

	Crown Commercial Service G-Cloud 15 Reference Number RM 1557.15	Supporting Documentation
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RISK MANAGEMENT SYSTEM

SERVICE DEFINITION

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1 Introduction

The service is offered by EUROPEAN DYNAMICS (<https://www.eurodyn.com>). The EUROPEAN DYNAMICS group of companies (ED) is a leading Information Technology and Telecommunications services provider with a long involvement in the delivery of IT projects and the provision of IT support services for European Institutions and other international and government organizations in the EU and worldwide. ED is headquartered in Luxembourg, with branch offices in Athens (Greece), Brussels (Belgium), London (UK), Basel (Switzerland), Berlin (Germany), Vienna (Austria) and The Hague (the Netherlands). EUROPEAN DYNAMICS UK LTD belongs to the ED group and offers all ED services in the UK in collaboration with other ED companies. All companies in the group share resources, management and infrastructure, ensuring a common customer interface.

1.1 Definition of RMS

The Risk Management System (RMS) is a flexible tool enabling public authorities to implement a systematic process to stimulate compliance and prevent (and/or treat) the risk of non-compliance, including risk of fraud, the risk of insolvency by the citizens and any other risk which appears to threaten the authority's objectives.

RMS serves currently the needs of Customs and Taxation authorities and is available in different customised versions, to meet the needs of a wide range of Public Authorities (e.g. Social Security authorities) that deal with the public and seek actively for compliance and risk management.

The Customs' flavour of RMS (RMS Customs) is fully aware of the Customs business domain and is fully compliant with the EU Risk Management Framework requirements. Similarly, the Taxation flavour of RMS (RMS Taxation) is aware of the basic Taxation and Revenue entities and concepts.

With its unique approach to Tax Authority operations, RMS covers all the major business processes and business flows. It allows, but does not enforce, a common harmonised model for risk management and compliance processes of a Taxation authority; it supports the decision making process and can be integrated seamlessly with external case management systems.

More specifically the RMS Taxation tool:

- enables a common harmonised model for risk management and compliance processes of a Taxation authority;
- identifies tax returns that justify further investigation;
- integrates into the Taxation business flow;
- supports the decision making process of Tax authorities;
- can be Integrated directly with any CMS (Case Management System); and
- provides flexible facilities for specifying the necessary measures to limit the likelihood of risk occurring (formal risk criteria, random selection and weight-based selection of taxpayers)

RMS Taxation provides Tax authorities with strategies and structures that ensure that non-compliance is kept to the minimum possible. RMS enables Tax authorities to detect high-risk taxpayers' behaviours. It also provides valuable data to Tax Analysts to assist them in farther investigate their cases.

1.2 RMS Highlights

The highlights of the RMS tool are presented below.

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- **General-purpose module:** It is available customised for a wide array of business domains. Among others, RMS is currently customised for the Customs and Taxation business domains.
- **Accountability:** Full version control of results, risk criteria, information sources and operator actions, including manual overriding of auto results.
- **Monitoring and auditing of actions:** The user is able to manage the result sets produced from the automatic evaluation. The performed actions are captured and audited into the system.
- **Traceability:** RMS verifies the history, location, or application of an item by means of providing documented recorded identification.
 - ◇ Results, risk criteria, dynamic registries, and operator actions are auditable / version controlled, i.e. accountable.
 - ◇ Immutability of automated results – system produced results cannot be changed.
 - ◇ Manual override of results with full auditing / versioning.
- **User-defined Risk Criteria drive in Risk Control Indicators:**
 - ◇ Easy, human-friendly, and efficient compilation of logic involved.
 - ◇ Completely user-defined, loosely coupled with proprietary in-house customs IT systems.
 - ◇ Adaptable to new requirements or amendments.
 - ◇ Natural language oriented rule-based and /or algorithmic system while the combination of both is supported.
 - ◇ Allows for “What if” scenarios.
 - ◇ Near real-time evaluation of risk indicators (< 0.1 sec /good item).
- **Information Sources:**
 - ◇ Current returns (Declarations)
 - ◇ Previous returns (Declarations)
 - ◇ Reference data (building codes, county codes, public holidays, etc.)
 - ◇ External system registries
 - ◇ Completely user-defined data sources
 - ◇ User defined registries, user customised structures allows the capturing of variable information
 - ◇ Basic maintenance (import/export, add/edit/delete, print, search etc.)
 - ◇ No artificial limits
- **Multiple Risk Analysis execution schedules:**
 - ◇ Automatic, under configurable business conditions, e.g. upon declaration (Tax Return) submission, on payments due dates, etc.
 - ◇ On-demand officer requests for an ad hoc risk assessment.
 - ◇ In batch mode in predefined intervals, e.g., weekly.
 - ◇ On demand and on historical data.

2 Description of the Service

2.1 Architecture and Workflow

RMS is designed by EUROPEAN DYNAMICS (ED) to treat risk management as an interactive process with information continuously updated, analysed, acted upon and reviewed. In this document, we present RMS focusing on the RMS Taxation flavour.

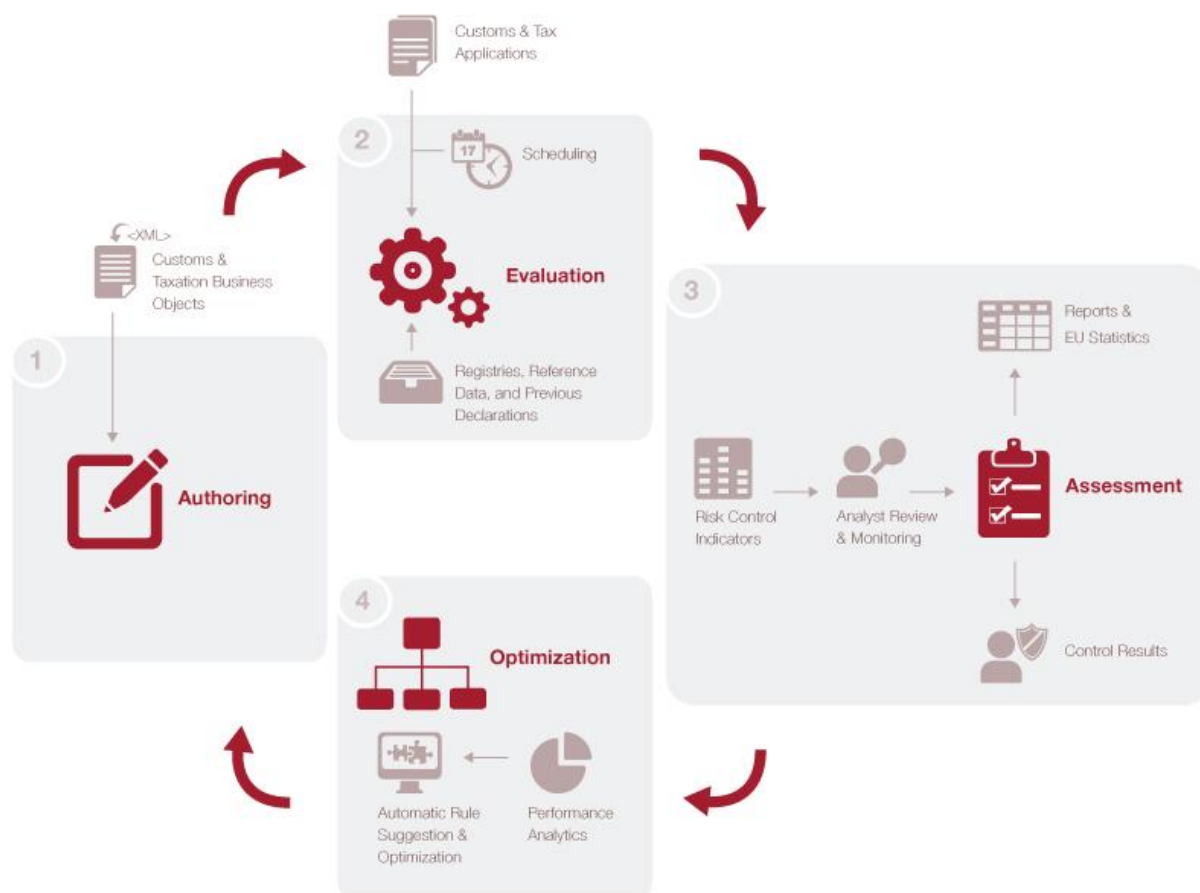


Figure 1: RMS architecture and workflow

RMS consists of four components:

- **Authoring:** A complete point and click graphical environment that allows a user to author rules through the use of structured, non-technical expression of logical interactions between the “Business Objects” identifying cases that deserve further investigation.
- **Evaluation:** The process of applying rules onto incoming or existing data to produce “Risk Control Indicators” that depict the likelihood of risks occurring for the incoming data, together with the identified risks and a suggestion for further actions.
- **Assessment:** The process of reviewing and overwriting risk results, resulting in the final Risk Assessment along with any directions to human operators that a supervising Tax Officer could provide for a specific case.

- **Optimisation:** Using data mining and predictive modelling techniques, RMS evaluates the automatic results (Risk Assessment and Control Directions) issued by the system against the actual control results issued by the supervising Tax Officer and suggests new rules and improvements (optimisations) on the active rules.

2.2 RMS Infrastructure

Business rules definition is facilitated through an AJAX based web interface, which uses a simple natural language-like interface and allows business analysts to express all needed decisions using familiar domain-specific terms. Business decisions are codified in sequences of simple rules that can be interconnected. Business decisions are based on the most current data available to the application with special care taken for cases needing to access historical data. Rules can be applied to one or more statically defined business process points or can be conditionally triggered according to current data (rules introspection). The dynamic nature of the Rule Based Automation module and ultra-fast execution makes it realistic to employ dynamic rule-based decisions in all aspects of business processes.

Using the easy AJAX-based web interface of the Rule Based Automation module, business rules can be updated and kept current with the minimum of fuzz. Administrative decisions can be quickly transformed into computer processes enabling rapid adaptation to legal requirements or other administrative resolutions.

Exploiting extensible data integration facilities allows the Rule Based Automation module to consult data from disparate systems and to include them in the decision making process. Built-in functionality for accessing historic data allows the business analyst to formulate rules that take into account current as well as past behaviours of subjects, enabling a very constructive approach in business decision definitions. Predictive analysis of historic data allows the system to formulate runtime estimation and prioritises rule execution so that overall system performance is not hurt during excessive historic data processing.

The Rule Based Automation module is based on a full version control system that is explicitly bound to the decision making process. Consequently, for every decision taken by the system, the exact rule version number is kept along with all relevant data used to arrive at that decision. This crucial feature allows for transparency as complete justification of all decisions reached by the system is maintained and can be examined by any auditor, external or internal.

New rules can be deployed anytime without requiring any kind of service restart and without any downtime.

2.3 Resources – Dynamic Registries

The inherent dynamic nature of RMS allows for on-the-fly definition of arbitrary data sources, e.g. intelligence, and the near instantaneous exploitation of them. Using Dynamic Registries as a flexible data structure, the RMS module caters for unforeseen circumstances. Combined with the ease in defining Risk Criteria, these data sources can be put into action at the moment they are known.

The RMS module allows the definition of Dynamic Registries through a user friendly and intuitive interface without the need for development support. Once a Dynamic Registry is created, it is available to be used in the Rule Authoring environment. Using the mechanisms of Dynamic Registries, it is possible to integrate into the RMS any number of external ad-hoc or predefined parameters to be used throughout the Risk Assessment process.

Furthermore, external data sources can be easily accommodated through the provided functionality of importing arbitrary excel files which can be manipulated on the fly and incorporated into the web application at real time.

2.4 Business Domain Objects (BDO)

Message flows and various data entities have been dissected and are presented to the user through familiar names without requiring understanding of the technical nuisances involved. Declarations, Tax Returns, information sources, imported data from external systems, etc., along with the relevant historic views are presented through the notion of Business Domain Objects (BDO). BDO integrates all data that can be handled by RMS into a unified and familiar view of the underlying message-based infrastructure.

Using the BDO representation of the data fields the RMS module provides the ability of creation complex rule and queries without need of technical experience and IT expertise.

2.5 Rules

Rules are structured, non-technical expression of logical interactions between the Business Objects identifying Tax Authorities' data that deserve further investigation. A rule allows users to perform complex queries with specific criteria combining BDOs and providing a suggestion for further control. Each rule has Rule Identification, Rule Area, Rule Description, Rule Weight etc.

Risk Category is a means of grouping rules. Rules contained in a specific category are evaluated as a group and the produced result sets are a product of the combination of two or more rules.

The RMS service provides a special Risk Category, "Test Category" which is used for the testing of Rules, using production data. The result set that is produced from the testing process are ignored by the system (test mode).

Risk Profiles are objects with a specific data structure, which contains a number of user-defined parameters. Those parameters are evaluated against the input data and define which Risk Categories should be evaluated.

2.6 Rule Authoring and Management

Using RMS Rule Based Automation module's flexible web-based user interface, business analysts can define complex criteria for categorising domain information into appropriate risk categories. RMS puts the user into the driver seat being able to accommodate complete user defined risk categories, executing "what if" scenarios and even provide for staging areas to test new rules and criteria.

The decision-making process can be based on a combination of current and previous data sets collected from every application that the RMS Core Services provide connectivity and user-defined ad hoc data. By unifying all these disparate data sources and by providing a simple interface to combine them the RMS module empowers the user and allows him to focus on the actual risk identification process rather than spending valuable time and resources on low-level data manipulation.

Using a full version control system, the complete history of the classifications made at a point in time is stored along with the rules that were used to arrive at each conclusion and all relevant data.

Previous versions of rules can be re-instated and be put into use. Combining these features with the special staging areas, allows for parallel execution of multiple rule versions and comparison of results leading to informed decisions about the best approach to use. History management of information covers both system-supplied data as well as all user defined ad hoc data that were used at the time of consultation.

2.7 Risk Evaluation

RMS provides a number of diverse techniques (evaluations) in order to identify risk. The evaluation process takes into account both the data from third party sources and the declarations that have already been evaluated. Such techniques include:

- **Random Selection.** This is a procedure to identify cases for further analysis based on random sampling or stratified random selection.
- **Rule Based Criteria.** The RMS Rule Based Automation module allows writing complex criteria with “what if” scenarios. Rule-based criteria allow researchers to test their compliance theories using the test category where the results are available only for test purposes.
- **Weight-Based.** Weight based evaluation is an algorithmic procedure that assesses the risk factor of available data based on a pre-defined weighted set of risk objects. In essence, a risk score is computed by comparing entities contained in a specific case against a pre-defined list of risk objects. Each instance of a Risk Object has a predefined weight. The Risk Objects are used to screen all items by separating them into high-, medium-, and low-risk groups. For each item the system calculates a total risk score. The adherent risk values are used to calculate a risk score that takes into account weighted preferences regarding their respective importance. A single Risk Object can be assigned the special role of having the controlling weight with the greater impact in computing the final risk score.

2.8 Risk Assessment and Management

The user may review and overwrite the results of the evaluation, resulting in the Final Risk Assessment together with optional further directions for any actions that may need to be undertaken by human operators.

The user has complete control over the final results. The system provides integration with control types. In addition, RMS supports the decision making process providing full access to all participating data (rules, dynamic registries, declaration data, etc.). RMS keeps history of every change on the automatic results and the manual adjustments (tracking).

3 Service Definition

3.1 On Boarding / Off Boarding

3.1.1 On Boarding

RMS is configured, adapted and in cases extended in order to support the specific needs of each Customer, addressing amongst others specific legislative requirements, differentiated procedures, and unique data necessities. Such configurations and adaptations can range from simplistic changes (e.g. different GUI colours) to quite complex ones (e.g. integration with a client-specific external service). To pin-point and conclude the exact configurations and adaptations to be performed on RMS for each particular user, ED has developed through the years a very productive adaptation/customisation process for RMS. The core steps of this process for configuring RMS to the specific Customer needs comprise:

- Upon contract award or purchase order we immediately make available to the Customer the default RMS service for experimentation with full access to the corresponding documentation.
- Shortly after contract award, ED organises a face-to-face kick-off meeting with the Customer.

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- During the kick-off meeting, apart from discussing project management/organisation aspects, a long-enough period of at least one day is dedicated to the in-depth demonstration of the default operation of RMS, so that specific discussion takes place on particular RMS operations requiring Customer-specific configuration. This exercise results to specific deviations from the default RMS system operation.
- After the kick-off, all findings and decisions are summarised in the kick-off meeting minutes, while further (remote) analysis may be completed before concluding the configuration specifications.
- One of the important tasks is the identification of the major technical structures, upon which RMS will operate and their mapping into user understandable entities (Business Domain Objects).
- All final specifications for the RMS configurations are documented in the “Configuration Specifications” deliverable, which is subject to thorough review by all Stakeholders for its approval.
- Upon approving and finalisation of the specifications, ED commences the RMS configuration work for the delivery of the particular RMS instance, fully configured to function in line with the specific Customer needs.

The configuration of any client-specific deviations requires time exclusively dependant on the magnitude of deviations requested to be performed. Typically, the period for such client-specific configurations ranges from 2 weeks to 4 months. Then, factory acceptance testing, installation and user acceptance testing is required before the system is accepted for operation.

The timing of the complete process is agreed with the Customer as part of the outcomes of the kick-off meeting. In parallel to customisation activities, we offer additional support services to the Customer including hands-on, classroom or remote training on the platform. It may also include the migration of data, should this be required for the Customer.

Immediately after the deployment of the services in the production environment the Service Provider will be responsible for performing the following operations:

- Monitoring (collection of key performance indicators) and Reporting of services to help identifying problems or delays and taking the appropriate countermeasures as soon as possible.
- Managing the specific agreement and maintaining the SLA for the complete duration of the specific contract. This involves the analysis of performance metrics and development of recommendations, which are given as feedback to the team in view of process improvements as and if necessary.

3.1.2 Off Boarding

The “off boarding” or “hand over” phase of the service follows an established procedure that provides assurance to both the Customer and the Service Provider that all service aspects will be addressed. Such aspects may include (depending on the Customer’s service set up):

- Access rights: ensure that all access rights are revoked or restored to the state before the service commenced.
- Customer-supplied data: ensure that all information uploaded or stored with the system is handled in line with the Customer requirements (deleted or returned to the Customer).
- Supplier-uploaded information: ensure that all information entrusted with the system by suppliers is managed in line with the contractual and legal requirements in effect.

- System-generated data: ensure that all information related to the Customer will be made available for retrieval. Such information may include audit trails, event characteristics, etc.

Data restoration and service migration issues related to off-boarding are presented in section 3.12 below.

3.2 Information Assurance

EUROPEAN DYNAMICS maintains information security management system (ISMS) ISO 27001 standard certification for its hosting facilities. We have in place all required ISMS documentation set, security policies and procedures for maintaining all collected and operational data in a secure and confidential manner within the Service Provider's data centre.

We have in place all required policies and procedures (such as access control, incident reporting, media and equipment disposal, system audit, and external access policy) to ensure data confidentiality, data integrity, and availability of service. The security procedures and respective documentation updates are annually reviewed including the annual IT Health Check by certified Auditors who visit the Service Provider's primary site for this purpose.

Currently, EUROPEAN DYNAMICS hosts and operates the EMCS application on behalf of the Danish Customs Authorities.

3.3 Adherence to EU Code of Conduct

ED's primary data centre operations are co-located in TI SPARKLE GREECE SA Tier III data centre facilities which fully comply with the EU's Code for Energy Efficient Datacentres.

The newest TI SPARKLE DATA centre (MMII) in which ED's infrastructure is co-located is the first Green Data Centre in Greece and maintains a Green Building Certification by LEED (Gold) and is powered solely from renewable sources.

Additionally, the datacentre maintains an ISO14001 Certification for Environmental Management, makes use of Efficient UPS with Li-ion batteries and uses LED lighting.

ED's ICT infrastructure is deployed within an APC Eco-Aisle cold-aisle containment system which manages airflow efficiently and prevents the mixing of hot and cold air, thereby enhancing cooling effectiveness and reducing energy consumption.

The data-centre provider deploys high efficiency Evaporative Free Cooling (EFC) units to cool the data-centre load, and in "free cooling" mode (when outdoor conditions permit) the units utilize ambient air for cooling without the need for mechanical refrigeration, further reducing energy consumption.

3.4 Backup/Restore and Disaster Recovery

3.4.1 Business Continuity

EUROPEAN DYNAMICS has a Business Continuity Plan and the associated Disaster Recovery Plan (collectively the BCDR Plan). The scope of this plan includes its own operations and its Hosting Services (EDHS). We maintain an ISO 22301:2019 certification for our Business Continuity Management system as it applies to software development, implementation, maintenance, and support of Information Technology Systems.

The BCDR plan documents all the proactive/reactive actions that ensure that EDHS are continuously provided with minimum interruption for the end-users in the event of a serious damage or catastrophe. The plan is subject to ED's change management procedures and, as such, all changes are logged; it is tested and revised biannually, regularly audited, and checked for compliance according to

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ISO27001:2013 guidelines regarding physical, personnel, and procedural security and DR aspects of the EDHS system.

3.4.2 BCDR Objectives

The business continuity objectives are:

- Provide an organised response to any disastrous incident disrupting the EDHS service.
- Contain initial and resulting damage by early application of salvage and restoration measures.
- Provide for business continuity and survival of the company.

The recovery process is able to achieve the following objectives:

- **Recovery Point Objective (RPO):** less than **a few seconds (usually under one second)**.
- **Recovery Time Objective (RTO):** less than **one hour (usually under 30 minutes)**.

The actual objectives for each provided service are recorded in the SLA.

From the moment of activating the DR process, the RTO includes:

- Detection & confirmation of Data Centre Failure (20 minutes)
- BGP¹ redirection of IP-space to DR Site (< 3 minutes)
- DR Database Server transition to active state (< 2 minutes)
- DNS auto-redirected to DR Site application server IP addresses (< 1 minute, in parallel to the above)

Approximately 25-30 minutes is a realistic time from the BCDR plan activation through to the EDHS service being fully available at the DR Site. The DR Site will provide the services until return of the primary site in full operation.

Triggers for Activation

The triggers that would cause activation of the DR Site are:

- **Multiple server or network component failure.**
- **Storage Array Failure:** Both controllers or two or more disks fail simultaneously.
- **Internet WAN Link Failure:** Lost connectivity to both ISPs.
- **Power Utility Failure:** Concurrent failure of the power grid, the UPS and the generator.

High Availability (HA)

All key EDHS infrastructure components are fully redundant ensuring an HA data centre architecture ideal for mission critical hosting services:

- **Redundant Server Design:** all servers are fitted with redundant disks, power and cooling;
- **Redundant Storage:** fault tolerant enterprise grade Storage Area Network solution;
- **Redundant Power:** Power outages are handled by a UPS backed up by a diesel generator;
- **Redundant Internet feeds:** The primary data centre connects via two fibre carriers to two different ISPs.

¹ Border Gateway Protocol, a network routing protocol that defines how networks belonging to different administrative domains route (Internet) traffic.

3.4.3 Disaster Recovery

Disaster Recovery Site (DRS)

The DRS of ED has the following characteristics:

- **High-speed network connection with the primary site:** A site-to-site IPSEC VPN between the DRS and primary site firewalls through a dedicated 10 Mbps FO connection.
- **High-speed connection to the internet.**
- **Compatible infrastructure with that of the primary site:** blade servers with virtualisation, SAN, backup provisions, secure networking.
- **Strong physical security:** purpose built construction; CCTV surveillance; 24x7 security staff.

The DRS uses redundant power connections, UPS, two diesel generators, A/C, fire detection and extinguishing systems and continuous monitoring facilities.

The database server infrastructure, residing in both locations, provides support for near real-time replication of data, hence ensuring no data loss even in the case of a disaster. The primary database streams write-ahead log (WAL) records to the standby synchronously. The overall delay for data to be replicated to the standby database, located at the secondary DR site is under one second. Therefore, all EDHS data is stored simultaneously in both the primary and secondary locations.

Restoration of primary site

After a disaster, the recovery of operation from the primary site is performed in the following steps:

- DR site configured as primary to enable data replication to the new primary site.
- Primary site configured to accept the replication (database logs) from the DR site.
- Data replication is carried out seamlessly for the end-users who continue to operate the EDHS applications.
- When the replication has been completed, the two sites are switched back to their original configuration.

Recovery processes

Upon BCDR invocation, the EDHS DR team members are notified and apprised of the situation through phone and email. The DR team members' contact information is documented in the Roles and Responsibilities List. The procedure for responding to incidents is detailed in the EDHS Incident Response Policy.

In order to recover the EDHS servers to their original state prior to a disaster event, an up-to-date list of all equipment and relevant information is maintained in an Asset Register. The accuracy of the register is checked annually.

In the case of a disaster that affects EDHS helpdesk services, the Helpdesk Recovery Process focuses on the immediate identification and provision of alternative communication services by temporarily redirecting EDHS Helpdesk phone lines to alternative off-site locations. ED VoIP infrastructure, a hybrid inter-site telephony network solution expands between the Service Provider's Headquarters and the DRS comprises VoIP PBXs, traditional PBXs and VoIP Gateways. The configuration and dial plan is kept up to date in inactive state on the VoIP PBX at the DRS, thus allowing seamless transition as necessary.

3.4.4 Backup and Restore

EDHS back-up procedures adhere to ISO 27001 and ISO 22301:2019 requirements, allowing restore of EDHS in the specified time as provided in the BCDR plan. The software used to ensure the business continuity and availability as far as backup/restore is concerned is HP Data Protector.

Backed-up data is protected physically and environmentally to the same standards as the original data. All back-up media are labelled RESTRICTED and stored in an appropriate fireproof safe off site. Media reliability is tested biannually. The data volume is monitored so that backup/restore times continue to fulfil RTO requirements.

Data retention follows EU and UK legal requirements. Default period for financial transaction data is seven years. Different retention periods may be defined for different data types.

3.5 Service Management Details

We have developed a client-centred approach for ascertaining the quality of the management of the services delivered. Three principles are fundamental to this approach:

- **Satisfying clients.** The company's organisation focuses on improving the level of client satisfaction bearing in mind:
 - ◇ Customer needs, expectations and priorities;
 - ◇ The level of client satisfaction; and
 - ◇ Available resources.

This information is a requisite for planning improvements that will ensure client satisfaction.

- **Involving employees.** Employees have a clear view about the way their work is structured and carried out. In many ways, they are in a better position than anyone else to see ways of improving the quality of services.
 - ◇ Employees also must be able to use their own discretion and respond creatively to the particular needs of the Customer. Involving employees in change is a prerequisite to gaining their commitment to improvement. If employees are part of the changes and realise that they play an active role in new ways of doing things, their sense of ownership is much stronger than it is when organisations impose the change.
 - ◇ For all of these reasons, involving employees is critical to assuring Customer satisfaction.
- **Continuous improvement/adaptation/change.** Customer expectations change as their needs and experience evolve. Furthermore, employees continually gain new skills and find new ways of solving challenges in a creative manner. Regardless of the current level of Customer satisfaction, improvement is an ongoing task, because changes occur continuously.

The on-boarding process ensures that the Customer requirements have been fully addressed by the system and that the Customer's team operating the Service has been trained for efficient and secure operation of the Service and any existing data have been migrated to the Service, as required.

The off-boarding process ensures that the Customer will be able to extract all information maintained by the system in order to migrate to another Service provider.

The data extraction mechanism is standards-based and ensures that the Customer will be able to use this information easily. The Service Provider can support the Customer if special requirements exist.

We support fully the service, through continuous corrective, adaptive, and evolutive maintenance, and by providing assistance to its users. The 3-tiered helpdesk team integrates these support services through straightforward and industry-standard processes.

The infrastructure of ED warrants that service performance will be unhindered by matters of capacity, load, and network traffic thanks to its design that exploits the benefits of a scalable and robust architecture based on virtualisation.

RMS provides very detailed records containing all the necessary information in order to document and prove adherence to all legal or other requirements set by the client.

Any Customer will be able to get as detailed or concise audit reports as required in order to document the system's performance against any business or other requirements for the service. In addition to the audit reports, RMS administrators are able to make ad hoc queries using its management interface in order to identify service delivery metrics of any kind. Such information is crucial for the service quality improvement process that continuously applies throughout the service provision period.

3.6 Service Constraints

There are no service constraints.

3.7 Service Levels – System

The severity level of a service failure is described in the Terms and Conditions document in terms of its relevant impact to service provision:

Table 1: Service Failures Priorities

Priority	Description
P1	A service failure which: • results in a total loss of availability of the system and/or operational services • results in a loss of availability of the system and/or operational services which has a critical impact on the activities of the users • has a critical impact on the activities of the Customer • causes financial loss and/or disruption to Customer • results in any material loss or corruption of data
P2	A service failure which: • has a major (but not critical) adverse impact on the activities of the Customer and no work around is available
P3	A service failure which: • has a serious impact on the activities of the Customer which can be reduced to a moderate adverse impact due to the availability of an acceptable work around • has a moderate adverse impact on the activities of the Customer
P4	A service failure which: • does not impact on the provision of the service to users, however may comprise of a flaw or of a cosmetic nature and, as such, does not undermine the user's confidence in the information being displayed

P1 is the highest (i.e. most serious) severity level and P4 is the lowest (i.e. least serious) severity level.

A service failure which results in the non-availability of any part of the system shall always be classified as either a P1 or P2 service failure.

We commit to recover from any degradation of Service Level as soon as possible and commits to comply with the relevant Terms and Conditions document that defines the standard acknowledgement, response and resolution of issues, as applicable.

3.8 Service Levels – Help Desk

We have established a dedicated “**Customer Support Centre**” which provides support to end-users (for assistance in using the System or reporting a fault) as required. In order to monitor and manage Help Desk requests, the Service Provider uses the Customer-support tool Open Source Trouble Ticket System (OTRS) in order to provide the services with the most efficient and effective manner.

The Helpdesk is accessible through the following modes:

- **Through the system:** Depending on the type of specific user, a dedicated link is offered by the system allowing users to submit queries.
- **E-mail access:** Users are able to send their questions and requests by e-mail using a dedicated e-mail address which will be publicised in the system’s homepage.
- **Phone Access:** The users may call the Helpdesk using a UK **local phone** number.

Figure 2 presents the organisation of the Helpdesk structure to be applied for the needs of the contract. It encompasses of the following:

- **First level** service desk, which is directly available to End Users;
- **Second level** service desk, which is directly available to the Customer administrators. It also receives cases that could not be resolved by the first level.
- **Third level** service desk, which is normally accessible only to the second line of helpdesk and handles incidents related to System bugs or operational malfunctions that cannot be handled by the second line.

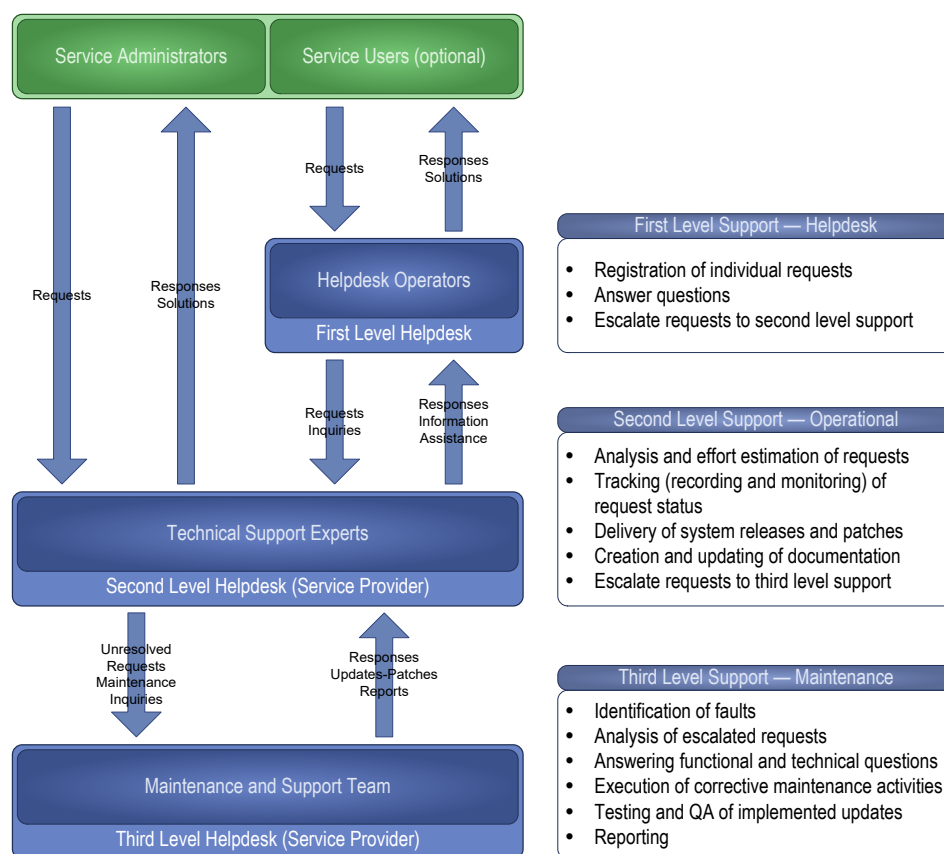


Figure 2: Customer Support Centre

The Quality of Service of the Helpdesk operation will be measured based on several quality metrics. The exact measured levels of the Helpdesk's service quality agreed will be recorded in the service level agreement. As an example, typical Helpdesk service provided comply with the following standards:

- At least 75% of reported issues are resolved by the 1st Level Helpdesk support;
- At least 98% of telephone calls answered within five (5) rings (during normal operating hours);
- At least 98% of Helpdesk incidents acknowledged within ten (10) minutes (during normal operating hours);
- At least 98% of “Level 4” incidents are resolved within 30 minutes.

The classification of incident severity (recorded in the SLA) will be used for the prioritisation of case handling.

3.9 Training

ED offers training services that will support Customers in their efficient use of the RMS services. The training plan is based on our experience and feedback received on previous trainings for the same platform.

The basic training schedule includes training for the Customer staff that intends to operate the service; additional training for potential providers can also be provided, as well as “Train the trainer” programmes.

ED sets training schedules according to Customer requirements. Our training material is suitable for each type of trainees.

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All training activities assume that:

- The trainees have concretely identified roles that the training will address.
- For live training sessions, the Customer will provide training facilities as described below. No special requirements exist for remote sessions.
- The training will be performed in English.

During the definition of the training schedule, the training analysis will identify additional requirements that will need to be addressed during training. The scope of such requirements is identified below.

3.9.1 Training Analysis

The analysis of actual training requirements is an important step when designing the training schedule. This analysis mainly focuses on the following subjects:

- Definition of the target audiences in terms of:
 - ◇ Trainee role (administrator, Organisation Official/Officer).
 - ◇ Trainee background related to information technology, and Organisation Procedures.
- Identification of suitable and available time periods in line with the needs and availability of the Customer.
- Incorporation of trainee feedback.

3.9.2 Types of Training

Core Training

The Core Training course will help trainees understand how the service terminology, information and functionality map to their business terminology, data and requirements, respectively. The course presents in detail the fundamental aspects of the service in terms of user types, information handling and processing targeting all Customer users. It does not include system administration functionality and only presents the perspective of the day to day functionality.

Administrator Training

This is a specialised course for system administrators of the RMS services. Basic information technology background is useful, although it is not a mandatory requirement. The main topics relate to the information architecture of the service, the different type of users, organisations, etc. that are handled by the system and the security model in place. Administrators need to be trustworthy and must be suitably authorised by the Customer in order to gain access to the service administrative functionality.

Train-the-trainer Training

ED offers a train-the-trainer approach introducing local experts within the Customer's organisation. Trainers can provide assistance within the organisation and train additional users. The training includes all types of service training.

3.9.3 Training Material

Training material will be built by content authors and will contain the following:

- Training schedule: The training schedule will provide a high-level description of the complete training plan so as to enable trainees to understand how each of the training subjects fits within the complete RMS services.

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- Evaluation forms: Evaluation forms will be constructed in a way to fit the trainees' background and training needs; they form the primary feedback mechanism for training and trainee evaluation.
- Online content: The online content will comprise the user manuals of the system, which are tailored to the needs of every type of user: administrator, Organisation Official (Officer). In addition, training aids will be provided in the form of interactive walkthroughs that guide trainees through most common tasks.

3.9.4 Training Plan

As noted above, the timing of the training period will be adjusted in line with the overall plan and the requirements and availability of the Customer's staff. The Service Provider proposes that the initial training is performed as soon as the system is ready for deployment. Every individual training course can be completed in one or two full-day sessions. The complete training period is not expected to last longer than one or two weeks depending on the number of trainees, available lab space etc.

3.10 Ordering and Invoicing Process

Customers wishing to use our services shall follow the ordering process outlined in the G-Cloud framework agreement.

Before submitting the order form, we will determine with the Customer which elements of the service will be provided. Details shall include the level of customisation/adaptation, the service package/modules, days and location of training (if any), level of support, delivery of service, etc.

The initial set up fees (if applicable) will be invoiced immediately after the delivery and formal acceptance of the system on the Customer's test environment.

The payment for the System license, hosting fee and help desk (if applicable) for the first year shall be made from the date the Customer gains access to the production environment, as set up by the Service Provider for live operation.

The payment for the System license, hosting fee and help desk (if applicable) for subsequent years shall be made annually by the Customer, after providing a purchase order and upon receipt of our invoice.

3.11 Termination Terms

Further to the termination terms of the G-Cloud Framework Agreement the following shall apply:

3.11.1 Termination by the Customer

The Customer shall have the right to terminate the relevant Call-Off Agreement at any time by giving at least thirty (30) Working Days of written notice to the Supplier.

3.11.2 Termination by the Service Provider

If the Customer fails to pay undisputed amounts when due, we shall notify the Customer in writing. If the Customer fails to pay such undisputed amounts, we may terminate the Call-Off Agreement giving a notice of at least ninety (90) Working Days.

3.12 Data Restoration / Service Migration

Migrating services from and to the RMS services requires a detailed analysis and migration plan. The service offers the possibility to archive and download on the user's storage area all information that may be possibly needed for the migration of the service to another service provider. Such information

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includes user information, complete Tax Returns and audit trail reports. All exported files are formatted according to widely used file formats, thus maximising the possibility for reuse without any modification.

In addition to the above, we include as an optional service element the possibility to create a complete data set in line with the Customer requirements.

Note that we may not be in position to provide encrypted data in their original form, such as passwords.

3.13 Consumer Responsibilities

All the relations with the Customer relation are described in the call-off agreement, which includes the responsibilities of the Customer during the service operation.

A detailed list governing the specific service requirements for Customer responsibilities is included in the corresponding service level agreement (SLA). SLA arrangements are provided as part of the "Terms and Conditions" document.

The System may only be used by users authorised by the Customer.

The Customer must not use the System:

- a) in any way that is unlawful, illegal, fraudulent or harmful; or
- b) in connection with any unlawful, illegal, fraudulent or harmful purpose or activity.

3.14 Technical Requirements

The RMS service is using open technologies that support its evolution with the advancements of information technology and is application and database server agnostic. As far as the user interface is concerned, the HTML 5 standard is used and proprietary HTML extensions specific to a particular browser are avoided.

3.14.1 Service usage technical requirements

The RMS service is accessible through a standard web browser. The minimum requirements for using the service are always available in the application itself, which is updated to include compatible software (browsers) as they are tested and verified. For reference, the current client-side minimum requirements are as follows:

- Current versions of the most popular web browsers, such as:
 - ◇ Google Chrome
 - ◇ Microsoft Edge
 - ◇ Safari
 - ◇ Mozilla Firefox
- Web browser configuration requirements:
 - ◇ JavaScript enabled;
 - ◇ Java Runtime Environment (JRE) version 1.8 or higher (latest recommended).
- Internet Connectivity through the HTTPS protocol.
- No significant bandwidth requirements are necessary for the operation of the system; however, the speed of uploading/downloading large documents will depend on the available bandwidth.

In addition, to become a user of the system a valid e-mail address is required.

3.14.2 Accessibility

The RMS Service incorporates a state-of-the-art Graphical User Interface (GUI) taking advantage of the latest ICT developments for offering a better user experience to all its end-users. Extended use of the latest technologies can for instance offer:

- A modular GUI that can be more effectively customised according to each client's needs.
- A parametric GUI that can be personalised according to each user's preferences.
- An elegant/user-friendly GUI according to the latest HCI standards.
- Improved system performance through asynchronous server requests.

The RMS service is also compliant with various international standards and best practices:

- **Mark-up languages & Styling mechanisms:** Main objective of the system will be in conformance to the W3C specifications and guidelines, such as mark-up languages (HTML, XML) and document layout mechanisms (Cascading Style Sheets [CSS]).
- **Forward and backward compatibility:** The system will support outdated browsers and it shall be optimised for new user agents and/or future releases of current ones.

The web-pages of RMS take into account as closely as possible all W3C recommendations and standards, rendering as such a user-friendly, responsive and up-to-date GUI, widely accessible by all latest end-user browsers. The RMS implements deviations from the W3C recommendations only for achieving efficiency-gains imposed by technical constraints or when the use of advanced functionalities improves the overall system usability and ergonomics (menu bar, tree search, date selections, client-side form validation, etc.), as these features are highly appreciated by the customs and taxation authorities that heavily utilise the RMS services, since they facilitate navigation through the complex business logic supported by the system.

4 Additional Information

This section is supplementary to the Digital Marketplace Service Summary Questionnaire and provides some additional information that may be of interest to potential buyers of the service.

- As the RMS service is not a general purpose service, the areas where an API would be useful are limited. We shall provide upon request by the Customer a documented and supported API for its integration component to facilitate integration with external applications.

RMS has been designed with interoperability in mind. It is based on open standards and as such it can easily connect to external applications as required. As a result of the System's architecture, integration tasks are well-defined as long as documentation and expertise on the said applications can be provided by the Customer.

- RMS follows the e-Government Interoperability Framework (e-GIF), which sets out the government's technical policies and standards for achieving interoperability and information systems integration across the public sector. In particular in view of integration with third party systems, RMS complies with policies and standards of the e-GIF standard that include:
 - ◇ Using XML as the primary means for data integration and XSLT for transformation and validation of exchanged data.
 - ◇ Character sets and alphabets are confined to Unicode.

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◇ Graphical images are presented in .jpg or .gif format, and on any other equivalent format.

In the past, ED has been requested to integrate RMS with different national customs applications. No limit exists on the number of external systems that can integrate with RMS.

All integration tasks are achieved either through advanced web service connections, or via more simplistic HTTP/email communications, depending on the technical readiness of each external system. RMS is not limited to specific integration technologies and can be extended to support any integration technology needed.

- The RMS service has been built based on Java Enterprise Edition open source components in conformance with several applicable open standards. Such standards relate to document formats (XML), web page styles (XSL, CSS), encryption (RSA, DES, etc.), and further standards related to interoperability (such as SOAP, Web Services, etc.), database interface, etc.
- The service's modular design enables implementation of the service using several different options regarding the hardware, operating system, database vendor, application server vendor, and other parameters of the system configuration. As RMS is based on open technologies, it is application server and database agnostic.
- The service provisioning and de-provisioning is part of the on-boarding and off-boarding process. Upon Service ordering, we configure a new instance of the Service and hands it over to the Customer together with the Service Administrator's credentials in order to self-manage the service, create accounts for purchasing organisations and their users, define access rights, etc. De-provisioning of the service is also simple and as presented in the off-boarding process it includes Customer data exporting.
- Provisioning of the service depends on the Customer customisation requirements and it is usually performed in a period from 2 weeks up to 4 months. De-provisioning of the service is much shorter and it is usually performed approximately in one week. Both phases assume that the service ordering or termination process has been processed in line with the service terms and that no additional on-boarding or off-boarding services have been requested.
- The initial term following the purchase order by the Customer is 12 months. Renewals of existing contracts have a minimum of three months. Existing Customers may add new users at no cost.

END OF DOCUMENT