The Financial Mathematics and Computation Cluster (FMC) was established in 2009. FMC is funded by Science Foundation Ireland and Industry. Further details about FMC are in the appendix and http://www.fmc-cluster.org/

Note: Databases are located in standalone computers in the Financial Data room.

Cirium SRS Analyser

The SRS database contains passenger and cargo schedules for more than 900 airlines worldwide. Analyser summarizes core schedule data information, providing immediate access to week-overweek future schedule changes, a competitors' activities, airport bank structures and level of operations, hub connectivity and much more. Outputs include totals for flights frequencies, seat capacity and ASMs/ASKs.

View data by region, market, airport, carrier, aircraft type, alliance, aircraft manufacturer, traffic rights and more. A simple mouse click allows drilling down to more detailed levels of data or for easy decoding of stations, carrier, and equipment.

SRS (SSIM) data delivers:
- Worldwide coverage
- Weekly updates
- Historical data to January 2000
- Eleven months of future data

SRS Analyser summarizes core schedule data, providing immediate view of:
- Week over week schedule changes
- Competitors' activities
- Airport level of operations
- Hub connectivity
- Bank structure
- Market capacity

Outputs include totals for:

- Flights frequencies
- Seat capacity
- ASMs/ASKs
- Details by sample week or specific date ranges
- Data can be viewed by:
- Region
- Market
- Airport
- Carrier
- Aircraft type or aircraft manufacturer
- Alliance

SRS Analyser dynamic web environment provides these added features:

- Online access 24/7
- A simple mouse click allows drilling down two levels for more details, or for easy decoding of stations, carrier or equipment
- Automatic graphing capabilities for use in presentations
- Automated network mapping function for existing or future networks or hubs
- Report output can be in HTML, Microsoft Excel, or ASCII formats

Obtaining access:

The school's subscription provides it with access to up to 10 usernames and passwords. Please contact Ioannis Ropotos (ioannis.ropotos@ucd.ie) to request access, specifying how long you would like the access for, and you will be provided with a username and password for that period of time.

Log-in to Cirium

Cirium is a webtool, that is accessed on https://srsanalyser.diio.net/srs/pages/login.jsp

Further material

Training and reference material:

https://helpdesk.cirium.com/hc/en-us/sections/360000273591-Diio-Training-Materials

Industry

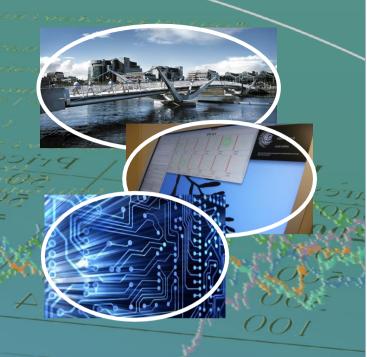FMC^2 has developed successful research collaborations with international and domestic financial services companies and organisations. These help ensure the industry relevance of FMC^2's research.

FMC^2 works with multiple external partners including Bank of Ireland, Deloitte Ireland, Citibank Europe, The Institute of Banking, Avolon, AerCap, GECAS, SNECMA, SMBC Aviation Capital and KPMG Ireland.

The formal collaboration between this research cluster and the private sector leads creates a benefit-in-kind situation where company sponsorship creates funding for research projects. In turn the companies benefit from research expertise from FMC^2 members and access to a pipeline of trained quality researchers.

Who are we?

The academic principal investigators and funded investigators involved are:
John Cotter (Director, UCD)
Don Bredin (UCD)
Gregory Connor (Maynooth University)
Paolo Guasoni (DCU)
Julie Byrne (UCD)
Thomas Conlon (UCD)
Cal Muckley (UCD)
Conall O'Sullivan (UCD)
The cluster supports a research cluster manager and a team of postdoc and PhD researchers based at UCD, DCU and Maynooth University.

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FMC²
Financial Mathematics and
Computation Research Cluster

www.fmc-cluster.org

SFI
Science
Foundation
Ireland

Financial Mathematics and Computation Cluster (FMC²)

FMC² is a *research collaboration* between Industry, University College Dublin, Dublin City University and Maynooth University. This research group brings together complementary expertise in *financial mathematics, financial economics and computational finance* to create a holistic research programme in asset and risk management.

In addition to providing support for the innovation activities of Irish-based international financial companies, a pivotal outcome of the activities of FMC² is the creation of a supply of highly skilled personnel, trained postdoctoral researchers and PhD graduates, with world-class quantitative modelling skills who will support the future growth of financial service exports.

FMC² is funded by Science Foundation Ireland's Strategic Partnership programme. The object of this programme is to create partnerships between academia and industry in order to address crucial research questions, and to support the growth of research and development capacity in companies located in Ireland.

The Vision

The objective of FMC² is to create a globally recognised research centre that will provide a critical underpinning for the future development of the international financial services sector in Ireland.

VAR
- Factor Modelling
- Dynamic Factor Structure of European Security Market Return
- Risk Measures, Connectivity and Impact on the Real Economy

Valuation
- Pricing Real Assets – Finalization, Policy and Market Implications
- Aircraft Finance and Leasing
- Energy prices and the Impact on Investment Decisions
- Valuation of contracts with embedded inflation linked options

Risk
- Operational Risk – Measurement and Mitigation
- Measuring and mitigating operational risks in financial institutions
- Operational Risk in LIBOR and other Benchmark Markets
- Rogue Trading and Banking

www.fmc-cluster.org