Full Table of Contents and Introduction

"Blockchain Industry in Scotland Landscape Overview Q1 2023: Companies, Investors, Influencers and Trends", produced by Deep Knowledge Analytics on behalf of Scottish Enterprise, presents an updated and comprehensive overview of the entire Blockchain Industry Ecosystem in 32 Scottish council areas.

This Overview presents the first ecosystem map and landscaping analysis of blockchain's economic opportunities for Scotland. It highlights how Scottish blockchain initiatives can transform various tech sectors but also acknowledges existing obstacles, such as regulatory challenges or public awareness. The report categorizes and profiles 60 distinct Blockchain-centric entities and examines 78 investors, 86 Blockchain Leaders in Scotland, and 33 Hubs, including R&D centers, Government initiatives, and Accelerators, etc.

The Blockchain in Scotland Ecosystem Framework developed by DKA encompasses a diverse range of sectors leveraging blockchain technology to create innovative and secure solutions and encourages collaboration and development within these sectors to foster growth in the Scottish Blockchain industry.

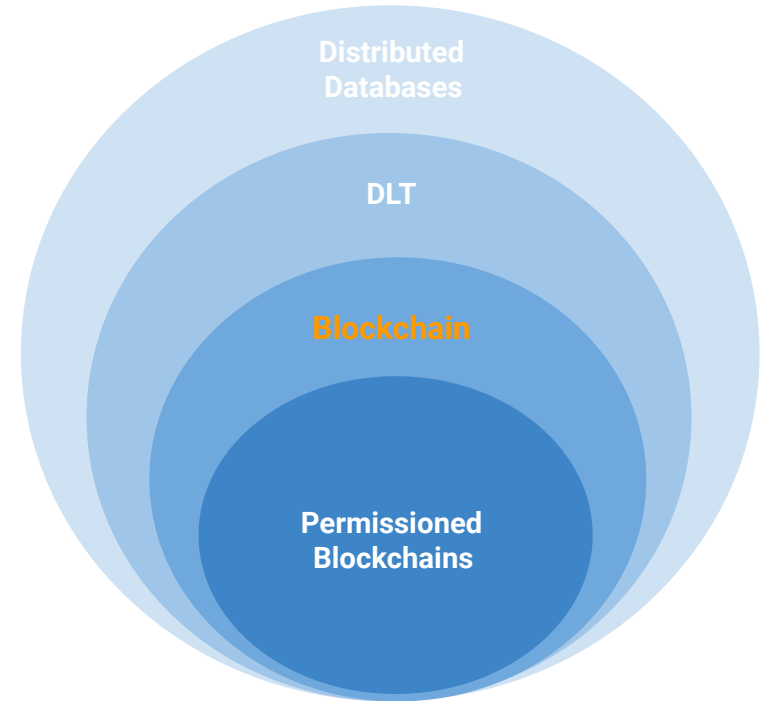# Blockchain Industry Overview

History and Main Principles

Definition of Blockchain

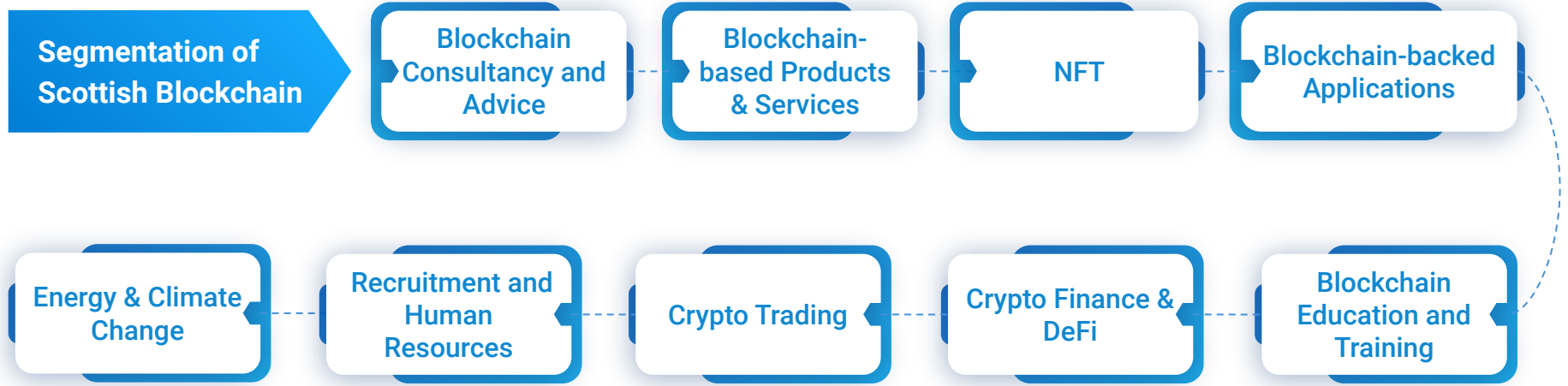Unlike a typical database that structures data into tables, Blockchain works by allowing digital information to be recorded and distributed across a network of computers in a decentralized manner. This information is stored in blocks that hold sets of data and are linked together through cryptography, forming a chain of data. New information is stored in the newly created blocks in the chain. The "decentralised" means users collectively control it without any single person or group having control. Blockchains are an ideal foundation for immutable ledgers or records of transactions because they are designed to be immutable, meaning that the data entered cannot be altered, deleted, or destroyed.

The most common Blockchains e.g. Bitcoin are open for anyone to use however a Blockchain can also be permissioned.

Distributed Databases

DLT

Blockchain

Permissioned Blockchains

Scotland Blockchain Industry Framework

Segmentation of Scottish Blockchain

- Blockchain Consultancy and Advice
- Blockchain-based Products & Services
- NFT
- Blockchain-backed Applications

- Energy & Climate Change
- Recruitment and Human Resources
- Crypto Trading
- Crypto Finance & DeFi
- Blockchain Education and Training

Sub-Segmentation of Scottish Blockchain Usage - Current State of the Market

Software Development	Media & Entertainment	HealthCare	Cyber Security

Blockchain in Scotland Ecosystem Mindmap

Blockchain Consultancy and Advice

Blockchain Education and Training

Blockchain
Leading Companies - 60
Investors - 78
Scottish Blockchain
Leaders - 86
Hubs - 33
(R&D Centres, Government
Initiatives, Accelerators)

Blockchain-backed Applications

Companies

Investors

R&D Centres

Accelerators

Government Initiatives

Scottish Blockchain Leaders

Blockchain-based Products and Services

Crypto Finance & DeFi

Recruitment and Human Resources

Energy & Climate Change

Crypto Trading

Interactive Mindmap

Investors Representatives

Blockchain Companies Persons

Hypervine.io
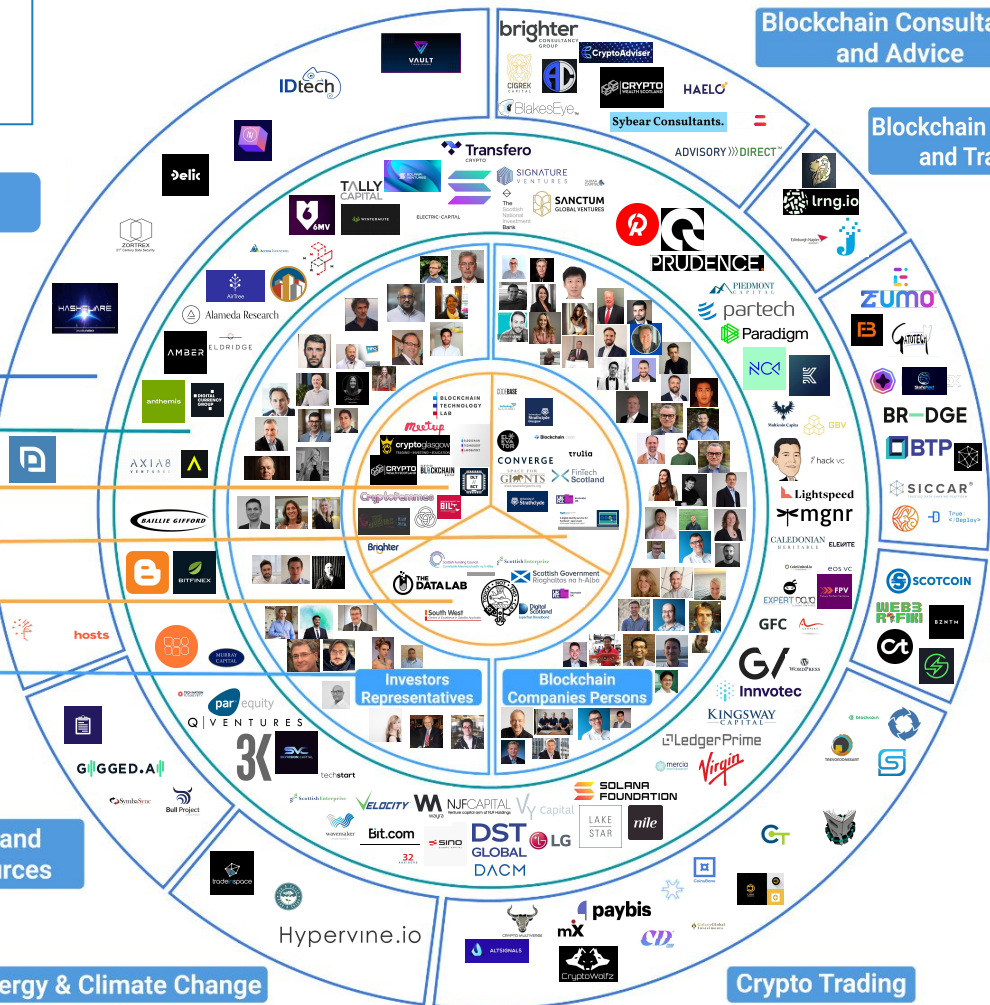
Key Milestones of Blockchain Industry Development in Scotland

The Scottish Blockchain Meetup group was established to bring together professionals, enthusiasts, and researchers.
ScotChain conference was hold in bringing together blockchain industry experts, academics, and enthusiasts.

The Scottish Government launches the "Distributed Ledger Technology (DLT) Challenge," a program aimed at funding blockchain solutions for public sector challenges.

2018

2019

2018

The University of Edinburgh launched a Blockchain Technology Laboratory to foster R&D in the field of DLT. This laboratory conducted research on various aspects of blockchain technology, such as cryptography, distributed systems, and game theory.

2020-2021

In 2020, Wallet.Services received funding of £1.3M with a pre-money valuation of £2.7M, with leading Scottish VC fund, Par Equity, as the lead investor. In 2021, BTP raised £2m from FOMCAP and Signature Ventures

2023

Par Equity leads £1.6M seed investment in Scottish AI-powered recruitment start-up Gigged.AI. The platform uses smart contracts to automate the process of hiring freelancers and managing payments.

Source: The Scotsman, Scottish Government Report on DLT, The University of Edinburgh Crunchbase, DeFiLlama
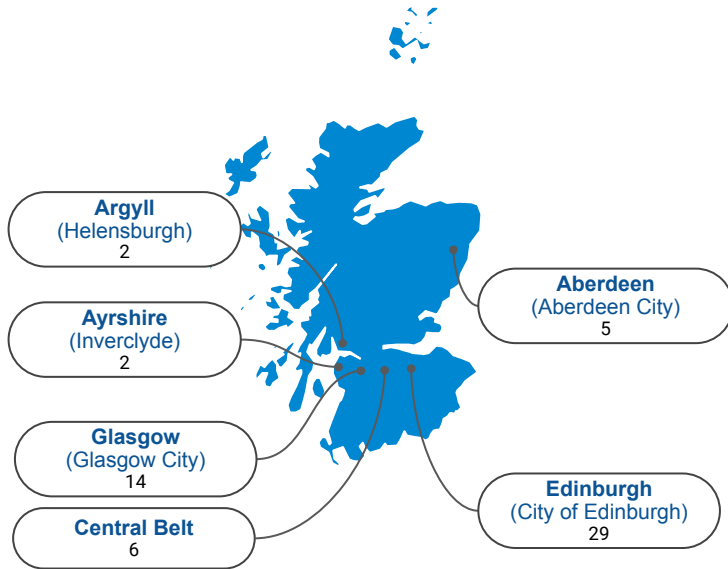
Blockchain in Scotland Landscape Overview

Market Dynamics

Scottish Blockchain Companies - Regional Distribution

Blockchain Companies Incorporated in Scotland

Argyll
(Helensburgh)
2

Ayrshire
(Inverclyde)
2

Glasgow
(Glasgow City)
14

Central Belt
6

Aberdeen
(Aberdeen City)
5

Edinburgh
(City of Edinburgh)
29

Blockchain Industry in Scotland Potential

Blockchain's safe and trustworthy data allows for innovative data use. Instant communication transformed the economy, and fully secure transmission has substantial economic, social, and societal benefits. Deep Knowledge Analytics (DKA) believes the Scottish economy is ready to adopt Blockchain and reap its many benefits. **Blockchain technology can contribute £4.48 billion to Scotland's GDP by 2030***. Worldwide, **Blockchain is expected to generate $1.2trn to the global economy by 2030*.**

Deep Knowledge Analytics promotes the widespread adoption of blockchain solutions to help Scottish society. Socially accountable supply chain activities, user-friendly healthcare systems, and lower data exchange and intermediary financial costs can boost national wealth.
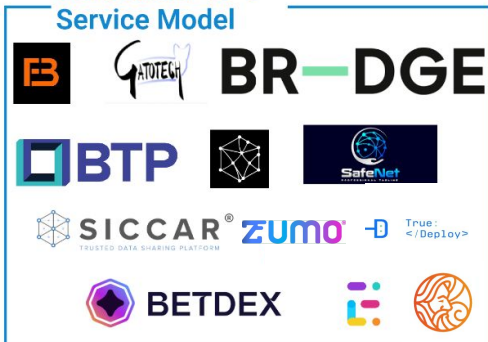
Most Blockchain companies are located in Edinburgh, accounting for 29 companies, which is almost half of the total number of companies. Glasgow comes next with 14 companies, followed by Central Belt and then Aberdeen.

Source: Statista, * "Time for trust" report of PWC (2020)

Blockchain in Scotland: Leading Companies

Using Blockchain to Develop New Products or Services

Delic · ZORTREX 21st Century Data Security · HASHFLARE · IDtech · hosts · N · VAULT Creation unlocked

Crypto Trading

paybis · COIN · S · CT · CoinsBank · blockcoin · mX · RYPTO MULTIVERS · CD CORP · CryptoWolfz · GalaxyGlobal Investments · ALTSIGNALS

Blockchain-as-a-Service Model
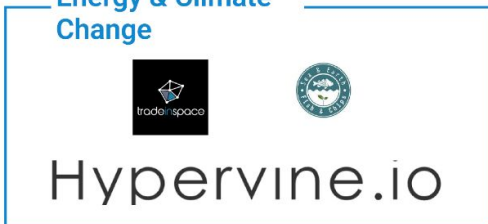
B3 · GATOTECH · BR—DGE · BTP · SafeNet · SICCAR TRUSTED DATA SHARING PLATFORM · ZUMO · D True: </Deploy> · BETDEX

Energy & Climate Change

tradeinspace · Hypervine.io

Recruitment and Human Resources

Bull Project · GIGGED.AI · SymbaSync

Crypto Finance & DeFi

SCOTCOIN · WEB3 RAFIKI · Ct · BZNTM

NFT

TREVORJONESART

Blockchain Education and Training

Edinburgh Napier UNIVERSITY · lrng.io · J

Blockchain Consultancy and Advice

AC · brighter CONSULTANCY GROUP · CryptoAdviser · ZBP · CIGREK CAPITAL · BlakesEye · ADVISORY DIRECT · HAELO · Sybear Consultants.

Source: Nasdaq, DeFiLlama, gov.scot, Crunchbase, DKA data

Blockchain in Scotland Landscape

Overview of the Segments

Overview of Scottish Companies Using Blockchain to Develop New Solutions

Use Cases of Using blockchain to DNPS

Secure Identity Verification	Decentralized Cloud Storage
Advertising Network Tokenization	**Supply Chain Management**
Decentralized Hosting Services	**Real-time Data Analytics**

Scotland is home to a growing number of companies that are using blockchain technology to develop new solutions, referring to the process of leveraging the unique features of blockchain to create innovative solutions, offerings, or enhancements across various industries, from finance and healthcare to supply chain management and energy. According to the research by Deep Knowledge Analytics, most Scottish companies from the "using blockchain to develop new products or services" sector belong to **Software Development** sub-segment (28.6%), which indicates a higher level of technology adoption across the market. Software Development sub-segment is followed by **Media & Entertainment, Crypto Finance**, and **Cyber Security** sectors in equal proportion (all 19%).

Company	Short info	Subsector	Money Raised, million USD	Lead Investors
TrueDeploy	Securing the software supply chain by using a novel blockchain innovation.	CyberSec	$91K	Scottish Enterprise
Onboard-ID	A technology company that specialises in identity verification and management solutions. - CyberSec	CyberSec	Undisclosed (Grant)	Onboard.ID is funded by the University of Edinburgh
Delic	Delic is the new operating system for the Music Business. Asset and rights management platform using digital and blockchain technologies.	Media & Entertainment	$0.8M	EXPERT DOJO, Velocity Capital Advisors, Innvotec

Blockchain in Scotland Landscape

Case Studies

Media and Entertainment Sector Case Studies

BETDEX

Founded: 2021
Headquarters: Glasgow, Edinburgh and New York
Employees: 11-50

Delic

Founded: 2013
Headquarters: Edinburgh
Employees: 11-50

BetDEX is a decentralised sports betting platform that operates on the Solana blockchain and the Monaco Protocol.

Delic is an asset and rights management platform for music business using digital and blockchain technologies.

The company's platform is designed to enable sports betting operators to offer their customers an unparalleled betting experience, with real-time odds and highly accurate predictions on a wide range of sports and events. The platform's algorithms are constantly evolving to provide the most up-to-date and reliable data, making it the ideal solution for sportsbooks and betting operators looking to stay ahead of the curve.

In addition to its platform, BetDex also offers a range of professional services, including data analysis, risk management, and consulting, to help sports betting operators optimize their operations and maximize profits. The company's team of experienced professionals is dedicated to providing the highest level of service and support to its clients.

Delic's platform provides users with a fair, smart, and efficient release management solution. The platform will allow music creators to take full ownership of their catalogues, from stems to sync and remixes, in one fully integrated and scalable hub. With its progressive asset and rights management services, Delic provides a transparent and real-time accountability process for assets and funding. Delic's vision is to optimize the management of music catalogues, making it an enlightening and efficient process.

The company is poised for success, with Velocity EIS Technology Fund bringing significant experience in growing businesses and a strong understanding of the music sector. Delic is the new operating system for the music business, and with its solution, it will become the new digital hub for the music industry.

Blockchain in Scotland - Leaders

Top Scottish Blockchain Companies, Investment and
Academia Leaders: Profiling

Scottish Blockchain Companies Leaders

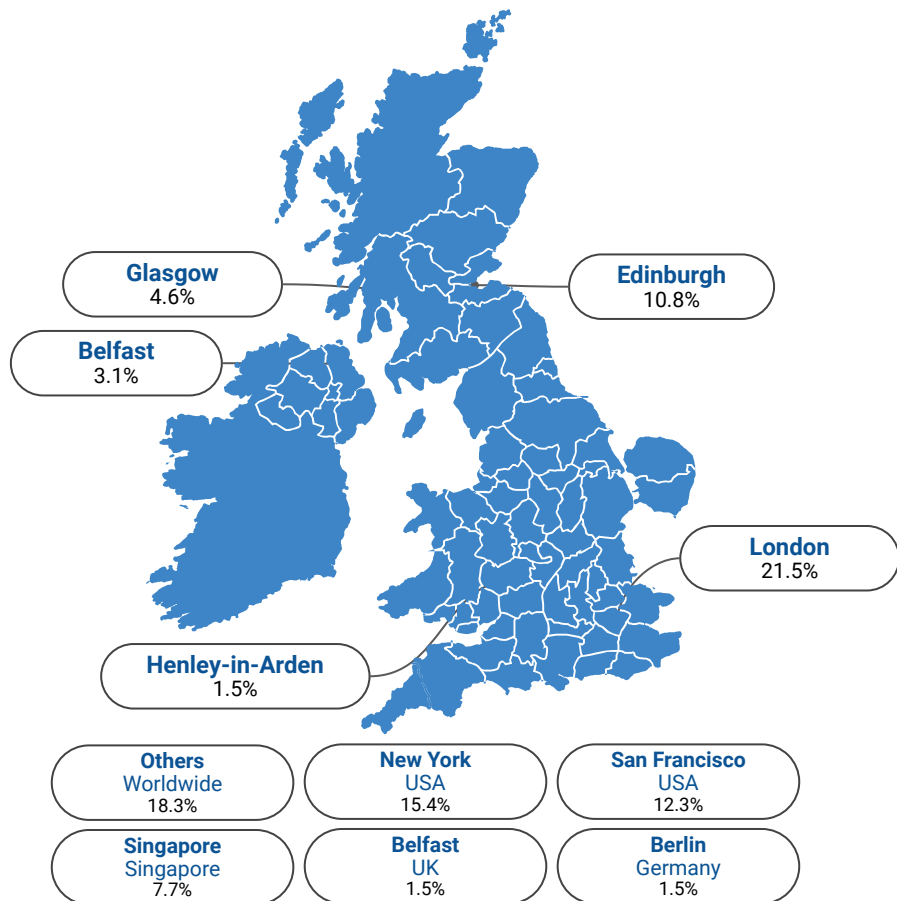| Chief Product & Technology Officer & Co-Founder - BTP: London	Co Founder & CEO - Zumo: London	M.D. - SICCAR Edinburgh, Lothian
Kevin is co-founder of Chill Code, a platform that allows designing and deploying software infrastructure asocial activity (GitHub for infrastructure). Previously, Kevin worked at JPMorgan (Vice President). BTP provides blockchain solutions, streamlining deployment and management of DLT with one-click deployment.. Notable clients include the Tel Aviv Stock Exchange.	Nick is a veteran of the tech start-up scene, having teamed up with fellow entrepreneur Paul Roach in 2018 to found Zumo, where he is currently CEO. Beginning his career at the height of the Dot Com boom in 2000 with the launch team of Goto.com (latterly Overture Service). Between 2012 and 2018 Nick was a full time Angel Investor and held multiple Chairman, Non Executive and Advisory roles in the Tech space.	Stuart has 30+ years of computing experience in energy, banking, and scientific sectors, from embedded control to Internet, Information Security, and HPC engineering. Wallet. Services, a Scottish blockchain startup, offers business solutions. According to M.D. Stuart Fraser, blockchain technology could transform supply chain management and financial services.
Kevin O'Donnell	**Nick Jones**	**Stuart Fraser**

Blockchain in Scotland - Investors

Global Landscape Overview

Overview of Investors in Scottish Blockchain-Centric Companies

Glasgow
4.6%

Edinburgh
10.8%

Belfast
3.1%

London
21.5%

Henley-in-Arden
1.5%

Others	New York	San Francisco
Worldwide	USA	USA
18.3%	15.4%	12.3%

Singapore	Belfast	Berlin
Singapore	UK	Germany
7.7%	1.5%	1.5%

Cumulative Number of Established Companies

Investment Bank
4.4%

Private Equity Firm
5.6%

Family Office
7.8%

Micro VC
7.8%

Individual/Angel
18.9%

Venture Capital
46.7%
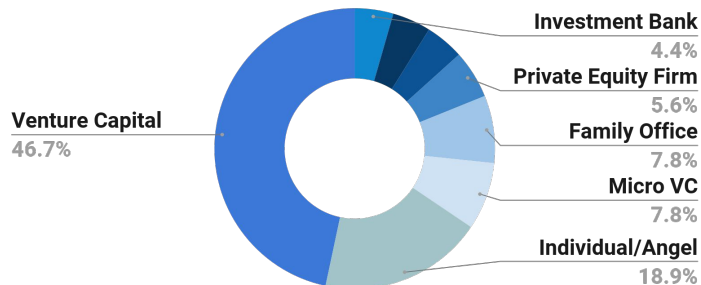
The leading Blockchain investment in London's financial sector is no surprise. London is a global financial HQ ready for a Blockchain transformation in the second quarter the 21st century, and at the same time the entrepreneurial Blockchain community is located close to the finance that is needed to grow it.
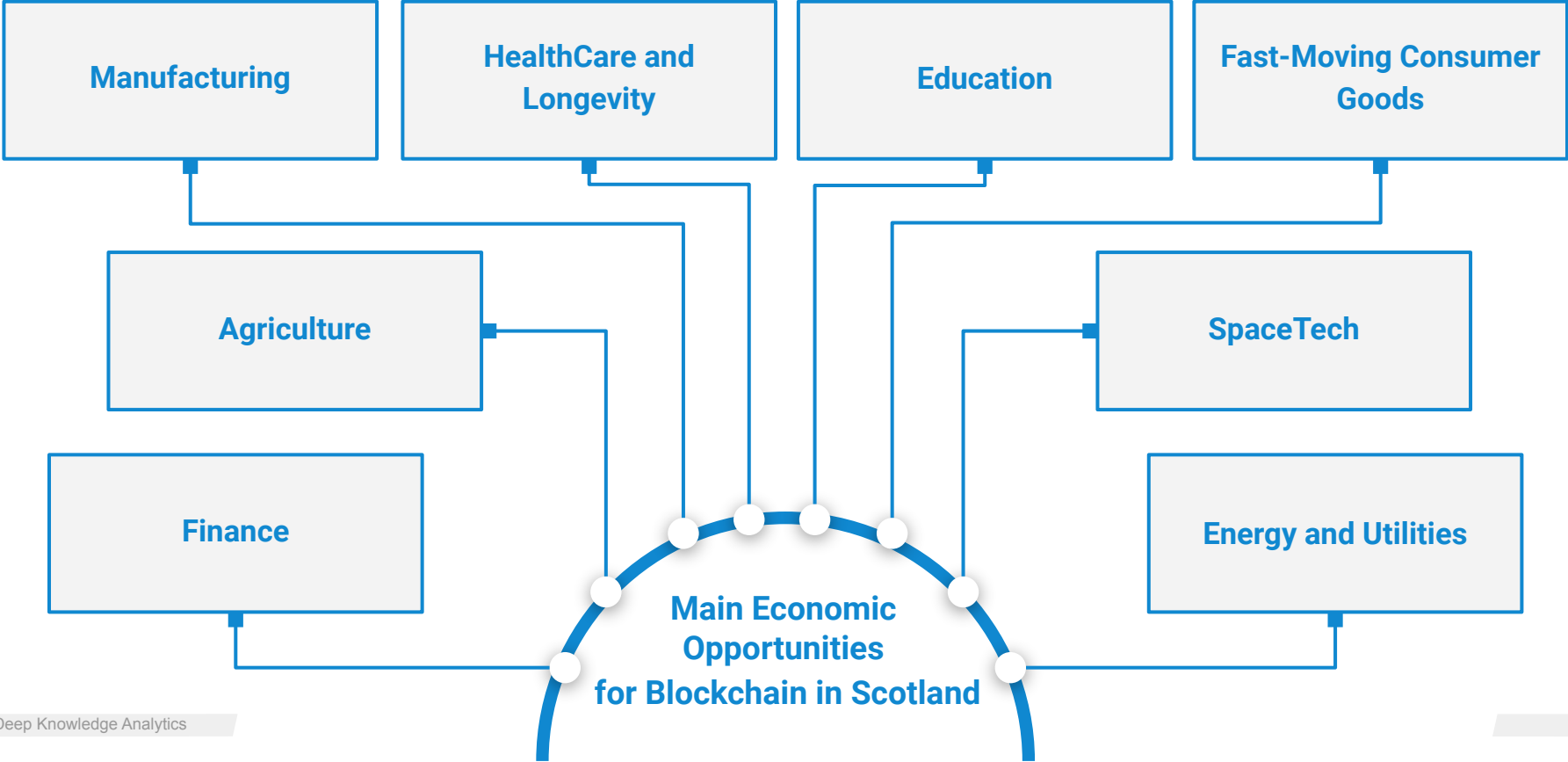
The UK and in particular London are becoming a true innovation and investors epicentre for everything around Blockchain.

Economic Opportunities for Blockchain in Scotland

Benefits Overview

Economic Opportunities for Blockchain across Scottish Industries

Manufacturing

HealthCare and Longevity

Education

Fast-Moving Consumer Goods

Agriculture

SpaceTech

Finance

Energy and Utilities

Main Economic Opportunities for Blockchain in Scotland

Blockchain in Scotland Landscape

Hubs - Non-Profits, Networking and Incubators, GovTech

Blockchain Non-Profits

Incubator

SCOTCOIN

Founded date: 2013
Headquarters: Glasgow, UK
Type: Non-Profit

Scotcoin is a digital currency managed by the Scotcoin Project CIC, designed to facilitate blockchain transactions within Scotland. The project has also developed a decentralised education platform that provides courses on cryptocurrency and blockchain technology.

Scotcoin is used as a means of payment within the platform, which offers secure and transparent education and training accessible from anywhere in the world. This type of platform is increasingly popular as more people seek new skills and knowledge in emerging technologies.

Women's Coin

Founded date: 2018
Headquarters: Glasgow, UK
Type: Non-Profit

Women's Coin is a digital currency that supports women's equality by providing micro-finance and credit to help women set up small businesses. The Women's Coin security token ensures secure and transparent transactions. The platform is curated in Scotland with the support of FinTech Scotland, Scottish Enterprise, Zortrex Ltd, and Napier University. Women's Coin partners with stakeholders and Glasgow Caledonian University to provide micro-credit business loans for women.

CODEBASE

Founded date: 2014
Headquarters: Edinburgh, UK

CodeBase is a technology incubator and coworking space with locations across the UK.

1. CodeBase mentors startups and entrepreneurs at all stages. CodeBase helps startups succeed with hubs in Aberdeen, Edinburgh, and Stirling and partnerships with other UK cities.

1. CodeBase supports startups and educates aspiring entrepreneurs. These programs teach business skills and knowledge for different stages of growth.

1. CodeBase values community and inclusivity. Their code of conduct encourages members to be outward-looking, promote diversity, and think globally.

1. CodeBase offers funding, mentorship, coaching, networking, and office space to help businesses grow. A team handles CodeBase's finance, HR, IT, legal, health and safety, and office needs.

1. CodeBase promotes tech innovation and growth. As one of the UK's largest technology incubators and one of Europe's fastest-growing, they help startups connect, collaborate, and find the needed resources.

Blockchain in Scotland Landscape

Summary

Key Takeaways

Scotland's blockchain ecosystem is vibrant and growing, with numerous startups, academic institutions, and public-private partnerships engaged in blockchain research and development, starting ventures and scaling them up. The Blockchain in Scotland Ecosystem Framework comprises various sectors leveraging blockchain technology for innovative solutions. Key sectors include Blockchain-as-a-Service (BaaS), providing third-party blockchain services, and blockchain consultancies offering strategic advice for companies. Additionally, the framework supports the growth of blockchain-based education platforms. The goal is to foster collaboration and development within these sectors to strengthen the Scottish blockchain industry.

The Blockchain technology has the potential to significantly boost Scotland's economic growth and create personal value across various sectors. **Blockchain technology can contribute £4.48 billion to Scotland's GDP** by 2030* through information openness, economic savings, and usage. The widespread adoption of blockchain will lead to improvements in supply chain activities, healthcare systems, and financial transactions, ultimately enhancing national wealth.

Scotland's energy sector is exploring the use of blockchain technology to enable peer-to-peer energy trading and incentivise renewable energy generation.

Blockchain technology can enhance the security and privacy of Scotland's healthcare data by enabling secure sharing of patient records and preventing unauthorised access.

Blockchain technology has the potential to improve the efficiency and transparency of Scotland's public sector by reducing administrative costs, enhancing data security, and increasing trust in government services.
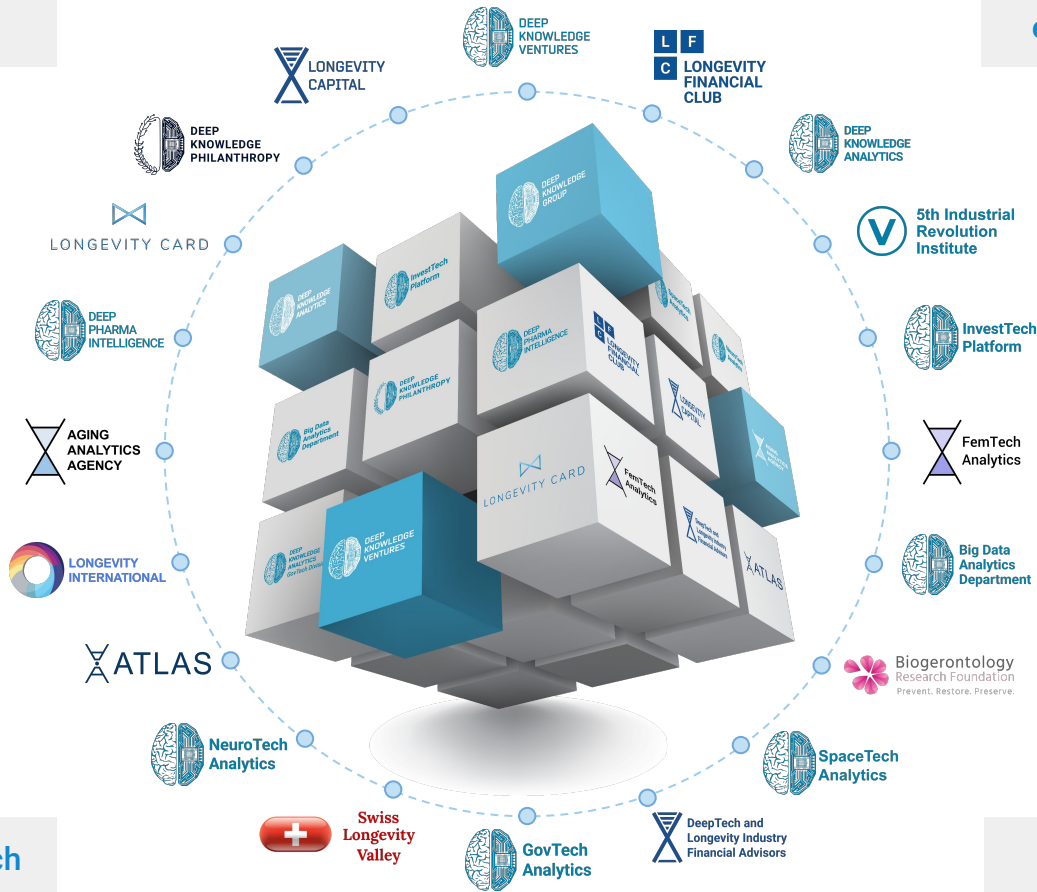
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