



ICT, Security & Smart Systems

Networks • CCTV • Access & Rack Security • Automation • Custom Applications



Engineering the connection between infrastructure, security and daily operation.

Company profile and 33 detailed service capabilities, with a portfolio of applications developed by RTTR.

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 **Networks**

19 **Cctv & Video**

28 **Access Control**

35 **Rack Access Control**

42 **Smart Systems**

47 **Custom Applications**

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

1998

Engineering roots

2018

Oman operations

2026

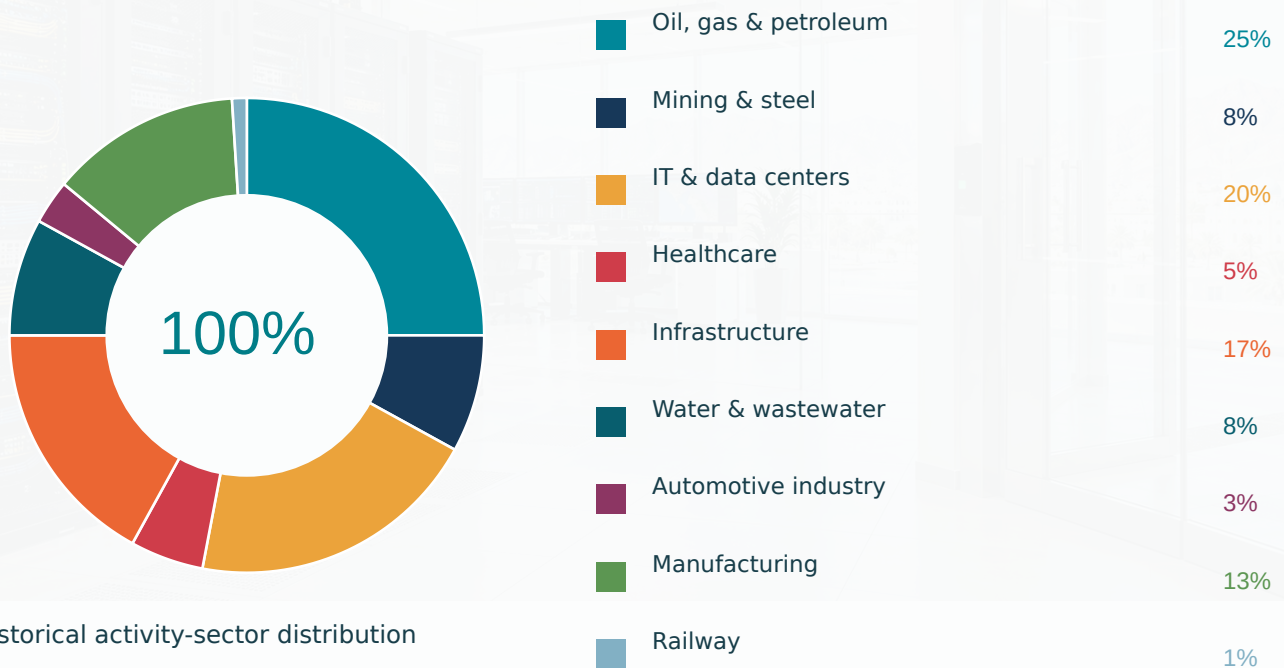
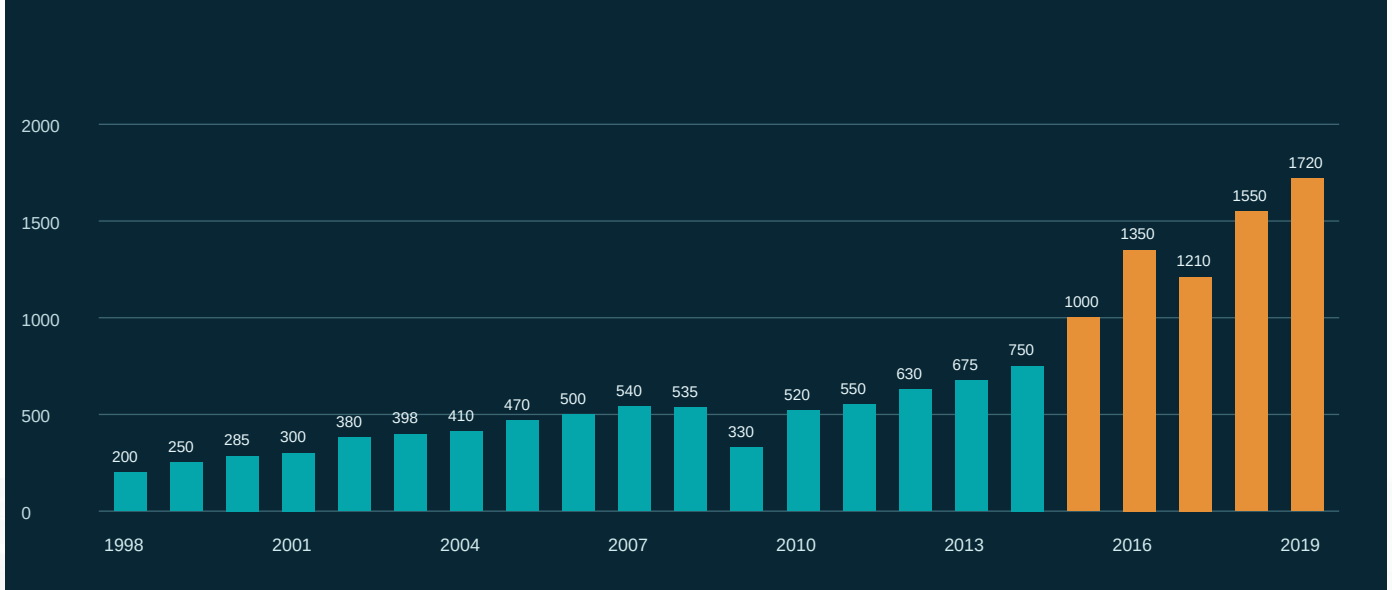
Integrated capability

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

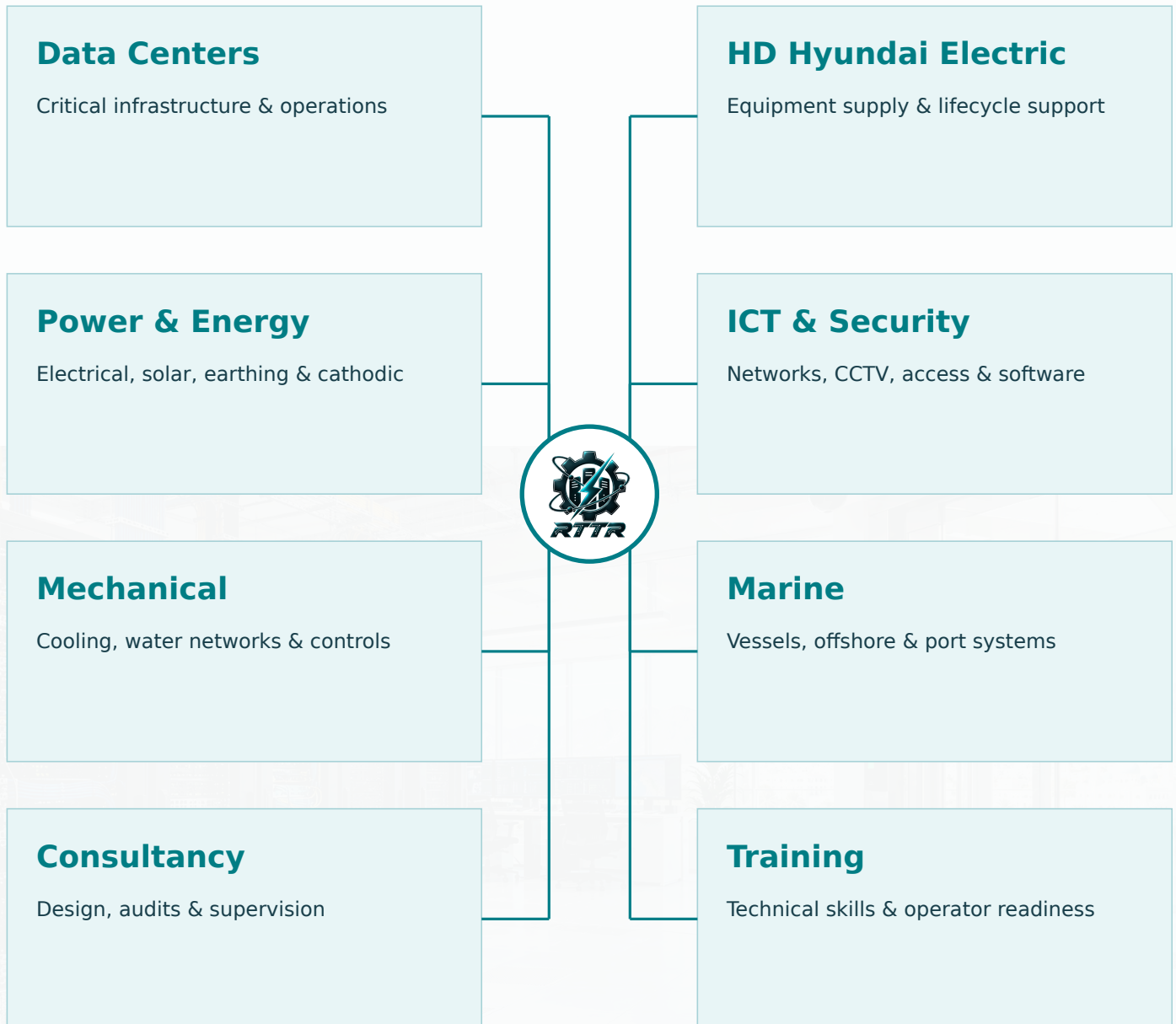
Precision and residential cooling, hydronics, pumps, valves, controls and AMC; marine communication, navigation, e-navigation, automation/engine support and VTS.

Technical training

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

The RTTR engineering network

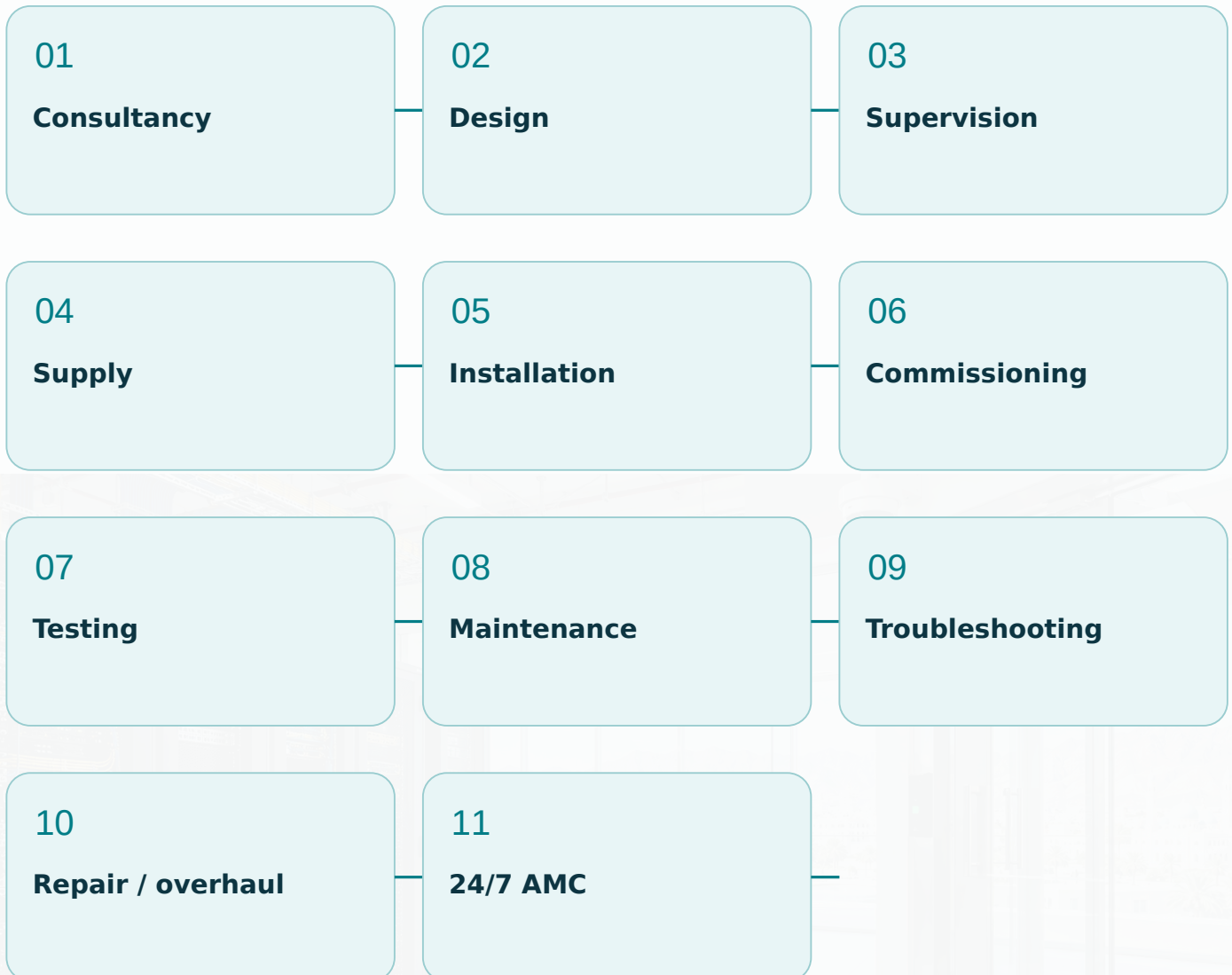
Specialist departments. One coordinated capability.



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.

Networks

ICT, Security & Smart Systems



CAPABILITY INDEX

Networks

01 **Network strategy, topology & detailed design**

02 **Copper cabling, racks & cable management**

03 **Fiber-optic backbones & optical topology**

04 **LAN, WAN, Wi-Fi & network configuration**

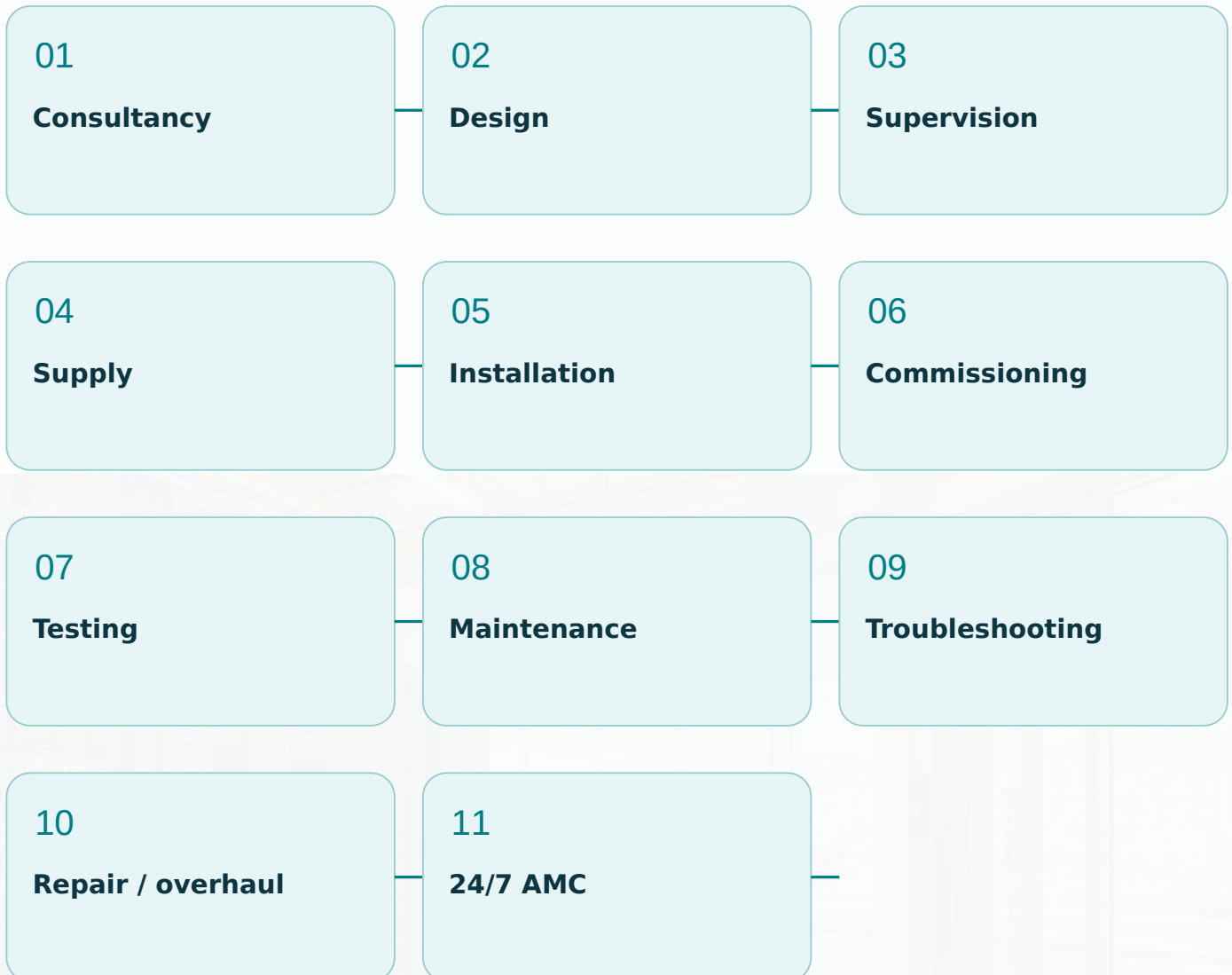
05 **Industrial & data-center network infrastructure**

06 **Supply, installation & network commissioning**

07 **Testing, troubleshooting & maintenance**

Complete lifecycle scope

Networks



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.

Network strategy, topology & detailed design



SERVICES AT A GLANCE

- 01 Site surveys
- 02 Topology & IP/VLAN design
- 03 Fiber redundancy planning
- 04 Drawings, BOQ & specifications

RTTR designs network architectures for homes, offices, campuses, industrial facilities and data centers. We translate users, applications, device populations, traffic and availability requirements into a practical topology and a coordinated physical infrastructure. Existing networks can be surveyed for capacity, bottlenecks, undocumented links and expansion constraints before a migration or upgrade is proposed.

Scope & delivery

Define the requirement: Document users, endpoints, applications, traffic assumptions, service continuity and growth.

Engineer the topology: Plan core/distribution/access layers, fiber backbones, redundant routes and room interfaces.

Coordinate the infrastructure: Develop IP/VLAN planning, rack locations, cable paths, port schedules and equipment requirements.

Release the design: Issue layouts, diagrams, BOQ, specifications, implementation sequence and an acceptance framework.

Project outputs

Requirement register; topology diagrams; IP/VLAN plan; coordinated cabling/room drawings; port and equipment schedules; BOQ; implementation and verification plan.

Copper cabling, racks & cable management



SERVICES AT A GLANCE

- 01 Copper cabling supply
- 02 Outlets & patch panels
- 03 Rack and cable organization
- 04 Link certification

We supply and install structured copper cabling, outlets, patch panels, patch cords and communication cabinets. The design connects the user outlet with the telecommunications room through approved pathways and a consistent identification system. Rack elevations, bend management, segregation, access and future capacity are considered together so that an organized installation remains practical to operate and maintain.

Scope & delivery

Select the approved link: Match cable category, connectors, patching and environmental duty to the specification.

Install the route: Coordinate containment, cable separation, termination quality and accessible distribution points.

Organize the cabinet: Prepare rack elevations, panel/port numbering and horizontal/vertical management.

Verify the links: Perform the specified copper certification, record exceptions and close the handover actions.

Project outputs

Cable/port schedules; rack elevations; installation inspections; permanent-link test records; labels; as-builts and handover package.

Fiber-optic backbones & optical topology



SERVICES AT A GLANCE

- 01 Optical topology design
- 02 Fiber supply & installation
- 03 Splicing & termination
- 04 OTDR and loss testing

RTTR develops fiber infrastructure for building, campus, industrial and data-center connectivity. We design the optical topology around distance, capacity, resilience, endpoint equipment and route constraints, then supply, install, splice, terminate and test the approved links. The work connects optical distribution frames and enclosures with a traceable strand allocation and patching plan.

Scope & delivery

Engineer the optical system: Define single/multimode requirements, strand allocation, link budget and redundant routes.

Supply & install: Coordinate fiber cables, ODFs, closures, trays, connectors and pathway protection.

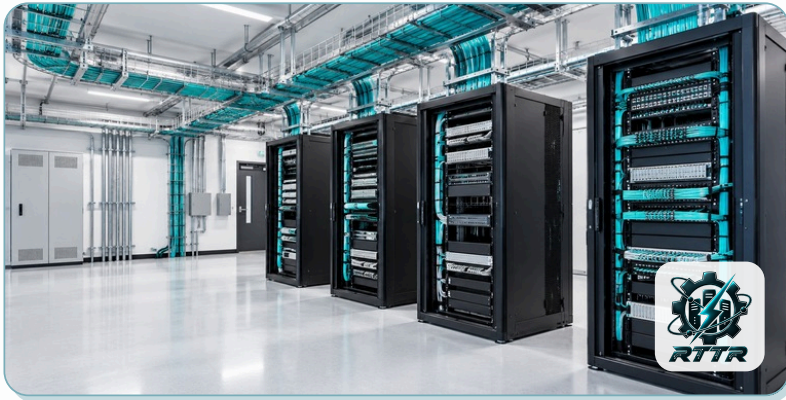
Splice & terminate: Control cleanliness, splice records, patching, polarity and accessible management.

Test & document: Apply the agreed OTDR, loss, continuity and endpoint checks; retain traces and records.

Project outputs

Optical topology; strand/splice schedule; ODF mapping; material submissions; OTDR/loss reports; as-builts and maintenance references.

LAN, WAN, Wi-Fi & network configuration



SERVICES AT A GLANCE

- 01 LAN/WAN design
- 02 Switch and router supply
- 03 Wi-Fi deployment
- 04 Network configuration

We supply and configure active network equipment for the approved connectivity requirement. Switching, routing, wireless coverage, IP addressing and network segmentation are coordinated with the physical installation and customer IT policies. Residential Wi-Fi and enterprise networks follow a survey-led approach so coverage, capacity and operating requirements are assessed before final equipment placement.

Scope & delivery

Assess coverage & demand: Review user density, device types, applications, interference and connection requirements.

Configure the system: Develop approved addressing, VLANs, routing, switch and access-point settings.

Validate performance: Check connectivity, coverage, roaming where scoped, throughput and relevant failure scenarios.

Transfer control: Provide backups, configuration records, access responsibilities and operator guidance.

Project outputs

Coverage/design review; configuration files; IP/VLAN register; validation results; backups; operational handover and support plan.

Industrial & data-center network infrastructure



SERVICES AT A GLANCE

- 01 Industrial connectivity
- 02 Data-center interconnects
- 03 Protected cable routes
- 04 Migration planning

RTTR coordinates industrial and mission-critical connectivity with the actual site and operating constraints. The scope can include rugged physical routes, control-room links, high-density rack interconnects, separate network zones and diverse pathways. Changes to an operating network are planned with the customer so that migration, rollback and verification requirements are understood before execution.

Scope & delivery

Review the operating environment: Assess plant interfaces, room conditions, access windows and continuity requirements.

Coordinate the pathways: Develop protected copper/fiber routing and the agreed separation and resilience arrangement.

Engineer the interconnects: Map racks, distribution areas, control cabinets and connection responsibilities.

Control the change: Prepare migration sequence, rollback approach, testing and updated operating records.

Project outputs

Site/interface review; routing and interconnect drawings; migration/rollback plan; test evidence; updated asset and link records.

Supply, installation & network commissioning



SERVICES AT A GLANCE

- 01 Material procurement
- 02 Cabling and installation
- 03 Configuration & commissioning
- 04 Training and handover

We bring approved network designs into the field through equipment procurement, cable installation, termination, configuration and commissioning. Technical submissions, delivery inspections and installation checkpoints keep supplied materials connected to the approved design. The commissioning route verifies the physical links and the agreed active-network functions before handover.

Scope & delivery

Approve the supply: Review equipment/material compliance, quantities, accessories and delivery requirements.

Inspect the installation: Verify pathways, workmanship, cabinet arrangements, labeling and device interfaces.

Commission the functions: Test links, addressing, device reachability and the approved network services.

Close the handover: Resolve defects and issue drawings, configurations, test reports and training records.

Project outputs

Approved submittals; incoming/site inspections; commissioning checklist; tested configurations; punch-list closure; complete handover.

Testing, troubleshooting & maintenance



SERVICES AT A GLANCE

- 01 Copper & fiber testing
- 02 Fault diagnosis
- 03 Repair and re-verification
- 04 Preventive maintenance

RTTR tests network cabling and operating connectivity, diagnoses faults and maintains the installed infrastructure. Work can include copper certification, fiber loss/OTDR testing, port mapping, link repair, cabinet reorganization and active-network investigation. Fault isolation follows evidence from the physical layer through configuration and operating interfaces, with controlled repair and re-testing.

Scope & delivery

Establish the baseline: Review drawings, prior test results, configurations and the reported operating symptoms.

Locate the fault: Check cable integrity, optical loss, termination, ports, addressing and relevant device conditions.

Repair & re-verify: Replace or re-terminate approved components and repeat the required performance checks.

Maintain the record: Update labels, link databases, configuration backups and preventive-maintenance actions.

Project outputs

Test reports; diagnostic findings; corrective-work records; verified results; updated as-builts and maintenance register.

Cctv & Video

ICT, Security & Smart Systems



CAPABILITY INDEX

Cctv & Video

01 **Security planning, surveys & camera design**

02 **Camera families & equipment supply**

03 **Residential & commercial CCTV installation**

04 **Industrial & critical-facility surveillance**

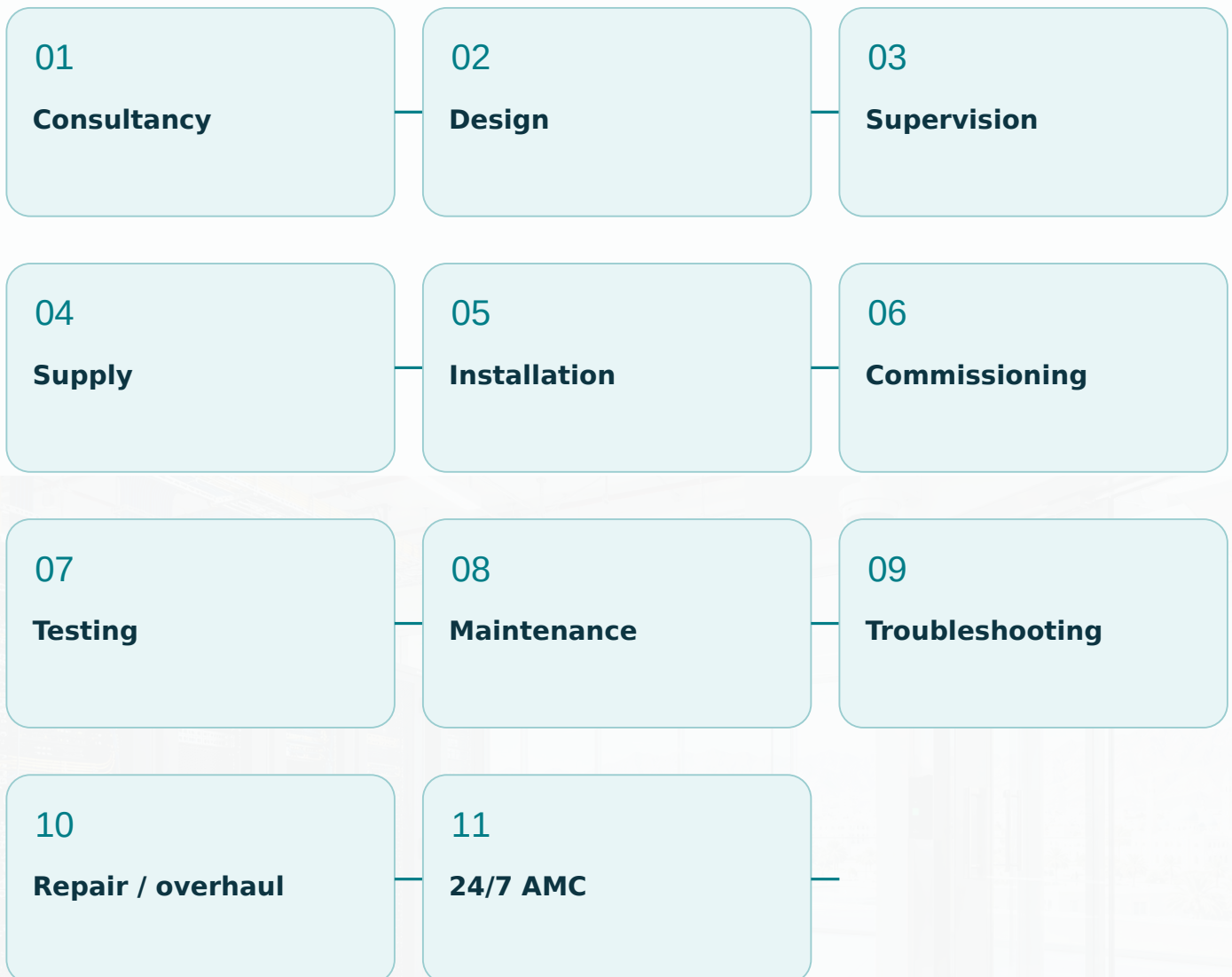
05 **VMS, NVR, recording & software configuration**

06 **Video analytics & integrated security monitoring**

07 **CCTV diagnostics, repair & lifecycle maintenance**

Complete lifecycle scope

Cctv & Video



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.

Security planning, surveys & camera design



SERVICES AT A GLANCE

- 01 Site and risk assessment
- 02 Camera coverage planning
- 03 Recording and retention design
- 04 Installation specifications

CCTV is a major RTTR capability. We develop surveillance plans for residential, commercial, industrial and critical facilities, beginning with the security objective and the operator's use of the evidence. Camera quantity alone does not define a useful system: coverage, blind spots, lighting, identification needs, mounting, network capacity and retention must work together.

Scope & delivery

Define the security plan: Map assets, threats, operating hours, controlled zones and the required observation/identification tasks.

Engineer the coverage: Select fields of view, lenses, mounting positions, lighting and practical blind-spot treatment.

Coordinate the system: Develop network, power, storage, control-room and access-control interfaces.

Document acceptance: Define coverage checks, recording/search functions, evidence handling and operator handover.

Project outputs

Security brief; coverage/placement plans; camera schedule; network/storage requirements; BOQ; acceptance and operating plan.

Camera families & equipment supply



SERVICES AT A GLANCE

- 01 Domestic camera supply
- 02 Industrial camera supply
- 03 Lens and environment selection
- 04 Equipment compatibility review

We supply and implement fixed IP cameras, dome/turret/bullet units, PTZ cameras and project-appropriate specialist devices. Selection covers domestic installations and demanding industrial settings, with the lens, sensor performance, lighting, housing, mounting and environmental duty reviewed against the scene. Camera, recorder and management-platform compatibility is checked before procurement.

Scope & delivery

Match the device to the scene: Review distance, lighting, movement, viewing task and environmental exposure.

Select the system components: Specify cameras, lenses, mounts, housings, power supplies and recording equipment.

Validate compatibility: Check supported functions, platform/device versions and applicable interface requirements.

Control the supply: Review submissions, delivered equipment, identification, warranties and spares.

Project outputs

Camera/equipment schedule; compliance review; material submissions; delivery inspections; approved accessories and spare-parts plan.

Residential & commercial CCTV installation



SERVICES AT A GLANCE

- 01 Residential security planning
- 02 Villa and office installation
- 03 Recording setup
- 04 Commissioning and user training

RTTR installs and commissions surveillance for homes, offices, shops, hospitality and shared premises. We coordinate camera placement, discreet routing, device power, networking, recording and the agreed user viewing arrangement. Installation preserves access for maintenance and produces a usable operating system, with customer-approved permissions and retention settings.

Scope & delivery

Survey & coordinate: Review entrances, circulation, coverage priorities, available services and installation constraints.

Install professionally: Mount devices, route cables, terminate connections and confirm stable power/networking.

Configure the operation: Set recording, time synchronization, viewing permissions and approved remote access.

Demonstrate the system: Verify live views, recorded playback, export and customer operating guidance.

Project outputs

Installed/configured system; camera views; functional test records; credential handover; operating guide and maintenance recommendations.

Industrial & critical-facility surveillance



SERVICES AT A GLANCE

- 01 Industrial site surveys
- 02 Process and perimeter cameras
- 03 Plant installation
- 04 Environmental duty review

We engineer CCTV for factories, warehouses, utilities, external yards and critical infrastructure. The work considers long viewing distances, variable light, dust/weather exposure, difficult mounting locations and operational continuity. Specialist or industrial-duty camera requirements are defined for the actual environment and approved equipment route, including hazardous-area requirements where the project calls for them.

Scope & delivery

Assess the duty: Review environment, process risks, maintenance access and required evidence quality.

Develop the placement: Coordinate fixed/PTZ coverage, mounting structures, external pathways and lighting.

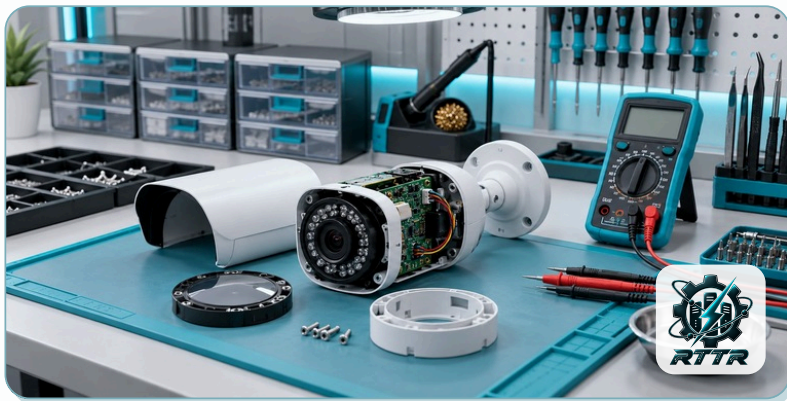
Design continuity: Plan networking, power, recording/storage and operating-state requirements.

Verify field performance: Check relevant day/night scenes, operator tasks and failure/recovery functions within scope.

Project outputs

Industrial surveillance design; approved equipment/placement package; site inspections; scene/functional verification and operating records.

VMS, NVR, recording & software configuration



SERVICES AT A GLANCE

- 01 VMS/NVR configuration
- 02 Recording and user permissions
- 03 Remote viewing setup
- 04 Backups and integration

RTTR configures video-management software, recorders, storage and operating workstations as one coordinated platform. We set up cameras, channels, recording profiles, users, permissions, alarms, search and evidence export against the customer's operating plan. The VMS/NVR capabilities already described on our website form the basis of this scope; final software, device versions, licenses and supported integrations are agreed for the actual project.

Scope & delivery

Engineer the recording: Review retention, image profiles, stream demand, server/storage duty and recovery needs.

Configure the platform: Enroll devices, organize views, recording schedules, events and role-based permissions.

Validate operator workflows: Test live view, playback, search, export, alarms and the agreed audit functions.

Handover the configuration: Provide backups, license/device records, account responsibilities and user training.

Project outputs

VMS/NVR architecture; recording/storage design; configured accounts/events; functional tests; backups and operator handover.

Video analytics & integrated security monitoring



SERVICES AT A GLANCE

- 01 Video analytics setup
- 02 Alarm and event workflows
- 03 Integrated monitoring
- 04 Scenario testing

We configure project-appropriate analytics and security-event workflows, including detection rules, alarm presentation and links to access-control events where the supported integration permits. Analytics are tuned to the actual camera scene and operating objective. Operator review, test scenarios and the treatment of nuisance events remain part of commissioning so that the system produces useful actions.

Scope & delivery

Define the event: Specify the monitored condition, zone, schedule, operator response and relevant limitations.

Tune the rule: Configure detection areas, thresholds and scene-specific settings supported by the platform.

Coordinate integration: Map camera views, access events, alarm states and the approved monitoring interfaces.

Verify usefulness: Test representative events, review nuisance alarms and document the operating response.

Project outputs

Analytics/event matrix; configured rules; integration mapping; scenario tests; operator response guide and tuning records.

CCTV diagnostics, repair & lifecycle maintenance



SERVICES AT A GLANCE

- 01 Camera fault diagnosis
- 02 Equipment repair
- 03 Preventive servicing
- 04 Maintenance and support

RTTR maintains and troubleshoots cameras, recording systems, software, storage, cabling and network interfaces. Investigations distinguish image/scene problems from power, connectivity, recording, storage and configuration faults. Preventive checks and corrective work are documented, with post-repair verification of the agreed surveillance functions. Support coverage and escalation are defined in the service agreement.

Scope & delivery

Inspect & diagnose: Review views, device health, recording gaps, connection status, alarms and service history.

Maintain the installation: Inspect mounts, cleanliness, cables, power, storage and the agreed software/backup condition.

Repair & restore: Replace approved components, correct settings and verify camera-to-recording operation.

Track the outcome: Update faults, repairs, configurations, test evidence and the preventive action register.

Project outputs

Condition/fault reports; repair records; verified recordings; updated configuration/backups; maintenance schedule and service actions.

Access Control

ICT, Security & Smart Systems



CAPABILITY INDEX

Access Control

01 **Security zoning, permissions & system design**

02 **Readers, doors & BioStar configuration**

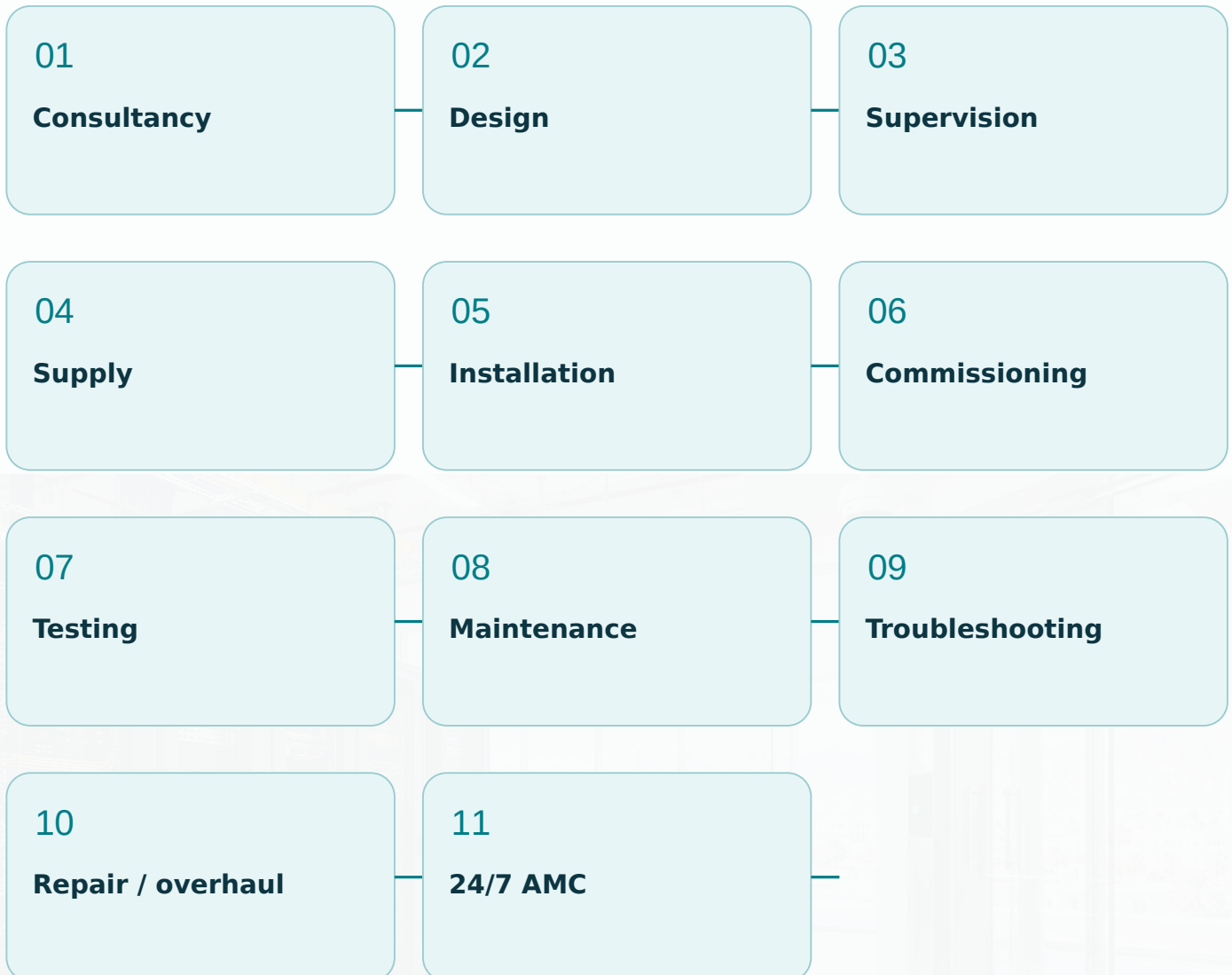
03 **Credentials & combined access policies**

04 **CCTV, visitor & security-system integration**

05 **Installation, repair & 24/7 access support**

Complete lifecycle scope

Access Control



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.

Security zoning, permissions & system design



SERVICES AT A GLANCE

- 01 Security zoning
- 02 User-group permissions
- 03 Door and emergency interfaces
- 04 Access-system design

We design building and room access around the customer's security levels, authorized users, operating times and emergency interfaces. The design connects credentials, controllers, readers, locking hardware and central software with a clear access matrix. New sites and extensions are developed through the same controlled approach, including visitor, contractor and restricted-zone requirements.

Scope & delivery

Define the access levels: Map user groups, rooms, restricted assets, schedules and approval responsibilities.

Engineer the door: Coordinate lock, reader, controller, door status, request-to-exit and emergency interfaces.

Specify the platform: Develop software, network, enrollment, audit and integration requirements.

Agree verification: Define permitted/denied entry, alarm and relevant failure/egress test scenarios.

Project outputs

Access/zone matrix; door schedule; detailed drawings; device/lock BOQ; software and integration specification; acceptance tests.

Readers, doors & BioStar configuration



SERVICES AT A GLANCE

- 01 Reader and lock supply
- 02 Door-controller installation
- 03 Software configuration
- 04 Functional commissioning

RTTR supplies, installs and configures complete access-control systems, including readers, controllers, locking interfaces, networking and management software. Suprema/BioStar platforms referenced on our site support the access-management scope. User enrollment, device configuration, permissions, schedules, alarms and audit workflows are matched to the approved security plan, with model/version and license requirements reviewed before implementation.

Scope & delivery

Coordinate the equipment: Check device, controller, lock, door and power/network interfaces.

Configure BioStar / management software: Set users, credentials, groups, access levels, schedules and supported alarms.

Test the door functions: Verify approved entry/exit behavior, door status, events and emergency interfaces.

Handover the system: Provide device/user records, backups, account responsibilities and administrator training.

Project outputs

Approved hardware/software schedule; configured platform; door tests; user/permission matrix; backups and administration handover.

Credentials & combined access policies



SERVICES AT A GLANCE

- 01 Face and fingerprint access
- 02 PIN and RFID credentials
- 03 Combined access policies
- 04 Enrollment and audit workflows

We implement project-appropriate access methods using face, fingerprint, RFID card, PIN and other supported credentials. Credential combinations and authorization policies are defined for the selected equipment and software, rather than assumed to be available on every device. User lifecycle controls cover enrollment, approval, expiry, revocation and the evidence needed to review access activity.

Scope & delivery

Choose the credential policy: Match authentication methods and combinations to the security level and device support.

Manage the lifecycle: Define enrollment, issuance, expiry, lost credentials and revocation responsibilities.

Configure permissions: Implement group/zone/time restrictions and the agreed approval route.

Validate the outcomes: Test allowed/denied access, credential combinations and meaningful audit records.

Project outputs

Credential policy; enrollment/revocation workflow; permission matrix; configuration and access-test records; audit/reporting guide.

CCTV, visitor & security-system integration



SERVICES AT A GLANCE

- 01 CCTV/access integration
- 02 BioStar configuration
- 03 Alarm and audit monitoring
- 04 Event workflow testing

We connect access events with video and visitor workflows where the selected platforms provide supported integration. This can give an operator the relevant camera context for a door or rack event, relate a visitor approval to a permission window and retain a consistent operational trail. Event mappings, user roles and the response process are defined before interfaces are configured.

Scope & delivery

Define the integrated event: Map doors/racks, cameras, visitor approvals, alarms and responsible operators.

Review platform support: Confirm APIs/connectors, versions, licenses and device/event compatibility.

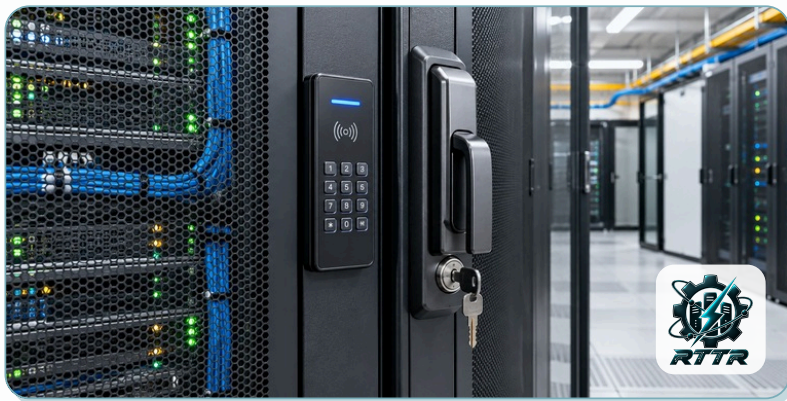
Configure the workflow: Connect approved events, views, schedules, permissions and notifications.

Verify end to end: Test trigger, correlation, response and audit evidence across the connected systems.

Project outputs

Integration/event matrix; interface approval; configured workflows; end-to-end tests; operator response and audit guide.

Installation, repair & 24/7 access support



SERVICES AT A GLANCE

- 01 Installation & commissioning
- 02 Troubleshooting and repair
- 03 Preventive maintenance
- 04 24/7 support agreements

RTTR installs, commissions, troubleshoots, repairs and maintains building and rack access systems. Support covers readers, locks, controllers, door sensors, cables, networks, software and the relevant database/backup condition. 24/7 maintenance can be arranged through a defined agreement covering monitoring responsibilities, escalation, attendance and restoration priorities for the actual site.

Scope & delivery

Deliver the system: Install, configure and test the agreed devices, software and emergency interfaces.

Diagnose the cause: Review permissions, event history, power, communications, locks and sensor condition.

Restore & verify: Repair or replace approved components and re-test the door/rack functions.

Maintain continuously: Schedule preventive work, backups, service records and agreed 24/7 response arrangements.

Project outputs

Installation/commissioning records; diagnostic and repair reports; verified functions; backups; AMC/SLA scope and maintenance register.

Rack Access Control

ICT, Security & Smart Systems



CAPABILITY INDEX

Rack Access Control

01 **Rack-level access architecture**

02 **Rack credentials, locks & combined monitoring**

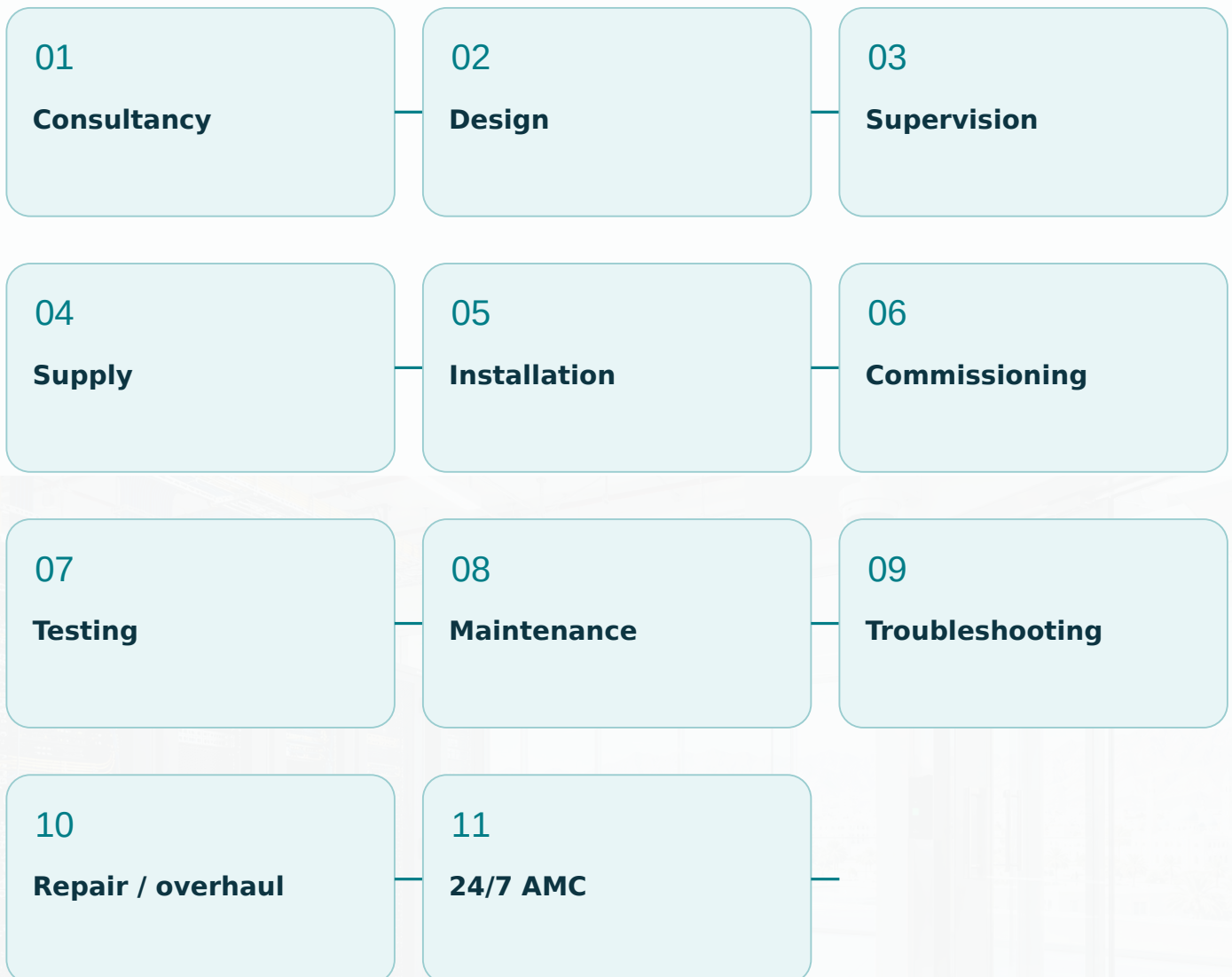
03 **CHD cabinet-lock products & credentials**

04 **IMS9 software, monitoring & audit**

05 **Rack security deployment & 24/7 service**

Complete lifecycle scope

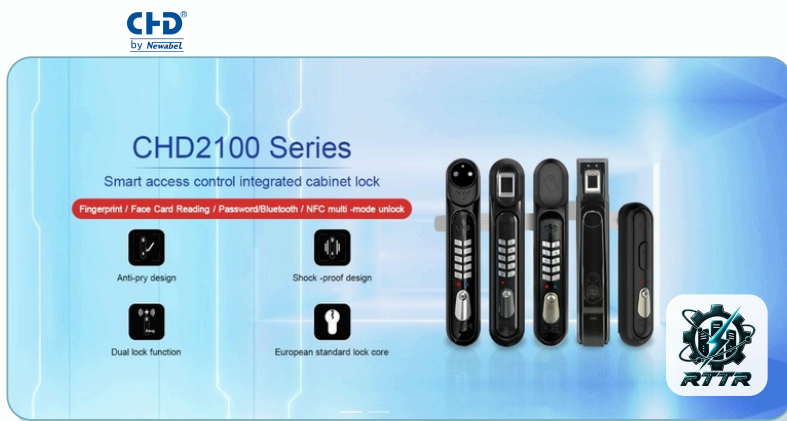
Rack Access Control



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.

Rack-level access architecture



SERVICES AT A GLANCE

- 01 Rack-access design
- 02 Lock and controller supply
- 03 Rack installation
- 04 Monitoring and integration

RTTR designs, supplies and installs rack-access solutions for data centers and technical rooms. Cabinet ownership, tenant separation, front/rear door arrangements, credential policy, door-state monitoring and central event management are coordinated within the rack security architecture. The goal is an identifiable record of who may open which cabinet, under what conditions, and how the event is monitored.

Scope & delivery

Define the rack boundary: Map cabinets, users/tenants, front/rear access and maintenance responsibilities.

Engineer the hardware: Coordinate electronic handles, controllers, sensors, power/networking and mechanical interfaces.

Configure authorization: Develop per-rack groups, time windows and the supported approval/credential rules.

Verify monitoring: Test door state, permitted/denied opening, alerts, audit and approved emergency access.

Project outputs

Rack security design; cabinet/tenant matrix; hardware/connection schedule; authorization rules; tested monitoring and as-built records.

Rack credentials, locks & combined monitoring



CHD Smart Platform Management System
by Newabel IMS9G Smart Platform Management System

SERVICES AT A GLANCE

- 01** Biometric rack access
- 02** RFID and PIN credentials
- 03** Mechanical lock solutions
- 04** Combined access levels

Our rack solutions can use face, fingerprint, RFID, manual PIN and mechanical-key access through the selected hardware arrangement. Combined authentication and cabinet permissions are configured where supported. Mechanical override responsibilities, electronic events, door status and CCTV context are considered together, so the operational record reflects both authorized use and exceptional access.

Scope & delivery

Select the supported solution: Review reader/lock combinations, cabinet fit and required access methods.

Control the mechanical route: Define key custody, override use, inspections and exception records.

Connect the monitoring: Map rack events, door states, alarms and camera context through supported interfaces.

Test the combinations: Verify credentials, per-rack permissions, exceptions and the agreed reporting route.

Project outputs

Credential/lock selection; key/override procedure; event integration map; functional tests; reporting and operating guidance.

CHD cabinet-lock products & credentials



Smart Bluetooth Code Hanging Lock

IP66 level, effectively prevent rain and dust

Anti-plug unlock patent technology, effectively prevent illegal unlocking



Bluetooth function



Dynamic password



Nearly awakening



Ultra-low power consumption



SERVICES AT A GLANCE

- 01 CHD2100 cabinet locks
- 02 Mechanical key
- 03 RFID card and PIN/password
- 04 Biometric options

RTTR supplies CHD by Newabel rack-access solutions. The CHD2100 cabinet-lock family provides electronic access at the cabinet itself. We select the lock, reader, controller and accessories around the cabinet cut-out, front/rear doors and customer access policy. Products and authentication combinations are confirmed against the selected model before quotation.

Scope & delivery

CHD2100 cabinet locks: Electronic cabinet handles for front/rear rack doors. The documented CHD2100-J5A combines card reader, controller and lock, with card access and mechanical-key opening; RS485 networking is specified.

Mechanical key: Physical-key override with controlled custody and emergency-access procedure.

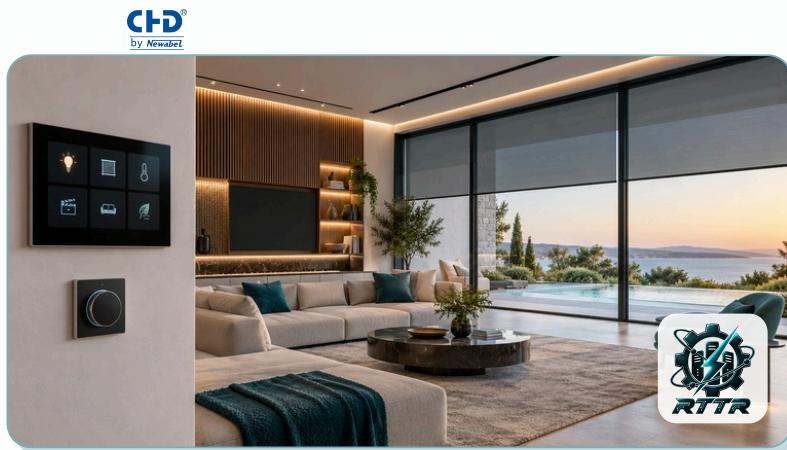
RFID card and PIN/password: Card and keypad options, including combined verification where supported.

Biometric options: Fingerprint, face and Bluetooth/NFC options in supported lock/reader families; the model-specific list defines the actual methods.

Project outputs

Equipment and software schedule; credential matrix; installation and test records; operator training; backup and support plan.

IMS9 software, monitoring & audit



SERVICES AT A GLANCE

- 01 Users and permissions
- 02 Status and events
- 03 Audit and reporting
- 04 Integration and acceptance

Rack access control includes management software as well as locks. RTTR provides the compatible CHD IMS9 management platform as part of the selected solution, including installation, database setup, user enrollment, device mapping and permissions. Operators can manage the cabinet-security layer centrally through the functions supported by the supplied software version and licenses.

Scope & delivery

Users and permissions: Define users/groups, cabinet assignments and supported access schedules.

Status and events: Monitor available device/door states, access events and alarm indications.

Audit and reporting: Review access history and supported reports; define retention and backup.

Integration and acceptance: Confirm supported interfaces and licenses; test events, permissions and recovery before handover.

Project outputs

Equipment and software schedule; credential matrix; installation and test records; operator training; backup and support plan.

Rack security deployment & 24/7 service



SERVICES AT A GLANCE

- 01 Engineer and supply
- 02 Install and configure
- 03 Test and hand over
- 04 Maintain and restore

RTTR delivers the complete rack-security package: consultancy, design, supervision, supply, installation, software configuration, commissioning and testing, followed by maintenance, diagnosis, repair and contracted 24/7 service. We combine cabinet hardware, credentials and software into a tested system with a clear cabinet-to-user permission matrix.

Scope & delivery

Engineer and supply: Survey cabinet dimensions, select compatible handles/controllers and issue drawings and BOQ.

Install and configure: Fit locks and sensors, route power/data, configure software and enroll approved credentials.

Test and hand over: Prove granted/denied access, door state, supported alarms, override and audit records; train operators.

Maintain and restore: Preventive checks, permission reviews, backups, fault diagnosis, repairs and agreed 24/7 escalation.

Project outputs

Equipment and software schedule; credential matrix; installation and test records; operator training; backup and support plan.

Smart Systems

ICT, Security & Smart Systems



CAPABILITY INDEX

Smart Systems

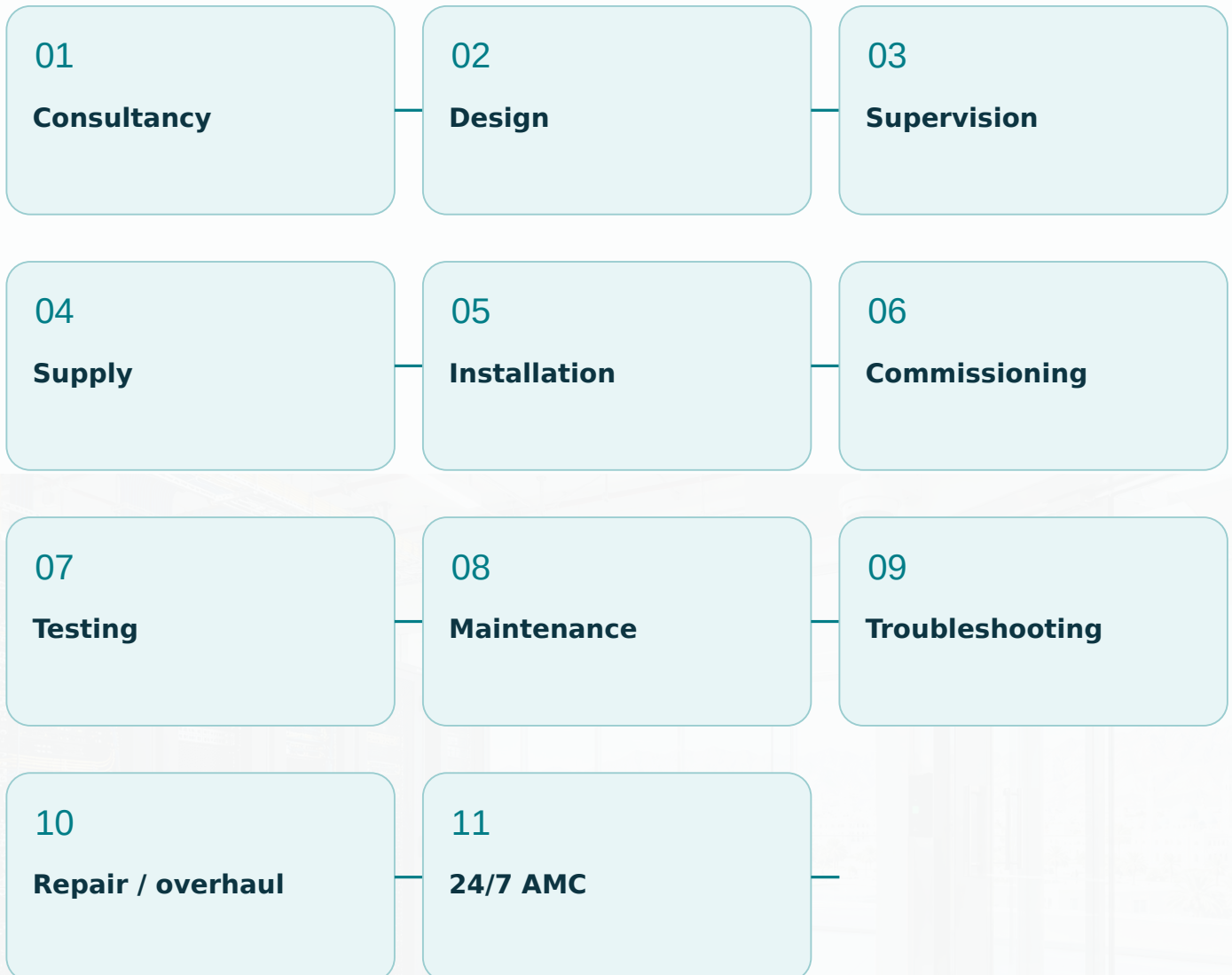
01 **Smart homes & connected building controls**

02 **BMS, Niagara & system integration**

03 **Monitoring, automation & lifecycle care**

Complete lifecycle scope

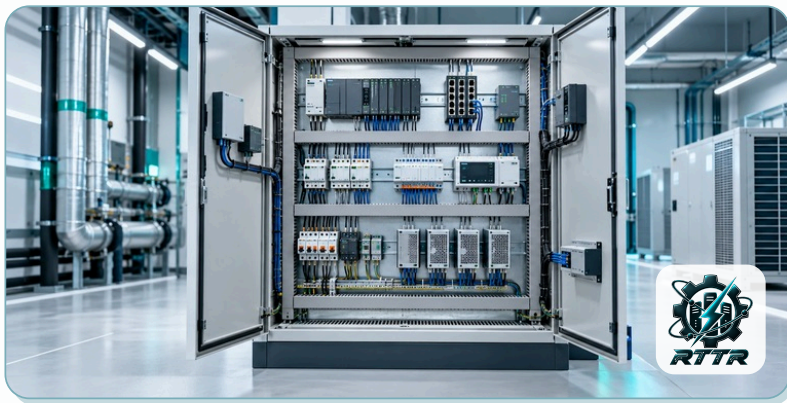
Smart Systems



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.

Smart homes & connected building controls



SERVICES AT A GLANCE

- 01 Smart-home design
- 02 Lighting and climate controls
- 03 Device supply & installation
- 04 Scene programming

We design and implement connected control solutions for residential and commercial environments. Lighting, shades, climate, monitoring and supported security interfaces are developed around the customer's daily use, preferred control method and equipment ecosystem. Device selection, cabling, control logic, user scenes and maintenance access are coordinated rather than delivered as disconnected gadgets.

Scope & delivery

Define the use cases: Agree daily scenes, occupants, schedules, local control and supported remote functions.

Engineer the controls: Coordinate devices, networks, wiring, interfaces and operating sequences.

Configure & commission: Set scenes, schedules, permissions and relevant failure/recovery behavior.

Support the customer: Provide training, records, backups and a practical maintenance/upgrade route.

Project outputs

Control brief; device/interface schedule; scenes/sequences; commissioned functions; backups and customer operating guide.

BMS, Niagara & system integration



SERVICES AT A GLANCE

- 01 BMS and Niagara integration
- 02 Equipment monitoring
- 03 Alarm and trend configuration
- 04 Control-sequence testing

RTTR integrates building and technical systems through the project-approved controls and management architecture. Niagara Framework, Sunbird DCIM and BMS platforms referenced on our site provide context for the connected facility scope. The selected platform and supported drivers/APIs determine which points, alarms, histories, schedules and operational views can be implemented.

Scope & delivery

Map the systems: Review equipment interfaces, point lists, existing controls and customer operating requirements.

Engineer the integration: Define approved drivers/APIs, naming, data mapping and network responsibilities.

Configure the operation: Develop graphics, alarms, histories, schedules and supported control functions.

Test the interfaces: Verify point meaning, events, operating scenarios and handover records.

Project outputs

Integration architecture; point/interface register; configured graphics/events; scenario test results; backups and operator handover.

Monitoring, automation & lifecycle care



SERVICES AT A GLANCE

- 01 Controller and gateway supply
- 02 Field installation
- 03 System integration
- 04 Maintenance and upgrades

We provide monitoring and automation work packages that connect sensors, meters, controllers, networks and management interfaces. Site verification ensures that the displayed data reflects the actual device and operating condition. Maintenance can address defective sensors, incorrect mapping, communication faults, control settings and application/database issues, with controlled changes and re-verification.

Scope & delivery

Establish the baseline: Confirm device identity, point mapping, units, schedules and operating conditions.

Develop the functions: Configure monitoring, alarms, trends and the agreed automation sequence.

Diagnose & correct: Investigate field devices, communications, mapping and control/application settings.

Preserve operability: Retain backups, change logs, verified results and periodic maintenance actions.

Project outputs

Point-validation records; monitoring/control configuration; fault corrections; tested results; change and maintenance registers.

Custom Applications

ICT, Security & Smart Systems



CAPABILITY INDEX

Custom Applications

01 **Requirements, workflow & product design**

02 **Custom web, mobile & operational software**

03 **AI-enabled & customer-specific intelligence**

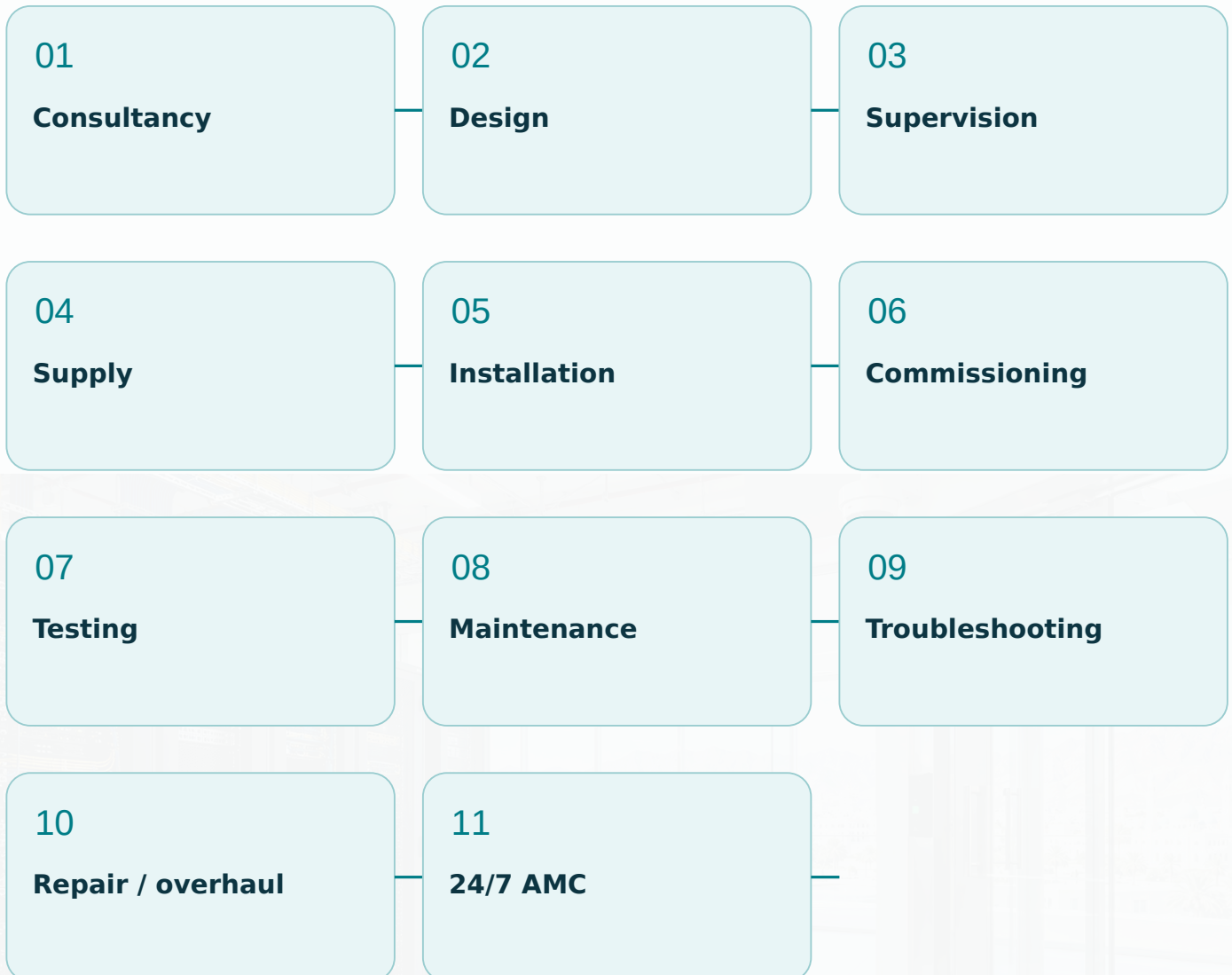
04 **Databases, APIs & integration**

05 **Roles, dashboards & management workflows**

06 **Testing, deployment & application maintenance**

Complete lifecycle scope

Custom Applications



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.

Requirements, workflow & product design



SERVICES AT A GLANCE

- 01 Requirements discovery
- 02 User and workflow design
- 03 Prototype development
- 04 Delivery and acceptance plan

RTTR develops custom applications around the customer's actual work. We start with users, decisions, inputs, approvals, calculations and reporting needs, then define the product workflow and interface. Our engineering, maintenance and project-management experience helps connect the software with the operating process rather than producing a dashboard without a usable work route.

Scope & delivery

Discover the process: Interview users and map current work, pain points, data and decision responsibilities.

Define the product: Specify functions, roles, calculations, approvals, notifications and reporting.

Design the interface: Develop layouts, navigation, input rules and practical user journeys.

Agree acceptance: Set scope boundaries, priority releases, test cases and measurable completion criteria.

Project outputs

Requirements/workflow specification; user roles; interface prototype; data/calculation rules; release and acceptance plan.

Custom web, mobile & operational software



SERVICES AT A GLANCE

- 01 Custom application development
- 02 Databases and dashboards
- 03 Role-based interfaces
- 04 Testing and deployment

We build customer-specific software for business, household, industrial and data-center applications. Web and mobile interfaces, databases, management dashboards, approvals and reporting are developed to the agreed requirement. Solutions can support a focused tool or a broader platform, with hosting, deployment, user access and maintenance responsibilities defined for the chosen operating model.

Scope & delivery

Build the core: Develop interfaces, data structures, business rules and the approved user functions.

Connect the workflow: Implement approvals, tasks, records, notifications and reporting where scoped.

Support different environments: Plan responsive devices and the agreed cloud/on-premise deployment route.

Maintain the product: Provide documented releases, configuration, backups and an agreed support roadmap.

Project outputs

Application build; database/configuration package; responsive interfaces; release records; deployment and maintenance documentation.

AI-enabled & customer-specific intelligence



SERVICES AT A GLANCE

- 01 AI-enabled application design
- 02 Data and model integration
- 03 Decision-support workflows
- 04 Human review and validation

RTTR can develop AI-enabled applications and analytics layers tailored to the customer's data and work objective. The scope may include assisted analysis, event prioritization, document workflows or operational insights where the use case is suitable. We define the available data, desired outputs, evaluation method and human review before selecting the implementation, and test the product against representative customer scenarios.

Scope & delivery

Qualify the use case: Assess data availability, user purpose, limits and required human decisions.

Develop the solution: Build the agreed model/service connection, interface and operational workflow.

Evaluate performance: Test representative cases, incorrect outputs and the agreed quality measures.

Operate with control: Define review, logging, data access and the maintenance/change process.

Project outputs

Use-case brief; AI/application workflow; evaluation results; review/logging configuration; operating and improvement plan.

Databases, APIs & integration



SERVICES AT A GLANCE

- 01 Software and data integration
- 02 API and database interfaces
- 03 Access and audit controls
- 04 Integration testing

We connect custom applications with approved data sources and third-party systems through the supported interface route. Integration starts with data meaning, ownership, identifiers, permissions and synchronization requirements. Interfaces are tested for both successful transactions and relevant exception conditions so that the product can be maintained when devices, services or source records change.

Scope & delivery

Define the data model: Establish records, identifiers, relationships, ownership and validation rules.

Engineer the interface: Confirm APIs/connectors, authentication, mappings and synchronization responsibilities.

Handle exceptions: Develop agreed validation, retry/error reporting and reconciliation behavior.

Verify & document: Test interfaces, retain mapping/configuration records and explain operating responsibilities.

Project outputs

Data dictionary/model; API/interface mapping; configuration; transaction/exception tests; integration and support documentation.

Roles, dashboards & management workflows



SERVICES AT A GLANCE

- 01 Operational workflow tools
- 02 Project and service dashboards
- 03 Approval and task processes
- 04 Reporting customization

RTTR builds role-based operational tools that connect data entry with approval, action and reporting. A dashboard can summarize budget, maintenance, visitor, project or vehicle records, but the underlying workflow defines who creates, verifies, approves and closes each item. Access levels, audit history, practical reports and export requirements are agreed for the customer's actual management process.

Scope & delivery

Define the roles: Map user groups, responsibilities, approval authority and permitted data views.

Build the actions: Configure forms, tasks, status changes, notifications and escalation rules.

Make reporting useful: Develop summaries, trends, filters, exports and agreed management measures.

Verify control: Test permission boundaries, approval routes and audit records against representative work.

Project outputs

Role/permission matrix; configured workflows/forms; dashboards/reports; approval tests; user training and operating guide.

Testing, deployment & application maintenance



SERVICES AT A GLANCE

- 01 Application testing
- 02 Deployment and training
- 03 Defect correction
- 04 Support and future development

We validate applications through agreed functional tests, user acceptance and the relevant data/access checks before release. Deployment connects the application, database, configuration and operating environment with a defined backup and support route. Later changes are managed as controlled releases, with testing, documentation and an agreed restoration approach rather than undocumented edits to an operating product.

Scope & delivery

Test the requirement: Execute functional, permission, data-validation and relevant device/interface cases.

Complete acceptance: Record user findings, fix defects and confirm the agreed release criteria.

Deploy with preparation: Establish environments, configuration, migration, backups and restoration responsibilities.

Support the lifecycle: Monitor agreed issues, release fixes/upgrades and retain useful technical/user documentation.

Project outputs

Test/UAT records; release package; deployment/configuration guide; backups/restoration plan; support and change register.

Applications already developed by RTTR

Five practical examples from our software work



SERVICES AT A GLANCE

- 01 Household budget and expense control.
- 02 Data-center visitor management.
- 03 Data-center AMC management.
- 04 Project control and management applications.
- 05 Vehicle expenses, maintenance and repair control.

The following applications have been developed by RTTR. They illustrate how we translate everyday and operational processes into customer-specific tools; functions can be expanded or customized for the next assignment.

Household budget and expense control.

A tool for organizing home spending, budgets and expense records, giving the user a practical basis for reviewing costs.

Data-center visitor management. A visitor-management application supporting the recording and management of data-center visitor activity.

Data-center AMC management. An application for organizing maintenance-related work, records and follow-up within data-center AMC activity.

Project control and management applications. Tools developed for organizing project information, control and management tasks according to the required workflow.

Vehicle expenses, maintenance and repair control. An application for managing vehicle-related costs and maintenance/repair records.

Delivery, commissioning & support

One route across physical systems and software



SERVICES AT A GLANCE

- 01 01 | Understand.
- 02 02 | Engineer.
- 03 03 | Supply and implement.
- 04 04 | Verify.
- 05 05 | Handover and support.

01 | Understand. Gather requirements, survey the site/process and agree the security, connectivity or application objective.

02 | Engineer. Develop the architecture, drawings, equipment/interface schedules, software workflows and acceptance criteria.

03 | Supply and implement. Coordinate approved equipment, installation, configuration, programming and project interfaces.

04 | Verify. Test links, scenes, credentials, integrations or application functions against the agreed scenarios; resolve defects.

05 | Handover and support. Deliver the agreed records, backups, training and maintenance route, with controlled changes thereafter.

Engagement options

Consultancy/design, equipment supply, installation and commissioning, software configuration, custom development, integrated delivery, repair or maintenance can be commissioned as defined work packages. 24/7 access-system support is established through a service agreement specifying coverage, responsibilities, escalation and response arrangements.

Software platforms & technical resources

Existing RTTR capabilities with project-specific compatibility

Video management / recording. VMS and NVR capabilities on our website cover recording, viewing, search, storage and permissions. The actual platform/version, licenses and device support are confirmed during design.

Suprema / BioStar. Our site references BioStar access management for users, credentials, permissions and events. Supported integrations are reviewed for the selected release and devices.

Niagara Framework. The RTTR site references Niagara for connected building and technical-system integration.

Sunbird DCIM / BMS. These existing site capabilities provide the critical-facility monitoring context; interfaces are assessed within the project scope.

[BioStar access-control resource ↗](#)

[Niagara Framework resource ↗](#)

[ONVIF interoperability profiles ↗](#)

Company facts and services draw on the supplied company catalogue, existing RTTR site and the approved project brief. Platform names describe technical scope, not a new claim of official representation.

SERVICES AT A GLANCE

- 01 Video management / recording.
- 02 Suprema / BioStar.
- 03 Niagara Framework.
- 04 Sunbird DCIM / BMS.

01 Design

02 Supply

03 Commissioning

04 Support

Define your project requirement

Send the information available; we can develop the scope

Network projects. Send site layouts, user/device requirements, available cabling/room records, current topology and the intended growth or fault issue.

CCTV. Share the facility, security priorities, existing cameras/recorders, coverage concerns, retention requirements and operating constraints.

Access and rack security. Provide door/rack lists, security levels, user groups, credential preferences, existing equipment and required monitoring/support coverage.

Smart systems. Include device/point information, existing controls, the desired operating functions and integration requirements.

Custom applications. Explain the process, users, current records, approvals, reporting needs and the product you want to build.

RTTR Engineering Group

Muscat, Sultanate of Oman

info@rttrco.com • info@rttrco.com

[Discuss your project ↗](#)

SERVICES AT A GLANCE

- 01 Network projects.
- 02 CCTV.
- 03 Access and rack security.
- 04 Smart systems.
- 05 Custom applications.

01 Design

02 Supply

03 Commissioning

04 Support



Connected. Secure. Built around you.

RTTR Engineering Group • Muscat, Oman

From a fiber link or a security door to an integrated platform or custom application, RTTR connects engineering decisions with practical delivery and long-term operation.

Start the technical conversation

rttrco.com/contact/ ↗

info@rttrco.com ↗

Engineering and software photographs in this profile are conceptual illustrations created for RTTR. They are not presented as photographs of completed projects or screenshots of the developed applications.

Final scope, supported functions, supply route, service levels and commercial commitments are set out in the project quotation or service agreement.

SERVICES AT A GLANCE

01 Start the technical conversation

01 Design

02 Supply

03 Commissioning

04 Support