



BANKSEALER

Catch financial frauds. The smart way.

ABOUT US

- Spin off

- **Politecnico di Milano (strong academic background)**

- Top engineering technical university in Italy



POLITECNICO
MILANO 1863

- **Secure Network s.r.l. (top industry experience)**

- Leading security firm in Italy



- **buildo s.r.l.s. (software engineering expertise)**

- Experts in delivering high quality software products

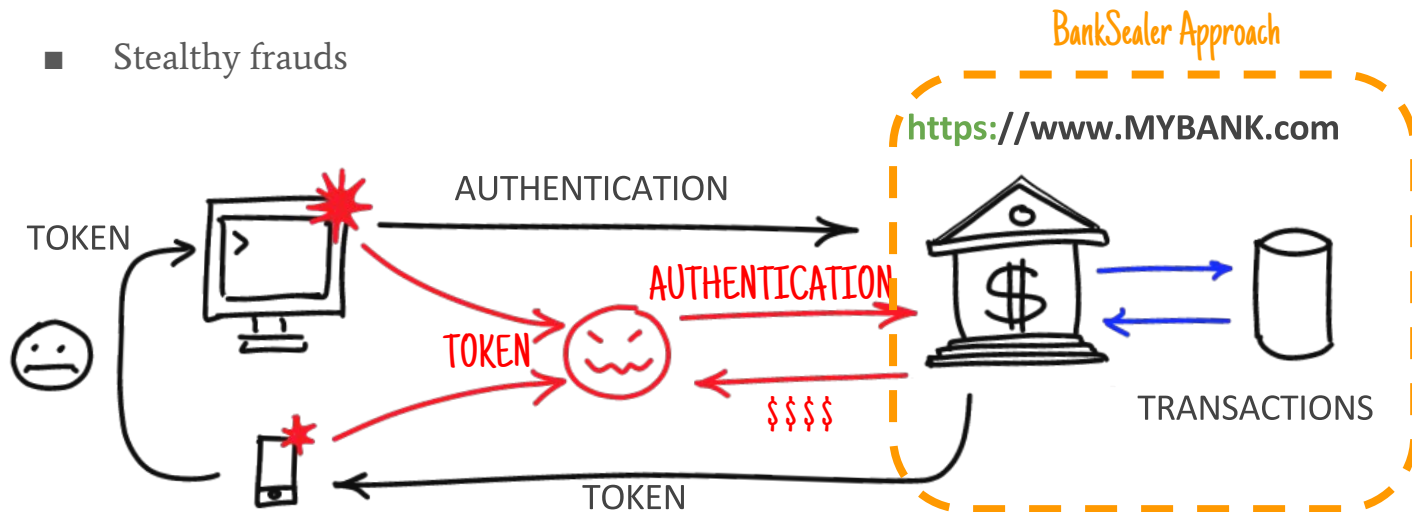




FINANCIAL FRAUDS

- Massive growth and adoption of Internet banking services
 - **EU28 Zone:** number of customers doubled from 25% (2007) to 50% (2015) [[Eurostat](#)]
 - **Italy:** number of customers grows from 10% (2007) to 30%(2015) [[Eurostat](#)]
- Increase of **online banking frauds** and **financial malware attacks**
 - In 2015 almost 2 million users attacked [[Kaspersky Security Bulletin 2015](#)]
 - *“Dyre Wolf Banking Malware Stole More Than **\$1 Million**”* [[IBM Security Intelligence](#)]
 - *“Online attackers steal **£20m** from UK bank accounts”* [[BBC](#)]
 - *“Hackers Stole **\$300 Million from 100 Banks** Using Carbanak Malware”* [[Kaspersky](#)]

- Man in the browser (MITB) and man in the mobile (MITM) trojans
 - Transaction hijacking
 - Stealthy frauds





WHAT ARE OUR COMPETITORS DOING?

- **Research-wise**
 - Few top-quality works (up to ~60% fraud detection capabilities) with several **limitations**:
 - Work in a **black box** fashion: little explanation attached to the identified frauds
 - **Non-adaptive**: cannot cope with an always-changing adversary
 - Tested only on **synthetic data**: would you deploy one of these tools in your infrastructure?
- **Industry-wise (Falcon, IBM, BAE, Actimize, Palantir - Anti Fraud, Simility)**
 - Large, **complex** products with strong, **same-vendor integration** and data lock in
 - **Horizontal**: claim they can catch **any** type of fraud
 - **Pricey!**



WHAT MAKES BANKSEALER DIFFERENT

- Born as a **research tool**, not a product
 - Focus on **quality** and **scientific** foundation (up to 95% fraud detection capabilities)
 - **Adaptive** by design
 - **White-Box approach**: Easy readable models and results
- Developed in cooperation with one of the **largest national banks**
 - Tested "**in the field**" during development
 - Useful **feedback** that actually **supports the analysts (threat intelligence)**
- Lightweight and **pluggable**
 - Not another IT monster
 - Based on **open formats** and well-defined APIs, can be **easily integrated** into your infrastructure
 - Cross platform: runs on any **operating systems**

THE DASHBOARD




BANKSEALER

 203 New Transactions Click here to reload

 Christopher ▾

Risky transactions

 Explore transactions

✓	●●●●	10900€	Mike Gill	02/10/2015 4:50 am	Transaction Details
✓	●●●●	3560€	Bruce Carroll	02/10/2015 4:56 am	Transaction Details
✓	●●●●		Kate Wilkerson	02/10/2015 3:38 am	Transaction Details
✓	●●●●	1600€	Jordan Powers	02/10/2015 4:21 am	Transaction Details
✓	●●●●		Floyd Houston	02/10/2015 2:21 am	Transaction Details
✓	●●●●		Jay Walton	02/10/2015 1:39 am	Transaction Details

Historical transaction data

 High Risk Transactions

WEEK

MONTH



13.245€

Total Amount
at Risk



215.000

Daily
Transactions

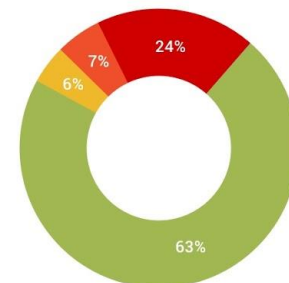
Analyzed Transactions



80%

+3.2% transactions/h

Risk percentages



- High Risk
- Medium Risk
- Low Risk
- No Risk

ANOMALOUS TRANSACTIONS

BANKSEALER

🔔 203 New Transactions Click here to reload

👤 Christopher ▾

Risk	Info	Amount	User	IP	IBAN	Operation	Date
●●●●		10900€	Mike Gill	51.11.1.1	RO49 AAAA 1B31 0075 93 84 0000	Bonifico Italia e SEPA	02/10/2015
●●●	User not very active	560€	Bruce Carroll	59.05.21.0	IT40 3456 5678 4567 34567 0909 987	Bonifico Italia e SEPA	02/10/2015
●●●●	👤!	1010€	Kate Wilkerson	55.01.09.11	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015
●●●●		1600€	Jordan Powers	151.01.11.02	DE85 3703 0044 0053 2013 00	Bonifico Italia e SEPA	02/10/2015
●●●●	👤+	1030€	Floyd Houston	163.01.11.08	IT40 5054 2811 1010 10000 0123 456	Giroconto	02/10/2015
●●●	👤!	2010€	Jay Walton	152.01.11.23	IT40 5054 2811 1010 10000 0123 456	Bonifico Italia e SEPA	02/10/2015
●●●		1400€	Abbie Barnes	62.01.11.20	IT40 5054 2811 1010 10000 0123 456	Bonifico Italia e SEPA	02/10/2015
●●●	👤!	1300€	Mina Harvey	72.01.11.10	IT40 5054 2811 1010 10000 0123 456	Bonifico Italia e SEPA	02/10/2015
●●●	👤+	1100€	Charles Beck	72.01.11.10	IT40 5054 2811 1010 10000 0123 456	Giroconto	02/10/2015
●●		90€	Stanley Morales	102.01.11.10	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015
●●		1130€	Antonio Griffith	102.01.11.10	IT40 3456 5678 4567 34567 0909 987	Bonifico Italia e SEPA	02/10/2015
●●		140€	Jordan Powers	101.01.11.10	IT40 3456 5678 4567 34567 0909 987	Bonifico Italia e SEPA	02/10/2015
●●		110€	William Peters	14.01.11.10	IT40 5054 2811 1010 10000 0123 456	Bonifico Italia e SEPA	02/10/2015
●●		34€	Iva Rodgers	103.02.11.10	DE85 3703 0044 0053 2013 00	Bonifico Italia e SEPA	02/10/2015
●●		21€	Hester Taylor	65.01.11.21	IT40 3456 5678 4567 34567 0909 987	Bonifico Italia e SEPA	02/10/2015
●	New user	678€	Jorge Hopkins	58.01.12.1	DE85 3703 0044 0053 2013 00	Bonifico Italia e SEPA	02/10/2015
●	👤+	43€	Emilie Erickson	14.01.11.10	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015
●		789€	Albert Jenkins	62.01.11.20	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015
●		56€	Jesus Reeves	72.01.11.10	DE85 3703 0044 0053 2013 00	Bonifico Italia e SEPA	02/10/2015
●		98€	Beulah Brady	152.01.11.23	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015
●		2356€	Max Kim	163.01.11.08	IT17 X060 5502 1000 0000 1234 567	Bonifico Italia e SEPA	02/10/2015

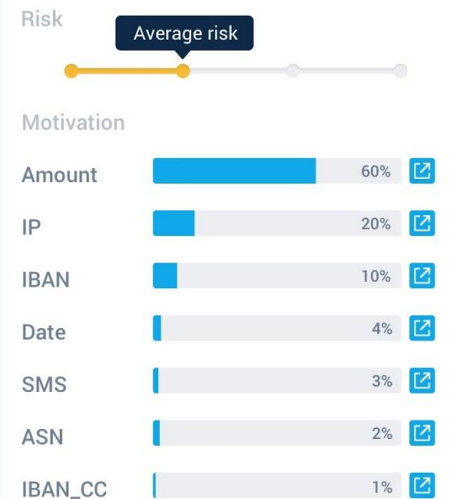
Jordan Powers

📈 Average monthly transactions 37

📅 Active since Gen. 2014

📊 Average monthly expenditure € 3670

Transaction #13412342



Mark as suspect

Flag as fraud

EXPLANATION OF ANOMALIES

BANKSEALER

🔔 203 Nuovi Risultati [Clicca per ricaricare](#)

👤 Christopher ▾

Rischio	Info	Importo	Utente	IP	IBAN	Operazione	Data
●●●●●		1900€	Mike Gill	192.01.09.11	IT40 5054 2811 1010 10000 0123 456	Bonifico	02/10/2015 4:50 pm
●●●●●		130€	Bruce Carroll	192.01.09.11	IT40 3456 5678 4567 34567 0909 987	Operazione	02/10/2015 4:44 pm
●●●●●	👤!	6000€	K				
●●●●●		345,678€	J				
●●●●●	👤+	200€	F				
●●●●●	👤!	1034€	J				
●●●●●		3456€	A				
●●●●●	👤!	346€	M				
●●●●●	👤+	987,546€	C				
●●●●●		122€	S				
●●●●●		23€	A				
●●●●●		121€	J				
●●●●●		2345€	W				
●●●●●		34€	N				
●●●●●		21€	H				
●●●●●		678€	J				
●●●●●	👤+	43€	E				
●●●●●		789€	Albert Jenkins	192.01.09.11	IT40 5054 2811 1010 10000 0123 456	Operazione	02/10/2015 3:11 pm
●●●●●		56€	Jesus Reeves	192.01.09.11	IT40 5054 2811 1010 10000 0123 456	Operazione	02/10/2015 3:08 pm
●●●●●		98€	Beulah Brady	192.01.09.11	IT40 5054 2811 1010 10000 0123 456	Operazione	02/10/2015 3:02 pm
●●●●●		2356€	Max Kim	192.01.09.11	IT40 5054 2811 1010 10000 0123 456	Operazione	02/10/2015 3:01 pm

Jordan Powers

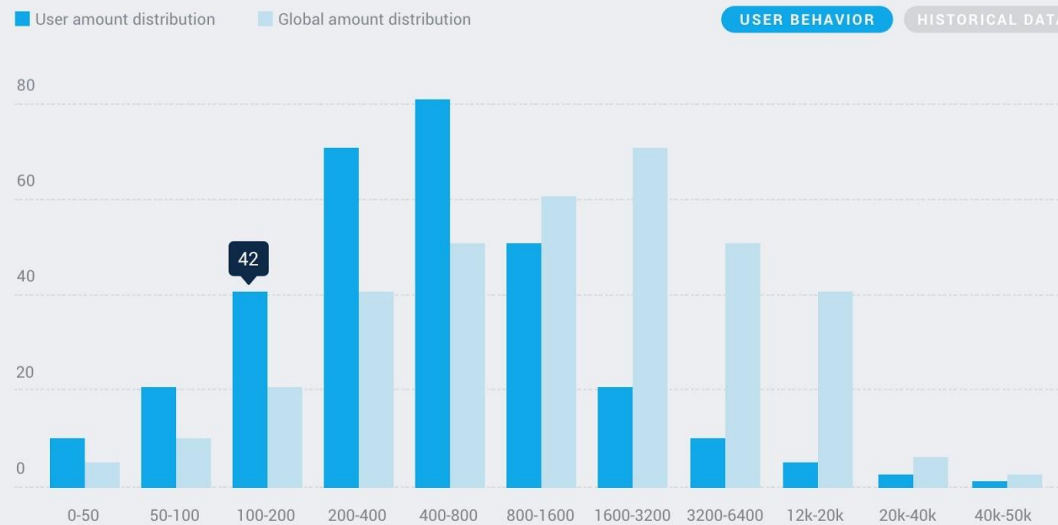
📊 N° medio transazioni mensili 37

📅 Anno da Gen. 2014

📈 media mensile € 3670

zione #13412342

Amount Analysis



User: Jordan Powers

Last update: 10:45 AM

Segna come interessante

Segnala Frode