IntegratedEA 2011 Enterprise Architecture Conference

1-2 March, One Great George St, London

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Day 1 – 1st March 2011

08:30-09:30	Welcome and Registration
09:30-09:40	Conference Introduction - Ian Bailey, Model Futures
09:40-10:20	Opening Keynote: Air Commodore Mark Neal OBE, Head of Information, Strategy and Policy, UK MOD CIO
10:20-10:55	 EA on the front-line – Support to Op Herrick EA in practical use planning and organising the information and communications technology used by the UK in Op Herrick Defining a Governance Model for the Herrick Network – responding to the pace of international collaboration Instrumenting the networks – Herrick Theatre Network and Service Management Deriving benefit from the practical application of EA Coherence with the System of Systems Approach (SoSA) Matthew Rapier, Enterprise Architect, VEGA
10:55-11:20	Coffee Break
11:20-11:55	Enterprise Architecture: Generating the European conversation This presentation will set out how Enterprise Architecture (EA) Techniques are being used to coherently manage the business, operational and technical aspects of making future investments in ATM which will deliver very challenging performance targets over the next 20 years and beyond. It will set out how the presenters' organisation (NATS) has: - Reflected upon its own internal journey of using EA techniques, tools and outcomes to develop its capital investment programme (c.£1bn over the next 10 years); - Identified how these techniques could be enhanced to support the European journey to a more integrated and capable ATM System that is being developed under the Single European Sky initiative; - Envisaged how the performance, business, operational and technical systems aspects of a Future European ATM System could be holistically managed to underpin the vision of an operational ATM performance partnership (ATMPP) between Airspace Users, Airport Operators and Air Navigation Service Providers (ANSPs) and - Identified how to strengthen its own approach to Enterprise Architecture whilst working with other organisations which have different investment challenges, but share a common goal of the delivering enhanced services. Steve Pybus, CEng MIET, Manager Roadmap & Strategic Planning, NATS Allen Clarke, CEng MBCS, Senior Enterprise Architect, NATS
11:55-12:30	Enterprise architecture beyond IT: An Australian view - Enterprise-architecture is the architecture of the enterprise, not solely its IT - 'Business-architecture' needs to be unpacked into distinct dimensions: Strategy, tactics, operations - EA is a generalist discipline that must link together all the other specialist architectures Tom Graves, Principal Consultant, Tetradian Consulting
12:30-13:30	Lunch



	Loveraging DeDAE 2.0 in the DeD Enterprise
13:30-14:05	Leveraging DoDAF 2.0 in the DoD Enterprise The DoDAF 2.0 and its accompanying meta model The DoDAF Meta Model (DM2) now being successfully implemented in DoD Important implementations in reference architectures being used to federate, integrate and harmonize architectures across DoD missions and organizations Michael Wayson, Architecture and Infrastructure Directorate, OASD (NII) / DoD CIO Dave McDaniel, Silver Bullet Solutions, Inc
14:05-14:40	System of Systems Challenges in the Capability Lifecycle – a Joint MoD/Industry Enterprise Approach A Capability Engineering Activity Model which identifies the key activities and relationships needed for successful capability delivery The System of Systems Approach (SoSA) and how it underpins integration across the spectrum of MoD's TLCM initiative A common approach between MoD and Industry Practical experience of the developments to date Malcolm Touchin, Principal Consultant, SEIC David Camm, Deputy Head, Engineering, SEIG
14:40-15:05	Coffee Break Sponsored by MEGA
15:05-15:40	[TBC] Realising Benefit from an EA Approach in ISTAR The presentation will cover how the ISTAR (Intelligence, Surveillance Target Acquisition and Reconnaissance) community in UK MoD have used enterprise architectures to improve decision making, delivery and improve agility. In particular the paper will explain the benefits of having developed an In House capability; how the focus has been on the military business and not the technology; the wider benefits to managing capability through architectures and the changing relationship and value of working with Industry at a higher architectural level. Alex Mitchell, MOD DE&S ISTAR
15:40-16:15	The Army Equipment Development Plan (AEDP) — a practical implementation of an information environment and decision support tool for visualising Land risks and priorities Creating compelling visualisations to support senior level decision makers, based on rigorous and comprehensive analytical information Developing and implementing a methodology that enabled broad engagement across the military Land community, to synthesise a common perspective on the key priorities, issues and goals for the Land equipment programme Development of an information environment which brought together existing information sources, structured military judgement and an assessment mechanism to provide a browsable resource to support decision making Creation of a single Land perspective on the forward plan for equipment capability — a significant success story in the current climate! Colonel Ian Harris, Colonel Battlespace Manoeuvre — Equipment Strategy (Army), UK MOD Caroline Gowing, Niteworks AEDP project manager
16:15-17:35	Afternoon Tea



	Schemas, Categories and Perspectives. What Psychology can bring to Enterprise Architecture
	 This presentation will look at Enterprise Architecture as a multi-disciplinary approach. Psychology can provide useful insights into individual and social activities, and these can be leveraged to assist the work of the Enterprise Architect.
16:35-17:10	 The presentation will focus on Man as an information processing machine, and highlight the work of critical social psychologists, in terms of developing approaches to make Enterprise Architecture more relevant. This will aid in constructing understanding and communication of Architectures.
	Colonel Luigi Gregori, MOD CIO Deputy Head (Policy)
	Kathryn Pimblett. Psychologist, DSTL
17:10-18:00	IBM Sponsored Panel Session
18:00-20:00	Drinks reception

Day 2 – 2nd March 2011

08:30-09:00	Welcome and Registration
09:00-09:10	Conference Introduction - Ian Bailey, Model Futures
09:10-09:50	Opening Keynote: Brigadier Alan Clacher OBE, Head of the UK MOD's Logistics NEC Programme
09:50-10:25	EDA approach on architectures in support of capabilities development - EDA and its role in the EU's capabilities' development - EDA approach on the use of architectures and SOA Marcel Staicu, Project Officer NEC, European Defence Agency
10:25-10:50	Coffee Break
10:50-11:25	Comparing EA in Defence and Financial Services Neil Peachey, Independent Enterprise Architecture Consultant
11:25-12:10	Panel Session: Governance: Getting the Policy Balance Right Panellists: Mikael Hagenbo, Head of Architecture, Swedish Armed Forces (moderator) Steve Winter, Chief Technologist & Strategic Advisor, NATS Neil Peachey, Independent Enterprise Architecture Consultant Mike Philip, Head of Enterprise Architecture, Vega
12:10-13:10	Lunch sponsored by VEGA



	Whole Systems Engineering in Rail
13:10-13:45	 An overview of the systems integration challenges in the GB rail industry and how rail is starting to apply enterprise architecture to help manage these issues Introduction to the rail system, the GB rail industry and some of the challenges faced in rail enhancement programmes The rationale behind TRAK (the Transport Architecture Framework), its development and unique nature as an open source framework Duncan Kemp, Lead Systems Engineer, UK Dept for Transport
13:45-14:20	 EA for Unity of Defence Vision and Action Large government enterprises lack unity of vision and action. Though often overlooked in spite of huge investments, it's the biggest barrier to success of enterprise transformation. Need simple yet unified vision of fundamental value chain that: allows everyone to readily see their contribution, and reinforces unified action Reinforcing and building on vision, EA becomes analytical tool for transformation. Merges traditional, design-focused operational and system architecture with real-time mission, resourcing and performance authoritative data This "Real-Time EA" can then feed an Enterprise-Wide Common Operating Picture (COP) that provides all Commanders, real-time, enterprise situational awareness of value chain Real-Time EA solution is pivotal to realizing Unity of Defence Vision and Action, and much greater resource effectiveness and efficiencies Robert Damashek, Chief Architect, Binary Group
14:20-14:45	Coffee Break
14:45-15:20	What is a service? A forensic approach to developing a common understanding of Service across business and IT. Chris Partridge, Chief Ontologist, BORO Solutions Limited
15:20-15:55	 Managing risk and cost with an EA approach Investigation of the issues associated with a modal shift of freight movement from road to high speed rail Why EA should be used to understand and analyse these issues Provision of quantitative analysis based on an EA Freight on high speed lines case study. Dr Joe Silmon, Centre for Railway Research and Education, University of Birmingham Dr Mike Brownsword, Consulting Engineer, ATEGO
15:55 -16:10	Summary and close Ian Bailey, Model Futures
16:10	Close



Keynote Speakers

Brig Alan Clacher OBE MSc FBCS - Head of the Logistics NEC Programme.



As Head of the Logistics NEC Programme, Brig Clacher is responsible for the delivery of an operationally focussed Programme, underpinned by a commercial Delivery Partner, to provide agile and responsive information services in support of Defence logistics.

This work ranges in scope from the logistic information required to support Tornado fast jets in the Air environment, Apache attack helicopters and heavy armour in the Land environment and warships in the Maritime environment - each

bringing their own unique problems.

Brigadier Alan Clacher was commissioned from the Royal Military Academy Sandhurst into the Royal Engineers. Early appointments included Northern Ireland tours in the infantry role in Portadown and Newry and as an Engineer Troop Commander supporting an Armoured Battlegroup in Germany.

Transferring to the Royal Logistic Corps because of his interest in the exploitation of information technology, he has followed a twin track career, developing experience both as a professional logistician and as an information systems (IS) specialist - supporting operations around the world in both capacities.

Brigadier Clacher was educated at Dulwich College, the University of Surrey (BSc Hons(First Class)) and Cranfield University (MSc - Design of Information Systems) - where he graduated top of his year. He was awarded the MBE in 1998 and the OBE in 2003.

His interests revolve around sport and other outdoor activities, including tennis, squash, hill walking/climbing and downhill skiing. He is married to Margaret and they have two daughters aged 20 and 18.



Air Commodore Mark Neal joined the Royal Air Force in 1978 as an apprentice technician in the air communications and air radar trade. After a short tour on No 33 Squadron, servicing Puma helicopters, he was commissioned into the Engineer Branch. His early commissioned service was completed primarily in the UK Air Defence Ground Environment (ADGE), although he also spent time on the staff of the Department of Initial Officer Training at RAF Cranwell and the Officers' Command School at RAF Henlow.

In 1995 he was appointed as Personal Staff Officer to the Air Officer Commanding CIS and Signals Units, before returning on promotion, to complete a final tour in the ADGE, this time as the Chief UK ADGE Engineer based at HQ 11/18 Group at RAF Bentley Priory. After a relatively short tour, he proceeded overseas to complete his Advanced Command and Staff Course at the Mubarak Al-Abdullah Command and Staff College in Kuwait, before returning to a staff appointment in MOD. Much of his two year tour was spent working alongside McKinsey & Co and other change agencies implementing the reorganisation of the Systems Area into the Equipment Capability Customer; work for which he was subsequently awarded an OBE. Latterly, he moved into the Information Operations branch of DEC (CCII) before moving to join the Directing Staff of the Joint Services Command and Staff College.

In July 2002, he joined the HQ of the Defence Logistics Organisation, on promotion to Gp Capt as Capability Change Team Leader for Information and Knowledge Management. There, he was responsible for: assuring the DLO had adequate information infrastructure to meet its current and future needs; the assessment of partnering and promotion of collaborative working with industry; the development of improved ways of managing information and provision of an "intelligent customer" function for the delivery of CIS services by DCSA.



In May 2005, he returned to DEC (CCII) where he assumed the role of Deputy Director Capability Strategy, with responsibilities for the balance of the DEC (CCII) Equipment Programme, coordination of the JCB NEC Delivery Plan and its related governance activities, development of the MOD Architectural Framework and capability management of Defence test and reference facilities.

From November 2006 to September 2007, he led the day-to-day operation of a combined MOD and KPMG team responsible for the introduction of Through Life Capability Management as part of the wider Defence Acquisition Change Programme. Spanning policy, design and implementation, his responsibilities spanned the MOD Unified Customer base.

On promotion he was appointed as Director of CIS(RAF) and Assistant Chief of Staff A6 at HQ Air Command where, from September 2007 to October 2009, he led the Air engagement with the DII Programme and transformed HQ Air Cmd A6 Division to manage a pan-DLOD approach to RAF CIS, IM and cyber activity. He also led the development of Trade Group 4 and instigated the A6 Hub at RAF Leeming which grew the capacity of 90SU to better support RAF outputs both in-garrison and deployed.

Air Cdre Neal returned in October 2009 to the MoD as the Head of Information, Strategy and Policy within the newly established Defence Chief Information Officer's organisation where his main responsibilities include driving forward the MOD's Information Strategy 2009 and associated substrategies on behalf of Defence.

A bachelor of 47 years of age, he lives in Worcester.



Speaker Profiles



Mike Brownsword gained his PhD in Risk management from Cardiff University in 2009 and his Masters degree in Electronics and Computer Science from Swansea University, since when he has spent over 10 years working as a systems engineer in a wide range of industries including rail, defence and aerospace. He has authored and presented numerous papers for conference and journal publication. Mike works full time as a lead consultant for Atego, an independent, standards-based company providing consultancy services and training to industry and academia. He is also a Chartered Engineer and Member of the IET.

David Camm biography to follow



Allen Clarke is a Senior Enterprise Architect in NATS and is currently working on the development of the European ATM Enterprise Architecture (EAEA) within the SESAR Programme. Allen has over 30 years of experience within NATS and has held a variety of posts in the areas of Operational System Support and Systems Development. Allen has been involved in all of the major ATC Centres Programmes undertaken by NATS over the last 25 years.

Prior to his involvement in the SESAR programme, Allen was involved in the creation and development of the NATS Enterprise Architecture Model.



Mr. Robert Damashek is Chief Architect at the Binary Group where he plays a critical role in the delivery of enterprise transformation initiatives across all clients and service practices. Robert has over thirty-five years experience in enterprise architecture and integration for large-scale industry and government organizations. Over the past eight years, Robert has supported Chief Information Officer and Chief Architect organizations at the U.S. Army and U.S. Department of Defense (DoD), and currently supports the DoD Chief Architect. He has been responsible for guiding strategy, policy and process development for architecture-based design and analytical support to net-centric force, business and shared

infrastructure transformations. As part of these responsibilities, he has participated in architecture analysis and continuity planning for the Army enterprise infrastructure, including Army Knowledge Online (AKO/DKO), and the DoD-wide Net-Centric Enterprise Services.

Robert Damashek continues to provide thought leadership and supports agency participation in numerous U.S. Federal, Inter-Agency, DoD, Coalition, Joint and Army interoperability activities, and is currently engaged in transformation of DoD's interoperability policy. In addition to direct support to clients, Mr. Damashek has actively participated in the U.S. Federal Open Government Initiative, and has helped to advise CIOs across the U.S. Federal Government on enhancing transparency, collaboration and participation both with the public and with other Government stakeholders.





Caroline Gowing is a strategy and change consultant working with JA Consulting Ltd. After a period as an Officer in the British Army, Caroline has operated within the Defence consultancy space for over eight years, working across the spectrum from large multinational industry through to small innovative technological design companies and for several years as an embedded consultant within the MoD. Caroline holds a degree in Psychology and a Masters in Human-Computer Interaction and has led teams working in

environments as diverse as Royal Navy frigates, ground based combat zones, multinational experiments, complex synthetic environments, Head Office change programmes and time-focused delivery projects. Caroline has worked within Niteworks for over a year as a project leader, benefits manager and capability modelling SME, supporting both core activity and a range of project activities.



Tom Graves has been an independent consultant for more than three decades, in business transformation, enterprise architecture and knowledge management. His clients in Europe, Australasia and the Americas cover a broad range of industries including banking, utilities, manufacturing, logistics, engineering, media, telecoms, research, defence and government. He has a broad academic background in arts, sciences and architectures, he initially trained as a

typographer and graphic-designer, and was one of the pioneers of desktop-publishing, with extensive experience in the practical and human challenges in business innovation and change. He has a special interest in architecture for non-IT-centric enterprises and the human side of systems.

Colonel Luigi Gregori, Deputy Head, UK MOD CIO

Col Gregori has just completed a tour as Deputy Head Policy and Standards with the UK MOD CIO. He has had responsibility for Enterprise Architecture and Data Management, as well as the central lead for Information related policy. Prior to this appointment, Col Gregori has worked in a wide variety of Intelligence and Logistic roles. He has also delivered two major IS programmes on time and under budget – QMG 2000 and JAMES 1.



LtCol Mikael Hagenbo has the position as a Head of Architecture and Architecture Frameworks at the Swedish Armed Forces (SweAF) Joint Development department at the Supreme Commander's Staff. His main responsibility is to lead the development of SweAF Enterprise Architecture Framework and also to co-ordinate, and in large extend execute, international and national agency co-operation within the EA area. Also, Mikael has a leading role in leading the implementation of EA in the SweAF.

Mikael has a background as an Air Force C4ISR officer and has been working with Enterprise Architecture since January 2003 after graduating from the Advanced Technical Programme at the Swedish National Defence College.

Mikael represents Sweden in NATO C3 Board/SC-1/Policy Working Group (and its future successor whatever it will be called) - responsible body for e.g. NATO Architecture Framework, and has been involved during the whole development process of 2 ½ years of the NATO Architecture Framework (NAF) version 3 that was approved by NATO in November 22 2007.

Finally, Mikael acts as a Swedish representative in International Defence Enterprise Architecture Specification (IDEAS) (http://www.ideasgroup.org) management group and also co-ordinates the bilateral co-operation with MOD UK within the EA area. Currently, Mikael has the role as chairman in IDEAS. Within the program of work of IDEAS, Mikael has the current lead for the on-going development of the MODAF Ontological Data Exchange Model (MODEM) in close co-operation with the UK MOD CIO organisation.

mikael.hagenbo@mil.se





Colonel Ian Harris is Colonel Battlespace Manoeuvre in the Equipment Strategy (Army) (ES(A)) branch of Chief of the General Staff's staff in MoD London. This branch provides the Army User's input to Defence Equipment Capability Planning. It develops and seeks to deliver, through the top level of the Army (including all members of the Army Board) and Defence, the Land Environment's equipment capability requirements.

During recent months, Colonel Harris has been primarily focused on the SDSR and Planning Round 11 including a specific project management responsibility of establishing a coherent Army (Land) Equipment Development Plan.

Colonel Harris is an infantry officer – the GLOSTERS, RGBW and more recently the Royal Irish Regiment, commanding his battalion in Northern Ireland from 2001-2003. The most recent assignments prior to his current post include: 2006-2009 Director Equipment Capability (DEC) Chemical, Biological, Radiological and Nuclear in the MoD which included co-leading the MoD/Industry CBRN Sector Transformation programme; 2005-2006 Assistant Director AFV Coherence - DEC Ground Manoeuvre addressing the AFV capability gap and two initiatives resulting from the MOD's 2005 Defence Industrial Strategy - the Sustained Armoured Vehicle Capability (SAVC) Pathfinder and the BAES/MOD AFV Partnering Agreement; 2004-2005 the EU's Head of the EU Transition Team and Chief J5 Plans in Sarajevo (Bosnia & Herzegovina) for the operational change from NATO (SFOR) to the EU (EUFOR).

In addition to his infantry battalion service, his other tours have included; MOD's Directorate Operational Capability (DOC) as SO1 Land, NATO -HQ ARRC as SO2 Operations, NATO - SHAPE as SO1 WMD Policy, and RMA Sandhurst, BMATT Zimbabwe, and Infantry Junior Leaders as a training instructor, providing significant and enjoyable variety over the years!



Duncan Kemp is a systems engineer and programme manager with over twenty five years experience in the defence, IS and transportation sectors. He has worked on a range of programmes including railway systems, communication systems, command and control systems, nuclear submarines, guided weapons and unmanned aerial vehicles.

Duncan has undertaken a range of technical and leadership roles including requirements management, programme design, systems architecting (both forward and reverse), risk management, effectiveness and performance management concept generation, interface management, modelling and simulation, solution selection, integration, verification and validation, transition to operation, lifecycle definition and enterprise integration.

Previous roles have included:

- Deputy director for UK Ministry Of Defence (MOD) acquisition reform. Duncan initiated and managed a range of acquisition improvements including improving the agility of acquisition projects and writing the challenges for change section of the MOD's defence industrial strategy.
- Chief architect for Command, Control, Communications and Computing (C4) for the UK MOD.
 Duncan established the C4 architecting capability and led the development of the UK's goal architecture for deployed operations in 2012 and beyond.
- Developing the UK's first System of Systems safety case. After identifying that the MOD had
 introduced a new system that introduced new system of systems hazards that no-one was
 accountable for managing, Duncan led a study that developed an initial safety case articulating
 the hazards and proposing mitigations.

Duncan is currently the lead systems engineer for rail in the UK Department for Transport (DfT) and team leader for asset and supply chain management for the McNulty review of value for money in GB railway. He is responsible for improving strategic whole life, whole system, decision making within



rail; supporting current and future rail programmes; and, growing the engineering competence in DfT and the rail industry. Duncan is co-chair of the INCOSE transportation working group and chair of the TRAK steering group.



Dave McDaniel is the President of Silver Bullet Solutions, Inc. He works on the DoD Architecture Framework (DoDAF) as part of the Lockheed-Martin team under contract to the DoD CIO's Architecture and Interoperability Directorate. He has worked on US defense systems for over 30 years, from programming weapons systems to researching sensor data fusion algorithms to department-wide enterprise

architectures and data repositories. His first work on architectures was in the mid-1980's, developing the US Navy's System Engineering Handbook Battle Force Architecture document for the Naval Sea Systems Command. The focus of this document was to define a systematic way to go from nationallevel command and control requirements to varying levels of functional designs and allocations efficiently and in a way that would better meet Navy operational requirements and lead to multiplatform systems interoperability. When the C4ISR Framework was being developed in the early 1990's, Mr. McDaniel was brought onto the team and helped with the SV's, in particular the SV-1 (System block diagrams) and SV-4 (functional data flow diagrams). He was also the Navy representative for the C4ISR Framework's meta model, the Core Architecture Data Model (CADM). In the latter 1990's, his Silver Bullet team supported the Space and Naval Warfare Systems Command (SPAWAR) in developing the Naval C4ISR Architecture, in defining the methodology and in the creation and maintenance of architecture "picklists" and an architecture data repository called the Naval Architecture Database (NAD). Owing to the success of NAD, the team went on to enlarge the database Navy-wide, called the Department of the Navy (DoN) Integrated Architecture Database (DIAD). The DIAD had architecture data from 30 diverse functional areas, from Navy medicine and law to acquisition and finance to weapons, ships, aircraft, and ground forces. In parallel, Mr. McDaniel was the DoN lead for the extension of C4ISR Framework to non-C4ISR domains, in what became known as the DoD Architecture Framework (DoDAF). Mr. McDaniel has since worked on DoDAF 1.5 and 2.0 and has been the leader of the DoDAF Meta Model (DM2) working group. As the working group leader, he convinced the group to adopt the International Defence Enterprise Architecture Specification (IDEAS) in which he had been the principal US participant for several years. The formal ontologic foundation of IDEAS allowed a two-order of magnitude reduction in data elements in DM2 compared to the CADM predecessor -- while simultaneously significantly increasing the expressive power. Mr. McDaniel continues to lead the DoDAF-DM2 working group in its new role as the configuration management body for improvement and evolution of DoDAF.

His intellectual and business interests include DoD process efficiency, ontologies, data fusion, automated inference, and sensor, combat, and C4ISR systems. His degrees are Mathematics, Physics, and Computer Systems Applications. He has lived many places including San Diego, New York, and, currently, Virginia.

Alex Mitchell is the Principal Engineer for intelligence systems within the UK Ministry of Defence. As part of this role he develops and maintains the ISTAR (Intelligence, Surveillance, Target Acquisition and Reconnaissance) enterprise architecture and also acts as the technical authority for the area. His previous positions include leading major intelligence integration programmes and working in electronic surveillance, naval combat systems and the nuclear submarine programme.

Alex holds degrees from Kings College London in Electronic Engineering and Defence Studies and is currently studying for an MSc in Systems Engineering. He is also a graduate of the Advanced Command and Staff Course.

He is lives with his wife Gill and two children in Monmouthshire.





Neil Peachey is an experienced and certified IT Strategist and Architect, with over 15 years in the Architecture discipline across various industries. In the last 3 years, his Enterprise Architecture engagements have been in Financial Services, Defence and the Public Sector.

Kathryn Pimblett biography to follow



Chris Partridge (partridgec@BOROGroup.co.uk) is Chief Ontologist at BORO Solutions (www.BOROSolutions.com). He has been developing his expertise in business ontology for a couple of decades — working primarily in the defence and financial sectors. He has also published a number of papers and a book - Business Object: Re-engineering for Re-use (Butterworth Heinemann 1996). He has developed an ontology framework — BORO — that is the foundation for the IDEAS (International Defence Enterprise Architecture Specification for exchange) which is the foundation for DODAF 2.0.



Mike Philip is Practice Leader for VEGA's Enterprise Analysis and Architecture team. A mechanical engineer by training, Mike has over 25 years' experience from a diverse range of roles. He started his career as an engineer within in the civil aero engine division at Rolls Royce plc in Derby. From there he moved on to serve within the Royal Navy and then the Royal Air Force within the Intelligence Branch. Since leaving the RAF, Mike has held a variety of positions in technical and project consulting roles in SAIC and VEGA. Mike currently leads a Practice of

some 30 consultants delivering enterprise analysis services covering business analysis, decision support, enterprise modelling, model-based systems engineering, and technical strategy and architectures.



Stephen Pybus has over 20 years experience in the Air Traffic Management industry. His experience covers all aspects of system development, including specifying future ATM systems, investment planning at both project and portfolio level, and customer consultation on capital investment programmes. He currently leads a team of Enterprise Architects that are mapping out the evolution of the UK ATM system to meet future business needs within the challenging commercial environment affecting the aviation industry. He holds

several Bachelor and Masters degrees, is a Fellow of the Institution of Engineering & Technology and is a Chartered Engineer.



Matthew Rapier - Chief Technical Architect, VEGA Consulting Services Ltd

Matthew Rapier is a member of the senior management team at VEGA specialising in Enterprise Architecture consultancy. He is supporting several projects for clients including DII Group, the Core Herrick team and MOD's industry partners. Matthew leads VEGA's work in Theatre Network and Service Assurance for Op Herrick, and is a driving force in VEGA's growing roles in the delivery of highly secure ICT solutions to MOD and other government departments.

Before taking up this role, Matthew held the post of Chief Architect for the ATLAS Consortium, the Delivery Partner for the Defence Information Infrastructure programme in addition to similar responsibilities for the HP Enterprise Services Defence and Security business unit. His responsibilities



included developing the overall Solution Architecture for DII, establishing and running the DII Solution Governance model. Previously Matthew held a series of roles within the ATLAS CTO function including Battlespace Domain Architect and lead architect for DII Increment 2b (addition of Land Deployed).

Matthew's earlier experience is in the architecture and delivery of Operational C2 systems. He was CTO for HP Enterprise Services Defence and Security Operational C2 business, responsible for Joint Operations Command System, Royal Navy Command Support System and related systems. As a particular role Matthew was Design Authority for RNCSS for many years, driving the solution through a series of major technology evolutions. His experience in this period fed through to his involvement in the DII Deployed programme.

Matthew is a Master Certified IT Architect and Open Group ITAC Certification Board Member.



Joe Silmon graduated with a Masters in Electronic and Electrical Engineering from the University of Birmingham in 2004. Joe worked for Bombardier Transportation within the Mainline & Metros division before returning to University to undertake his Ph.D. entitled "Operational industrial fault detection and diagnosis: railway actuator case studies", which he gained in December 2009. This work aimed to develop previous research on fault detection for low-cost, high-population assets such as railway switches, train doors and level

crossing barriers, with intuitive methods which could aid maintenance staff in targeting their work in time to avoid costly in-service failures.

Joe has worked as a systems modeller and analyst on a number of European Commission projects including SELCAT, Innotrack and the InfraGuidER project which aims to produce environmental guidance for railway infrastructure managers.

Marcel Staicu - Project Officer Network Enabled Capabilities, European Defence Agency

Mr. Marcel Staicu has a 25 years Communication and Information Systems (CIS) career in the Romanian Army, being appointed in several positions, from Signal Platoon Leader up to IT Branch Chief in an Army Corps HQ.

He participated in several international Command Post Exercises, as a CIS specialist, and served two tours of duty, of one-year each, as a UN Military Observer, in Iraq-Kuwait and RD Congo.

In February 2005 he was appointed in the NATO HQ C3 Staff, in Brussels, as staff officer, dealing with the architecture and interoperability of the NATO C3 systems.

He retired in 2007, with the rank of LTC, and started working in the European Defence Agency, being the leading staff on developing and implementing NEC in support of the EU Common Security and Defence Policy.

Besides the CIS officers' regular military education, training and courses he has a civilian university licence in Computer Science, holds two post-graduate certificates in management and communication, and is currently engaged in a PhD research.

Mr. Staicu is married with Aneta and together raise two boys, Vlad and Mircea.



Malcolm Touchin is the principal consultant at the Systems Engineering Innovation Centre in Loughborough, where he has worked for the last five years. He is a member of the BAE Systems working group which is advancing the company's Systems Engineering capability in response to the UK MoD's TLCM initiative. He has spent much of his career working on naval command and control systems, most recently as a member of the Mission Systems team of the Aircraft Carrier Alliance developing the system implementation for the Royal Navy's new Queen Elizabeth Class.



Michael L. Wayson serves as the Senior Systems Architect with the Architecture and Infrastructure Directorate, Office of the Assistant Secretary of Defense, DoD Chief Information Officer. He is responsible for formulation and coordination of Architecture Policy for the Department of Defense.

In his twenty-two years of service in the Air Force, Mr. Wayson has held a variety of positions, including command of an Air Force Recruiting Squadron covering all six

New England states. In addition, he acquired a wide range of technical experience in supporting the Strategic Air Command, the North Atlantic Treaty Organization, Air Force Recruiting Service, Air Education and Training Command, the Defense Information Systems Agency, the Office of the Secretary of the Air Force, and the Office of the Secretary of Defense.

Mr. Wayson was born in Annapolis, Maryland. He graduated from the University of Maryland with a Bachelor of Science degree in Computer Science. An Air Force Reserve Officer Training Corps Scholarship Graduate. He also received a Master of Science in Systems Management from the University of Southern California.



Steve Winter is the Chief Technologist for NATS, the UK's Air Traffic Control Organisation. NATS is a Public-Private Partnership, with an annual turnover in excess of £700M and controlling over 2M flights per year. In his capacity, Steve is responsible for the technology strategy for the business, including building relationships with other organizations in aviation. He provides technical leadership to the NATS team involved in the SESAR programme to transform European Air Traffic Management (ATM). In addition, he provides advice on strategic matters to senior management and executives on technology-related

issues.

Steve is a certified Enterprise Architect. He introduced Enterprise Architecture methods and Architecture Frameworks, such as MODAF (the Ministry Of Defence Architecture Framework) to NATS.

Before joining NATS in 2006, Steve was the Technology Director for Raytheon's Airspace Management and Homeland Security business area, based in Marlborough, MA, USA.

From 2001, Steve focussed on advanced system architectures and enterprise architecture (EA). This included working with the U.S. Government's Joint Planning and Development Office (JPDO) to establish the architecture for the future U.S. air transportation system, NextGen.

He joined Raytheon in 1986 as a Software Developer in Air Traffic systems. He was the principal architect of the highly successful AutoTrac ATMS product line, which has been installed in over 49 countries worldwide and is the basis for the Federal Aviation Administration's (FAA) Standard Terminal Automation Replacement System (STARS). He worked for numerous customers around the world involved in all aspects of system development, including extensive customer interaction and site work.

Prior to joining Raytheon, Steve was a principal consultant for Scicon Ltd. in the UK, specializing in submarine warfare and weapon systems.

Steve has an MA(Cantab) in Mathematics from Pembroke College, Cambridge University. He is a member of the Air Traffic Control Association (ATCA) and the Information Systems Audit and Control Association (ISACA).



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