AVIATION RESOURCE MANAGEMENT SYSTEM

Efficiency through Integration

Industry-leading InfoTech solutions designed to lower costs for Airlines and Air Transport Operators
ARMS® V2 increases process efficiencies and reduces costs while assuring strict statutory compliance and uncompromising safety.
Successful airline and air transport operations rely on the real-time exchange of accurate information and data between Operations (OPS) and Maintenance & Engineering (M&E) functions.

The Aviation Resource Management System (ARMS®) V2 is the only Aviation Information Technology (InfoTech) solution that facilitates the seamless exchange of information/data between OPS and M&E functions. It does this by not only giving both groups dedicated tools but also providing them with essential shared system modules; as needed for general business management, training, quality control and administration.

In addition, all modules within ARMS® V2 access and can contribute to a unified database; by which we mean a single repository for all data, as opposed to shared or merged databases and tables.

Only with a single and unified repository of data can OPS and M&E activities and processes be truly integrated; rather than having to laboriously interconnect disparate applications that import, export and in some cases translate data between the system’s parts.

With true integration across all functions comes automation. For example, the free flow of data through the organization – and not having to re-key it at any stage – gives the peace of mind that all decisions can be made on the most relevant and up-to-date information possible.

In addition, ARMS® V2 features a number of Operations Research (OR) based ‘Optimizers’ which automatically present optimum solutions for any given plan or schedule and greatly simplifies the handling of disruptions.

Unified Database.
The ARMS® V2 InfoTech Suite is the only solution in the industry capable of seamlessly integrating all of the functional and operational areas of an airline or air transport operator with a unified database; i.e. a single repository of data with which all ARMS® modules interact. This ensures you spend more time managing your airline efficiently and less time collating, integrating and processing data.
What does ARMS® V2 include?

The ARMS® V2 InfoTech Suite comprises 12 sub-systems, with more under development, which are highly customizable and easy to fit around your operational requirements. They are:

- **ARMS® Commercial Planning (CPSS)**
  Make optimum use of your aircraft resources and maximize the network effectiveness.

- **ARMS® Flight Operations (FOSS)**
  Fleet situational awareness for all. Manage on-time performance and disruptions efficiently.

- **ARMS® Crew Management (CMSS)**
  Achieve the perfect balance between crew costs and quality-of-life for all, while ensuring strict statutory compliance.

- **ARMS® Flight Planning & Dispatch (FPDS)**
  Everything a crew needs to plan and operate the flight safely and efficiently, with a special focus on fuel conservation.

- **ARMS® Engineering & Maintenance (EMSS)**
  Keep your aircraft in a maximum state of airworthiness and ensure quality, compliance and dispatch reliability.

- **ARMS® Logistics & Inventory Management (LIMS)**
  Manage the supply chain efficiently to ensure just-in-time availability of spares and materials, thus controlling costs.

- **ARMS® Heavy MRO (HMRO)**
  Plan and execute heavy checks consistently, efficiently and safely, and return aircraft back to service on schedule.

- **ARMS® Flight Data Monitoring & Analysis (FDMA)**
  Capitalize on the high fidelity data recorded/transmitted by the aircraft. Use this data to measure and monitor the safety, compliance and efficiency of your operations.

- **ARMS® Fuel Consumption Analysis MIS (FCAM)**
  Maximize your profits by policing your fuel conservation policy.

- **ARMS® Safety & Quality Management (SQMS)**
  Ensure no compromises are made on safety or quality in accordance with emerging ICAO SMS requirements.

- **ARMS® Integrated Training Management (ITMS)**
  Ensure that the skill and knowledge levels of your work force are always up-to-date and at their peak.

- **InfoPrompt® Integrated Document Management (IDMS)**
  Manage technical publications, records, documents, policy manuals, SOPs and other content. Provide secure, anytime, anywhere access for your staff.
The ARMS® V2 InfoTech Suite is modular and scalable, and is designed to grow with your operations. Any sub-system can be deployed independently however the greatest benefits come from integrating multiple sub-systems.

**Greater than the sum of the parts**

**ARMS® V2 is an optimum blend of:**

- **Bespoke products** - all of which have been purpose-built around industry best-practice.
- **Quality services** including project implementation and delivery, training, project management and change management – in addition, initial data collation, encoding and conversion services are available.
- **Infallible support** in the form of recurrent training and assistance when scaling up. You also have access to an ARMS® V2 Tech Support Portal and a 24x7 Help Desk.
Optimizers

ARMS® V2 provides users with Operations Research based Optimizers (also known as ‘Solvers’) through an affordable cloud-computing model. Optimizers are software-based applications that employ advanced scientific analytical methods to improve the effectiveness of operations, decision-making and the overall management of a company.

Optimizers deliver considerable benefits, including:
• The entire InfoTech Suite becomes smarter;
• Visible cost reductions;
• Improved accuracy during resource planning;
• Rapid exploration/evaluation of minimum cost scenarios;
• Optimal resource assignments;
• Better disruption management (using real data and user-defined constraints); and
• Remove the guess work from essential planning activities.

ARMS® V2 Optimizers include:
• Aircraft Routing Optimizer (for use with ARMS® Commercial Planning);
• Tail Assignment Optimizer (for use with ARMS® Flight Operations); and
• Crew Trips Optimizer (for use with ARMS® Crew Management).

Optimizers under development include:
• Schedule Planning Optimizer (for use with ARMS® V2.5 Commercial Planning);
• Disruption Management Optimizer (for use with ARMS® V2.5 Flight Operations);
• Crew Rostering Optimizer (for use with ARMS® V2.5 Crew Management); and
• 4D Flight Trajectory Optimizer (for use with ARMS® V2.5 Flight Planning & Dispatch).
Why ARMS® V2?

ARMS® V2 helps you:

• Reduce your direct operating and administration costs.
• Become ‘lean and green’.
• Improve safety and more easily achieve statutory compliance.
• Operate with an agile, motivated and well-coordinated workforce.
• Harmonize Operations, M&E and MRO functions.
• Forward-plan with far higher degrees of predictability.
• Better cope with disruptions.
• Deliver a consistent quality-of-service.
• Protect and enhance your corporate reputation.

…and you will benefit from an early return on investment (ROI).

The ARMS® V2 InfoTech Suite draws on the best and most appropriate elements of several well-proven business management tools; and their associated methodologies. These have then been tailored to meet the exacting and cost-sensitive needs of airline operators and air transport companies.

Focussed.
The primary role of ARMS® V2 to enable effective management of all of the processes and resources required for the safe and efficient operations and maintenance of aircraft; while aiming for an overall reduction in the direct operating costs.

Robust, Versatile, Accessible and Cost-effective

The ARMS® V2 InfoTech Suite is based on the Cloud and takes full advantage of proven, secure and low-cost communications technologies. Users can interact with ARMS® V2 via a variety of methods such as the Internet, smart phone, tablet or other unified communications device. The suite is designed for non-stop 24x7 operations, across all time zones, and is a robust, proven and cost-effective, modular and scalable solution. Please refer to page 16 for Technology and Ownership details.

It’s a Win-Win.
ARMS® V2 is easy to implement thanks to it being delivered as a turnkey solution. Everyone in your organization will benefit from the high and dependable levels of automation, and see an improvement in their quality-of-life (see pages 14 and 15).
ARMS® V2 delivers cost-effective and efficient management of all resources and processes through:

- The efficient and meticulous planning of all resources;
- Optimized scheduling of all resources, with respect to crew, aircraft, equipment and other assets;
- A high degree of workflow automation;
- The availability of real-time data to ensure operational efficiency and consistent on-time performance;
- Effective and optimum disruption management based on real-time information/data;
- Proactive and predictive safety practices to avert harm, damage and loss;
- Strict quality management to ensure statutory compliance, airworthiness and reliability;
- The detailed analysis of performance data to improve planning and scheduling;
- Strict statutory compliance and optimum decision support, through near real-time EMIS; and
- The tight monitoring of direct operating costs; especially towards fuel, crew and maintenance.

Thanks to the unified database with which all ARMS® V2 subsystems interact, everything everyone needs to know is always accessible and always up-to-date. In addition, the optimizers within many of the sub-systems automate the majority of common/regular tasks; alleviating workload and presenting optimum solutions when managing disruptions.

The ARMS® V2 InfoTech Suite brings together Systems, Processes and People to produce an integrated and efficient business/work environment and to improve the quality-of-life for all concerned (see pages 14 and 15).
ARMS® sub-systems for Operations

These ARMS® sub-systems will transform the cost-effectiveness of your airline/air transport operations. Between them, they fully support your planning and scheduling activities and provide you with precise control and monitoring on the day of operation. In addition, the high degree of workflow automation and the availability of real-time data ensure operational efficiency and consistent on-time performance.

ARMS® Commercial Planning (CPSS)
Used for network planning, route analysis, flight scheduling and publishing and controlling of the finalized Network Schedule, ARMS® Commercial Planning’s modules and features include:
• Commercial Schedule Management (CSM)
• Aircraft Routing Optimizer (ARO)
• SSIM Export & Import
• On-time Performance Monitor (OTPM)
• Disruption Management Module (DMM)

ARMS® Flight Operations (FOSS)
This sub-system is primarily for Fleet Watch and Flight Following, and uses proven and low-cost connectivity solutions to ensure the smooth and near real-time flow of operational information. It is an invaluable tool for the OCC Supervisor/Fleet Controller. Modules and features include:
• Fleet Controller’s Terminal (FCT)
• Tail Assignment Optimizer (TAO)
• Remote Movement Messaging (RMM)
• Horizontal Situation Display (HSD)
• Day of Operation Status (DOP)
• Weather Display (WXD)
• Flight Status Module (FSM)
• Interactive Voice Response System (IVRS) - optional
• Interactive SMS (iSMS) Module - optional
ARMS® Crew Management (CMSS)

Make optimum use of your crew, reduce crew-related costs and remain fully compliant with statutory regulations; while ensuring reasonable “quality-of-life” for crew. Available for Flight Deck Crew and/or Cabin Crew, CMSS modules and features include:

- Crew Records Module (REC)
- Crew Trips Optimizer (CTO)
- Crew Training Planning (CTP)
- Crew Leave Management (CLM)
- Crew Scheduling and Rostering (CS&R)
- Crew Log Books (CLBs)
- Crew Pay & Allowances (CPA)
- Crew Control Module (CCM)
- Crew Web Portal (CWP)

ARMS® Flight Planning & Dispatch (FPDS)

This sub-system provides all the functions required for enabling a centralized and remote Flight Dispatch Center. Modules and features include:

- Flight Information Board (FIB)
- Route Builder (RBL)
- Computerized Flight Planning (CFP)
- Pre-Flight Documentation (PFD)
- NOTAMS/INTAMS Bulletin Board (NBB)
- Weather Briefing Portal (WXD)
- Load & Trim Module (LNT)
- Aircrew Self-Briefing Module (ASB)
ARMS® sub-systems for M&E

These ARMS® sub-systems support all of your Maintenance & Engineering functions, including heavy MRO. Within all, the emphasis is always on safety, compliance and efficiency. Accordingly, whether you are a Part 145 or Part-M organization involved in line, base or heavy maintenance, the ARMS® M&E sub-systems are geared to meet all your requirements. Since these sub-systems are seamlessly integrated with the Operations and Shared components of ARMS® V2, when deployed together the integrated system offers greater workflow automation and process efficiency.

**ARMS® Engineering & Maintenance (EMSS)**

This sub-system provides maintenance managers and engineers with all the information they need for sound decision-making. It empowers them to control and improve maintenance processes, while aligning with flight schedules and operational requirements, and keep a tight control over costs. ARMS® Engineering & Maintenance also ensures strict statutory compliance, consistent quality, enhanced airworthiness and better maintenance reliability. Modules and features include:

- Technical Records (TRM)
- Technical Services (TSM)
- Maintenance Control Center (MCC) with DoP Status
- Engineering Planning (EPM)
- Line & Base Maintenance Management (LMM)
- Technical Publications Management (TPM)
- Engineering Crew Management (ECM)
- Quality Management (QMM)
- Engineering MIS Reports (EMR)

**ARMS® Logistics & Inventory Management (LIMS)**

This comprehensive sub-system manages all the supply chain, logistics and inventory management activities ensuring optimum stock holding and just-in-time positioning of spares and materials; thus minimizing logistics and inventory related costs. Modules and features include:

- Inventory Master (INV) with IPC integration
- Vendor Management (VEN)
- Planning, Provisioning & Forecasting (PPF)
- Stores Management (SMM)
- Receipt & Dispatch (RDM)
- Workshop /Repairs Coordination (WRC)
- Finance Management (FIN)
- Logistics MIS Reports (LMR)
ARMS® Heavy Maintenance, Repair & Overhaul (HMRO)

This system supports the entire range of complex and sophisticated tasks required for heavy MRO; factoring in all the safety, compliance and quality requirements for this demanding activity which has to be managed for strict schedule adherence. The system comprises:

- **HMRO Commercial Sub-System** which includes the following modules: MRO Web Portal, MRO Capability, MRO Sales, Client Account Management, MRO Vendor Management and Finance & Budgeting;

- **HMRO Resource Planning & Scheduling Sub-System** which includes Work Package Management, Hangar & Bays Management, Work Shop Management, Support Equipment Management, M&E Crew Management and Material Planning modules;

- **HMRO Production Sub-System** which includes modules for Receiving Inspection, MRO Execution/Production, MRO Post-Production and Compliance & Quality Management Functions; and

- **HMRO Centralized MIS Reports and EIS Dashboard**, which allow you to monitor and measure your KPIs.

Boosting HMRO

Thanks to the modularity of the ARMS® V2 InfoTech Suite, HMRO can be enhanced through integration with the ARMS® Safety & Quality Management Sub-System (see page 12) along with key modules from EMSS; such as Engineering Crew Management, Tech Pubs Management and Technical Services.

Are you an MRO or a large airliner with your own MRO center(s)?

If so, the following sub-systems can be integrated; these enable you to manage/control all your M&E activities.
ARMS® Shared sub-systems

These sub-systems are shared across several functional areas of OPS and M&E. They can be deployed as standalone InfoTech tools, but deliver the greatest benefits (automation, data retrieval, analysis etc...) when integrated with other components within the ARMS® V2 Suite.

ARMS® Flight Data Monitoring & Analysis (FDMA)
This enables flight safety and engineering personnel to monitor and analyze an aircraft’s recorded flight data. Modules and features include:
- Admin Module
- Flight Data Processing
- Flight Operations Quality Assurance (FOQA)
- Trend Graph Analysis of Flights (GRAF)
- Total Aircraft Performance Monitoring (TAPM)
- Engine Condition & Trend Monitoring (ECTM)

ARMS® Fuel Consumption Analysis MIS (FCAM)
This sub-system extracts fuel consumption data from the DFDR (or QAR recorded data), in terms of the fuel consumed during the various phases of flight, in order to present graphs/tables for trending purposes; or to flag any deviations from the norm. The FCAM helps you conserve fuel and minimize the total cost of every flight. Features and benefits include:
- Fuel Uplift Reconciliation Report (Fuel Invoice vs. Tech Log vs. DFDR Recorded Data)
- Flight Block Time Difference Report
- Flight Plan vs. Actual Fuel Consumed
- OEM Performance Data vs. Actual Fuel Consumed
- Flight Trajectory Deviation Report
- Monitoring of high drag configurations (including Reverse Thrusters)
- Consumption Summary Reports: Crew-wise, base-wise, aircraft-wise, seasonal variations
- EU-ETS Reporting (optional)

ARMS® Safety & Quality Management (SQMS)
Combining the best industry practices from Safety Management Systems and Quality Management Systems (SMS and QMS respectively) this invaluable sub-system’s features and capabilities include:
- Hazard Identification & Risk Assessment
- Reporting
- Investigations
- Meetings
- Audits & Inspections
- Flight Operations Quality Assurance (FOQA)
- Maintenance Operations Quality Assurance (MOQA)
Shared

All aviation agencies/aviation service providers are required by the ICAO and the state regulatory bodies to establish a Safety Management System/Program in order to achieve an acceptable level of safety in (a) the operation of aircraft and (b) the maintenance of aircraft.

ARMS® Integrated Training Management System (ITMS)
This sub-system ensures that appropriate and high levels of skill and knowledge are achieved and maintained by all staff (whether working in Operations, Engineering/Maintenance or Administration). It also ensures that all employees have the right attitude towards compliance, quality and safety. ITMS is ideal for Training Organizations/Departments and Simulator Training Centers. Functions and features include:
• Curriculum Management
• Resource Management
• Training Content Management
• Administrative Functions
• Training Center Web Portal
• Finance & Accounting Function
• Security & Access Rights Function

InfoPrompt® Integrated Document Management System (IDMS)
In an airline/MRO environment, InfoPrompt® can be used to create, configure and then manage a comprehensive Technical Library; for the storage and retrieval of the technical documentation supplied by aircraft manufacturers and other OEMs plus the wealth of documentation you will generate (and need to archive) during operations. InfoPrompt® is hosted on a central server and users can access the content via the Internet. InfoPrompt® properties and features include:
• Object Organizer
• Content Management
• Object Viewer
• Object Routing
• Search, Retrieval and Archive
• User Definable Metadata
• Meta Notes on File
• User Management
ARMS® V2 improves your quality-of-life...

The Director/CEO/COO
I have instant access to a variety of customizable reports, which has made our weekly review meetings extremely productive. In addition, I can view our KPIs through an EIS dashboard on my Tablet. ARMS® V2 also greatly assists us in meeting and maintaining our statutory compliance and our safety culture across the entire organization. Also, on a personal note, ARMS® V2 has helped me break away from the office; as I automatically receive text messages if there are any deviations from standard, cost-effective operations.

Flight Operations Managers
ARMS® V2 provides me with the very latest information (such as fleet position data) enabling me to make informed decisions when managing disruptions. This is thanks to the near real-time flight-following features within ARMS® V2. Also, a ‘notification engine’ within ARMS® V2 pushes out emails and SMS messages regarding any delays or disruptions, so there’s no more waiting in suspense. I’m no longer as tied to the Ops Control Center as I used to be and when it comes to managing a disruption, I have all the information I need, on one screen, to make an informed decision. I can confidently recover a disrupted schedule with visible results.

MRO / Engineering Manager
My life has been significantly improved since we started using the ARMS® V2 Engineering & Maintenance sub-system (EMSS). For example, I know that aircraft records are always up-to-date and I automatically receive an email or a text message if an aircraft document or record is about to expire. This helps us remain compliant and gives us greater confidence during an audit. Planned Maintenance Call Outs are generated automatically by ARMS® V2 so all I have to do is print Work Orders and assign them to the maintenance teams. Time is saved and the potential for oversight eliminated.

Administration/HR
With operations spread far and wide, and crew travelling all over the world, keeping track of human resources used to be a struggle until ARMS® V2 presented us with all the information we need for Operations and MRO personnel in one system. Also, the entire leave application, approvals and records system is online, as are systems for requesting uniforms and transportation. This helps both us and our personnel; who are spared from making trips or phone calls into the office.
Crew Manager

My life is considerably easier since we adopted ARMS® V2. I no longer stress over document/license expiries, as I receive an email or text message advising me to check a pre-populated To Do List. Also, I’m able to keep the crew happy, because the Auto-Rostering Engine within ARMS® V2 ensures equalization of duty assignments as well as making sure the roster assignments are legal and valid. In addition, whenever a disruption to the crew roster takes place, I have all the supporting data I need to make decisions and implement a recovery at the earliest opportunity.

Flight Deck & Cabin Crew

A guaranteed and equitable roster ensures peace of mind and I no longer worry about who is flying more hours than me. Another big plus is that I no longer have to maintain my own log book because ARMS® V2 does that for me. The system also reminds me of license expiries and due medicals; and the crew facilitation services are superb; giving me wake-up calls, notifying me of any schedule changes and passing on pickup vehicle numbers and contact details - all via SMS.

Finance Director/CFO

Collecting data on direct operating costs used to be a huge challenge and I was dependent on multiple departments providing me with information. Now, with ARMS® V2, I have everything I need for analysis in one system - which provides for far better cash flow forecasting and contingency planning. Also I love the level of control ARMS® V2 affords. For example, the SMS-based Purchase Order approval process means I need only respond with a “Yes” and it’s done. I’m liberated from my office, without foregoing financial visibility or relinquishing control.

IT Manager

Before we switched to the ARMS® V2 hosted solution much of my time had been spent managing the infrastructure for the company’s IT (infrastructure such as the UPS system, air-conditioning and security). Now, for the first time, I get to actually manage the core IT function, rather than spending all my time fire-fighting a host of ancillary problems. Also, before we switched to ARMS® V2 I used to be forever on standby. Whenever away from work I was always half-expecting to be called back to fix problems. ARMS® V2 has given me back my social life.
ARMS® V2 on the Cloud:
• MS Dot.Net Platform;
• ARMS® V2 optimizers run on the Amazon EC2 Cloud;
• Anytime, anywhere access to ARMS® V2;
• Multi-tiered, flexible and secure system architecture;
• Multiple redundancy features;
• High availability and system resilience;
• Seamless, secure, low-cost connectivity;
• Can be accessed through Laptops and Tablets while on the move;
• Push notifications via emails and SMS texts.

ARMS® V2 on the Tab:
• Current tablet platforms include Android Tablets and iPads;
• Tablets coming soon include ToughPads and Windows 8 Tablets; and
• Online access to ARMS® V2 from Tablets through Go-Global and Citrix.

Support Services:
• Project Implementation & Delivery;
• Data collation, encoding and capture;
• Legacy Data Conversion & Normalization;
• Electronic Publishing & Digitalization Services;
• Training & Workshops;
• Onsite Technical & Warranty Support;
• 24 x 7 Online Help;
• On-going customization & enhancements;
• Integration with legacy/other systems
• Bespoke Application Software Development.

ARMS® V2 is available under three, flexible ownership options - giving it a low total cost of ownership (TCO).

The ownership options are:
• Servers and application software fully owned by you;
• Application Software purchased by you, hosted on our servers; or
• Application Software-as-a-Service (SaaS) hosted on our servers.
In this brochure we have outlined how the ARMS® V2 Aviation InfoTech Suite is a turnkey solution which can deliver cost-effective, safe and compliant operations, plus improve the quality-of-life for everyone in your organization. But don’t take our word for it. Ask for an online or onsite demonstration.

contact@sds.co.in
The ARMS® V2 InfoTech Suite has been developed by Sheorey Digital Systems Ltd. (SDS). With over four decades of experience in aviation, SDS is renowned for its innovative, versatile and low total-cost-of-ownership turnkey solutions that bring balance and control to essential aviation activities.

SDS has been at the forefront of numerous airline success stories and crisis management scenarios with hands-on experience gained initially from the launch of six new airlines in India; currently experiencing an extremely high growth in air travel.

The company’s core competencies are in current generation application software design and development, interactive multimedia technologies, process automation and training.

To book an online or onsite demonstration of ARMS® V2 InfoTech Suite please email: contact@sds.co.in