r3



18° Congreso Latinoamericano de Tecnología e Innovación Financiera

The Impact of Blockchain Technology in the Financial System

September 19 2018

In the beginning...

Cryptocurrency

Bitcoin: A Peer-to-Peer Electronic Cash System

Satoshi Nakamoto satoshin@gmx.com www.bitcoin.org

Blockchain

Abstract. A purely peer-to-peer version of electronic cash would allow online payments to be sent directly from one party to another without going through a financial institution. Digital signatures provide part of the solution, but the main benefits are lost if a trusted third party is still required to prevent double-spending. We propose a solution to the double-spending problem using a peer-to-peer network. The network timestamps transactions by hashing them into an ongoing chain of hash-based proof-of-work, forming a record that cannot be changed without redoing



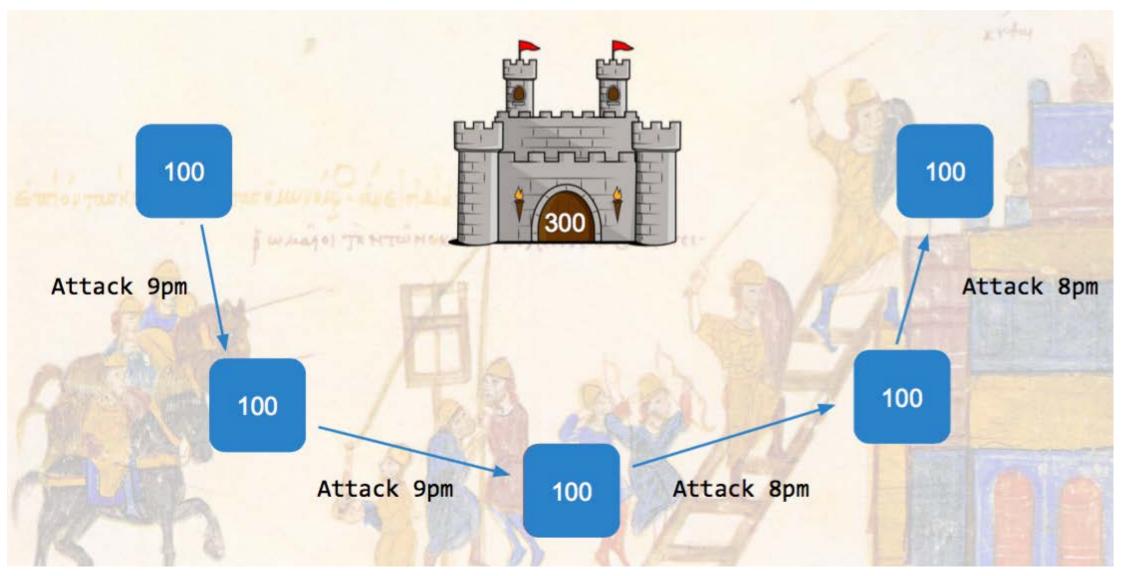
Proof-of-work

Mining

1. Byzantine General Problem



1. Byzantine General Problem



r3.

1. Byzantine General Problem



2. Double Spend



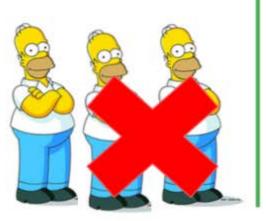
r3.

Blockchain = Source of Truth

1) Byzantine General Problem







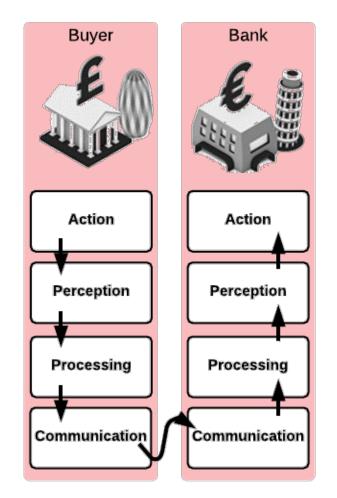




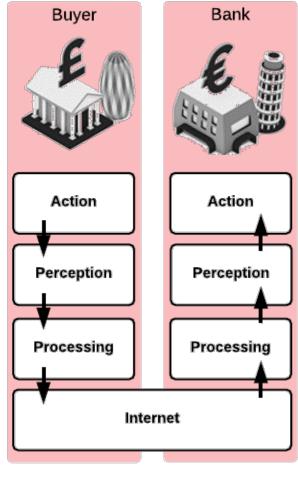


r3

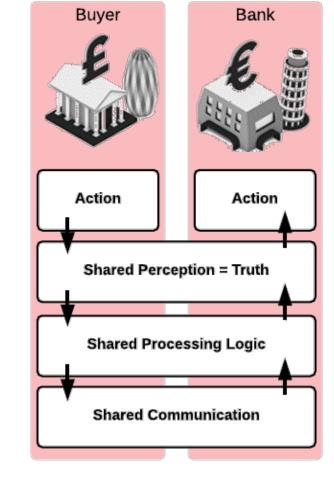
The Significant Evolutionary Step of Blockchain



Before the Internet









13

Inception of R3

Our members led us to research the role of blockchain in financial services

Developing an acute understanding

- R3 was founded through a realization that blockchain could be transformative for the operational challenges within financial services
- First R3 roundtable was attended by eight banks in Sept 2014 to understand the appetite within financial services
- 1st proof of concept delivered for FX settlement on blockchain
- •R3 became the formal advisor to 42 bank members in Nov 2015
- R3 launched the Architecture Working Group, Product/Use Case Working Group, and Regulatory Working Group to drive understanding

* UBS

MUFG BBVA HSBC

Developed in collaboration with the industry



Addressing the needs of financial services The creation of Corda

We established the need for a bespoke blockchain solution for financial services. This did not exist, so we created Corda.

- An audit of blockchains proved nothing could stand up to the complexity, regulatory demands and rigor needed for financial services
- This led to the realization that this must be created by R3.
 This was the inception of Corda

- Corda was made public in April 2016, and open-source in November 2016
- Additionally over 50+
 members joined the original
 42 bank members

Corda is uniquely architected for privacy, interoperability and immutability

MUFG BBVA HSBC

Woes of Traditional Blockchains



Slow

Trapped assets

Key Benefits of Blockchain Platforms



Immutability

Records are stored in a tamper-proof manner that assures provenance



Validity

Assures parties that proposed updates to the ledger are valid



Consensus

Potentially untrusting parties can reach agreement about shared facts



Uniqueness

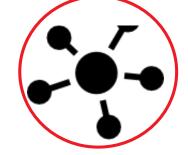
Conflicting ledger update proposals cannot be committed

Corda is Unique

Corda Uniquely Solves Two Key Blockchain Challenges



Data is shared at the level of individual deals or agreements or trades or contracts, with only the transactions needed to verify provenance being shared and no more

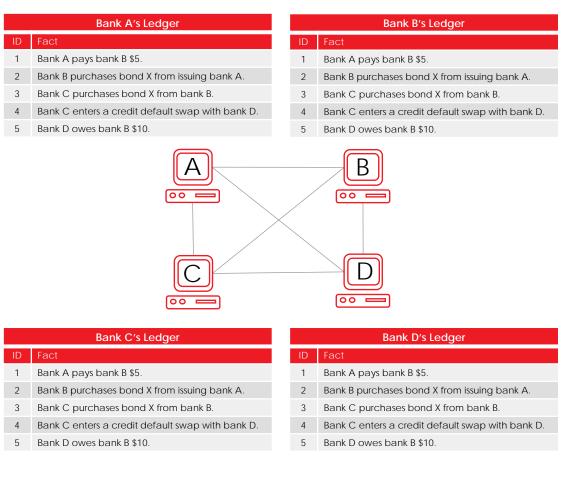


Interoperability

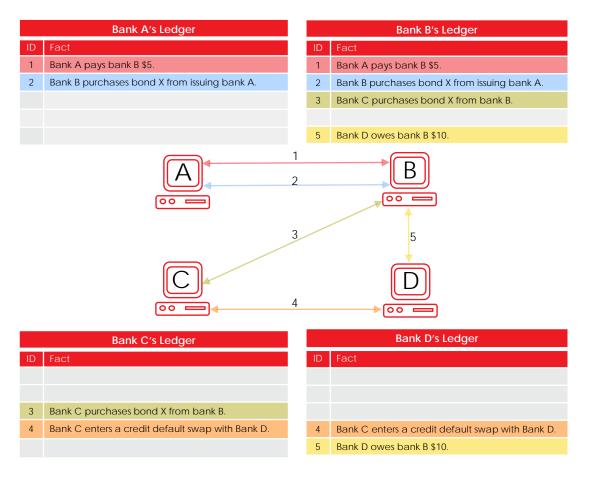
Privacy should not come at the expense of interoperability of Corda nodes. Corda retains this privacy but allows any node to transact without creating islands of assets or liquidity issues

Data Privacy

Broadcast Blockchain

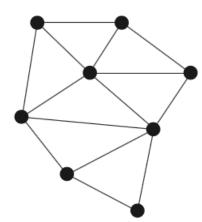


Corda



p16.

Platform Comparison



Bitcoin / Ethereum

15

- **RIGHT VISION**: Global interoperable network
- WRONG DESIGN FOR ENTERPRISE: Privacy, scalability, programming model R3 - Private and Confidential Wrong for enterprise

Fabric / Quorum

• WRONG VISION: Isolated silos with trapped assets

 WRONG DESIGN FOR ENTERPRISE: Privacy, scalability, programming model
 wrong for enterprise



✓ RIGHT VISION: Global interoperable network

✓ RIGHT DESIGN FOR ENTERPRISE:

Privacy, scalability, programming model designed for enterprise

17

Where we are now

Blockchain becomes live within financial services:

Driving change with deployment

MUFG BBVA HSBC

NG 🂫 🗱 UBS 👔

- Corda 1.0, Corda 2.0, Corda 3.0 and R3 Corda developed for our first Enterprise deployment, including 50+ CorDapps that are currently in development
- The world's first Corda production pilots have occurred, with Calypso/BBVA, Cognizant/Mizuho Blue Ocean, Commerzbank ECP / CS / ING
- Over 80 partners connected including technology partners, systems integrators, consulting firms, and software developers.

from projects to applications, members to partners for at h HQLA× accenture

TRADEIX

FINASTRA

CALYPSO

ChainThat

Microsoft

Hewlett Packard

TRADEWIND

Partners: Building the ecosystem to support Corda.





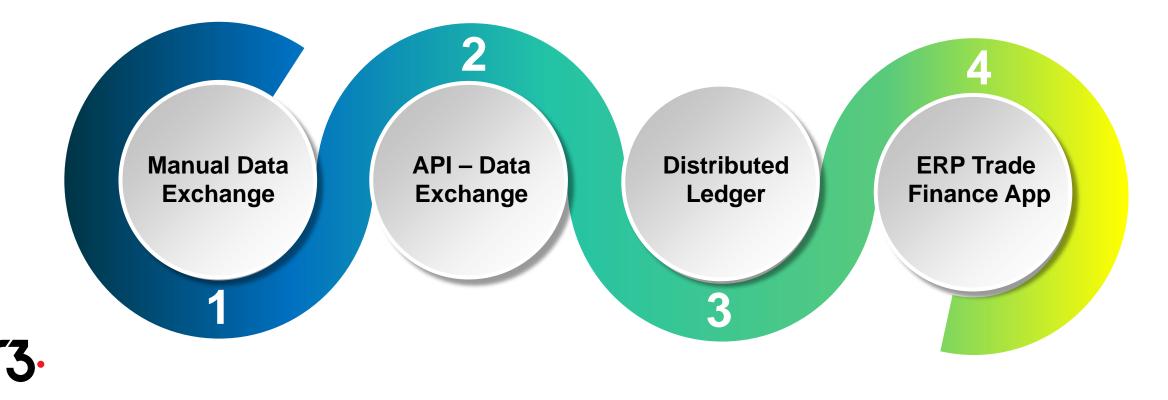
18° Congreso Latinoamericano de Tecnología e Innovación Financiera

Global Trade

September 19 2018

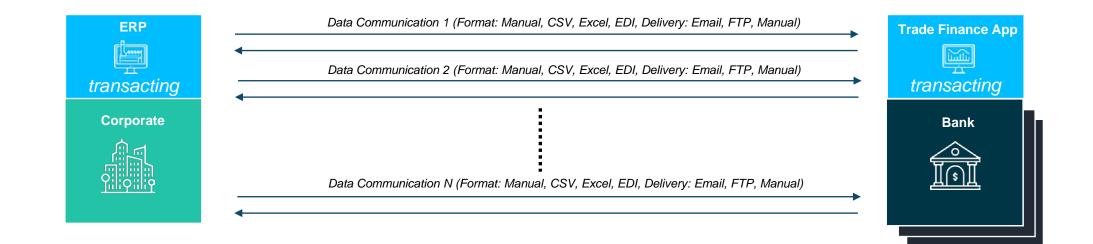
Data Exchange and Collaboration

Evolution, from Manual to Fully-Automated End-to-End Data Exchange





Phase 1: Manual Data Exchange

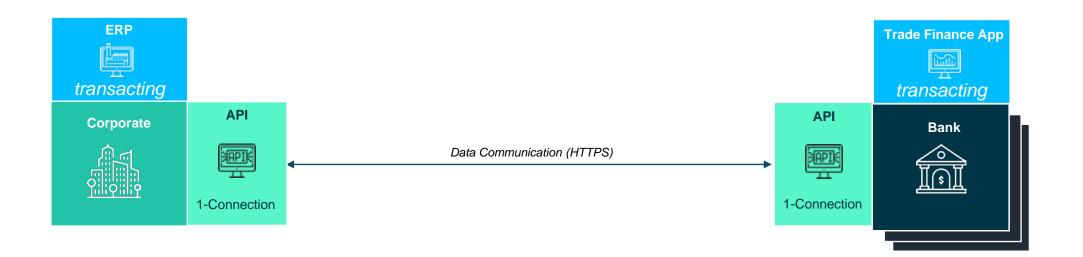


Yesterday and still used today

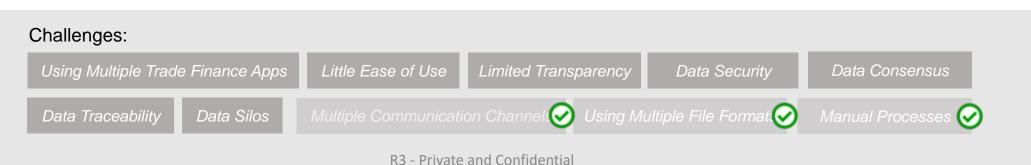
Challenges:						
Using Multiple Trad	le Finance Apps	Little Ease of Use	Limited Trans	sparency	Data Security	Data Consensus
Data Traceability	Data Silos	Multiple Communication Channels		Using M	ultiple File Formats	Manual Processes



Phase 2: API – Data Exchange

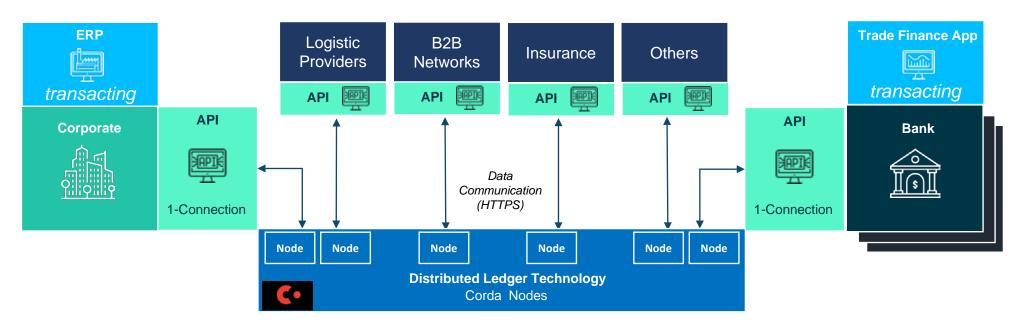


Today and the new standard going forward

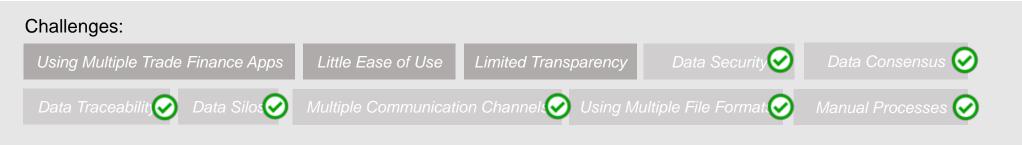




Phase 3: Distributed Ledger



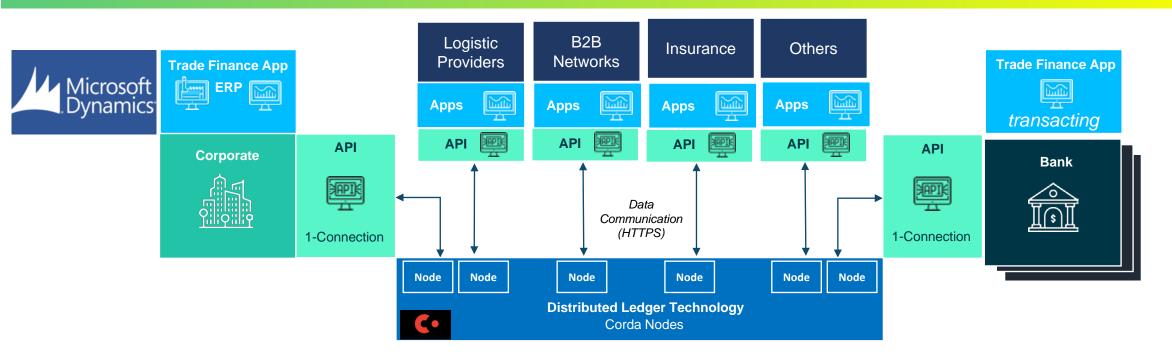
This year and the future



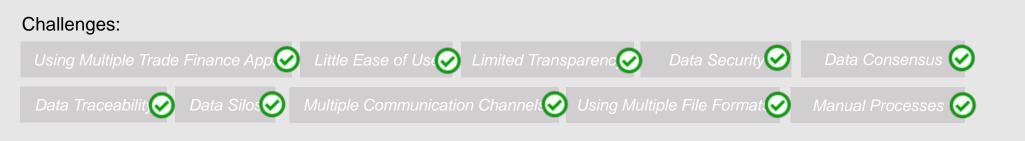
R3 - Private and Confidential



Phase 4: Customer ERP Trade Finance App

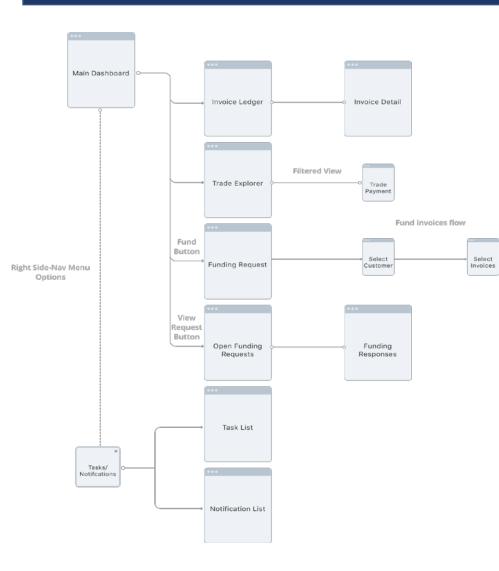


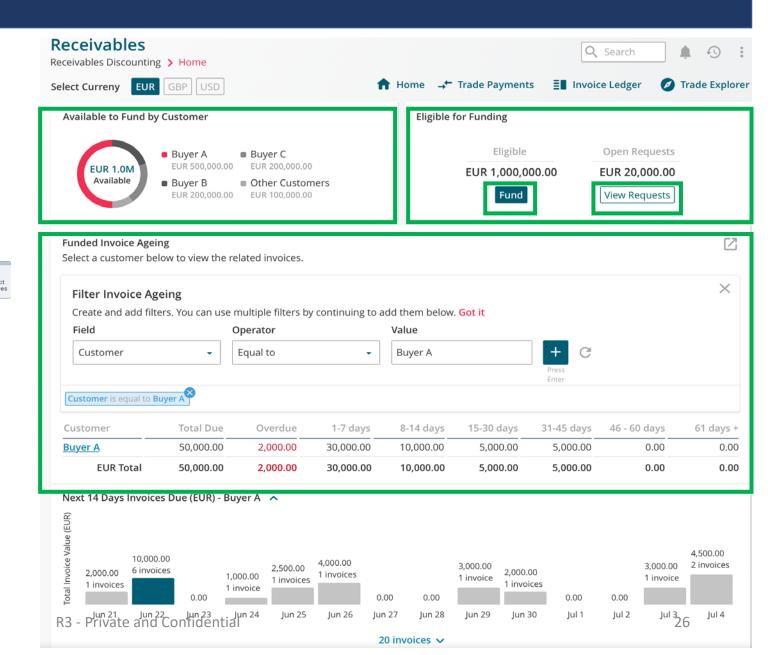
Tomorrow and the future



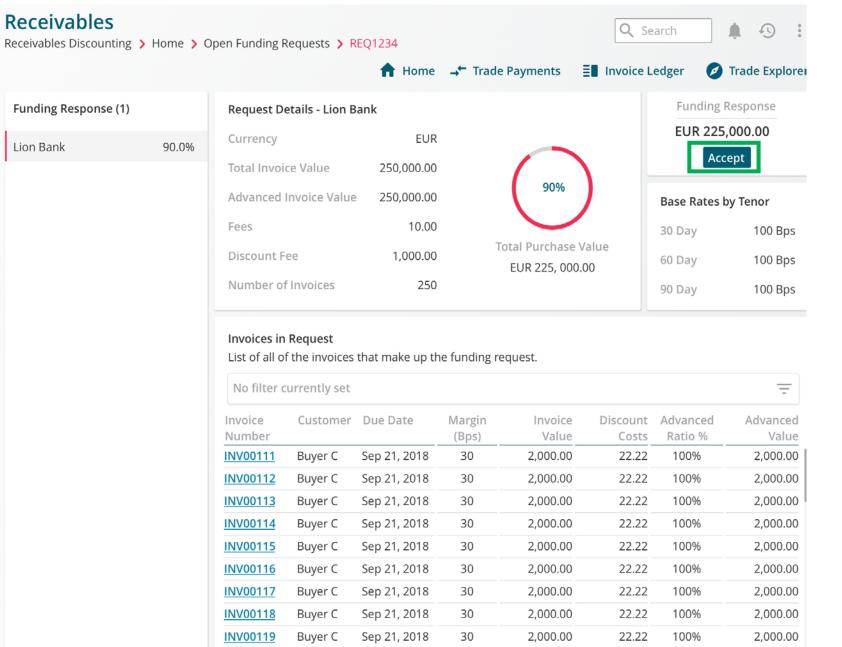
R3 - Private and Confidential

Trade Finance Application User Experience





eceivables eceivables Discount	ing > Home > Select	Customers > So			Frade Payments	Searce Ledg	
Set Funding Target	t Value			F Home →	Irade Payments		
Enter target value	Step 2 of 2 Back Submit Enter your Target Value for financing below and invoices will be selected that best meet that target for your offer. ⑦						
ailable Funders (2)						
Lion Bank EUR 250,000.00 Net Credit EUR 50,	,000.00						
Credit Limit Net credit availab	EUR 700,000.00		Your fun	ding Request Submitte ding request has been hitted to Lion Bank	d	Show Less Funding F	Request Information 🧳
		00.00		/iew Response Return Home	Show L		
Selected Invoices		000.00	Current Offer	EUR (250,000.00)		ere verset beleve C	vitabing batware
Total Available (25	-	° 250,0	Net Credit Availabl	e EUR 50,000.00		our request below. Sv ted invoices Advance	
Total Selected (250	O) GBF	° 250,0 00.00					
No filter currently	/set						-
Customer	Invoice Number	Maturity Date	Tenor	Currency	Invoice Value	Funder Adv. Ratio	Funder Adv. Value
Buyer C	INV00111	Sep 21, 2018	60	EUR	2,000.00	100%	2,000.00
Buyer C	INV00112	Sep 21, 2018	60	EUR	4,000.00	100%	4,000.0
Buyer C	INV00113	Sep 21, 2018	60	EUR	1,000.00	100%	1,000.0
Buyer C	INV00114	Sep 21, 2018	60	EUR	1,000.00	100%	1,000.0
Buyer C	INV00115	Sep 21, 2018	60	EUR	1,000.00	100%	1,000.0
Buyer F	INV00116	Sep 21, 2018	60	EUR	1,000.00	100%	1,000.0
Buyer F	INV00117	Sep 21, 2018	60	EUR	2,000.00	100%	2,000.0



eceivables	g > Home > Invoid	e Ledger			Q s	earch 🌲 🕤
			A Home → Tra	de Payment	s 🗐 Invoice I	Ledger 🖉 Trade Explor
Invoice Ledger						
No filter currently s	et					7
Invoice Number	Supplier	Customer	Status	Currency	Invoice Value	Created Date
INV000125	Supplier A	Buyer A	Trade Payment	EUR	3,000.00	Jun 20, 2018 12:30PM
INV000334	Supplier A	Buyer A	Eligible	EUR	4,000.00	Jun 20, 2018 12:30PM
INV000335	Supplier A	Buyer A	Eligible	EUR	1,000.00	Jun 20, 2018 12:30PM
INV000336	Supplier A	Buyer B	Eligible	EUR	1,000.00	Jun 20, 2018 12:30PM
INV000337	Supplier X	Buyer B	Funding Requested	EUR	1,000.00	Jun 20, 2018 12:30PM
INV000339	Supplier B	Buyer B	Funding Requested	EUR	1,000.00	Jun 20, 2018 12:30PM
INV000340	Supplier B	Buyer H	Funding Requested	EUR	2,000.00	Jun 20, 2018 12:30PM
INV000344	Supplier B	Buyer H	Funding Requested	EUR	2,000.00	Jun 20, 2018 12:30PM
INV000450	Supplier B	Buyer G	Eligible	EUR	2,000.00	Jun 20, 2018 12:30PM
INV000451	Supplier T	Buyer G	Eligible	EUR	4,000.00	Jun 20, 2018 12:30PM

Receivables

Receivables Discounting > Home > INV000125 Detail

Q Search

ril 23, 2018		00425		5UD 2 000 00
33 PM	Invoice - INVC	000125		EUR 3,000.00 Invoice Value
Accepted	Buyer/Supplier Detail		Invoice Detail	
0 PM	Owner Name	Supplier 1	Reference	REF0012
Pilgible	Supplier Name	Supplier 1	Invoice Date	May 27, 2018
0 PM	Buyer Name	Buyer A	Payment Due Date	Jul 27, 2018
لَّانِ الْعَامَةِ Funding Requested	Site ID	SID123	Trade Date	Jun 1, 2018
			Trade Payment Date	Jun 2, 201
O PM	Invoice Value			3,000.0
Proposal Pending	Advance Rate Value			3,000.0
The invoice has been included n a funding request for which proposals are being solicited			Total Value	EUR 3,000.0
11, 2018	▲ Audit Details			
PM	Document Key Invoice NID100-INVNUI	M-000000010404181243	4 Kalpiksupplier TradeIXApi	
	Document Submitted	Apr 23, 2018 12:30 PM	Entity	xxxxxxxx
	Document Confirmed	Apr 23, 2018 1:30 PM	User	Albert Koni
) PM	Blockchain	Corda	IP Address	168.123.12

🕑 ★ 🙆 Activities Billing Customers Vendors Payroll and HR Financial Reports Documents Setup Analytics Payments A/R ING A/R A/P Fixed Assets Sales Audit Vendor Prepayment Support

ING A/R

KPI Meter	- 6) Producer Dashboa	rd	Invoice Ledger				Eligible for Offer		
Receivables	•								ON OFFER	
Baratashia	Financing USD -							8,051,945.82	0.00	USD
Receivables 2.9M	USD 80,210,900.14 Eligible Invoice Value		USD 21,000,000.00 Facility Credit Available		USD 69,00 Facility Credit Utili			13,843,521.66	0.00	GBP
		-	a many second second			29939 		FUND	(MBW CHTERS)	GBP
	+5% vs tas	A year	-9% vs last year			+14% vs inst year	\sim	21,305,549.81	0.00 (VEW CEFFEE)	EUR
3.2M	Trade Explorer						*	Next Bids to expire		
	Involce Number	Buyer	Status	Amount	Currency	Date	Time			
Monthly Receivables Trend	INVNUM-45-00004	Albertsons (B1)	Bid Accepted	693,537.03	EUR	May 14,2018	3:10:03 PM			
	INVNUM-45-00003	Albertsons (B1)	Bid Accepted	2,384,277.02	EUR	May 14,2018	8:05:27 PM			
Monthly	INVNUM-45-00035	Cub Foods (B4)	Settlement Confirmed	4,674,180.89	USD	May 14,2018	8:03:53 PM			
	INVNUM-45-00001	Albertsons (B1)	Settlement Confirmed	202,509.86	GBP	May 14,2018	8:03:53 PM			
Monthly Receivables	INVNUM-45-00027	Cub Foods (B4)	Bid Accepted	635,983.59	USD	May 14,2018	7:56:20 PM			
3.00M	INVNUM-45-00024	Costco (B3)	Bid Accepted	93,429.14	USD	May 14.2018	7:56:20 PM			_
	INVNUM-45-00007	Albertsons (B1)	Bid Accepted	3,532.95	USD	May 14,2018	7:56:20 PM	A/R Aging	31 👻 TOTAL: 26	
2804	INVNUM-45-00045	Tesco (B9)	Eligible	2,377,381.55	EUR	May 14,2018	7:44:55 PM	4476 11 5,000	31 V TOTAL 20	
	INVNUM-45-00045	Tesco (B9)	Eligible	3,667,057.11	EUR	May 14,2018	7:44:55 PM			
2.60M V 1. /	INVNUM-45-00043	Tesco (B9)	Eligible	994,232.68	EUR	May 14,2018	7:44:55 PM	4,000		
Leave a comment	INVNUM-45-00045	Tesco (B9)	Eligible	4,848,543.09	EUR	May 14,2018	7:44:55 PM	3.000		
2.40M on this design!	INVNUM-45-00043	Tesco (B9)	Eligible	3,356,840.39	EUR	May 14,2018	7:44:55 PM	3,000		
😫 > Handoff 🔍 No comments	INVNUM-45-00052	Cub Foods (B4)	Bid Accepted	635,983.59	USD	May 14,2018	7:56:20 PM	2,000		



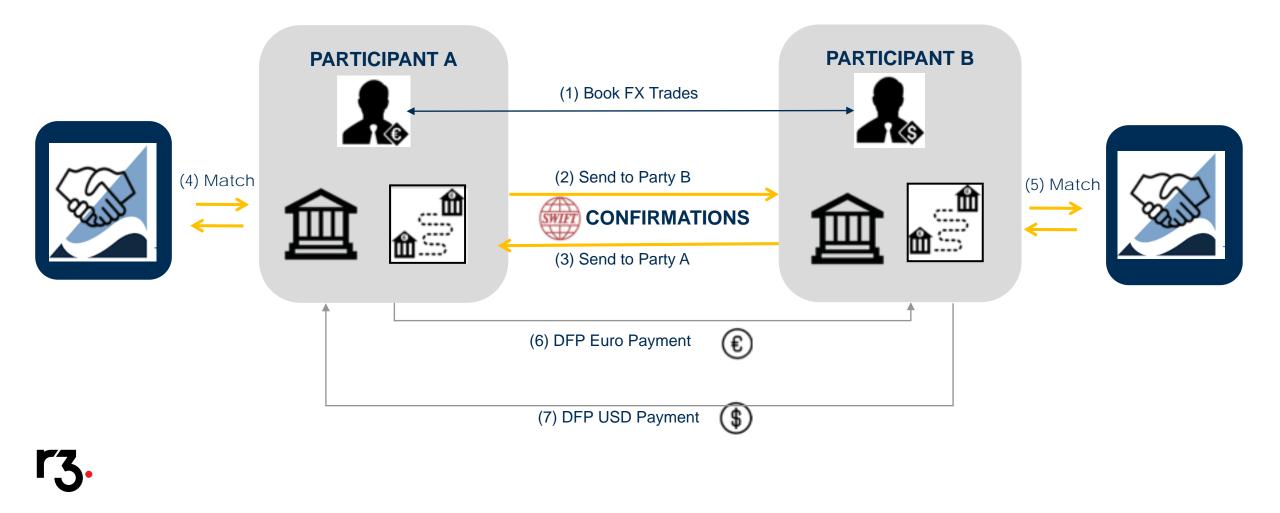
18° Congreso Latinoamericano de Tecnología e Innovación Financiera

Capital Markets

September 19 2018

Current industry process





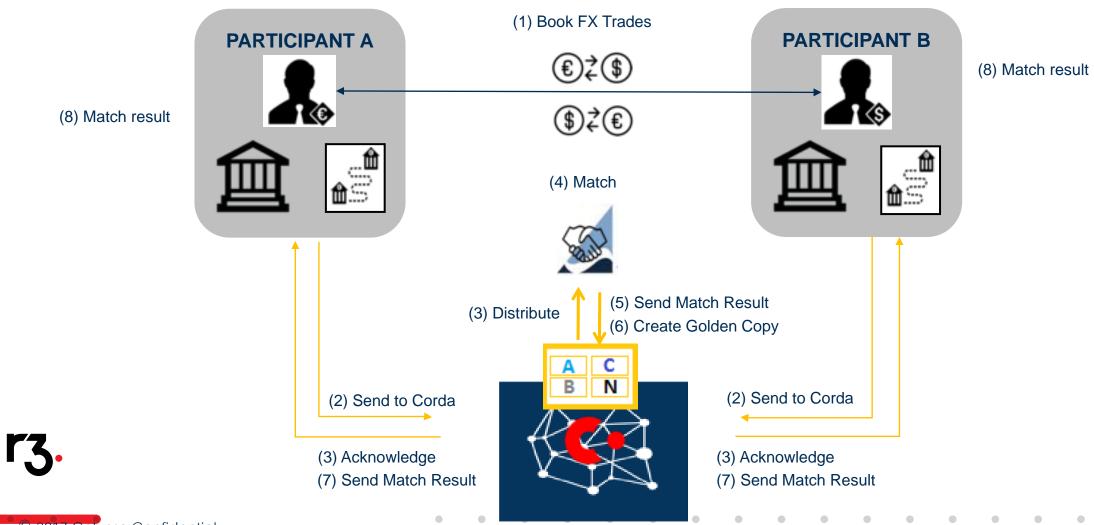
Pain points





New Blockchain FX matching process







18° Congreso Latinoamericano de Tecnología e Innovación Financiera

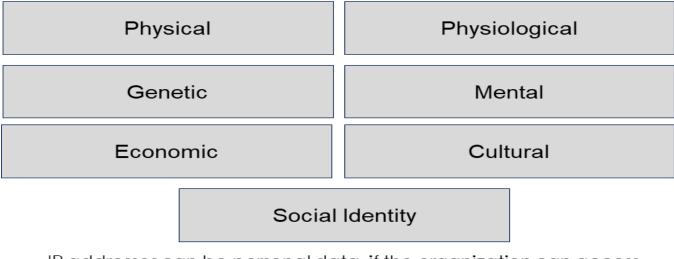
Digital Identity

September 19 2018

What is Personal Data?

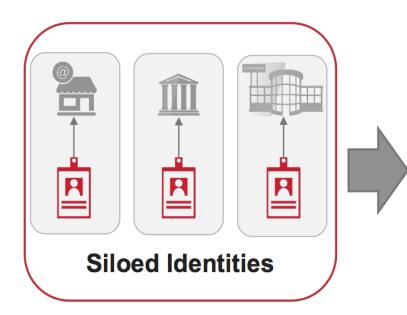
Name (Common names excluded)	Telephone Number
Address	Email Address / Log In Details
Identification Number	Location Data

- or factors related to:



• IP addresses can be personal data, if the organization can access other information linked to that address that identifies an individual

The Evolution of Digital Identities



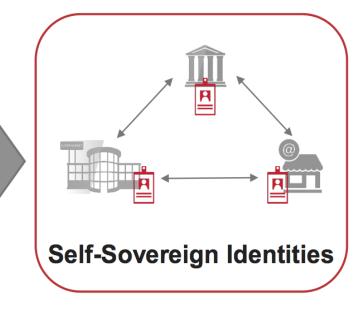
- Each entity maintains IDs
- Data honeypots
- Multiple or reused usernames/passwords

• IDP controls & manages IDs

Federated Identities

R

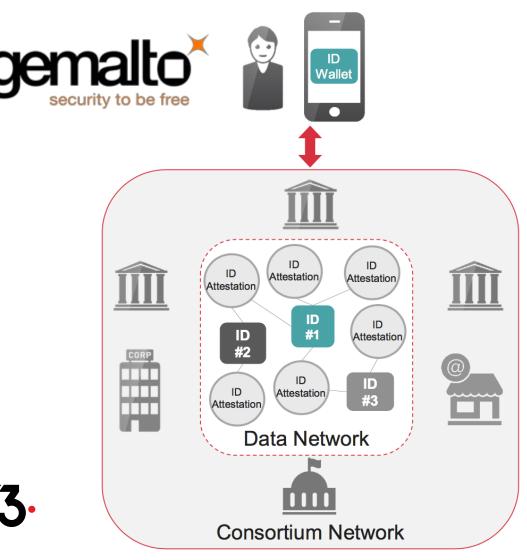
- Unique authentication credentials
- API framework to connect data silos



- End users in control of their IDs
- No central authority
- Leveraging multiple existing KYC sources
- Distributed trust and data
 integrity through Blockchain



Trust ID Network - Decentralized identity controlled by users



- A decentralized framework simplifying access to verified ID
 - Self-sovereign identities fully controlled by end users
 - Federating all digital ID attributes into a decentralized ID
 - Seamless UX through ID wallet no user interactions with the Blockchain

A secure distributed network of data

- Verified ID attestations stored on a financial grade distributed ledger
- Sensitive personal data stay off the Blockchain
- End-to-end data encryption and minimization
- Ecosystem governance led by a consortium
 - Define the organization, operating and certification rules
 - Provide support for technical implementation
 - Implement a sustainable commercial model



18° Congreso Latinoamericano de Tecnología e Innovación Financiera

... and how many others?

September 19 2018

TIPS At 1976, we believe that digital banking is only 1% finahe.	PCOMm Founded in 1985, 700Mm is recognized as a millisence in servi.	ABN AMRO ABN AMRO Bork NV. Is o Dutch bank with hesologizatiens in Arnet.	Chain Ninja Chain Ninja often hotelis solutions that anompose people.	ChainNova ChainNova is a first-class high-soch company faunded by Zhan.	ChainThat ChainThat provides enterprise selutions that allow insurers	HPE Serre of our customers run traditional If anxingmments.Most_	HQLAX HQLAX HQLAA provides market participants with a platform that help.	HSBC HBBC Holdings plic is a British multinational banking and fin.	Post Oak Labs Our mission is to assist organizations in unsignationaling and	Protiviti Protiviti is a global consulting from that relations, dauge exp.	QNVI is a payment service that enables Instances to make pay.
Accenture Accenture solves our clients' toughest cholenges by provid.	arrillies Accuarion The focus of Acoustion is to build a plotform that leverages.	Acculty Acculty Acculty afters a suite of innovative solutions for payments .	Chappuls Holder Chappuls Holder works as one with our clients in global and	Citing Marchants Bank Orling Marchants Bank (CMB) is a Otherwee bank headquartered L	Chinecy Chinecy has been providing an online celeborative platform	HSBIox HSBIox Is on Attorner based team of heathreare and financia .	Huawei Isuewei is a teoding global provider af information and commu	I Am Consulting I AM Consulting is a professional consulting business which -	R3 Is the anterprise software firm working with a network of	RBI Isathaisen itamk international AG (HB), founded in 1991, 16 _	CE Banque RCI Banque 1A, teiding as RCI Bank and Services; and formert.
Adaptive Adaptive specalities in financial and trailing technology with.	AIA AIA Group Limited, shown as AIA is the largest public late.	AIG American International Droup, the, also Inner as AID, is an.	CIBC The Canadian Importal Bank of Commerce (Prenatic Bank of	CIENT CLENET	Citibank Otbank is the consumer division of financial services mult.	Infosys Infosys Infosys is a global lander in technology benrices and consul.	Finale is a core banking product developed by redien corpor.	INC The NG Group is a Dutati multinational bening and financial.	Royal Bank of Canado The Royal Bank of Canada (RBC) is α Canadian multinational f.	Royal Bank of Sootland The Royal Bank of Sootland Group ple (BBS) is a bonking and	Satoshi Systems Were a Bockchain & other amerging technologies company fer.
AKoncepts Akoncepts is a full-service Blacktholm company dedicated to	Alfo Bonk Appro Bonk is the fourth largest times bonk by totel assets	Allied Irish Bank Allied stern Banes (All Circup pic) is one of the so-colled B.,	O CLS Group CLS (originally Continuous Linese sattement) is a specials.	CMA CMA neps its clients from financial services industry gain .	CodelT code1 Code1 cotes: innevative sources that make the difference .	Instimatch Our digital network evapties a diverse community of instituti.	Intel Hameseng the copobility of the idead, the ubiquity of the _	IntellectEU Preserver Pres	SAUE Source British Bank The Source British Bank Bank The Source British Bank Bank	SBI SAC Orbus, somalismes referred to as strongic dualness since,	SBI Bank LLC Set form LLC appreciate on a commercial bonk that provides ret.
AlphaPoint AphaPoint is d financial technology company helping moles it.	Amazon Amazon Web Services (AWS) is a subalificity of Amazon.com (bot.	AOS SOS AOS' mission is to provide consulting and implementation are.	Cognizant Cognizant (Headag-100, CTB-0 is one of the world's leading p.	Coinplug Coinplug provides bitcain exchange. wellet, distingand and pp.	Commercial Intl. Bank Commercial Viterrational Revix (CB Egypt) S.A.E. in an Egypt.	Interxion Vitaneous is the interconnection hub for the word's leading.	Intesa Sanpaolo Intesa Barposto is un italian bonking group resulting from t.	ISID Bross the establishment of BD as a joint verture between 0,	Starus Scopus Founded in 1976 in the city of Soc Paula. Scopus here grows L.	SER Bionofroviesa Ensilos Barken AB. Sosnofroviesi instituidust Ita.	servetive Servettive Stabulation Information technology company focusit.
Appway Appway builds toftware for today, and innovates for the tech.	ARSOKOS Corporation A company disdicated in combining orbit and economics, lawerag.	ALCosh ALCosh Helps traditional financies irethundore strapming	Commerzbank AG Genymerzbank AG is a Deman banking and financial services co.	CommodDT CommodDT is building the communication kayer running behind _	Cordite Foundation Cordite Foundation is a group of Isocial services comparie.	Itaŭ Unibanco Itau Unibanco le o publicij- nela compony which, together will,	▲ cox JUX JUX .tox is a global consulting company specializing h aligning.	ertenne KB Kookmin Bank Bit Rookmin Bank was founded in 1953 und is headquartered in _	Shinhan Bank Shinhan Bank Shinhan Bank, Iki di bank headquartered In Secut, South Kongo	SIA SIA is Lungbersh leader in the design, creation and managemen.	Smart Communications Innert Communications August the world's largest exterpolates s.
ATB Bank Aberts Treasury Branches, doing business as ATB Prendict.	azpire has launched its lotset technology insovation into th.	AXS AXS Isolutions is focused on providing unique and innevetive	Bone de Crédicorp Bank Bane de Crédite de Perú (Crédicorp Bane) la the largest ba.	Credit Suisse Credit Suisse Oroup is a Swise multinational investment bank.	Cross Vorify The Digital Trust Stendity Notwork will work with government.	KEB Hana Bank KEB Hana Bank formely Korea Eschange Bank, together with L	KPMO US KPMC is continues in build on their member fermi "successed	Louce Lorge Create Union Consertium (LOUC) represents M largest c.	SMBC Sumitories Mitsui Banking Corporation (SMBC) is a Japaness mul.	SnapChock SnapChock is a high speed, highly secure, and universality are.	Société Généralo Société Bendrois S.A. is a Pranch multinationat banking and
B3 S.A Brasil, Bolso, Balcão 83 S.A Brasil, Bolso, Balcão 83 S.A Brasil, Bolso, Balcão II; one of the word? larges.	Bain & Company When some asks what we do at earry it's someting to point	BAML Bank of Amarica, Merrill Lynch Is on American multihadionel ,	CryptoBLK CryptoBLK CryptoBLK is a technology company tocusing an developing, ce.	CTBC CTBC isonic ils amongst the longest privately owned bartis in Ta.	Doliva Securities Group Doliva Securities Group Inc. Is a apparese investment bonk thu	●Laces LG CNS LD. CMS is a global If service provider delivering values bay.	 JoanXchain Isontichain is a finitech startup aming at revelutionizing th. 	Lucid-IS Lucid-IS Lucid-IS desensive experience of deter copital markets, c.	solace Systems Solace Systems solace technology enables open data movement by routing into.	Sovrin Sovrin is a deservatived, global public utility for sett-so.	Standard Chartered Standard Chartered (%) is a shtah multihational banking on.
Banca Mediolanum Banca Mediolanum SpA is on Italian Italik, insurance and as.	Banco Bradosco S.A. The Service Network of the Bradesco Organization is present	Bongkok Bank Bongkok Bank Public Company Limited Is ense of the largest es	Bent Bent Donske Bank Donske Bank is a Donskh bons where name also Startily trans.	Bopps Inc. Dopps Inc. Is the world's #1180 (Interprise Biostehelis Comp.	DataLakors DataLakors DataLakors Te many of the hig do.	LUXOFT LUXOFT Luxoft (VYSE1287) is a global IT service previder of impus.	Macquarie Macquare Broop Limited is a global Investment booting and d.	Magia Digital Magia Digital has over 50 years of experience in the develops.	stations Stofanini Stationwi is a global company with 30 years of experience in.	SunTrust SunTrust SunTrust Borks, Inc., is on Artiserican benk helding company, T.	SwapsHub SwapsHub offers the next generation Capital Mariets Digital .
Bank ABC Bank ABC (Incorporated to Areas porting Corporation BS(C) Is.	Bank of Comms. HK Bank of Communications Hong Kong terrorch in a licensed bornk L	Bank of Cyprus Bank of Cyprus bank of Cyprus surrenty aparentes through a totor of 128 bro.	Davivienda Devivienda is o Colorebian bore founded in 1972 that renders .	Deon Digital Deon Digital Deon Digital Deon Digital Deon Digital	Deutsche Bank Deutsche Itorik XB is o Bermon Investment Sozik and Timonold s.,	Matrice Matrice containes deep expertise in manage with a strong tas.	micobo modeo is o finitech consultancy focused on providing technic,	Microsoft Microsoft is a software corporation that develops, manufactur.	Synchrony Financial Synchrony Financial is a consumer thrancial services company.	Synechron Synectron completes innevetive ideas with deep business trows.	Sympulse Sympulse is an established, globally active monogement consu,
Bank of Montreal Bank of Montreal Bank of Montreal operating as BMO Phannial Oncep is a Can.	Bank Trade Systems Every company over its success to separance, work eithe and.	Bonorto-Ixo Socurities Bonorto-Ixo Socurities International Ltd. Is a UI Intelainag.	Dianrong Dianrong is an antire marketplace lending company hoodquarte.	Digiliodgo Digiliodge provides and-to-end biostohem solutions for finan.	DNB Bank DNB ASA (turnerly DnB NDB ASA) is Norway's targets (hannaid,	Mizuho Financial Group Mizuho Bark, List, is the triagrated restal and corporate ben.	MonetaGo MonetaGo sonia dasety with financial Institutions to provid.	WIFG Bank MUFG Bank MUFD Rork, Lid. Is the korposit bank in upport. It was establic.	Tango IT Yango IT works to ereate an automated alute shown infrastrue.	TCS Tota Consultancy Services (102) is a multinoticend Informati.	Tooh Mahindra Tooh Mahindra Limited is on Indian mallingtional provider of,
Banciays Bandays pic is a British muticational Investment bank and	Baringa Partners Baringa Partners ib an indupendent builhess and technology 6.	BBVA Bance Biboo Viscolye Argentana, SA (BBVA) Is a mustinatio.	DrumG DrumG Hindhold Technologies is a builder and network operat.	E-Title E-Title Authority has developed the e- startM readion as 0 -	BBCS Interprise tilocachain Solutions (1905) - tilocachain Leogenin.	Whites Noticits Notes SA Is a france-based company engaged in banking, Inc.	Notil. Bank of Canada Notional Bank of Danada is the skith targest commercial bans.	Notil. Banque of Egypt National Ronque of Egypt (MBC) is the object and largest ban.	2 Tech29 Tech20 delivers anterprise grode software for some of the la.	tawara Temosek Temosek Holdings Mivette Linsted is a state-owned holding co.	The CareVoice We are a thinghol-based international company established inc.
BCI Bonco da Orádito s Invensiones (BCI) la lo Chileen bank speci.	BCS Consulting BCS Consulting BCS Consulting is a leading provider of technology and busin.	BCSIS BCS Information Systems (BCSIS) is a privately held company _	eMALUO eMALUO eMALUO, a Hung Kong based biocechain sterup, is founded by	Equinix The Blobal Plottern for Digital Businese When you build you.	EY Ernst & Young We want to build a better working world through our own actu.	NEC Corporation NEC Corporation NEC Corporation to Joponese multinational provider of into.	NH financial group N/investment & Securities was created in 2006 when what was	Nomura The Namura Disup is a timesial services group comprising to	Thomson Routers Thomson Routers provides professionels the intelligence, tee,	ThoughtWorks We are a settinore sompony and a community of possisones, pur.	Tieto Tieto Cyjik an IT settwore and service company providing IT.
Bianc Labs Bianc Labs accelerates innovation for financial restructions,	Block8 We're teemolegy and finance experts, exploring the fueure o,	BlockSpaces BookSpaces is on education and development benef dedicated.	evens is on NTT DATA Company, deadcosed to computing and o_	Everledger We ve out a groot digiter wager that - trucks and protect.	Evernym Evernym is a selfware company that asystops decentratized. s.	Nordea Nordea liank All, commonly referred to as Nordea, is a Kendle _	Northern Trust Rothern Trust Corporation is o threndel services company hu	NTT DATA Corporation NTT DATA provides brood range of IT : services and seulitors	Renarkisk Formad in 5008, Tigerikas Pormers is o privotely-herd rens.	TipoTapp TipoTapp offers on Enterprise MVP plotform to registry test m.	As an if aron, TS inc. supports the growth strangies of c
Blocksure Rocksure has developed o decentralised insurance pictions is.	Bloxian Technology Bloxen Technology amit to bring acceleration in adoption of.	BNP Paribas INP Paribas is a french international banking group with a p.	We bring deep reportise and an universed range of pro-integr.	FinFabrik Perform is a finitedy solutions buildler based in Hong Kong.	First American First American National Bark was a sobelatory of First Americ.	ObjectTech Identity for the Ziat sentury Self- severelign identity for L	OmniPayments Wei Implement idebilises from setable, and we customer and en.	OP Financial OP Prevential drose is one of this largest fiscancial companies.	Tomorrow Labs We suit blockshell-based products. We work to cut through 1.	TradeCloud TradeCloud is a web-based solution for the commodities indus.	TradelX TradelX TradelX In the world's first open Barking Highern, focuseds.
BNY Mellion Items of New York Mellion Corporation, which does buainties on.	Bolero We have a strong combination of trade finance separties, tra-	BRQ With its own oustomised digital soutions, BRQ docelerates L.	Gateway DLT Octoway bit is g technological service company with operatie.	O ^X Gemaito Gemate (Lunnest N. Dacostosta arto) is the global teader in _	GFT Financial GFT Technologies is a strategic sechnology patter based in _	Cracle US Drote provides leading-edget oppololities in software as a L.	Cractize Oracities is the leading amos service for smart contracts a.	OUE Limited OUE United is a diversified real estate owner, developer an.	Tradewind Markets TradeCloud is a web-based teal.ifon for the commodities indus.	Tradie Stanting with kYC on blockdrain, fradie is building a global.	UBS AD is a fixelist multirational investment bonk and financia.
Catypeo Dolypee software and Doud services suggest Imding, this ma.	Canonical Canonical was created stongeds Utilizatiu its help it reach a val.	Copgemini Copgemini anabies you to transform your argumbiation and leng.	Giont Machinos Diard Machines Bolds HTMLE Insension apps. designed for use.	Georgie Decisie is an American multiholional technology company that	Orow Super We created ORDW because we wanted in super fund ther were strep.	Paris EUROPLACE Auto EUROPLACE Auto to the organization in charge of promoting a	PCCW Solutions PCCW Solutions PCCW Solutions PCCW Solutions PCCW Solutions PCCW Solutions PCCW PCCW PCCW PCCW PCCW PCCW PCCW PCC	Persistent Systems Persistent Systems builds software that ' onives the buildness -	US Bancorp UL Bancorp is a bans helding company based in Minosceppia.	utimaco Utimace has been developing horebook-based, high-sequency op.	Vyerna Software Vyerna Software ina deliver solutions to ballness problems II.
CBA Commoniversative liansk of Auestrolia is an Auestrolian multimationa,	Cegeka Cegeka taka is pan of the Depaka group of the Cegeka	C CFETS Founded on April 8, 804, China Foreign Dechange Trade Byrd.	Guardtime Duerdtima is a team of over 150 cryptographers, develaper,	GuildOne GuildOne out a bending provider of innovative technology.	HOBNOB Using project expensions and teenmote recommensation, HOBHOEL	Ping An Insurance Ping An Insurance Ping An Insurance known cleo as Ping An of China, In a Chin,	PNC Bank PNC Finncial Service Broup, Inc. is a teach heiding company.	Portal Finance We use technology to understand and dealers a company, they w.	Wells Fargo Wells range & Company is an American multinosumal financial.	20. Westpac Westpac Benking Corporation more commonly known as Westpac.	230+ Ecosystem participants



Join the Network

r 3.			Search Marketplace	= r3 , ATTAR	Search Marketplace
rectory			🕀 Join the Network	₩ Directory > Micobo	委 Join the Net
Take an ex Ecosysten	tra step and join our le 1	ading		Germany Technical Delivery Partner, Tech	website
- Company Type Indep. Software	Directory		Image: Second	Description micobo is a FinTech consultancy focused on providing technical and finance competence include distributed ledger technology (DLT) along with digital l	cial research and solutions to the banking and the financial sector. Our main areas of banking and digital wealth management.
Technical Delivery	Approved AlphaPoint is a financial technology company helping make IL	Appway builds software for today, and innovates for the tech.	AtCash helps traditional financial institutions streamline _		ology and digitization and also play a key role in their technical implementation. We work to each customer requirements to create unique competitive advantages for our custome It the idea of banking.
Business Advisory	aXpire	Bank Trade Systems	BL Blanc Labs		nology sector with industry-specific expertise as well as the necessary FinTech start-up distinguishes us from the leading consulting and technological firms are our subject expert
Network Service	aXpire has founched its latest technology innovation into th	Every company owes its success to experience, work ethic and	Blanc Labs accelerates innovation for financial institutions.	Incorrect data? Help us improve.	
Technology Partner	8 Block8	Blocksure	B Bolero	Solutions	
	We're technology and finance experts,	Blocksure has developed a	We have a strong combination of trade	Promissory Note Loan Platform	
Gov or Reg Entity	exploring the future o	decentralised insurance platform b_	finance expertise, tec	micobo's Corda prototype offers	

Muchas Gracias.



18° Congreso Latinoamericano de Tecnología e Innovación Financiera

Carlos Arena

carlos.arena@r3.com

1-917-861-7449

