



Marine Services

Vessels. Offshore. Ports.



Engineering, technology & lifecycle support

Communication, navigation, e-navigation, automation and engine support, and VTS. A complete service guide from the first site review to commissioning, repair and contracted 24/7 AMC.

2,000+

Successful projects | Group

28

Years of heritage



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RTTR Engineering Group

Engineering roots since 1998. Oman operations since 2018.



SERVICES AT A GLANCE

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- 02** A complete delivery model
- 03** Markets, resources and manufacturing relationships
- 04** Evidence that reaches the operating team

One accountable engineering partner

RTTR combines multidisciplinary engineering with practical delivery from Muscat. Our roots began in electrical-panel engineering and manufacturing in 1998, and our Oman operations began in 2018. We connect consultancy, detailed design, procurement, installation, commissioning and long-term operating support through one coordinated customer interface.

A complete delivery model

Customers can appoint RTTR for a specialist assignment, equipment supply, a coordinated EPC scope, asset repair or ongoing maintenance. Responsibilities, technical interfaces, approvals, programme and acceptance requirements are defined before execution. This supports a documented transition from the initial requirement to a practical, maintainable operating system.



RTTR Engineering Group

Engineering roots since 1998. Oman operations since 2018. | continued

Markets, resources and manufacturing relationships

Our engineering capability supports data centers, industrial plants, oil and gas, utilities, water infrastructure, commercial and institutional facilities, residential systems and marine applications. Wider group production and assembly resources, together with manufacturing and technology partners, support equipment supply and coordinated execution. The team, facilities and specialist support assigned to each job are defined around its actual technical requirement.

Evidence that reaches the operating team

Drawings, equipment schedules, technical approvals, test records, settings, software backups and operating information form a coordinated handover. We connect preventive maintenance, fault diagnosis, repair and contracted 24/7 AMC with the assets, priorities and responsibilities agreed with the customer.



Experience & capacity

Company-supplied figures, clearly scoped

2,000+

Successful projects

28

Years of heritage

6,000+

m² group production space

300+

Group technical resources



Engineering roots

Oman operations

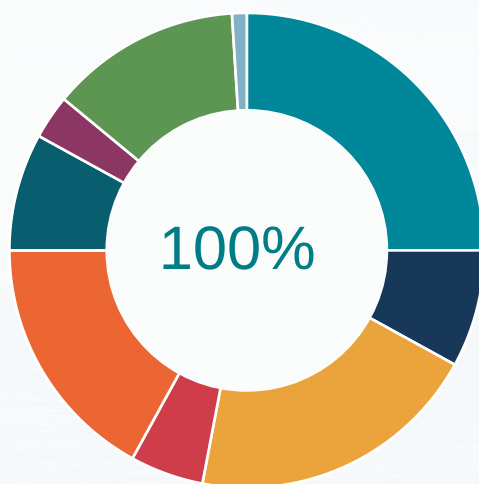
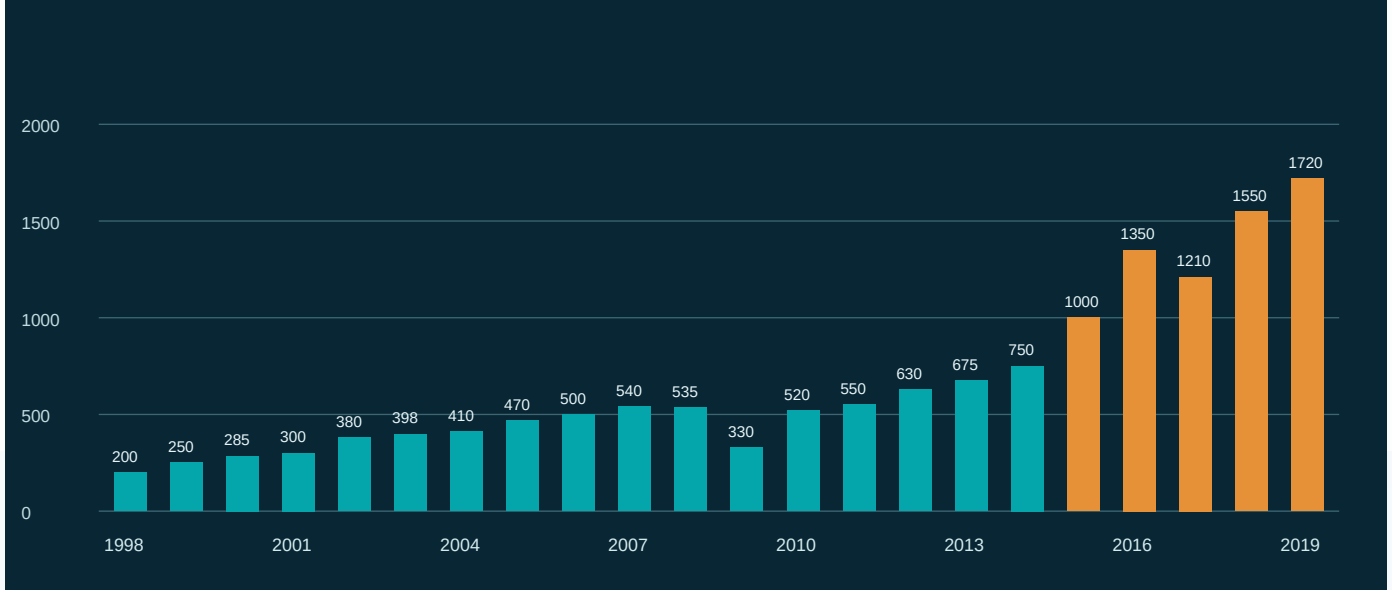
Integrated capability

Figures describe the wider group record and resources, rather than the Oman operation alone. Engineering roots date to 1998; Oman operations began in 2018. The total project figure has been updated using company-supplied information.

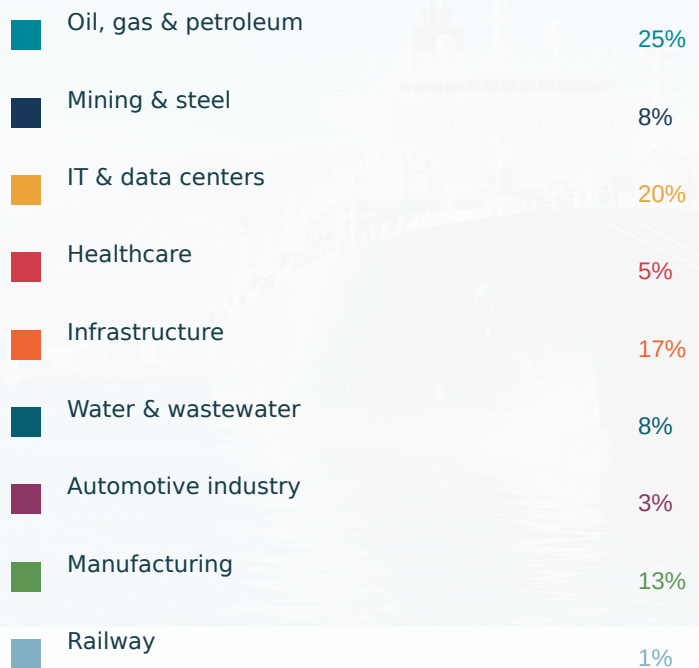
Production & sector experience

Historical indicators from the previous company catalogue

Historical electrical-cell production | 1998-2019



Historical activity-sector distribution



Source: supplied previous company catalogue, p.15. Historical data; electrical-cell production is a separate measure from project count.

Vision, mission & certified expertise

Reliability, responsibility and long-term customer value



SERVICES AT A GLANCE

- 01** Certified technical personnel
- 02** Multidisciplinary coordination
- 03** Multiple technology and delivery partners
- 04** Documented testing and handover

Our vision

To be a trusted engineering partner for reliable critical infrastructure, connected facilities and sustainable operation. We aim to connect the technical depth of specialists with the accountability of an integrated delivery partner.

Our mission

Connect sound engineering, appropriate equipment, disciplined site execution and verified performance with practical long-term support. Safety, reliability, efficiency and customer requirements guide engineering decisions from concept to handover.

Certified technical team and supporting partners

Our technical team includes certified engineers and specialists. Personnel and supporting resources are assigned around each discipline, equipment and platform. Multiple technology, manufacturing and technical partners support product access, specialist integration and delivery. Qualifications and relevant supporting records can be submitted as part of project review.



Connected engineering departments

Specialist capability with coordinated project interfaces



SERVICES AT A GLANCE

- 01 Data centers & consultancy
- 02 HD Hyundai Electric & Power / Energy
- 03 ICT, Security & Smart Systems
- 04 Mechanical & Marine
- 05 Technical training

Data centers & consultancy

Feasibility, audits, RFP/RFQ, detailed multidisciplinary design, critical power, cooling, CFD, DCIM/BMS/EMS, turnkey delivery and 24/7 AMC.

HD Hyundai Electric & Power / Energy

Electrical equipment supply and support; LV/MV boards, PLC and control, UPS, batteries, diesel generators, ATS, electrical maintenance, earthing/lightning, solar and cathodic protection.

ICT, Security & Smart Systems

Network topology, copper/fiber, CCTV, access control, CHD by Newabel rack security, smart systems, software integration and custom applications.

Mechanical & Marine

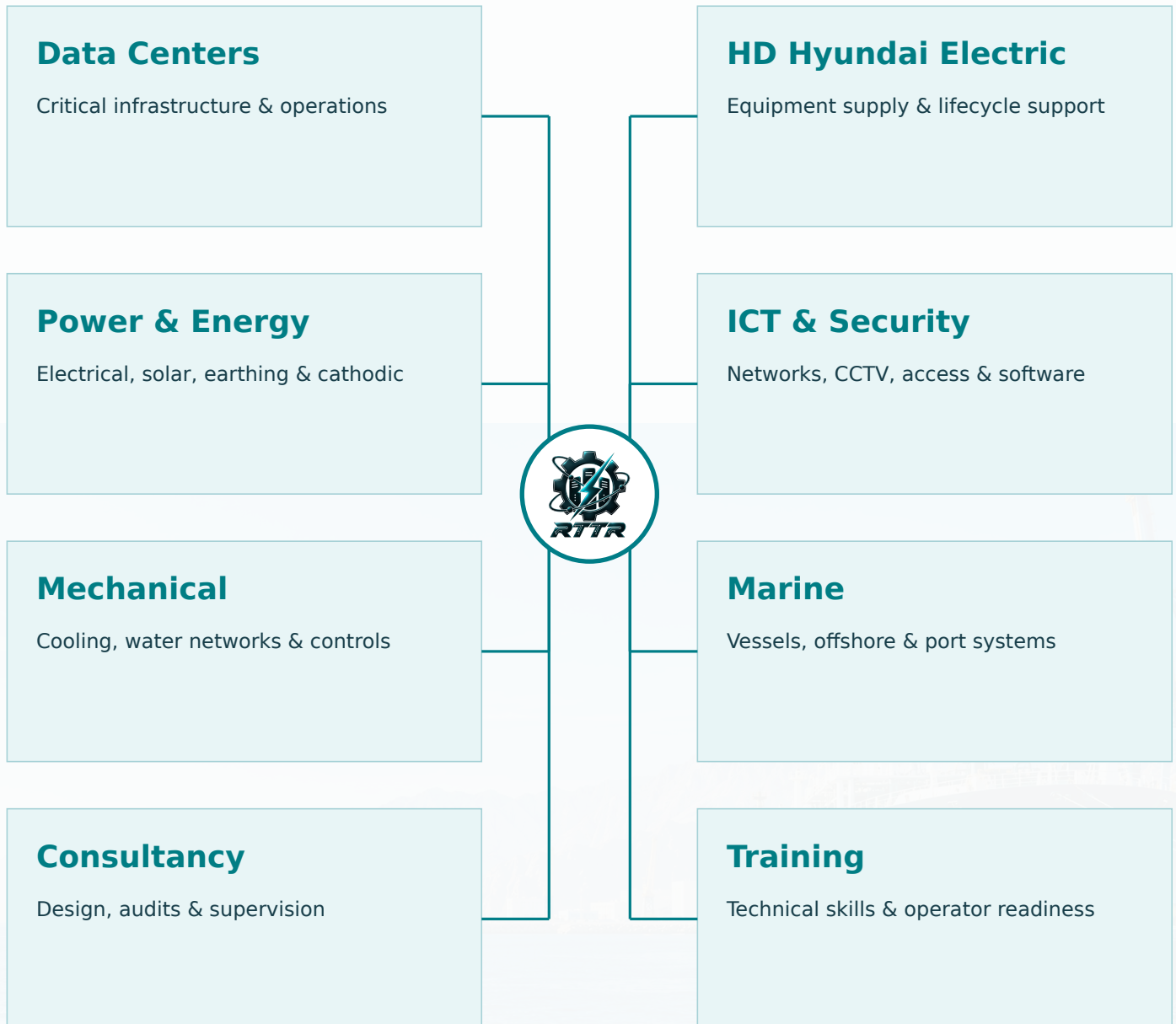
Precision and residential cooling, hydronics, pumps, valves, controls and AMC; marine communication, navigation, e-navigation, automation/engine support and VTS.

Technical training

Practical client workshops, specialist training and project-specific operator handover support.

The RTTR engineering network

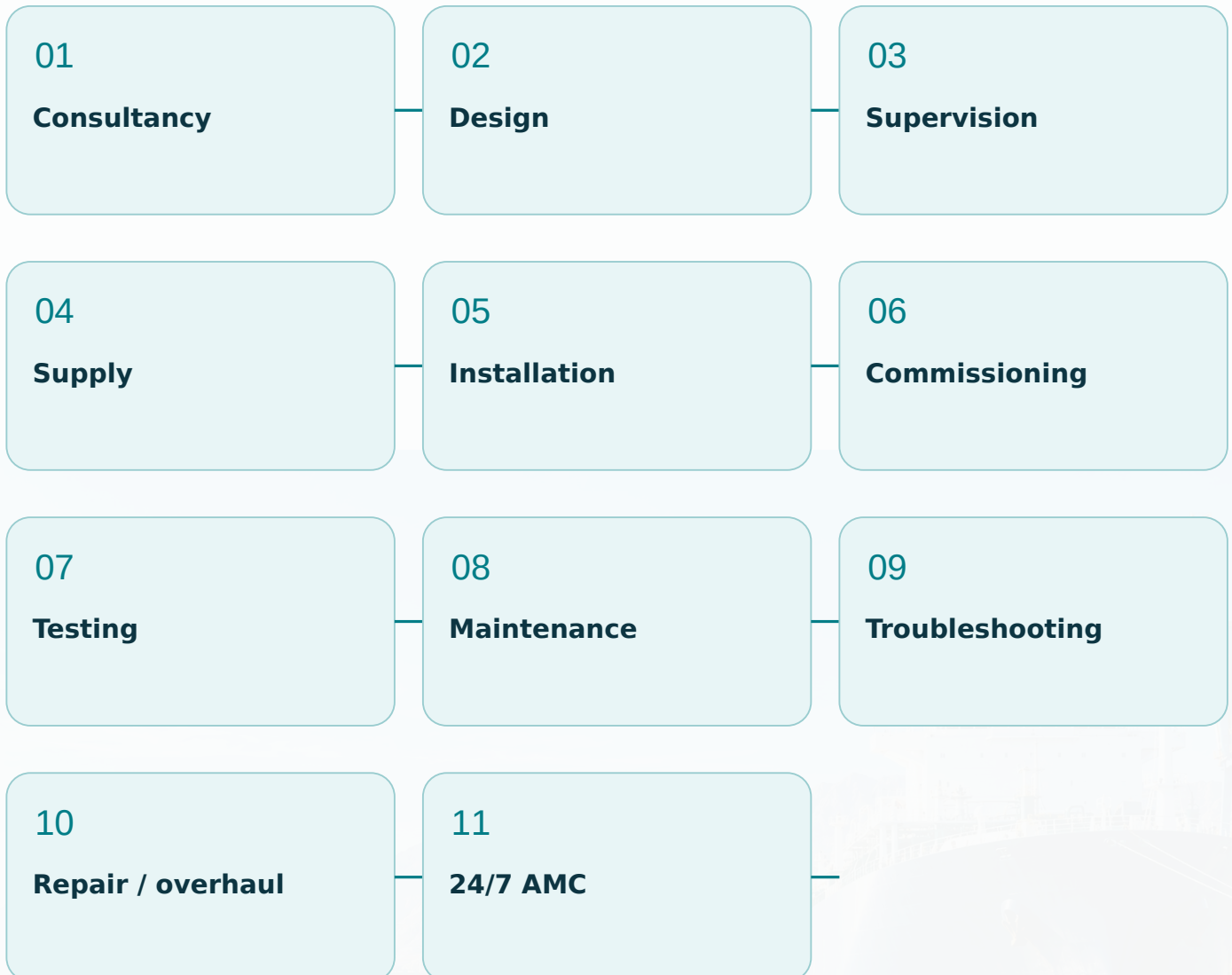
Specialist departments. One coordinated capability.



Specialist disciplines connected through one customer interface. Each proposal defines discipline responsibilities, equipment coverage and delivery records.

A complete lifecycle service

A clear scope from the first enquiry to operating support



From requirement to operation

Define the assets, equipment and acceptance criteria first. Engineering, work packages, testing and handover stay connected through a clear scope. Preventive maintenance, repair and 24/7 AMC are tied to agreed coverage, response arrangements, parts and responsibilities.



Marine Communication

Radio, satellite, distress and onboard communications engineered as one coordinated system



CAPABILITY INDEX

Marine Communication

01 **Radio & distress equipment**

02 **Satellite connectivity & tracking**

03 **Onboard voice & entertainment**

Marine Communication

Radio, satellite, distress and onboard communications engineered as one coordinated system



SERVICES AT A GLANCE

- 01** VHF/UHF, MF/HF and DSC radios
- 02** GMDSS, EPIRB, SART and SSAS interfaces
- 03** Inmarsat-C, Iridium and FleetBroadband
- 04** NAVTEX and LRIT support
- 05** PABX, intercom, talkback and public address
- 06** TVRO, antennas, power and cabling

RTTR designs, supplies, installs and supports vessel and shore-side communication systems. The scope starts with the vessel type, operating area, existing equipment, antenna arrangement and required interfaces. We coordinate the communication architecture, power, cabling, configuration and acceptance checks, then provide maintenance, troubleshooting, repair and contracted 24/7 support. Equipment and subscriptions are selected for the actual operating requirement; statutory survey and certification remain with the authorized parties.

System coverage

Marine Communication



SERVICES AT A GLANCE

- 01** Radio & distress equipment
- 02** Satellite connectivity & tracking
- 03** Onboard voice & entertainment

Radio & distress equipment

Supply and installation of the specified fixed and portable radios, DSC interfaces and associated distress equipment. Review equipment identification, antenna clearances, reserve-power interfaces, bridge visibility and operator access. Test only through approved procedures; live distress alerts are not used as routine commissioning tests.

Satellite connectivity & tracking

Coordinate maritime satellite terminals, antennas, approved data interfaces and the required service subscription. Plan cable lengths, grounding, network connections and handover of account responsibilities. Confirm the supported functions for the selected terminal and operating area rather than assuming every satellite product serves every safety or tracking purpose.

Onboard voice & entertainment

Engineer intercom, PABX, public address, paging, talkback and TVRO systems around coverage, intelligibility, vessel zones and environmental duty. Supply stations, amplifiers, speakers, headends and connections as required; test routes, call functions and relevant emergency interfaces.

Delivery, acceptance & support

Marine Communication



SERVICES AT A GLANCE

01 Vessel type and operating area; existing radio/satellite equipment; service accounts; drawings and antenna locations; required communications and service window.

Scope & delivery

Survey & engineering: Record vessel particulars, operating requirements, existing equipment, frequency/service permissions, power arrangement and installation constraints. Issue an equipment list, block diagram, antenna/cable layout and responsibility matrix.

Supply & onboard execution: Review the approved equipment, accessories and spares. Install supports, cables, terminals and antennas; inspect segregation, bonding, labeling and weather sealing. Configure permitted identities and interfaces with the customer and service provider.

Testing & commissioning: Check power and changeover, radio audio, internal call paths, satellite connectivity and the scoped safety/monitoring interfaces using approved test modes. Document observations and coordinate acceptance with the operator and authorized survey party where required.

Maintenance, fault finding & repair: Inspect corrosion, cables, antennas, connectors and backup supplies. Diagnose RF, power, network and configuration faults; repair or replace approved parts and re-test. Maintain service records, equipment data and an escalation/spares plan under the agreed AMC.



Delivery, acceptance & support

Marine Communication | continued

Project outputs

System architecture; equipment and antenna schedules; cable drawings; approved configuration records; functional test sheets; defect closure; as-builts; operator guidance and AMC plan.



Marine Navigation

Bridge equipment, sensors and interfaces aligned for dependable navigation



CAPABILITY INDEX

Marine Navigation

01

Radar, position & bridge displays

02

Heading, steering & watch alarms

03

Depth, speed & voyage recording

Marine Navigation

Bridge equipment, sensors and interfaces aligned for dependable navigation



SERVICES AT A GLANCE

- 01** X-band, S-band and solid-state radar
- 02** AIS, GPS/DGPS and navigation receivers
- 03** ECDIS, multifunction and conning displays
- 04** Autopilot, steering interfaces and BNWAS
- 05** Gyro, satellite and magnetic compasses
- 06** Echo sounder, sonar, speed log and VDR/S-VDR

RTTR provides design, consultancy, supervision, supply, installation and lifecycle support for marine navigation equipment. We coordinate the bridge arrangement, sensor sources, power, data interfaces and operator functions for new installations, replacements and upgrades. Testing follows the actual equipment and approved operating procedures; calibration and sea-acceptance activities are coordinated with the vessel operator and appropriate specialist where required.

System coverage

Marine Navigation



SERVICES AT A GLANCE

- 01** Radar, position & bridge displays
- 02** Heading, steering & watch alarms
- 03** Depth, speed & voyage recording

Radar, position & bridge displays

Select and integrate radar, AIS, position sources and bridge displays around the specified function, installation envelope and interfaces. Coordinate mast positions, display sightlines and shared data, and verify equipment-specific indications and settings.

Heading, steering & watch alarms

Supply and connect heading sources, compass systems, autopilot interfaces and bridge watch alarm equipment where scoped. Review signal priorities, loss-of-input behavior and steering responsibility; functional tests must respect vessel operating procedures and authorized personnel.

Depth, speed & voyage recording

Coordinate echo sounders, sonar, speed logs, weather sensing and VDR/S-VDR inputs. Review transducer installation, sensor data, time reference, audio/video inputs and supported recording functions. Retain test records and identify specialist calibration or statutory verification requirements.

Delivery, acceptance & support

Marine Navigation

Scope & delivery

Assess & design: Survey the bridge, mast and sensor arrangement. Define functions, available interfaces, load and cabling, redundancy where required, equipment compatibility and a controlled replacement plan.

Supply & integrate: Supply approved equipment, supports, cables and interface devices. Coordinate installation drawings, power protection and data-source mapping. Configure the selected units and document the agreed settings.

Test & hand over: Verify sensor validity, heading/position/depth indications, alarms and recording interfaces. Coordinate harbor or sea trials only when included and approved. Close installation defects and hand over configuration backups, drawings and test results.

Service & restore: Troubleshoot power supplies, processors, displays, cables and data interfaces. Plan periodic inspection and calibration support, repair approved components and verify restored operation. Arrange 24/7 technical response and field attendance within the contracted coverage.

Project outputs

Bridge architecture; sensor/interface schedule; equipment and cable layouts; approved settings; harbor/sea acceptance records where scoped; backups; as-builts and maintenance references.

SERVICES AT A GLANCE

01 Vessel and bridge drawings; equipment models; sensor interfaces; reported faults; intended replacement or expansion; availability for onboard work and trials.

01 Design

02 Supply

03 Commissioning

04 Support

E-Navigation

Official charts, publications and digital voyage tools with a controlled update workflow



CAPABILITY INDEX

E-Navigation

01 **Charts, permits & publications**

02 **Planning, route tools & operator workflow**

03 **Connected data & software support**



E-Navigation

Official charts, publications and digital voyage tools with a controlled update workflow

RTTR supports electronic navigation through specification, supply coordination, system integration, configuration, update management and technical assistance. We connect chart and publication requirements with the installed ECDIS, operating area, subscriptions and crew workflow. Official data is obtained through the appropriate authorized supply channel. Hardware compatibility, licenses, service terms and backup arrangements are confirmed before a digital-navigation scope is released.

SERVICES AT A GLANCE

- 01** Official electronic navigational charts (ENC)
- 02** Digital nautical publications and subscriptions
- 03** Voyage planning and route optimization tools
- 04** ECDIS data and software integration
- 05** Chart permits, updates and version records
- 06** Bridge data connectivity and technical support

01 Design

02 Supply

03 Commissioning

04 Support

System coverage

E-Navigation



SERVICES AT A GLANCE

- 01** Charts, permits & publications
- 02** Planning, route tools & operator workflow
- 03** Connected data & software support

Charts, permits & publications

Identify required chart coverage, vessel/system identifiers, publications, license duration and supply route. Coordinate valid permits and data delivery, keep an update register and confirm that installation uses the compatible data format and approved procedure.

Planning, route tools & operator workflow

Configure the approved voyage-planning tools and exchange route data where supported. Help establish chart coverage checks, update confirmation, route review and operator guidance. Technical support assists the crew; navigational decisions remain with the master and qualified bridge team.

Connected data & software support

Review ECDIS workstations, approved software versions, connectivity, data access and backups. Coordinate controlled updates with the supplier and operator, record settings and test data availability. Avoid unsupported software modifications or unapproved access to safety-critical bridge networks.

Delivery, acceptance & support

E-Navigation

Scope & delivery

Define the digital requirement: Review routes, operating area, existing ECDIS models, chart sources and crew workflow. Identify data formats, coverage, license periods, update paths and supported integration.

Supply, install & configure: Coordinate authorized chart/publication supply and approved software/services. Install permits and datasets, configure user roles and exchange interfaces, and retain licensed-system and version records.

Validate & train: Check coverage and update status, data loading, route exchange, backup restoration and defined alarm/interface functions. Provide operating guidance for the selected system; approved navigation training is arranged separately where required.

Maintain & troubleshoot: Manage subscription renewal and update coordination, investigate permit/data/configuration issues and coordinate supplier repair or software support. Maintain a clear escalation route and audit trail under the agreed support arrangement.

Project outputs

Coverage and subscription schedule; permit/update register; integration and configuration records; data-loading checks; backup procedure; operator guidance and technical support contacts.

SERVICES AT A GLANCE

01 ECDIS make/model and software; chart service and current permits; routes/operating area; required publications; connectivity and renewal dates.

01 Design

02 Supply

03 Commissioning

04 Support

Automation & Engine Support

Control, monitoring, panels and machinery support coordinated for the vessel



CAPABILITY INDEX

Automation & Engine Support

01 **Automation, panels & instrumentation**

02 **Safety, tanks & equipment interfaces**

03 **Engine & propulsion support**



Automation & Engine Support

Control, monitoring, panels and machinery support coordinated for the vessel

RTTR provides engineering, supply, installation, commissioning, maintenance and repair for marine automation and machinery interfaces. Our scope covers alarm monitoring, pump and valve control, tank gauging, safety interfaces, vessel management and selected engine/propulsion components. The actual machinery, manufacturer documentation and vessel operating procedures determine the approved configuration, repair method and acceptance tests.

SERVICES AT A GLANCE

- 01** Alarm monitoring, PLC/HMI and control panels
- 02** Fire/gas and emergency-system interfaces
- 03** Pumps, valves, tank levels and steering control
- 04** Loading-computer and vessel-management interfaces
- 05** Main and auxiliary engine component supply
- 06** Propulsion spares, diagnostics and service support

01 Design

02 Supply

03 Commissioning

04 Support

System coverage

Automation & Engine Support



SERVICES AT A GLANCE

- 01** Automation, panels & instrumentation
- 02** Safety, tanks & equipment interfaces
- 03** Engine & propulsion support

Automation, panels & instrumentation

Develop or review I/O lists, control diagrams, PLC/HMI functions, field sensors and alarm priorities. Supply panels, protection, interface modules, actuators and instrumentation; install, program and test against approved sequences and cause-and-effect requirements.

Safety, tanks & equipment interfaces

Coordinate fire/gas, emergency management, tank levels, pumps, valves, loading-computer and vessel-management interfaces. Document ownership of each safety function, fail-safe response and reset conditions. Certified safety functions and loading calculations require the appropriate approved equipment and specialist authority.



System coverage

Automation & Engine Support | continued

Engine & propulsion support

Identify machinery and spare parts by exact model, serial and manufacturer reference. Coordinate approved component supply, condition assessment, troubleshooting and the agreed service or repair scope. Plan access, isolation, removal, alignment and return-to-service checks with the operator and specialist resources where needed.



Delivery, acceptance & support

Automation & Engine Support

Scope & delivery

Engineer the function: Survey the machinery/control system and identify operating sequences, protective functions, interfaces, panels, signals and critical spares. Agree a repair or upgrade scope and approved test method before execution.

Supply, build & install: Coordinate compliant parts and panels, fabrication, wiring, equipment installation and field connections. Keep component traceability, cable labels, configuration backups and inspection records.

Commission & verify: Test I/O, alarm thresholds, sequence logic, interlocks and the agreed manual/automatic modes using controlled simulation where appropriate. Equipment movement and shutdown tests require approved conditions; close defects before operational handover.

Repair, maintain & support: Diagnose sensors, actuators, wiring, modules, panels and machinery symptoms. Undertake the agreed repair, overhaul or replacement and repeat verification. Preventive schedules, spares and contracted 24/7 response maintain a practical route from alarm to corrective action.

Project outputs

I/O and alarm lists; panel/control drawings; cause-and-effect or sequence records; parts identification; programming backups; test results; repair reports; as-builts and AMC schedule.

SERVICES AT A GLANCE

01 Machinery model/serial; control drawings and software; fault history; requested parts or functions; operating restrictions; approved isolation and maintenance windows.

01 Design

02 Supply

03 Commissioning

04 Support



VTS & Port Traffic

Radar, AIS, radio and coastal sensors connected to an operator-focused platform



CAPABILITY INDEX

VTS & Port Traffic

01 **Surveillance & communications**

02 **Operator platform & information**

03 **Coastal infrastructure & resilience**



VTS & Port Traffic

Radar, AIS, radio and coastal sensors connected to an operator-focused platform

RTTR engineers and integrates VTS technology for ports, approaches, coastal facilities and maritime traffic monitoring projects. We connect surveillance sensors, communications, networks, servers, recording and operator interfaces around an agreed coverage and operating concept. The technical delivery supports the competent authority and port operator; it does not replace their responsibility to establish, authorize or operate a statutory VTS service.

SERVICES AT A GLANCE

- 01** Radar surveillance and coastal sensor integration
- 02** AIS, VHF radio and direction finding
- 03** Electro-optical and coastal monitoring
- 04** Meteorological and hydrological sensing
- 05** Servers, databases, recording and HMI
- 06** External information exchange and lifecycle support

01 Design

02 Supply

03 Commissioning

04 Support

System coverage

VTS & Port Traffic



SERVICES AT A GLANCE

- 01** Surveillance & communications
- 02** Operator platform & information
- 03** Coastal infrastructure & resilience

Surveillance & communications

Assess radar, AIS, electro-optical, VHF and direction-finding coverage against terrain, vessel traffic and site constraints. Coordinate mast positions, power, lightning/earthing, communications paths and sensor interfaces; confirm actual detection and communication performance through agreed testing.

Operator platform & information

Integrate supported sensor feeds, displays, recording, databases and decision-support tools. Define user roles, time synchronization, event retention, alarm handling and external information exchange. Interface specifications and access permissions are agreed with the port and system supplier.

Coastal infrastructure & resilience

Coordinate server/storage sizing, networks, remote links, environmental sensors and site power. Plan redundancy, backup, cyber access controls and restoration where specified. Coverage and availability targets depend on approved architecture, environmental conditions and verified equipment performance.

Delivery, acceptance & support

VTS & Port Traffic

Scope & delivery

Study & concept: Gather port limits, traffic patterns, sensor locations and operational needs. Assess coverage, interfaces, communications, power and authority responsibilities; issue the technical concept, equipment schedule and delivery boundaries.

Supply & site execution: Coordinate sensors, consoles, servers, communications and accessories. Install field infrastructure, protect outdoor equipment, configure networks and integrate approved feeds with traceable settings and interface records.

FAT, SAT & operational handover: Develop test cases for feeds, display correlation, recording, alarm handling, data exchange and backup/failover where included. Conduct factory/site acceptance as scoped, document measured coverage and close defects with the operator.

AMC, diagnostics & restoration: Inspect outdoor sensors and remote links, review platform health, clean/protect equipment and maintain configuration backups. Diagnose faults across sensors, communications and software; repair, re-test and escalate through the agreed 24/7 support arrangement.

Project outputs

Coverage assessment; system/network architecture; sensor schedules; interface and access matrix; FAT/SAT records; measured-performance report; backups; as-builts and maintenance plan.

SERVICES AT A GLANCE

01 Port/coastal limits and traffic; existing sensors/platform; mast and site information; power/network availability; authority requirements; operating and acceptance criteria.

01 Design

02 Supply

03 Commissioning

04 Support



Official maritime resources

Technical reference links

[IMO - Radiocommunications](#)

[IMO - Electronic charts / ECDIS](#)

[IMO - E-navigation](#)

[IMO - Vessel Traffic Services](#)

[IMO Resolution A.1158\(32\) - VTS Guidelines](#)

SERVICES AT A GLANCE

- 01** Consultancy & design
- 02** Supply & installation
- 03** Commissioning & testing
- 04** Maintenance & support

01 Design

02 Supply

03 Commissioning

04 Support

Define your project with RTTR

Muscat, Sultanate of Oman

Start with a clear requirement

Send the site or vessel location, equipment list, drawings, operating conditions, required functions and target dates. For service requests, include nameplates, symptoms, history and the required maintenance coverage. We will define the engineering, equipment and delivery scope with you.

Contact

info@rttrco.com

rttrco.com/contact/

01

Start with a clear requirement

02

Contact