



## Defence Logistics & Deployment Planning

*Amateurs study tactics, professionals study logistics*

### AREAS OF OPERATIONS PLANNING INCLUDE:

- Deployment planning
- Movement planning
- Re-supply planning
- Flight & crew planning.

### DEPLOYMENT PLANNING:

- Multi-resource planning
- Route optimisation
- Staff rotations
- Maintenance and repair planning
- Management of reserves and redundant options
- Prepositioning of equipment
- Efficient locating of supply depots.

### MOVEMENT PLANNING:

- Unit movements
- Multi-modal route planning
- Schedule calculations
- Convoy scheduling
- Off-road route planning
- Transportation load calculations.

Deploying the right resources to the right places at the right time, fully supported and sustained, is a highly complex operation. Miscalculations have severe consequences on force capability.

There is a need to plan all support operations, from long term force planning through deployment to mission execution, to ensure supplies and equipment are available for active units. Efficient logistics is a key force multiplier in the military equation.

### TRANSPORTATION PLANNING

Transportation planning and execution is a challenging area, due to the lack of real-time visibility into actual events transpiring once vehicles are en route or where events can force changes in the route or transport mode. Dealing with such challenges requires an ability to rapidly assess the in-field situation and respond accordingly.

Whilst this puzzle exists with internally operated fleets, it escalates when using logistics service providers, operating in coalition environments with shared service agreements, and during expeditionary missions. Quintiq offers a portfolio of ways to plan the movement of both internal and external personnel and resources.

### MAINTENANCE

Quintiq can be used to optimally synchronize maintenance planning to improve the operational planning and achieve higher interval utilisation. The interval utilisation is the time between two repetitive maintenance tasks. Increasing the interval utilisation increases the active time for vehicles and machinery while improving the efficiency and effectiveness of the maintenance and logistics support units.

### OPTIMISATION

Optimisation support helps the planning team to find the best answers. Quintiq's propagator continually checks for all amendments and disruptions to the plan. Each change can generate many consequences that are immediately made visible for communication or resolution.

### TACTICAL PLANNING

For tactical planning, looking ahead weeks or months you can generate a plan based on historical & forecast volumes, taking into account resources and availability, distribution network capacities and agreed delivery commitments.

### OPERATIONAL PLANNING

With operational planning focusing on next day(s), a plan may be generated and real order volumes overlaid onto a tactical plan (where relevant). This now takes account of exact assets and availability, matching resource availability and preferences to demand, considering transport options and taking account of inventory availability. Dependencies such as sourcing fuel, food, ammunition and equipment can also be considered. Selecting between own resources, enemy resources and subcontractors is fully supported.

### OPERATIONAL EXECUTION

"No campaign plan survives first contact with the enemy."\*  
Operational execution is all about sustaining the plan through managing the exceptions. Once a plan is created, Quintiq can continue to monitor the activities, highlight non-performing tasks and where possible find alternative solutions. A key condition of victory is to be able to orientate, observe, plan and act at a faster pace than your adversary. You cannot hold the initiative without being able to decide and act faster based on possessing better quality information.

\* Helmuth Graf von Moltke


**RE-SUPPLY PLANNING:**

- Definition of the Main Supply Route and alternate routes
- Stock holdings in depots
- Medical planning
- Transportation needs.

**FLIGHT AND CREW PLANNING**

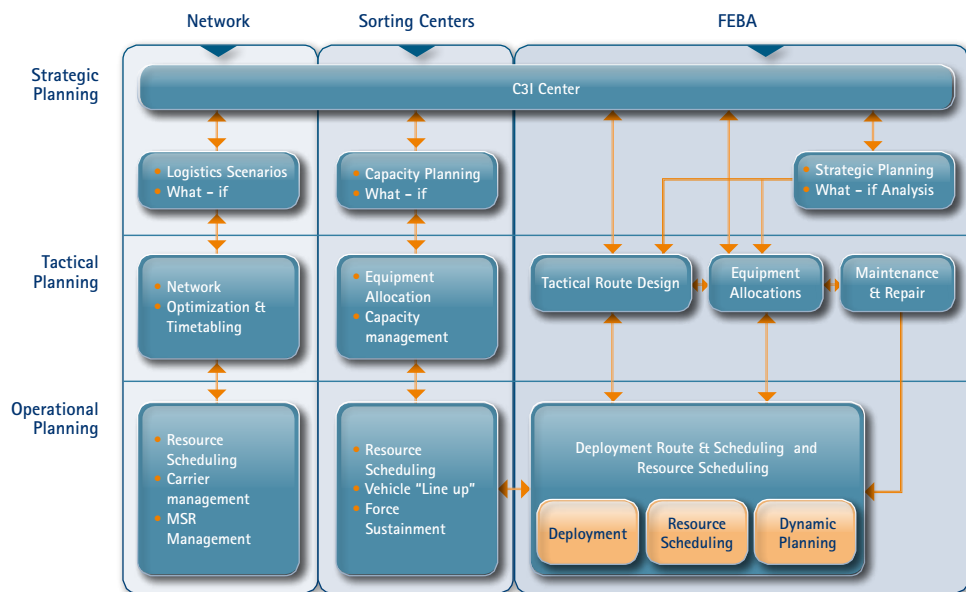
- Optimised personnel scheduling
- Higher personnel satisfaction
- Increased flexibility - Confidently respond to schedule changes and absences
- Support for planners on all levels - All regulatory requirements and employee preferences are displayed in the system
- Organisation-wide transparency - The consequences of planning modifications are immediately clear to all planners.

**FLIGHT CREW PLANNING**

Crew planning is a complex, dynamic process as any planning solution must be flexible enough to deal with frequent schedule changes, often at short notice. The Quintiq Flight Crew Planning & Optimisation module enables you to optimise personnel utilisation. It supports comprehensive aircraft personnel workforce planning and optimisation, including all aspects of scenario building, deployment planning, roster and shift planning, and process dispatching, while taking into consideration personal preferences, skill sets, and licensing and safety standards.

creating an optimised plan that schedules vehicle movements at the same time each day is also not acceptable in hostile environments. We solve every single planning and scheduling problem using a single standard, commercially-off-the-shelf software package. Exact business logic and rules are defined in the system to ensure a 100% operational fit. No compromise.

Quintiq can take into account all the elements of the plan in a single environment. Multiple planning levels are supported as well as multi-resource planning.

**OVERVIEW QUINTIQ CAPABILITIES**

**ADVANCED PLANNING AND SCHEDULING SOLUTIONS**

Typically, commercial software does not fit military applications without making compromises. The business drivers are focused more on operational cost savings and less on speed of response and economy of force. The alternative to developing custom software carries the overhead of extended timeframes and cost with no long term support roadmap, and can be difficult to adjust when the procedural or operational landscapes change.

**BENEFITS:**

- Optimal use of resources for faster response/deployment & efficiency
- Better decisions with accurate and up-to-date information
- Improve capacity utilisation of assets & resources
- Reducing operating costs & improving sustainment
- Reduce administration, improve business processes.

Quintiq believes that when planning operations it is critical to use planning software which exactly fits the planning puzzle. Planning part of the operation, or planning with generic rules typically results in inefficiencies or failures. Additionally,