

ELECTRUM

NEXT GENERATION COMMODITIES MANAGEMENT SOLUTION

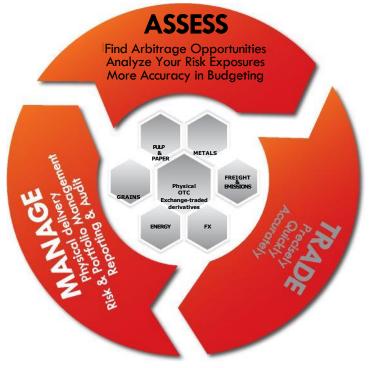
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ELECTRUM

Multi-Commodity and Cross-Function Trading and Risk Management System

Electrum is a commodities trading and risk management system for front, middle and back office operations.

Electrum supports the complete trading life cycle, from trade booking to portfolio risk management and transaction workflows for physical commodities, exchange-traded and OTC derivatives. It supports a wide range of commodity asset classes and instruments and has feature-rich functionality and reporting. With the next generation Microsoft .NET platform, Electrum is easy, cost-effective and quick to deploy for international commodity traders, industrial manufacturers and processors, users of commodities and hedge funds.



Electrum helps you assess, book trades and manage your positions and risk so you can quickly exploit new opportunities.

Key Features

- Covers the entire asset class of commodity products
- Comprehensive information coverage of current and future commodity exposures throughout a transaction's lifecycle
- Multi-purpose tools that allow convenient recording of transactions, booking, analysis, and management of physical commodity and derivatives contracts
- Electrum state-of-the-art analytics and model libraries
- A much lighter version than typical legacy platforms, while providing similar functionalities

- > Assess, book trade and manage any combinations of exchange traded, OTC and crosscurrency contracts
- Improve the quality and security of transaction data and management process
- Organize, analyze and view financial positions efficiently
- Hedge your risks easily and transparently
- Standardize and improve workflows multiple from trading venues
- Easily segregate duties for front office, middle office and back office
- Save time for each role within the organization
- Customize precisely and easily to meet your specific needs
- Meet institutional standards requirements
- Scale from one to hundreds of users

Assess

- ✓ Find Arbitrage opportunities
- Analyze your risk exposures
- ✓ More accuracy in budgeting

Electrum records all the transaction information, provides pricing solution for the entire range of commodities derivatives contracts, as well as cash flow management and risk analytics.

Electrum handles complex pricing and risk reporting:

- Having the ability to imply necessary information from market data to generate forward price curves and volatility matrices is key to both meaningful valuation and effective risk management
- Curve types include forward curve, interest rate curves and volatility surfaces. User can also import their own curves and use them for additional valuation purposes

urve Browser						
lurve				- Curve Information -		
Curve Type:	PRICE_CURVE	•		Description	LME Copper	Usage:
Curve Name:	LMECOPPER	•		Currency:	USD	Composition
Update Time:	Update Time 01/10/2013	<u> </u>		Algorithm:	VOID	
	30/09/2013 27/09/2013 26/09/2013	_		Curve Chart	INECORDER	USD 09/26/2013 M
	25/09/2013	•			LMECOPPER	030 03/20/2013 M
Curve Points		_		8000	LMECOPPER	
SHORT NAME	TERM	BID OFFER	•			
	TERM		•	8000	LMECOPPER	
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SHORT NAME LIMECOPPERCA OCT3COPPER NOV3COPPER	TERM SH TERM_OYEAR TERM_20DAY TERM_25DAY	BID 0FFEB 6731.000 6731.000 7279.000 7279.000 6750.000 6760.000	•	7000	LMECUPPER	050 03/20/2013 M

- Includes the most sophisticated modelling methods for option-based derivatives pricing as well as for risk analytics including VaR
- Risk simulation "what-if" tool and scenario curves allow companies to more accurately determine how potential market changes will affect their portfolio.

FORWARD_CURVE	
QUOTES	

- Perform complex pricing
- Create own curves or select from library
- > Easily manage currency and interest rates for accurate valuation
- Assess "what if" scenarios

Trade

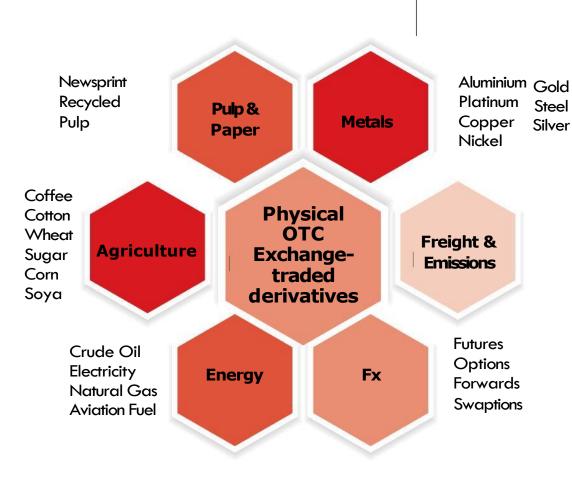
- ✓ Precisely
- ✓ Quickly
- ✓ Accurately

With features-rich functions and customized trade capture screens, Electrum will adapt to your trading needs.

- Electrum provides a dedicated worksheet for each type of physical and/or derivatives commodity transactions. It comes with fields specific to each commodity or instrument type, with default values as well as valuation contract output and risk analytics figures
- The risk figures include Net Present Value, Profit and Loss, forward price and interest rate sensitivities, VaR and Greeks (for options), as well as user-defined measures.



- \triangleright Have dedicated worksheets for each type of transaction
- Automate the issuance of trade ticket and trade confirmation
- Personalize risk limits by \geq trader



Manage

- ✓ Market risk exposure
- ✓ Physical delivery
- ✓ Counterparty risk

RISK

Risk managers and traders need the ability to quantify p exposures and act on that information.

Electrum provides companies with comprehensive risk po & loss reporting with daily marking to fair market valu

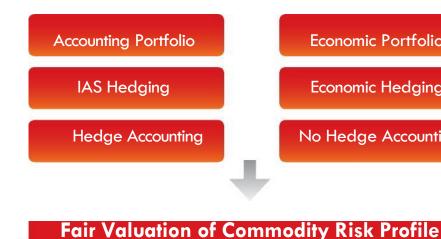
Electrum manage positions on all instruments for any position keeping, risk management and reporting both single transactions and portfolios. Positions are ba transactions.

Electrum automates processes for managing risk, price, demand curves allowing managers to develop hedging estimate portfolio value.

Risk limits can be set up by:

- Underlying cash instrument
- Counterparty -
- Trader -
- -Maturity
- User-defined grouping

The market and counterparty risk limits can depend on risk profile, market valuations or user-defined scenarios.



	Manage risks by portfolio and/ or single transaction
positions and	Automate your risk processes and workflows
period and has	Drill-down at any level risk exposure across physical and financial positions
capabilities for ased on historical	 Improve control of physical inventory and deliveries
and supply and g strategies and	
n rick profile	



Report

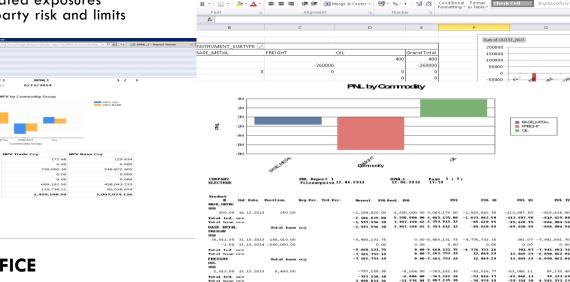
✓ Risk Reporting

✓ Audit

REPORTING

Electrum reporting system has been designed to be highly flexible and customizable. It allows the user to create unrestricted numbers of reports to meet every user's need. Each report template is stored in the centralized database and can be exported in multiple formats for internal or external purposes. For instance, one can create:

- MtM and P&L reports
- Consolidated exposures
- Counterparty risk and limits



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Customize

unrestricted

functionality

Full back office

140

number of reports

BACK OFFICE

The Electrum back office module generates trade tickets, confirmations and payment advices for different instrument types and in multiple languages. It also supports the checking and authorization of settlement prices and calculates the payment for all instrument types.

ACCOUNTING, AUDIT & COMPLIANCE

Electrum's accounting module allows user to setup user-defined accounting rules and generate accounting entries. Various accounting methodologies can be used, including FIFO, WACC, etc. IAS 39 hedge accounting is also incorporated.

The accounting module can be used as a standalone system or it can interface to GL systems such as SAP.

Electrum's permission model allows the creation of different types of user groups and therefore limits available actions depending on user profile.

Every operation is stored in the system for quick and thorough auditing.

Technology

- Electrum software architecture is based on the latest Microsoft technologies such as:
 - .NET framework
 - SQL Server Integration, and
 - Reporting Services
- Multi-language user interface, availability includes English and Chinese
- Standard interfaces for market feeds (Bloomberg, Reuters, Global View, etc.)
- Electrum embeds Crystal Reports and SQL Server Reporting Services and report delivery formats include:
 - XML
 - Adobe Acrobat
 - Microsoft Word
 - Microsoft Excel

Electrum Value Proposition

Electrum provides a compelling value proposition leading to a competitive advantage for its users that comprises:

- Risk management policy implementation
- Hedge plan analysis and benchmarking
- Risk mode verification and validation
- forward and forecast curves for different commodity markets
- International Accounting Standards compliance Technology and functionality covering front-to-back, model libraries, hedge accounting, reporting

Risk mode improvement allowing the construction of



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