



# Crypto & DeFi Hacks, Fraud & Scams Report

July 2022

Report by Crystal Blockchain's Analytics Team

Copyright © 2022 Crystal Blockchain B.V. All rights reserved.

# Table of Content

Executive Summary & Key Findings	03
Overview	04
Pre-2021 Trends: Illegal Hacks Via Security System Breaches	05
Highest Incident Reports Per Region 2011-2022	05
2022 Insights	07
#1 Illegal activity has grown in crypto and DeFi in 2022	07
#2 Rug pulls have become very popular among fraudsters	08
Most popular blockchains for fraud and rug pulls 2022	09
Biggest fraud case: Mining Capital Coin	09
What happened, how were investors duped?	09
#3 DeFi hacks are booming right now	10
Biggest DeFi Hack To Date: Ronin Network March 2022	12
#4 Tornado remains the most popular ML mixer on the ETH Blockchain	12
Conclusions and Predictions	14
Appendix #1 · Crystal's Risk Score Categories for Crypto Exchanges	15
Appendix #2 · List of Incidents	16
Appendix #3 · Key Definitions	26
Final Note	27
Disclaimer	27

## Executive Summary & Key Findings

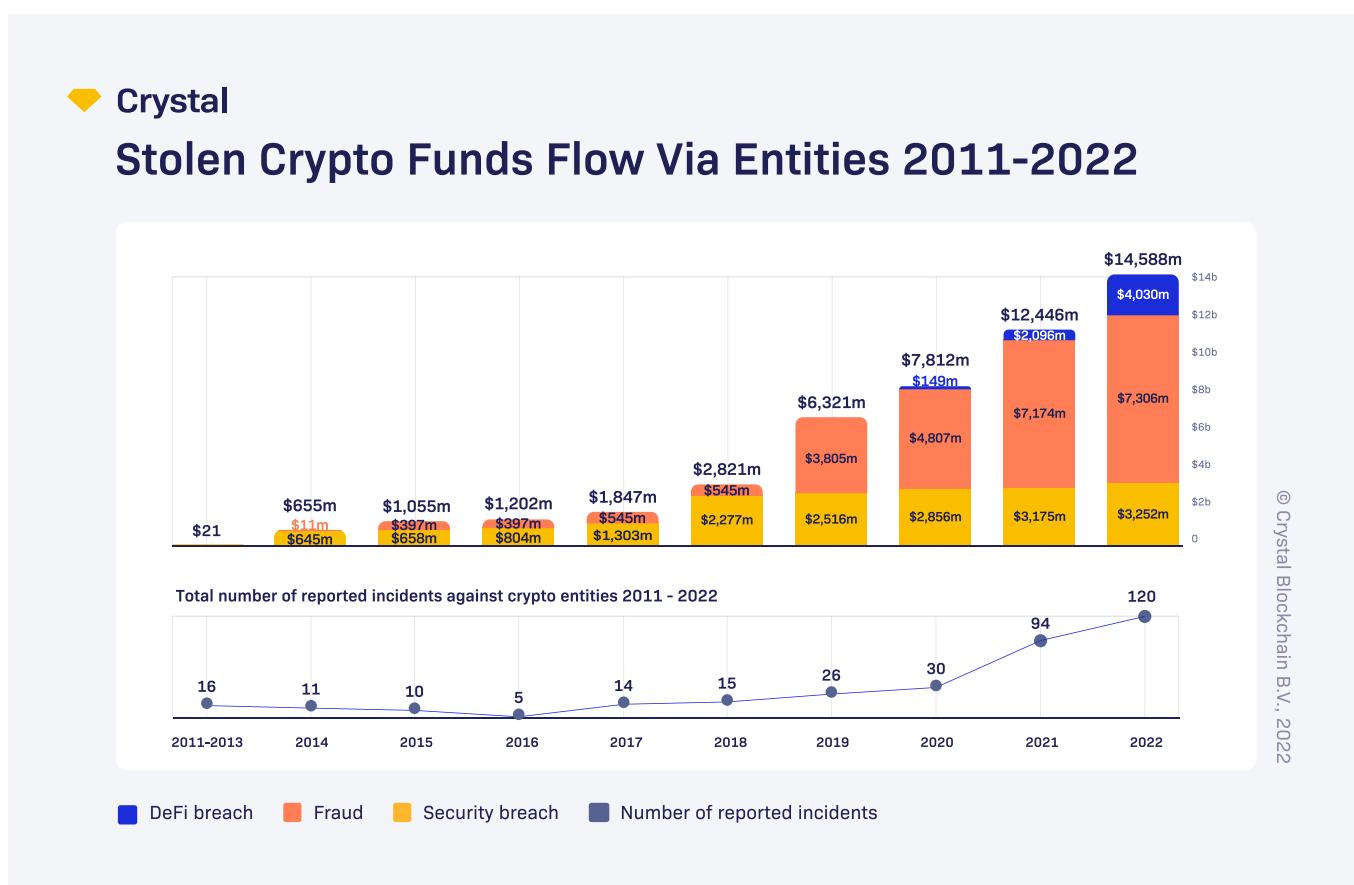
- ◆ This report covers data dated from the first crypto exchange hack (Mt. Gox) in 2011 up until July 10, 2022.
- ◆ 167 DeFi hacks, 123 security attacks, and 74 fraudulent schemes have been reported to have taken place in the last 11 years.
- ◆ Approximately **\$14.5+ billion** in cryptocurrencies has been stolen between January 2011 and July 10, 2022.
- ◆ Illegal activity has continued to grow in the cryptocurrency and DeFi market in 2022.
- ◆ So far, **\$3.2+ billion** has been stolen through security breaches, **\$7.3+ billion** has been stolen through scams, and **\$4,030+ billion** through DeFi hacks.
- ◆ **The most popular method of crypto-theft until 2021 was the infiltration of crypto-exchange security systems — currently the tendency has moved to DeFi hacks.**
- ◆ **CEX hacks are currently causing the least amount of financial damage.** The largest CEX security breach is still Coincheck with \$535m worth of NEM stolen.
- ◆ **In the first half of 2022, the ratio of CEX versus DEX hacks was as high as 1:20.**
- ◆ The largest DeFi hack to date is the incident involving **Ronin Network** from March 2022 (**over \$650 million**). **The hacker moved the majority of funds to Tornado Cash.**
- ◆ Between 2020–2022, DeFi hacks started trending and continue to grow, with **over \$4,030 million** stolen from such protocols.
- ◆ In 2022, stolen funds from the top 10 DeFi attacks exceeded USD **\$2.5 billion**.
- ◆ Rug pulls have become very popular among fraudsters over the first half of 2022.
- ◆ **Tornado Cash** remains the most popular service for laundering funds on the Ethereum Blockchain.
- ◆ The most common locations for exchange security breaches are the United States, the United Kingdom, South Korea, Japan, and China.
- ◆ Non-Fungible Tokens (NFTs) trended in 2021, with the market capitalization for NFTs jumping by 1,785% in 2021. We saw several scams come to light in 2022 as a result.
- ◆ **NFTs have become very popular among rug pull scammers. So far seven rug pulls based on NFT projects scammed their investors in the first half of 2022.**

## Overview

Despite the constant evolution and maturation of blockchain technology and the crypto market, **167 attacks on Decentralized Finance protocols, 123 security attacks, and 74 fraudulent schemes** over the last 11 years have so far resulted in the **theft of approximately USD \$14.58 billion worth of cryptocurrency assets in total** at the time of writing this report (July 2022).

Beyond illegal hacks, there are various types of fraudulent schemes that bad actors have used to gain value from unsuspecting victims, including, for example, exit scams and Ponzi schemes.

Recent years have also seen an upward trend in DeFi (Decentralized Finance) project exploits.



**IMAGE:** Amounts in USD that have been seized through breaches and fraudulent schemes between 2011 — 2022 (+ the number of reported incidents per year.)

Over the years, major fraudulent acts utilizing crypto have brought a lot of unfavorable attention to the community. The Chinese **PlusToken Ponzi scheme** is an example of that. The platform admins closed down the operation in June 2019, and the culprits abandoned the project, taking approximately \$3 billion in crypto (BTC, ETH, and EOS) with them. Six of the 109 individuals arrested in connection with the scheme have since been charged by the Chinese authorities.

## Pre-2021 Trends: Illegal Hacks Via Security System Breaches

The most notable type of attack **till 2021 was CEX security breaches**. In 2021, the trend moved towards DEX and DeFi breaches which continued into 2022. NFT rug pulls also became popular.

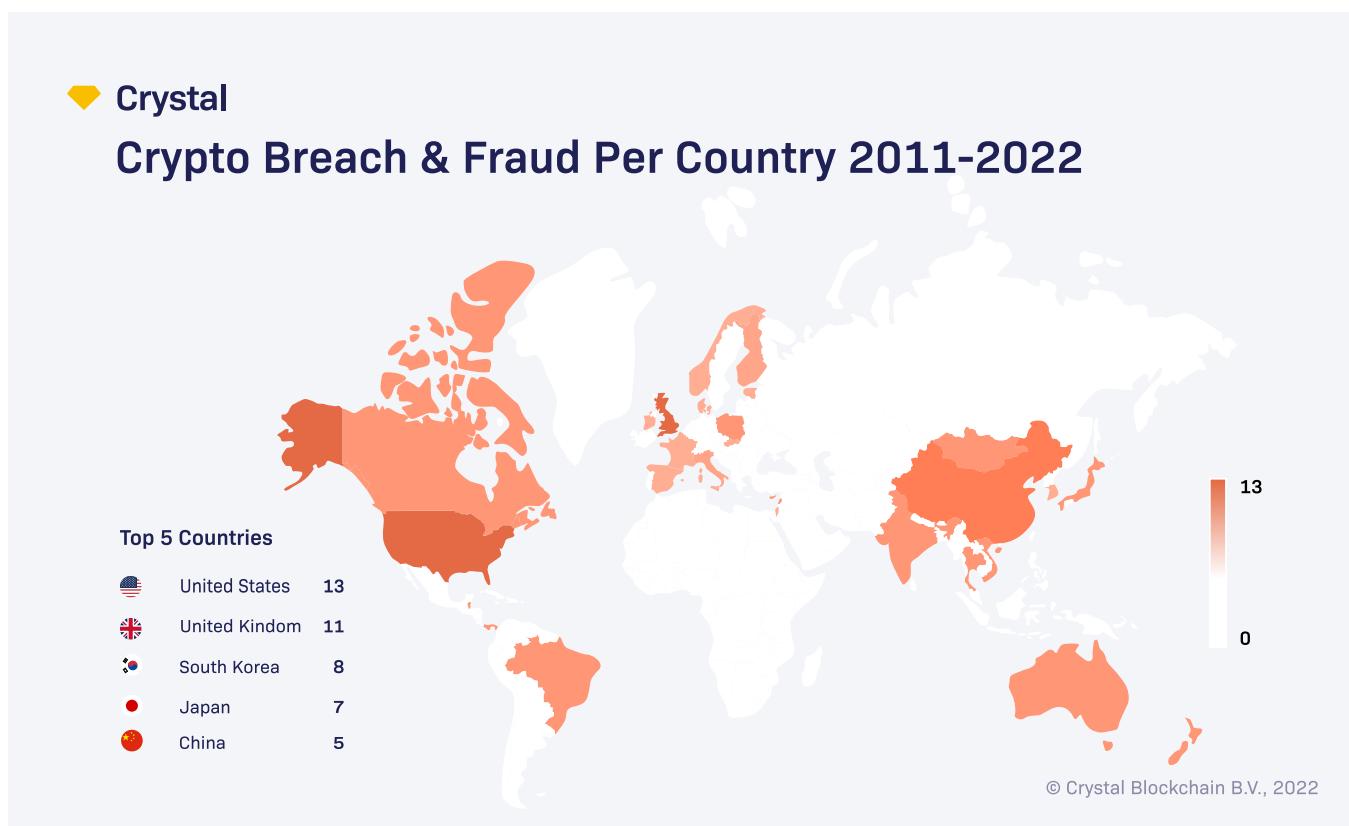
The largest CEX security breach in the history of the cryptocurrency world to date — **the incident involving Japanese exchange Coincheck**, in 2018 — is an example of this type of security breach infiltration. A total of more than USD \$535 million worth of NEM coins was stolen from the exchange. Coincheck hasn't yet disclosed how exactly their security system was breached, beyond saying that it definitely wasn't an inside job.

**Coincheck has admitted to security lapses that allowed the thief to obtain such a large sum:**

1. It kept the majority of assets in a hot wallet that was connected to external networks - a security gap where hackers gain access and move assets.
2. Coincheck also lacked multi-signature security, a measure requiring multiple sign-offs before funds can be moved.

## Highest Incident Reports Per Region 2011-2022

The US took first place for the number of reported incidents against its entities, from a location point of view. Since the beginning of blockchain's existence, US-based crypto services have been targeted by bad actors a total of 13 times. In terms of value, however, China is on top by a wide margin, and this is mostly due to the PlusToken Ponzi scheme (2019) at \$2.9 billion, along with the WoToken scam (2020) that was connected to the PlusToken scheme at \$1 billion.



**IMAGE:** The number of reported incidents against entities per country 2011–2022

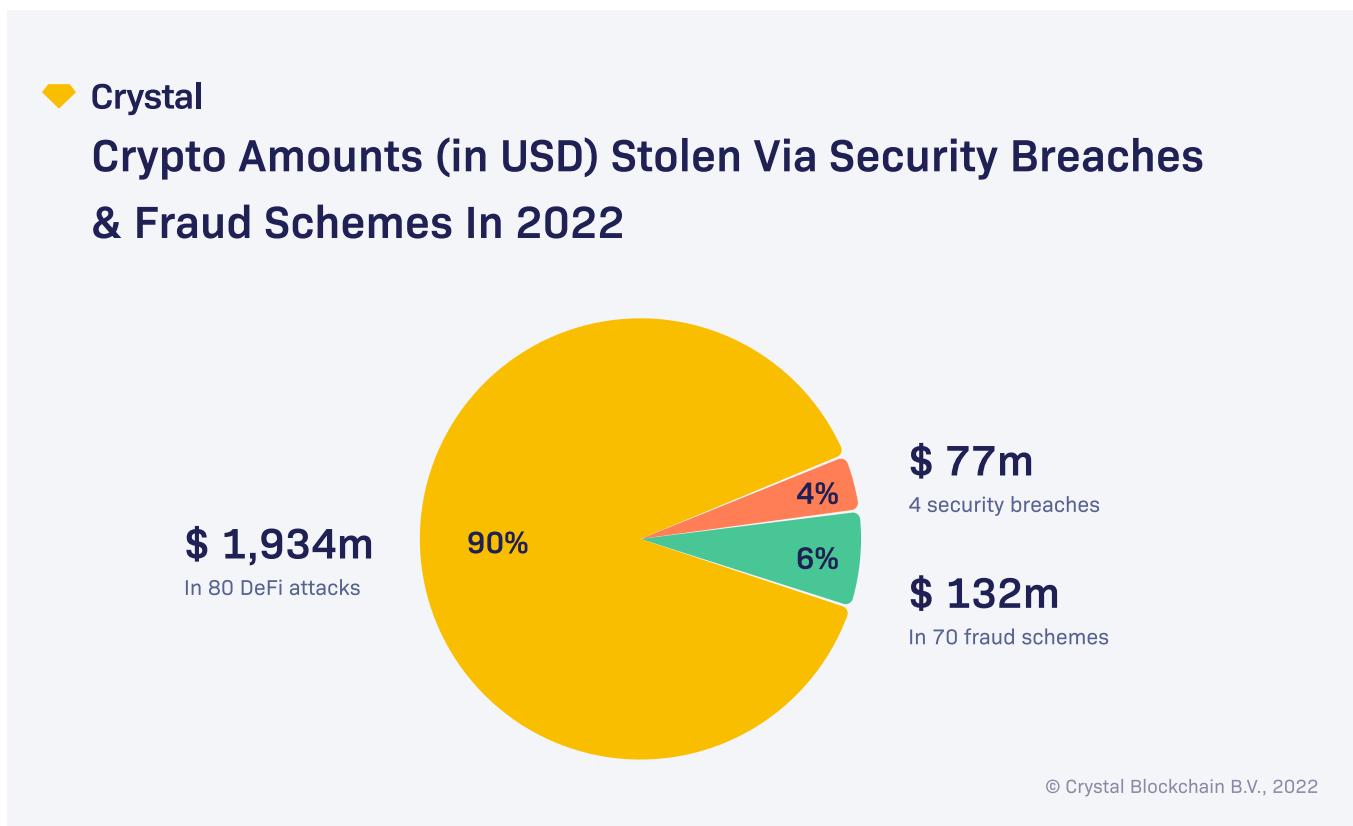
In most of these cases, **the culprits tried to withdraw the stolen funds from exchanges with a low level of KYC** — such entities may only require an email and phone number for customer interaction. 67.92% of funds were then moved to exchanges that could provide services without any additional questions.

According to the Crystal database, over a third, or 39% of all stolen funds (in BTC) were distributed via Fraudulent Exchanges — that is exchanges defined as having been involved in exit scams, some illegal behavior, or have had funds seized by the government. The indisputable leader in the laundering of dirty bitcoins is **BTC-e**, (indicted for money laundering in January 2017), which managed to launder over 200,000 BTC over several years.

(See Image below).

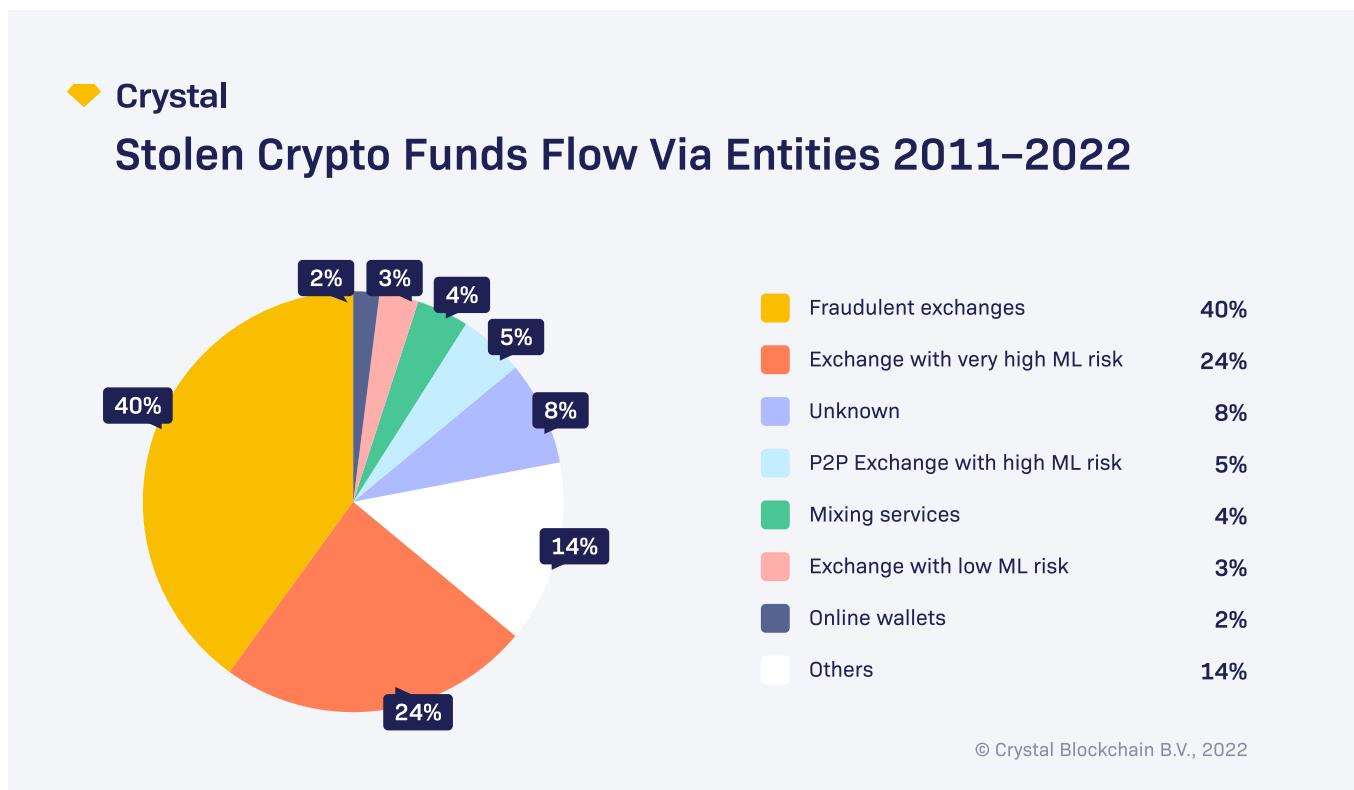
## 2022 Insights

When it comes to crypto crime trends, the first half of 2022 was dominated by DeFi hacks, showing incredible amounts of stolen funds. Crystal has thoroughly reviewed security breaches and fraudulent cases. We'll first list the stats for 2022 and then go back over the last 11 years.



### #1 Illegal activity has grown in crypto and DeFi in 2022

The total number of cases of illegal activity in the first half of 2022 has already reached **154**, with the majority of cases 80 cases being connected to the hacking of DeFi projects. The total amount of stolen funds in H1 2022 already exceeds USD **\$2.1 billion**. Via DeFi breaches, over USD **\$1.934 million** worth of crypto was stolen, USD **\$132 million** in fraudulent activities, and USD **\$77 million** in security breaches.



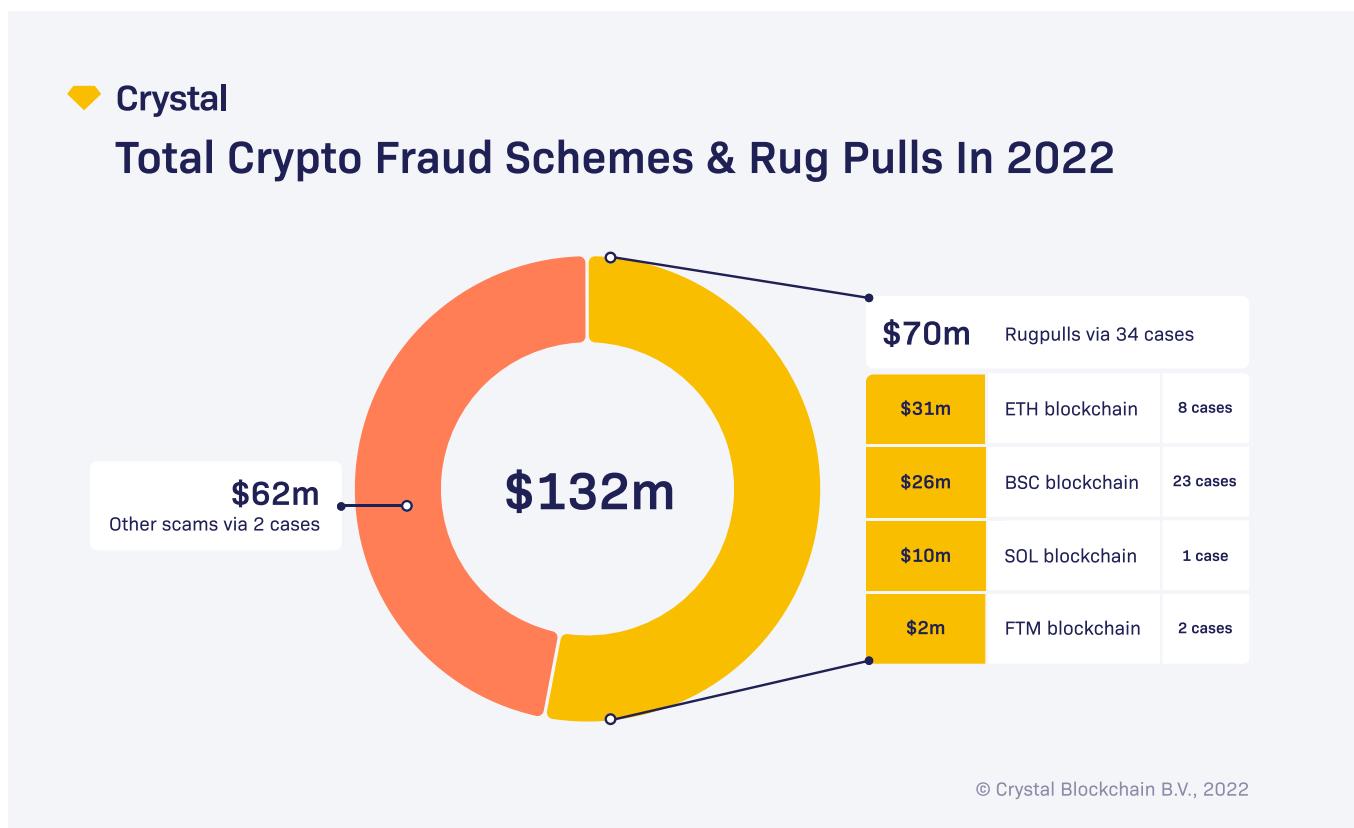
**IMAGE:** Percentage of stolen fund flows per entity 2011–2022

## #2 Rug pulls have become very popular among fraudsters

Rug pulls became the most popular type of scam in the first half of 2022. [Read more about the popularity of rug pulls in a recent post](#) from our Director of Blockchain Intelligence, Nick Smart.

Overall there were **36 cases of fraud, 34 of which were associated with rug pulls**. It's worth mentioning that **seven of those cases occurred through fake NFT projects**. The most popular blockchain for rug pulls by the number of cases was on Binance Blockchain (BNB) which was Binance Smart Chain (BSC) but was rebranded in early 2022. **23 cases out of 34 were on BSC**.

In terms of USD amounts, the most profitable blockchain for rug pulls is still Ethereum (ETH) Blockchain, despite the smaller number of cases — eight rug pull cases in total. Fraudsters manage to steal USD **\$31 million+ on the Ethereum Blockchain until the 10th of July**.



## Most popular blockchains for fraud and rug pulls 2022

Ethereum Blockchain, at USD \$31 million, and BNB Chain (Binance Smart Chain), at USD \$26 million, have led the way so far in 2022 in terms of fraudulent schemes and rug pulls. Solana Blockchain follows at USD \$10 million and Fantom Blockchain at USD \$2 million siphoned.

## Biggest fraud case: Mining Capital Coin

The biggest fraud case this year was connected with Mining Capital Coin, which was basically connected to capturing investor funds. The US Department of Justice unsealed an indictment charging Luiz Capuci Jr., the CEO of Mining Capital Coin (MCC), for orchestrating a USD \$62 million global investment and fraud scheme. The company purported to operate a mining and investment platform. [A press release](#) unveiled this news on May 6, 2022.

## What happened, how were investors duped?

Capuci misled investors about MCC's crypto mining and investment program per the indictment. The program required investors to purchase Mining Packages. Capuci and his

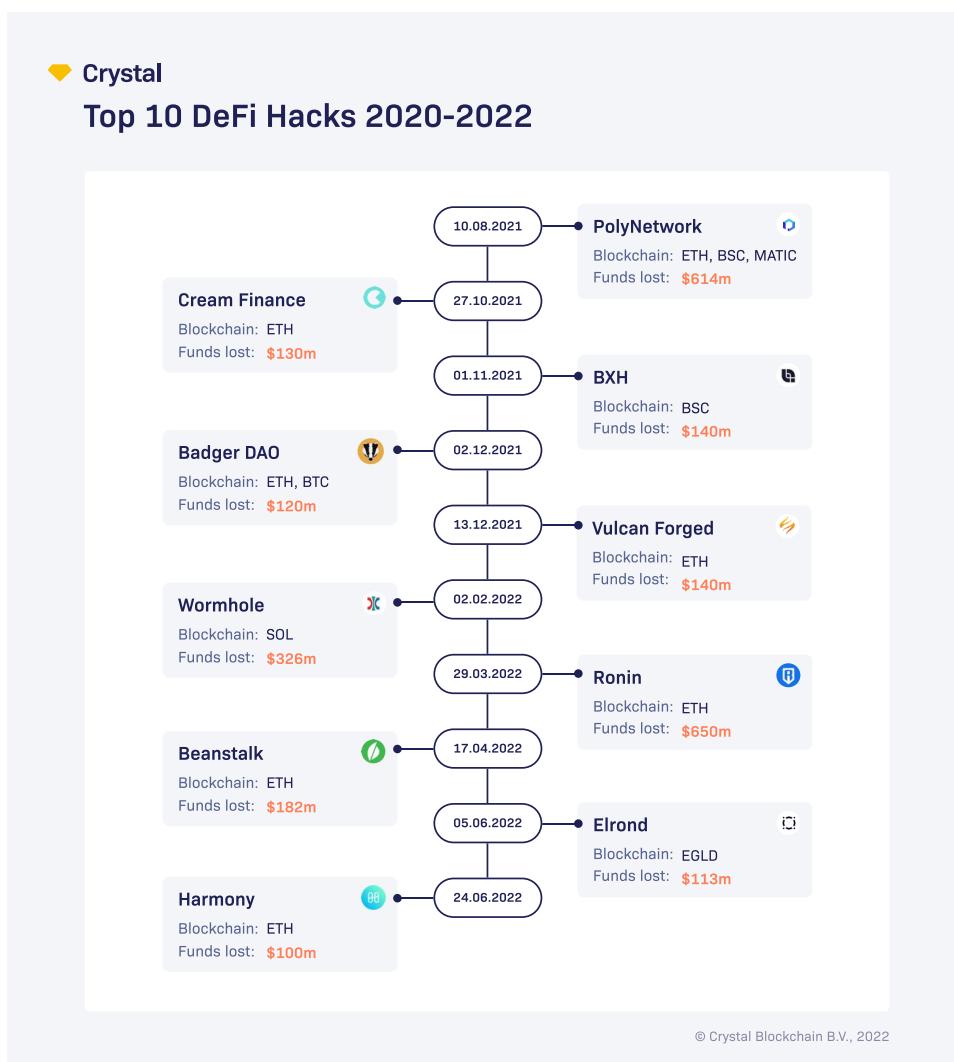
co-conspirators praised the MCC program, saying the company had an international network of mining equipment. According to them, miners needed to invest to power the crypto mining machines, which could purportedly generate substantial profits and guaranteed returns.

Additionally, Capuci lauded the MCC's token, Capital Coin, as a decentralized autonomous organization (DAO) that had stability backed by revenue from the largest crypto mining organization in the world. However, Capuci did not use the invested funds to mine new crypto. Instead, he directed the funds into wallets under his own control.

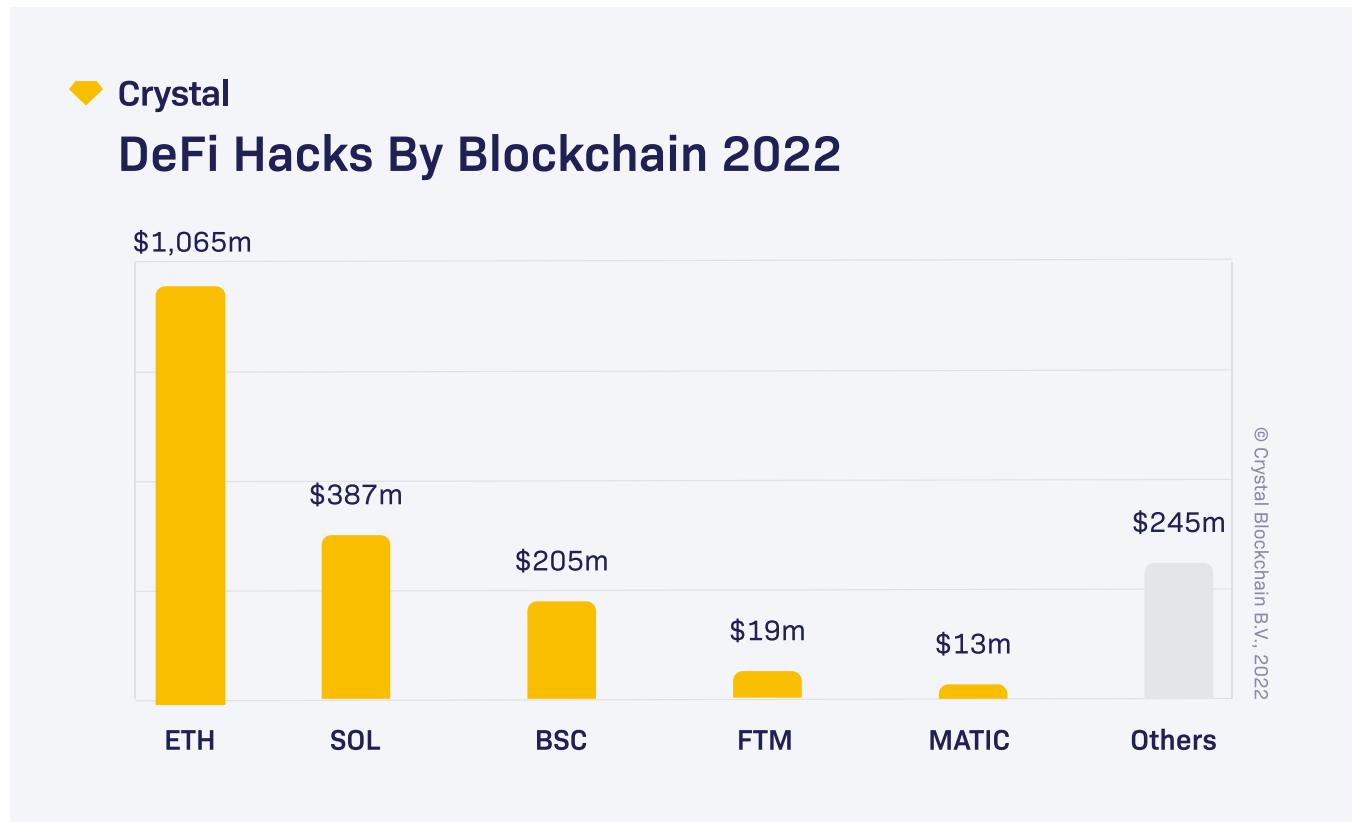
## #3 DeFi hacks are booming right now

DeFi continues to be the indisputable leader in terms of hacks in the first half of 2022, with USD **\$1,934 million** stolen so far — which is almost the total amount of stolen funds for all of 2021.

Let's take a look at the top 10 Decentralized Finance breaches since 2020:



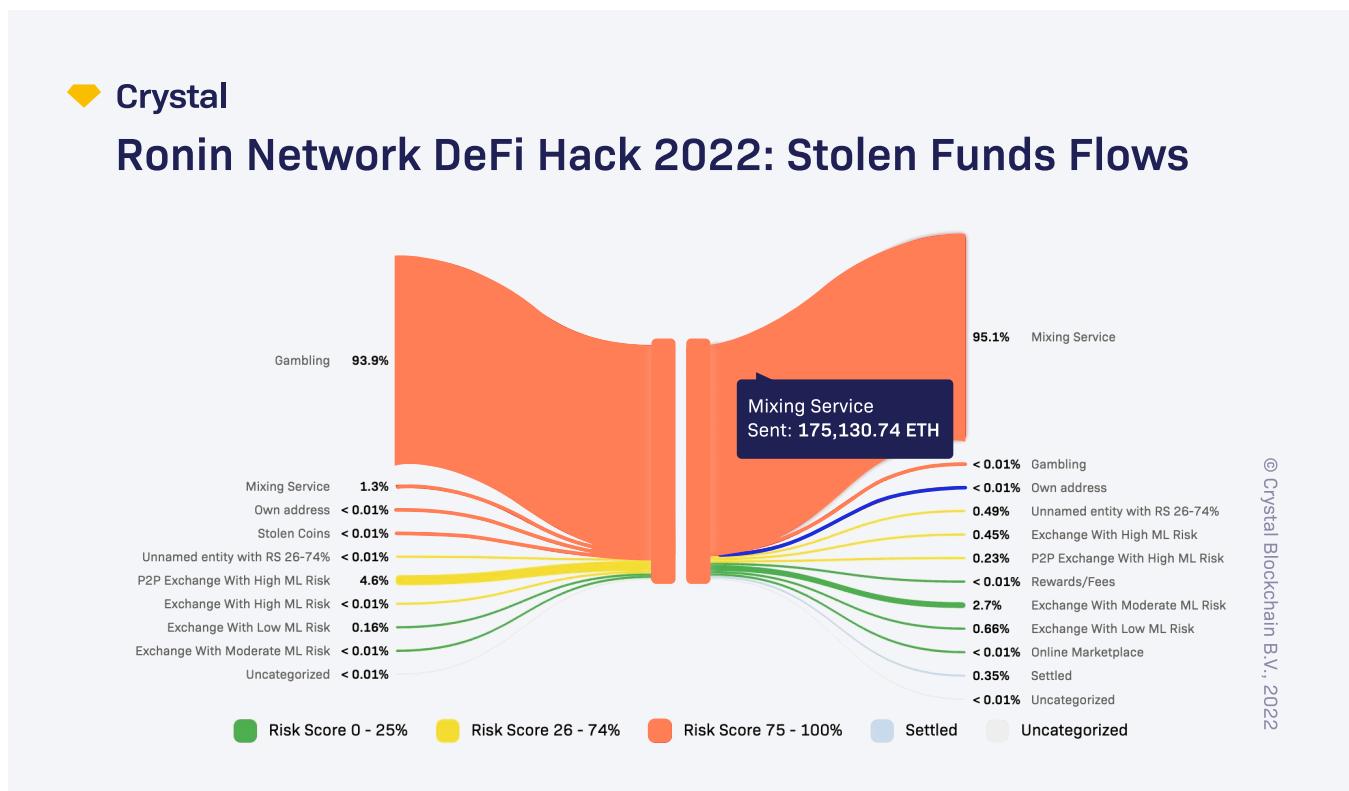
The total amount of stolen funds from the top 10 DeFi attacks exceeds USD **\$2.5 billion**. This list contains breaches that have occurred over the last 12 months. The number of attacks has grown as well. Crystal's team assumes that the tendency of DeFi hacks will continue to grow.



In terms of DeFi hack trends per blockchain, Ethereum Blockchain remains the indisputable leader, with over half of the DeFi breaches occurring there until 10th of July 2022. It's followed up by Solana, then BNB Chain (Binance Smart Chain), Fantom, and Polygon Blockchain.

## Biggest DeFi Hack To Date: Ronin Network March 2022

In late March 2022, Ronin Network, an Ethereum sidechain built for the play-to-earn NFT game Axie Infinity, was hacked for over 173,600 ETH and 25.5 million USD Coin for a **combined value of over USD \$650 million**. The majority of the funds moved to the Tornado Cash mixing service.



#4 Tornado remains the most popular ML mixer on the ETH Blockchain

It has already become some sort of tradition for crooks to launder funds through Tornado Cash Mixer, a service that mixes different streams of potentially identifiable cryptocurrency.

In the first half of 2022, Tornado Cash received around **350,000 ETH (over 35% of the total ETH streamed on Tornado) — by today's prices (July 2022) that amounts to over USD \$455 million.**

 Crystal

**TORNADO CASH:**

## Biggest Illegal Funds Mover For Ethereum Blockchain

ENTITY	TYPE	RECEIVED, ETH ↓	SHORTEST PATH, HOPS ↓
Lazarus Group	💰	142,678.534137656	1 ▾
Horizon Bridge Thief 2022	💰	85,699.990014994	3 ▾
Rari Capital Thief 2022	💰	26,500	1 ▾
Beanstalk Flashloan Thief 2022	💰	24,849.1	1 ▾
Phishing/Scam reported #7061	💰	7,500	1 ▾
Qubit Finance Thief 2022	💰	7,500	1 ▾
TornadoCash Thief 2022	💰	5,633	1 ▾
DeusDao Thief 2022	💰	5,446	1 ▾
Crypto.com Thief 2022	💰	4,830	1 ▾
Phishing/Scam reported #7066	💰	3,931	1 ▾

© Crystal Blockchain B.V., 2022

It's worth mentioning that the total amount of illegal funds that have been moved through the Tornado Cash mixer is over 600,000 ETH. In the first half of 2022, illegal actors moved over half — 350k of all Tornado's funds. This activity was on the back of the rise of DeFi hack activity.

**DeFi hacks were the fastest-growing way to steal crypto** in 2020–2022. Over \$4 billion was stolen from such protocols. This can be explained by the fact that the technology is new and still has a lot of vulnerabilities.

## Conclusions and Predictions

- ◆ The number of cyber-criminal attacks still remains relatively high and overall the security breaches were still mainly experienced by large-scale exchanges.
- ◆ DeFi hacks will continue increasing, while the DeFi industry continues building better security systems and hackers continue to do their best to break these systems.
- ◆ In the foreseeable future, given that the number of blockchains keeps growing and the methods and technologies used by illegal hackers continue to become more sophisticated and advanced, we can assume that the number of hack attacks will also continue to grow.
- ◆ In many cases, the funds are moved after the incident and remain dormant in a wallet. However, high volatility in the virtual asset market usually leads attackers to attempt to withdraw the stolen funds at some point. So Crystal continues to monitor the dynamics of dormant stolen funds.

While it is challenging to completely prevent breaches of security systems, particularly in relation to hot wallets, it is possible for exchanges to have:

- ◆ proper insurance for special cases,
- ◆ an in-house security team,
- ◆ blockchain analytics software, and
- ◆ backup reserves that are equivalent to the amount of crypto held in online storage

**These mechanisms will prevent customers and users from being affected in the event of a security breach.**

## Appendix #1

Crystal's Risk Score Categories for Crypto Exchanges:

---

### **EXCHANGE WITH LOW ML RISK:**

Exchanges that require KYC/AML identification for any deposit or withdrawal.

---

### **EXCHANGE WITH MODERATE ML RISK:**

Exchanges that allow the withdrawal of up to \$2000 in crypto daily without KYC/AML. (For fiat withdrawals, KYC/AML is still required).

---

### **EXCHANGE WITH HIGH ML RISK:**

Exchanges that allow the withdrawal of more than \$2000 in crypto daily without KYC/AML. (For fiat withdrawals, KYC/AML is still required).

---

### **EXCHANGE WITH VERY HIGH ML RISK:**

Exchanges that don't use verification procedures, or have requirements for certain countries only.

---

### **FRAUDULENT EXCHANGE:**

Exchanges involved in exit scams, illegal behavior, or who have had funds seized by the government.

---

### **P2P EXCHANGE WITH LOW ML RISK:**

P2P exchanges that require KYC/ AML identification for all deposits and withdrawals.

---

### **P2P EXCHANGE WITH HIGH ML RISK:**

P2P exchanges that allow the withdrawal of more than \$1000 in crypto daily without KYC/ AML procedures.

## Appendix #2

### List of Incidents

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
1	Mt. Gox	Breach	Japan	\$35.5k	BTC	19.06.2011
2	MyBitcoin	Breach	Saint Kitts and Nevis	\$68.3k	BTC	21.06.2011
3	Ubitex	Fraud	Undefined	\$18.1k	BTC	01.07.2011
4	Bitomat	Fraud	Poland	\$236.5k	BTC	26.07.2011
5	MyBitcoin	Breach	Saint Kitts and Nevis	\$618.5k	BTC	08.08.2011
6	Moonco.in	Fraud	Undefined	\$32.8k	BTC, Namecoin, SC	01.09.2011
7	Bitcoin7	Breach	Undefined	\$53.1k	BTC	05.10.2011
8	Mt. Gox	Fraud	Japan	\$8.0k	BTC	28.10.2011
9	Bitscalper	Breach	Undefined	\$6.4k	BTC	01.03.2012
10	Linode	Fraud	United States	\$228.0k	BTC	01.03.2012
11	Betcoin	Breach	Undefined	\$15.3k	BTC	11.04.2012
12	BitCoinica	Breach	New Zealand	\$91.3k	BTC	12.05.2012
13	Bitcoin Savings and Trust	Fraud	United States	\$5m	BTC	02.07.2012
14	Bitcoin Syndicate	Breach	Undefined	\$12.0k	BTC	04.07.2012
15	BitCoinica	Breach	New Zealand	\$303.5k	BTC	13.07.2012
16	BTC-e	Breach	Cyprus	\$42.0k	BTC	31.07.2012
17	kronos.io	Breach	Undefined	\$9.3k	BTC	01.08.2012
18	BitFloor	Breach	United States	\$251.1k	BTC	05.09.2012
19	Cdecker	Breach	Undefined	\$112.7k	BTC	28.09.2012
20	50BTC	Breach	Undefined	\$14.0k	BTC	13.10.2012
21	Trojan Wallet	Breach	Undefined	\$39.2k	BTC	16.11.2012
22	BitMarket.eu	Breach	Poland	\$8.3k	BTC	21.12.2012
23	Bit LC Inc.	Breach	Panama	\$50.8k	BTC	13.02.2013
24	BTC Guild	Breach	Undefined	\$58.0k	BTC	10.03.2013
25	Bitcoin Rain	Fraud	Brazil	\$370.2k	BTC	28.03.2013
26	ZigGap	Fraud	United States	\$169.0k	BTC	01.04.2013
27	OzCoin	Breach	Australia	\$135.0k	BTC	19.04.2013
28	Bitmit	Breach	Hong Kong	\$2.0k	BTC	26.04.2013
29	Vircurex	Breach	Belize	\$341.9k	BTC, LTC, TRC	10.05.2013
30	PicoStocks	Breach	Marshall Islands	\$167.0k	BTC	01.06.2013
31	Bitfunder and WeExchange	Breach	United States	\$545.1k	BTC	01.07.2013
32	Just-Dice	Fraud	Canada	\$122.6k	BTC	15.07.2013
33	BASIC-MINING	Fraud	Undefined	\$276.8k	BTC	01.10.2013
34	inputs.io	Breach	Australia	\$809.3k	BTC	23.10.2013
35	GBL	Fraud	China	\$4m	BTC	26.10.2013

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
36	Bitcash.cz	Breach	Czech Republic	\$160.6k	BTC	11.11.2013
37	BIPS	Breach	Denmark	\$599.9k	BTC	17.11.2013
38	PicoStocks	Breach	Marshall Islands	\$6m	BTC	29.11.2013
39	Mt. Gox	Breach	Japan	\$615m	BTC	07.02.2014
40	Flexcoin	Breach	Canada	\$605.9k	BTC	02.03.2014
41	Poloniex	Breach	Seychelles	\$65.6k	BTC	04.03.2014
42	Cryptorush	Breach	United States	\$659.5k	BLK, BTC, LTC	15.03.2014
43	Bitcurex	Breach	Poland	\$107.7k	BTC	16.03.2014
44	DogeVault	Breach	Undefined	\$51.1k	DOGE	13.05.2014
45	MintPal	Breach	United Kingdom	\$2m	VRC	13.07.2014
46	Cryptsy	Breach	United States	\$10m	BTC, LTC	29.07.2014
47	Bter	Breach	China	\$2m	NXT	15.08.2014
48	Bitpay	Breach	United States	\$2m	BTC	12.09.2014
49	MintPal	Breach	United Kingdom	\$2m	BTC	15.10.2014
50	Bitstamp	Breach	United Kingdom	\$6m	BTC	09.01.2015
51	EgoPay	Breach	Seychelles	\$1m	unknown	23.01.2015
52	LocalBitcoins	Breach	Finland	\$4.4k	BTC	27.01.2015
53	796.com	Breach	Vanuatu	\$253.4k	BTC	28.01.2015
54	MyCoin	Fraud	Hong Kong	\$387m	unknown	09.02.2015
55	exco.in	Breach	Undefined	\$460.0k	BTC	10.02.2015
56	Bter	Breach	China	\$2m	BTC	15.02.2015
57	KipCoin	Breach	China	\$720.7k	BTC	18.02.2015
58	Bitfinex	Breach	British Virgin Islands	\$331.5k	BTC	22.05.2015
59	Purse	Breach	United States	\$3m	BTC	11.10.2015
60	Shapeshift	Breach	United Kingdom	\$269.1k	BTC, ETH, LTC	01.04.2016
61	Gatecoin.com	Breach	Hong Kong	\$2m	BTC, ETH	10.05.2016
62	DAO	Breach	Undefined	\$71m	ETH	16.06.2016
63	Bitfinex	Breach	British Virgin Islands	\$72m	BTC	03.08.2016
64	Bitcurex	Breach	Poland	\$2m	BTC	15.10.2016
65	Yapizon.com	Breach	South Korea	\$5m	BTC	22.04.2017
66	Bithumb	Breach	South Korea	\$1m	unknown	03.06.2017
67	CoinDash	Breach	Israel	\$12m	ETH	01.07.2017
68	Parity	Breach	United Kingdom	\$34m	ETH	19.07.2017
69	BTC-e	Breach	Cyprus	\$181m	BTC	26.07.2017
70	Enigma	Breach	Undefined	\$500.0k	ETH	21.08.2017
71	Control Finance	Fraud	United Kingdom	\$147m	BTC	10.09.2017
72	Coinis	Breach	South Korea	\$2m	BTC	21.09.2017
73	OKEx	Breach	Malta	\$3m	BTC	02.10.2017
74	Parity	Breach	United Kingdom	\$155m	ETH	08.11.2017
75	Tether	Breach	British Virgin Islands	\$31m	USDT	19.11.2017

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
76	NiceHash	Breach	Slovenia	\$64m	BTC	06.12.2017
77	Youbit	Breach	South Korea	\$10m	unknown	19.12.2017
78	EtherDelta	Breach	Undefined	\$250.6k	ERC20 tokens, ETH	20.12.2017
79	BlackWallet	Breach	Undefined	\$400.0k	Stellar Lumen	13.01.2018
80	Coincheck	Breach	Japan	\$535m	NEM	26.01.2018
81	BitGrail	Breach	Italy	\$195m	Nano	11.02.2018
82	Blockchain.info	Breach	United Kingdom	\$50m	unknown	19.02.2018
83	Coinsecure	Breach	India	\$3m	BTC	12.04.2018
84	MyEtherWallet	Breach	United States	\$13m	ETH	24.04.2018
85	TAYLOR	Breach	Estonia	\$2m	ETH, Tay tokens	21.05.2018
86	Coinrail	Breach	South Korea	\$40m	ATX, DENT, ETH, NPXS	10.06.2018
87	Bithumb	Breach	South Korea	\$30m	unknown	19.06.2018
88	Bancor	Breach	Switzerland	\$23m	BNT, ETH, NPXS	10.07.2018
89	kickico.co	Breach	Singapore	\$8m	KICK	26.07.2018
90	ZAIF	Breach	Japan	\$59m	BCH, BTC, MonaCoin	14.09.2018
91	Trade.io	Breach	Switzerland	\$9m	TIO	20.10.2018
92	MapleChange	Breach	Canada	\$6m	BTC	28.10.2018
93	Electrum	Breach	Undefined	\$948.8k	BTC	27.12.2018
94	Cryptopia	Breach	New Zealand	\$12m	ERC20 tokens, ETH	14.01.2019
95	LocalBitcoins	Breach	Finland	\$27.0k	unknown	26.01.2019
96	QuadrigaCX	Fraud	Canada	\$147m	BCH, BCH(SV), BTC, BTG, ETH, LTC	04.02.2019
97	Coinbin	Fraud	Undefined	\$26m	unknown	20.02.2019
98	DragonEx	Breach	Thailand	\$6m	BTC, ETH, USDT, other	24.03.2019
99	Etbox	Breach	Undefined	\$132.0k	unknown	24.03.2019
100	BiKi	Breach	Singapore	\$123.3k	USDT	25.03.2019
101	CoinBene	Breach	Vanuatu	\$45m	Coinbene Coin, Maximine Coin	26.03.2019
102	Bithumb	Breach	South Korea	\$19m	EOS, XRP	29.03.2019
103	BitoPro	Breach	China	\$2m	XRP	02.05.2019
104	Binance	Breach	Seychelles	\$42m	BTC	07.05.2019
105	Coinbase	Breach	United States	\$100.0k	unknown	22.05.2019
106	Kraken	Breach	United States	\$10m	BTC	02.06.2019
107	Coinroom	Fraud	Mongolia	\$4.0k	unknown	03.06.2019
108	GateHub	Breach	United Kingdom	\$10m	XRP	06.06.2019
109	TokenStore	Fraud	Undefined	\$160m	BTC, ETH, XRP	11.06.2019
110	Bitsane	Fraud	Ireland	\$570.0k	unknown	17.06.2019
111	Bittrue	Breach	Singapore	\$5m	ADA, XRP	26.06.2019
112	BitcoinsNorway	Breach	Norway	\$1m	unknown	04.07.2019
113	Soxex	Breach	Undefined	\$1m	USDT, other	04.07.2019
114	BitMarket.pl	Fraud	Poland	\$27m	BTC	08.07.2019
115	Bitpoint	Breach	Japan	\$32m	BCH, BTC, ETH, LTC, XRP	12.07.2019

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
116	CoinTiger	Breach	Singapore	\$2m	PTT	17.08.2019
117	VinDAX	Breach	Vietnam	\$500.0k	unknown	08.11.2019
118	Upbit	Breach	South Korea	\$51m	ETH	27.11.2019
119	Plus Token Ponzi	Fraud	Undefined	\$2,900m	BTC, ETH	16.12.2019
120	Electrum	Breach	Undefined	\$18m	BTC	19.01.2020
121	Altsbit	Breach	Italy	\$303.0k	ARRR, BTC, ETH, KMD, VRSC	05.02.2020
122	IOTA wallet	Breach	German	\$3m	MIOTA	12.02.2020
123	Ledger	Breach	Undefined	\$224.0k	XRP	25.03.2020
124	Bisq	Breach	Undefined	\$250.0k	unknown	08.04.2020
125	Uniswap	DeFi Breach	Undefined	\$1m	imBTC	18.04.2020
126	Wotoken	Fraud	China	\$1,000m	BCH, BTC, EOS, ETH, LTC, other	14.05.2020
127	Balancer	Breach	Undefined	\$500.0k	ETH, LINK, SNX, WBTC	28.06.2020
128	Cashaa	Breach	United Kingdom	\$3m	BTC	11.07.2020
129	Twitter	Fraud	United States	\$120.0k	BTC	15.07.2020
130	2gether	Breach	Spain	\$1m	BTC, ETH	31.07.2020
131	Opyn	DeFi Breach	Undefined	\$371.0k	USDC	05.08.2020
132	Electrum	Breach	Undefined	\$15m	BTC	30.08.2020
133	Chainlink	Breach	Cayman Islands	\$245.0k	ETH	05.09.2020
134	ETERBASE	Breach	Slovakia	\$5m	ALGO, BTC, ETH, TRX, XRP, XTZ	08.09.2020
135	Kucoin	Breach	Seychelles	\$281m	BTC, ETH, ERC20 tokens	26.09.2020
136	Eminence	DeFi Breach	Undefined	\$15m	DAI	29.09.2020
137	Ledger	Fraud	Undefined	\$2m	BTC, XRP	24.10.2020
138	Harvest Finance	DeFi Breach	Undefined	\$34m	USDC, USDT	26.10.2020
139	EXMO	Breach	United Kingdom	\$12m	BTC, ETC, ETH, USDT, XRP, ZEC	21.12.2020
140	dForce (Lendf.me)	DeFi Breach	Undefined	\$25m	imBTC	19.04.2020
141	Maker	DeFi Breach	Undefined	\$8m	unknown	03.12.2020
142	bZx	DeFi Breach	Undefined	\$15m	iToken	14.09.2020
143	Akropolis	DeFi Breach	Gibraltar	\$2m	DAI	11.12.2020
144	Value	DeFi Breach	Undefined	\$7m	DAI	14.11.2020
145	Cheese Bank	DeFi Breach	Undefined	\$3m	USDC, USDT, DAI	16.11.2020
146	OUSD	DeFi Breach	Undefined	\$7m	ETH	17.11.2020
147	Pickle Finance	DeFi Breach	Undefined	\$20m	DAI, USDC, USDT	22.11.2020
148	Warp Finance	DeFi Breach	Undefined	\$8m	DAI, USDC	17.12.2020
149	Attily	Breach	Undefined	\$750.0k	BTC, USDT	26.12.2020
150	Cover Protocol	DeFi Breach	Undefined	\$4m	ETH, DAI, WBTC	28.12.2020
151	Cryptopia	Breach	New Zealand	\$45.0k	XSN	01.01.2021
152	Yearn Finance	DeFi Breach	Undefined	\$11m	ERC20	05.02.2021
153	Alpha Homora	DeFi Breach	Undefined	\$35m	ERC20	13.02.2021
154	Furucombo	DeFi Breach	Undefined	\$14m	ETH	28.02.2021
155	Meerkat Finance	DeFi Breach	Undefined	\$31m	BSC	05.03.2021

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
156	DODO	DeFi Breach	Undefined	\$4m	ERC20	09.03.2021
157	Turtle.dex	Fraud	Undefined	\$2m	BNB	20.03.2021
158	Polkatain	DeFi Breach	Undefined	\$3m	ERC20	05.04.2021
159	EasyFi	DeFi Breach	Undefined	\$80m	ERC20	19.04.2021
160	Thodex	Fraud	Turkey	\$2,000m	Unknown	22.04.2021
161	Uranium Finance	DeFi Breach	Undefined	\$57m	BSC	28.04.2021
162	Spartan Protocol	DeFi Breach	Undefined	\$30m	BSC	02.05.2021
163	Value	DeFi Breach	Undefined	\$10m	BSC	06.05.2021
164	Value	DeFi Breach	Undefined	\$11m	BSC	08.05.2021
165	Rari Capital	DeFi Breach	Undefined	\$10m	ETH	08.05.2021
166	X Token	DeFi Breach	Undefined	\$25m	ERC20	12.05.2021
167	Bearn.Fi	DeFi Breach	Undefined	\$11m	BSC	17.05.2021
168	PancakeBunny	DeFi Breach	Undefined	\$45m	BSC	20.05.2021
169	DeFi100	Fraud	Undefined	\$32m	ERC20?	24.05.2021
170	AutoShark	DeFi Breach	Undefined	\$750.0k	BSC	25.05.2021
171	MerlinLabs	DeFi Breach	Undefined	\$680.0k	BSC	26.05.2021
172	MerlinLabs	DeFi Breach	Undefined	\$550.0k	BSC	27.05.2021
173	BurgerSwap	DeFi Breach	Undefined	\$7m	ETH, ERC20	28.05.2021
174	Belt	DeFi Breach	Undefined	\$6m	BSC	29.05.2021
175	Alchemist	DeFi Breach	Undefined	\$7m	ERC20	18.06.2021
176	Eleven Finance	DeFi Breach	Undefined	\$5m	ERC20	23.06.2021
177	StableMagnet	Fraud	Undefined	\$27m	ERC20	24.06.2021
178	SafeDollar	DeFi Breach	Undefined	\$245.0k	MATIC	28.06.2021
179	MerlinLabs	DeFi Breach	Undefined	\$330.0k	BSC	29.06.2021
180	ChainSwap	DeFi Breach	Undefined	\$4m	ERC20	13.07.2021
181	AnySwap	DeFi Breach	Undefined	\$8m	ETH, ERC20	13.07.2021
182	Bondly	DeFi Breach	Undefined	\$6m	ERC20	15.07.2021
183	ThorChain	DeFi Breach	Undefined	\$8m	ERC20	16.07.2021
184	PancakeBunny	DeFi Breach	Undefined	\$2m	BSC	18.07.2021
185	Array Finance	DeFi Breach	Undefined	\$515.0k	ETH	19.07.2021
186	Sanshu Inu	DeFi Breach	Undefined	\$112.0k	ETH	21.07.2021
187	ThorChain	DeFi Breach	Undefined	\$8m	ETH	23.07.2021
188	PolyYeld Finance	DeFi Breach	Undefined	\$250.0k	MATIC	28.07.2021
189	Levyathan Finance	DeFi Breach	Undefined	\$2m	BSC	31.07.2021
190	Stazie	Fraud	Undefined	\$1m	ETH	31.07.2021
191	Popsicle Finance	DeFi Breach	Undefined	\$21m	ERC20	04.08.2021
192	Wault Finance	DeFi Breach	Undefined	\$888.0k	BSC	04.08.2021
193	Zerogoki	DeFi Breach	Undefined	\$670.0k	ERC20	08.08.2021
194	PolyNetwork	DeFi Breach	Undefined	\$614m	ETH, BSC, MATIC	10.08.2021
195	Punk Protocol	DeFi Breach	Undefined	\$9m	ETH	11.08.2021

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
196	DAO Maker	DeFi Breach	Undefined	\$7m	ERC20	12.08.2021
197	Neko Network	DeFi Breach	Undefined	\$4m	BSC	13.08.2021
198	Fetch.ai	Breach	Undefined	\$3m	Unknown	15.08.2021
199	Ref Finance	DeFi Breach	Undefined	\$3m	Unknown	14.08.2021
200	XSURGE	DeFi Breach	Undefined	\$5m	BSC	17.08.2021
201	Liquid	Breach	Japan	\$97m	BTC, ETH, XRP, ERC20	19.08.2021
202	Finiko	Fraud	Russia	\$200m	BTC, ETH, ERC20	20.08.2021
203	HitBTC	Breach	Hong Kong	\$1m	DVPN tokens	21.08.2021
204	Luna Yield	Fraud	Undefined	\$7m	unknown	22.08.2021
205	Dot.Finance	DeFi Breach	Undefined	\$429.0k	BSC	25.08.2021
206	X Token	DeFi Breach	Undefined	\$5m	ERC20	29.08.2021
207	Bilaxy	Breach	Seychelles	\$22m	ERC20	29.08.2021
208	Cream Finance	DeFi Breach	Undefined	\$19m	ERC20, AMP	01.09.2021
209	DAO Maker	DeFi Breach	Undefined	\$4m	ERC20	04.09.2021
210	AfkSystem.finance	Fraud	Undefined	\$13m	ETH	10.09.2021
211	Zabu Finance	DeFi Breach	Undefined	\$3m	AVAX	13.09.2021
212	NowSwap	DeFi Breach	Undefined	\$1m	ERC20	17.09.2021
213	Miso	DeFi Breach	Undefined	\$3m	ERC20	17.09.2021
214	pNetwork	DeFi Breach	Undefined	\$13m	BSC	19.09.2021
215	Vee Finance	DeFi Breach	Undefined	\$35m	AVAX	20.09.2021
216	Auto Shark Finance	DeFi Breach	Undefined	\$580.0k	BSC	02.10.2021
217	Evolved Apes	Fraud	Undefined	\$3m	ETH	07.10.2021
218	CryptoRoom	Fraud	Undefined	\$1m	unknown	14.10.2021
219	Indexed Finance	DeFi Breach	Undefined	\$16m	ERC20	14.10.2021
220	PancakeHunny	DeFi Breach	Undefined	\$2m	BSC	20.10.2021
221	Glide Finance	DeFi Breach	Undefined	\$300.0k	unknown	23.10.2021
222	Cream Finance	DeFi Breach	Undefined	\$130m	ERC20	27.10.2021
223	AnubisDAO	Fraud	Undefined	\$60m	ETH	01.11.2021
224	BXH	DeFi Breach	Undefined	\$140m	BSC	01.11.2021
225	SQUID	Fraud	Undefined	\$17m	BSC	02.11.2021
226	Vesper Finance	DeFi Breach	Undefined	\$3m	ERC20	03.11.2021
227	bZx	DeFi Breach	Undefined	\$55m	ETH, MATIC, BSC, ERC20	05.11.2021
228	MonoX.finance	DeFi Breach	Undefined	\$31m	ETH, ERC20	30.11.2021
229	Badger DAO	DeFi Breach	Undefined	\$120m	ETH, BTC, ERC20	02.12.2021
230	Bitmart	Breach	Hong Kong	\$196m	ETH, BSC, ERC20	05.12.2021
231	Pizza.Finance	DeFi Breach	Undefined	\$5m	EOS	08.12.2021
232	Sorbet Finance	DeFi Breach	Undefined	\$744.0k	ERC20	11.12.2021
233	AscendEX	DeFi Breach	Undefined	\$78m	ETH, MATIC, BSC	13.12.2021
234	Vulcan Forged	DeFi Breach	Undefined	\$140m	ERC20	13.12.2021
235	WePiggy	DeFi Breach	Undefined	\$400.0k	BSC	15.12.2021

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
236	Grim Finance	DeFi Breach	Undefined	\$30m	FTM	19.12.2021
237	8ight Finance	DeFi Breach	Undefined	\$2m	ONE	21.12.2021
238	VISR	DeFi Breach	Undefined	\$444.0k	ERC20	21.12.2021
239	Monkey Kingdom	DeFi Breach	Undefined	\$1m	SOL	23.12.2021
240	MetaDAO	Fraud	Undefined	\$3m	ETH	27.12.2021
241	MetaSwap	Fraud	Undefined	\$602.0k	BSC	27.12.2021
242	META	Fraud	Undefined	\$1m	ERC20, ETH	27.12.2021
243	SashimiSwap	DeFi Breach	Undefined	\$200.0k	ERC20	30.12.2021
244	Vesper Finance	DeFi Breach	Undefined	\$1m	ETH, ERC20	31.12.2021
245	Tinyman	DeFi Breach	Undefined	\$2m	ALGO	01.01.2022
246	Arbix Finance	Fraud	Undefined	\$10m	BSC	04.01.2022
247	Bored Bunny	Fraud	Undefined	\$21m	ETH	06.01.2022
248	DaoMetaland	Fraud	Undefined	\$280.0k	BSC	07.01.2022
249	LCX	Breach	Liechtenstein	\$8m	ETH, ERC20	09.01.2022
250	Frosties	Fraud	Undefined	\$1m	ETH	09.01.2022
251	Lympo	DeFi Breach	Undefined	\$19m	ERC20	10.01.2022
252	IDO	Fraud	Undefined	\$3m	BSC	12.01.2022
253	Rari Capital	DeFi Breach	Undefined	\$450.0k	ETH	15.01.2022
254	CityDAO	Breach	Undefined	\$95.0k	ETH	15.01.2022
255	Crypto Burger	DeFi Breach	Undefined	\$770.0k	BSC	17.01.2022
256	Crypto.com	Breach	Hong Kong	\$33m	BTC, ETH	17.01.2022
257	Crosswise	DeFi Breach	Undefined	\$879.0k	BSC	18.01.2022
258	Multichain	DeFi Breach	Undefined	\$2m	ERC20	18.01.2022
259	Kingfund Finance	Fraud	Undefined	\$147.0k	BSC	19.01.2022
260	Blockverse	Fraud	Undefined	\$1m	ETH	24.01.2022
261	Solfire	Fraud	Undefined	\$10m	SOL	25.01.2022
262	OpenSea	DeFi Breach	Undefined	\$784.0k	ETH	25.01.2022
263	Mercenary	Fraud	Undefined	\$760.0k	ETH	26.01.2022
264	InfinityToken	Fraud	Undefined	\$611.6k	BSC	26.01.2022
265	Wegrocoin	Fraud	Undefined	\$440.0k	BSC	27.01.2022
266	Qubit	DeFi Breach	Undefined	\$80m	BSC	28.01.2022
267	Wormhole	DeFi Breach	Undefined	\$326m	SOL	02.02.2022
268	KLAYswap	DeFi Breach	Undefined	\$2m	KLAY	03.02.2022
269	Meter.io	DeFi Breach	Undefined	\$4m	ETH, BTC, ERC20, BSC	06.02.2022
270	Superfluid	DeFi Breach	Undefined	\$13m	MATIC	08.02.2022
271	Dego	DeFi Breach	Undefined	\$10m	ERC20	10.02.2022
272	BabyMuskCoin	Fraud	Undefined	\$660.0k	BSC	10.02.2022
273	IRA Financial	Breach	USA	\$36m	BTC, ETH	12.02.2022
274	Titano Finance	DeFi Breach	Undefined	\$2m	BSC	14.02.2022
275	Build Finance	DeFi Breach	Undefined	\$470.0k	ETH	15.02.2022

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
276	TopGoal	DeFi Breach	Undefined	\$2m	BSC	17.02.2022
277	Gold Mine Finance	Fraud	Undefined	\$800.0k	FTM	19.02.2022
278	OpenSea	DeFi Breach	Undefined	\$3m	ETH	20.02.2022
279	Flurry Finance	DeFi Breach	Undefined	\$293.0k	BSC	23.02.2022
280	Pirate X	DeFi Breach	Undefined	\$75.3k	BSC	09.03.2022
281	Fantasm Finance	DeFi Breach	Undefined	\$3m	FTM	10.03.2022
282	Paraluni	DeFi Breach	Undefined	\$2m	BSC	13.03.2022
283	NFTflow	Fraud	Undefined	\$230.0k	ETH	14.03.2022
284	Agave	DeFi Breach	Undefined	\$6m	ERC20	15.03.2022
285	Deus Finance	DeFi Breach	Undefined	\$3m	FTM	15.03.2022
286	Hundred Finance	DeFi Breach	Undefined	\$6m	ERC20	16.03.2022
287	Umbrella Network	DeFi Breach	Undefined	\$700.0k	ERC20, BSC	20.03.2022
288	Li.finance	DeFi Breach	Undefined	\$600.0k	ERC20	20.03.2022
289	OneRing Finance	DeFi Breach	Undefined	\$1m	ERC20	21.03.2022
290	REALSWAK	Fraud	Undefined	\$537.3k	BSC	22.03.2022
291	Arthur	DeFi Breach	Undefined	\$897.4k	ERC20	22.03.2022
292	Cashio	DeFi Breach	Undefined	\$52m	SOL	26.03.2022
293	InuSaitama	DeFi Breach	Undefined	\$1m	ETH	26.03.2022
294	Revest Finance	DeFi Breach	Undefined	\$2m	ERC20	27.03.2022
295	BuccaneerFi	Fraud	Undefined	\$360.0k	BSC	28.03.2022
296	Ronin	DeFi Breach	Undefined	\$650m	ETH, ERC20	29.03.2022
297	BNBDEFI	Fraud	Undefined	\$110.7k	BSC	29.03.2022
298	BMZapper	DeFi Breach	Undefined	\$1m	ERC20	30.03.2022
299	Ola Finance	DeFi Breach	Undefined	\$5m	ERC20	31.03.2022
300	Inverse Finance	DeFi Breach	Undefined	\$16m	ETH	02.04.2022
301	Agora (StarStream)	DeFi Breach	Undefined	\$8m	ERC20	08.04.2022
302	CF	DeFi Breach	Undefined	\$2m	ERC20	11.04.2022
303	Marvin Inu	DeFi Breach	Undefined	\$352.0k	ERC20	11.04.2022
304	Elephant Money	DeFi Breach	Undefined	\$11m	BSC	13.04.2022
305	Rikkei Finance	DeFi Breach	Undefined	\$1m	BSC	15.04.2022
306	Beanstalk	DeFi Breach	Undefined	\$182m	ETH, ERC20	17.04.2022
307	MaxAPYFinance	Fraud	Undefined	\$440.0k	BSC	20.04.2022
308	Zeed	DeFi Breach	Undefined	\$1m	BSC	20.04.2022
309	Akutars	DeFi Breach	Undefined	\$34m	ETH	23.04.2022
310	Deus Finance	DeFi Breach	Undefined	\$14m	FTM	28.04.2022
311	Saddle Finance	DeFi Breach	Undefined	\$10m	ETH	30.04.2022
312	Rari Capital	DeFi Breach	Undefined	\$80m	ETH	30.04.2022
313	MM.finance	DeFi Breach	Undefined	\$2m	CRO	04.05.2022
314	Pragma Money	Fraud	Undefined	\$2m	FTM	06.05.2022
315	Mining Capital Coin	Fraud	Undefined	\$62m	ERC20	06.05.2022

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
316	Day of Defeat	Fraud	Undefined	\$1m	BSC	06.05.2022
317	Fury of the Fur	Fraud	Undefined	\$300.0k	ETH	07.05.2022
318	Hunter	Fraud	Undefined	\$1m	BSC	08.05.2022
319	Cashera	Fraud	Undefined	\$90.0k	BSC	09.05.2022
320	Fortress	DeFi Breach	Undefined	\$3m	BSC	09.05.2022
321	GOAT	Fraud	Undefined	\$260.0k	ETH	09.05.2022
322	ownlyio	DeFi Breach	Undefined	\$36.0k	BSC	10.05.2022
323	x2y2	Fraud	Undefined	\$200.0k	ETH	11.05.2022
324	Quickswap	DeFi Breach	Undefined	\$107.0k	MATIC	14.05.2022
325	FEG	DeFi Breach	Undefined	\$1m	BSC, ETH	16.05.2022
326	FEG	DeFi Breach	Undefined	\$590.0k	ERC20	17.05.2022
327	Feminist Metaverse	DeFi Breach	Undefined	\$540.0k	BSC	18.05.2022
328	QANplatform	DeFi Breach	Undefined	\$633.8k	ERC20	19.05.2022
329	Llamascape	DeFi Breach	Undefined	\$100.0k	ETH	20.05.2022
330	bDollar	DeFi Breach	Undefined	\$730.0k	BSC	21.05.2022
331	DecentraWorld	Fraud	Undefined	\$1m	BSC	25.05.2022
332	Mirror Protocol	DeFi Breach	Undefined	\$90m	TERRA	28.05.2022
333	PokeMoney	Fraud	Undefined	\$4m	BSC	28.05.2022
334	Anchor Protocol	DeFi Breach	Undefined	\$800.0k	TERRA	29.05.2022
335	Novo	DeFi Breach	Undefined	\$90.0k	BSC	30.05.2022
336	Mirror Protocol	DeFi Breach	Undefined	\$2m	TERRA	31.05.2022
337	Armadillo Coin	Fraud	Undefined	\$265.0k	BSC	01.06.2022
338	CoFiXProtocol	DeFi Breach	Undefined	\$145.0k	BSC	02.06.2022
339	Animoon	Fraud	Undefined	\$6m	ETH	02.06.2022
340	fomo-dao	DeFi Breach	Undefined	\$110.0k	BSC	04.06.2022
341	BAYC&Otherside	DeFi Breach	Undefined	\$256.0k	ETH	04.06.2022
342	Maiar Exchange (Elrond)	DeFi Breach	Undefined	\$113m	EGLD	05.06.2022
343	BabyElon	Fraud	Undefined	\$180.0k	BSC	08.06.2022
344	ApolloX	DeFi Breach	Undefined	\$2m	BSC	08.06.2022
345	Osmosis	DeFi Breach	Undefined	\$5m	ATOM	08.06.2022
346	Gym Network	DeFi Breach	Undefined	\$2m	BSC	08.06.2022
347	Optimism	DeFi Breach	Undefined	\$28m	OP	09.06.2022
348	SHELL	Fraud	Undefined	\$180.0k	BSC	11.06.2022
349	Treasure Swap	DeFi Breach	Undefined	\$1m	BSC	11.06.2022
350	Hege Token	Fraud	Undefined	\$429.0k	BSC	12.06.2022
351	ElonMVP	Fraud	Undefined	\$130.0k	BSC	13.06.2022
352	Fswap	DeFi Breach	Undefined	\$500.0k	BSC	13.06.2022
353	Inverse Finance	DeFi Breach	Undefined	\$1m	ETH	16.06.2022
354	DHE	Fraud	Undefined	\$142.0k	BSC	21.06.2022
355	LV PLUS	Fraud	Undefined	\$2m	BSC	21.06.2022

#	ENTITY	TYPE	COUNTRY	AMOUNT, USD	CURRENCIES	DATE
356	Ribbon Finance	DeFi Breach	Undefined	\$330.0k	ERC20	24.06.2022
357	ConvexFinance	DeFi Breach	Undefined	\$230.0k	ETH	24.06.2022
358	Harmony	DeFi Breach	Undefined	\$100m	ERC20	24.06.2022
359	xCarnival	DeFi Breach	Undefined	\$4m	ETH	26.06.2022
360	Mad	DeFi Breach	Undefined	\$115.0k	BSC	30.06.2022
361	Quint	DeFi Breach	Undefined	\$130.0k	BSC	30.06.2022
362	Crema Finance	DeFi Breach	Undefined	\$9m	SOL	03.07.2022
363	BiFi	DeFi Breach	Undefined	\$2m	ETH	10.07.2022
364	Omni X	DeFi Breach	Undefined	\$1m	ETH	10.07.2022

## Appendix #3

### Key Definitions

---

#### **DeFi Hack:**

Taking possession of digital assets of users on decentralized protocols by searching for vulnerabilities in the code.

---

#### **Security Breach:**

A set of actions aimed at finding vulnerabilities in digital systems of centralized cryptocurrency entities in order to capture cryptocurrency assets.

---

#### **Fraudulent Scheme:**

Fraud, the result of which is the acquisition of digital assets of users by providing deliberately false information.

---

## Final Note

This report was compiled by the Crystal Blockchain analytics team using tools available within the Crystal analytics platform. As cryptocurrency adoption continues to grow, it will be imperative that anyone involved in crypto compliance and regulation has the tools to hand to visualize and analyze interactions between the largest publicly operating Virtual Asset Service Providers.

The Crystal Blockchain analytics team continues to monitor illegal moves of cryptocurrencies in order to provide advanced analytics and the team will update this report quarterly, with any important changes reflected respectively. If you are interested in using the Crystal Blockchain analytics platform in your organization, please email us at [contact@crystalblockchain.com](mailto:contact@crystalblockchain.com).

Crystal is the all-in-one blockchain analytics tool for crypto AML compliance. Available as a free demo version, SaaS, API, and for on-premise installation. Engineered by the Bitfury Group.

## Disclaimer

Crystal Blockchain B.V. 2022 is not responsible for any errors or omissions, or for the results obtained from the use of the information contained herein. The data in this report is provided "as is", with no guarantee of completeness, accuracy, timeliness, or the results obtained from the use of this information.

---

Yours in analytics,  
The Crystal Blockchain Team

Email: [enterprise@crystalblockchain.com](mailto:enterprise@crystalblockchain.com), [contact@crystalblockchain.com](mailto:contact@crystalblockchain.com)

Facebook: <https://www.facebook.com/CrystalBlockchainAnalytics>

Twitter: <https://twitter.com/@CrystalPlatform>