

How Money Actually Moves

Loughnane Associates LLC
Value Touches Everything



Learning Objectives:

TLO. Describe the processes in which money actually moves around the world and the information available to support investigations.

ELO 1 Explain the Real Time Gross Transfer Systems.

ELO 2 Explain the Automatic Clearing House process.

ELO 3 Describe the contents in Fedwire transfer and messaging.

ELO 4 Describe the contents in ACH transfers and processes.

ELO 5 Explain the SWIFT messaging process.

ELO 6 Describe the contents of SWIFT messaging.



Financial Transfers Process for Banks, Businesses, and Government

- Transactions can be time-critical
- Supports same-day, instantaneous, or within acceptable periods
- Must be accurate with no room for error
- Needs to deal with international currencies and time zones
- Can be leveraged by illicit actors

These payment systems leave footprints for us to follow

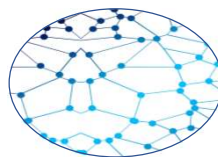
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The Value of Financial Information

- The information contained is not under the control of suspect parties and cannot be further manipulated.
- The systems are controlled by third parties, and they can be monitored live or otherwise accessed by legal means.
- The systems **MUST** contain accurate information or else transactions can fail.



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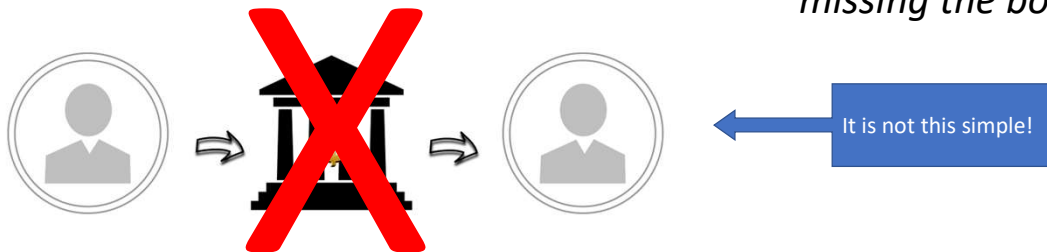
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Three Overall Rules For Financial Crime Investigators & Analysts:

1. Value touches everything
2. **Money does not move without a purpose**
3. Financial systems must contain accurate data

If all you get is a bank statement and the deposits and withdrawals you are really missing the boat.



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Role of Real Time Gross Transfer Systems and Clearing Houses

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Financial Institution Payment Systems

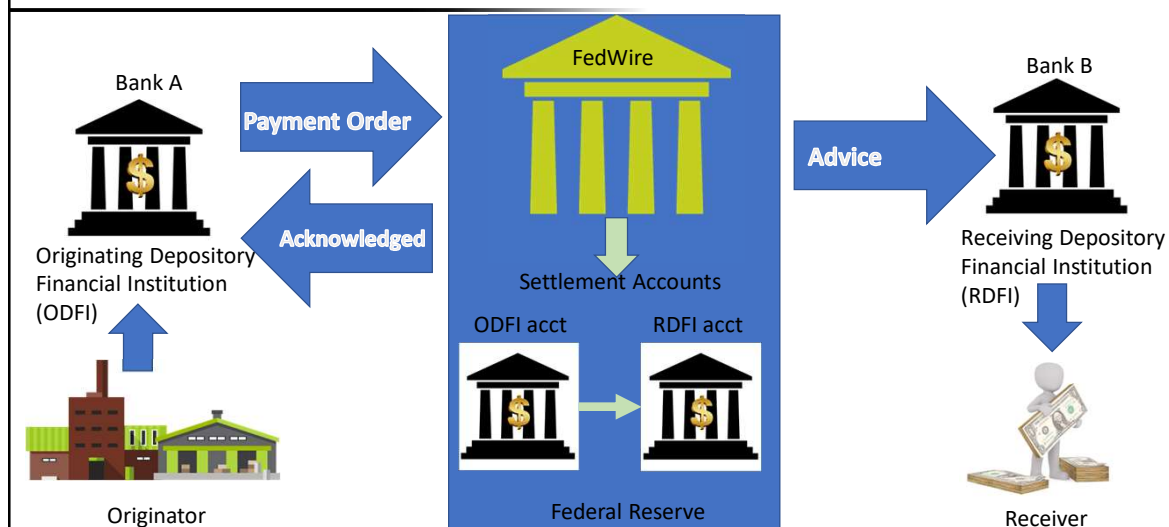
- Real time gross transfer systems (RTGS)
- Each transaction is handled separately
- Transactions are one-way and difficult to reverse
- Process is a credit transfer system between members
- The process is expensive, so usually used for large amounts or time-critical transactions

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FedWire Process (an RTGS system)



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Fedwire Member Banks Includes both US Domestic and International Banks

Row	Routing number	Short Name	City	State
1	0210-8007-0	ECBACZ	NEW YORK	NY
2	0210-8014-8	EUROPEAN CEN BANK	NEW YORK	NY
3	0210-8032-6	ECB IRELAND	NEW YORK	NY
4	0210-8066-9	MONTENEGRO	NEW YORK	NY
5	0210-8074-0	TIMOR-LESTE	NEW YORK	NY
6	0210-8085-0	IRAQ CENTRAL BANK	NEW YORK	NY
7	0210-8091-5	SAO TOME	NEW YORK	NY
8	0210-8097-3			
9	0210-8108-2			
10	0210-8171-0			

Fedwire® Participant Details

Name, Location and Routing Information

Bank Name: ECB ACCT CENTRAL BANK OF IRELAND
Location: NEW YORK, NY
Routing Number: 0210-8032-6
Telegraphic Name: ECB IRELAND
Revised: N/A
Book-Entry Securities: Eligible
Funds: Eligible

[Back To Results](#) [New search](#) [Revise search](#)

The effective date of this Fedwire directory is December 29, 2023.

The screenshot shows the 'E-Payments Routing Directory' search page. It includes a search bar with the text 'Begin your search...' and a search button. Below the search bar, there are several tabs: 'Name', 'Routing Number', 'State or Territory', and 'City'. The 'Name' tab is selected. The search results area shows a message: 'The routing number is not numerical. Please provide a valid routing number.' There are input fields for Name, Routing Number (with a hint '2560 7'), State or Territory, and City. There are also checkboxes for 'Eligible For' 'Book-Entry Securities' and 'Funds'. A 'SEARCH' button is at the bottom. The page footer indicates the effective date of the directory is December 29, 2023.

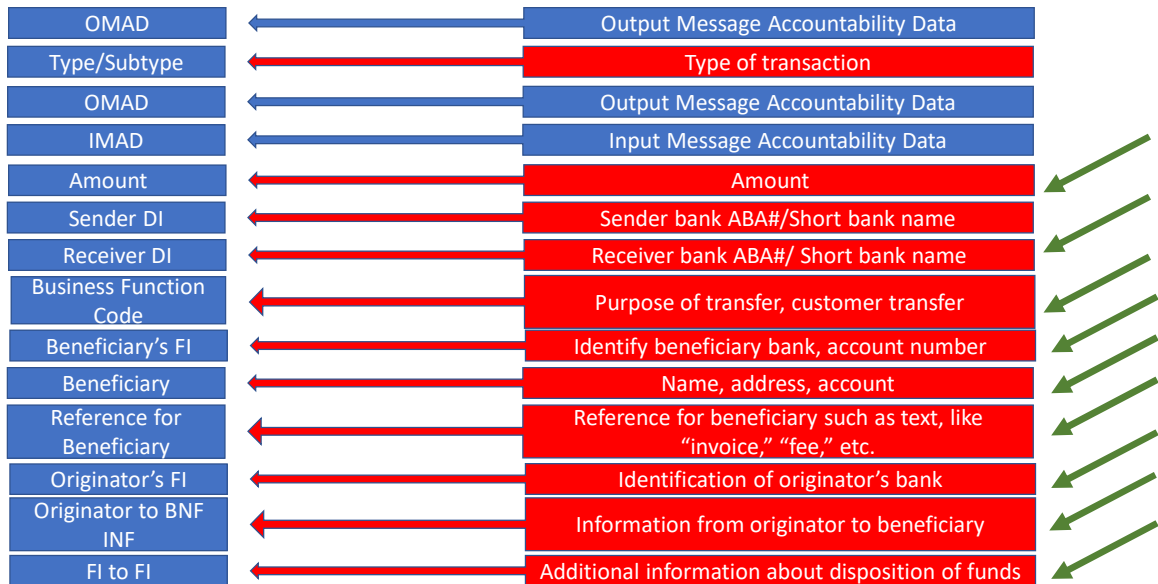
<https://www.frbservices.org/EPaymentsDirectory/searchFedwire.html>

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Fedwire Message Content

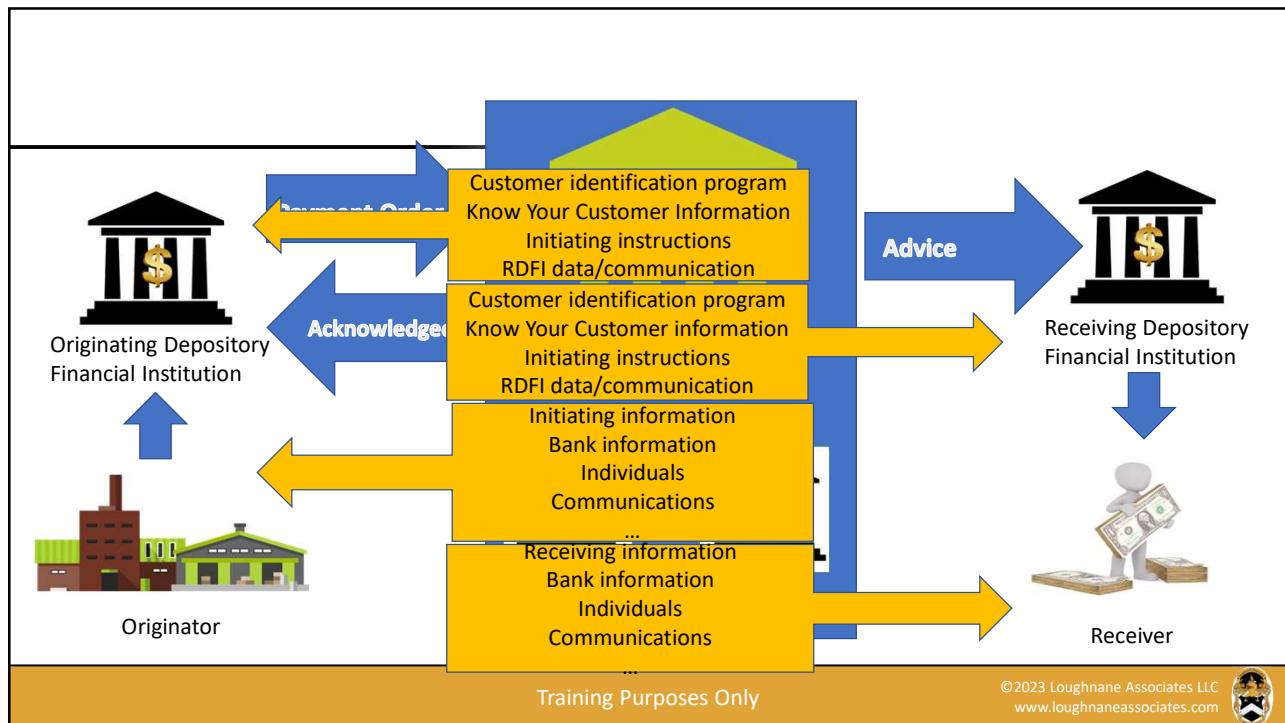
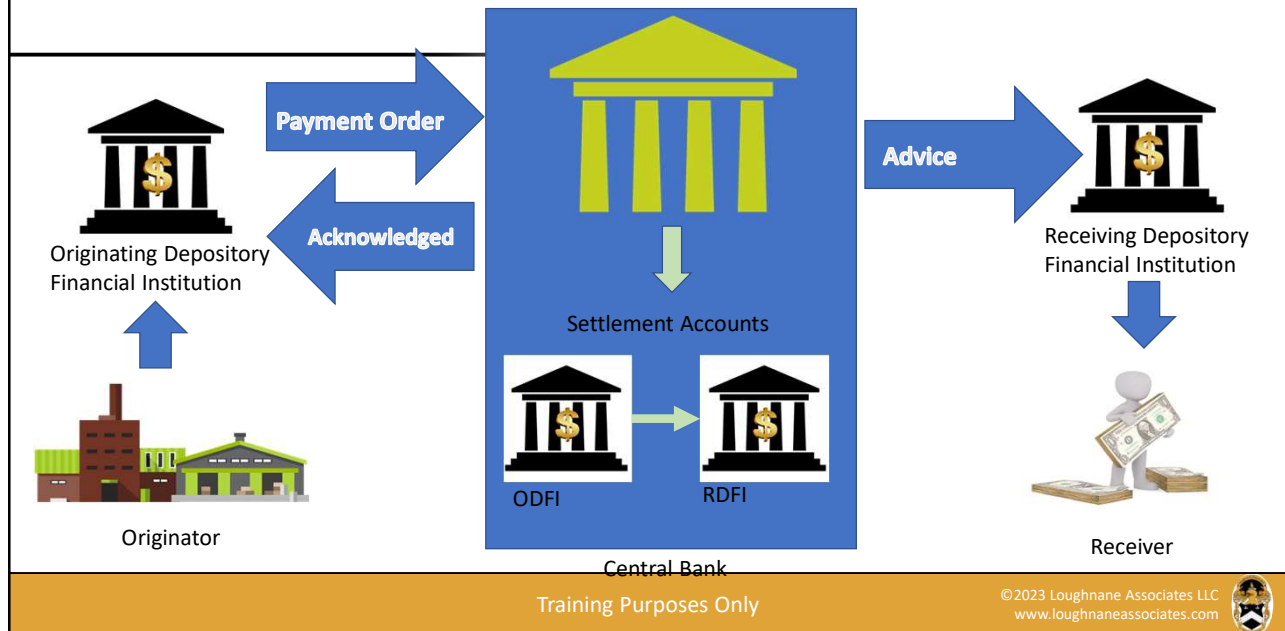


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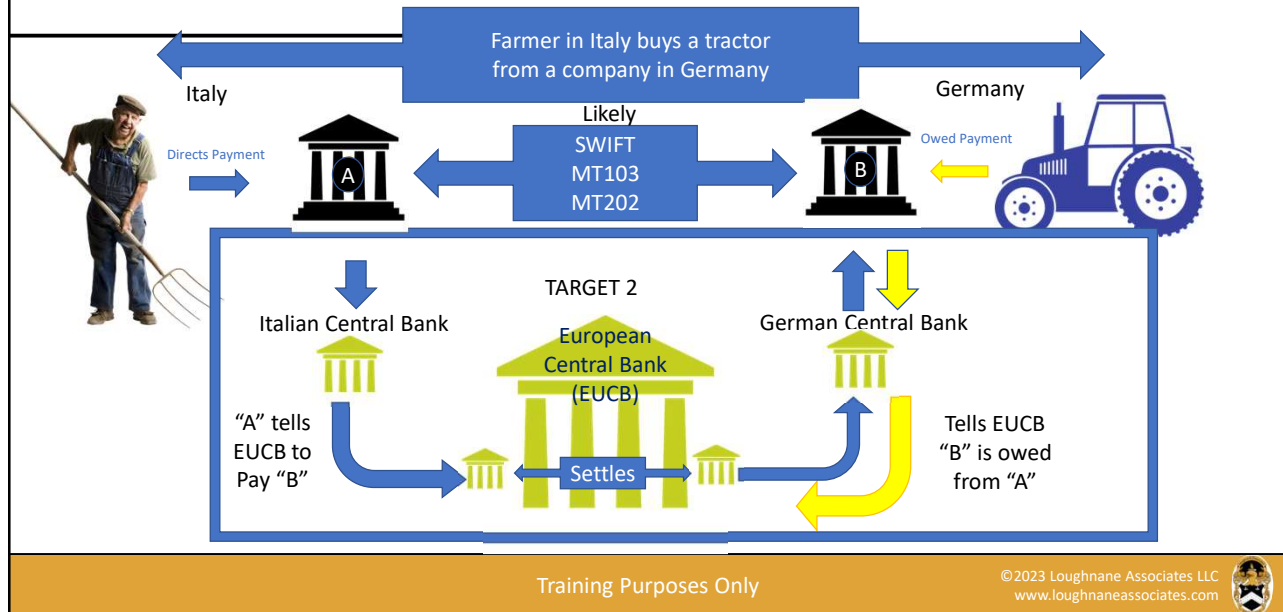
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Information Locations in the process



EU Central Bank Settlement Process



Canada – Lynx (as of 30 August 2021)

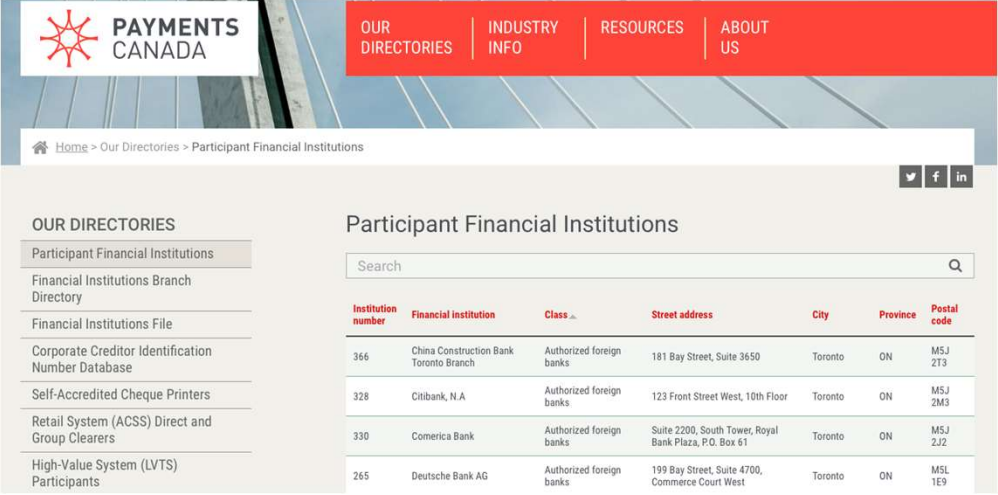
- Settlements take place in member accounts with the Bank of Canada at the end of each day
- Uses SWIFT messaging
- Payments in Canadian dollars across the country between FIs
- Members connect via Canadian Payments Association Services Network - owned by Payments Canada (payments.ca)
- Funds are credited in “near real-time”

Owned and Operated by Payments Canada

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Canada – Lynx Members (payments.ca)



OUR DIRECTORIES | INDUSTRY INFO | RESOURCES | ABOUT US

Home > Our Directories > Participant Financial Institutions

OUR DIRECTORIES

- Participant Financial Institutions
- Financial Institutions Branch Directory
- Financial Institutions File
- Corporate Creditor Identification Number Database
- Self-Accredited Cheque Printers
- Retail System (ACSS) Direct and Group Clearers
- High-Value System (LVTS) Participants

Participant Financial Institutions

Search

Institution number	Financial Institution	Class	Street address	City	Province	Postal code
366	China Construction Bank Toronto Branch	Authorized foreign banks	181 Bay Street, Suite 3650	Toronto	ON	M5J 2T3
328	Citibank, N.A	Authorized foreign banks	123 Front Street West, 10th Floor	Toronto	ON	M5J 2M3
330	Comerica Bank	Authorized foreign banks	Suite 2200, South Tower, Royal Bank Plaza, P.O. Box 61	Toronto	ON	M5J 2J2
265	Deutsche Bank AG	Authorized foreign banks	199 Bay Street, Suite 4700, Commerce Court West	Toronto	ON	M5L 1E9

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Automated Clearing House (ACH) Systems

- FedACH and Clearing House Interbank Payments System (CHIPS) are Electronic Payments Networks (EPN)
- Receive ACH files about payments from ODFIs
- Edit and sort payments, and deliver the payments to RDFIs and settle the payments by crediting and debiting the depository financial institutions' settlement accounts
- Business-to-Business payments exchange both data and funds with trading partners, facilitating an automated process of updating their accounts receivable and accounts payable systems



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Clearing House Interbank Payments System (CHIPS)

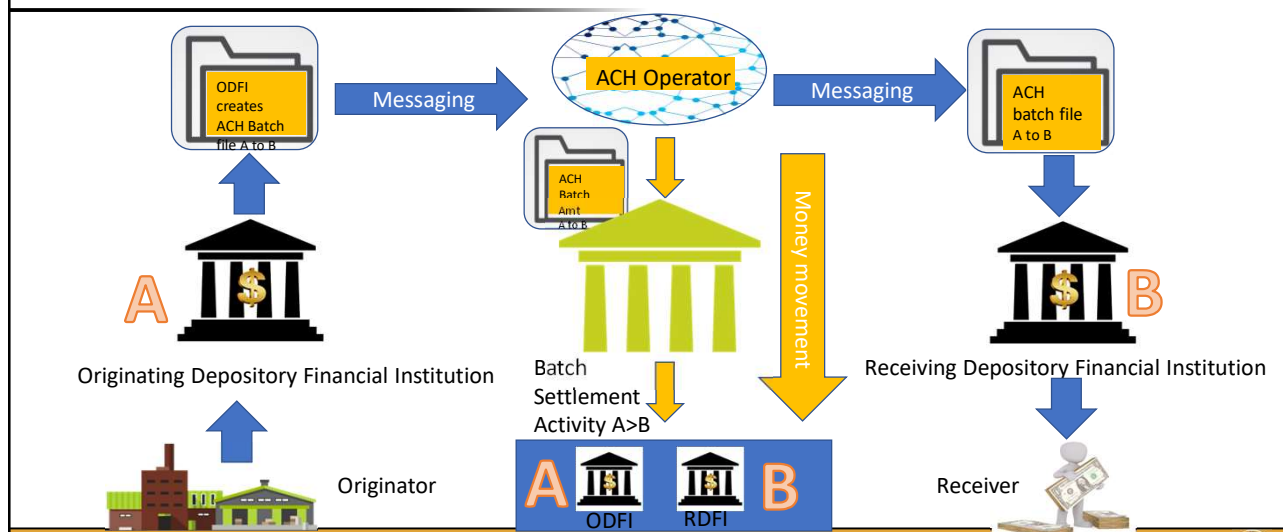
- System in the United States
- Like Fedwire, provides a real-time final settlement system
- Provides transmission and settlements services
- Unlike Fedwire, CHIPS owned by the financial institutions that use it:
- 90% of US dollar funds transfers moving transnationally
- Recent figures reveal an approximate average of 280,000 transactions per day with a total monetary value of \$1.4 trillion (Fundamentals of the Funds Transfer Process. (unk). U.S. Department of the Treasury Financial Crimes Enforcement Network. https://www.fincen.gov/sites/default/files/shared/Appendix_D.pdf



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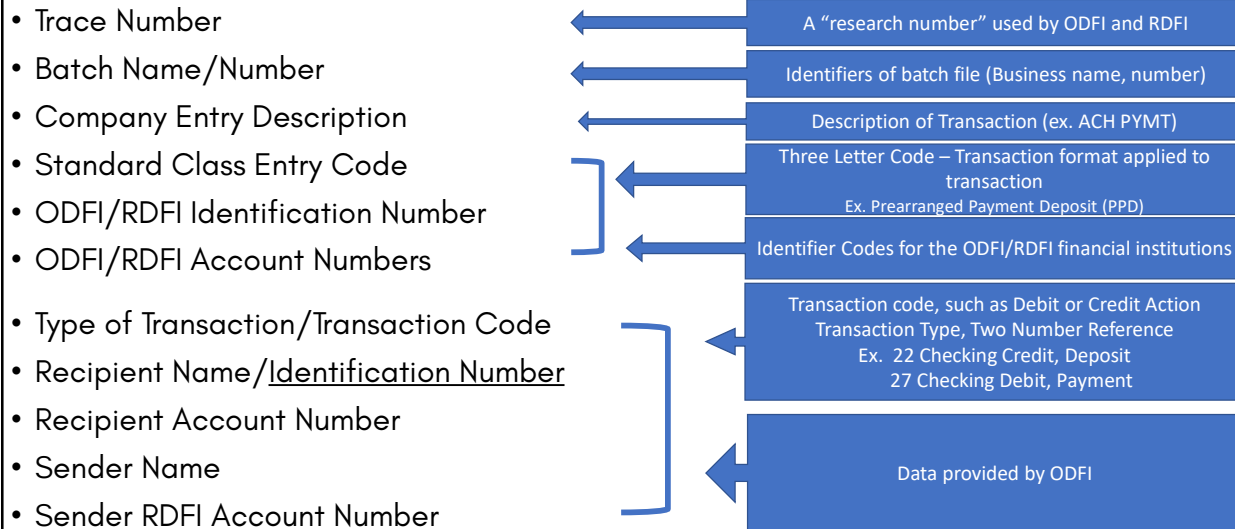
Classic ACH Process (FedACH and Clearing House)



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ACH Data (formatted to NACHA guidelines)



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New: FedNow (Launched in July 2023)

- Currently over 300 participants
- Allows financial institutions of every size across the U.S. to provide safe and efficient instant payment services.
- Through participating financial institutions businesses and individuals can send and receive instant payments in real time, around the clock, every day of the year.
- Financial institutions and their service providers can use the service to provide innovative instant payment services to customers, and recipients will have full access to funds immediately,



HOW THE FEDNOW™ SERVICE WILL WORK



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New: Real-Time Payments (Clearing House)

“RTP® from The Clearing House is a real-time payments platform that all federally insured U.S. depository institutions are eligible to use for payments innovation.

- ✓ Car Sales and Auto Lending
- ✓ Consumer Loans
- ✓ Corporate Credit Cards
- ✓ Digital Wallets
- ✓ Earned Wage Access
- ✓ Merchant Funding
- ✓ Mortgage
- ✓ Payroll
- ✓ Sports Wagering

- Speeds up commerce and streamline the payments flow
- With instant availability and payment confirmation, payment senders and receivers know exactly when the payment is received, and receivers can use funds immediately.

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SWIFT Messaging

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SWIFT – A "Virtual Messenger"

- Banks use VPN lines, email, telex, fax, or specialized messaging providers, such as SWIFT
- SWIFT is an electronic process use to communicate financial and business information between banks
- Banks exchange instructions, confirmations, and reports



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Why SWIFT?

- If two banks don't have direct relations between themselves, perhaps through intermediary banks or correspondent accounts
- There can be as many as four (or more) banks in a single transfer
- Any given transfer relies on the banks concerned exchanging information

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SWIFT CTF Policy

- "SWIFT is global, thus SWIFT users around the world are not subject to a single set of rules, but to a variety of different compliance rules – such as those that might relate to illicit and terrorist financing. "
- SWIFT does not monitor or control the messages going through system
- Legitimacy rests with the Financial Institutions
- "...effectively acting as a secure postman..."
- KYC, AML and CTF responsibilities rest with the banks

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Illicit Finance Focus

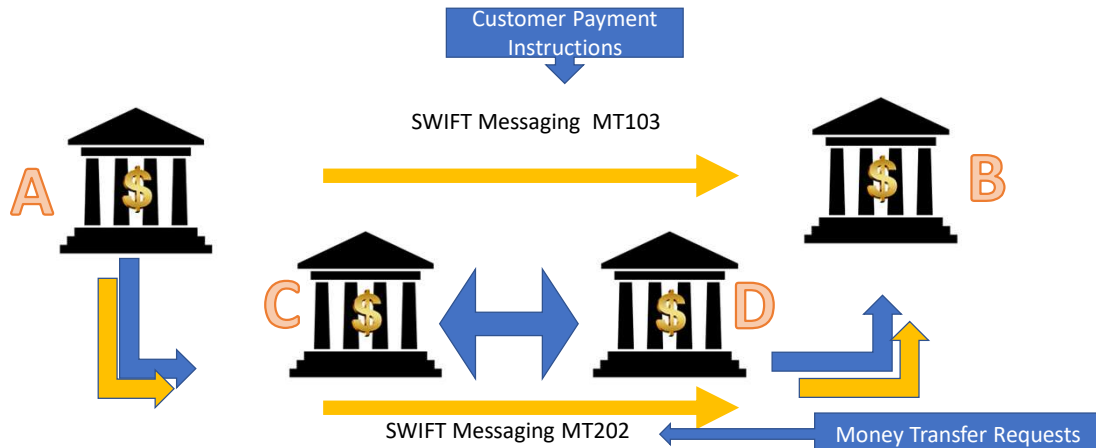
1. Remain in compliance with internal policy and rules
2. Assist system users with support needed for their own compliance
 - Setting messaging standards
 - Sanctions Screening system
 - (Transaction Screening, Name Screening, Sanctions Testing)
3. Modified Cover Payment message processes for information sharing
4. Ordering and Beneficiary Information is embedded in messages

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Cross Border Payments “Cover Payments”



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Law Enforcement Requests To SWIFT (EU-US TFTP Agreement)

- SWIFT will not disclose to any third party without customer permission
- US Law Enforcement Requests are processed through the OFAC Terrorist Finance Tracking Program (TFTP)
- SWIFT is required to provide only data the Treasury Department believes will be necessary in combating terrorist financing, based on past analyses focusing on message types and geography, as well as perceived threats and vulnerabilities

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SWIFT Subpoenas Must Be Detailed

- Additionally, searches are narrowly tailored to minimize the extraction of messages that are not relevant to a terrorism investigation
- The data provided by SWIFT are searched to extract only information that is related to an identified, preexisting terrorism investigation
- This means that every search that is conducted must specifically cite and record documented evidence supporting the belief that the target is connected with terrorism or its financing

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SWIFT BIC Codes

- The standard format of Business Identifier Codes (BIC)
- It is a unique identification code for a particular bank
- BIC codes are used for messaging between FIs
- The SWIFT code consists of 8 or 11 characters:
 - **“BIC-8”** refers to 8-digit code for the FI’s primary office
 - **“BIC-11”** is an 11-digit code points to a specific branch



<http://www.theswiftcodes.com/countries/>

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Sample of BIC Codes (US)

No	Bank or Institution	City	Branch Name	Swift Code
1	1ST CENTURY BANK, N.A.	LOS ANGELES,CA		CETYUS66
2	1ST ENTERPRISE BANK	LOS ANGELES,CA		FEBKUS6L
3	1ST UNITED BANK	BOCA RATON,FL		HEMSUS3M
4	3M COMPANY	ST. PAUL,MN		MMMCUS44
5	ABACUS FEDERAL SAVINGS BANK	NEW YORK,NY		AFSBUS33
6	ABBEY NATIONAL TREASURY SERVICES LTD US BRANCH	STAMFORD,CT		ANTSUS33
7	ABBVIE, INC.	CHICAGO,IL		ABBVUS44
8	ABEL/NOSER CORP	NEW YORK,NY		ABENUS3N
9	ABERCROMBIE AND FITCH CO.	NEW ALBANY,OH		ANFCUS33
10	ABN AMRO CAPITAL USA LLC	NEW YORK,NY	(SEC FINANCING)	FTSBUS33SFI
11	ABN AMRO CAPITAL USA LLC	NEW YORK,NY		FTSBUS33
12	ABU DHABI INTERNATIONAL BANK INC.	WASHINGTON,DC		ADIBUS33
13	ACI CAPITAL GROUP, LLC	NEW YORK,NY		ACIXUS33
14	ACUPAY SYSTEM LLC	NEW YORK,NY		ACPYUS33
15	ADP CLEARING AND OUTSOURCING SERVICES INC.	NEW YORK,NY		ADPCUS33
16	ADP GLOBAL PROXY SERVICES	EDGEWOOD,NY		ADPGUS33

MMMC= 3M Company
US = United States
44 = Primary Office

FTSB = ABN AMBRO Cap.
US = United States
44 = 33 Primary Office
SFI = Branch (Sec Finance)

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SWIFT Message Types (MT)

10 major categories of SWIFT messages that support processing activities of members:

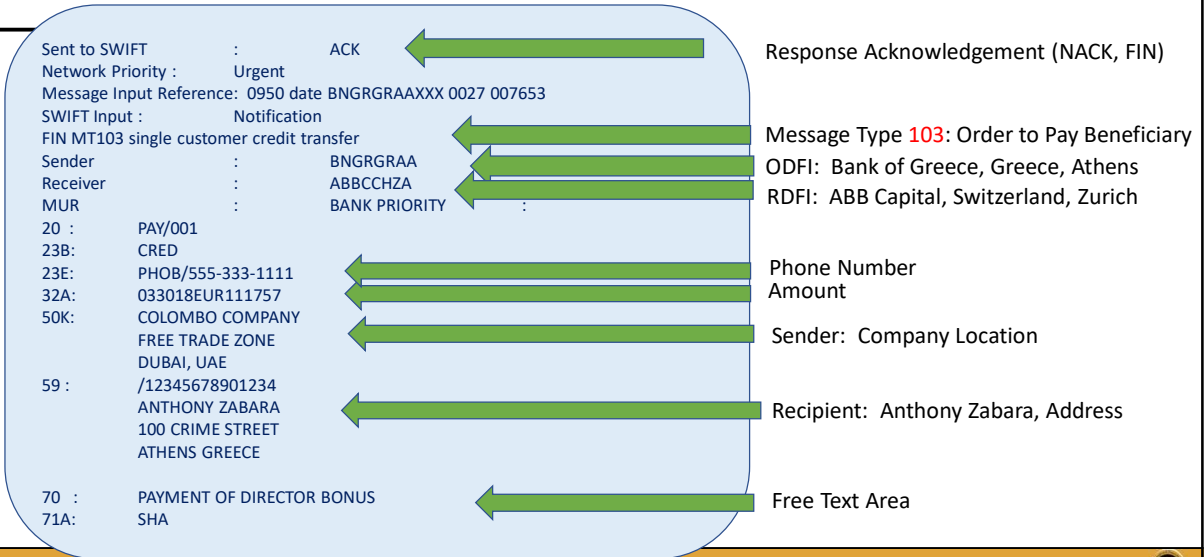
Category	Name
0xx	General Information
1xx	Customer Payments and checks
2xx	Financial Institutions Transfers
3xx	Financial Trading (FX, Loans, SWAPS, etc.)
4xx	Collections and Cash Letters
5xx	Financial Trading (Securities)
6xx	Precious Metals Trading and Syndications
7xx	Documentary Credits and Guarantees
8xx	Traveler's Checks
9xx	Cash Management and Customer Status

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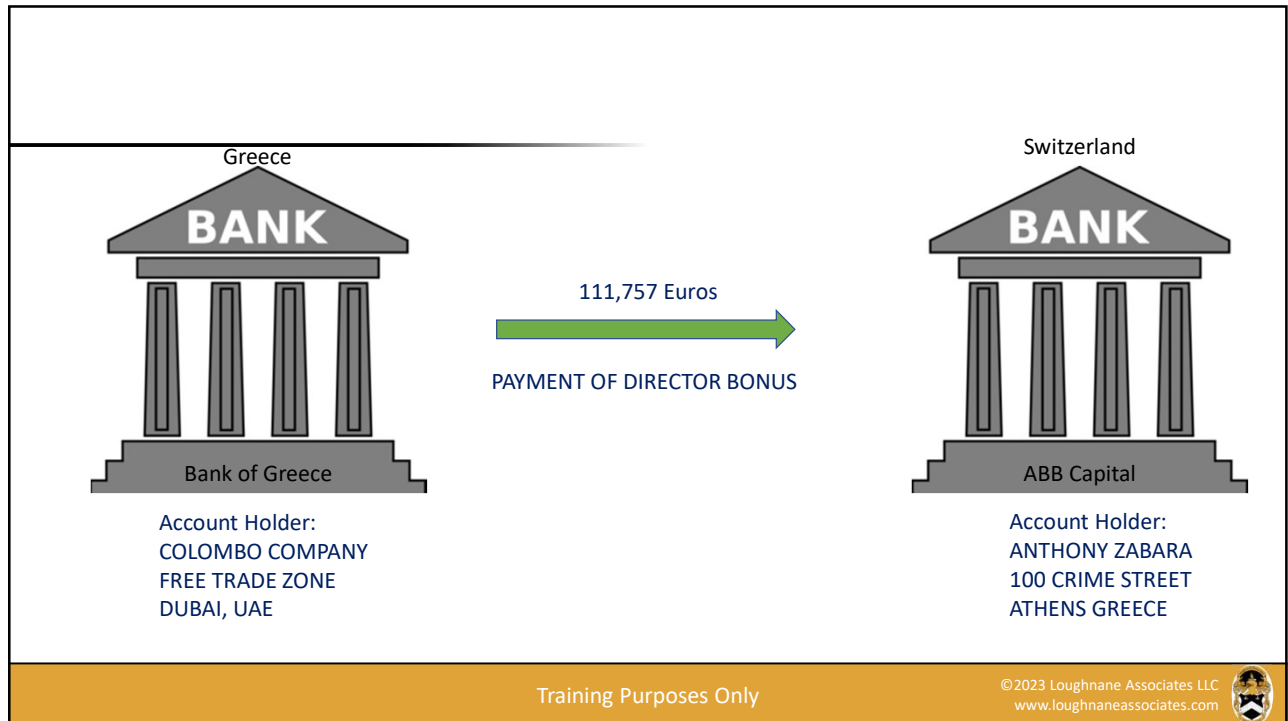


SWIFT Message Data



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Communication Scenario

We are investigating the payment of **25,000 euros** from **Agrosoyuz Commercial Bank**, Moscow, to the account of **John Sidano** located at the **Sample Bank** in Addis Ababa, Ethiopia.

The payment is described as a retainer for services.

Let's work through the SWIFT MT103.

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043187+ +
1650201 AGROSOYUZ COMMERCIAL BANK
1378012 AGSZRU33 (RUSSIA)
MESSAGE 67L
WOL 1421 1147
A175064 AGSZRU33
A15000128 SAMPLE BANK
A15000128 SBETETAA (ETHIOPIA)

SENDER                AGROSOYUZ COMMERCIAL BANK
                      TAUNUSANLAGE-12 60325 MOSCOW, RUSSIA
                      SWIFT CODE: AGSZRU33

RECEIVER              SAMPLE BANK
                      ADDIS ABABA, ETHIOPIA
                      SWIFT CODE: SBETETAA

LOGICAL TERMINAL      FUNT PERM 21
ATTENTION: MANAGER   SINGLE CUSTOMER TRANSFER
MBT 100 EURO 300     SOLDEST XXXX9900430UA
AGROSOYUZ CB         DE047SOLDEST XXXX
BASIC HEADER         INTERNATIONAL BANK OF SETTLEMENT
APPLICATION HEADER   BANK PRIORITY WORLD BANK RATING (133)
USER HEADER          COUNTRY RATING (051) USER REFERENCE (018)

TRN                   20: MARK 2010 PAYMENT
RELATED REFERENCE     21: AGROSOYUZ CB /IRO/FOD/DE0887014326
```

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Representative

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043187+ +
1650201 AGROSOYUZ COMMERCIAL BANK
1378012 AGSZRU33 (RUSSIA)
MESSAGE 67L
WUL 1421 1147
A175064 AGSZRU33
A15000128 SAMPLE BANK
A15000128 SBETETAA (ETHIOPIA)

SENDER          AGROSOYUZ COMMERCIAL BANK
                 TAUNUSANLAGE-12 60325 MOSCOW, RUSSIA
                 SWIFT CODE: AGSZRU33

RECEIVER        SAMPLE BANK
                 ADDIS ABABA, ETHIOPIA
                 SWIFT CODE: SBETETAA

LOGICAL TERMINAL FUNT PERM 21
ATTENTION: MANAGER SINGLE CUSTOMER TRANSFER
MBT 100 EURO 300 SOLDEST XXXX9900430UA
AGROSOYUZ CB DE047SOLDEST XXXX
BASIC HEADER INTERNATIONAL BANK OF SETTLEMENT
APPLICATION HEADER BANK PRIORITY WORLD BANK RATING (133)
USER HEADER COUNTRY RATING (051) USER REFERENCE (018)

TRN             20: MARK 2010 PAYMENT
RELATED REFERENCE 21: AGROSOYUZ CB /IRO/FOD/DE0887014326

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Classroom use - Representative

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MT/DATE/ORIGIN MT103 142: MT/103 (11/30/2019) MOSCOW, RUSSIA
SESSION 2010 SEQUENCE 0110 3336

EMBEDDED MESSAGE      EURO 25,000.00 EUROS              INITIALIZED
NARRATIVE              ORDERING CUSTOMER          DEBIT OUR ETB ACCOUNT
CURRENCY AMOUNT        F030A  EURO 25,000.00 (Twenty Five Thousand Euros)
BANK NAME              AGROSOYUZ COMMERCIAL BANK, MOSCOW, RUSSIA
BANK ADDRESS           F032A  TAUNUSANLAGE-12 60325 MOSCOW, MAIN OFFICE
ORDERING CUSTOMER     F033A  FOREIGN TRADE BANK (on behalf of Dandong ZhongShen InduStIy)
ACCOUNT NUMBER        F050K  30450434
VAT ID NO.            F051K  ET114107751
SWIFT CODE             AGSZRU33
SORT CODE              300 900 10
IBAN NO.

TRN                    F056A: 2019 1A AT 103M910
BANK NAME              F057A: SAMPLE BANK
BANK ADDRESS           F058A: ADDIS ABABA, ETHIOPIA

BENEFICIARY           F059A: JOHN SIDANO PERSONAL ACCOUNT
ACCOUNT NUMBER        F059B: 2848334
SWIFT CODE             SBETETAA

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MT/DATE/ORIGIN MT103 142: MT/103 (11/30/2019) MOSCOW, RUSSIA
SESSION 2010 SEQUENCE 0110 3336

EMBEDDED MESSAGE EURO 25,000.00 EUROS INITIALIZED

NARRATIVE ORDERING CUSTOMER DEBIT OUR ETB ACCOUNT

CURRENCY AMOUNT F030A EURO 25,000.00 (Twenty Five Thousand Euros)

BANK NAME AGROSOYUZ COMMERCIAL BANK, MOSCOW, RUSSIA

BANK ADDRESS F032A TAUNUSANLAGE-12 60325 MOSCOW, MAIN OFFICE

ORDERING CUSTOMER F033A FOREIGN TRADE BANK (on behalf of Dandong ZhongShen InduStIy)

ACCOUNT NUMBER F050K 30450434

VAT ID NO. F051K ET114107751

SWIFT CODE AGSZRU33

SORT CODE 300 900 10

IBAN NO.

TRN F056A: 2019 1A AT 103M910

BANK NAME F057A: SAMPLE BANK

BANK ADDRESS F058A: ADDIS ABABA, ETHIOPIA

BENEFICIARY F059A: JOHN SIDANO PERSONAL ACCOUNT

ACCOUNT NUMBER F059B: 2848334

SWIFT CODE SBETETAA

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ORDERING CUSTOMERS MESSAGE

WE, AGROSOYUZ COMMERCIAL BANK SITUATED AT MOSCOW, RUSSIA, WITH FULL BANKING RESPONSIBILITY
HEREBY PRESENT OUR IRREVOCABLE, TRANSFERABLE AND CALLABLE CASH BACKED STANDING SWIFT
WIRE TRANSFER IN FAVOR OF JOHN SIDANO PERSONAL ACCOUNT ACCOUNT NUMBER 2848334 IN AMOUNT OF
EUR EURO 25,000.00 (Twenty Five Thousand Euros) THIS PAYMENT IS FOR A-RETAINER-FOR-SERVICES-
AGREEMENT-DATED-11/30/2019- FOR Dandong ZhongShen InduStIy...

WE HEREBY CONFIRM THAT THE FUNDS ARE GOOD, CLEAN, CLEARED FROM ANY CRIMINAL ORIGIN AND
ARE FROM LEGAL SOURCE.

THIS IRREVOCABLE SWIFT IS BINDING FULLY PERFORMED DUE BILL AND IMMEDIATELY CALLABLE FOR
CASH PAYMENT, WE CONFIRM THAT PAYMENT SHOULD BE RELEASED.

THIS IS AN OPERATIVE INSTRUMENT FOR AND ON BEHALF OF AGROSOYUZ COMMERCIAL BANK SUBJECT TO
THE INTERNATIONAL REMITTANCE REGULATION OF AGROSOYUZ COMMERCIAL BANK TO EXTERNAL BANK
ACCOUNT PAYMENT. PLEASE ADVISE BENEFICIARY OF FUND TRANSFER IN THE AMOUNT OF EUR
EURO 25,000.00 (Twenty Five Thousand) EUROS.

RECORD INFORMATION SWIFT ORDER IS MAC: (PAC) PEC ENC) CHR) (INT) (PED) (MAC).

FOR AND ON BEHALF OF: AGROSOYUZ COMMERCIAL BANK

AUTHORIZED OFFICER
VLADIMIR PUTON
02267C.F.O
CHIEF FINANCIAL OFFICER 1650201
AGROSOYUZ COMMERCIAL BANK

AUTHORIZED OFFICER
SOFIA BROMOVICH
78456C.O
CHIEF OPERATING OFFICER

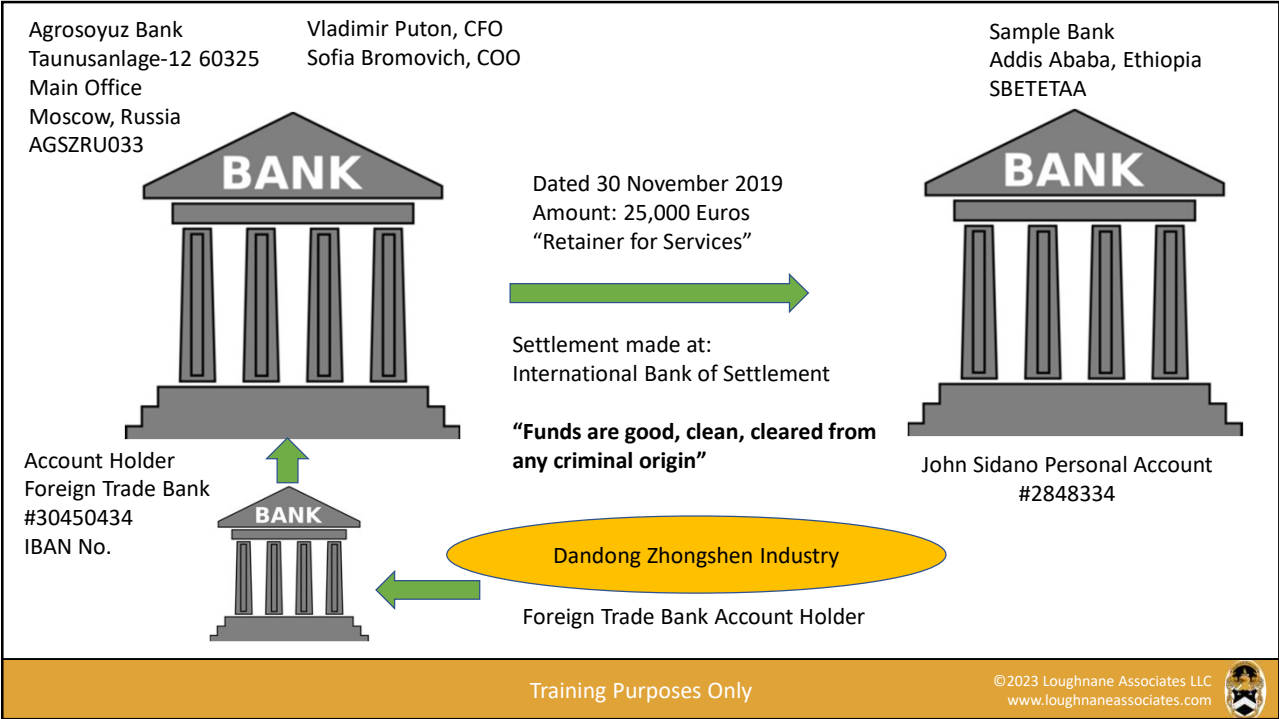
CONF: DATE: 11/30/2019 TIME: 12:37 *** AGROSOYUZ COMMERCIAL BANK 049882+MSG: 111 TITLE

CONFIRMATION ANSWER BACK*****MESSAGE HAS BEEN TRANSMITTED*****
(14)043187*****VALUED DATE: 11/30/2019

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Questions?

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