

Direct Market Access - Past, Present and Future

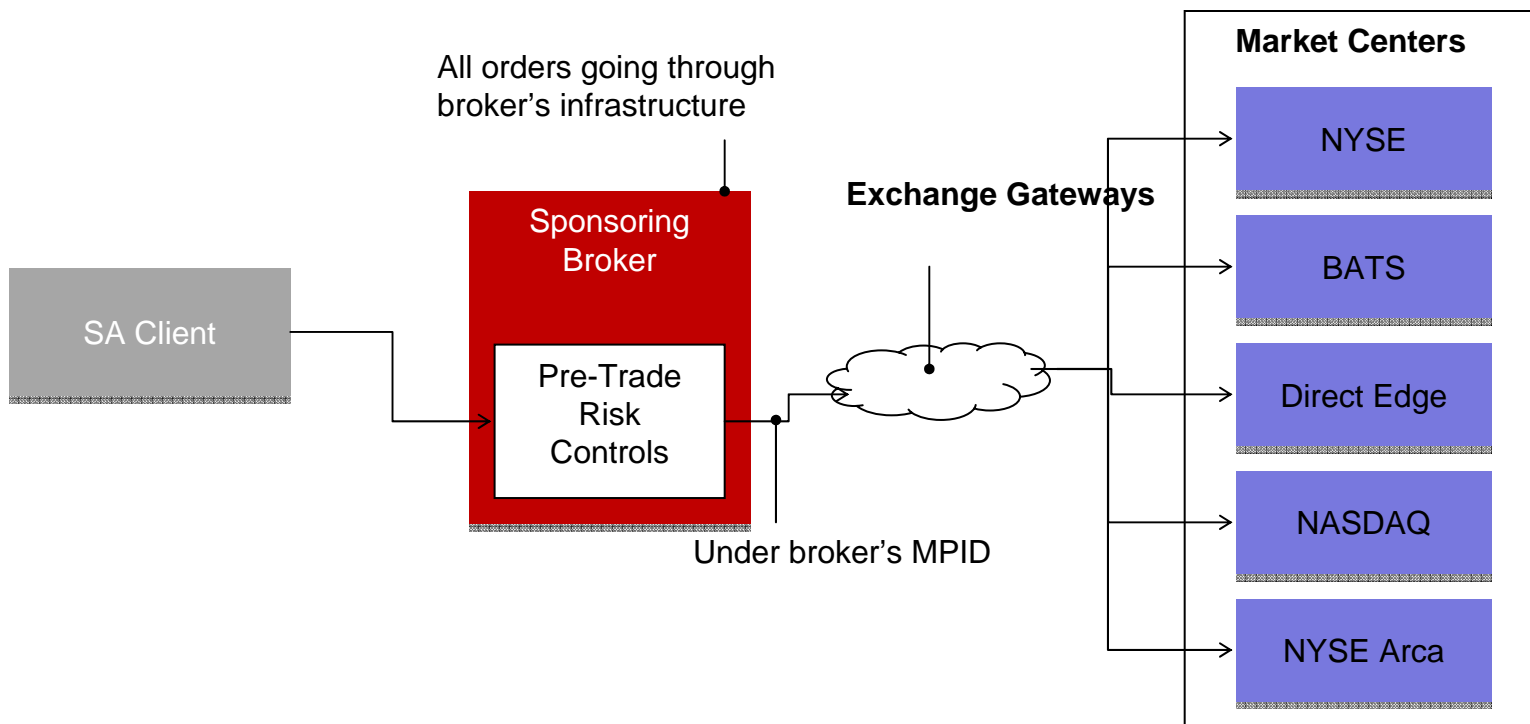
February 23, 2011
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Research Director

There are three ways of directly accessing execution venues

Type of Direct Access	Ownership of Access Infrastructure	Ownership of Pre-trade Risk Controls	Ownership of Post-trade Risk Controls
DMA	Sponsoring broker	Sponsoring broker	Sponsoring broker
Filtered Sponsored Access	Third-party provider	Sponsoring broker	Sponsoring broker and sponsored participant
Unfiltered Sponsored Access	Sponsored participant or third-party provider	Sponsored participant	Sponsoring broker and sponsored participant

Type of market access varies based on ownership of access infrastructure and availability of broker-provided and controlled pre-trade risk controls

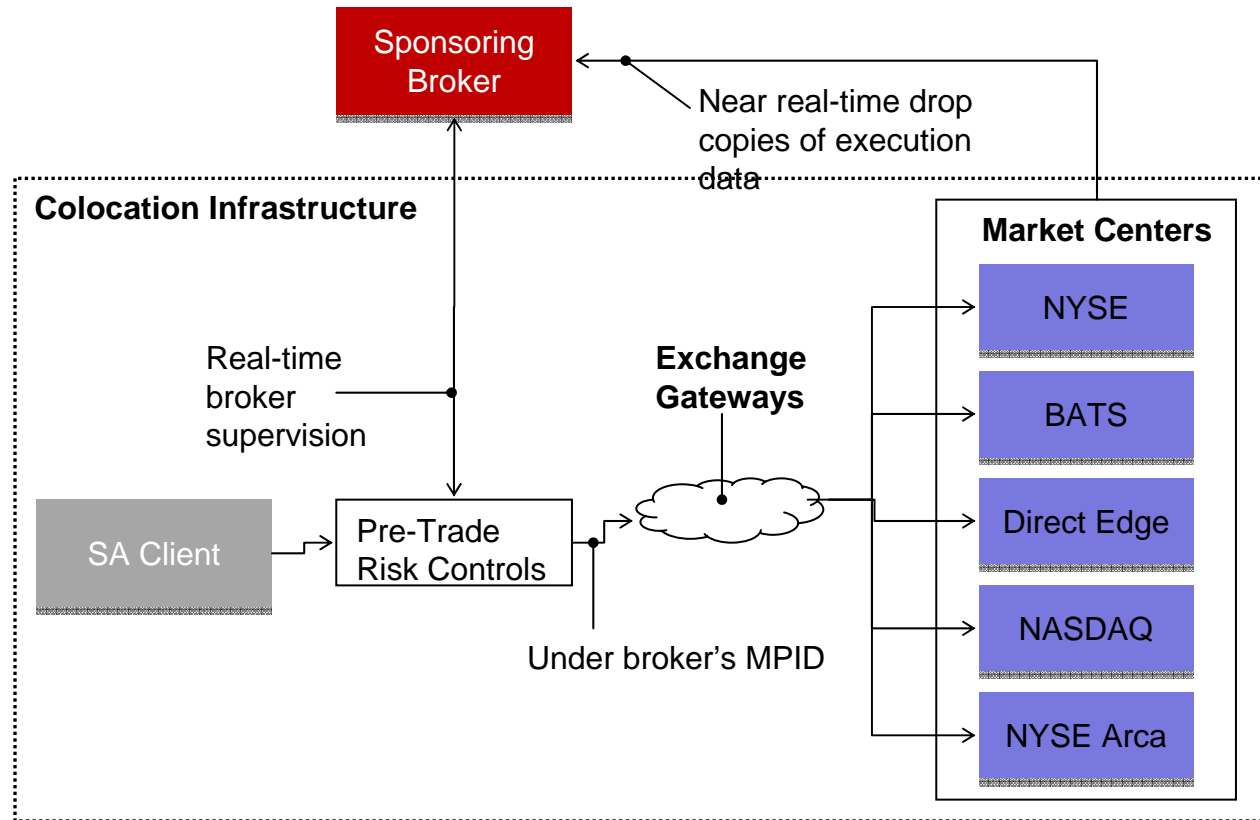
Direct Market Access (DMA)



Source: Aite Group

All orders of a sponsored participant go through the sponsoring broker's market access infrastructure, being exposed to all of the broker's risk and compliance checks

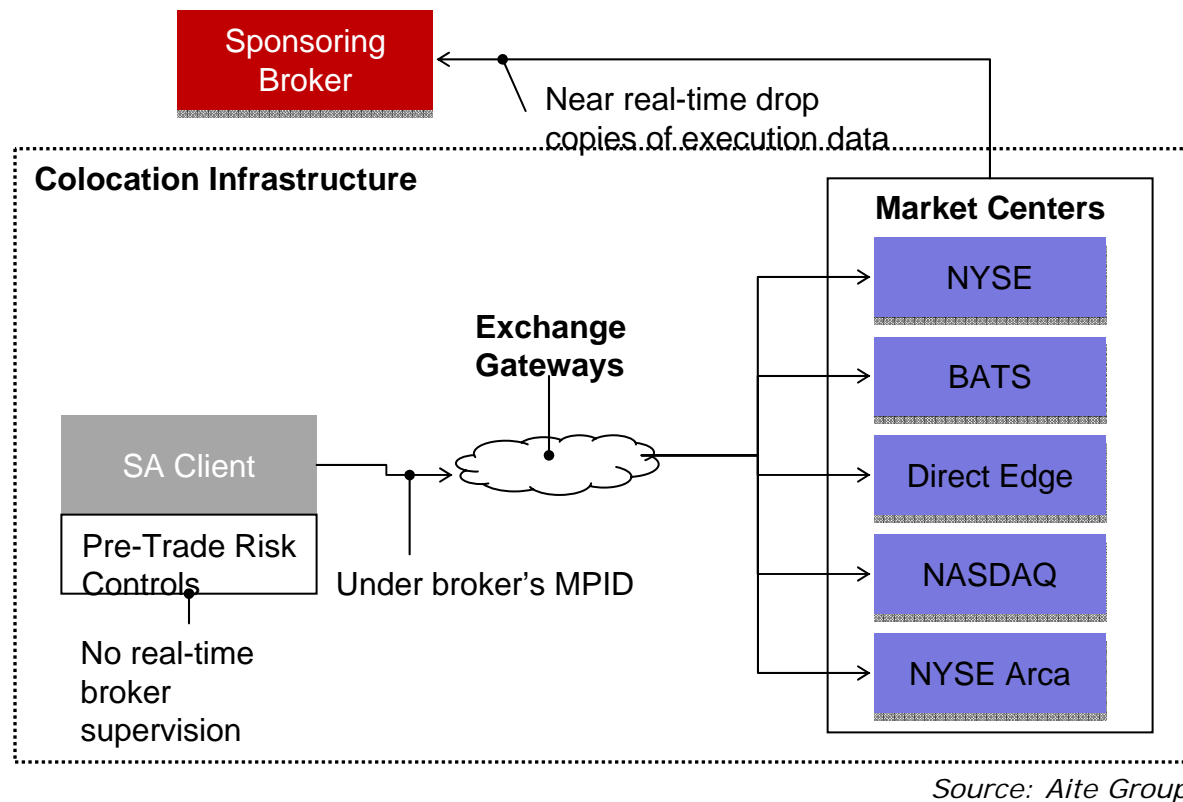
Filtered Sponsored Access Workflow



Source: Aite Group

Risk controls and connectivity are provided by sponsoring broker's recommended third-party or service bureau providers; sponsoring broker can set up the pre-trade risk parameters, check the parameters typically in real-time, and have the ability to remotely modify and/or shut down trading activities if necessary

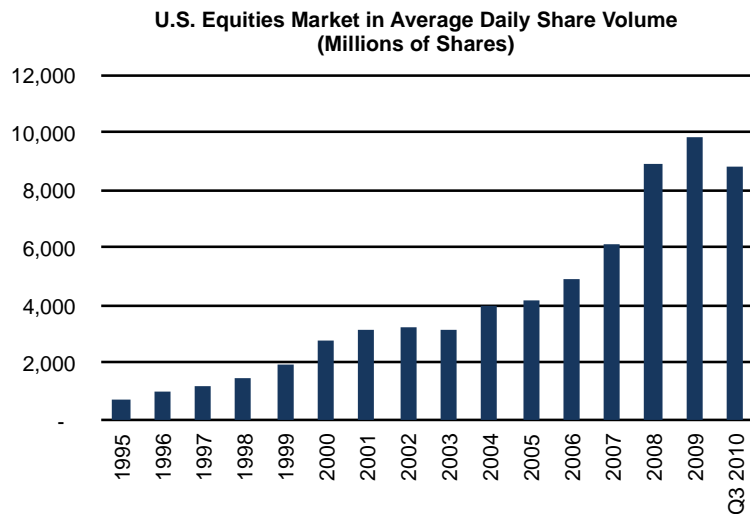
Unfiltered Sponsored Access Workflow



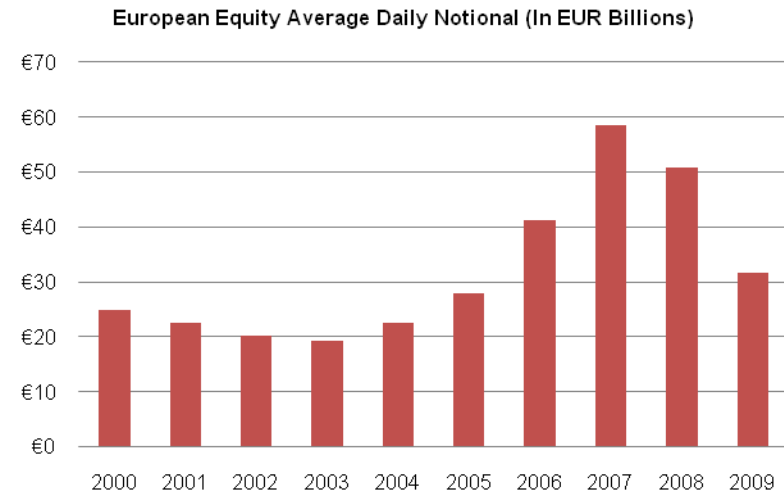
Sponsored participant gains direct access to the market centers via dedicated port provided by the sponsoring broker. There is no real-time pre-trade risk monitoring by the sponsoring broker and instead, sponsoring broker receives a pos-trade, near real-time drop copies of each transaction

Equities trading volume has been stagnant in 2010

U.S.



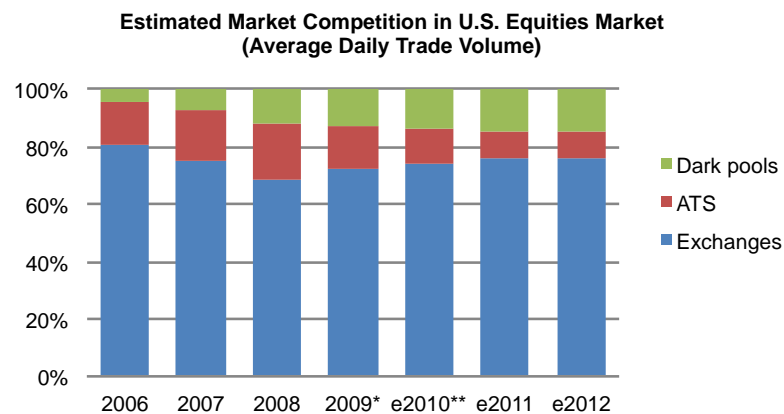
Europe



Source: NYSE Euronext, NASDAQ OMX, BATS Exchange, Direct Edge, Broker/Dealers, Aite Group

Equities market share reality

U.S.

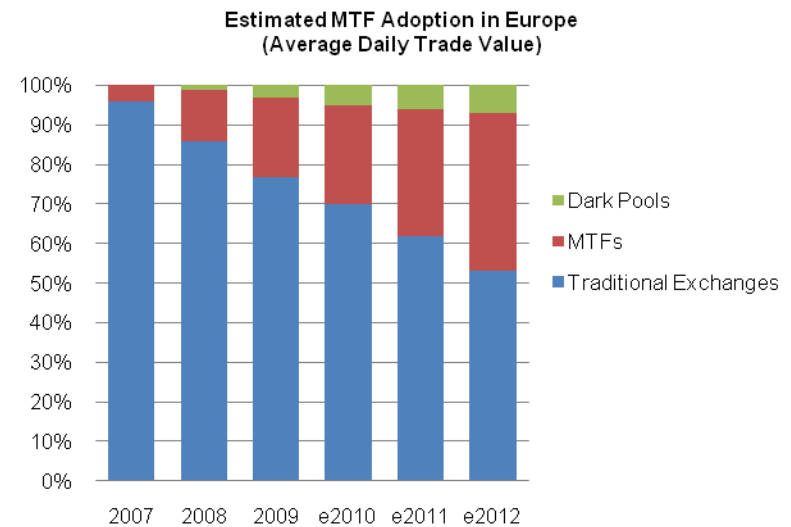


*Includes BATS as an exchange

**Includes Direct Edge as an exchange

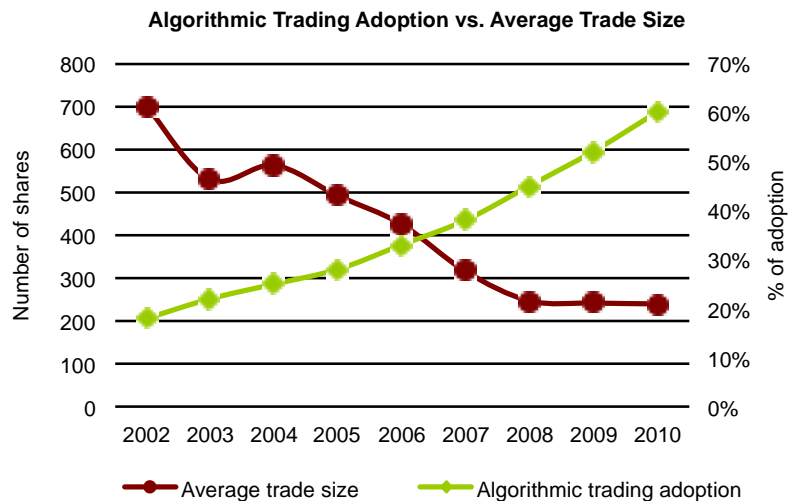
Source: NYSE Euronext, NASDAQ OMX, BATS Exchange, Direct Edge, Broker/Dealers, Aite Group

European MTF Growth



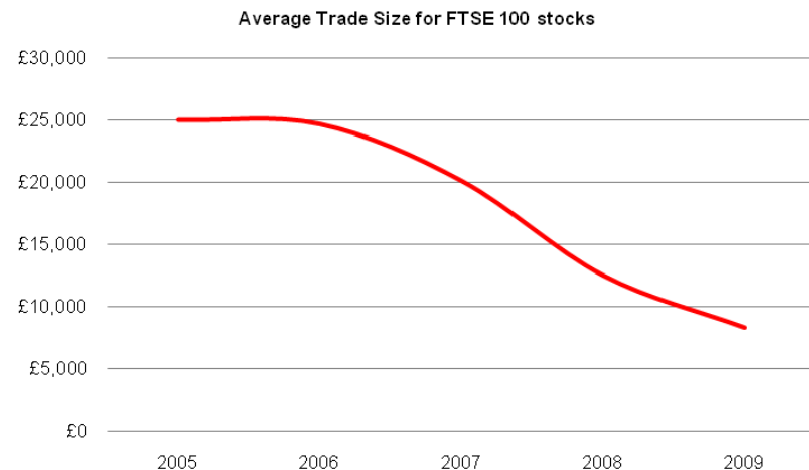
Average daily trade size declining as algo adoption increases

U.S.



Source: NYSE Euronext, NASDAQ, BATS Exchange, Direct Edge, Aite Group

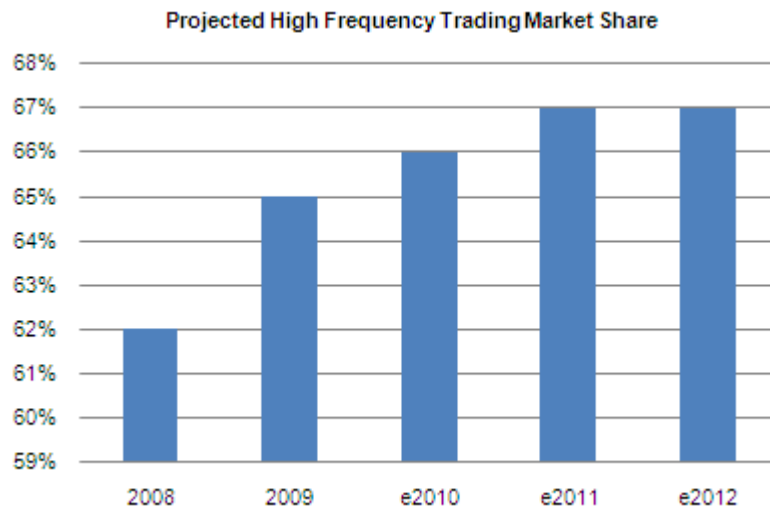
Europe



Source: London Stock Exchange

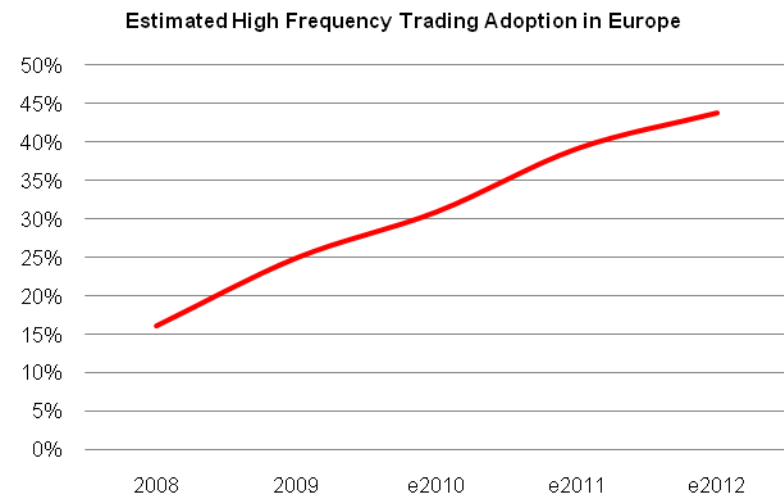
High frequency trading adoption

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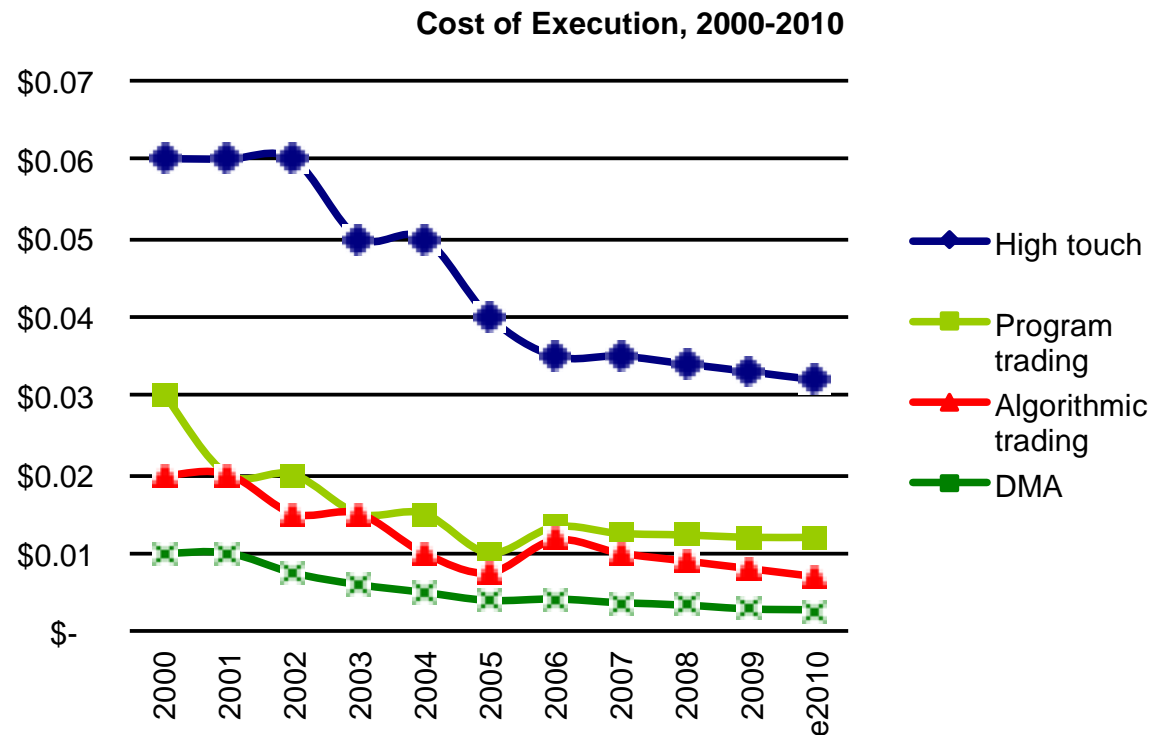


Source: Aite Group

Europe



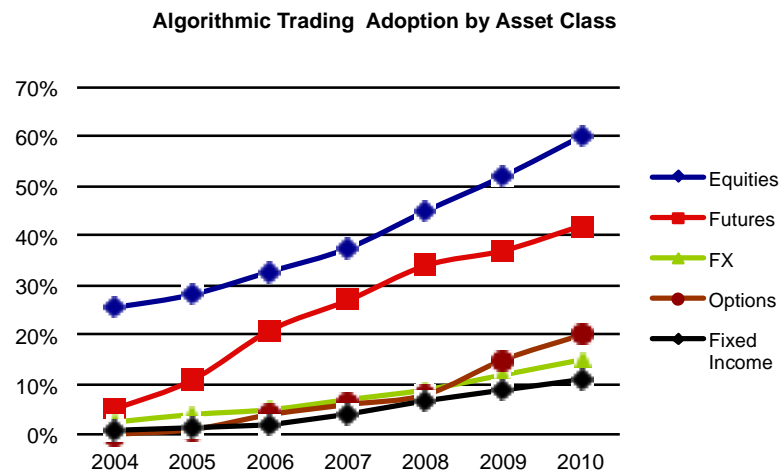
Cost of execution continues to go down



Source: Broker/Dealers, Aite Group

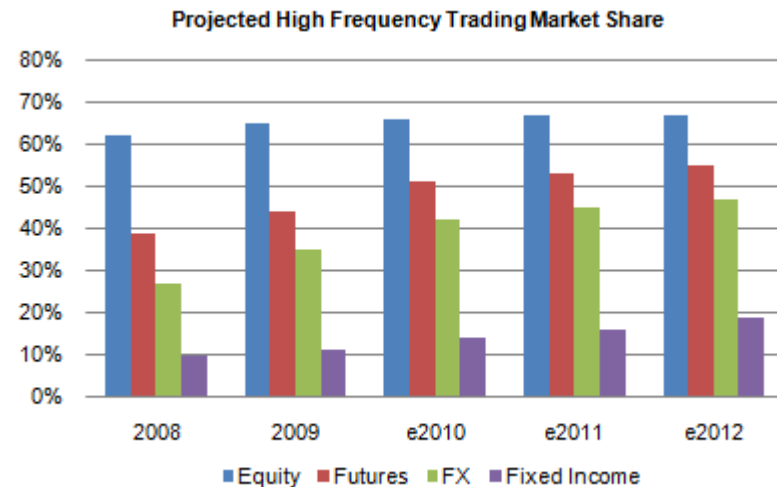
Increasing algorithmic trading adoption across multiple asset classes

Algo Trading



Source: Aite Group

HFT Market Share



Regulatory Driving Future

- SEC Rule 15c3-5 – July 14
- MiFID II
- Consolidated Order Audit Trails
- ???

Active regulators with no budget

Possible MiFID 2 proposals	Will cost	Will provide opportunity for
Organized trading facilities (broker crossing systems)	Broker/dealers	
Trading of standardized OTC derivatives	Broker/dealers	Execution venues, to create platforms to trade these OTC derivatives Clearinghouses, to create an alternative revenue stream and clear additional products
Automated trading	Proprietary trading firms that qualify under high frequency trading firms, broker/dealers, execution venues, technology vendors	
Systematic Internalisers	Broker/dealers	
Further alignment of regulatory requirements for RMs and MTFs	MTFs	
SME markets		Execution venues, to create a specialized SME market providing an additional revenue source
Pre-trade transparency in the equity markets	Broker/dealers, dark execution venues	
Post-trade transparency for the equity markets	Broker/dealers, buy-side (indirectly via reduction in risk capital)	
Non-equity markets	Broker/dealers	Execution venues, to create platforms to trade these products that have previously utilized a single-dealer platform or RFQ model
Over-the-counter trading	Broker/dealers, execution venues, data vendors	Data vendors and broker/dealers, to provide solutions for the increased data that will accompany greater structure
Data consolidation	Broker/dealers, execution venues, data vendors	Data vendors, to provide Europe with a consolidated tape solution

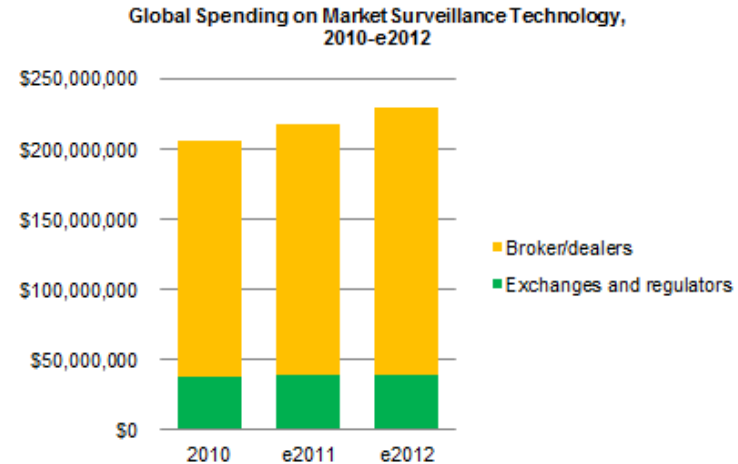
Market Surveillance Technology: Global Spend

Broker/dealer spend on the vendor component expected to grow 6% annually, in addition to another US\$70M spent on implementation. Why?

- Increasing levels of internal liquidity.
- Continuing expansion into additional asset classes as well as geographic regions.
- Desire for stronger regulatory protection and strategies to mitigate risk of fines.

Vendor
Landscape:

- Actimize
- SunGard
- b-next
- Redkite
- NASDAQ OMX / SMARTS
- CEP Providers



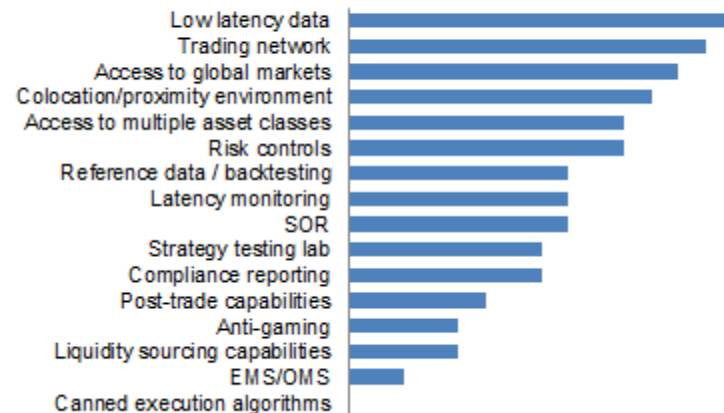
Source: Aite Group

Managed Trading Infrastructure: A Complete Managed Trading Solution

What does a complete managed trading solution include?

- Platform
- Colocation
- Network Connectivity
- Market Data
- Order Management
- Risk Management
- Algo Chassis
- Compliance Reporting
- Latency Monitoring

Q. What are the key components of a fully managed trading infrastructure (Please check all applicable)? (n = 14)



Low latency data ranks highest in importance.

Managed Trading Infrastructure: Vendor Landscape

- Very few vendors can fulfill the full spectrum of capabilities required in a comprehensive managed trading platform.

Company	Co-location	Network Connect	Market Data	Historical Data	OMS /EMS/ SOR	Risk Tools	Compliance Reporting	Latency Monitor
ACTIV Financial	✓		✓	✓				
Fixnetix	✓	✓	✓		✓	✓	✓	
FTEN	✓	✓	✓		✓	✓	✓	✓
Mantara	✓	✓	✓		✓	✓	✓	✓
NYSE Technologies	✓	✓	✓			✓		
SunGard	✓	✓	✓	✓	✓	✓	✓	
ULLINK					✓	✓	✓	✓
Thomson Reuters Elektron	✓	✓	✓	✓				✓

Managed Trading Infrastructure: Product Expansion

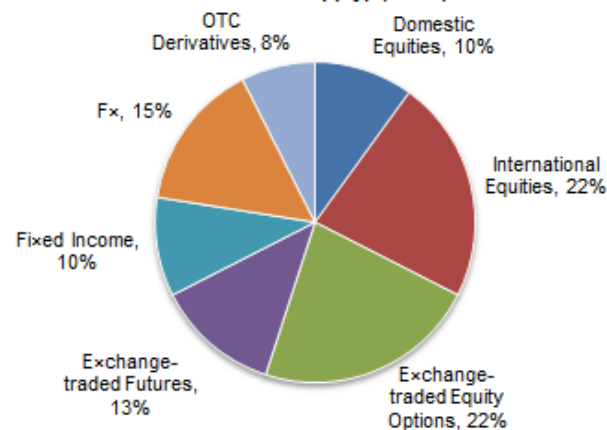
Equity options and international equities are important areas driving new interest.

- Barriers to expansion include:

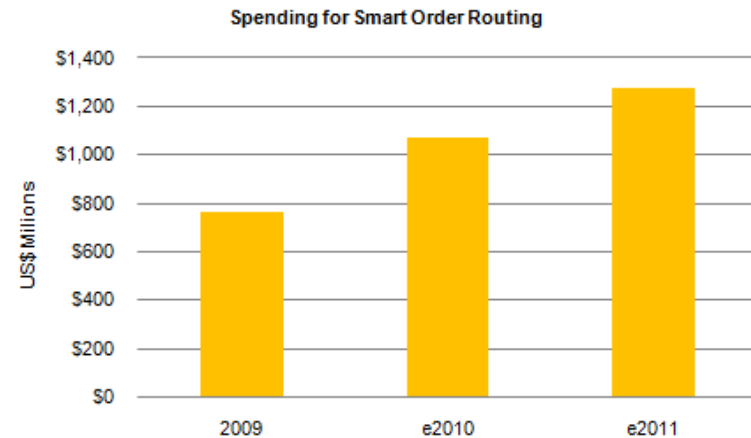
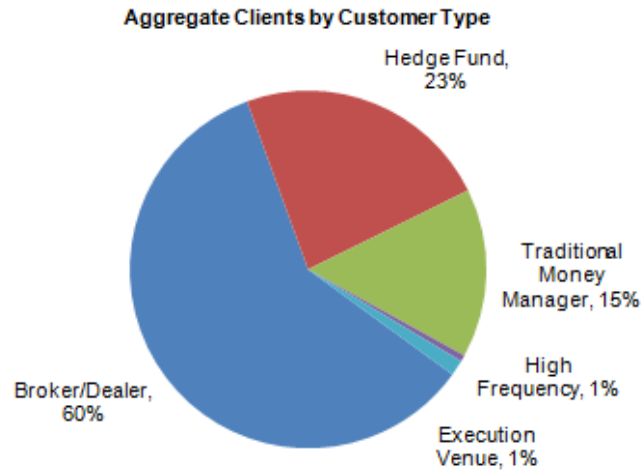
- Connectivity challenges.
- Regulatory fragmentation.
- Lack of dependable data.
- Difficulty in finding viable colocation partners.



Q. Investment products being considered in the future (Please check all that apply): (n = 29)



SOR Market

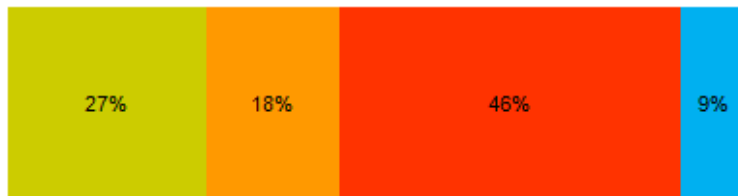


- European money managers are the fastest-growing market for SOR technology.
- FX is the asset class with the highest demand in provider roadmaps.
- Expanding liquidity venue connectivity is the most common roadmap item among providers.

Source: Aite Group

Why SOR?

Instruments Being Added in 2010
(Source: Aite Group)



■ FX ■ Futures ■ Equities ■ Options



- Key drivers for SOR include access to new asset classes, access to new geographic regions, access to dark liquidity venues, compliance, custom algorithms and small firms entering the market.
- Key challenges to SOR technology are new liquidity points, maintaining existing liquidity points, monitoring market microstructure, incorporating microstructure intelligence, and moving to new asset classes.

Source: Aite Group

Conclusion

- Expect changes in risk management for regulatory protection, but expect more for bank protection
- Look for commoditized services to support more traditional market participants
- Expect continued expansion into new markets and asset classes
- Anticipate liquidity hubs in datacenters and trading communities by proximity

Aite Group: Partner, Advisor, Catalyst

Aite Group (pronounced eye-tay) is an independent research and advisory firm focused on business, technology and regulatory issues and their impact on the financial services industry.

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