

Defining Support

The goal of ILS is creating products and systems that last longer and that require less support, thereby reducing costs and increasing the return on investment. To achieve this, the ILS process employs a number of metrics that interact with each other to assure the highest level of system availability.

The logistic analyst employs a series of tools and procedures within the LSA (Logistic Support Analysis) process to analyse all aspects of the equipment to achieve the highest level of system maintainability and availability. Among these are the following:

- The development of a Functional Breakdown Structure (FBS) and a Physical Breakdown Structure (PBS)
- Fault Tree Analysis (FTA) and reliability modelling
- Failure Mode, Effects and Criticality Analysis (FMECA)
- Reliability Centred Maintenance (RCM) analysis
- Level of Repair Analysis (LORA)
- Maintenance task analysis and support resource analysis
- Spares modelling and supply chain optimisation
- Life Cycle Costing (LCC) analysis.

The data obtained from the processes listed above feed into the following ILS elements:

- Maintenance planning (preventive and corrective)
- Support and test equipment requirements
- Technical data and support documentation
- Training and training documentation
- Computer resources and support facilities
- Packaging, Handling, Storage, and Transportation (PHS&T)
- Manpower and personnel requirements.

When all the LSA process outputs are combined into a single, Integrated Logistic Support Plan (ILSP), the plan ensures that each of the elements is correctly addressed, resourced, and implemented to enable the system to achieve the defined operational readiness levels from commissioning through to the end of the product or system's operational life.

The Final Word

Logistic support analysts are specialists that process data to provide vital inputs to the design and support of the product or system. The more complex the system, the more vital is the role that they play as part of the greater design, manufacturing, and support team.

It could be argued that the time and money spent on a process such as LSA could be better spent elsewhere. But such a statement ignores "the bigger picture", which is the long-term support of the product or system. On a system such as a ship or commercial airliner, the support costs incurred over the 30 or more years that the equipment will be in service, are substantial. Therefore the proper implementation of LSA in the early stages of a project will result in potentially huge savings throughout the life cycle of the equipment. Further benefits are the efficient supply of ILS elements such as spares provisioning, training, and maintenance.

Sigma Logistic Solutions has been providing technical documentation and integrated logistic support solutions to the commercial and defence industries for more than 30 years. We are the largest dedicated supplier of technical documentation services in South Africa and count Armscor, the SANDF, PRASA, and Bell equipment among our many local clients; and Rheinmetall Air Defence, Kärcher, and Pilatus among our international clients.