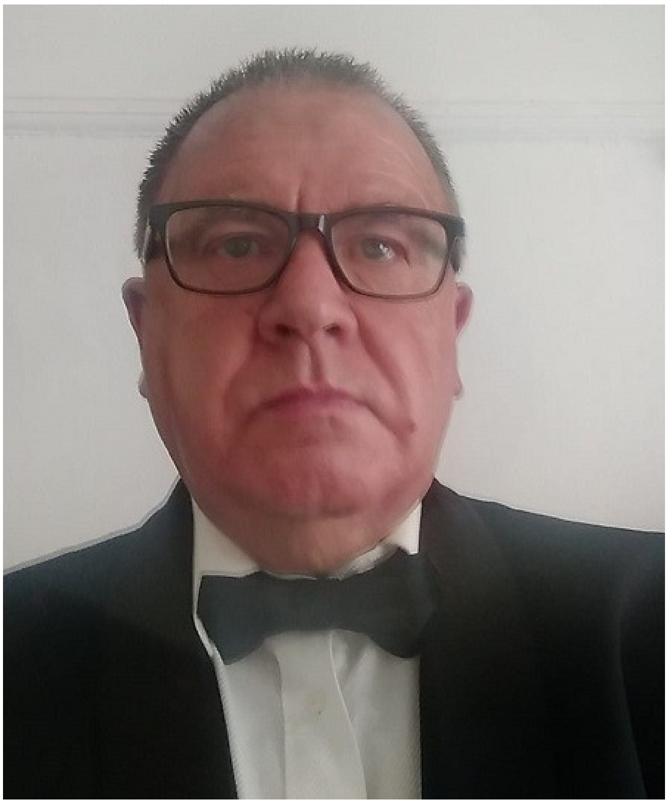

Dr David Thomas Nightingale.

David comes from a solid Red Brick university education with a career covering finance, upstream and downstream in the Petrochemical, Oil, Gas, and Banking industry.

David's career started in the Petrochemical financial services arena in Houston TX and he has been responsible for new areas of research which have revolutionized the multi dimensional modelling paradigms and machine learning in super computer MPP Geology analytical AI platforms.

In the IT world David is an advisor to several US Government agencies while working for the Senate Intelligence Oversight Committee including Narus the major sub-contractor to the Defence Intelligence Agency and the National Security Agency, his consultancy skills have directed several projects that have been deemed of great value to the National Security of the United States of America.

David also worked direct with the US State Department under Senatorial assignment to Senator Monaghan and Staffer Jim Stockton to provide IT and Satellite remote sensing expertise, gained in Texas within the Hydrocarbon recovery industry during the Pan Am 103 investigation in Scotland to use IT technology in recovering wreckage from the stricken plane and to uncover vital evidence for a range of US Government agencies including the Pentagon and

DOD. David reported directly to Senatorial Aid Jim Stockton Senate Intelligence Oversight Committee Washington DC.

David is well known and his skills respected in the banking and Financial Services industry as an expert in compliance, FX, derivatives, stochastic modelling and heuristic bond valuation algorithms.

David was the Chief Financial Data Architect at Royal Bank of Scotland, National Westminster and Coutts responsible for defining the bank's definitions of Financial Instruments and transaction procedures during the Nat West/ RBOS/ Couttes merger.

Responsible for defining the semantic data model definitions for the RBOS Treasury, Risk, Commercial, Retail and Global markets business areas, including defining the RBOS Bank of England reporting procedures.

At BBVA Bank in Madrid he was responsible for implementing the bank wide Financial Risk Basil II and Basil III modelling stochastic definitions for all the Bank's South American and Spanish National Capital Adequacy Ratio asset revaluation operation especially in the energy sector.

Recently he was selected by ING bank in Amsterdam as the head compliance Consultant to advise on implementation of the bank's Global Basil II Basil III CAR (Capital Adequacy Ratio) Risk evaluation procedures, and lead a team of consultants to implement the Oracle Core Banking Revelius Risk model across the Global and Central bank platforms, as he had done before for RBOS and BBVA Banks.

David has always worked in an executive position reporting directly to the board of directors of many of the Fortune 500 companies and the Board of Directors of of the top world Banks, his work is recognized and respected throughout the Global Financial community.

Lately David has updated his status with the Institute of Bankers latest compliance examinations in GDPR, IFRS9, Basel III, FACTA, and acted as primary consultant to reinstitute these new compliance and AML Fraud detection and MIFID SEC governance regimes throughout the BIG Data and Hadoop infrastructure of his latest client Banks in London and Dublin.

EDUCATION AND QUALIFICATIONS.

- **St Mary of the Angels, Jesuit Primary School, Lancashire, England**
- **Ryebank High Private School, Bowering Park Road Liverpool.**
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- **St Francis Xavier Jesuit Private Preparatory School, ,Lancashire, England.**

- **1969 St Joseph's Jesuit Seminary, Upholland, Lancashire, England Private Academy, Day School.**
  Pre University Matriculation major subjects Pure Math, Applied Math, Chemistry, Physics, Biology, Economics.

- **1974 Liverpool University   Pre Medical, modules in Biochemistry, Cell** metabolism, Genetics and physiology.
- https://www.liverpool.ac.uk/

- **1980 Durham/Teesside University** Bsc (Hons) Maths and Computer Science. Including internship and creation of Financial modelling database for
- https://www.tees.ac.uk/

- **1983 Syracuse University Corporate Scholarship** New York State, Western Geophysical corporate Intern ship involving Satellite Remote Sensing and Optics applications using Turing Machines, solving linear equations. Post Graduate   intern Consultant to Professor Kronenbitter manager of the Xerox research platform.
- https://www.syracuse.edu/

- **1988 Syracuse University** New York State Senate Intelligence Oversight Committee research project Post Graduate assignment
  - As part of the Pan Am 103 Investigation used the University IT resources to create algorithms to drive   Remote Sensing Turing Machine analysis and supercomputer MPP's "connection machine" using Infra Red /Synthetic Aperture Microwave satellite derived data as part of the initiative to find evidence and material over the area of the disaster working for Professor Joseph Robinson.
  - https://www.nytimes.com/1989/01/14/world/computer-imaging-and-a-satellite-to-aid-search-for-pan-am-dead.html

- **1989 University of Vermont** Burlington USA. Visiting Consultant.
  - Satellite Remote Resource Sensing and encrypted communications Research Project. Creation of Data Profiles for Up and Down link K Band for the University and its sister institution and industry sponsor in Petrrsovosk, using Russian Gorozont Satellite systems. Working as Post Graduate consultant directly with the University Computer Science Department and Ben and Jerry's Ice Cream company as the commercial sponsor to set up the links in Russia through Professor Gary Barbour Computer Science sponsor.
  - https://www.uvm.edu/

- **1989 University of Cambridge Visiting Consultant Computer Science**
    - Applications of Large Data Sets and AI heuristic analysis for pattern recognition using fractal machine learning algorithms for predictive analysis and entropy minimization.
    - https://www.cam.ac.uk/

- **2012 United Nations Academy** Wall Street New York City.
    - Doctorate studies International Finance and Economics. Phd awarded for consultancy services with the Royal Romanoff Academy and advice to the Russian and Ukranian Government.
    - http://www.royalacademyun.org/

- **2017 and 2018 University of Nottingham** Advisor to Remote Learning and IT Data Visualization on an academic level. the Russian and Ukrainian Government. Invited as consultant to advise directly to the Ambassador at Chinese Embassy as representative of the University.;
    - https://www.nottingham.ac.uk/

- **2012 and 2014 University of Manchester** Advisor to Remote Learning and IT Data Visualization for Phoenix group covering a student body of 5 million members.
    - https://www.bpp.com/about-bpp/locations/manchester

- **2016 Institute of Irish Banking, Dublin** – Level 4 Qualification in AML, Fraud Avoidance, Social Engineering, GDPRS, Bond Trading Compliance, Arbitrage and Forensic Banking and Accounting. Course sponsored by AIB bank intern ship programme.
    - https://www.iob.ie/

2017 AIB Bank, Dublin – Level 4 Completion of AIB Compulsory Banking Examinations IFRS9 / IFRS 17 Provisioning and Basel III CAR Stress test.

https://www.aib.ie/

2018 Accenture Associate –LLoyds Bank London /Bank of Ireland, Dublin – Level 4 Completion of BOI compliance and Fraud Avoidance AML, internal compliance qualification including Accenture Banking AML course to Accenture Diamond Associate level..

https://www.boi.ie/

BUSINESS CAREER CONSULTANCY POSITIONS

- 1977 to 1981 **Control Data / Cray Research** London, England and Minneapolis MN USA.
  - University sponsor and internship working in London office as Business Analyst using Bureau MPP super computer simulations and algorithms for modelling Global Financial Energy markets, Energy plays Civil Engineering costing, Banking Fraud and AML, major clients including CONOCO, Shell, Goldman Sachs, Khun Loeb, Bank of International Settlements, Bank of America and UBS.

- 1981 **Western Geophysical/Schlumberger/CONOCO** Richmond Avenue Houston TX, .USA
  - Hydrocarbon Resource Analyst with Universities Scholarship acting as Specialist in Satellite and airborne Seismic Data analysis and Super Computers for financial market valuation analysis and delivery to Wall Street. Also responsible for research into new data visualization market analytical heuristic stochastic machine learning applications in Oil Exploration field, reporting derived values to Conoco client Oil company and Wall Street analysts on a global basis.

- 1984 **Bank of America**, Croydon, London, San Francisco.
  - Technical Business Analyst responsible for reporting to the Board of Directors on earnings from SWIFT Custodial and Time Deposit Business unit. Developed a new interactive reporting CRM system which enabled the bank to increase its Time Deposit customer profitability base and implement AML and Identity Management security software, working at Vice President level to Mr Keith Walker.

- 1985 **Occidental Petroleum Aberdeen.**
- Business Analyst SME Responsible assessing corporate assets including Oil and Gas leases for on and off shore and capture into Asset database for global accounting.

- 1992 **Shell Petroleum**, Waterloo, London, England.
  - Design of Global Oil trading messaging system, worldwide secularization to identify tanker cargo metrics on real time basis and virtual trading floor data market visualization applications for tanker marketing cargo valuation and derivative pricing global operations.

- 1993 **Barclays Bank Energy Sector Analyst** London, England.
  - SWIFT Custodial database management applications and design of Energy Bond asset valuation applications to provide data feeds to futures markets using Scholes Black and Bayesian stochastic algorithms for derivatives and FX modelling. Implemented AML and monitoring algorithms to analyse FX and SWIFT profiles.

- 1995 **HSBC Bank** London England
    - Oil Industry related financial modelling, and design of new IT systems to support futures market bond valuation using Scholes Black and applied Baysian stochastic energy market heuristic algorithms to deliver derivative value to Euroclar/Crest and Clearstream.

- 1996 **Santander Bank,** London England.
    - CREST/Euroclear Analyst responsible for delivering regulatory data to Bank of England and CREST reporting of customer shareholder predictive behaviours statistical feed into stock activity reporting analytical models.
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- 1999 **Royal Bank of Scotland** London and Edinburgh.
    - Design of Big Data Warehouse to drive computer financial models for energy commodity market and generation of financial instrument definition for market regulatory and funding activity. Modelled Reverse Repo, Credit Default and Interest swaps for bank wide Data Warehouse. Created Financial models for AML and Arbitrage identification to Risk department.

- 2003 **Sub Sea 7 / Taqua Britani Business Architect, Aberdeen.**
    - Solutions Architect responsible for CAPEX Asset inclusion for new Oil and Gas fields being included into the global corporate income model Worked closely with Coopers Deloitte to complete the Business Analysis income streams for Piper / Cormorant fields in North Sea and identify CAPEX costs for water injection by Haliburton Sub Sea 7 for Taqa Britaani acquired North Sea assets acquired from Shell.

- 2007 **Oracle Corp Associate Royal Bank of Scotland** Edinburgh.
    - Commodities and energy Market Financial analysis and restructuring of bank international asset base using Financial modelling and stochastic predictive analysis statistical techniques to identify Risk and Value within Basel II CAR and stress test accords and working paradigms. Creation of Bank wide Dimensional Data Warehouse and Big Data repository along with Regulatory API's reporting directly to the authorities including Bank of England and FCA..

- 2010 **IBM Associate - Cooperative Bank** Global Markets London
    - Market analysis and financial modelling consultant specializing in the Financial Services market for the company's Big Data downstream commodity market driven stochastic analysis cloud applications. Creation of new Bank Data Warehouse and modelling definition of all the Bank's Financial Instruments and Procedures across Derivatives and FX platforms, Treasury Retail and Core Banking. Implemented AML and Fraud avoidance systems for the Risk and FX

sections of the bank.

- 2011 **BBVA Bank / Oracle Financial Services** Madrid, Spain.
  - Financial Analysis, Consolidation and valuation of Bank and subsidiary branches assets mainly real estate and property with exposure to Fuel and Energy Market assets in Spain, Mexico and South America, using Basel II and Basel III stress test CAR (Capital Adequacy Ratio / MIFID) algorithms for reporting to Central Bank and Bank of International Settlements. Integration of Sarbines, Oxley, Dodd Volker, Scholes Black modules with Central Bank reporting and Swiss AML and Reveleus modules across domestic Spanish and South American banking platforms. Working closely with PWC and Accenture to support the Fraud and AML reporting platforms.

- 2013 **IBM Associate - Cooperative Bank , Manchester**
  - Business Analyst responsible for creating new financial models of client market penetration for the bank's financial products. Reporting to board of directors with regard to client uptake of Treasury, Retail and Commercial Bank Insurance products and Crest/Euroclear reporting platforms.
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- 2015 **Manchester University BPP Visiting Consultant Computer Science**
- Director of Data, responsible for setting up of new course and automation of machine learning for training in Finance, application of Financial products , amortization and lending rules to presentation of a Professional Qualification using the Moodle Virtual Learning system, the system was adopted by KPMG, Coopers, Accenture, Deloite and several of the top law firms for in house training of their staff and interns.
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- 2016 **University of Nottingham Visiting Consultant Computer Science**
  - Business Solution Architect Applications of Large Data Sets and AI heuristic analysis for pattern recognition using fractal machine learning algorithms for predictive analysis and entropy minimization, with regard to producing financial trading heuristic trading software for bank sponsor.

- 2017 **AIB Bank , Dublin Trading Platform Architect**

Business Solution Architect responsible for IFRS9 RISK and PROVISION within the bank by implementing new GDPR, IFRS S9,FACTA, SOX, MIFID, ECB compliance regimes instituted by the EU Information Commissioners. Acted as oversight consultant to optimize SAS and R statistical models for performance of IFRS ECL Bank of International Settlements mathematical Overlays and the application of new financial models of client Liability.

- 2018 **Accenture Associate Lloyds Bank ,PSD2 Architect Bristol**
- Business Solution Architect responsible PSD2 Open Banking , GDPRS, IFR S9, FACTA, SOX, MIFID, ECB IFRS9 Integration, compliance and Arbitrage AML Fraud Avoidance regimes instituted by the EU Information Commissioners. Designed a new Big Data KAFKA Big Data Regulatory AML and regulatory API reporting system direct to Bank of England using Gabriel Central Bank Stress Test Compliance Portals.

- 2019 **Accenture Associate** - **Bank of Ireland , Dublin**
- Business Solution Architect responsible for design of new IFRS 9 hub and new bond and derivative trading financial modelling system to cover the Bank's global market operations. Advised the bank on the reporting formats and the AML Anti Arbitrage MIFID and SEC Fair Value algorithms and advised on inter bank trading chit exchange in particular with reference to REPO/Reverse REPO, Credit Default Swaps, Interest Rate and Currency SWAPS and management of Put and Get options. The new Bond Trading platform was used as the Proof of Concept for the Bank, and enables more complex Data Visualization and Business Intelligence proto AI Machine learning platforms to access the necessary exposure, collateral and Scholes Black Value and provision data required under BASEL III and IV.

- 2020 **SITA US Government Agency responsible for regulating Global travel**
- Business Solutions Architect responsible for BIG Data Conversion of the Frankfurt and Singapore classified Transportation and Risk Rating NO FLY Database, created the KAFKA and BIG DATA platform for global access to cover all international travel and respond with a 200MS Latency window and up to 500 Check in Requests a second using KAFKA streams and stretched clusters over the three Data Centre Server Farms. Removed the Atlanta node and replaced it with Virtual Server on Azure Data Bricks

Current:

Energy and Green Resource Analysis Consultancy.

Independent Consultant specializing in Energy /Geophysics
Value analysis applied to Oil and Gas resource evaluation plays.

Banking and Finance Business Intelligence Consultancy.

Compliance and IT Financial Architecture including MIFID BASIL IV
Stress Test / CAR, SOX, FACTA Dodd Volker,SWIFT / TARGET2, RTGS
FOREX IOT and Block Chain/Crypto applications and solutions