

# RSA® Conference 2018

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## Cryptocurrency Forensics and the Crime Barons of Cyberspace

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As you know, in 2009, was born the world's  
most accessible financial asset

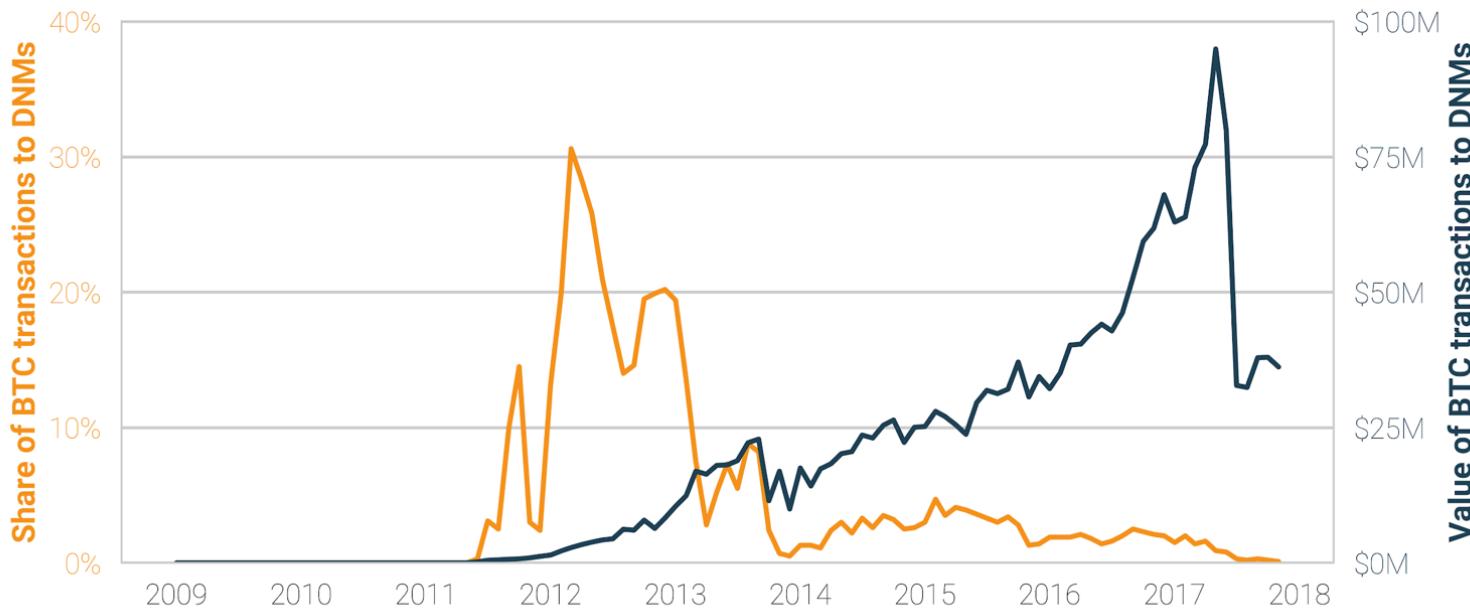




While this new financial asset has been used on Dark Markets, the market share of this activity has been dramatically falling



Darknet market's share of Bitcoin transaction values has declined,  
even while the absolute value has increased



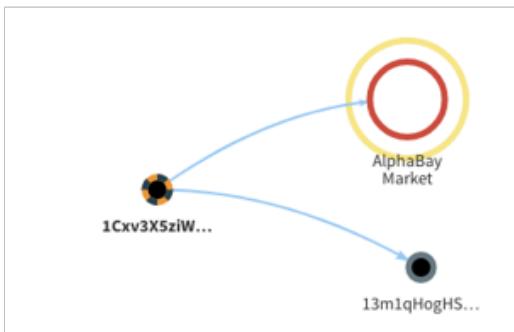


Blockchain analytics can be used to trace  
criminal activity on the blockchain

# Blockchain Analysis



e0a1cc426e6127d5d92d61a2f92a0ffaa2429a4d2cc51bf09e49409265d9fc77		
1Cxv3X5ziWHA6vkA5WBrJ4DrJu8CFV2K2n	→ 13m1qHogHShSm9Hc1yUUWdA2HN5XCVxpMg 14QxdYs9d7rSg47VpUrvsuQwxn4H5qH6H8	5.73544735 BTC 0.01387698 BTC
		5.74932433 BTC



Cluster:	1Cxv3X5ziWHA6vkA5WBrJ4DrJu8CFV2K2n	Balance:	0.000	Sent:	5.749	Received:	5.750	Fees:	0.001	Addresses:	1	Transactions:	2
Address		Balance	#TX										
1Cxv3X5ziWHA6vkA5WBrJ4DrJu8CFV2K2n		0	2										





# Blockchain analytics in action: The Silk Road



# 144,000 Bitcoin seized from Silk Road



# THIS HIDDEN SITE HAS BEEN SEIZED

by the Federal Bureau of Investigation,  
in conjunction with the IRS Criminal Investigation Division,  
ICE Homeland Security Investigations, and the Drug Enforcement Administration,  
in accordance with a seizure warrant obtained by the  
United States Attorney's Office for the Southern District of New York  
and issued pursuant to 18 U.S.C. § 983(j) by the  
United States District Court for the Southern District of New York

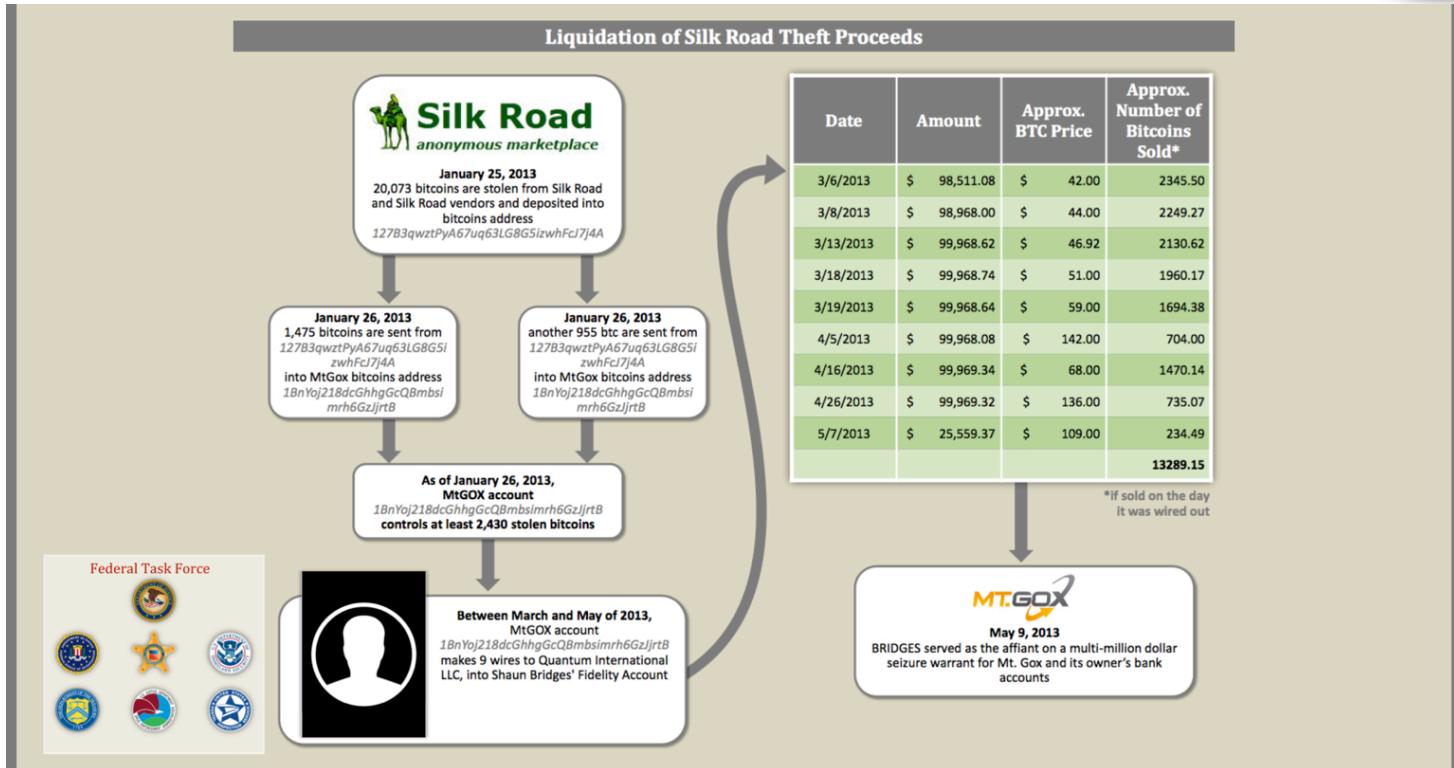




21,000 BTC more was found later....



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Blockchain analytics even allows governments  
to see transactions in real time...and to catch  
criminals in the act...





Notice 4x2135BA3E

# THIS HIDDEN SITE HAS BEEN SEIZED

*and controlled since June 20*

by the Dutch National Police in conjunction with the Bundeskriminalamt, Lietuvos Policia, Federal Bureau of Investigation and Europol, under the authority of the Dutch National Prosecutor's Office and the Attorney General's office of the Federal State of Hesse (Germany).



The Dutch National Police have located Hansa Market and taken over control of this marketplace since June 20, 2017. We have modified the source code, which allowed us to capture passwords, PGP-encrypted order information, IP-addresses, Bitcoins and other relevant information that may help law enforcement agencies worldwide to identify users of this marketplace. For more information about this operation, please consult our hidden service at [politielovh42eao.onion](http://politielovh42eao.onion).

This seizure was part of **Operation Bayonet**, which includes the takeover of Hansa Market by the National Police of the Netherlands and the takedown of AlphaBay Market by the Federal Bureau of Investigation of the United States of America on July 4, 2017.

 **HANSA**  **AlphaBay Market**

 **OPENBAAR MINISTERIE**

 **POLITIE**

 **EUROPOL**

 **HESSEN** |  **Bundeskriminalamt**

 **LIETUVOS POLICIA**

 **FBI** |  **DEA**

0x0161420



# Blockchain analytics in action: Setting the Stage - Mt. Gox

# Mt. Gox



- Launched in July 2010
- By 2013, Mt. Gox was handling over 70% of all BTC transactions
- By February 2014, 850,000 bitcoins had been stolen
- Valued at \$450 million at the time





## Blockchain analytics in action: Follow the Money - BTC-e



- Cryptocurrency exchange
- Started in 2011

BTC e



# Mt Gox heist



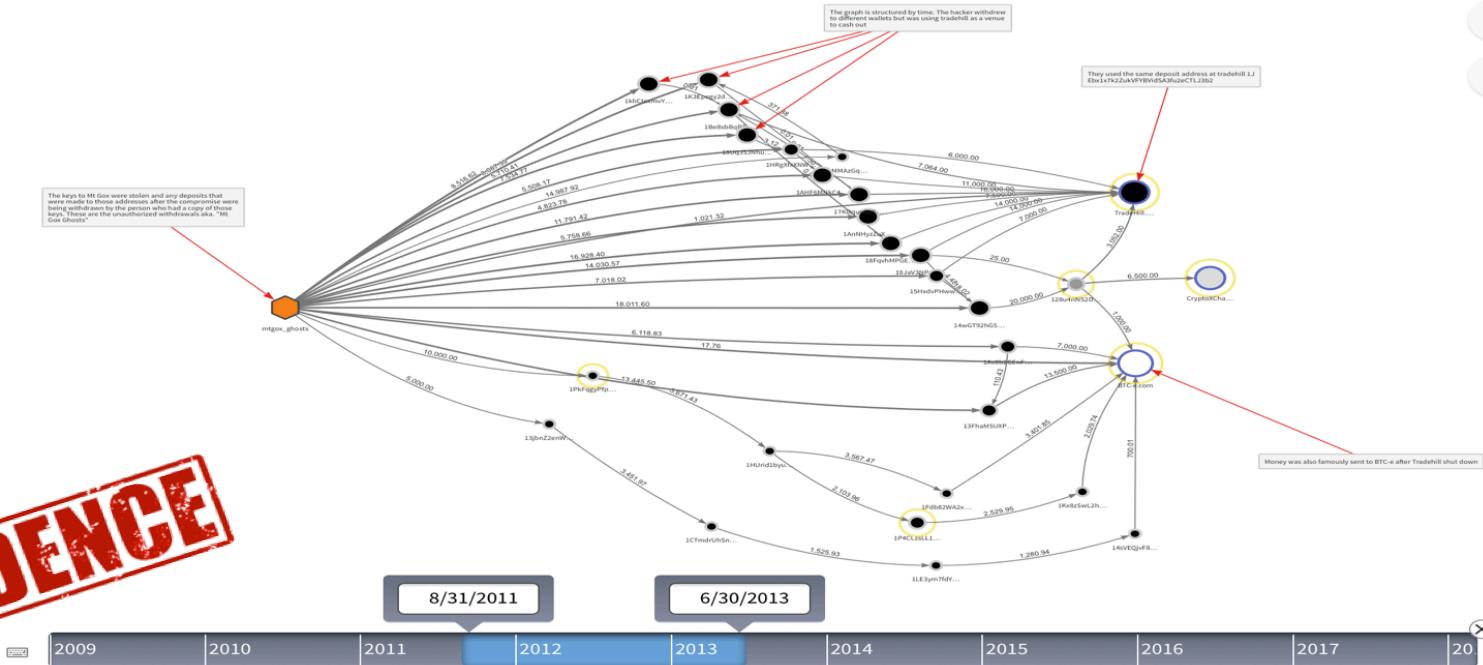
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Graph Name  
MtGox Heist



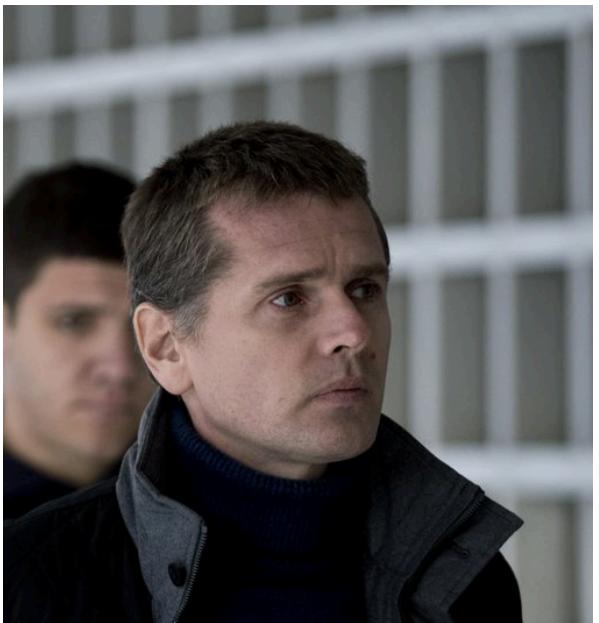
The keys to Mt Gox were stolen and any deposits that were made to those addresses after the compromise were lost. These are the unauthorized withdrawals aka "Mt Gox Ghosts".



# Alexander Vinnik



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INDICTMENT



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# Alexander Vinnik



- FinCEN fines BTC-e \$110 million civil penalty and Vinnik \$12 million penalty
- 21-count indictment for
  - money laundering;
  - conspiracy to commit money laundering;
  - engaging in unlawful monetary transactions; and
  - the operation of an unlicensed money transmitting business.



BTC e

INDICTMENT

# Questions?



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