

**L**ogistics Systems Engineering—encompassing mission readiness, operational availability, and OCONUS logistics support—has never been as important to the warfighter as it is today. Northrop Grumman specializes in real-time warfighter logistics systems engineering and quick reaction programs.

Northrop Grumman's Logistics Systems Engineering is comprehensive, proven and effective. We support commercial, government off-the-shelf, manned and unmanned airframe-based solutions for airborne, shipboard, ground mobile and fixed systems.

Our capabilities cover many government initiatives, including:

- Mission readiness spares supply support/maintenance
- Optimal operational availability
- Performance-based logistics
- Quick-reaction depot repair maintenance
- Warfighter field operations and manpower resource support

Partnering with the customer we design a customized, best-value support capability. Our experience and expertise in developing appropriate tools, analyses, and plans ensure a complete support package, responsive to customer needs and constraints for large and small programs.

Northrop Grumman capitalizes on proven processes and the latest technology. Contact us for a fully customized logistics support package.

**Ask about our "The Future is Now" capabilities in:**

- Condition-Based Maintenance / Prognostics Health and Management
- Link 22, Link 16, Link 11, and tactical data link training programs
- Training Integrated Performance Support System (TIPSS) / Troubleshooting Integrated Performance Support System (TRIPSS) interactive computer-based training
- C4I logistics systems engineering programs

Northrop Grumman's Logistics Systems Engineering is ISO 9001 and IEEE certified. We design systems and equipment compliant with U.S. and European military standards for airborne (manned and unmanned), shipboard based, ground mobile and stationary systems. Our small business protégé program includes a Small Business Partnership logistics initiative.

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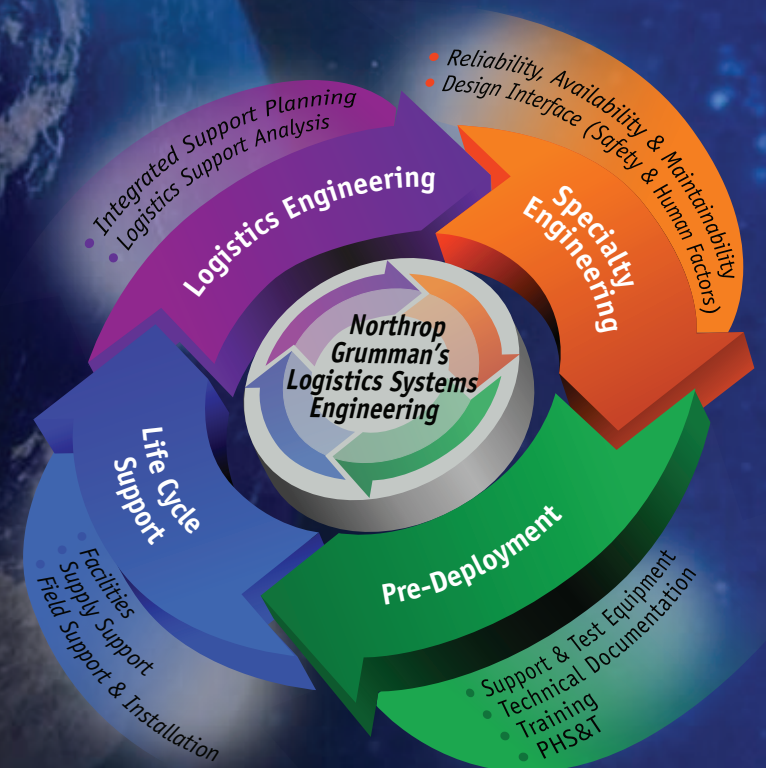
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# Logistics Systems Engineering

*Optimizing the warfighter with closed-loop logistics support capabilities*



# Northrop Grumman's Logistics Systems Engineering Products and Services

**Integrated Support Planning** – for maximum, cost-effective operational availability. In quick-reaction support programs we have achieved field operational availability (Ao) *greater than 98 percent*.

**Logistics Support Analysis** – for lifetime system support (DMSMS, LCCE, LORA, FMECA, FMEA, Spares Analysis). We frame contractor logistics support on customer needs and budget constraints.

**Reliability, Availability & Maintainability (RAM) and Safety Engineering** – for effective and available systems that suit the warfighter in first delivery. We have exceeded specifications and customer expectations in systems with over 10,000 operating hours and growing exponentially.

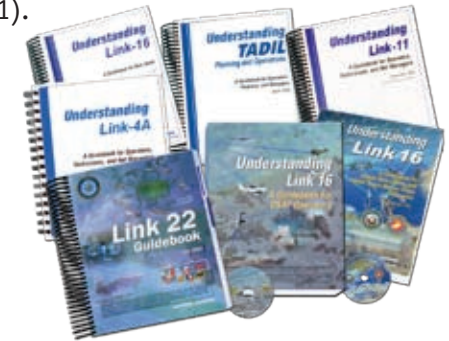
**Manpower and Personnel** – for appropriately skilled personnel to operate and maintain CONUS/OCONUS systems throughout life cycle. We currently have over 100 logistics personnel supporting warfighter operations.

**Supply Support** – for a continuous supply of spares, consumables and support equipment for products and for sustaining CONUS and OCONUS system operations. We have established ITAR, security and international import/export compliance programs.

**Support and Test Equipment** – for equipment and tools performing system operations and maintenance. We offer low-cost, small-footprint solutions.

**Training and Support** – for instruction and activities to successfully operate and maintain the system during its lifetime. We are the experts in train the trainer, computer based training and tactical data link courses (including Link 22, Link 16, Link 11).

**Technical Data and Publications** – for technical manuals and technical orders, with appropriate format and detail for long term system sustainment — we wrote the Book!



**Facilities** – for CONUS/OCONUS operations and support locales, including classified and controlled areas.

**Packaging, Handling, Storage and Transportation (PHS&T)** – for appropriate processes and apparatus to physically store and ship system equipment. We offer MIL-STD-130 implementation/integration of SAP, radio frequency ID, and barcoding systems. We manage shipment of over 1,000 items abroad annually.

**Interface Design** – for usable systems that comply with safety and human factor requirements.

**Field Support and Installation** – for deployed teams and integrated 24/7 Help Desk personnel capable of supporting remote system set-up and troubleshooting.

Awarded and Executed Programs and Products	BACN	ROBE	JSS	MRTCDL	BAMS	ANZAC	NGC2P	C-130 RTIC	VIG	FLORAKO	GM	MLST3	LMS
Logistics Support Analysis	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓			
Supportability Analysis	✓	✓	✓	✓	✓	✓		✓			✓	✓	✓
System Safety Analysis	✓	✓	✓	✓	✓	✓		✓	✓				
Human Factors Engineering		✓	✓	✓	✓	✓		✓	✓				
Technical Manuals	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Training	✓	✓	✓	✓	✓	✓	✓				✓	✓	✓
Reliability Engineering <sup>1</sup>	✓	✓	✓	✓	✓	✓		✓	✓	✓			
Maintainability Engineering <sup>2</sup>	✓	✓	✓	✓	✓	✓		✓	✓	✓			
Support Equipment	✓	✓	✓	✓		✓		✓					
Installations	✓	✓	✓	✓		✓	✓	✓			✓	✓	✓
Field Support	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓
Material Supply Support	✓	✓	✓	✓							✓	✓	✓
DMSMS Analysis <sup>3</sup>	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
Technology Insertion	✓	✓	✓	✓			✓		✓	✓	✓	✓	✓
Supplier/Subcontractor Technical Management	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Peculiar Support Equipment	✓	✓	✓	✓	✓	✓	✓		✓	✓			
PHS&T <sup>4</sup>			✓		✓	✓	✓		✓				
Facilities	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
CONUS Supply Support	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
OCONUS Supply Support	✓	✓				✓				✓	✓	✓	✓
Manning	✓	✓		✓									
Operations	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Controlled Item Storage	✓	✓	✓	✓	✓	✓		✓					✓
Equipment Maintenance	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Platform Maintenance Management	✓			✓									

<sup>1</sup> MTBF, MTBCF, Ao, FMECA, FTA, BIT self-test, HALT, ESS

<sup>3</sup> Diminishing Manufacturing Sources and Material Shortages

<sup>2</sup> M-predictions, BIT, M-Demo

<sup>4</sup> Packaging, Handling, Storage and Transportation

BACN: Battlefield Airborne Communication Node / ROBE: Roll-On Beyond Line of Sight Enhancement / JSS: JICO Support System / MRTCDL: Multi-Role Tactical Common Data Link / BAMS: Broad Area Maritime Surveillance / RAN ANZAC: Royal Australian Navy, Australia New Zealand Army Corp / NGC2P: Next Generation Command and Control Processor / C-130 RTIC: C-130 Real Time Information in the Cockpit / VIG: Video Interface Group / FLORAKO: FLugsicherungs Operations Radar Kommandosystem / GM: Gateway Manager / MLST3: Multi-Link System Test and Training Tool / LMS: Link Management System

In 2010, the DoD and the National Defense Industrial Association selected Northrop Grumman's BACN Joint Urgent Operational Need program to receive one of the Top 5 DoD Program Awards given annually for excellence in systems engineering.