• Multi-echelon production scheduling network with multi-indenture goods
• Respond dynamically to new requests or changes in network characteristics

• System availability evaluation.
• Spares optimization.
• Spares re-allocation.
• Multi-echelon inventory structure.
• Multi-indenture system structure.
• Time-dependent Poisson demand.
• Limited maintenance resources.
• Commonality and redundancy.
• Inventory capacity constraints.

Stock (re)allocation

CORRECTIVE MAINTENANCE OPTIMIZATION

C/E curve for optimization

System evaluation

DYNAMIC RESPONSE
AIRCRAFT
PAYLOAD
ASSEMBLY

MOVEMENT CONTROL

Resource Optimization Suite

MULTI-OBJECTIVE ROUTE PLANNING FOR MILITARY VEHICLES

• Minimize the number of vehicles to satisfy all requests.
• Maximize the number of requests satisfied given a set of vehicles.
• Minimize the number of drivers to satisfy the requests.

To develop a prototype system to assist in the routing of military vehicles between a pair of origin and destination that will optimize a composite index reflecting the multiple objectives of military requirements.

Route planning addressing multiple and sometimes conflicting objectives of:
• Shortest distance traveled
• Fastest travel time
• Easy to maneuver
• Lesser impact to public traffic
• Lower accident rate
• While meeting all the constraints of military operations

• Minimize the number of vehicles to satisfy all requests.
• Minimize the number of vehicles to satisfy \( R \) requests.
• Minimize the number of vehicles to satisfy all requests with specified allowable delay.

• System availability evaluation.
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