

DELTA & First Derivatives plc

PRODUCTS AND SOLUTIONS FROM CAPITAL MARKETS EXPERTS



Corporate Profile

www.firstderivatives.com

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1 Corporate Profile

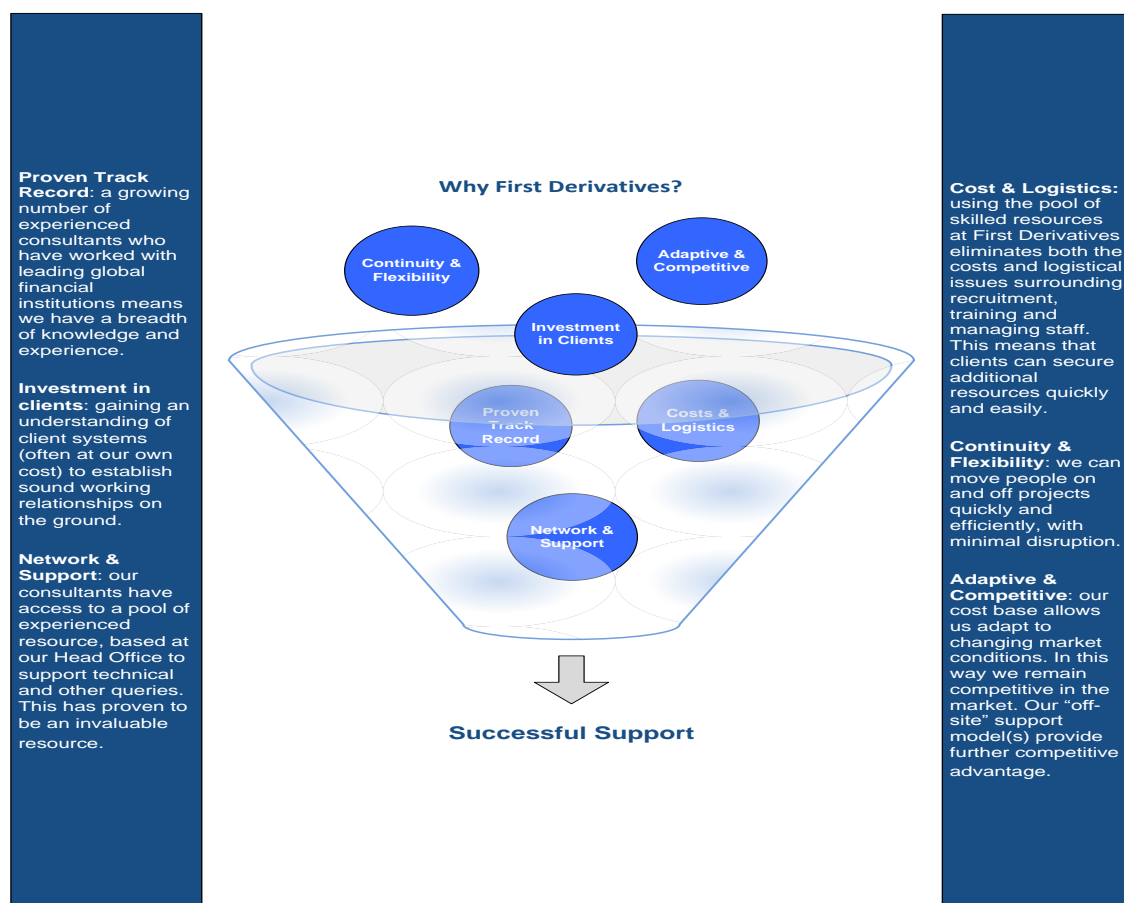
First Derivatives is a leading provider of products and consulting services to the capital markets industry. Focused on financial institutions that work cross-asset, often with multi-system and/or high volume trading activities the Company scopes, designs, develops, implements and supports a broad range of mission critical data and trading systems across front, middle and back-office operations.

Incorporated in 1996, First Derivatives has served the capital markets industry since its incorporation in 1996. The Company holds a niche market position in terms of domain knowledge of capital market asset classes (equities, fixed income, foreign exchange, commodities, etc), as well as expertise in leading financial services systems (such as Calypso, Murex, Opics, Summit, Principia, Opus, Wall Street, kdb+, etc). The Company has been working closely with leading global financial institutions to enable client proprietary and 3rd Party systems cope with the demands of high volume, complex trading in an increasingly regulated market. This combination of domain knowledge and technical expertise in leading financial services technologies has motivated the Company to invest in developing its own product suite - **DELTA**.

First Derivatives is a publicly held company, trading on the London Stock Exchange ([LSE FDP.L](#)) and Irish Stock Exchange ([IEX:GYQ.I](#)). The Company is headquartered in the United Kingdom and operates from purpose built premises, where it has established its research and development centre, its Capital Markets Competency Centre and its near-shore support facilities. The Company has continued to expand its service offering and now has operational bases in Europe, North America and Asia to service its global client base. It is recognized as one of the fastest growing capital markets service providers in the world. First Derivatives now employs over 250 capital markets consultants worldwide.

Why First Derivatives?

First Derivatives' distinct competitive advantage derives from its unique combination of knowledge of financial markets and expertise in financial services technologies. The Company believes that its consultants need to fully understand the client's business requirements in order to produce the right technical solution. This saves our clients development time, and ultimately money.



2 Our Products & Services

Introduction

First Derivatives has developed its own range of products for the capital markets industry - **DELTA**. It has continually evolved its offerings to clients into what is now considered to be a complete offering, both in terms of the range of products and services it provides and the location(s) in which these offerings can be delivered.

Overview

Consulting Services

Understanding Your Business

First Derivatives works with many of the world's leading investment banks and hedge funds, helping them achieve success in an ever changing business environment. We capitalise on our experience as a provider of technological services and also as a dedicated product supplier. First Derivatives can find the right solution for you and has the expertise to get the job done.

Areas where we can help:

Performance Management:

We aim to improve the ability of our clients and their employees to adapt to key external and internal challenges. We strive to help companies align and exceed operational objectives while at the same time minimising costs:

- Dynamic planning and forecasting processes.
- Improving management decision-making.
- Exploiting and utilising new technology to help maintain and improve all areas of operational efficiency.

Vendor Integrity Screening:

This enables our clients to execute a risk-free selection of technology partners:

- Over 12 years experience advising on Technology issues in capital markets, both as a provider and a trusted consultative partner.
- We have implemented and provided support for numerous third party products, (Summit, Calypso, Murex, Wall Street), so we have a detailed understanding of the value that each individual product and supplier can bring. Our clients have found that this helps mitigate their risk in the vendor selection process.

Transformation Leadership:

We operate a constant support programme to enable our investment banking and hedge fund clients to understand the business and technological challenges facing them, and assist them in adopting the most relevant and appropriate change programme.

- Understanding the constant regulatory changes and helping to improve overall Risk Management performance across regulations such as Basel II, MIFID and Sarbanes–Oxley.
- Dedicated on-site consultants understanding and advising on the largest and most complex change programmes.

Support Services

Driving Business Innovation

IT infrastructure is the main driver of your business. Whether it is a general risk management platform or a niche product operating around an individual asset class, First Derivatives has the experience and expertise to help leading financial institutions balance flexibility and cost, with innovation and future planning. We believe in an approach that drives business efficiency and provides a competitive advantage.

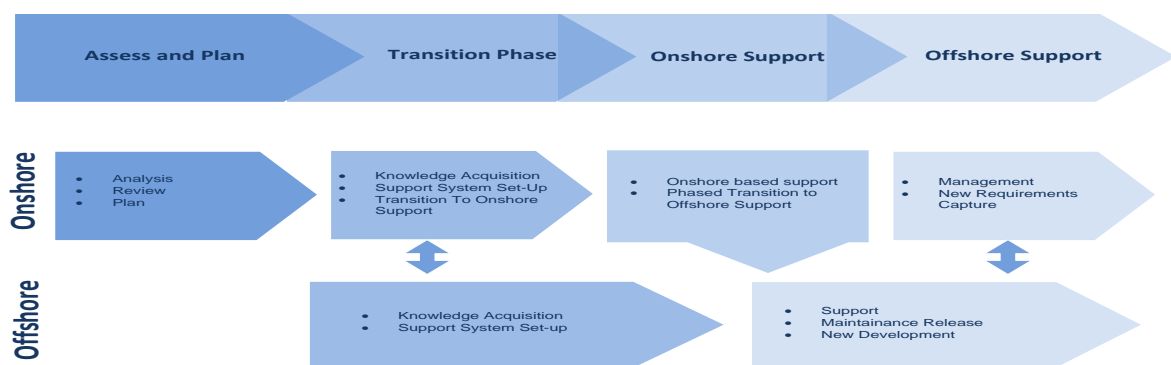
Our Support Models

First Derivatives provides both Business Critical Support and Business- As-Usual Support (“BAU”). Delivery models flex with client need. Services are delivered through a single model, or a combination of models.

- **On-Site**
Where any number of the Company’s Support Engineers is placed on site at the client premises, with responsibility, in whole or in part for system support. In this model our Support Engineers work closely on a day-to-day basis with the client’s business and technology teams. This on-site support can be delivered both in and out of normal office hours.
- **On-Shore/Near-Shore**
Where Support Engineers are placed near to the client premise(s) utilising the Company’s operational centres. Support Engineers have responsibility, in whole or in part for system support. This On-Shore/Near-Shore support can be delivered both in and out of normal office hours. It is extensively used by clients to provide overnight or on-call cover.
- **Off-Shore**
This model is generally used by our clients, where we have already been engaged to deliver On-Site or On-Shore/Near-Shore Support Services. It is often a model that is transitioned in over time (see Flexing Delivery Model(s) below) and one where the delivery model we use incorporates an element of On-Site Support. This model is often incorporated into the overall service offering to clients to more effectively manage client operating costs.
- **Multi-Location**
Utilising the entire range of locations available i.e. client locations and the Company’s Operational Centres provides a cost efficient and effective support model. Each delivery model can be used to deliver a tailored service to the client. Models can also be flexed accordingly as circumstances change at the client in terms of usage, spikes in problems being experienced, etc. Often this model is used to deliver round-the-clock support to clients across a number of trading time zones.

Flexing Delivery Model(s)

Often there are competing demands on clients that result in the need for the Support Service(s) we provide having to adopt a different delivery model. Such decisions can be driven by the demand for increased service levels from business users and/or the need to manage cost more efficiently. We have demonstrated to clients the ability to quickly and seamlessly flex our business model to meet these changing demands. We summarise below, by way of example how we approach flexing our delivery model from on-shore to off-shore.



Technology Services

Implementation

First Derivatives has performed numerous implementation projects over the past decade with leading global financial institutions. We have extensive expertise in the support, implementation and enhancement of products such as Calypso, Murex, Summit, Wall Street and Kondor+.

We aim to provide a cost effective and professional alternative.

Integration and De-Commissioning

First Derivatives adopts a holistic approach to its implementation and integration services. We understand the difficulties of integrating new systems with legacy ones. Successful integration requires an evaluation of existing technologies an assessment of current practices and skills and tailored solutions to support an assessment of processes and drive successes.

- Multi-Vendor Support
- Cost Effective
- Skilled Consultants
- Extensive Capital Markets Knowledge

Multi-System Coverage

Our Support Services extends to both Proprietary Systems i.e. those developed by or on behalf of clients and 3rd Party Vendor Systems.

We currently support a number of Proprietary Systems for clients across front office i.e. trading systems, middle office i.e. risk, accounting and other systems and back office i.e. settlement systems. Normally, there is a greater element of up-front time required when taking on an assignment to support a Proprietary System. However, given the Company's Capital Markets domain knowledge, and the experience our Support Engineers have in working on a day-to-day basis with leading financial services technologies, such as C#, C++, JAVA, .Net and kdb+ this learning curve has proven to be less steep for First Derivatives, when compared to our competitors.

We are also experienced at implementing and supporting 3rd Party Vendor Systems. Our experience extends to providing a complete range of services to clients on a global basis. This support includes, but is not limited to, a mix ongoing business analysis, support diagnostics, testing, upgrades, bug fixing and customised enhancements. Examples of the systems we support include;

Third Party Systems

- Summit
- Calypso
- Wall Street
- Murex
- Opus
- Opics
- Openlink
- Scrittura
- Algorithmics
- Kondor+
- Principia
- Kdb+

Product Portfolio

Real-time Algorithmic Trading Applications

The **DELTA** Suite is a high performance modular suite of Trading, Risk Management, Market Data, CEP and Analysis applications ranging in functionality up to a full end-to-end Low Latency Algorithmic Trading platform. The diagram below outlines the different products that make up the suite:



- *Delta Algo - Algorithmic Trading Platform*
Delta Algo is based on the proven scalable CEP architecture (Delta Stream) and provides the performance and flexibility to engineer, test and run a wide range of proprietary trading strategies and to manage associated risk in real-time. Strategies can be tested and refined using Delta Backtest and deployed seamlessly to production.
- *Delta Stream - High Performance CEP and Data Capture Platform*
Delta Stream is designed to enable users to capture, store and analyse large volumes of data within a single platform. It provides users with the framework to develop and deploy customised analytics that quickly perform complex calculations on large volumes of underlying market data, capturing real time market data and allowing unlimited historical storage of this data. Typical applications might include the development of real time analytic engines (eg, real time PL engines, customised vwap engines), trade cost analysis (TCA) tools, data repository for equity research teams and compliance tools
- *Delta Monitoring - Enterprise Level Monitoring, Investigation and Analysis Solution*
Delta Monitoring provides a sophisticated platform for capturing millions of server, process, latency and data signals and analysing those signals in realtime generating alerts and displaying the information in a high impact visual fashion. Furthermore, it uses the power of Kdb+ to enable rich analysis of realtime events across all the types of signals produced and against the database of historical signals previously captured.
- *Delta Reference Data Solutions*
Delta Reference Data Factory (RDF) is high performance, SOA-based, multi-user entitled, reference data management & integration platform. RDF facilitates both Golden Copy and “Multiple Version of the Truth” (MVT) from a single comprehensive fact repository; acquiring, modelling, managing, transforming and distributing security master, reference & pricing data across an enterprise. RDF was designed to meet the needs of diverse consumers that demand

their own representation of data that differs from other consumers. Diverse group of consumers can be satisfied with a single repository of facts but the representation of 'facts' has to be definable at the consumer level.

- Acquisition – Acquiring data from disparate internal and external (vendor) sources
- Management – Harmonizing, Consolidating, Modelling and Persisting
- Distribution – Exposing data to downstream consumers in desired format

➤ *Delta RealStream*

The RealStream product suite provides a full range of services for rate management, trading and liquidity management for banks and brokers offering pricing and trading services to Retail, Institutional, Corporate clients.

➤ *Delta Ref DaaS*

Delta RefDaaS (Reference Data as a Service) is a powerful & holistic managed service to meet the creation and consumption demands of the reference data industry (Sellers & Buyers of data). RefDaaS is a packaged service offering comprising:

- Facilities: Hardware, Network, Machines, Disk Space, Operational Support, SLA
- Application Support / People: Reference Data Domain Experts, Software SLA with World Class Knowledgeable Staffing
- Software: Proven High Performance Reference Data Platform & Transformation Engine, 140 Feed Handlers, Expose Data in Any Format

➤ *Delta TRM*

Delta TRM is a market and credit risk management and pricing system built on proven CEP architecture (Delta Stream). It provides a platform for consolidated real time risk monitoring on multiple risk sources, using distributed processing and olap. Standard dashboard views are easily extended using a flexible toolkit to include (but not limited to) positions, limits, scenario analysis, simulations, alerts and attribution analysis. Deal entry and pricing are integrated through a browser interface.

➤ *Delta Margin*

Delta Margin is a next generation margin trading platform engineered for high volume, performance and scale with a host of features that provide precise control of client and market risk. The platform is designed to be engaging and intuitive for novice traders as well as sophisticated for professional traders that may be looking for programmable technical analysis and a FIX trading API.

➤ *Delta Exchanges*

Delta for Exchanges is a suite of systems designed to complement a securities exchange's primary trading and clearing system. A central database, utilising FD's Delta Stream technology, stores all market data, around which there are a number of core systems. Analytics provides a wealth of information to the Exchange and potentially to data subscribers, through advanced data mining techniques. Market Surveillance provides alerts and innovative visualisation and presentation of information through FD's Dashboards technology. Compliance allows the exchange to monitor the performance of its members against their obligations, such as market maker performance. Risk Management provides the capability to manage trading limits in real time. Through Delta for Exchanges, FD can also offer a managed bureau service for algorithmic and high-frequency trading for brokers and members who may not be able to afford their own such platform outright.

Customised Solutions

First Derivatives has helped clients to develop a range of bespoke solutions for clients. This has been driven because of the clients size and/or unique trading activities. The solutions cover a range of leading capital markets technologies, as well as the complete transaction life cycle i.e. front, middle and back office operations.

The solutions include:

- Interest Rate Derivatives Pricing and Risk Management Systems
- Bond Trading Platform
- Front Office Credit Risk Pricing System
- Convertible Bonds Platform
- FX e-Commerce Platform
- FX Aggregator and Program Trading Solution
- Exotic Interest Rate and FX Options Systems
- Cross Asset Accounting System
- Equity and Equity Options Program Trading Systems
- Market Data Aggregated Feedhandlers and Direct Exchange Connectivity
- Market Data and Reference Data Golden Copy System
- Enterprise Risk Management Platform
- Credit Risk Platform
- Market Risk Platform

Advantages

First Derivatives believes it can deliver increased levels of service, whilst at the same time reducing client's operational costs when compared to in-house support model(s). Our ability to reduce costs whilst improving overall service quality is driven by the following:

- **Domain Expertise:** Our domain expertise is guaranteed by our extensive in house Capital markets Training Program (CMTP). See <http://www.firstderivatives.com/pages/CMTP.asp>
- **Technology Expertise:** We have extensive expertise in all major capital markets technologies;
- **Our People:** Our brand name and reputation for market leading remuneration means we can attract high calibre resources from the market at short notice;
- **Seamless Resource Transition:** Clients will not notice personnel moving on and off teams and will certainly not notice any degradation in team performance
- **Recruitment Costs & Timescales:** Using First Derivatives as a fluid pool of resources eliminates both the costs and logistical issues surrounding recruitment, training and people management; and
- **Development Resources:** All our Support Engineers are proficient in one or more computer languages and as such are available for ad hoc development work. Furthermore, we can mobilise additional development resources at short notice.

Deadlines/Turnaround times

First Derivatives has demonstrated time and time again, on client assignments and otherwise an ability to work to tight deadlines and turnaround times. This is an environment our people are used to working in as client circumstances change almost daily. Our experience has led us to develop working practices that help us meet these challenges. These include, but are not limited to:

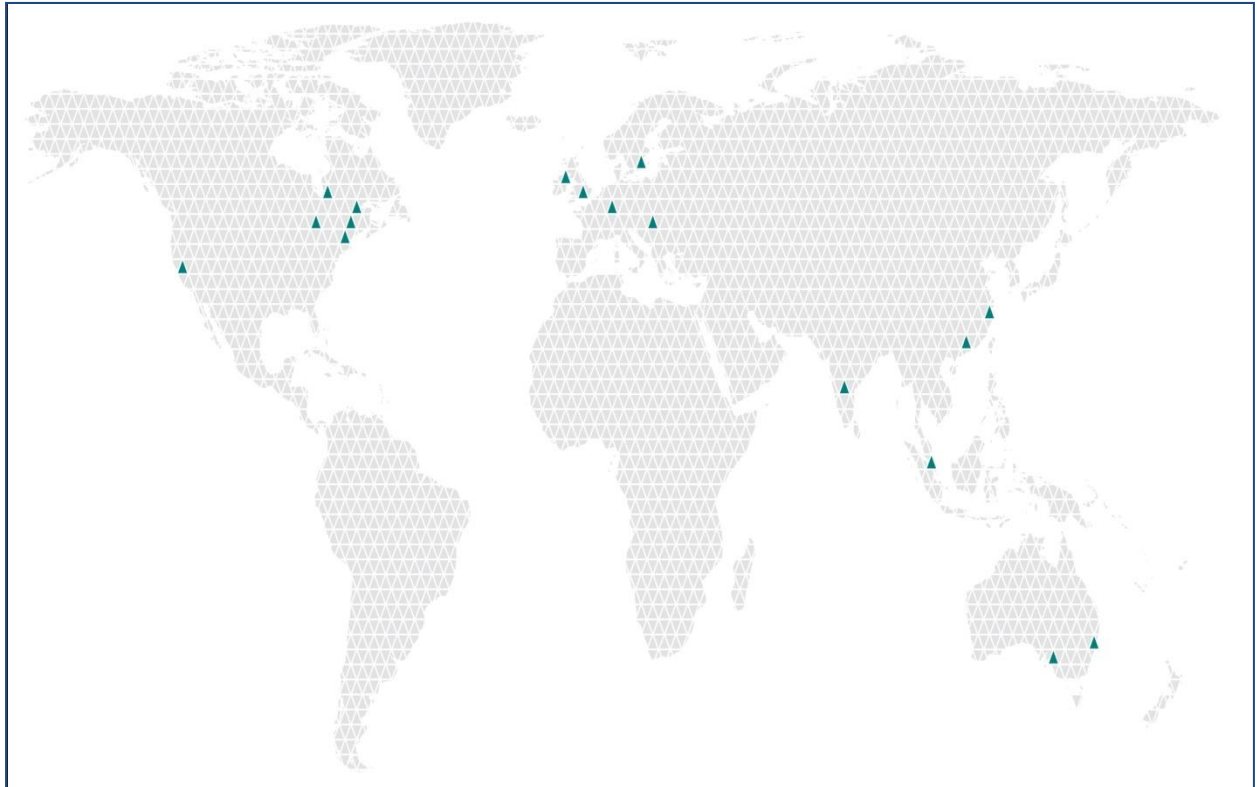
- 24/7 Head Office support so tasks that have not been completed are passed on to those working the evening or early morning shift;
- An email audit system, where each email can be quickly traced back to the individual who first looked at the issue for continuity;
- Standard SLA with our clients for common issues;
- Additional staff trained on the clients system, at our cost to cover illness and holidays;
- Remote support delivered via our on-line "Quality Manager"; and
- Regular communication, including account management visits helps us to anticipate issues that might impact the system we are supporting.

3 Our Clients

Since its inception in 1996 First Derivatives has been engaged with leading financial institutions across the globe. We have developed an excellent reputation, providing a full range of services including business analysis, financial engineering, project management, systems implementation, customised development and systems support.

First Derivatives is very client focused and concentrates on building strong relationships with its clients. This is evidenced by the business model we adopt in making the necessary investment in client relationships and the consistent repeat business we generate from our existing clients. We are proud to say that our first ever client is still a client!

The below map provides a global perspective on our existing client base.



It is clear from the above map, that the business of First Derivatives is truly global. Not only does the Company service individual clients in specific locations, it also works closely with the same client in many different locations, often providing different services in each locations.

Client References

Client references can be provided on request.

4 Our Credentials

Capital Markets Domain Knowledge

Market Focus

It is important to note that First Derivatives is exclusively focused on Capital Markets and services this industry alone. The Company has been successfully servicing investment banks and hedge funds for over 12 years. We consider this to be a differentiating factor when choosing a support partner. Most of our competitors service clients across verticals and are therefore unable to develop a depth of understanding of Capital Markets. First Derivatives has this depth of understanding and can leverage this knowledge for the benefit of its clients.

Capital Markets Competency Centre

In keeping with its market focus, First Derivatives has also established a Capital Markets Competency Centre. This Centre has been operational for over 5 years. It is being accredited by leading third level educational establishments. Its genesis was the fact that the Company strongly believed that its consultants needed to understand the client's business requirements in order to deliver the right solution.

The First Derivatives Capital Markets Training Programme (CMTP) is a 2-year programme which all of the Company's consultants undertake. The CMTP is designed to provide individuals with the skills and knowledge, both financial and technical, which will enable them to perform at the level required by both the Company and our clients. The training is split into three main areas – Finance, Technology and Consulting. The below table provides an overview of the key subjects our consultants are expected to master.

Month	Finance		Technical		Consulting
0-1 Month	Basic Concepts 1		Software Engineering Basic Unix and SQL Introduction to Excel/VBA		Induction Basic Communication Skills Professional Documentation
	Stream 1	Stream 2	Stream 1	Stream 2	
1-3 Months	Basic Concepts 2	Equity Market	Java or C# Introduction to Databases	Introduction to kdb+	Powerpoint Presentations Interview Training
3-12 Months	Fixed Income Interest Rate Derivatives Market Data	Basic Concepts 2 Market Data	Java or C# Supporting Financial Systems	Intermediate kdb+ IPC Algorithmic Program Trading	Team Leader Skills
12-24 Months	Market Risk (*) Credit Risk (*)	ET Futures and Options Fixed Income	Advanced Java or C# Financial System Design Release Management Software Testing	Advanced kdb+ Release Management	Project Management
	3 from the following FX Derivatives ET Futures and Options Equity Derivatives Credit Derivatives Financial Mathematics (*) Structured Products Securities Accounting Operational Risk (*)	1 from the following Interest Rate Derivatives Equity Derivatives Credit Derivatives Financial Mathematics Structured Products	1 from the following IPC C++ GRID Computing GUI Design	4 from the following Feedhandler Development Supporting Financial Systems Financial System Design Software Testing GRID Computing GUI Design C++ C	Optional Modules FD Board Report Recruitment Training FD Marketing

* These modules will cover material needed for the PRMIA exam modules - <http://prmia.org/INDEX/prm-cert.php>

Notes



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