

Misys Solution for Liquidity Risk Management

# Price, analyse and manage liquidity risk

**Regulatory changes are forcing financial institutions to redefine their existing liquidity management processes and internal transfer pricing models. New liquidity rules proposed by the Basel Committee on Banking Supervision (BCBS), Financial Services Authority (FSA) and other financial regulators are issuing requirements for higher capital and establishing new minimum liquidity ratios.**

**Basel III**

BCBS is leading the way with setting time frames within which financial institutions will need to comply as part of Basel III. In practice, all financial institutions are being advised to revise their own internal policies on managing their balance sheet and analysing their liquidity risk already so that when the new rules are imposed they are ready to disclose all relevant information to their local regulator.

**The guiding principles consistent in all liquidity regulations**

- + board and senior management oversight
- + establishment of policies and risk tolerance
- + maintenance of high minimum liquidity ratios i.e. a sufficient cushion of high quality liquid assets to meet all liquidity needs resulting from the prescribed regulatory stress tests and the financial institution's internal liquidity policy
- + use of liquidity risk management tools such as comprehensive cash flow forecasting, limits, liquidity scenarios and stress testing
- + development of robust and multifaceted contingency funding plans

**The challenges facing financial institutions to comply with new regulations:**

**Data management** - Does the financial institution have confidence that it has collected all the relevant data in one place? Is the data clean, consistent, accurate and transparent? Are the regulations applied correctly and can that be proven?

**Moving to an 'auditable' solution** - Spreadsheets cannot be provided to regulators for audit purposes. They don't have the reliability, security and

operational efficiency contained in proven vendor systems. Financial institutions need a transparent and auditable solution which captures all the required data and performs all necessary calculations including regulatory defined and internal stress tests.

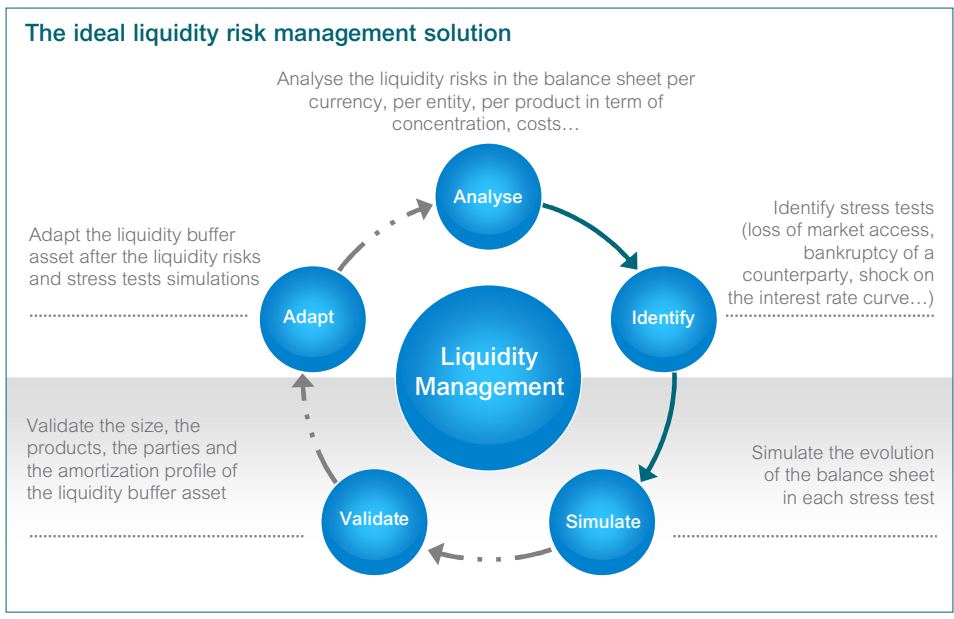
**Achieving system flexibility** - Is the system able to perform all the cash flow forecasting and run stress tests incorporating behavioural and / or business planning scenarios and can it produce 'super scenarios'? Can the financial institution provide the counterparty liability maturity by product breakdowns to the same standard as it can for the asset side of the balance sheet?

**Robust solution** - Financial Institutions need a robust asset and liability management framework to ensure complete coverage of data gathering, calculations and processing. It needs to be adaptable and flexible to meet current and future demands

**Internal transfer pricing models** - the system should not only be able to price and manage liquidity but it should be able to perform and model internal transfer pricing and manage that process.

By observing a stronger than required liquidity ratio a bank could reduce the cost of funding for the liquidity asset buffers.

# “Liquidity risk systems and processes need to be adaptable and flexible to meet current and future demands. Financial Institutions need a robust Asset and Liability Management framework.”



systems. The ideal solution should be able to provide margin analysis across all dimensions of the business i.e. by region, branch, subsidiary, department and then by product, customer, industry segment and by credit margin, liquidity cost, capital cost and any other margin so that the break-even margins (costs to the business) can be allocated to the deal and a commercial margin applied.

Almonde is a complete solution with deep functionality, inbuilt proven stress testing and scenario capability together with strong ‘what-if’ analysis which provides all that is needed by banks to ensure compliance and the confidence that they are ‘liquid’ and that they can prove it to regulators and the credit markets.

**Almonde is used to manage the six key areas of liquidity risk management which comply with liquidity regulations**

- 1 Liquidity asset buffer management
- 2 Pricing Liquidity Risk
- 3 Funding diversification
- 4 Managing group liquidity and intraday liquidity
- 5 Comprehensive cash flow forecasting
- 6 Scenario analysis and stress testing

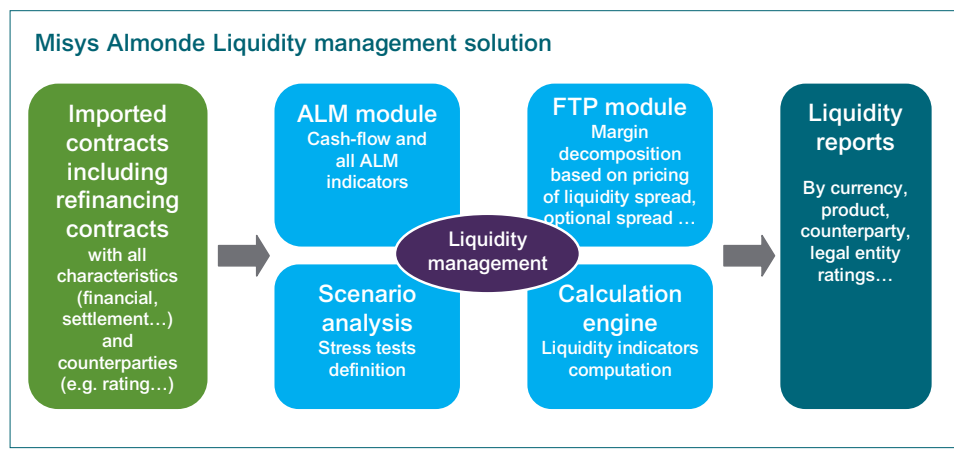
**How does Misys help financial institutions with analysis and disclosure of liquidity risk measures?**

Misys Almonde ALM offers the powerful functional and technical capabilities required to meet today’s regulatory and economic balance sheet management challenges. The solution enables the management of interest rate risk and gaps, foreign exchange and liquidity risks within the bank’s risk/return targets.

Misys Almonde facilitates sound risk management by providing auditable processes around risk simulation and analysis, enabling decision making and reporting.

The need to manage economic performance and risk down to the single contract level is becoming of paramount importance. To reduce costs financial institutions are forced to collaborate internally, integrate results and communicate across organisations and

Almonde has a single common data platform to supply a breadth of functional modules which encompass all aspects of enterprise economic performance and risk management to allow the user to take a more proactive view on ALM and liquidity across the business silos in an organisation. By having all functional modules share the single data model for risk and earnings analytics, scenario engines and Basel II/III functions, Almonde achieves consistent analysis and calculations across all domains. Users across departments can share the same results, in the same formats, if required.



## Key features of Misys Almonde

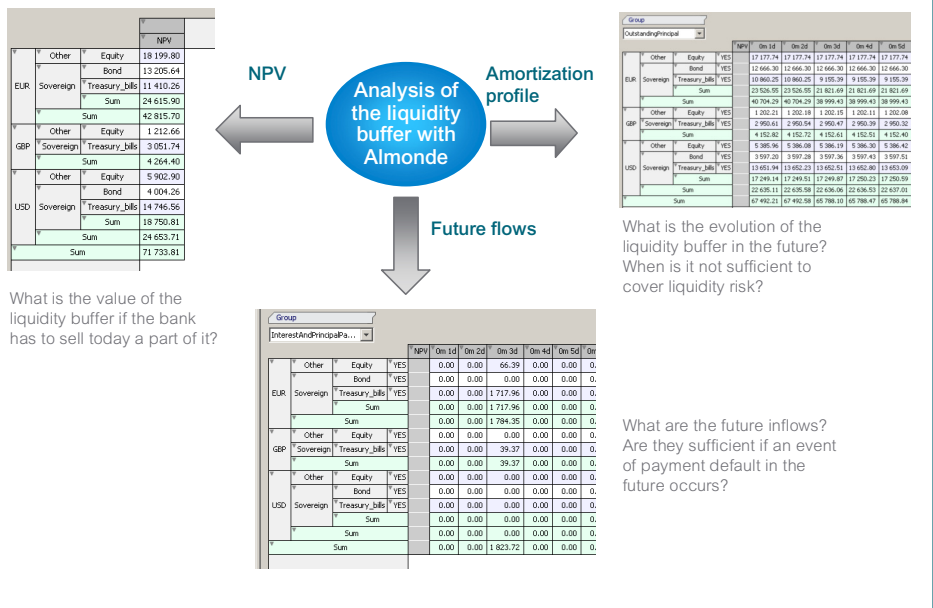
- + **Single platform** to meet all liquidity risk requirements
- + **Comprehensive and auditable solution** with features that take care of all aspects of liquidity risk, stress testing and funds transfer pricing
- + **Robust, mature and rich** solution with experience of operating in the ALM / FTP market for over 10 years.
- + **Advanced data management** using an inbuilt ETL tool that can import data from many diverse sources.
- + **Future proofing the banks needs** for ALM, FTP, Basel III (Liquidity) and IAS 39 all in one application.

## 1. Liquidity asset buffer management -

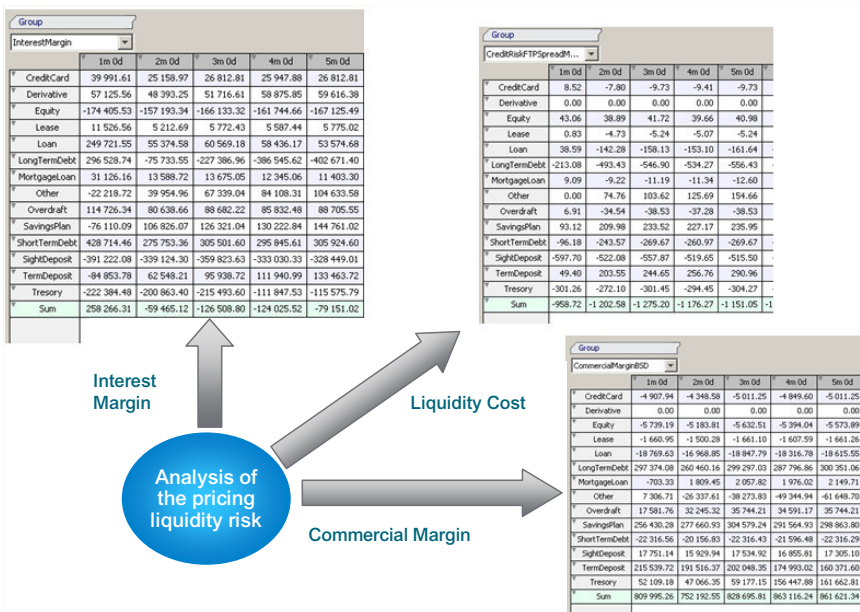
Helps in maintenance of a sufficient quantity of high quality liquid assets. The FSA and CEBS require financial institutions to define a liquidity asset buffer composed of cash, high quality approved assets issued by governments or central banks. The Misys solution enables the Liquidity Risk manager to analyse in detail the liquidity asset buffer. These elements are used as input in the optimisation of this buffer according to the internal and/or regulators requirements.

With Almonde, you can conduct an analysis of the liquidity asset buffers by product, by maturity, by currency, by issuer and by individual contract including with or without new contracts. It can be used in 'What-If' analysis for forecasting the bank's future liquidity profile. All contracts in the liquidity asset buffer can be identified with the use of a specific new attribute or the use of a decision table.

## Analyse the liquidity buffer



## Price liquidity risk



## 2. Pricing Liquidity Risk

Almonde helps in accurately quantifying liquidity costs, benefits and risks and fully incorporate them into product pricing. The FTP module in Almonde allows the Risk manager to follow this price under different dimensions.

FTP margin analytics are an essential part of a robust risk management and financial control framework. Almonde is a robust margin calculation and management solution with the capacity to work at the transaction-level for maximum reusability of results. It calculates funds transfer price rates and commercial margins on the underlying financial contracts and computes the balance sheet mismatch margin. Commercial margins can be further broken down for economic-based profitability analysis across the bank. All FTP measures can be run dynamically using a combination of business planning, behavioural and economic/market scenarios.



This integrated solution for liquidity risk comes with a flexible data cube, which allows users to slice & dice data, drill down to the underlying contract data from results, as well as making comparisons of different scenarios and against historical data.



### 3. Funding diversification

Almonde computes relevant indicators to analyse funding concentration utilising the Dynamic Data Cube. This is a powerful analytical tool. It is possible to construct and analyse all the liquidity indicators in Almonde.

**FSA051 – funding concentration**

MISYS Almonde

User: configadmin

Assistant:

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	OPaBSD		Duration
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CP0000068	282 589.00		5.55
CP0000102	154 924.00		4.67
CP0000114	16 102.00		5.28
CP0000149	130 456.00		3.57
CP0000162	449 435.00		0.11
CP0000167	383 251.00		4.07
CP0000186	2 653.00		5.94
CP0000218	121 484.00		0.97
CP0000224	162 076.00		5.63
CP0000229	94 340.00		5.47
CP0000238	470 073.00		0.02
CP0000276	485 005.00		2.18
CP0000277	123 255.00		3.84
CP0000284	303 869.00		5.17
CP0000291	118 679.00		4.40
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CP0000315	343 675.00		0.71
CP0000319	9 419.00		1.87
<b>Current_Account</b>	<b>4 442 567.00</b>		<b>2.68</b>
CP0000016	12 231 372.18		--
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CP0000083	8 877 906.93		--
CP0000118	1 313 537.71		--
CP0000135	16 470 324.37		--
CP0000142	10 783 116.06		--
CP0000174	8 670 747.59		--
CP0000197	6 512 227.00		--
CP0000225	1 146 196.00		--
CP0000305	9 864 276.72		--
CP0000329	14 629 107.00		--
<b>Repo</b>	<b>94 419 255.93</b>		<b>--</b>
<b>France</b>	<b>98 861 822.93</b>		<b>2.69</b>
<b>Total</b>	<b>98 861 822.93</b>		<b>2.69</b>

### 4. Managing group liquidity and intraday liquidity

The Misys Almonde solution offers the ability to analyse the liquidity risk at the group level using the following dimensions:

- + managing liquidity across legal entities
- + managing liquidity across business lines
- + managing liquidity across currencies
- + asset concentration dimensions
- + funding concentration and diversification
- + collateral dimension

Misys Almonde computes all liquidity indicators at the contract level and can project these indicators on the chosen dimensions e.g. entity, business line, currency, portfolio etc. The dynamic data cube is used to organize and display the results.

The solution also offers the ability to manage intraday liquidity by the import of modified or new contracts during the day. Intra day liquidity indicators can also be produced e.g. cash flows, inflows and outflows computation, liquidity gap generation.

### 5. Comprehensive cash flow forecasting

Almonde can easily take in all balance sheet and non balance sheet items and forecast cash flows in a user defined manner. Superior data handling features ensure the relevant contract data is centrally collected enabling complete accuracy and consistency of the information which is then immediately available to the calculation / analysis engines to perform the scenario analysis and stress testing elements for the internal liquidity rules and external liquidity regulations.

All calculations are performed at contract level (not at an aggregate level). Adjustments can be made for customer behaviour and business forecasts.

Almonde's powerful calculation engine calculates cash flows allowing different options and measures:

- + precisions and flexibility:
  - + cash flows are calculated daily
  - + cash flows can be grouped in configurable time buckets (any series of interval down to daily)
- + full list of principal and interest cash flows:
  - + rate sets
  - + expected cash flows
  - + accrued interest
  - + residual principal
  - + average residual principal
- + Discounted cash flow analysis:
  - + multiple yield curves
  - + derivation of zero coupon rates / discount factors
  - + implied rates from forward curves

## 6. Scenario analysis and stress testing

Almonde is designed to construct analyses based on scenarios. In liquidity risk management, each stress test is defined by a specific scenario. Extensive stress testing is fully supported in Almonde using the Common Scenario Analysis tools. These tools test the quality and the volume of the liquidity asset buffers under different scenarios.

Misys Almonde manages the following scenario types:

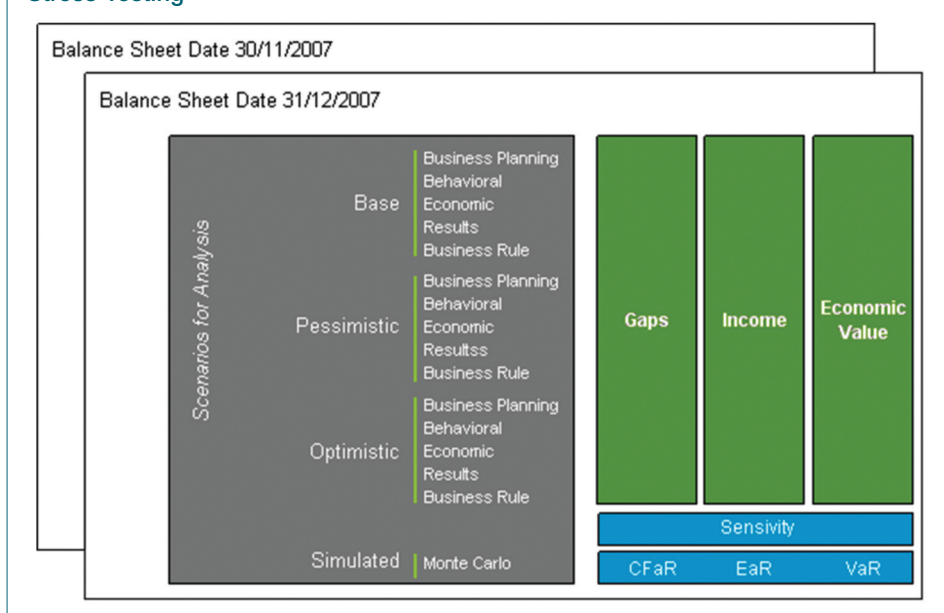
- + business planning scenarios (volume, margins)
- + behavioural scenarios (prepayments, renegotiations, non-performing loans, defaults, credit cards, deposits)
- + economic / market scenarios (yield curve surfaces, administered rates, discount functions, exchange rates). Market data can be input daily on an automated or manual basis;
- + structural balance sheet assumptions (equity, real-estate, reserves, asset and liability holding accounts)

Almonde automates ongoing scenario setup and manages to save customers time and enable current results to be compared with historical results on a consistent basis. The calculations can use unrestricted numbers of scenarios, each giving a specific vision of the future.

These scenarios can be used to build any number of stress tests. Examples of stress tests include:

- + a bankruptcy of counterparty
- + a shock of market rates (local and/or global view)
- + a shock on the liquidity spread curve
- + a loss of access to financial markets
- + a downgrade of:
  - + the bank's rating
  - + a country rating
  - + ratings of assets in the liquidity buffers
  - + a counterparty etc.

## Stress Testing



- + roll off and rollover assumptions
- + application of haircuts to assets

The flexibility offered by Almonde in the definition of the multiple analysis axis (for example: account nature and/or type, currency, counterparties including ratings, activities, business lines) helps the liquidity risk manager to analyse the information based on the various parameters and in the construction of exhaustive reports.

This integrated solution for liquidity risk comes with a flexible data cube, which allows users to slice & dice data, drill down to the underlying contract data from results, as well as making comparisons of different scenarios and against historical data.

Misys Almonde ALM offers the powerful functional and technical capabilities required to meet today's regulatory and economic balance sheet management challenges.

Almonde enables the management of the business to process data efficiently, monitor and maintain liquidity ratio's, back up (contingency) funding strategies, applicable liquidity asset buffers and FTP plans.

For more information on how Misys Almonde can help you, please email: [risk@misys.com](mailto:risk@misys.com)

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