of-stake used in networks such Cardano, Algorand and Polkadot (and soon Ethereum).

In ICON's DPoS network, stakeholders "delegate" their share of the network – i.e., the native cryptocurrency ICX – to registered node validators, who produce blocks and participate in network governance. This allows stakeholders with the technical expertise to set up their own nodes to receive rewards from staking.

P-Reps

In ICON, validators are called Public Representatives, or P-Reps. P-Reps are "elected" by the community — i.e., ICX holders — through delegations of said ICX. As in a representative system, community members delegate their ICX to P-Reps who espouse policies and projects they support.

There are two categories of P-Reps:

- Main P-Reps (the top 25 P-Reps in terms of delegated ICX)
- Sub P-Reps (the other 75)

Both Main P-Reps and Sub P-Reps can earn rewards. The main P-Reps earn block validation awards, while all 100 receive representative rewards according to their delegated ICX. However, only Main P-Reps can participate in network proposal votes, i.e., the decisions that impact the entire network. To pass, network proposals must be approved by 66% of the voting P-Reps, with a quorum of 66%.

To become a P-Rep, a team must undergo an on-chain registration process, which includes paying a 2,000 ICX registration fee.

P-Reps have a number of responsibilities, including:

- Producing blocks
- Keeping the node infrastructure working as it should with maximum uptime

- Keeping the node software updated
- Voting on network proposal votes
- Governing ICON's Contribution Proposal System (CPS)
- Educating and informing the ICON community through social media, etc.

ICON's governance rules encourage good P-Rep behavior through both positive and negative incentives. For example, P-Reps are rewarded for keeping their nodes in good working order and verifying blocks, their most important function. Likewise, the rules punish P-Reps for missing network proposal votes or failing to validate blocks.

CPS

ICON's governance structure includes a community grant program, the Contribution Proposal System (CPS). This allows members of the wider ICON community and beyond — especially developers — to receive funding for projects that benefit the ICON ecosystem. This can include building DApps, engaging in NFT projects, building network infrastructure or even running a news site dedicated to ICON.

To receive funding, applicants must submit a proposal to the CPS website. Applicants should be sponsored by a P-Rep, who will post a bond of 10% of the requested grant. The P-Reps will then vote to either accept or reject the proposal. Grants are paid in the stable-coin bnUSD.

Under the most recent IISS rules, CPS funding is currently capped at around 300,000 ICX per month, which means even accepted proposals may not receive funding. During the voting, P-Reps rank the proposals in terms of priority, which is used to determine which approved proposals get funding and which do not.

ICON Incentives Scoring System (IISS)

The ICON network rewards system participants based on the [ICON Incentives Scoring System](#) (IISS), an ["evaluation system for accurately measuring and compensating the contributions of ICONists within the ICON Network."](#)

IISS rewards several forms of "contributions" to the ICON network, including validation of blocks, staking and building services on the ICON network.

One important feature of the IISS is its use of a "bonding" system to determine rewards. For P-Reps to receive the full amount of rewards they are eligible to receive, they must put up a bond equivalent of 5% of their vote share.

For example, if a P-Rep receives a vote share of 1 million ICX, they must post a deposit of 50,000 ICX to receive their full reward. Failure to do so will result in the P-Rep receiving smaller rewards.

The bonding system is crucial to ensuring "good" behavior by giving P-Reps proverbial "skin in the game." According to IISS rules, failure to validate blocks or take part in network votes, or engaging in malicious behavior results in the bond being slashed — i.e., burning their ICX. As a result, the P-Reps receive fewer rewards, a powerful incentive for node validators to stay active and well-behaved.

Learn more about ICON governance: https://icon.community/learn/icon-governance/

Why Decentralized Governance is Good for ICON and its Participants

ICON's decentralized governance structure brings very real benefits to the blockchain network and its broad community of participants.

- **Philosophically, decentralization is the core value of block-chain.** Blockchain was created in large part to overcome the limitations of Web 2.0's highly centralized, highly siloed data systems. ICON demonstrates a commitment to decentralization not only at the top governance level, but also in its constituent parts — see the large number of DAOs that take part as P-reps and service providers.

- **Like open source, decentralization encourages the "crowd sourcing" of solutions.** It brings in players with a wide range of skills, interests and capabilities, which in turn enables the network to build out far more quickly than would be possible with an internal staff of developers. Indeed, many of ICON's key services, including its critical DeFi infrastructure, were largely developed by its P-Reps.

- **Likewise, decentralization broadens the network's "vision" in a way that would simply be impossible with a small corporate board.** At ICON, the community IS the board of directors.

- Decentralization not only encourages a participatory form of decision making, but also **helps encourage the kind of "trustless" environment that makes hyperconnectivity — as demonstrated by BTP — possible.**

Technological Capability and Achievements

ICON and its partners have demonstrated a willingness and ability to push the technological envelope.

This is most apparent in its efforts to develop its signature Blockchain Transmission Protocol, or BTP, a potentially revolutionary interoperability protocol. BTP is in the late stages of development, and a "light" version — called ICON Bridge — has already been successfully field tested.

Just as importantly, ICONLOOP — ICON's main technology partner — has a track record of successful collaboration with not only ICON, but also a wide range of high profile corporate and public actors, including national banks, national and provincial government agencies and top tier universities.

Goloop

Any discussion of ICON's technology should begin with Goloop, the network's proprietary blockchain engine developed by ICONLOOP. ICON adopted Goloop when it moved to ICON 2.0 in 2021, when it replaced the previous "loopchain" engine, also developed by ICONLOOP and still actively employed by many of the company's other private and public chains.

Goloop is a smart contract-enabled enterprise-grade blockchain software written in Go, Google's open source programming language. **Go is a popular choice in the blockchain community thanks to its speed, scalability and built-in features like concurrency and memory management.**

Goloop goes even further, adding many unique features providing a secure, immutable and scalable environment to develop decentralized applications. Goloop also adopts a new data structure for storing blockchain data similar to Ethereum, namely, the Merkle Patricia Trie.

According to the ICON Foundation, **the Goloop blockchain engine is capable of handling about 1300 transactions per second (tps), but the latest version of the network has pushed this closer to 9000 tps.**

ICON Smart Contract

Formerly known as Smart Contract on Reliable Environment (SCORE), CON Smart Contracts are the building blocks of decentralized applications, or DApps.

Since the adoption of Goloop, ICON Smart Contracts are written in Java. **Java is a compiled language, which means that it executes much faster than the previous smart contract language, Python.** Java is also safer as errors are caught prior to execution. In fact, since the adoption of Java smart contracts, developers no longer must submit their smart contracts to ICON for manual audits — instead, the contracts execute in the secure Java Virtual Machine.

Practically speaking, what this means is that developers can develop and deploy their services in a much faster, must safer fashion.

BTP

Arguably ICON's most revolutionary piece of technology, the Blockchain Transmission Protocol, or BTP, a "chain-agnostic, scalable, and secure interoperability protocol."

In layman's terms, it provides a trustless way for different blockchain networks to exchange information and interact with one another. **No longer will users have to put faith in middleman to move resources from one network to another — the transacting parties can do everything on their own.**

The potential use cases for such a technology are virtually endless, and include:

- Transferring tokens from one blockchain network — without using a central trading platform like a cryptocurrency exchange — through smart contracts.

- Exchanging data between ICONLOOP-powered enterprise partners such as MyID or Broof.

- Transferring NFTs from network to network.

While the blockchain space offers plenty of interoperability solutions, most have to make painful trade-offs between cost, security, extensibility and speed.

BTP, on the other hand, overcomes these trade-offs by using low-cost, gas-efficient, on-chain "light clients." Light clients query a des-

BTP

tination blockchain node for specific transactions and blocks you're interested in. In practical terms, this lets users access a blockchain without going through the time-consuming and expensive process of syncing an entire blockchain. **This mean faster, cheaper and more scalable transactions.**

BTP is in the final stages of development. A centralized "lite" version of the protocol, ICON Bridge, was field tested with much fanfare during the pre-sale of DeFi game Wonder Game in June of 2020. During the pre-sale, ICX holders used ICON Bridge to mint NFTs on the Harmony blockchain, one of the first instances of inter-chain NFT minting. Users almost universally described the experience as "smooth."

When the full-version of BTP is released, ICON stands a very good chance of being the most interoperable network in the blockchain space.

ICON's list of BTP partners already includes some of the world's biggest blockchain networks, including the Polkadot family, BNB Chain, NEAR and Algorand (see full list of BTP partners in the ICON Team section above). This list is only expected to grow.

Indeed, the launch of BTP could spark a watershed moment in the growth of the ICON network, introducing countless new users through not only existing BTP partners, but also developers keen to take advantage of its unprecedented interoperability.

• Learn more about BTP: https://icon.community/learn/btp/

• Read the BTP Whitepaper: https://icon.community/assets/btp-litepaper.pdf

ICE Network

Another key part of ICON's interoperability technology is the ICE network, ICON's "extension network and EVM-compatible application hub of the ICON ecosystem built with Substrate SDK."

Built using Substrate, the development framework that powers the Polkadot ecosystem, ICE aims to be a Polkadot parachain, i.e., a spoke in Polkadot's hub-like architecture. In so doing, **ICE aims to be a bridge between ICON and the vast Polkadot ecosystem, including Kusama, Chainlink, Acala and Moonbeam.**

Simultaneously, it would also serve as a bridge between Polkadot and ICON's broader network of BTP partners, including BNB Chain and Harmony.

That's not all, however, ICE is also EVM and eWASM-compatible. In plain English, this lets ICE and SNOW bridge ICON and Ethereum.

This puts ICE — and by extension, ICON — in a very competitive position by providing practical alternatives for dApp developers seeking ways around Ethereum's notoriously high gas fees.
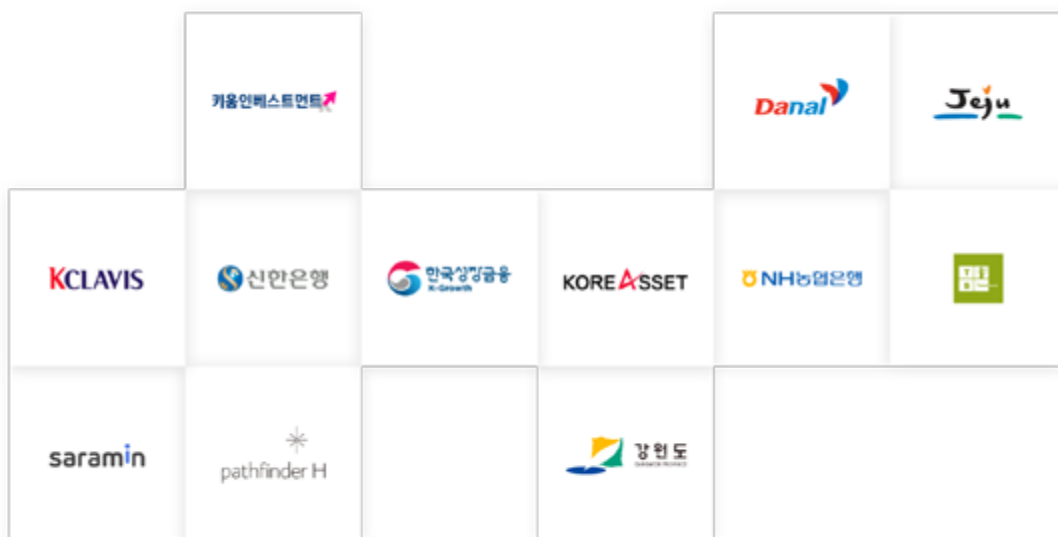
ICONLOOP's
Proven Track Record

ICONLOOP is not only ICON's chief technology partner, but also one of Korea's top blockchain companies.

ICONLOOP provides full-stack solutions to clients, from customized token economies to blockchain networks optimized to a business's needs. Indeed, its shed of technological tools includes:

- DEXs
- Decentralized IDs
- Custody solutions
- NFTs
- Wallets
- Interchain solutions
- Mainnet construction
- P2E gaming solutions

In keeping with global technological trends and political developments in South Korea, ICONLOOP has been moving away from purely enterprise solutions to general Web3 and digital asset services.

Most recently, this includes the unveiling of Parameta, a blockchain framework that lets anyone easily build customized blockchain networks. Paramata incorporates ICON's BTP technology.

ICONLOOP's long list of clients include major Korean public entities such as Seoul Metropolitan Government, Gangwon Provincial Government, Jeju Special Self-Governing Province and Korea's National Election Commission.

Current South Korean president Yoon Suk-yeol even visited ICONLOOP's office during his political campaign, where he used ICON's Craft Network NFT market to mint his own NFT.

ICONLOOP has also deployed solutions at some of Korea's biggest corporate entities, including steel giant POSCO, major South Korean banks Shinhan Bank and NH Bank, and insurance giant Kyobo Life Insurance.

What this means is that unlike many blockchain projects, ICONLOOP — and to a large extent, ICON by extension — comes with an enviable network of potential clients and partners in the highest reaches of Korea's political and business communities.

Market Entry and Future Opportunities

ICON and its main technology partner, ICONLOOP, are quietly carving out for themselves comfortable slices in several markets, including DeFi, NFTs, blockchain gaming and even the metaverse.

ICON's cryptocurrency, ICX, has enjoyed periods of robust market performance, and has demonstrated an impressive resilience even during bear markets.

The growing mainstreaming of blockchain technology and digital assets presents considerable opportunities for growth for ICON, especially in its home market of Korea, where recent political changes are highly encouraging for the blockchain space. ICON's emphasis on interoperability, and its existing network of highly placed clients in the public and corporate spheres, amplify these opportunities for expansion.

ICX Metrics

To begin with the basics, at the time of writing, ICX had a live market cap of USD 265,407,383, with a circulating supply of 919,483,096 ICX coins. The coin has consistently placed within or near the top 100 coins in market cap, which is no mean feat.

Like most alt coins, the price of ICX has fluctuated significantly with market conditions. Since 2021, it has spent most of the time over USD 1, sometimes peaking as high as USD 3. This represented a considerable rebound from 2020, when it dropped as low as 10 cents in the depth of the last crypto winter.

While the current crypto crash has hit the price of ICX hard, if past history is anything to go by, the price should markedly increase when the market improves, particularly if the launch of BTP sparks significant increases in the demand of ICX.

DeFi

ICON's major DeFi platforms enjoy significant usage.

Balanced, for instance, has managed to lock up over USD 20 million in total value and earned over UDD 3.3 million in fees. As of the time of writing, it was providing 5.4 billion bnUSD — its stablecoin — in loans to 806 borrowers, against nearly 8.5 million in collateral.

At open money market OMM, users have **supplied over USD 15.7 million in capital, with over USD 2.2 million borrowed.** Optimus, too, has managed to lock up USD 3 million in total value.

NFTs

Craft Network, ICON's biggest NFT market with over 1,700 unique collections, is **one of the world's top 10 NFT markets in terms of 24-hour trading volume,** with some USD 30,000 in trading as of the time of writing. At one point in February 2022, it had peaked at No. 3 worldwide. Overall, Craft has seen over USD 15 million in trades since August 2021, with a total market cap of USD 35 million and over 6,000 daily users.

Gaming

On the gaming front, several of ICON's games are generating significant usage. This is particularly the case with ICONbet, arguably ICON's best performing App. **The DAO casino has generated over USD 32,000 in transactions in the last week alone, and is responsible for a large chunk of ICON's daily ICX usage.**

Sports betting app ZenSports, meanwhile, is branching out both online and offline, having been approved for a non-restricted gaming license in Nevada, opening the way for it to acquire an off-line casino in the state. **This gives ZenSports the physical presence required by the gaming board to operate its mobile sports betting platform in the state.** It has also recently opened a metaverse service, ZenSportsia.

Metaverse

ICON has been taking steps to bolster its position in the growing metaverse sector. The CPS recently approved funding for Eclectica, a cross-chain metaverse for up to 100 concurrent users with full custom avatars. A working demo has already been launched.

ICON also has a partnership with leading metaverse builder RedFOX Labs. Last year, RedFOX Labs announced that ICON would be one of the first full-time residents of its retail and entertainment-focused virtual world RFOX VALT.

Major Partners

ICON and its chief technology partner, ICONLOOP, have major partners in government and large companies:

- ICONLOOP has partnered with **Jeju Special Self-Governing Province** for several projects, most notably the highly successful Jeju Safety Code contact tracing app during the COVID-19 pandemic.

- ICONLOOP's MyID DID solution is at work at two major South Korean banks: **Shinhan Bank** and **NH Bank**.

- ICONLOOP's DID access authentication system is at work at **POSCO Group base offices**

- Public chain powered certification solution "broof" is used by leading Korean university **POSTECH** to issue diplomas.

- Mobile ID app Zzeung is used by **Gangwon Province's "Health Up" platform** for managing chronic diseases

- ICONLOOP worked with **Korea Communications Agency (KCA), Central Radio Management Service and National Federation of Fisheries Cooperatives** on ship safety service.

- In February 2019, the **Seoul Metropolitan Government** appointed members of its 'Blockchain Governance Team' using the ICON Network.

- One of South Korea's biggest coffee shop franchises, **Paul Bassett**, used VisitMe to track Covid-19 contacts

Reasons for **Optimism**

Globally, cryptocurrency and blockchain are achieving unprecedented levels of mainstream acceptance. According to Forbes earlier this year, 55 of the 100 largest financial institutions in the world are now investing in crypto and blockchain, and Coinbase has twice as many accounts as Charles Schwab. "Crypto is now a $2 trillion industry that has elbowed its way into the mainstream," wrote Forbes. "Last weekend, there were six—six!—crypto-focused Super Bowl ads."

Even in Korea — where policy makers and regulators had been lukewarm if not outright suspicious about digital assets — the winds are blowing in favor of digital assets.

In May of 2022, Yoon Suk-yeol took over as South Korea's next president. Yoon ran on an openly pro-crypto platform. In particular, his plan to vitalize Korea's cryptocurrency sector includes plans to gradually **permit local ICOs**, beginning with adopting methods to issue virtual assets with built-in investor protections.

The Yoon administration also plans to enact measures to **protect consumers and promote safe transactions by regulating the issuing and listing of digital assets like NFTs and cryptocurrency.** These measures should boost consumer and investor confidence in the blockchain and digital asset markets, helping serious companies such as ICON and its chief technology partner, ICONLOOP.

The shifting mood in Korea is also **encouraging many of Korea's biggest corporate entities and financial institutions to bet big on crypto**, including the likes of SK, LG and Samsung. ICON and ICONLOOP already have existing relationships with major Korean companies such as POSCO and Shinhan Bank, not to mention important public entities, so increased corporate interest will likely present even more opportunities for business and investment.

Lastly, but certainly not least, **the imminent release of the full version of BTP, ICON's interoperability solution, could prove a watershed moment in the network's history** (as explained above). If the network makes good on its promise to unleash levels of interoperability previously unseen in the blockchain space, the sky's the limit.

Development Progress

ICON is making serious, substantial progress in attaining its chief goal, namely, building a hyperconnected future with BTP, its chain-agnostic interoperability solution.

Major Milestones

- **2016**
  - **Founded ICONLOOP**

- **2017**
  - **Launched CHAIN ID**
    - The world's first blockchain joint authentication service
  - **Turned ICONLOOP's 'loopchain' into an open source software**
  - **Founded ICON Foundation**
    - Raised 150,000 ETH which helped build the ICON Network

- **2018**
  - **Launched ICON Mainnet**

- **2019**
  - **Full decentralization (P-reps)**
    - P-reps are in charge of block production and major decisions
  - **Developed 'DPASS', a self-sovereign, blockchain identification system**

- **2019**
  - **Launched the MyID Alliance (up to 86 partners now)**
  - **Completed Series A funding for ICONLOOP (~$9 million)**

- **2020**
  - **Released novel LFT2 consensus algorithm**
  - **Announced development of ICON 2.0 BATANG (Mid Sep 2020)**
    - New blockchain software architecture based on Go

- **2021**
  - **Launched "Balanced" (ICON Network's first DeFi project) (April 2021)**
  - **Project Nebula (NFT Platform) launch (July 27, 2021)**
  - **OMM Finance launched**
  - **Craft Network Launched**
  - **ICON 2.0 Alphanet (April)**
  - **ICON 2.0 Launched (November)**
    - ICON 2.0 mainnet upgrade was successfully completed.
    - Includes new features such as a high-performance blockchain engine written in Go, Java smart contract support, upgrades to IISS (ICON's incentive system), and a more stable development environment.
    - Paves the way for deployment of BTP integrations.
  - **ICON network upgraded to ICON 2.1 (December).**
  - **IISS 3.1 successfully activated on the ICON mainnet.**

- **2022**
  - **ICE/SNOW website goes live**
    - ICE is ICON's bid for a Polkadot parachain
    - SNOW is ICE's canary network for Kusama
  - **Launching of ICON Bridge, an interim BTP solution.**

Competition

Broadly speaking, ICON's competition includes 1) competing blockchain networks, particularly those that support smart contracts, and 2) other blockchain companies in Korea.

ICON's almost single-minded focus on interoperability, however, gives it a potential edge in its competition with other smart contract networks, especially once BTP launches in earnest. Additionally, ICON's — and ICONLOOP's — specializations and robust networks of private and public partnerships could allow it to thrive vis-a-vis Korean competitors, especially as Korea's social and political climate shifts in a more crypto-friendly direction.

Smart Contract Competitors

In terms of users and market cap, it's safe to say that Ethereum is the king of smart contract-based blockchain networks. However, even a king has weaknesses that can be exploited.

In the case of Ethereum, the network has long been plagued by extravagant gas fees. This is where ICON has a competitive edge — for instance, while you might pay USD 10 in gas fees to buy an NFT on Ethereum's OpenSea market, you'd pay just pennies in gas fees on ICON's Craft Network. This applies across the board for both networks.

Indeed, a major selling point of ICON's upcoming ICE expansion network is that it's Ethereum compatible, giving developers a much cheaper alternative for their applications.

Another major "competitor" is the Polkadot ecosystem, with its many parachains. Polkadot is certainly larger — currently ranked #11 in market cap. **But it is also a key BTP partner, which means in this case, bigger may be better for ICON, especially in the long run.** This is particularly so because **through BTP and ICE, ICON gives Polkadot users unprecedented levels of interoperability.**

ICON's biggest competitor, at least in terms of interoperability, is Cosmos. The Cosmos Inter-Blockchain Communication protocol (IBC) operates on a similar principle as BTP, using light clients to conduct inter-chain transactions. **But whereas IBC stores its light clients in the node software, BTP stores its light clients in smart contracts, making the latter easier to integrate.**

ICON also differentiates itself from Polkadot and Cosmos in that the latter two are, essentially, blockchain frameworks upon which developers must build separate application-layer blockchains.

As the ICONOGRAPER put it, "In more simple terms, these two projects offer a framework, but they don't support smart contracts themselves. You can't technically "build" on Polkadot or Cosmos (but you can build on their interconnected chains or launch your own application-specific chain)."

ICON, on the other hand, supports smart contracts right out of the box.

Solana, too, has an interoperability solution, Wormhole, that bridges blockchain networks by relaying messages across connected chains akin to BTP.

Unlike BTP, however, Wormhole is a trust-based solution in which "guardians" — a handpicked group of Solana node validators — sign off on relayed messages. **BTP, on the other hand, is a completely trust-less solution requiring no approval by intervening third parties.** Wormhole has also demonstrated security issues in the recent past — on Feb. 2, 2002, hackers exploited the protocol to steal more than USD 320 million.

RenBridge, another promising blockchain promising interoperability, has a similar trust-based solution dependent on validators for cross-chain transactions.

Korean Blockchains

One of Korea's most prominent blockchain companies is Ground X, the blockchain subsidiary of Korean internet giant Kakao. As part of the Kakao group, Ground X has significant financial backing, a sizable DApp community and some impressive collaborations — most notably, serving as provider for CBDC blockchain simulations by the Bank of Korea.

That said, Ground X is simply a cog in a much larger machine — a machine that, like fellow big tech players in the United States and elsewhere, is not without questions regarding privacy, data usage and the like.

ICON and ICONLOOP, on the other hand, are dedicated blockchain entities. For them, blockchain is their alpha and omega. They are not simply pieces in a larger corporate portfolio.

Blocko, the maker of the Aergo open-source enterprise blockchain platform, is backed by Samsung, and has an impressive list of major Korean corporate clients, including Lotte Card and Hyundai Motor. **However, the company's chief focus is on enterprise solutions,** and the native cryptocurrency of the Aergo network has a market cap of just under USD 43 million, or #396 in the world.

Other **Notes** and **Resources**

Useful tools for FA of blockchain projects

- **Organization's whitepaper and website** - these provide an overview of a project, from the project's perspective. They include technological descriptions, potential use cases, roadmaps and schematics for coin economics.

- **Team record** - a project is usually only as good as the people behind it. Research into an organization's senior team can provide clues as to the organization's chances of future success.

- **Community / Network effect** - The size, nature and strength of a blockchain organization's 'community' and business networks also indicate market acceptance, even at early stages of company development.

- **Competitors** - who are the other players in the space, and how are they doing in comparison?

- **Tokenomics and token distribution** - how are the coins used? What is the network's fiscal policy? How were coins were distributed?

- **Crypto Fees** - This site displays each network's fees over the past 24 hours or seven days, a useful metric in determining a blockchain network traffic or usage.

- **Glassnode Studio** - This dashboard displays a range of blockchain metrics, data and insights.

- **Baserank** - This research platform for crypto assets gathers information and reviews from analysts and investors, giving an overall score from 0 to 100.

Blockchain-related business metrics to be aware of

- **Transaction count** - measure of activity taking place in a network.
- **Transaction value** - how much value has been transacted within a given period.
- **Active addresses** - blockchain addresses that are active in a given period.
- **Fees paid** - the demand for block space as users compete with each other to confirm transactions and receive awards.
- **Hash rate** - measure of network health i.e. the speed and efficiency at which hardware must operate in order to mine.
- **Amount staked** - number of users who stake their own holdings to participate in block validation.

Blockchain-related financial metrics to be aware of

- **Market capitalization** - essentially, circulation x current coin price. This is how much it would cost to buy up every single coin in the network.
- **Liquidity** - measure of how easily an asset can be bought or sold.
- **Volume** - helps determine liquidity.
- **Supply mechanisms** - How many coins can the public buy, determined by maximum supply, circulating supply and inflation rate.

We aim to publish updates to this document at regular intervals. Drop us an email at hello@theiconist.com if you have something to add or would like to suggest an update.

Fundamental
Analysis Of

ICON

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