

3. Principles of the Role-Based Bridge Organisation

The aim of BRM is facilitated by a role-based bridge organisation to make effective use of the resources available to the bridge team.

A role-based bridge organisation is founded on the idea of clarifying roles and responsibilities for team members. It is based on roles rather than ranks. Clearer roles and responsibilities help to enable timely interventions, contributing to the ultimate aim of BRM, the avoidance of single point failures.

Concepts to Consider:

a) Traffic Light System

The defining of roles is hand in hand with the manning level on the bridge, which depends on the level of navigational risk, safety margin, expected workload, and, crucially, the type of ship.

Where appropriate to the operation type, three manning levels may be considered, which follow a traffic light system⁸.



GREEN:

- o Manning is at normal operating model level
- o safety margins are large and/or there is a good navigational visibility
- o low risk, low workload
- o for example, at least one qualified Officer of the Watch (OOW) supported by an able seaman in the role of lookout or helmsman, as required.



YELLOW:

- o Manning is at a heightened operating model
- o can be used for heightened navigational risks like heavy traffic situation, restricted visibility, heavy weather or any unusual condition where there is an increased workload
- o for example, at least one qualified OOW, one senior officer with at least chief mate licence and at least one able seaman in the role of lookout or helmsman, as required.



RED:

- o Used typically for arrivals and departures
- o requires the Master, one qualified OOW and at least one able seaman in the role of lookout or helmsman, as required.

The example manning levels provided here are recognised as not being universally applicable to all ship types, however the concept stands and companies can adjust and apply the same criteria to their own operating environment. For the majority of operators, Green and Red levels will be applicable, while some may also choose to make use of Yellow.

b) Navigator and Co-Navigator

The concept of a cockpit style navigation, to have a Navigator and Co-Navigator, originated from the airline industry and was introduced and fully implemented by the cruise industry after a series of serious navigational incidents in the early 2000s.

When two officers are on the bridge, one can assume the role of Navigator and the other the role of Co-Navigator.

- **Navigator**
 - Role includes taking control of the ship, communicating intentions by thinking aloud and giving orders using the closed-loop communication concept
- **Co-Navigator**
 - Role includes active monitoring, cross-checking and supporting the navigator.

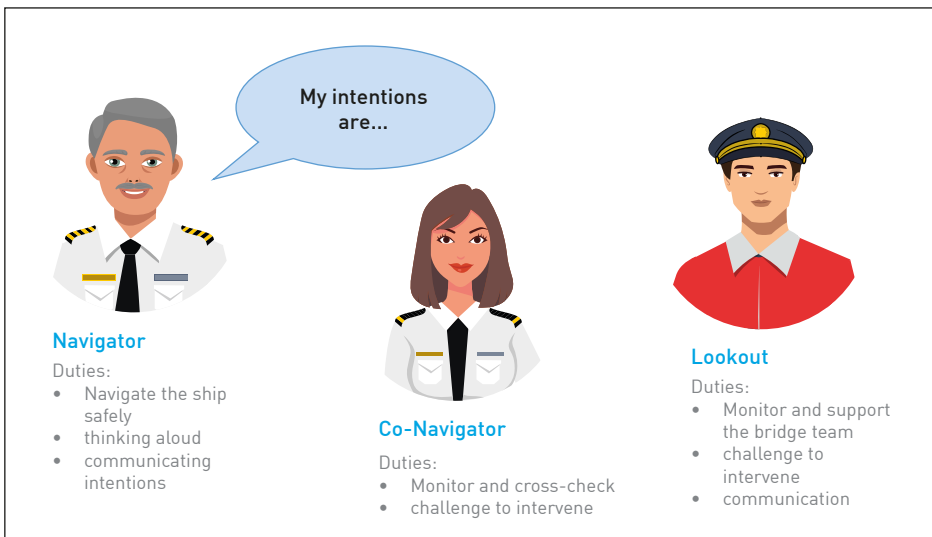


Figure 7: Example of roles and tasks

The Navigator/Co-Navigator approach promotes effective team management, which can help in getting the best out of people and systems. Bridge members operate as an effective team in managing operations based on specific roles with relevant duties and tasks. Doing so creates a more efficient, resilient and engaged team, working together to manage distractions and avoid potential incidents.

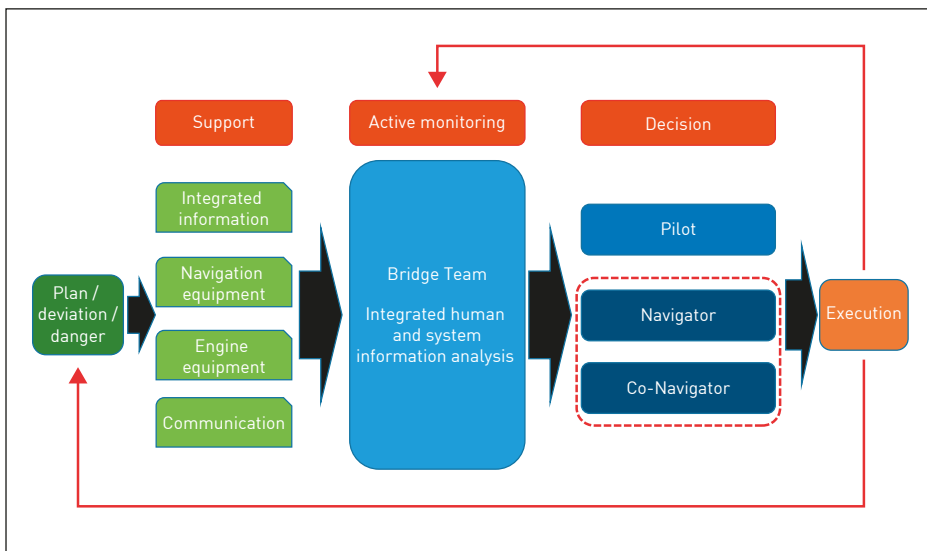


Figure 8: Example of role-based Bridge Resource Management workflow⁹

Role-based organisation can empower each bridge team member, regardless of rank, to speak up should they have a question or a concern. It does not diminish the authority and responsibility of the Master. The Master continues to maintain full command and oversight of the bridge and assigns team members to particular roles, based on the competence and experience with the upcoming operation. The Master provides ongoing guidance and mentoring to team members, making it a very adaptable system that uses the knowledge and experience of the Master and each of the bridge team members.

This model is applicable to most ship types, the most common set up is a Master and a Chief Mate on the Bridge during red manning condition, i.e. on arrival or departure. Through the Master taking the role of a Co-Navigator, it allows them to have good oversight and provide training to other team members. The role of a Navigator can be

taken by any qualified deck officer, as long as they are supported by a senior officer as the Co-Navigator. Should the situation require it, the Co-Navigator can take the role of Navigator at any point.

A consistent approach is needed to prevent incidents, and bridge team performance varies due to working conditions and situational factors no matter how competent and experienced the team members are. A role-based system on board helps to avoid negative consequences caused by mismanagement.

The role-based team has all the required abilities to be a well functioning resilient organisation; the Navigator and Co-Navigator are responsible for responding, monitoring and anticipating, while learning from previous experience as a team. Implementing a role-based team model can enable a higher level of safety and effectiveness in the bridge team where performance may be optimal in all situations for the best possible outcome.⁸

