



## Research Report (Initial Coverage)



**„Leading European investment firm for crypto assets and blockchain companies.”**

**"Strong holdings offer high upside potential."**

**Target price: €358.43**

**Rating: BUY**

**IMPORTANT NOTE:**

Please take note of the disclaimer/risk warning, as well as the disclosure of potential conflicts of interest as required by section § 85 WpHG und Art. 20 MAR on page 29

Note on research as a “minor non-monetary benefit” according to the MiFID II regulation: This research meets the requirements for being classified as a “minor non-monetary benefit”. For more information, see the disclosure under “I. Research under MiFID II”

Date (time) of completion: 05.07.2021 (02.58 pm)

Date (time) of first distribution: 06.07.2021 (10.00 am)

Target price valid until: max. 31.12.2022

## Cryptology Asset Group plc\*5a;5b;6a;6b;7;11

**Rating: BUY**  
**Target price: € 358.43**

Current price: € 163.00  
05.07.2021 / 09.30 am  
Currency: EUR

Base data:  
ISIN: MT0001770107  
WKN: A2JDEW  
Ticker symbol: CAP:GR  
Number of shares<sup>3</sup>: 2.86  
Marketcap<sup>3</sup>: 472.04  
<sup>3</sup> in million / in € million  
Freefloat: 50.44 %

Market segment:  
Freiverkehr  
Accounting:  
IFRS

Financial year: 31.12

### Company Profile

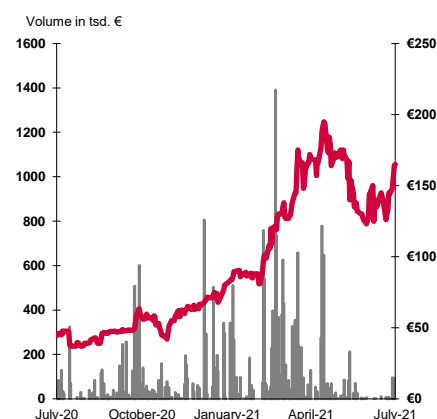
Industry: Investment company  
Focus: Crypto assets and blockchain technologies

Employees: 2 (2020)

Founded: 2018

Headquarters: Sliema (Malta)

Management: Patrick Lowry (CEO), Edwin Zammit (CFO),  
Jefim Gewiet (COO)



Cryptology is a leading European investment firm for crypto assets and blockchain-related business models. Founded by Christian Angermayer's family office, Apeiron Investment Group, and crypto legend Mike Novogratz, Cryptology is the largest listed investment firm for blockchain and crypto-based business models in Europe. Notable portfolio companies include crypto giant and EOS.IO software maker Block.one, leading HPC provider Northern Data, commission-free online neobroker nextmarkets, and crypto asset management group Iconic Holding.

P&L in €m, financial year-end	31.12.2018	31.12.2019	31.12.2020
Total comprehensive income	6.99	36.92	239.73
Revenue	2.65	15.00	2.55
Net profit from sale of AFS	0.00	0.00	8.70
EBIT	-2.23	2.5	10.62
Net income	-1.57	1.47	10.26

Key figures in EUR			
Earnings per share	2.64	13.51	87.73
Dividend per share	0.00	0.00	0.00

Key figures			
Financial assets/cash in € million	36.87	79.99	328.59
Equity in € million	30.31	70.54	308.60
NAV per share in €	N/A	N/A	114.25
Discount to NAV	N/A	N/A	29,5%

**Financial calendar**  
30.09.2021: Half-Year Report 2021

**\*\*Last research by GBC:**  
Date: publication / target price / rating

\*\* the research reports can be found on our website  
[www.gbc-ag.de](http://www.gbc-ag.de) or can be requested at GBC AG, Hal-  
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\* List of possible conflicts of interest on page 29

## EXECUTIVE SUMMARY

- Cryptology Asset Group plc was founded in January 2018 by Christian Angermayer's family office, Apeiron Investment Group Ltd, crypto legend Mike Novogratz and Joram Voelklein. This Malta-based investment company focuses on blockchain technology as well as cryptocurrencies. The company's strategy is to become the leading European investment company for crypto assets and blockchain-based business models.
- In order to achieve its self-imposed goal of becoming the leading European investment company, the company pursues a collaborative approach in its activities and works together with the leading crypto investors. Through this global network, Cryptology has a broad economic and technical know-how, which is used, among other things, to support young companies in the areas of foundation, financing, growth and, if necessary, sale. Financial investments are generally made either in the form of equity or convertible loans, which can be converted into equity at a later date.
- The current portfolio of the Cryptology Asset Group comprises six investments. Currently, the most important holdings are Block.one, the issuer of the blockchain protocol EOS as well as the founder of Voice.com and the trading platform Bullish and at the same time is one of the world's largest Bitcoin holders, and Northern Data, a leading high-performance computing (HPC) provider and Bitcoin mining host. Other investments include global crypto-asset management group Iconic Holding, commission-free neobroker nextmarkets, geo-data platform provider Cloudeo, and Bitcoin micropayments payment platform Bottlepay.
- Since its foundation in 2018, Cryptology Asset Group has shown very positive development, despite the highly volatile market environment. This development is also reflected in their revenues. Basically, Cryptology generates revenues from the sale of held-for-trading assets, cryptocurrencies and tokens as well as from consulting services. In the completed 2020 financial year, the company generated revenues totalling €2.55 million. In addition, Cryptology generated income from the sale of AFS assets (available-for-sale) in the amount of €8.70 million. Thus, an EBIT of € 10.26 million was generated.
- **We have valued Cryptology Asset Group plc by calculating the net asset value (NAV). Taking into account all investments, the GBC fair NAV valuation as of July 05, 2021 is €1.04 billion, resulting in a NAV per share of €358.43. At a stock market price of € 163.00, this results in a discount to the NAV of approx. 55% or a price potential of approx. 120%.**

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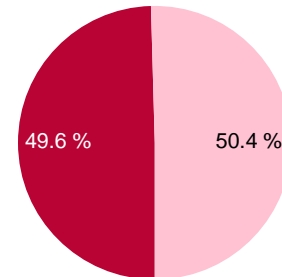
## THE COMPANY

### Capital structure

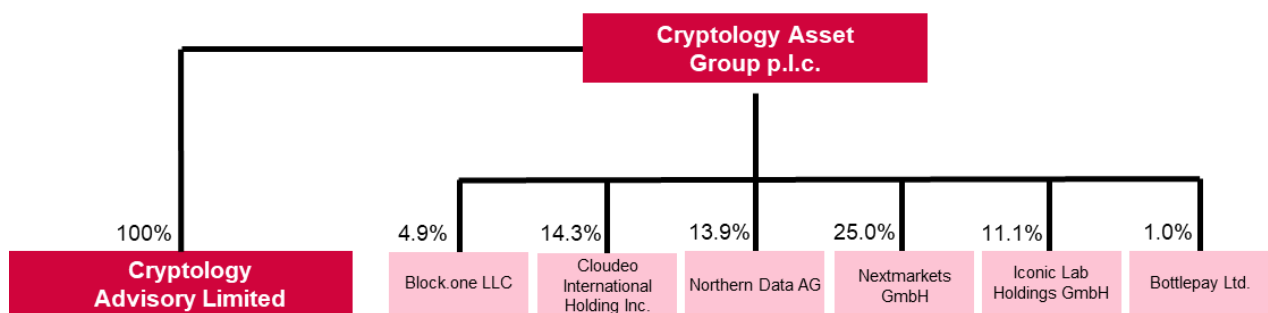
Shareholders in %	31.03.2021
Apeiron Investment Group Limited	49.6 %
<b>Free Float</b>	<b>50.4 %</b>

Sources: Cryptology Asset Group plc, GBC AG

■ Apeiron Investment Group Limited ■ Free Float



### Company structure



Sources: Cryptology Asset Group plc; GBC AG

### Board overview



**Dr. jur Jörg Werner**  
Chairman (non-exec)

- University of Leipzig Law School
- Admitted to the bar as a German attorney
- Focused on international tax law, regulation and crypto assets



**Patrick Lowry**  
CEO

- CEO of Iconic Holding
- Former member of the Deutsche Börse VC team and Graham Partners private equity
- Had previously been in traditional financial services and is a licensed CPA



**Edwin Zammit**  
CFO

- CPA working for pan-European entities
- Former internal auditor at the Central Bank
- 40 years' experience in financial accounting, auditing, corporate services and taxation



**Jefim Gewiet**  
COO

- Managing Director Apeiron Investment Group Ltd.
- Security Supervision / Asset Management BafFin
- Experienced stock analyst

## Founding investors and advisory board



**Christian Angermayer**

- One of the most active and significant investor-entrepreneurs in Europe. Has created, co-founded and invested in numerous successful companies across a broad range of sectors. Has raised over two billion euros for his companies and has been involved in more than 40 successful IPO and M&A transactions.
- Well-known dealmaker across the entire life cycle and balance sheet of companies, from private seed / startup investments to larger-scale restructuring and special situations deals. Active in all “frontier” sectors but with a special focus on Life Sciences, DeepTech (e.g. SpaceTech, AI, etc.), fintech, crypto-currencies and blockchain-related business models.



**Mike Novogratz**

- Highly active and outspoken investor in the crypto arena, Mike Novogratz is extremely well-connected in the crypto field and has been involved in many prominent crypto deals.
- First bought Bitcoin in 2013 and Ether in 2015, early investor in Ripple, Xapo, Bitstamp, and Korbit. He revealed in 2017 that 20% of his net worth was in Bitcoin and Ether.
- CEO of Galaxy Investment Partners // former principal and member of the board of directors of Fortress Investment Group LLC and Chief Investment Officer of the Fortress Macro Fund // former Partner at Goldman Sachs.



**Joram Voelklein**

- Active investor and strategic advisor, with a focus on new technologies such as in the ‘new space’ industry as the founding partner and Co-CEO at Alpine Space Ventures and blockchain-related business models.
- Investment banker with a brokerage and corporate finance background.

## Business activity

### Company history at a glance

Date	Event
January 2018	Foundation of the Cryptology Asset Group by Apeiron Investment Group Limited
May 2020	Inclusion of the shares in the Regulated Unofficial Market of the Düsseldorf Stock Exchange
October 2020	Inclusion of the shares in the primary market of the Düsseldorf Stock Exchange
April 2021	Cash capital increase and issue of 128,375 new shares
June 2021	Announcement of a planned share split in the ratio 1:20

Sources: *Cryptology Asset Group plc, GBC AG*

Cryptology Asset Group plc was founded in January 2018 by Christian Angermayer's family office, Apeiron Investment Group Ltd, crypto legend Mike Novogratz and Joram Voelklein. The Malta-based investment company focuses on blockchain technology as well as cryptocurrencies. The company's strategy is to become the leading European investment company for crypto assets and blockchain-based business models. To this end, Cryptology invests in majority as well as minority stakes of crypto companies as well as in tokens and cryptocurrencies such as Bitcoin, Ethereum or EOS.

In order to achieve its self-imposed goal of becoming the leading European investment company in the crypto sector, the company takes a collaborative approach to its activities and works together with the leading crypto investors. Through this global network, Cryptology has a broad economic and technical know-how, which is used, among other things, to support young companies in the areas of start-up, financing, growth and, if necessary, sale. Financial investments are usually made either through equity or mostly through convertible loans, which can be converted into equity at a later stage.

The portfolio of the Cryptology Asset Group currently comprises six interesting investments. These include the global crypto-asset management group Iconic Holding, the commission-free neobroker nextmarkets, the geo-data platform provider cloudeo and the bitcoin payment platform for micropayments Bottlepay. Key portfolio holdings currently include Block.one, the issuer of the blockchain protocol EOS and also one of the world's largest bitcoin holders, and Northern Data, a leading high-performance computing (HPC) provider and bitcoin mining host. In addition, based on its investment strategy, Cryptology takes an opportunistic approach to maintaining a concentrated portfolio.

In order to provide investors with access to these interesting investments, Cryptology is listed on several German trading venues, such as Börse Düsseldorf, Gettex and Tradegate. Furthermore, the Board of Directors has convened an Extraordinary General Meeting on June 23, 2021 to propose a 1:20 stock split to the shareholders. After completion of the share split, tradability and access for investors should be significantly improved once again.

### ***Business model***

Cryptology Asset Group plc is an investment company with a specific focus on blockchain-based business models as well as crypto assets. The focus of its business is on investing in companies that are able to create high barriers to entry, so-called "walled gardens" for competitors, around their product or service offering. Investment targets can also be companies whose current business model is not necessarily based on blockchain technology, but where a future crypto or blockchain orientation seems logical.

In principle, Cryptology's investment decisions are based on a multi-factor investment approach. The central approach of the investment strategy is to invest in very dynamic and growing blockchain and crypto markets where consolidation is expected. For this purpose, Cryptology usually invests equity capital in the investee company; in exceptional cases, an investment is made through convertible loans that can later be converted into equity.

Last but not least, Cryptology also keeps open the option of investing selectively in funds or other asset management companies. Therefore, the company plans to invest \$100 million in crypto-related venture funds over the next 24 months.

### ***Investments***

The current portfolio consists of a listed company and private equity companies. The private equity investments include Block.one LLC, Cloudeo International Holdings Inc., nextmarkets GmbH, Iconic Lab Holdings GmbH and Bottlepay Ltd. At the moment, there is only one listed company in the portfolio, Northern Data AG.



## 1. Northern Data

Involvement since	Foundation	Stake
2018	2015	13.9 %



Sources: GBC AG, Northern Data, Cryptology

Northern Data is a publicly-listed developer and operator of global infra-structure solutions in the field of High Performance Computing (HPC). The company's custom solutions provide the infrastructure for diverse HPC applications in areas such as bitcoin mining, blockchain, artificial intelligence, Big Data analytics, IoT or rendering. This internationally active company is on its way to becoming a leader in GPU-based HPC solutions. Northern Data offers its HPC solutions both in large, stationary data centers and in high-tech mobile data centers that can be set up at any location worldwide. The company combines self-developed software and hardware with intelligent concepts and a particularly sustainable cooling technology.

Northern Data AG finds itself in an extremely attractive market due to increasing digitalization worldwide. Due to their high data volumes, the Internet of Things (IoT), artificial intelligence, video rendering, e-gaming, blockchain and many other modern technologies can only be operated by high-performance computing and the bundled use of high-performance computers. This makes high-performance computing the engine of scientific, industrial and social progress. Northern Data should, therefore, continue to participate strongly in the growing demand for computing power.

The past fiscal year of Northern Data AG was characterized by above-average growth in the area of infrastructure for bitcoin mining and high-performance computing, in particular due to the commissioning of a large-scale computing center in Texas, USA. Prior to the announcement of the 2020 financial statements, the company expects revenues of between €120 - 140 million and EBITDA of between €45 - 60 million. This positive development is expected to continue through investments in additional sites.

In addition, in April 2021, Northern Data announced the successful sale of its subsidiary Whinstone US Inc., which operates the high-performance data center in Rockdale, Texas, to Riot Blockchain Inc., which is one of the largest US Bitcoin miners. Through the transaction, Northern Data raised a total of approximately €548 million. The proceeds will be used, among other things, to expand the company's six HPC sites in Canada, the Netherlands, Scandinavia and Germany. In addition, these financial resources will be invested in the development of eight new HPC sites in order to continue offering efficient, fast, green and climate-neutral high-performance computing solutions.



Sources: Northern Data AG, GBC AG

## 2. Block.One

Involvement since	Foundation	Stake
2018	2016	4.9 %



Sources: GBC AG, Block.One, Cryptology

Block.One LLC, is the developer of the operating system "EOS" that enables the development and management of scalable, decentralized and autonomous communities. Block.One was founded by Dan Larimer and Brendan Blumer, leading figures in the global crypto-asset industry. Based on the self-developed operating system "EOS", Block.One has developed various applications. The best-known development is probably the social media platform "Voice". In addition, Block.One is known for the world's largest ICO (Initial Coin Offering), which has flushed more than four billion US dollars into Block.One's coffers.

Block.One's best-known product is the "Voice" social media platform. Using self-developed blockchain technology, "Voice" attempts to solve the enormous trust problems prevalent on other social networks, such as Facebook or Twitter, by verifying users with a complete transparency of processes. In addition, members are given the opportunity to earn tokens by creating their own content. Voice is the first social media platform that gives its users the opportunity to participate in the success of the network.

In addition to the social media platform "Voice", Block.one has also developed the blockchain infrastructure layer "EOSIO". EOSIO is a blockchain platform designed for high performance, scalability and ease of use. It leverages proven design patterns and technologies such as event sourcing, web assembly and in-memory multi-index databases. Developers have the ability to leverage decades of development in C and C++ libraries without the traditional drawbacks of memory management. EOSIO developers can create highly scalable and fast blockchain-based applications without having to learn additional programming languages. This allows them to focus on the essentials while EOSIO takes care of providing the blockchain benefits of determinism, traceability, replicability, immutability and cryptographic security.

In May 2021, the new blockchain-based cryptocurrency exchange "Bullish" was established by Block.One. This exchange will use EOSIO and the EOS Public Block-chain to ensure a cryptographically validated, verifiable and immutable audit trail on the Bullish platform for all processed transactions. This will make Bullish the first platform to bring externally verifiable asset integrity to a high-performance trading and asset management platform. Initially, the new platform was seeded with more than \$10 billion in cash and digital assets. In total, Block.One owns 89% of the Bullish platform, according to our analysis, and is currently in concrete negotiations with SPAC Far Peak Acquisition Corp. According to bank estimates the Bullish platform could be valued at as much as \$10 billion.

In summary, Block.One is one of the most significant companies in the blockchain industry. In our opinion, Block.One will continue to participate in the growing acceptance of blockchain technology and cryptocurrencies in the future.

### 3. Iconic Holding

Involvement since	Foundation	Stake
2018	2017	11.1 %

Sources: GBC AG, Iconic Holding, Cryptology



Frankfurt-based Iconic Holding is a global crypto-asset management group in which Cryptology currently holds an 11.1% stake. The company offers investors the opportunity to invest in passively or actively managed crypto assets as well as to participate in venture capital investments.

Through its subsidiary Iconic Funds, which was established as a joint venture with Cryptology in 2019, Iconic offers investors the opportunity to invest in crypto-asset investment products. These include exchange traded products (ETPs) for crypto assets, which are comparable to exchange trade funds (ETFs), regulated crypto-index funds and alpha-generating strategies. Through Iconic's investment vehicles, investors may invest in a broad range of assets, giving investors access to crypto investments that had previously only been available to institutional investors. In spring 2021, Iconic Funds issued a physically-backed Bitcoin ETP on Xetra.

### 4. Nextmarkets

Involvement since	Foundation	Stake
2018	2014	25.0 %

Sources: GBC AG, nextmarkets, Cryptology



In 2018, Cryptology Asset Group plc acquired a 30.45% stake in next-markets GmbH, which was founded back in April 2014. The company's focus is on building a leading trading and online learning platform for private investors that is simple and intuitive. The platform is based on three principles: learn, follow, invest. On the platform, investors can get support from so-called trading coaches, who act as advisors, if they wish. The aim of the platform is to better educate investors about the stock market and the capital market and thus increase investment success. In addition, investors have the opportunity to participate in the success of other traders via CFDs or certificates using various following options.

The platform was launched at the end of 2015, and the company has currently been able to win one of the largest German online brokers, flatex, as an exclusive cooperation partner. The international roll-out of the business was successfully implemented in early 2016.

The two founders of nextmarkets GmbH, Dominik and Manuel Heyden, previously founded ayondo, one of the leading social trading platforms in Germany, and brought a whole new investment category to life with social trading. With nextmarkets and the so-called "Curated Trading", a further step in development is now being taken.

## 5. Cloudeo

Involvement since	Foundation	Stake
2018	2012	14.3 %



Sources: GBC AG, cloudeo, Cryptology

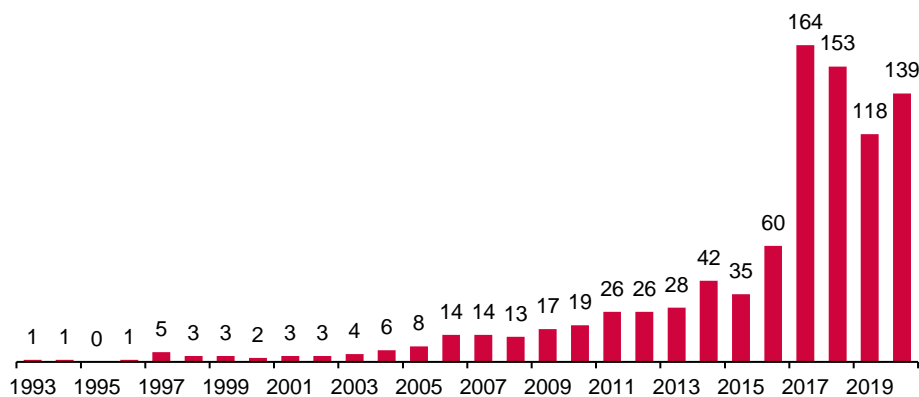
cloudeo operates a geodata and services marketplace based on a fully integrated cloud platform that has digitized all relevant geospatial processes. This simplifies the interaction of existing and new geodata providers, geospatial software providers, geoservice developers with users of geoservices/geocontent. Block-chain-based smart contracts are expected to further simplify and accelerate this interaction. The cloudeo platform provides the necessary access to geodata, software tools, billing options and scalable IT infrastructure (computing power, storage, etc.) as a service, which eliminates the previously necessary high initial investment for new market participants.

cloudeo is a provider of a cloud platform (cloudeo geo marketplace) that enables easy interaction (simple transactions) between geo content providers, geo software providers, geo service developers and geo service users. The IT community has thus created its own ecosystem which, in particular, allows geoservices to be easily developed and marketed. In addition, users of such services can access them very easily via cloudeo's cloud system.

The possibility of observing the earth's surface in a simple way and to combine this geodata with other geo-specific data has a strong impact on daily life. Geodata can be e.g. satellite images, thermal images, data points or radar images. This data is typically generated by satellites, weather balloons, cell phones or GPS trackers. Driven by the developments in the IoT (Internet of Things) sector, it can be assumed that, in the future, more and more machines and their algorithms will have to acquire large amounts of data on an ad-hoc basis. A significant part of this data will consist of geodata. Blockchain technology and crypto will inevitably play a key role in this multitude of transactions, so-called micro-transactions.

Much of the geospatial data here comes from Earth-observation satellites. The number of Earth-observation satellites sent into space has been steadily increasing for years. According to experts at UCS (the Union of Concerned Scientists), 139 global satellite launches in 2020 marked the fourth year in a row that well over 100 new satellites were sent into space. This means that 810 Earth-observation satellites were launched worldwide between 2010 and 2020.

### Worldwide Earth-observation satellite launches (number of satellite launches per year)



Sources: UCS; GBC AG

## 6. Bottlepay

Involvement since	Foundation	Stake
2021	2018	1.0%

Sources: GBC AG, bottlepay, Cryptology



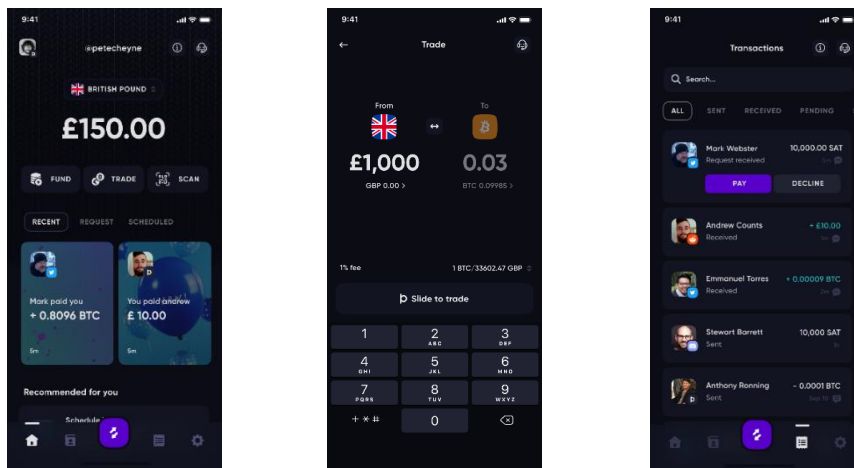
Cryptology Asset Group's latest investment represents Bottlepay Ltd, in which the company holds a 1.0% stake. Bottlepay is the operator of an open payment network for real-time digital payments.

The company's open payment network aims to transform the digital economy by making digital micropayments and cross-border transactions viable through a huge reduction in the high fees normally incurred by incumbent payment systems. With Bottlepay's system, any purchase - from coffee to digital content - can be made from anywhere in the world with instant payments in traditional currencies or Bitcoin.

Bottlepay's radical new payment system paves the way for a new digital economy and removes the barriers to effective instant payments. It aims to give everyone access to an open payments network that allows people to send, spend and receive money in real time anywhere in the world. Bottlepay enables people to be part of a growing cashless society in a way that suits them. It enables instant payments, including micropayments, in conventional currencies and Bitcoin, which means users can pay, donate and tip even the smallest amounts.

The payments ecosystem is undergoing major changes as we move toward a cashless society. Today's consumers want to be able to transact freely and easily, without the constraints of a traditional bank. This shift towards a cashless society experienced another significant acceleration with the outbreak of the corona pandemic.

Bottlepay raised \$15 million in capital in a seed funding round in February 2021. The funds raised will be used for network functionality improvements and geographic expansion.

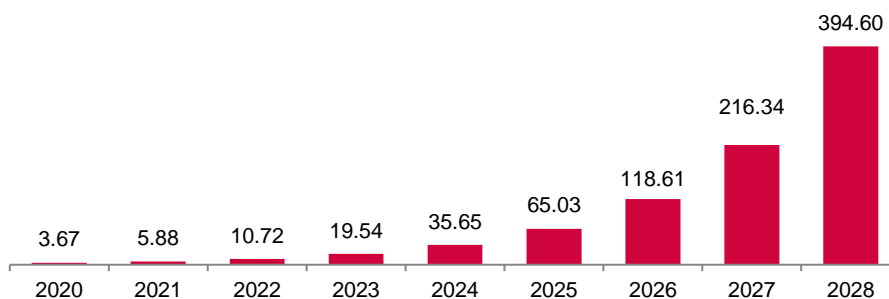


Source: bottlepay.com

## MARKET AND MARKET ENVIRONMENT

Cryptology Asset Group P.L.C. operates as an investment company. The company focuses on investing in cryptocurrency-solution-based assets and companies, as well as advising blockchain-based businesses. The company has a portfolio composed of six (6) major investments: Block.One, Northern Data A.G, Iconic Holding, Cloudeo, Nextmarkets and Bottleplay. The common denominator of these companies is that they are all based on blockchain technology. The worldwide blockchain technology market (without crypto assets) is estimated at 5.88 billion USD for 2021 and could reach a total of over 394.60 billion USD by 2028.

**Blockchain technology market size worldwide 2017-2027 (in billions of U.S. dollars)**

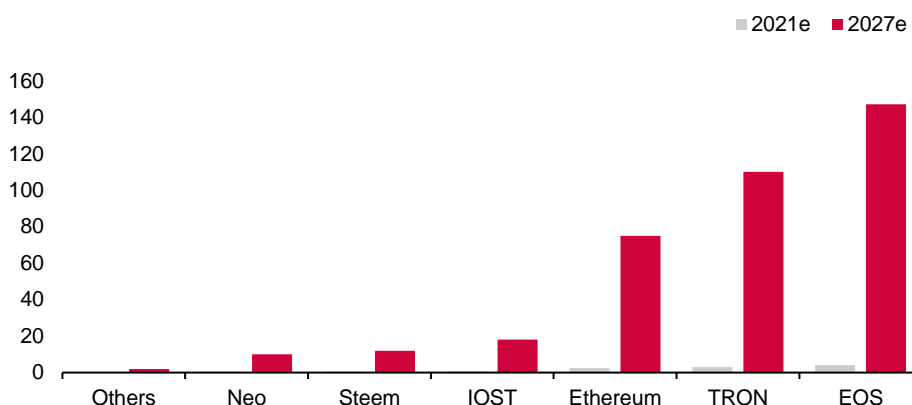


Sources: Grand View Research; GBC AG

### 1. Block.One

Block.One has developed the EOS.IO decentralized system that enables the development, hosting and execution of third-party commercial-scale decentralized applications (Dapps). The system allows companies to build their own blockchain-based solutions in a highly cost-efficient way, while having the advantage of a regulatory-compliant, security-focused platform. The EOS.IO platform is used in diverse sectors such as energy, politics, accounting, banking, gambling, advertising, real estate, insurance, loans and mortgages, identity verification and more.

**Dapps market size (in billion U.S. dollars)**

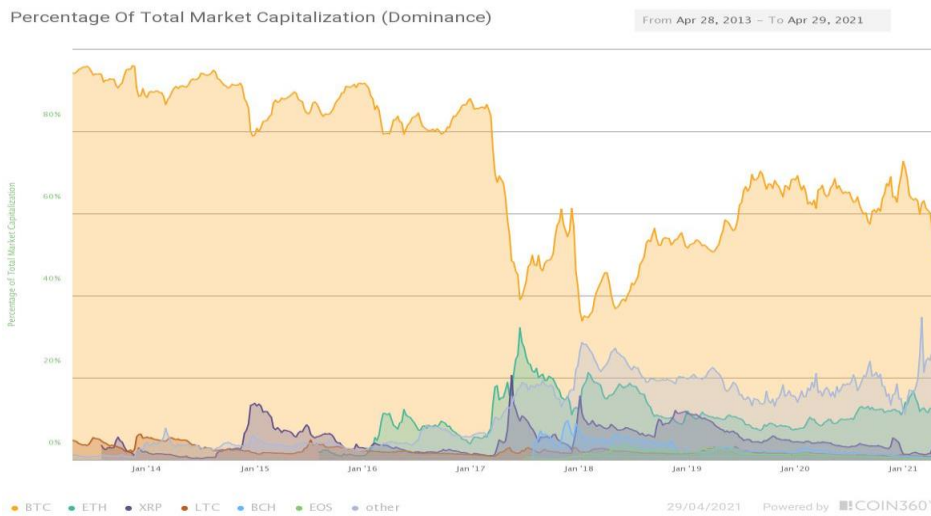


Source: [www.emergenresearch.com](http://www.emergenresearch.com)

The market of blockchain-based Dapps is still in its infancy. One of the very first Dapps running on the blockchain network is the now famous Bitcoin. However, decentralized apps are used in a multitude of markets such as personal identity, intellectual residence, sensible contracts, and healthcare information. The Dapps market size was valued at USD 10.52 billion in 2019 and is anticipated to reach USD 368.25 billion by 2027 at a CAGR of 56.1%.

EOS.IO is based on the EOS token. The use of the EOS token is different from the more commonly known Bitcoin and allows Dapps developers to use it to allocate transaction resources and remunerate block producers. The total market for cryptocurrencies is currently just under two trillion USD. Of this, EOS represents 0.27%.

### Percentage of Total Market Capitalization (Dominance)



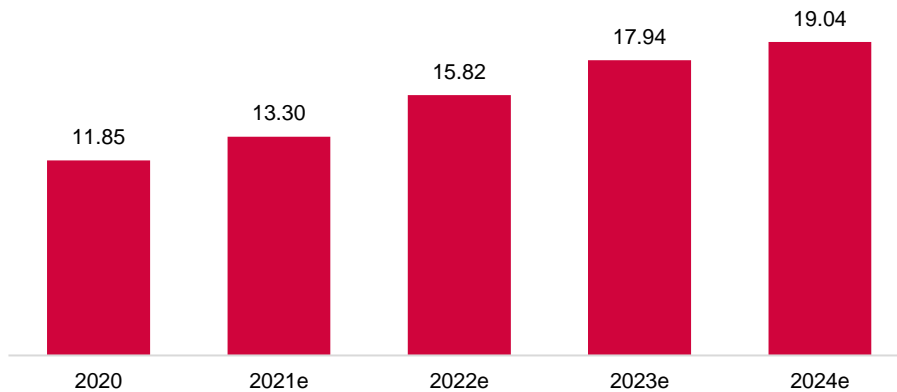
Source: coin360.com

## 2. Northern Data A.G.

### High Performance Computing - Market Development

The increasing demand for the higher computing power of supercomputers in the areas surrounding research and business underpins the high significance of the HPC market. In this context, supercomputers must continuously become ever more powerful and efficient. This is because the development of highly complex models, which deal with complex chemical and physical issues as well as environmental problems, requires the higher computing capacities of supercomputers. The development of such models is necessary to solve problems and develop products and solutions that make life easier. According to market estimates by analysts at Hyperion Research, the HPC server market will grow at an average CAGR of 6.8% through 2024, reaching \$19.04 billion by 2024.

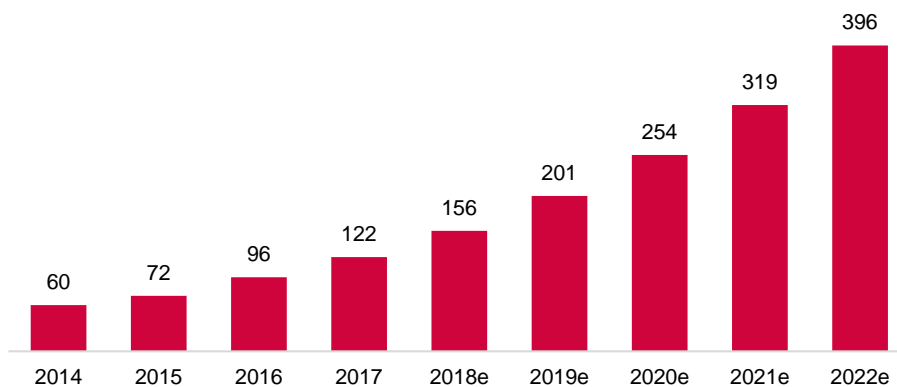
**Forecast HPC market development in the period 2020 to 2024 (in billion €)**



Sources: Hyperion Research; GBC AG

It is true that with the increasing complexity of problems as well as an increasing amount of data, the demand for computing power should steadily increase. An increased volume of data requires the computing power and capacity of an HPC system in order to be able to analyze and evaluate the generated data in the future. According to Cisco, IoT devices generated a data volume of around 500 zettabytes in 2019 and global network traffic amounted to circa 122 exabytes per month in 2017. The data volume of global Internet traffic via IP networks is already estimated at 396 exabytes per month for 2022.

**Generated data volume of global IP traffic (in exabytes/month)**



Sources: statista; GBC AG

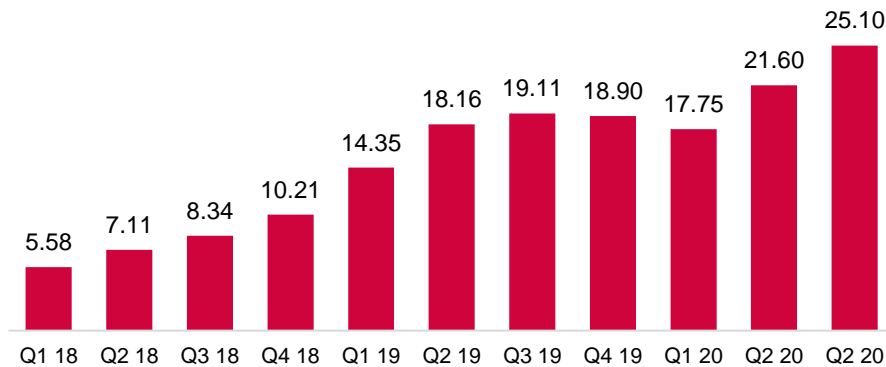
The data size of IoT devices and the Internet-based data landscape in general will increase exponentially in the coming years. In order to be able to process and evaluate these enormous volumes of data, the further development and, therefore, the improvement of the computing capability or the performance of supercomputers will play a role of even greater importance in the future.



### 3. Iconic Holding

The cumulative assets under management (AUM) of crypto funds worldwide has grown by over 500% from 2018 to the end of 2020.

**Cumulative AUM of crypto funds worldwide 2018 – 2021 (in billion U.S. dollars)**

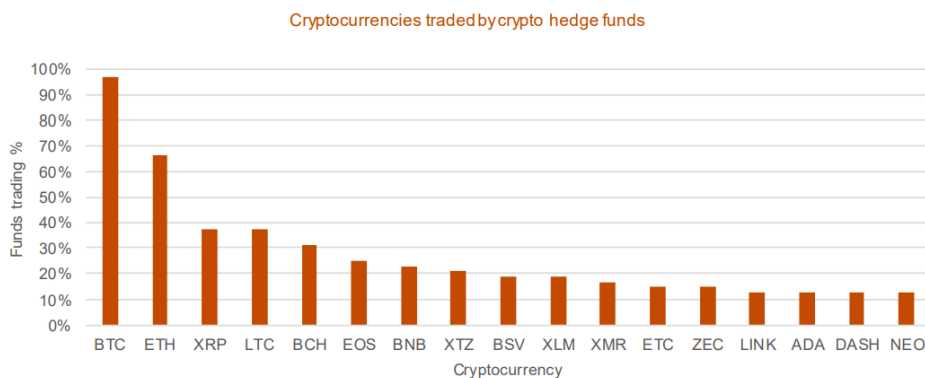


Sources: Statista; GBC AG

In Q3 2020, there were 410 venture capital crypto funds, 363 hedge funds and 36 private equity/other crypto funds worldwide. Less than 5% of all crypto funds managed assets over 100M USD. The vast majority, 50.9%, managed funds of less than 10M USD.

The current investors in crypto funds are family offices, 48%, and high net-worth individuals, 42%. Crypto funds have on average only 28 clients.

The most traded cryptocurrencies in crypto hedge funds are, respectively, Bitcoin, Ethereum, Ripple and LiteCoin.

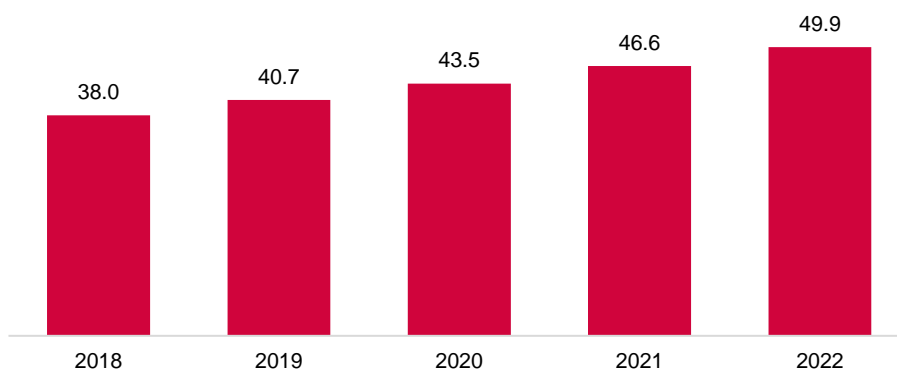


Given the volatility of cryptocurrencies, it is difficult to estimate the total market for crypto funds. However, their popularity tends to follow the price of these assets and we can expect a very significant future growth vector in this sector due to the lack of individual investors apart from high-net individuals. The market size will also grow as legislation is eased. In addition, this market segment should also participate from increasing interest and the rising prices of crypto assets, which surpassed \$2 trillion earlier this year.

#### 4. Cloudeo

The surveying and mapping market is experiencing moderate but steady growth and is expected to reach nearly \$50 billion in 2022. This represents a compound annual growth rate (CAGR) of 7% compared to the \$40 billion market in 2019. This growing demand is primarily driven by rapid technological advances in the production of autonomous vehicles. However, other key drivers such as automation in agriculture, mining, infrastructure, insurance, and telecommunications will also become important growth vectors. Given global warming and weather volatility, this market will benefit from the development of many new technologies.

**Global Surveying and Mapping Market, Forecast Market Size 2018-2022 (in billion U.S. dollars)**



Sources: *The Business Research Company, GBC AG*

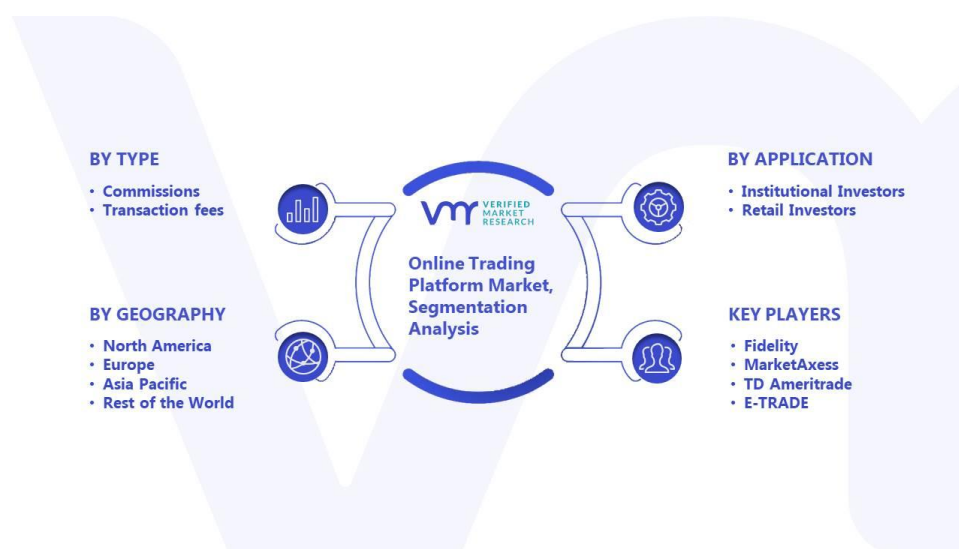
The Covid-19 crisis has also had a major impact on the implementation of real-time geospatial data given the need to map disease spread and develop preventive measures. The next few years will show whether the pandemic has had a lasting impact on the growth of the industry.

Within the global surveying and mapping market, the global geographic information systems (GIS) market size was \$7.5 billion in 2019 and is expected to reach \$25.6 billion by 2030. This growth represents a CAGR of 12.1% during the forecast period (2020-2030). The fastest growing sector in the global surveying and mapping market is the software that leverages the aforementioned geospatial data in combination with machine learning, Big Data, and analytics tools. Developments in this area are leading to proven solutions for applications in disaster management, carbon management, and climate change. Governments are also expected to make up an important part of GIS software users.

## 5. Nextmarkets

The online trading-platform market was valued at USD 13.1 billion in 2019 and is projected to reach USD 18.3 billion by 2027. The Gamestop – RobinHood saga has brought online trading platforms to the forefront of the news in the past few months. It has shown the tremendous potential and rapidity in the adoption of online trading platforms that usually operate without fees and with partial share buying systems. It has also shown that the average consumer is a great deal more educated than had been previously assumed and has confirmed the possibilities of community trading strategies.

Important characteristics that consumers expect from online trading platforms are real-time quotes, charting tools, news feeds, research options, account management and community-based services.



Source: verified market research

Online trading platforms can be classified via their different types—by geography, application or via their key players. Commission-type platforms make up 86% of the market. The biggest geographical market is North America, followed by Europe. Online trading platforms are most often applied by institutional investors.

In Europe, the biggest competitor for Nextmarkets is eToro—a commission-free stock, ETF, crypto, and social trading platform with nine million users worldwide. Given the large amount of investment in the FinTech sector over the past few years, this market is quite crowded. Revolut from London has had over 300M USD injected into it over the last six years, Freetrade, over 18M USD, BUX out of Amsterdam, more than 49M USD, and Saxo, just under 100M USD. Lastly, Degiro received just over 7M USD.

The online trading platform market is growing rapidly with more users opening accounts for self-directed investment every day. The sector, as discussed before, should grow at a CAGR of 4.2% from 2020 to 2027.

## 6. Bottleplay

The current market for transferring money peer to peer is made up of six options: Standalone Payment Apps, P2P Foreign Exchange, P2P Lending Apps, Bank-Centric Payment Apps, P2P Cross-Border Transfer Apps, and Social Media Centric P2P Payment Apps.

These payment service options differ by their business model. They can gravitate around bank-centric solutions such as Zelle, stand-alone financial services such as Venmo, mobile OSs such as Apple Pay or social media apps such as WeChat.

P2P payments made on mobile phones reached almost 82.5 million in the US. This means that one out of three mobile phone users are using their phones for transactions. It is predicted that, by the end of 2022, over 50% of all mobile phone users will be using P2P payment solutions. Furthermore, it has been reported that over 50% of the millennial population in the US uses P2P payment solutions at least once a week. Minimum fees and commission schemes have opened the door to new solutions. Verse, one of the new players, has provided an interesting insight into the most common reasons for P2P transfers.

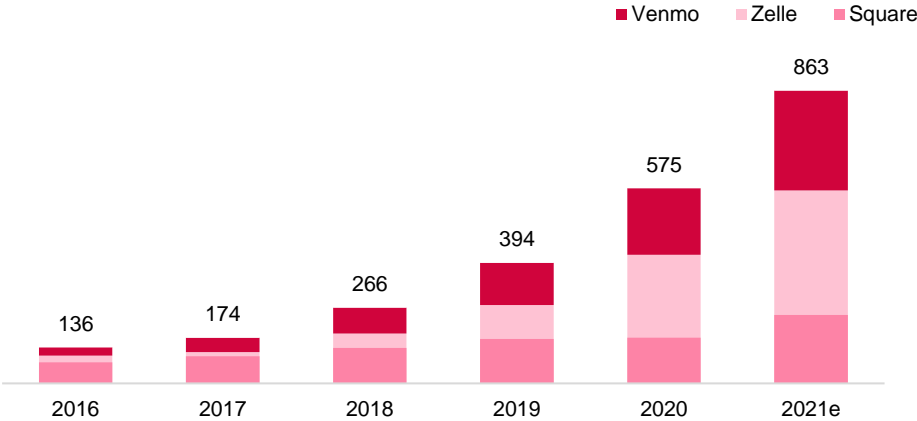
### MNM's View of Digital Payment Ecosystem



Source: [marketsandmarkets.com](https://marketsandmarkets.com)

In the US alone, it is estimated that the top three P2P actors will have earned a total over 800 billion USD and should grow massively.

**Annual Payment Volume (in billions of U.S. dollars)**



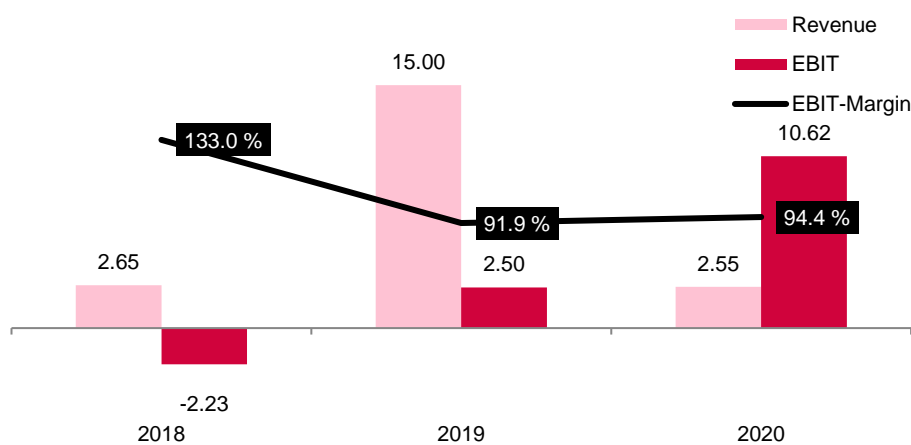
Sources: Business of Apps, GBC AG

## BUSINESS DEVELOPMENT

### Key figures

P&L (in € million)	FY 2018	FY 2019	FY2020
<b>Revenue</b>	<b>2.65</b>	<b>15.00</b>	<b>2.55</b>
Cost of investments	-2.85	-12.28	-1.96
Realized loss on purchase of investment	-1.23	0.00	0.00
Loss of fair value on held-for-trading investments	-0.24	0.00	0.00
Fair-value movements on HFT investments	0.00	0.00	2.14
<b>Gross Operating Profit (Loss)</b>	<b>-1.67</b>	<b>2.72</b>	<b>2.72</b>
Profit from sale of AFS investments	0.00	0.00	8.70
Impairment loss on intangibles	0.00	0.00	-0.19
Loss on sale of intangibles	0.00	0.00	-0.04
<b>Total Operating Profit (Loss)</b>	<b>-1.67</b>	<b>2.72</b>	<b>11.20</b>
Administrative expenses	-0.55	-0.28	-0.92
Other Income	0.00	0.06	0.35
<b>EBIT</b>	<b>-2.23</b>	<b>2.50</b>	<b>10.62</b>
Finance costs	-0.04	-0.23	-0.67
<b>EBT</b>	<b>-2.27</b>	<b>2.27</b>	<b>9.95</b>
Taxation	0.70	-0.80	0.31
<b>Net income (loss)</b>	<b>-1.57</b>	<b>1.47</b>	<b>10.26</b>
EBIT	-2.23	2.50	10.62
in % of total operating profit	133.0%	91.9%	94.9%
Earnings per share in EUR	-0.57 €	0.54 €	3.80 €
Dividend per share in EUR	0.00 €	0.00 €	0.00 €
Number of shares in millions	2.65	2.73	**2.73

Sources: Cryptology Asset Group plc; GBC AG; \*\*31,491 of which is held as treasury stock



Sources: Cryptology Asset Group plc, GBC AG

## Historical business development

in € million	FY 2018	FY 2019	FY 2020
Revenue	2.65	15.00	2.55
Net profit from sale of AFS investments	0.00	0.00	8.70
EBIT	-2.23	2.50	10.62
Net income (loss)	-1.57	1.47	10.26

Sources: Cryptology Asset Group plc; GBC AG

## Other comprehensive income

in € million	FY 2018	FY 2019	FY 2020
Quoted AFS investments	0	31.38	139.65
Unquoted AFS investments	7.67	3.77	91.41
Foreign exchange translations	0.92	0.30	-1.60

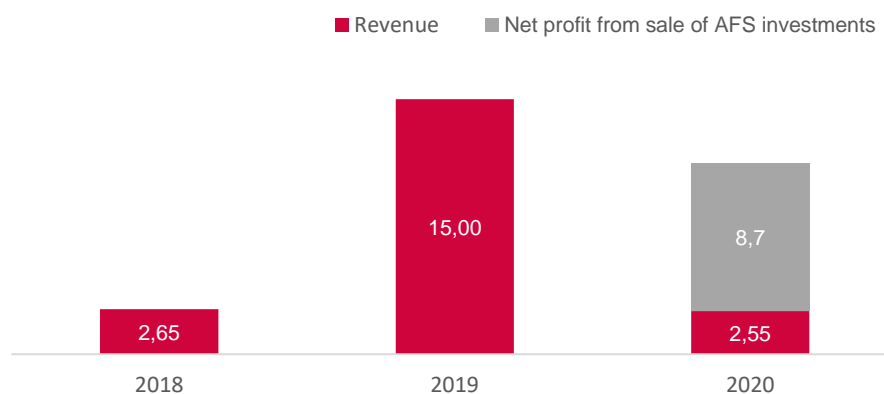
Sources: Cryptology Asset Group plc; GBC AG

## Revenue development

Since its establishment in 2018, Cryptology Asset Group has shown a very positive performance. This has been despite the highly volatile market environment for cryptocurrencies and blockchain technology. This positive development is mainly due to Cryptology Asset Group's strong network, which has provided access to promising investments.

Basically, Cryptology generates revenues from the sale of held-for-trading investments, cryptocurrencies and tokens as well as from consulting services. In the completed 2020 financial year, the company generated revenues totalling €2.55 million (previous year: €15.00 million) and a net profit of €8.70 million from sale of AFS investments (previous year: €0.00 million). The sharp decline in revenue of 83.0% is due, on the one hand, to the very high prior-year revenue of €14.52 million, which was generated in 2019 from sales of cryptocurrencies and tokens. However, this was countered by a net revenue from sales of AFS investments in 2020. On the other hand, the company had refrained from investing directly in cryptocurrencies and tokens in 2020. However, this may change again in the coming years if the company identifies a favorable time to invest directly in cryptocurrencies. In addition to asset sales, Cryptology generated revenues of €0.20 million (PY: €0.20 million) from consulting services.

## Revenue and net profit from sale of AFS investments development (in € million)

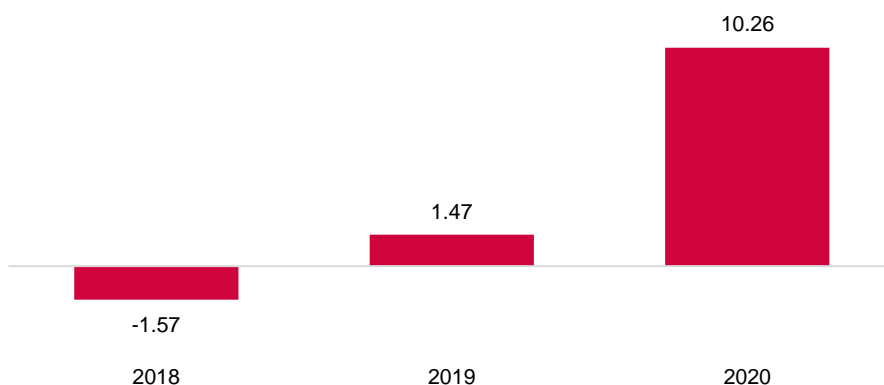


Sources: Cryptology Asset Group, GBC AG

**Earnings development**

The positive development of earnings since the foundation of the company is also reflected in the net profits of the Cryptology Asset Group. Due to their successful investments over the last three years, their net profit was increased from initially € -1.57 million in the founding year 2018 to € 1.47 million in 2019 and was again significantly increased to € 10.26 million in the past fiscal year 2020. The disproportionate increase in earnings is mainly attributable to the sharp rise in the valuations of the investments and their subsequent disposals. In 2020, for example, significant income was generated from the sale of AFS assets (available-for-sale) totalling €8.70 million (previous year: €0.00 million). In view of the lean operating cost structure, with administrative costs of €0.92 million (previous year: €0.28 million), the income from disposals led to the corresponding noticeable increase in earnings.

**Net income/loss for the year in € million**



Sources: Cryptology Asset Group, GBC AG

In addition to the operating gains on disposals of investments, the company also reports a positive contribution from changes in the fair value of available-for-sale investments. As of December 31, 2020, the underlying fair values for the available-for-sale investments were €229.47 million (PY: €35.45 million).

Due to the unique positioning of the Cryptology Asset Group and its strong network of long-standing crypto experts such as Mike Novogratz and Christian Angermayer, among others, and the associated access to promising investments in crypto assets and blockchain-based companies, a further positive development of the Cryptology Asset Group should also be ensured in the future.



## Balance sheet and financial situation

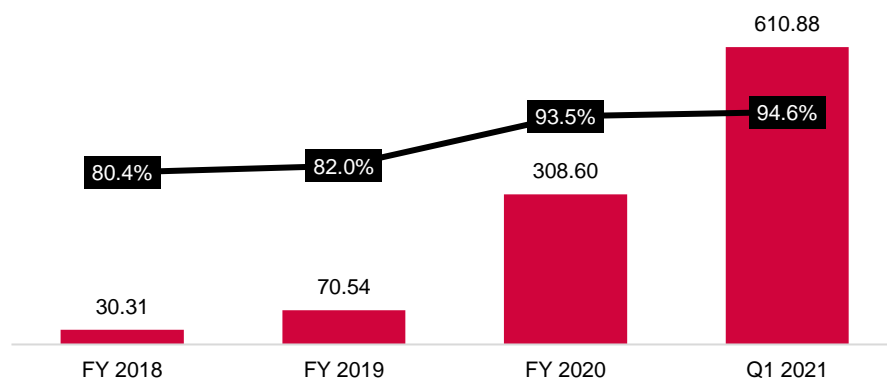
in € million	31.12.18	31.12.19	31.12.20	31.03.21
Equity	30.31	70.54	308.60	610.88
Equity ratio	80.4%	82.0%	93.5%	94.6%
Quoted AFS investments	0.00	31.38	190.80	239.70
Unquoted AFS investments	7.67	3.77	135.40	400.90

Sources: Cryptology Asset Group, GBC AG

### Balance sheet structure as of 31.03.21 (in € million)

Cryptology Asset Group plc has a typical balance sheet structure for investment companies. As the investments were almost exclusively financed from equity and the changes in the fair value of the investees are recognized in equity, the company had a high equity capital of € 610.88 million as of March 31, 2021 (December 31, 2020: € 308.60 million) and a correspondingly high equity ratio of 94.6% (December 31, 2020: 93.5%). As part of a share buyback program over the period between June 4, 2020 and April 15, 2021, the company bought back a total of 31,625 of its own shares. As a result of its good earnings performance in fiscal 2020 and the share buyback program, the situation has further improved, leading to a sharp increase in equity under IFRS accounting.

### Change in equity (in € million) and equity ratio (in %)



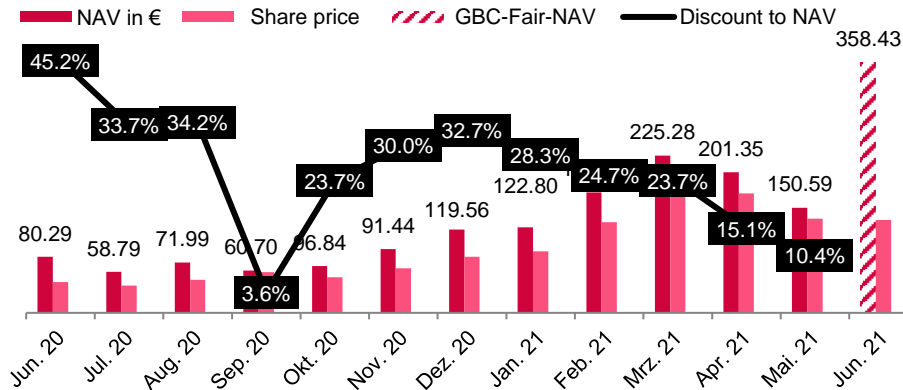
Sources: Cryptology Asset Group, GBC AG

After completion of the buyback program, the Executive Board decided to increase the company's share capital by up to 128,375 new shares and to sell up to 31,625 treasury shares. In the course of a cash capital increase in April 2021, a total of 160,000 shares were placed with several institutional investors at a fixed price of €200.00 per share. The financial resources of €32.00 million generated by the capital increase are to be used for further investments in portfolio companies. In addition, the company is examining whether, as part of its own treasury management strategy, a portion of the financial resources should be invested directly in crypto-assets, such as Bitcoin or EOS.

The asset side of the balance sheet is dominated by financial assets and cash and cash equivalents, as is usual for investment companies. Thus, as of December 31, 2020, these assets together accounted for €328.59 million on the IFRS balance sheet, or more than 99% of total assets.

The current stock market price of Cryptology Asset Group shows a significant discount to the NAV. On the basis of our fair NAV valuation model, we have calculated a fair NAV value of € 358.43. This means that the share is currently trading at a discount of 55% to the fair NAV.

**Development of the NAV of Cryptology Asset Group AG and the discount of the stock market price to the NAV (from June 2021 with GBC Fair NAV)**



Sources: Cryptology Asset Group, GBC AG; Until May 21 NAV calculation Cryptology Asset Group, From June 2021 GBC Fair NAV calculation by GBC AG

Overall, we believe that the value of all the Cryptology Asset Group's investments is significantly higher than the stock market price reflects. In particular, it must be taken into account that the investments are only at the beginning of their development phase. In view of the high development potential, we believe that a significantly higher fair value should be attributed to these companies. In this respect, we expect further significant increases in the intrinsic value of the Cryptology Asset Group in the coming years (see also our GBC Fair NAV valuation from page 27).

## SWOT-analysis

Strength	Weaknesses
<ul style="list-style-type: none"> <li>• Long-standing and experienced management- and advisory team (Patrick Lowry, Christian Angermayer, Mike Novogratz, Joram Voelklein).</li> <li>• Very good capitalization of Cryptology Asset Group.</li> <li>• High equity ratio of 94.6%.</li> <li>• Strong network of experts in the fields of cryptocurrencies and blockchain technology.</li> <li>• Low fixed costs.</li> <li>• Successful investment history.</li> </ul>	<ul style="list-style-type: none"> <li>• Very low trading volume on the stock exchanges so far.</li> <li>• The Cryptology share is not tradable via Xetra.</li> <li>• Difficult for investors to plan due to the short company history of the holdings.</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>• Increasing acceptance of cryptocurrencies in society and the economy.</li> <li>• Strong demand for blockchain-based business models could drive valuation levels of Cryptology investments sharply higher.</li> <li>• New investments could increase growth.</li> <li>• Blockchain-based businesses and crypto assets are showing a high growth rate, which can benefit Cryptology's holdings.</li> <li>• Planned stock split should once again significantly improve tradability and access for investors.</li> </ul>	<ul style="list-style-type: none"> <li>• High volatility of crypto assets could thwart rising adoption.</li> <li>• Prospects in the blockchain industry could deteriorate significantly.</li> </ul>

## VALUATION

We have valued the Cryptology Asset Group using the GBC Fair Net Asset Value (NAV) calculation for investee companies. The GBC fair net asset value represents the economic equity, as the result of the determined fair market values of the assets less the debt capital and the holding costs.

We value the Cryptology investments at €1.04 billion. The investments in Northern Data AG and Block.One are the company's two largest and most important investments. The investment in Block.One, in which Cryptology holds a 4.9% stake, has the largest share of €615.87 million, followed by Northern Data with €346.67 million. Cryptology's other investments, such as Iconic Holding, nextmarkets, bottlepay and cloudeo, are recognized at a total value of €55.80 million.

### Calculation of NAV per share of Cryptology Asset Group

	<b>05.07.2021</b>
Cryptology's share in Northern Data AG	13.9%
Fair Value Northern Data AG per share *	152.00 €
Calculated fair value of Northern Data AG (in € million)	2,499.44
<b>Northern Data investment (in € million)</b>	<b>346.67</b>
<b>Financial assets/marketable securities/cash and cash equivalents</b>	
Block.One (incl. Bullish-Plattform) (in € million)	629.63
nextmarkets (in € million)	45.44
cloudeo (in € million)	7.15
Iconic Holding (in € million)	2.23
Bottlepay (in € million)	0.59
<b>Total Fair Value of Investments (in € million)</b>	<b>1,040.77</b>
Net debt + holding cost (discounted)	-15.34
<b>Fair Value of Investments (in € million)</b>	<b>1,025.43</b>
Number of shares Cryptology Asset Group (in million)	2.86
<b>Fair NAV Cryptology Asset Group</b>	<b>358.43</b>

Sources: Cryptology Asset Group, GBC AG; \*consensus price target S&P Capital IQ database (target price)(as of 05.07.2021)

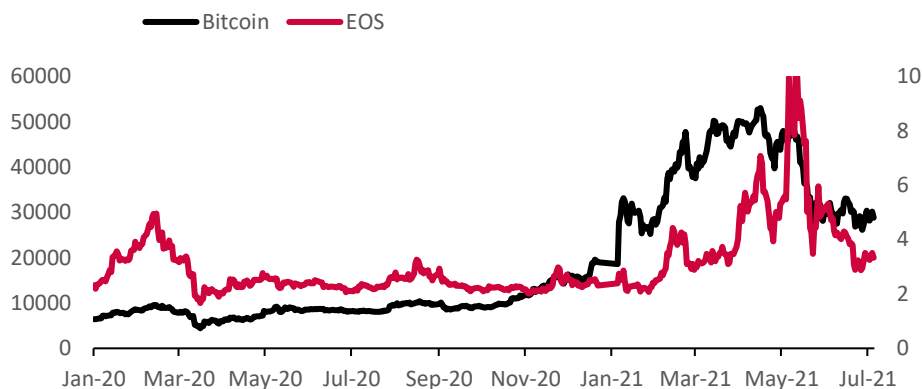
The listed Northern Data AG, a specialist for HPC solutions, currently represents the only listed investment of the Cryptology Asset Group. As of the cut-off date of June 1, 2021, there are around 2.28 million shares of Northern Data AG in Cryptology's portfolio, which corresponds to 13.9% of the shares issued. In our NAV valuation of Northern Data AG, we use the consensus price target (source: S&P Capital IQ database) of € 152.00 per share. On the basis of this estimate, we have determined a value of € 346.67 million for this investment.

In the valuation of the largest investment Block.One (according to our calculations), the price developments of the cryptocurrencies Bitcoin and EOS are decisive as the relevant benchmarks. Due to the high holdings of cryptocurrencies and the volatile development of these cryptocurrencies, the valuation of Block.One is subject to a significantly higher fluctuation range than other investments in the portfolio of Cryptology. As of the valuation date of July 05, 2021, Block.One's cryptocurrency holdings included over 166,000 Bitcoins and 20,000,000 EOS, according to our assessment. The underlying value of \$34,312.00

(Bitcoin) and \$3.97 (EOS) and a dollar/euro exchange rate of 0.8458 results in a NAV valuation portion of €343.84 million for the cryptocurrencies held. Another important asset of Block.One is the investment in the newly founded blockchain-based cryptocurrency exchange "Bullish Global". In total, Block.One holds (according to our analysis 89%) in the Bullish platform which was initially capitalized with more than \$10 billion in cash and digital assets. In our valuation, we calculate a fair NAV valuation for the stake held by Cryptology of €629.63 million.

We believe the Bullish platform has an initial potential of 14.00 million customers, which compares to a 25% customer share of the Coinbase platform (approximately 56.00 million customers). In addition, we expect that the Bullish platform, due to its very good capitalization and blockchain-based approach, should quickly become a leader in the crypto exchange space, alongside the well-known crypto exchanges Coinbase and Kraken. Based on these assumptions, our value approach should even be considered conservative and still allows for significant growth potential in case of success. The indirect stake in the Bullish platform alone results in a value of €285.80 million for Cryptology in our model.

#### Development Bitcoin and EOS (in €)



Sources: Cryptology Asset Group, GBC AG

The NAV valuation of the neobroker nextmarkets is based on a peer-group model. Within the peer group, we have used the valuation per customer as the valuation benchmark. Based on an average value per customer of € 2,421.00 and a safety discount of 50% (thus approx. € 1,211 per customer), we have determined a fair value of € 181.61 million. Of this, 25.02% is attributable to the Cryptology Asset Group, which corresponds to a NAV of €45.44 million.

#### Peer Group Comparison

	Number of customers	Valuation (in € million)	Transactions (in millions)	Valuation per customer (in €)
Naga Group	1,000,000	236.30	6,500	236.00
TradeRepublic	1,000,000	4,000.00	1,250	4,000.00
flatexDEGIRO	1,023,726	3,100.00	75,024	3,028.00

(as of 05.07.2021)

Our valuation of the other shareholdings Cloudeo, Iconic Holding and Bottlepay is based on the respective last capital increase rounds.

Cloudeo carried out its last capital increase in December 2020/January 2021 and was valued at around €50 million according to our estimate. Based on this valuation, the NAV valuation is €7.15 million.

The last capital increase round of Iconic Holding was recently successfully completed in May 2021. Following the capital increase, Iconic was valued at around €20.0 million according to our estimate, which corresponds to a NAV valuation at Cryptology of €2.23 million.

Bottlepay investment, was valued at around €59.30 million after the last capital increase in February 2021. Based on this valuation, this results in a NAV valuation of €0.59 million.

**Taking into account all investments of the Cryptology Asset Group, the calculated fair NAV amounts to €1.04 billion. Consequently, with 2.86 million shares issued, the fair NAV per share is €358.43. At a stock market price of €163.00, this represents a discount to NAV of around 55% or a price potential of approx. 120%.**

Cryptology plans to invest \$100 million in various crypto-related venture funds over the next 24 months. This is a massive value add as it will give cryptology and its investors exposure to the world's leading crypto funds, which most investors cannot access on their own. In our valuation, however, these investments of Cryptology are not yet considered. As soon as figures can be analysed here, we will also be able to provide a fair value assessment.

It must be further considered in the fair NAV valuation that the potential of cryptocurrencies and blockchain technology in the long term has not yet been taken into account. Thus, the disruptive character of blockchain technology has not yet been fully taken into account. However, we are convinced that Cryptology's investments will continue to show further potential in the future and can thus make a decisive contribution to the company's success in the future. This means that there are still hidden reserves that can be further leveraged in the future. As part of our ongoing research coverage, we will regularly review and update the valuations.

## ANNEX

### I.

#### **Research under MiFID II**

1. There is a contract between the research company GBC AG and the issuer regarding the independent preparation and publication of this research report on the issuer. GBC AG is remunerated for this by the issuer.
2. The research report is simultaneously made available to all interested investment services companies.

### II.

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This information can also be found on the internet at the following address:

<http://www.gbc-ag.de/de/Offenlegung>

#### **Section 2 (I) Updates**

A detailed update of the present analysis/analyses at any fixed date has not been planned at the current time. GBC AG reserves the right to update the analysis without prior notice.

#### **Section 2 (II) Recommendation/ Classifications/ Rating**

Since 1/7/2006 GBC AG has used a 3-level absolute share rating system. Since 1/7/2007 these ratings relate to a time horizon of a minimum of 6 to a maximum of 18 months. Previously the ratings related to a time horizon of up to 12 months. When the analysis is published, the investment recommendations are defined based on the categories described below, including reference to the expected returns. Temporary price fluctuations outside of these ranges do not automatically lead to a change in classification, but can result in a revision of the original recommendation.

**The recommendations/ classifications/ ratings are linked to the following expectations:**

BUY	The expected return, based on the derived target price, incl. dividend payments within the rel 10%.
HOLD	The expected return, based on the derived target price, incl. dividend payments within the rel 10% and < + 10%.
SELL	The expected return, based on the calculated target price, incl. dividend payments within the <= - 10%.

GBC AG's target prices are determined using the fair value per share, derived using generally recognized and widely used methods of fundamental analysis, such as the DCF process, peer-group benchmarking and/or the sum-of-the-parts process. This is done by including fundamental factors such as e.g. share splits, capital reductions, capital increases, M&A activities, share buybacks, etc.

**Section 2 (III) Past recommendations**

Past recommendations by GBC on the current analysis/analyses can be found on the internet at the following address:

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**Section 2 (IV) Information basis**

For the creation of the present analysis/analyses publicly available information was used about the issuer(s) (where available, the last three published annual and quarterly reports, ad hoc announcements, press releases, share prospectuses, company presentations, etc.) which GBC believes to be reliable. In addition, discussions were held with the management of the company/companies involved, for the creation of this analysis/these analyses, in order to review in more detail the information relating to business trends.

**Section 2 (V) 1, Conflicts of interest as defined in section 85 of the Securities Trading Act (WpHG)**

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**In relation to the security or financial instrument discussed in this analysis the following possible conflict of interest exists: (5a,5b,6a,6b,7,11)**

**section 2 (V) 2, Catalogue of potential conflicts of interest**

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The analysts responsible for this analysis are:

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