Automation in the Finance Industry

Brainstorming

- Hypomat
- Product Issuance
- Credit Assessment
- Robo Advisor
- Product Life Cycle Mgmt
- Payment Processes
- AML controls
- Documentation
- IT Security
- Model Validation
- Backtesting
- Data Feeds
- Product Issuance
- Hypomat
- Product Life Cycle Mgmt
- Payment Processes
- AML controls
- Documentation
- IT Security
- Model Validation
- Backtesting
- Data Feeds
- Product Issuance
Automation in the Finance Industry

Example 1

Payment Processes

- Hypomat
- Product Issuance
- Credit Assessment
- Robo Advisor
- AML Controls
- Model Validation
- Backtesting
- Data Feeds
- IT Security
- Product Issuance
- Documentation
- Payment Processes
Payment Process
Focus Customer Experience

Product tagging:

PSD2 identification:
Based on something you own/you know/you are

Valora / Migrolino:
“Take what you want!” (...and we know how to charge you)
Automation in the Finance Industry

Example 2

- Hypomat
- Product Issuance
- Credit Assessment
- Robo Advisor
- Product LifeCycle Mgmt
- Payment Processes
- AML controls
- IT Security
- Model Validation
- Backtesting
- Data Feeds
- Product Issuance
- Documentation
Automation within Platform Business 1(3)

Product Documentation, -Issuance & -Lifecycle Management at Leonteq
Automation within Platform Business 2(3)
Automated Product Documentation & Issuance at Leonteq

Automated production of approx. 280,000 documents per day for Leonteq and various platform partners

Source: Leonteq
Automation within Platform Business 2(3)
Automated Product Documentation & Issuance at Leonteq

Key Information Document ("KID")

<table>
<thead>
<tr>
<th>Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>This document provides the investor (&quot;you&quot;) with key information about this investment product. It is not marketing material. The information is required by law to help the investor understand the nature, risks, costs, potential gains and losses of this product and to help the investor compare it with other products.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10.00% p.a. Barrier Reverse Convertible in CHF on Credit Suisse, Nestlé, Novartis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swiss Securities Number: 4814970 : ISIN: CH0041447701 : SIX Symbol:KIDLLP,</td>
</tr>
<tr>
<td>Issue of this Product: Leonteq Securitization AG, Zurich, Switzerland (Issuer)</td>
</tr>
<tr>
<td>KID Manufacturer: Leonteq Securitization AG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>What is this product?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type</td>
</tr>
<tr>
<td>This product is a Swiss Unregistered Security under Swiss law.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective of the product is to provide the investor with a specified investment accepting to predefined conditions. This product offers the investor a Coupon Rate regardless of the performance of the Underlyings during the lifetime. The product has a fixed lifetime and will be redeemed on the Early Redemption Date or on the Redemption Date.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Early Redemption on the specific Early Redemption Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>On each Early Redemption Observation Date, the Issuer has the right, but not the obligation, to call the product for Early Redemption on the respective Early Redemption Date.</td>
</tr>
<tr>
<td>The Issuer will receive CHF 1500.00 (100% of the Denomination) plus the Coupon Amount, if applicable, for the respective Coupon Payment Date. No further payments will be made.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Redemption opportunities on the Redemption Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>If a Barrier Event has not occurred, the Issuer will receive CHF 1500.00 (100% of the Denomination).</td>
</tr>
<tr>
<td>If a Barrier Event has occurred and:</td>
</tr>
<tr>
<td>- If the Final Fixing Level of the Underlying with the Worst Performance is at or below the respective Strike Level, the Issuer will receive a round number (a Conversion Ratio) of the Underlying with the Worst Performance per Product. Any potential Round Off Conversion Ratio entitlements (Fractions of the Underlying) will be paid in cash, based on the Final Fixing Level.</td>
</tr>
<tr>
<td>- If the Final Fixing Level of the Underlying with the Worst Performance is above the respective Strike Level, the Issuer will receive CHF 1500.00 (100% of the Denomination).</td>
</tr>
</tbody>
</table>

| A Barrier Event shall be deemed to occur if at any time on any exchange business day during the Barrier Observation Period the level of at least one of the Underlyings' prices has been traded at or below the respective Barrier Level. |
| The Issuer may, in a loss of case, the sum of the values of the relevant shares on the Redemption Date, the Fractions of the Underlying and the coupon payment is below the purchase price of the product. Different forms of redemption may apply to the Underlying, the Issuer will receive a coupon payment, but no discounted payment. |

<table>
<thead>
<tr>
<th>Subscription Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>29.03.2019 - 09.04.2019, 14.00 CEST</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimum Investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF 1500.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Minimum Trading Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CHF 1500.00</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Initial Fixing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>06/09/2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>First Exchange Trading Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>16/09/2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Final Fixing Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>07/12/2020</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Exchange Listing</th>
</tr>
</thead>
<tbody>
<tr>
<td>SIX Swiss Exchange AG</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Worst Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>For each Underlying the performance is calculated by dividing the Final Fixing Level by the respective Initial Fixing Level. The World Performance corresponds to the lowest of all such calculated values.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Currency Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the Underlyings are calculated in a currency different from the Currency of the product, the conversion into the Currency of the product will be carried out at the relevant exchange rate.</td>
</tr>
</tbody>
</table>

| e.g. Key Information Document |
Automated Product Documentation & Issuance at Leonteq

Source: Leonteq
Automation within Platform Business 3(3)

LifeCycle Management at Leonteq

automatic update of all documents as scheduled or triggered by events

LifeCycle Mgmt including

- Barrier monitoring
- Soft- / Autocall triggers
- Corporate actions
- Dividend adjustments or reinvestments
- Product rolling
- Rebalancing
- Restructuring
- Expiry monitoring
Automation in the Finance Industry

Example 3

- Hypomat
- Product Issuance
- Credit Assessment
- Robo Advisor
- Product LifeCycle Mgmt
- Payment Processes
- AML controls
- IT Security
- Model Validation
- Backtesting
- Data Feeds
- Documentation
- Product Issuance
What can one do within a legacy environment?

Numbers are calculated dynamically and consistent with the back end data. Interfaces to many programming languages are available.

Generated by R code embedded in the document.

Produced by Python code included in the document file.

Created using document-embedded R code utilizing data imported by encapsulated Python code.

Code edit / view options

R code included in the document visualizes data that is fetched via SQL.
Credit Analysis

Early Warning Tool using ML based Sentiment Analysis

Input
- Traditionelle Medien
- Marktdaten (zur Validierung anderer Signale)
- Finanzberichte (ggf. als Kalibrierungsgrundlage)
- Kreditbestandsdaten (ggf. als Gewichtungsfaktor)
- Corporate Events
- Social Media

Verarbeitung
- Externe Daten
  - Traditionelle Medien
  - Marktdaten
  - Corporate Events
  - Social Media
- Interne Daten
  - Finanzberichte
  - Kreditbestands- und Verhältnisdaten

Output
- Analyse-Toolbox
- Text Analytics
- Marktdatenanalyse
- Finanzkennzahlanalyse
- Gewichtung
- Trending Topics

Technische Implementierung:
- Analyse-Toolbox in Python
- Web-basierte GUI
- Schnittstellen kundenspezifisch

Overall logic
- Integration into planning process
- Dashboard
- Processing and warnings
- Backtesting
Automation in the Finance Industry

Example 4

- Hypomat
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- Robo Advisor
- Product LifeCycle Mgmt
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- Documentation
- Payment Processes
- Product Issuance
- Data Feeds
Backtesting and P&L Explanation
Indicative process involving Risk & Finance

Room for improvement...
Backtesting and P&L Explanation

Indicative process involving Risk & Finance

- Transparent
- Fast & efficient
- Reduced manual intervention
- Reduced Operational Risk
Conclusions
Conclusions

What have we learned?

01 Automation safes time (once implemented) and reduces costs (hopefully), but we probably knew that already...

02 It also increases consistency, reduces complexity, therefore avoids operational errors and supports compliance – and finally...

03 Working on Automation in Finance in pretty cool! ;-)

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Contact

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