To improve the maintainability and reduce the maintenance cost a system upgrade will be the most viable solution, especially towards the later part of the life time of the vessel. Typically, a midlife upgrade will involve obsolete systems, such as operator stations, processors and monitors, that are too expensive to maintain over and above the intended life time.

**UPGRADE SOLUTION DC7 / DC1000 / DC2000**

- Event and alarm history storage
- Enhanced trend functionality
- Custom views
- Split screen
- Prepared for integrated machinery instrumentation and vessel performance
RETROFIT OF DC-2000 SYSTEM

This example drawing shows the retrofit of the main computers, operator panels and monitors in a DC-2000 system. The Signal Acquisition units and the Watch calling system is kept as is and may be refitted later on. If the existing system includes power management or process control the DC2000 units GCU and PCU has to be replaced by K-Chief 600 technology available for these applications.
Retrofit of operator station
The main computer will be replaced by a new Operator Station based on Windows 7. K-Chief 600 is designed for monitors supporting 16:9 format, however existing 4:3 format monitors can be used.

Retrofit of control panel
The operator control panel (OCP) will be replaced with the latest operator panel from KONGSBERG including adapter kit to fit the old cut-out.

Retrofit of watch calling system
Existing watch calling system can be kept as is or upgraded to the new watch calling system WCC 600.

Retrofit of process control and power management
Retrofit of process control and power management the PCU and GCU has to be replaced with new K-chief 600 distributed processing units.

Retrofit of SAU and SAX units
Existing signal acquisitioning units (SAU, SAX) can be kept as is or upgraded to K-chief 600 distributed processing units.
Project execution
Effective project execution is at the heart of Kongsberg’s success in undertaking refitting of vessels. By taking the time to gain in-depth knowledge of the customer’s needs, we can ensure optimal vessel performance by upgrading the right hardware and software systems.

Remote diagnostics and analysis - saving cost and time
K-Remote uses online system and health monitoring to provide Kongsberg customer support with remote access to ensure systems reliability. The system is designed to address the challenge of establishing a secure and reliable remote session to the vessel control system via satellite communications. The technical solution is using well proven technology adapted to maritime environments.

Kongsberg global customer support service
Kongsberg offers technical support, maintenance support, spare part support, training services and regional support on all product lines – world wide. Our Follow the Sun 24 hour support concept ensures you support that never sleeps. No matter the time of day, someone will always answer the phone at Kongsberg Maritime if you call for help. Three high-tech support centres in Europe, America and Asia provide this 24-hour service. A world of virtual collaboration brings the expertise closer to you.