



RTTR ENGINEERING GROUP

Mechanical, Cooling & MEP



Mechanical, Cooling & MEP

Critical facilities • Industrial plants • Complete lifecycle support



Engineering reliable cooling, water systems and mechanical operation.

RTTR company profile and 20 detailed mechanical capabilities, with clear service lists, equipment coverage and project outputs.

Engineering roots since 1998 | Oman operations since 2018

2,000+

Successful projects | Group

28 Years of heritage



Inside this catalogue

Clickable service chapters

04 **Experience & capacity**

10 **Cooling**

18 **Hydronics**

26 **Controls**

32 **Delivery**

RTTR Engineering Group

Engineering roots since 1998. Oman operations since 2018.



SERVICES AT A GLANCE

- 01** One accountable engineering partner
- 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.

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

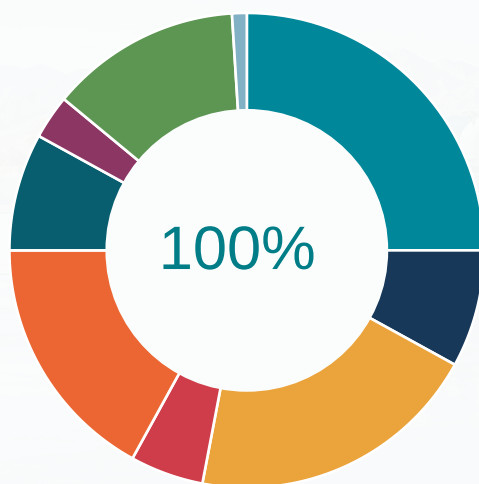
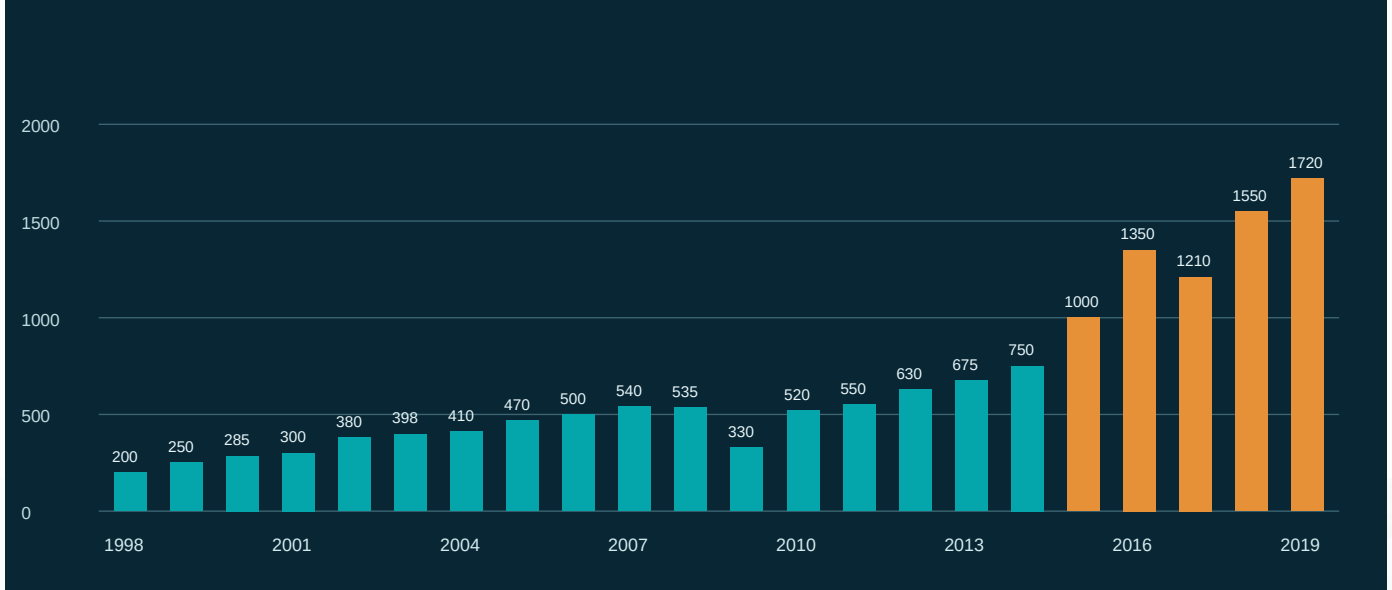
Integrated capability

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.

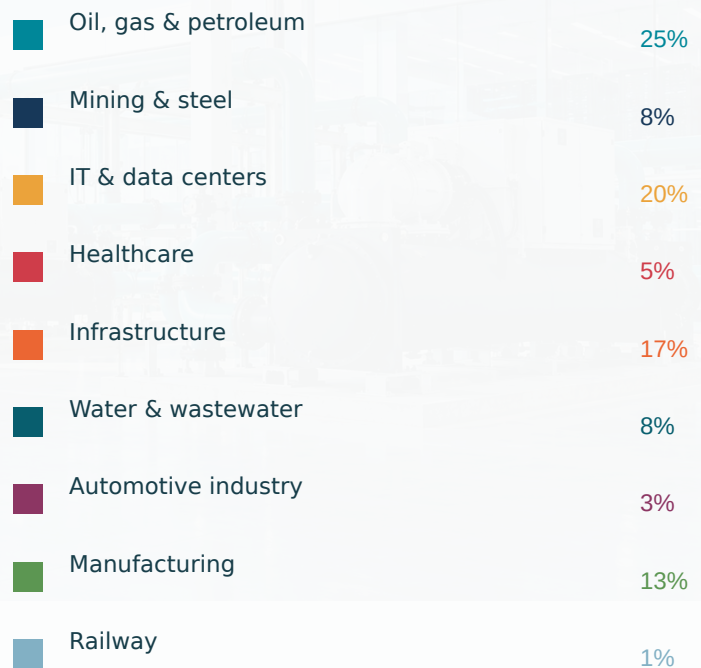
Production & sector experience

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

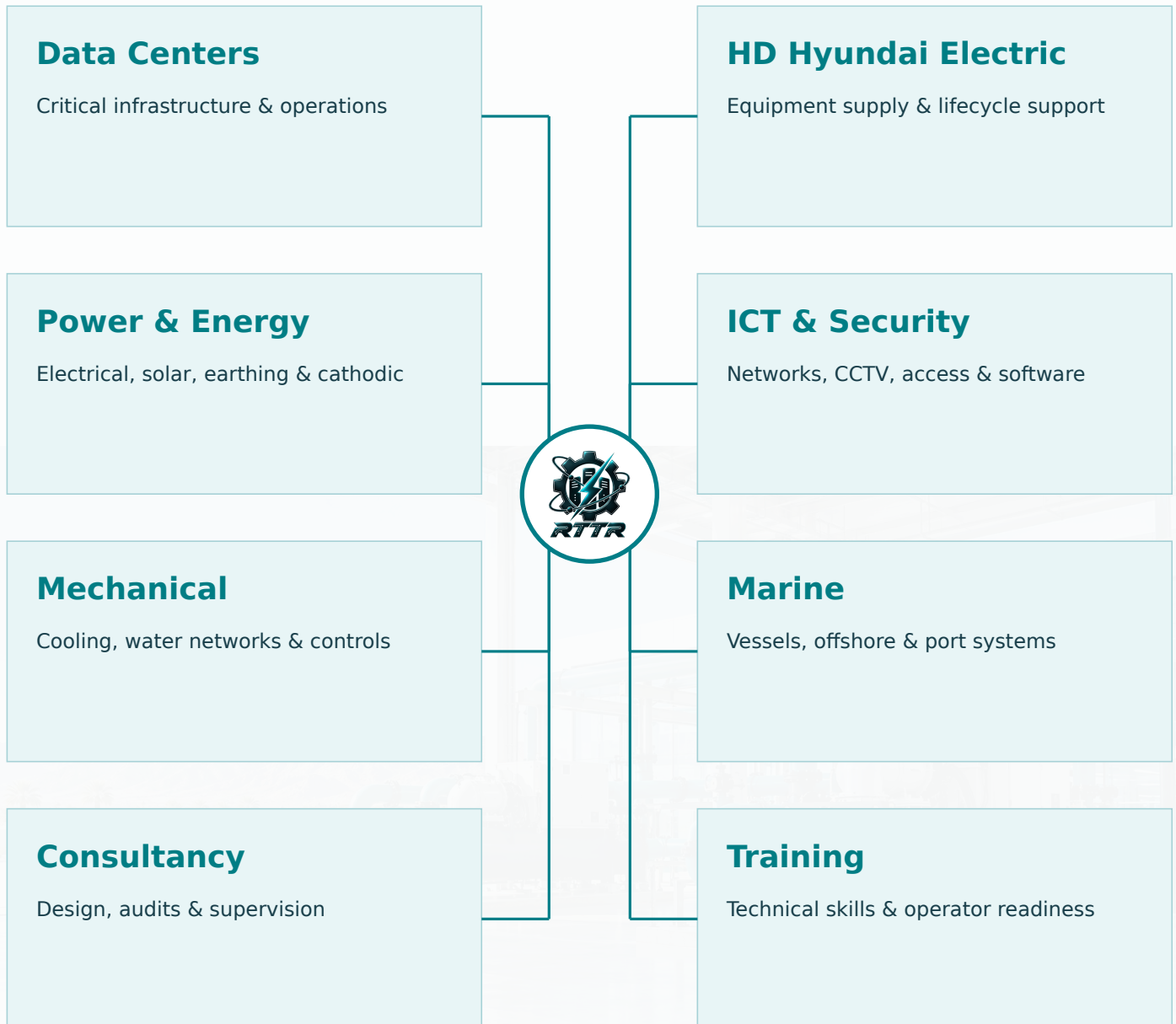
Precision and residential cooling, hydronics, pumps, valves, controls and AMC; marine communication, navigation, e-navigation, automation/engine support and VTS.

Technical training

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

The RTTR engineering network

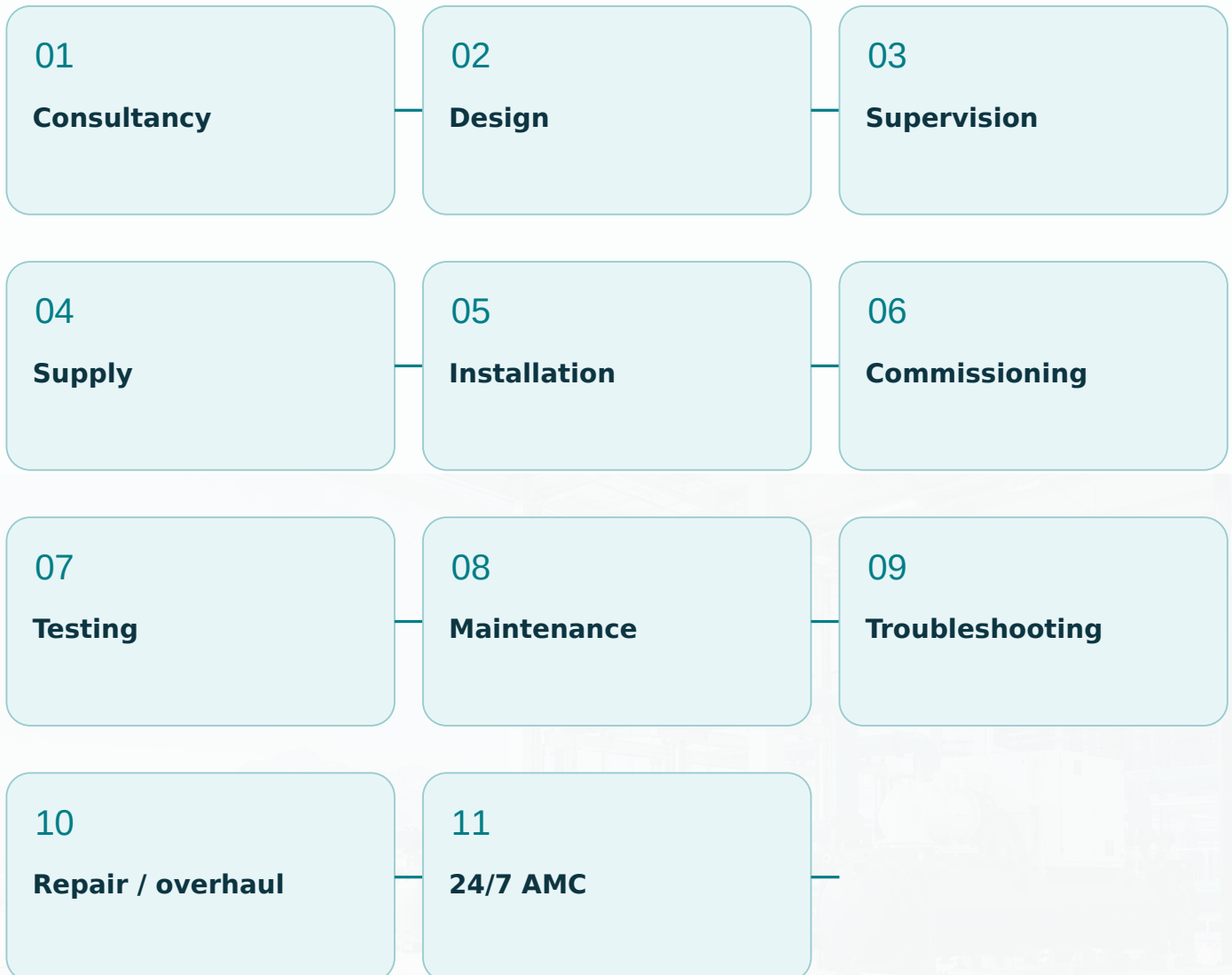
Specialist departments. One coordinated capability.



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.

Cooling

Mechanical, Cooling & MEP



CAPABILITY INDEX

Cooling

01 **CRAH, CRAC & InRow precision cooling**

02 **Hot / cold aisles & containment**

03 **AHU, FCU, air distribution & ventilation**

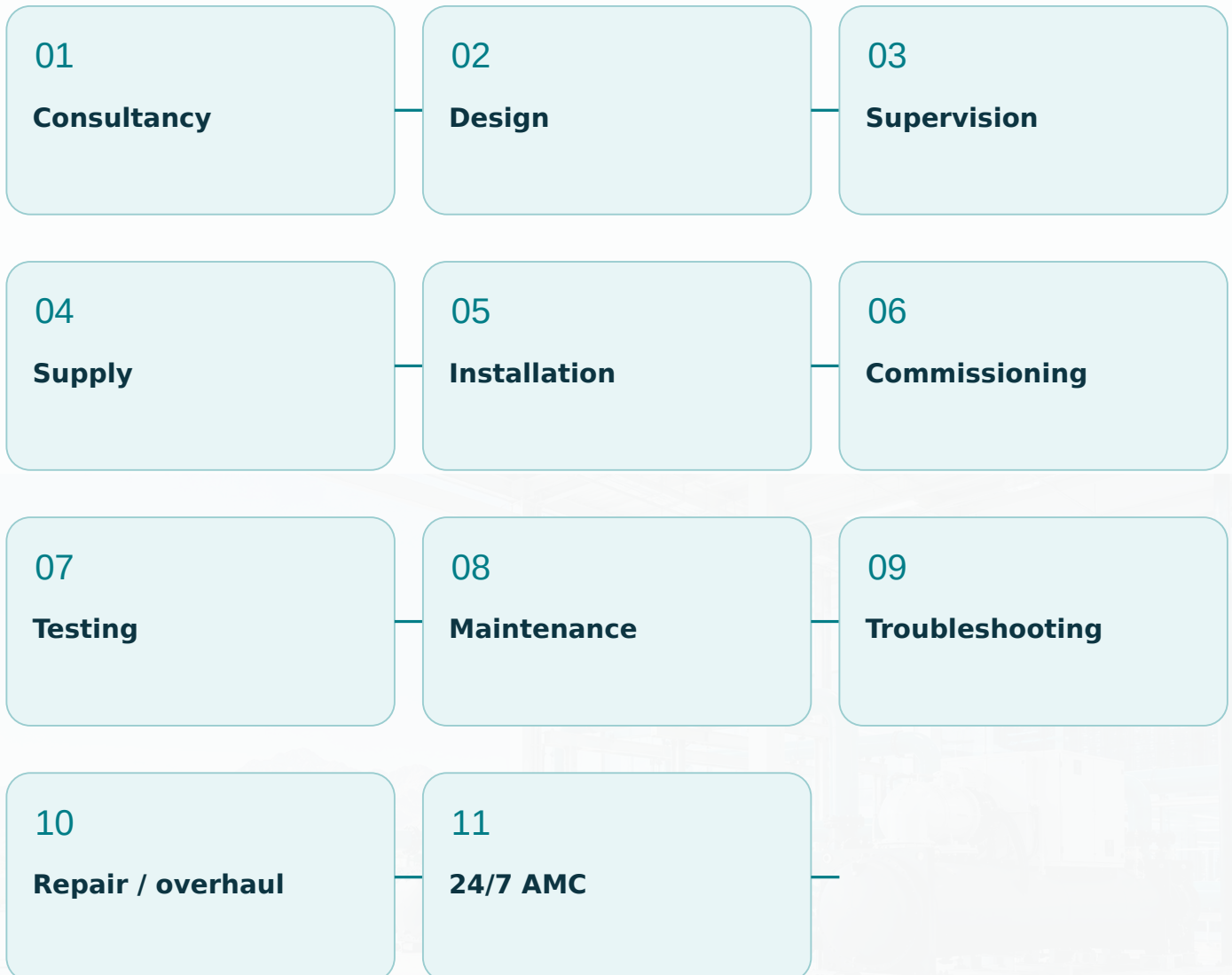
04 **Chiller plants, industrial cooling & refrigeration**

05 **Home split systems: design, supply & repair**

06 **Home cooling optimization & smart control**

Complete lifecycle scope

Cooling



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.

CRAH, CRAC & InRow precision cooling



SERVICES AT A GLANCE

- 01 Chilled-water CRAH units
- 02 DX CRAC units
- 03 InRow / close-coupled cooling
- 04 Humidity and airflow control

RTTR supports large data centers and industrial facilities with equipment selection, supply, installation, commissioning, fault diagnosis, repair and continuous maintenance. CRAH solutions use chilled-water coils; CRAC solutions are commonly based on direct expansion. InRow units bring cooling close to the rack load. We match the actual cooling architecture to the heat load, available utilities, room conditions and required continuity rather than treating all units as interchangeable.

Scope & delivery

Engineer: Review IT/room loads, supply/return conditions, redundancy, equipment access and water or refrigerant interfaces.

Deliver: Supply the approved units, mount and connect them, coordinate drainage, power, controls and alarms.

Prove performance: Check capacity, airflow, valve/fan response, set points and agreed duty/standby scenarios.

Maintain: Service coils, filters, fans and controllers; diagnose water-flow, refrigeration and sensor faults and restore verified operation.

Project outputs

Load review; unit schedule; connection drawings; commissioning and functional records; O&M and service plan.

Hot / cold aisles & containment



SERVICES AT A GLANCE

- 01 Hot-aisle containment
- 02 Cold-aisle containment
- 03 Airflow sealing and blanking
- 04 Rack-layout coordination

We design, supply and install hot-aisle and cold-aisle containment around the actual rack layout. Roofs, end doors, blanking panels, cable openings and floor/overhead air routes are coordinated to reduce mixing and improve useful cooling delivery. The design also reviews fire-system interfaces, lighting, maintenance clearances and future expansion. Live-site changes are sequenced with the operating team.

Scope & delivery

Survey: Measure actual racks, doors, aisles, ceiling interfaces and operating constraints.

Design: Develop containment geometry, air routes, access, material schedule and coordinated fire interfaces.

Install: Fit panels and doors, close bypass paths and verify safe access to operating equipment.

Validate: Review rack-inlet conditions, airflow balance and agreed operating scenarios; record defects and adjustments.

Project outputs

Containment layouts; material list; interface review; installation checks; airflow/temperature verification.

AHU, FCU, air distribution & ventilation



SERVICES AT A GLANCE

- 01 AHU and FCU selection
- 02 Ducts, fans and filtration
- 03 Fresh air and extract systems
- 04 Air balancing and maintenance

Our air-side scope covers air handling units, fan coil units, fans, filters, coils, ducts, dampers, grilles and diffusers for buildings and plants. We calculate and coordinate fresh air, extract, cooling and distribution around occupancy, process conditions and maintenance needs. Supply and installation are followed by airflow balancing, controls checks, troubleshooting, repairs and ongoing servicing.

Scope & delivery

Calculate: Assess heat load, airflow, pressure losses, filtration and acoustic requirements.

Coordinate: Select units and ducts; prepare coil, condensate, power/control and service-access interfaces.

Execute: Install supports, ducts, insulation, fans and units; inspect workmanship and connections.

Test and service: Balance air, test damper/fan/control functions and maintain filters, coils, drives and drainage.

Project outputs

Equipment/duct schedules; layouts; TAB records; functional tests; maintenance checklists.

Chiller plants, industrial cooling & refrigeration



SERVICES AT A GLANCE

- 01 Air/water-cooled chillers
- 02 Industrial process cooling
- 03 Cold rooms and refrigeration
- 04 Heat rejection and plant servicing

RTTR delivers chilled-water plants and industrial cooling packages with coordinated heat rejection, pumping and controls. The scope also includes commercial air-conditioning and cold-room refrigeration, using the selected refrigerant system, insulated enclosure, evaporators and temperature controls. We review duty, ambient conditions, capacity, resilience and access before selecting equipment and planning installation or replacement.

Scope & delivery

Develop the plant: Define loads, capacity staging, heat rejection, hydraulic interfaces and control philosophy.

Supply and build: Procure equipment and accessories, install coordinated water/refrigerant systems and complete the approved interfaces.

Commission: Verify operating conditions, temperature control, staging, safety functions and the agreed performance tests.

Support: Diagnose compressors, fans, water flow, leaks and controls; execute repairs, servicing and upgrade plans.

Project outputs

Plant schematic; equipment schedule; installation/test records; operating settings; handover and service plan.

Home split systems: design, supply & repair



SERVICES AT A GLANCE

- 01 Room-by-room cooling design
- 02 Split-unit supply and installation
- 03 Cleaning and preventive servicing
- 04 Fault diagnosis and repairs

RTTR provides residential split and ducted air-conditioning services from room-by-room assessment to equipment supply, installation and aftercare. We review cooling demand, unit location, outdoor airflow, pipe route, drainage, electrical supply and service access. Servicing includes filters, coils, drainage and operating checks; fault diagnosis and approved repairs address refrigerant leaks, fans, compressors, controls and related electrical issues.

Scope & delivery

Assess the home: Review room loads, use, shading, existing equipment, airflow and the customer comfort requirement.

Design and install: Select suitable capacity and locations; coordinate refrigerant piping, insulation, condensate and electrical interfaces.

Service and repair: Clean and inspect coils/filters, check drainage and operation; find leaks or component faults and perform approved repairs.

Verify comfort: Check temperatures, control response, noise, drainage and operating readings; provide user guidance and service recommendations.

Project outputs

Room/unit schedule; installation checks; service/repair records; startup readings; home maintenance plan.

Home cooling optimization & smart control



SERVICES AT A GLANCE

- 01** Residential cooling assessment
- 02** Efficiency and airflow improvements
- 03** Compatible smart thermostats
- 04** Schedules, zones and remote control

We improve residential cooling through condition review, appropriate sizing, airflow correction, settings and compatible smart controls. Smart thermostats, manufacturer gateways or supported interfaces can provide scheduling, zone control and remote operation according to the selected equipment. We assess compatibility before committing to features and do not assume that every existing split unit supports the same smart functions.

Scope & delivery

Review: Assess comfort complaints, unit condition, actual use and control limitations.

Improve: Correct approved airflow, servicing and operating issues; recommend right-sized replacement where justified.

Make it smart: Select compatible controls, configure schedules/zones and approved remote access or home-system integration.

Test and train: Prove local/remote commands, schedules and recovery; provide settings, user guidance and maintenance support.

Project outputs

Condition/compatibility review; improvement plan; smart-control settings; functional tests and user handover.

Hydronics

Mechanical, Cooling & MEP



CAPABILITY INDEX

Hydronics

01 **Water piping, insulation & plumbing networks**

02 **Manual valves, actuators & control valves**

03 **Pumps, motors & variable-speed drives**

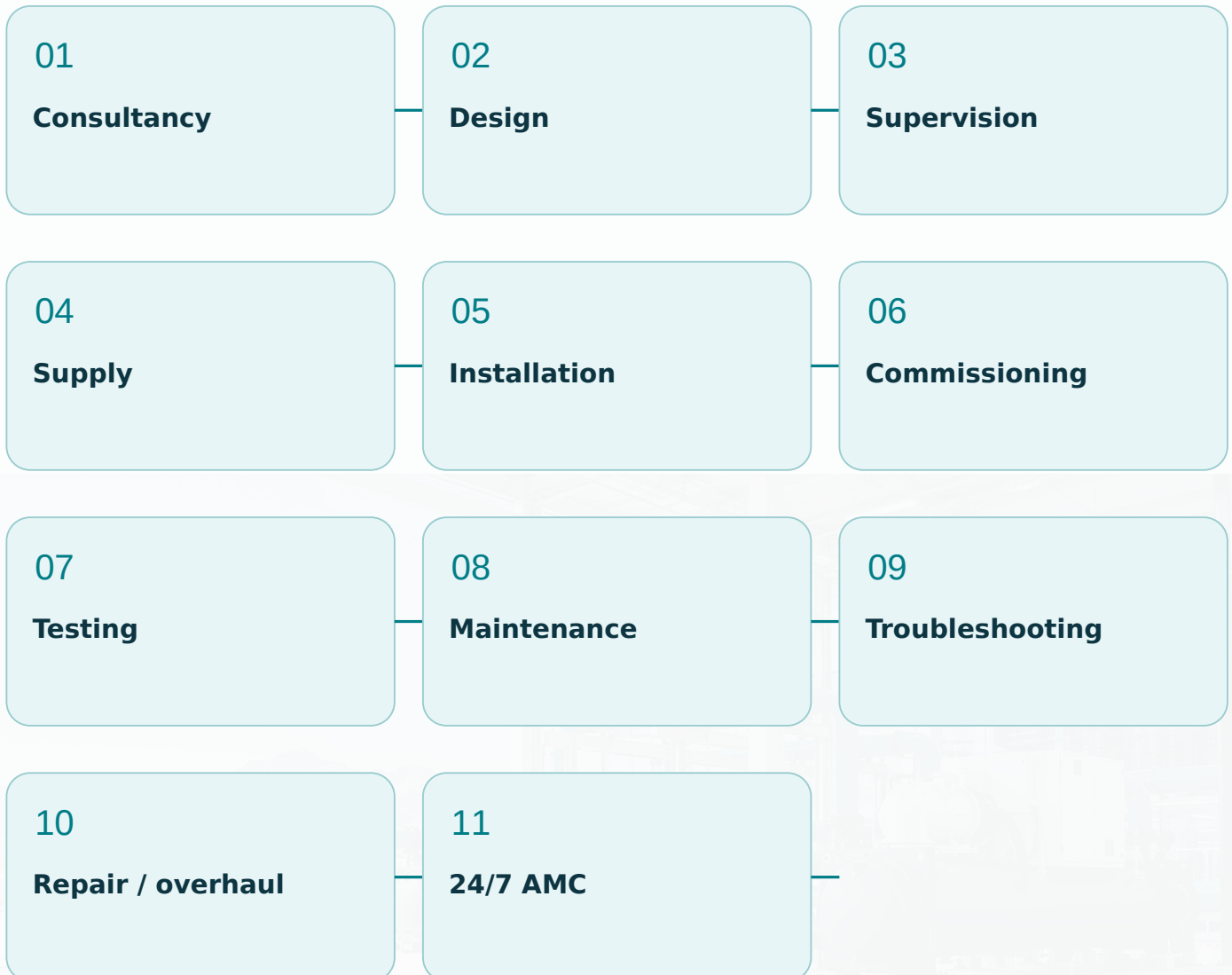
04 **Pressurization, expansion & heat exchangers**

05 **Expansion vessels & automatic pressurization**

06 **Domestic water pumps & solar-powered pumping**

Complete lifecycle scope

Hydronics



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.

Water piping, insulation & plumbing networks



SERVICES AT A GLANCE

- 01 Chilled-water distribution
- 02 Domestic / utility water
- 03 Pipe supports and insulation
- 04 Pressure testing and flushing

We design, supply, fabricate and install chilled-water, hot/cold water and industrial utility pipework. Pipe material, diameter, joining method, pressure rating and insulation are selected for the actual fluid, temperature and duty. Headers, branches, supports, expansion allowances, vents, drains and equipment connections are coordinated for maintainable service. Plumbing and drainage interfaces are included in the agreed package.

Scope & delivery

Design the route: Calculate pipe size and pressure loss; coordinate routing, supports, access and equipment interfaces.

Install correctly: Control joining, weld/connection inspections, support spacing, identification and insulation continuity.

Clean and prove: Perform approved leak/pressure testing and flushing, with treatment or disinfection where applicable.

Maintain: Locate leaks and restrictions, repair joints or damaged sections and document the restored system.

Project outputs

Piping layouts and schematic; BOQ; pressure/flushing records; insulation checks; as-built identification.

Manual valves, actuators & control valves



SERVICES AT A GLANCE

- 01** Manual isolation and check valves
- 02** Motorized control valves
- 03** Balancing valves and strainers
- 04** Actuator setup and fault repair

RTTR provides manual isolation valves, check valves, balancing valves, strainers and electrically actuated control valves as part of the engineered water system. Selection reviews pressure/temperature duty, valve authority, flow requirement, installation orientation and maintainability. Control valves and actuators are configured against the approved operating sequence and feedback requirements.

Scope & delivery

Select: Confirm size, pressure class, fluid compatibility, flow characteristics and actuator power/signal.

Install: Provide accessible valve stations, correct flow direction, supports and maintainable strainers.

Configure: Set stroke, control direction and feedback; prove opening, closure and fail position where provided.

Repair: Inspect leakage, stuck stems, actuator faults and debris; service/replace approved parts and re-test.

Project outputs

Valve schedule; actuator and point list; installation inspection; stroke/leak/function tests.

Pumps, motors & variable-speed drives



SERVICES AT A GLANCE

- 01** Circulation / booster / transfer pumps
- 02** Duty and standby arrangements
- 03** VFD / inverter configuration
- 04** Alignment, servicing and overhaul

We select, supply, install, commission and maintain circulation, transfer and booster pumping systems. Duty and standby arrangements are coordinated with the hydraulic network and required service continuity. Variable-frequency drives/inverters are configured for approved pressure or flow control, with suitable motor interfaces, interlocks and protection. Mechanical and electrical troubleshooting are coordinated as one service scope.

Scope & delivery

Engineer the duty: Determine flow/head and duty profile; review pump curve, motor rating and system operating points.

Install and align: Inspect bases, pipe loads, connections, alignment, guards, power and rotation.

Commission the drive: Set motor/drive parameters and approved control limits; verify lead/lag and alarms.

Diagnose and restore: Investigate cavitation, vibration, seals, bearings, motor/drive trips and unstable control; repair and verify.

Project outputs

Pump/drive schedule; hydraulic duty; alignment and startup records; settings backup; service and overhaul reports.

Pressurization, expansion & heat exchangers



SERVICES AT A GLANCE

- 01** Pressurization and top-up units
- 02** Expansion vessels and air separation
- 03** Plate / specified heat exchangers
- 04** Pressure and thermal verification

Our hydronic scope includes pressurization/top-up packages, expansion vessels, air separation and plate or other specified heat exchangers. These components are coordinated to support the water circuit's pressure condition, thermal expansion and energy transfer. We review sizing, accessible service points, safety devices, fluid separation and control interfaces before installation and commissioning.

Scope & delivery

Size and coordinate: Review system volume, static height, temperatures, pressure limits and heat-transfer duty.

Install: Connect expansion/pressurization packages and exchangers with isolation, instrumentation and service access.

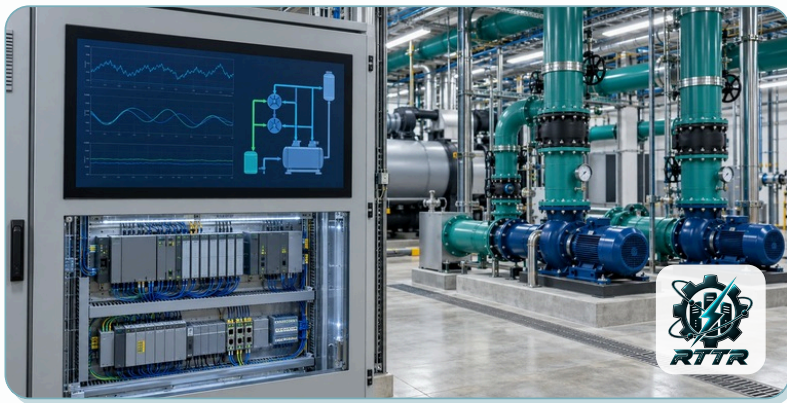
Test: Verify pressure settings, top-up control, safety interfaces, leakage and exchanger temperature/flow behavior.

Service: Review vessel condition, air ingress, fouling and pressure faults; clean or repair approved components.

Project outputs

System sizing notes; schematic; pressure settings; exchanger performance and service records.

Expansion vessels & automatic pressurization



SERVICES AT A GLANCE

- 01 Expansion vessels
- 02 Automatic top-up packages
- 03 Pressure control and alarms
- 04 Inspection and corrective service

RTTR provides a dedicated scope for expansion and pressurization systems rather than treating them as an incidental pump accessory. We assess the water circuit and coordinate vessel capacity, top-up duty, pressure settings, alarms and isolation. Controlled commissioning confirms that the installation can accommodate thermal expansion and maintain the specified operating pressure without masking leaks or unstable control.

Scope & delivery

Assess: Review circuit volume, static height, operating temperature and design pressure.

Coordinate: Select vessel/package duty and locate serviceable isolation, instrument and safety interfaces.

Commission: Check approved pre-charge and set points, top-up sequence, pressure stability and alarm response.

Maintain: Inspect vessel condition, air/water-side behavior, pump operation and leak/top-up history; rectify faults.

Project outputs

Sizing and settings register; schematic; startup/alarm records; preventive-service checklist.

Domestic water pumps & solar-powered pumping



SERVICES AT A GLANCE

- 01** Domestic transfer / booster pumps
- 02** Circulation and selected submersible pumps
- 03** Solar pump and controller packages
- 04** PV, tank and protection coordination

RTTR covers domestic transfer and booster pumps, circulation pumps and suitable submersible or solar-powered water-pumping packages. Selection is based on the water source, demand, head, storage and operating conditions. For solar pumping, the pump, compatible controller/inverter, sensors and hydraulic equipment are coordinated with PV panels and electrical protection through the RTTR power/solar scope. We supply, install, test, repair and maintain the agreed system.

Scope & delivery

Assess demand: Review source, flow/head, storage, household or irrigation duty and available electrical/solar input.

Select the package: Match pump curve, motor/controller compatibility, piping, valves, sensors and protection.

Install and prove: Connect the agreed hydraulic and electrical package; verify water delivery, tank/pressure control and supported protection functions.

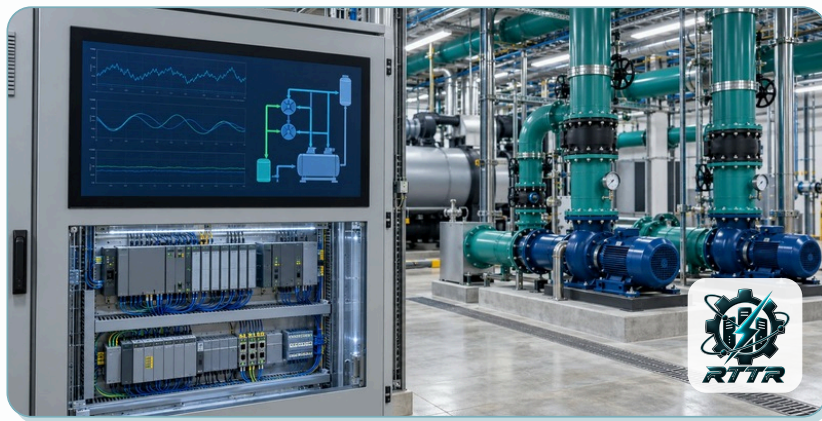
Service: Inspect leaks, bearings/seals, controller trips and dry-running risks; repair or replace approved parts and maintain the operating records.

Project outputs

Pump/controller selection; hydraulic/electrical interfaces; startup and protection tests; maintenance recommendations.

Controls

Mechanical, Cooling & MEP



CAPABILITY INDEX

Controls

01 **HMI, BMS & mechanical plant monitoring**

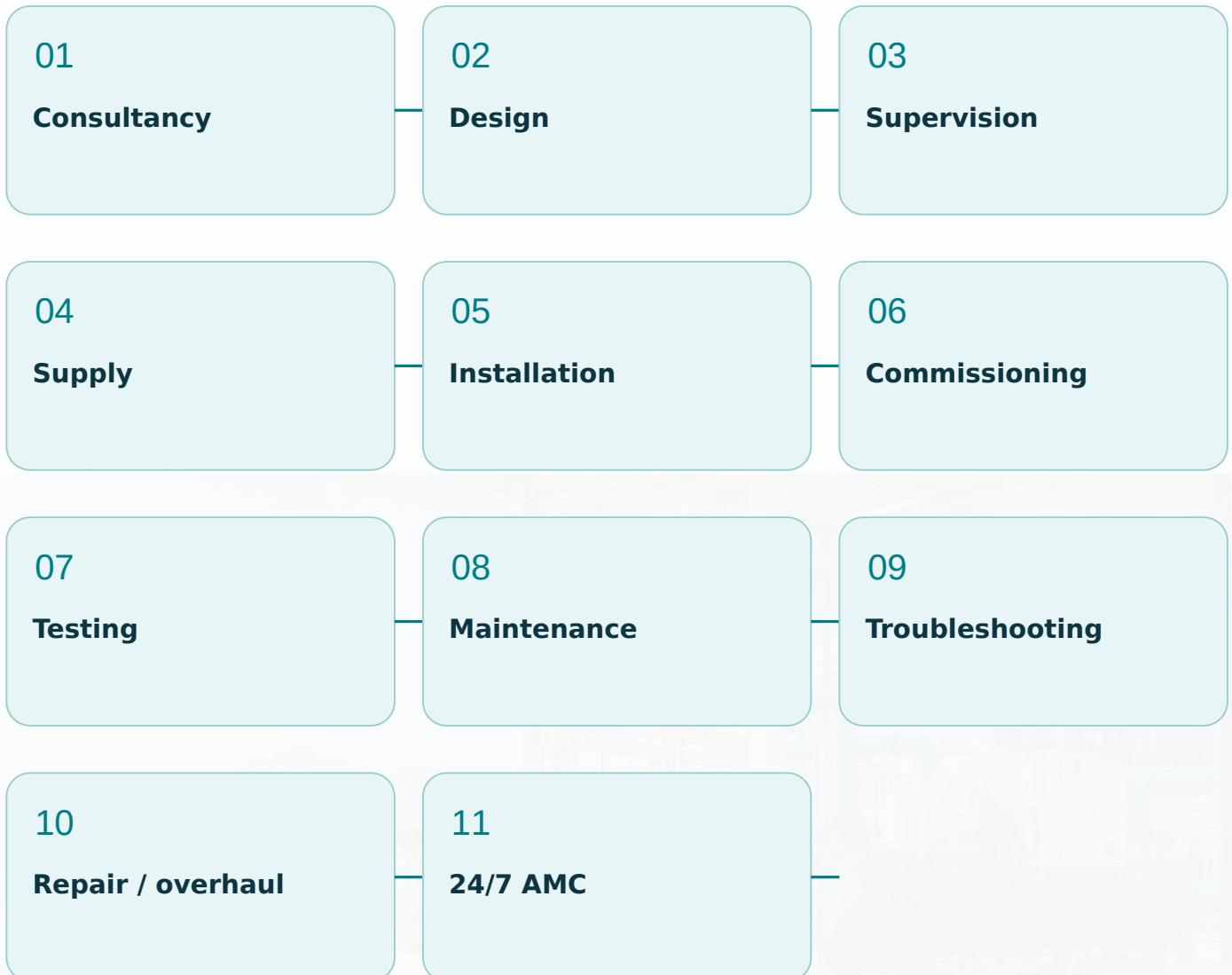
02 **Gauges, sensors & field instrumentation**

03 **Sequences, staging, interlocks & failover**

04 **Performance review & energy optimization**

Complete lifecycle scope

Controls



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.

HMI, BMS & mechanical plant monitoring



SERVICES AT A GLANCE

- 01 HMI and operator graphics
- 02 BMS point mapping
- 03 Trends, alarms and reporting
- 04 Approved platform integration

We connect mechanical equipment to practical operator interfaces and building management systems. The scope covers controller and panel coordination, point mapping, HMI screens, trends, alarms, approved control logic and integration with the site platform. Status, command and feedback points are distinguished so the operator can understand actual equipment behavior rather than seeing an unverified graphic.

Scope & delivery

Define the interface: Prepare equipment/point lists, command authority, alarm priorities and controller/network boundaries.

Configure: Develop screens, naming, scaling, trends and roles around the approved system and licenses.

Test end to end: Prove field signal, controller value, displayed state, command/feedback and alarm timestamps.

Support: Back up configurations, review communications and maintain the monitoring and control records.

Project outputs

Point list; graphics and alarm register; interface tests; settings backup; operator training.

Gauges, sensors & field instrumentation



SERVICES AT A GLANCE

- 01** Temperature and humidity sensors
- 02** Pressure and differential-pressure gauges
- 03** Flow instrumentation
- 04** Signal checks and calibration support

RTTR supplies, installs, tests and maintains temperature, pressure, differential-pressure, humidity and specified flow instruments. Sensor locations, ranges, signal type and access are selected for the measurement objective and control sequence. Gauge and sensor discrepancies are investigated using appropriate reference instruments, with approved calibration or replacement and end-to-end verification.

Scope & delivery

Select: Specify range, accuracy requirement, media compatibility, mounting and signal interface.

Install: Coordinate thermowells, tapping points, impulse lines, cables and instrument accessibility.

Verify: Compare readings with appropriate references and prove scaling, labels, units and BMS mapping.

Maintain: Inspect drift, blockage, wiring faults and wrong location mapping; correct and retain test records.

Project outputs

Instrument schedule; location/point mapping; verification and calibration records; alarm checks.

Sequences, staging, interlocks & failover



SERVICES AT A GLANCE

- 01 Duty / standby and lead / lag
- 02 Plant capacity staging
- 03 Permissives and interlocks
- 04 Alarm and recovery scenarios

We develop and implement approved mechanical operating sequences for chillers, pumps, valves, fans and cooling units. Lead/lag, duty/standby rotation, permissives, start/stop logic and alarm responses are reviewed with equipment suppliers and the operating team. Functional tests demonstrate the agreed behavior under normal operation and selected failure conditions. Changes are backed up, approved and recorded.

Scope & delivery

Define: Issue a sequence of operation, cause/effect and control responsibility for each package.

Implement: Configure controllers, drives and actuators within approved manufacturer and system limits.

Witness: Demonstrate start permissives, normal control, selected faults, standby response and recovery.

Govern changes: Retain versioned settings, backups, approvals and re-test evidence for modifications.

Project outputs

Approved sequence; controller/drive settings; witnessed scenarios; alarm matrix; recovery procedure.

Performance review & energy optimization



SERVICES AT A GLANCE

- 01 Cooling and hydraulic audits
- 02 Air / water balancing review
- 03 Control and VFD tuning
- 04 Measured retrofit recommendations

RTTR reviews cooling and hydraulic performance using measured operating data. We investigate temperatures, flow, pressure, valve position, fan/pump speed and load response to identify mismatches, poor balancing and unnecessary energy use. Recommendations can include control tuning, balancing, equipment servicing, insulation repair and coordinated retrofits. Savings are assessed against a defined baseline; no unsupported percentage is promised.

Scope & delivery

Establish baseline: Review design/operating records and collect representative temperatures, flows, pressures and loads.

Diagnose: Compare actual performance with required service, identify sensor errors and hydraulic/control interactions.

Improve: Implement approved balancing, settings or equipment corrections through a controlled work plan.

Re-verify: Measure the outcome, test continuity and update operating settings and maintenance recommendations.

Project outputs

Baseline and findings; corrective plan; before/after readings; revised operating and service recommendations.

Delivery

Mechanical, Cooling & MEP



CAPABILITY INDEX

Delivery

01 **Consultancy, design & coordinated engineering**

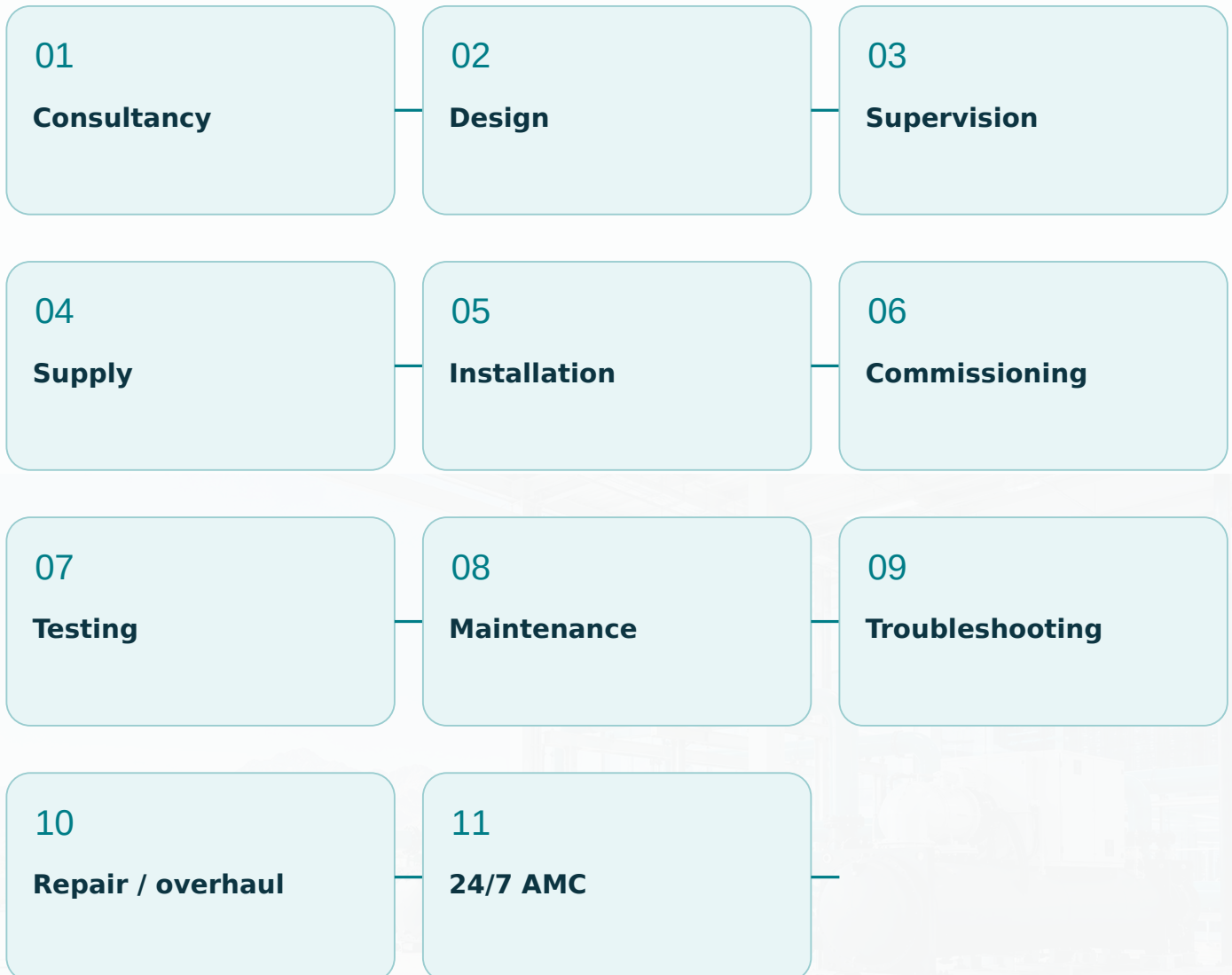
02 **Supervision, installation, testing & handover**

03 **Fault diagnosis, repairs & mechanical overhaul**

04 **24/7 AMC & preventive maintenance**

Complete lifecycle scope

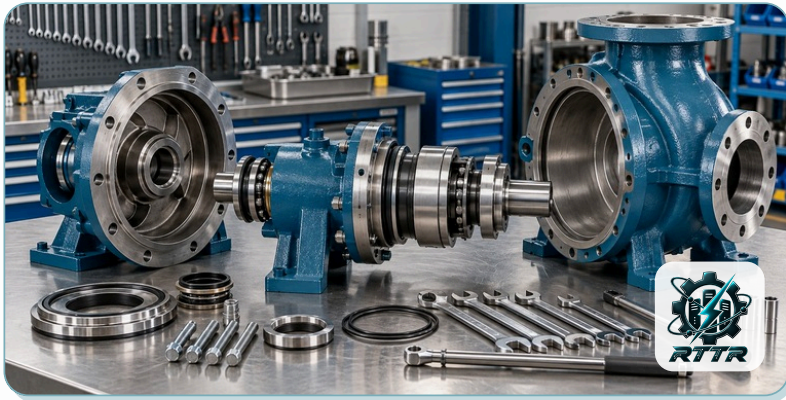
Delivery



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.

Consultancy, design & coordinated engineering



SERVICES AT A GLANCE

- 01** Site studies and technical advisory
- 02** Load / hydraulic calculations
- 03** Layouts, schematics and BOQ
- 04** MEP coordination and design review

Our engineering scope turns the customer's operational requirement into a coordinated mechanical package. We prepare surveys, load and hydraulic reviews, system options, equipment schedules, piping/air-side layouts, specifications and BOQ. Design considers large-data-center continuity and industrial operating conditions, together with service access, civil/electrical interfaces and the proposed maintenance strategy.

Scope & delivery

Capture: Define load, users, duty conditions, continuity, constraints and available utilities.

Compare: Assess system options, capacity, maintainability, procurement interfaces and phasing.

Develop: Prepare concept/detailed documents, equipment selection and coordinated construction information.

Review: Resolve design comments, vendor interfaces and acceptance requirements before execution.

Project outputs

Survey and design basis; calculations; drawings; specifications/BOQ; approved interface register.



Supervision, installation, testing & handover



SERVICES AT A GLANCE

- 01** Submittal and site supervision
- 02** Supply and controlled installation
- 03** Pressure, flushing, TAB and function tests
- 04** As-builts, training and O&M

RTTR can supervise contractor delivery or provide supply and installation within the agreed work package. Material approvals, incoming inspections, installation checkpoints and test plans link the supplied equipment to the approved design. Testing covers applicable water/refrigerant integrity, flushing, TAB, controls, functional performance and agreed integrated scenarios. Handover includes the records needed to operate and maintain the facility.

Scope & delivery

Control quality: Review materials, methods, shop drawings, inspections and nonconformance actions.

Build: Coordinate access, lifting, supports, piping, equipment and electrical/control interfaces.

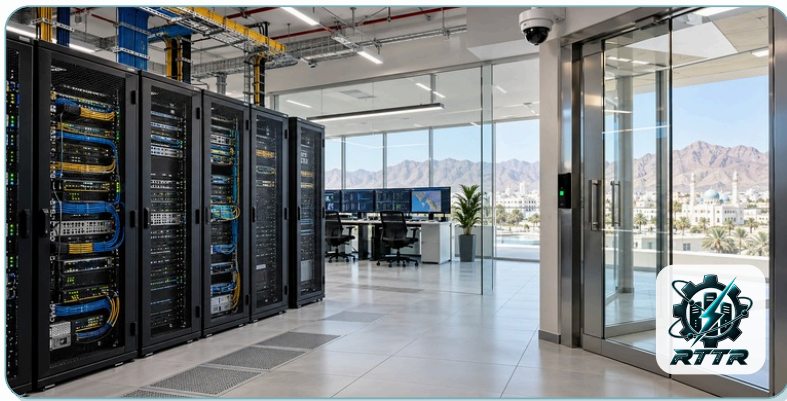
Test: Execute approved checks and witnessed functional/continuity scenarios with controlled fault closure.

Hand over: Issue as-builts, manuals, settings, asset records, test packs and operator training.

Project outputs

Inspection/test plan; QA records; witnessed test packs; snag closure; handover and training records.

Fault diagnosis, repairs & mechanical overhaul



SERVICES AT A GLANCE

- 01** Mechanical / electrical fault isolation
- 02** Pump and valve servicing
- 03** Cooling-unit repairs
- 04** Overhaul and verified restoration

We investigate mechanical faults using symptoms, operating records and field measurements before proposing repair. The scope covers pumps, motors, bearings, seals, valves, actuators, cooling units, coils, fans, piping leaks and related controls. Repair or overhaul is selected around equipment condition, spare availability, manufacturer guidance and the required shutdown window. The repaired function is re-tested and documented.

Scope & delivery

Investigate: Review trips, leakage, vibration, temperature, flow, pressure and control behavior.

Plan: Agree isolation, shutdown, repair method, spares, safe access and restoration criteria.

Repair: Dismantle/service approved parts, align/reassemble and correct relevant wiring or settings.

Restore: Verify leaks, rotation, operating readings, alarms and normal/standby behavior; update service history.

Project outputs

Diagnostic findings; approved repair scope; parts/service records; post-repair tests and recommendations.

24/7 AMC & preventive maintenance



SERVICES AT A GLANCE

- 01** Preventive maintenance plans
- 02** Corrective and emergency support
- 03** 24/7 response and escalation
- 04** Service reports and asset history

RTTR provides preventive and corrective mechanical maintenance for data centers, industrial plants and facilities, with 24/7 support under an agreed service contract. Asset coverage, visit frequency, response/escalation, site attendance, spare responsibilities and exclusions are defined before mobilization. Our experience in critical facilities supports controlled maintenance windows and coordination with the operating team to protect continuity.

Scope & delivery

Mobilize: Create asset registers, condition baseline, checklists, contact matrix and agreed SLA.

Prevent: Schedule coil/filter/valve/pump checks, instrument verification, control backups and routine servicing.

Respond: Triage faults, coordinate site access, investigate, repair within scope and escalate approved specialist work.

Report and improve: Issue service findings, restoration records, recurring-fault actions and lifecycle recommendations.

Project outputs

AMC scope/SLA; preventive schedule; service checklists; fault and escalation logs; monthly reporting.



Delivery, acceptance & lifecycle records

A complete, reviewable handover

Define: Site survey, asset coverage, loads, operating conditions and customer acceptance requirements.

Engineer: Drawings, calculations, BOQ, equipment schedules, control sequences and interfaces.

Deliver: Technical approvals, procurement, inspections, installation and coordinated supervision.

Test: Applicable pressure/leak, flushing, TAB, functional, alarm and continuity tests.

Hand over: As-builts, manuals, settings backups, asset records, test packs and training.

Maintain: Preventive schedules, work orders, diagnosis/repair records, agreed SLA and improvement actions.

SERVICES AT A GLANCE

- 01 Define
- 02 Engineer
- 03 Deliver
- 04 Test
- 05 Hand over
- 06 Maintain

01 Design

02 Supply

03 Commissioning

04 Support

Technical terminology & useful resources

Reference terminology; project equipment is selected separately

CRAH: Computer Room Air Handler, commonly using a chilled-water coil.

CRAC: Computer Room Air Conditioner, commonly using direct expansion.

InRow: Close-coupled cooling located within a server row; the selected solution may use chilled water or DX.

AHU / FCU: Air Handling Unit / Fan Coil Unit.

VFD / HMI / BMS: Variable-Frequency Drive / Human-Machine Interface / Building Management System.

Technical references

[Trane - CRAH CW / CRAC DX precision cooling](#)

[Grundfos - Pressure-holding pumps](#)

References explain terminology and do not imply a partnership or a fixed product specification. Illustrations are conceptual engineering images, not completed-project photographs.

SERVICES AT A GLANCE

- 01 CRAH
- 02 CRAC
- 03 InRow
- 04 AHU / FCU
- 05 VFD / HMI / BMS

01 Design

02 Supply

03 Commissioning

04 Support

Define your mechanical requirement

Let us review the equipment, site and operating needs

Send the location, facility type, drawings, equipment list and required work. For a fault or AMC enquiry, include symptoms, asset models, operating records and the desired response coverage.

Proposal inputs: Cooling loads and operating conditions; existing water/air systems; control platform; shutdown restrictions; delivery milestones; maintenance and spare responsibilities.

RTTR Engineering Group

Sultanate of Oman, Muscat
info@rttrco.com
rttrco.com/contact/

SERVICES AT A GLANCE

01 Proposal inputs

01 Design

02 Supply

03 Commissioning

04 Support



Reliable mechanical operation, every day

Design • Deliver • Verify • Maintain

From precision cooling and water distribution to pumps, valves, controls and 24/7 AMC, RTTR connects the entire mechanical lifecycle.

Start with a clear scope

[Discuss your mechanical project with RTTR](#)

SERVICES AT A GLANCE

01 Start with a clear scope

01 Design

02 Supply

03 Commissioning

04 Support