



## Keeping Customers Going

The untimely breakdown of key plant and equipment hits organisations hard. The more such events occur and the longer the time taken to rectify them, the greater the negative impact on the bottom line. All organisations involved in production and services that use equipment, have this critical reliance on their equipment's availability and proper functioning. Of importance, among the many systems/equipment that contribute to the multitude of operations, some are more critical to output, than others. A single failure in a critical equipment can bring a whole plant to a standstill. Why does prolonged or repetitive breakdown count against the bottom line? Simple, the objective of business is to make money. The simplistic view is:  $\text{Income} - \text{Expenses} = \text{Profit}$ .

Why does prolonged or repetitive breakdown count against the bottom line? Simple, the objective of business is to make money. The simplistic view is:  $\text{Income} - \text{Expenses} = \text{Profit}$ . Thus, the unavailability of production or service resources will ultimately result in reduced income. Additional expense to repair or replace faulty equipment will increase cost relative to output, reduce profits, and increase cost of ownership over the life of plant/equipment. Lost output can never be recovered in terms of cost. A further consideration is the impact, lost output has on reputation, in terms of meeting commitments and deadlines.

Of significant importance is the quality and usefulness of operational and support information. The lifeblood that flows through all organisations is information. For all the functions of a business to operate optimally, relevant information that is accurate and fit for purpose must be available, in a useful medium wherever required.

The everyday challenge of business is being able to focus on the core task of making money, with the assurance of sound and profitable operations based on the relevance, usefulness, and integrity of operational and support information.

Pro-active, systematic approaches to information needs can overcome such business risks. Critical failures must be identified and addressed before they occur. It is important to consider the reliability of plant/equipment in concert with redundancies, to ensure that weaknesses and single failure points are catered for before they affect production/services. Cost effectiveness is a prime consideration. Plant/equipment require effective preventive maintenance programmes to maximise output and prevent costly breakdown. Analysis of critical equipment in a system perspective, considering probability of failure and severity of failure consequences, provides the framework to develop cost effective reliability and maintenance programmes. The failure analysis information focuses preventive and corrective maintenance

procedures, and identifies necessary support resource requirements, including spares, skill and training requirements. This allows for improvements in the relevancy and quality of support information, focusing costly support resources where most needed. The end result is control over the function of keeping plant/equipment in optimum running order at least cost, as opposed to throwing costly resources at problems when they occur (often still resulting in unacceptable losses in production capacities and spiralling maintenance costs). An effective method to collect and analyse actual failure data is then the way to close the loop, and optimize maintenance support systems/products. An effective support system maximises productivity, reduces cost of ownership and increases profits and return on investment.

Where does Sigma Logistic Solutions (Pty) Ltd (Sigma) fit in? Our business is to assist organisations to operate optimally, through an integrated and systematic approach to their logistical support challenges. We approach Clients support information needs in a coherent, integrated manner. Customised solutions ensure that support products and services fit effectively and efficiently into operational environments. Sigma supplies full life-cycle support, as well as individual logistic elements, including technical documentation, training systems and inventory optimisation. We serve the information needs of Clients through providing appropriate, value added solutions. While focused on the prevailing industrial and business climate in Southern Africa, Sigma has committed significant resources to the acquisition and development of sophisticated core information technologies, in line with international trends.

Sigma's services include Logistic Services, Support Information/Data and Training Packages.

Logistic Services are provided for complex systems throughout their life cycle. Services are tailored for the type of system/process, stage in life cycle, and degree of supportability. Services include: Logistic Management and Engineering, catering for development, upgrading and/or customisation of complete logistic support systems; as well as individual support products. An Integrated Logistic Support (ILS) approach is followed from a holistic viewpoint. This ensures that the relevant support requirements are properly addressed in logistic support systems/products, for cost effective performance over their life cycles, at required levels of readiness. Where there is scope for design influence, effort focuses on improving reliability and maintainability to enhance availability and realise reductions in cost of ownership. This applies to new as well as existing systems. Support solutions include effective integration into User operating and support environments.

Sigma specialises in the establishment and maintenance of Support Information and Data. Support information needs to be accurate, useful and structured suitable for the population of support management systems. Support information solutions cater for the clean-up, establishment, structuring and implementation of support data, based on assessment of Clients existing logistic material, Management Information Systems / information technology and business processes. The company aims to provide affordable business information solutions that really add value to the bottom line. This covers from policies and procedures and bringing legacy documentation to life and making it useful, to the amendment/development and production of technical manuals (TM's) for operation and maintenance purposes. Documentation can be provided in hardcopy format, or as Interactive Electronic Technical Manuals (IETM's) in PDF, HTML, XML and SGML. With the electronic option, approaches range from using cost effective, affordable technology running on computer systems and software already in place, to complex approaches using specialised software. Cost effective, value-adding solutions are recommended to address the need for information, based on a clear understanding of specific Client requirements and operational support environment. Accuracy, experience, and attention to detail ensure that technical authors, editors, researchers and illustrators produce quality support documentation.

Product and System Training Packages enable trainees to achieve pre-defined levels of competence. Training needs analyses define relationships between required tasks and applicable training, as the basis for developing focussed training material and aids, including Lesson Plans, Study Guides, Exercises and Examinations. Training solutions are also based

on existing information files, enhanced with a training perspective, providing online computer based training utilising available, cost effective training applications.

Specific processes are followed as part of Logistic Engineering (LE). These include: (a) Support Analysis addressing engineering of products/systems for optimum economic performance, and optimisation of business processes throughout projected life cycles. (b) Support Optimisation to ensure support systems/products are optimised, to achieve availability and cost of ownership requirements, throughout the life of plant/equipment.

Founded on mutual trust and respect, Sigma has several Logistic Partnerships forming long-term relationships with End Users/Suppliers. This provides them with logistic expertise, technology, infrastructure, and processes that add value to their own service levels, providing access to latest support development technologies, without having to maintain non-core business functions.

Fundamental to providing quality, value added services is the need for sound and effective Configuration and Baseline Management.

Sigma's Clients include:

German Frigate Consortium (GFC) (Blohm+Voss GmbH): Sigma is the GFC's RSA logistic partner on the SAN Corvette Programme. Work includes ILS Management, LE, System Manual development, conversion of TM's to IETM's, and development and provision of training for the Naval Logistic Management System (NLMS).

German Submarine Consortium (Howaldtswerke Deutsche Werft AG): Life Cycle Costing and development and production of maintenance cards.

S A Navy: Projects including: (a) Interim Support services during initial deployment of the new Corvettes. (b) Development of Ships Information System (SIS) for Combat Support Vessel, included development of TM's and Training Packages. (c) Logistic system/product development for land based and ship borne systems.

SA Airforce: Full suite Maintenance Manuals (hardcopy) for C47-TP Aircraft, including conversion to IETM's.

SA Port Operations: Development of maintenance procedures for inclusion into SAP.

S A Army: Projects including: (a) Support development and re-engineering for Air Defence, Infantry, Artillery, Armour and Vehicles. (b) LSA Records establishment and import into Army's CAMIS System for managing logistic functions. (c) Technical Publications and Training Material establishment (paper and IETRM's).

Spoornet: Updating and development of Operating and Maintenance Manuals for Locomotives, for conversion to IETM's and loading on Spoornet MIS.

De Beers: Development of logistic products for complex mining equipment, implemented with full Logistic Management Procedures.

Customer needs are the primary focus for all support information solutions, while value adding, and cost effectivity principles are paramount. Assuring you our best at all times, Sigma invite you to contact us regarding your operational support challenges.

Corporate History The company started in 1985 as Intertechnic Engineering (Pty) Ltd. It became part of Logistic Technologies (Pty) Ltd (Log-Tek) in 1998, merging common capabilities/resources to achieve the goal of being the most successful provider of support information (content). Intertechnic became Log-Tek Engineering Solutions (LTES) in 2000 due to restructuring. LTES changed name to Sigma Logistic Solutions in 2005. The business focus and strategy remain unchanged.

Jonathan Morse  
Business Manager, Maritime Systems, Cape Town  
Sigma Logistic Solutions (Pty) Ltd  
Unit 8, Milton's Way, 11 Bell's Crescent, Westlake Business Park, Tokai 7945, South Africa  
email: jonathan@sigmalog.co.za