OUR TEAM
OUR TEAM

SOPHIA GRAMI
Sophia's career spans 6 years in derivatives and structured products. Following a first experience in Global Equities and Commodity Derivatives at BNP Paribas in Paris, Sophia joined the cross-asset solution sales team at Société Générale in London, where she covered emerging markets. Sophia has extensive knowledge of the derivatives post-trade workflow and created Synswap to improve the OTC market infrastructure.

Sophia holds an MSc in Finance from EM Lyon Business School.

MOHAMMED CHERIF
Mohammed spent five years of his career as a structured credit trader at Société Générale in London. He contributed to the development of trading and pricing systems. The idea for Synswap was conceived after observing the complexity of the post-trade workflow and being inspired by the transformative power of blockchain technology in financial services.

Mohammed is a graduate of the Engineer School Telecom SudParis.

OLEG ABDRASHITOV
Oleg's career spans 20 years in software development for the financial services industry. He has built systems supporting high frequency trading, middle office and online exchanges. Oleg has worked at top investment banks, hedge funds and has founded startups and consultancies. Oleg is an active member of the Hyperledger Project where he leads its Requirements Working Group.

Oleg holds an MSc in Physics from Columbia University.
TODAY’S DERIVATIVES INFRASTRUCTURE
As a higher proportion of trades is cleared across CCPs, more and more credit, liquidity and operational risks are concentrated in these institutions, which have become a single point of failure and represent a potential source of systemic risk.

Today’s post-trade infrastructure is fragmented, siloed and requires a large number of participants to process a single trade. There are still plenty of manual interventions and duplicative systems resulting in high operation costs and risks.

New regulatory requirements are deeply impacting the OTC derivatives market. Market participants need to quickly adapt and adopt new systems to comply with those new rules.

Despite the implementation of trade repositories and reporting processes, there are still duplicative and conflicting data and regulators don’t have a clear view of the participants’ risk exposure.
OUR MISSION
We aim to provide a better infrastructure to the OTC derivatives market
OUR SOLUTION
Counterparties deploy Synswap software on their servers, connect to each other and process OTC trades.

Once a trade is executed, smart contracts automate the entire post-trade workflow of the trade.

Blockchain-driven system, using Hyperledger

Business logic contained in smart contracts

All trades are registered in distributed ledgers

Product scope: CDS, IRS, FX Swaps, Equity Swaps, Commodity Swaps
One smart contract, called Relationship, is created for each pair of counterparties.

Every new trade between two counterparties is added to the ledger of Relationship Smart Contract.

The Relationship Smart contract automates the entire post-trade workflow of OTC swaps.
Clearing Smart Contract is run by all clearing members to clear trades.

The Clearing Smart Contract automates all post-trade events traditionally executed by a clearing house.

Synswap clearing members directly run clearing risk mitigation mechanisms via smart contracts, without going through a CCP, thus removing CCPs’ risks.

- CCPs Counterparty risk
- CCPs Concentration risk
- CCPs Operational risk
ALL CLEARING MECHANISMS ARE AUTOMATED VIA SMART CONTRACTS

- Synswap is not a CCP
- There is no central counterpart anymore in our distributed clearing model
- Disitributed cleared trades remain bilateral but benefit from the same risk mitigations as centrally cleared trades

Risk mechanisms directly embedded in smart contracts
- Daily valuations
- Collateral management
- Multilateral netting

Automatic member default processing
- Auction of defaulting portfolio
- Waterfall of resources:
  - Initial margin
  - Variation margin
  - Default fund
- Automatic reallocation of trades

Before Default
After Default
CONFIDENTIALITY AND PRIVACY ARE PRESERVED

Smart contracts are processing sensitive data that must be kept confidential from certain peers

- Hyperledger technology supports confidential transactions
- Trades details are accessible to the counterparties of the trade only, and optionally to regulators
- Multilateral workflows like netting and compression are executed over encrypted inputs
SYNSWAP REMOVES RECONCILIATION AND REPORTING BOTTLENECKS

The distributed ledger is the golden record of transactions

<table>
<thead>
<tr>
<th>Immutability</th>
<th>Golden record</th>
<th>Transparency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade details are</td>
<td>This ledger constitutes the</td>
<td>Regulators benefit from a real-</td>
</tr>
<tr>
<td>encapsulated in smart</td>
<td>“golden record” of all transactions.</td>
<td>time view on all trades</td>
</tr>
<tr>
<td>contracts and kept in</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a fully tamper-proof</td>
<td></td>
<td></td>
</tr>
<tr>
<td>distributed ledger.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Reconciliation

Unique representation of all trades and collateral exchanged on the ledger.

Reporting

The distributed ledger is the swap data repository, making the reporting step redundant.
PAYMENTS ARE ORCHESTRATED BY SMART CONTRACTS

There is no cryptocurrency in the platform and all payments are settled outside of Synswap.

- Smart contracts orchestrate payments by issuing payment instructions via SWIFT to custodian banks.
- SWIFT notifies the platform of successful transfers.
- Smart contracts react to these events and process the next step of the workflow.

[Diagram showing the process of payments being sent and confirmed via SWIFT.]
SYNSWAP USES MULTIPLE ORACLES TO PROCESS TRADES

Several external sources are trusted by Synswap

- Booking systems
- Matching
- Confirmation
- Bilateral Netting
- ISDA Master Agreement and CSA
- Bilateral Compression
- Collateral Management
- Pricing
- Settlement
- Multilateral Netting
- Multilateral compression
- Auction
- Default management
- Bid prices
- Valuation systems

ISDA Master Agreement and CSA
Bloomberg, Reuters, Markit
SWIFT, Custodian banks

Settlement

Multilateral Netting

Multilateral compression

Auction

Default management

Bid prices

Valuation systems
Every day, IM and VM payment instructions are issued by smart contracts.

- Pricing libraries are embedded in smart contract and fed with market data.
- Smart contracts reconcile information provided by both counterparties.
- For cleared trades, collateral is computed according to Synswap’s risk models.
- For non-cleared trades, collateral is managed according to the CSA between both counterparties.
WHAT ARE THE BENEFITS?
DISTRIBUTED LEDGER TECHNOLOGY: A POWERFUL TOOL TO PROCESS OTC DERIVATIVES

Distributed Ledger Technology is the backbone of our solution.

- Automation of the workflow
- Simplification of the workflow
- Disintermediation of third parties
- Removal of CCPs risks
SYNSWAP MEMBERS BENEFIT FROM LOWER COSTS AND RISKS

**COSTS**
- Lower capital costs
- Lower collateral costs
- Lower operational costs
- Removal of third parties fees

**RISKS**
- Lower operational risks
- Removal of CCPs risks
- Increase of market transparency
- Optimised risk mitigation techniques with daily netting and compression
STATE OF PROGRESS
|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
OUR MVP: NON-CLEARED AND DISTRIBUTED CLEARED CDS PROCESSED THROUGH SYNSWAP

VIDEO

https://www.youtube.com/watch?v=HNv6Up_VVKU&feature=youtu.be
By accepting this document, the recipient agrees to be bound by the following obligations and limitations.

1) This document has been prepared on a confidential basis for the use and benefit of the party to whom Synswap Ltd ("Synswap") delivers this presentation (the "Recipient"). This document is confidential and contains proprietary information and intellectual property of Synswap. Distribution of this presentation to any person other than the Recipient and those persons retained to advise the Recipient, who agree to maintain the confidentiality of this material and be bound by the limitations outlined herein, is unauthorized.

2) This document must not be copied, reproduced, modified, or distributed to any third party, either in whole or in part, without the prior written consent of Synswap.

3) The Recipient shall return all copies of this document immediately upon request of Synswap.

4) The contents of this document have not been independently verified and they do not purport to be comprehensive, or to contain all the information that a prospective investor may need. No representation, warranty or undertaking, expressed or implied is or will be made or given and no responsibility or liability is or will be accepted by Synswap or by any of its directors, employees or advisors in relation to the accuracy or completeness of this document or any other written or oral information made available in connection with Synswap.

5) This document speaks as at the date hereof and Synswap undertakes no obligation to provide the Recipient of the document with access to any additional information or to update this document or to correct any inaccuracies that may be contained herein.

6) Although the information contained herein is believed to be reliable, Synswap makes no representation as to the accuracy or completeness of any information contained herein or otherwise provided by Synswap. The terms set forth herein are intended for discussion purposes only and subject to the final expression as set forth in a definitive agreement and/or confirmation.

7) This document includes forward-looking statements, estimates and projections. All such statements, estimates and projections presented within this document are subject to significant economic, business, and other uncertainties beyond the control of Synswap and involve elements of subjective judgement and analysis. Although such projections are believed to be realistic, there is no guarantee that any of these statements or projections will be achieved. Actual results will vary from the projections and such variation may be material. Nothing contained herein is, or shall be relied upon as, a promise or representation as to the past or future. Synswap disclaims any intention or obligation to update or revise any forward-looking statements, whether as a result of new information, future events or otherwise.