

APPENDIX 4

PLAN FOR FACILITATION AND IMPLEMENTATION OF CLOUD SERVICES ETC. INCLUDING PLAN FOR POSSIBLE APPROVAL TESTS

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4.1 CONTEXT AND FRAMEWORK FOR ESTABLISHMENT PLANNING

This Appendix sets out Vy's expectations, guidelines and requirements for the overall Establishment, including Facilitation, Implementation, quality assurance and testing of the Services and Cloud Services under the Agreement.

Based on these expectations, guidelines and requirements, the Supplier shall provide their response, in 'Appendix 4 – Attachment 1 – Template for Supplier response', 'Appendix 4 – Attachment 2 – Template for project timeline' and 'Appendix 4 – Attachment 3 – Template for CV', describing how the proposed delivery model, methodology and project approach address the relevant aspects of Establishment covered by this appendix.

4.1.1 Organisational complexity

When preparing plans, estimates and the overall delivery approach, the Supplier is expected to consider Vy's organisational complexity, governance model and decision-making context.

Vy is a large and complex organisation with strong professional environments and union involvement, and the OneTrack project represents one of the most extensive transformation initiatives within the train production domain in recent years. The project will mobilise resources across a broad set of disciplines and organisational functions to support safe and efficient operations and enable benefit realisation. This requires formalised processes for stakeholder alignment, decision support and documentation. Decision-making may involve multiple stakeholders across the project organisation, governance structure and line organisation, including line management. Such processes may at times be formal and time-consuming, and decisions may therefore require extended lead times. The governance context may also lead to reassessment of prior decisions, which should, to a certain degree, be anticipated in planning and coordination. These conditions may affect overall progress and milestone achievement and should be reflected in the Supplier's planning assumptions.

Vy will be responsible for stakeholder alignment, internal anchoring, decision-making within the line organisation, and overall coordination on the Customer side. The Supplier shall contribute with relevant experience, advisory input and best practices to support effective coordination, realistic planning and well-informed decision-making.

4.1.2 Planning structure and hierarchy

The Supplier is expected to describe how the Establishment is executed through an Initial and General Plan as part of the Tender. The Initial and General Plan establishes the overarching framework for the delivery, including the proposed phase structure, key milestones, governance principles and planning assumptions, forming the basis for consistent and coordinated execution.

Based on the Initial and General Plan, the Parties shall, during the Mobilisation and planning phase, cooperate to establish a General Progress Plan for the Establishment (cf. the General Terms clause 2.1.4). The plan shall detail the sequencing of activities, dependencies, resource planning and governance structures required to support controlled progress and integrated delivery.

Based on the General Progress Plan for the Establishment, the Parties shall, during the Mobilisation and planning phase, develop a detailed Establishment Plan (cf. the General Terms clause 2.2.3). The plan shall describe the activities, responsibilities, timelines, and Delivery deadlines required for Facilitation, Implementation, Quality Assurance, testing and transition to operational use of the Services and Cloud Services. The Establishment Plan

provides the executable basis for delivery and ensures alignment between planned activities, contractual obligations and agreed milestones.

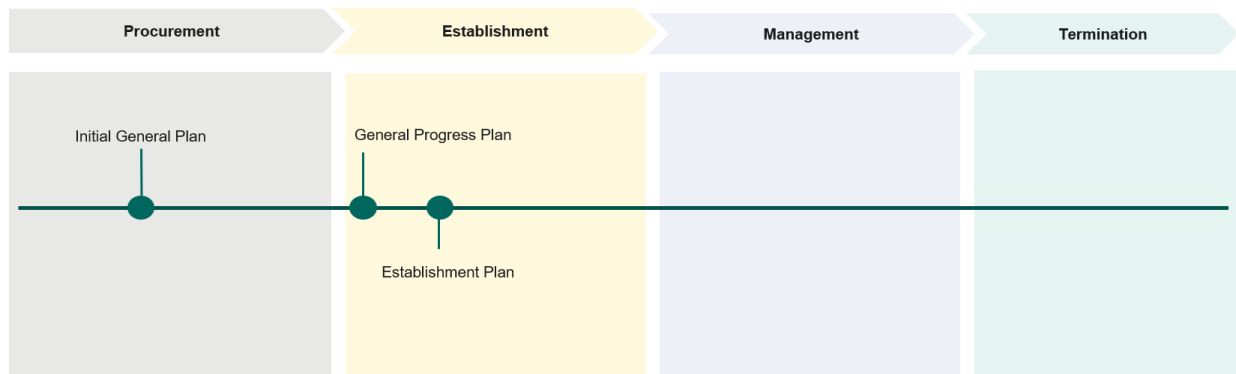


Figure 1: Timeline for Establishment of the different plans

4.2 GUIDELINES FOR THE PROJECT EXECUTION

This chapter defines the overall framework for planning, governance and collaboration for the Establishment phase, within which the Supplier is expected to structure its delivery model and planning approach. It describes the proposed phase and milestone structure, and the key expectations that are to support coordinated planning, execution and follow-up.

4.2.1 Project phases and milestones

Mobilisation and planning

In this project phase, the foundation for a controlled and successful Establishment is established. The delivery model, governance structure, roles and responsibilities, and collaboration approach between the Customer and the Supplier are agreed. The parties shall develop and agree on a General Progress Plan for the Establishment and a detailed Establishment Plan covering all activities required for the Establishment of the Services and Cloud Services, including Implementation, Facilitation, Quality Assurance and testing. This project phase concludes with an agreed and approved Establishment Plan.

Design and specification

In this project phase, all functional and technical requirements are elaborated and translated into an end-to-end solution design. This includes process mapping, development of routines, and a structured gap analysis against standard capabilities. The Customer and the Supplier agree on the suggested configuration, necessary adaptations, Integrations, security and access control, data migration, and compliance requirements. This project phase concludes with an agreed and approved solution design, supported by the necessary documentation and detailed specifications, forming the baseline for configuration and development.

Appendix 1 will take precedence over the approved solution design.

Configuration and development

In this project phase, the OneTrack Solution is configured and developed in accordance with the approved solution design. This includes system configuration, Integrations, environment setup and data migration routines (cf. the General Terms clause 2.2.4, 2.2.5 and 2.2.6). The work progresses through structured iteration cycles supported by version management, change control and continuous quality reviews. In parallel, User Validation Testing (UVT) is performed iteratively to support early business validation and early identification of defects and deviations. The project phase concludes with the Supplier's confirmation that the

solution is complete, stable and ready for User Acceptance Testing within the agreed Delivery deadline.

User Acceptance Test (UAT)

This project phase consolidates the results from earlier validation and testing activities to assess readiness for production. The OneTrack Solution is validated end-to-end against business requirements and key operational scenarios. UAT confirms that processes, Integrations and overall system behaviour function as intended under realistic conditions. UAT builds on insights from UVT and earlier testing and provides a consolidated view of solution maturity. The project phase concludes when UAT has been completed and approved and identified defects and deviations have been addressed to an acceptable level.

Preparation for production

This project phase comprises the activities required to prepare the organisation and the Solution for Go-live and ensure a controlled transition to normal production operations. This includes establishment and verification of the production environment, including required Integrations and completion of final data migration activities, as well as detailed Go-live planning and preparation, covering the cutover plan, Go/No-Go decision process, Hypercare setup and fallback procedures. The project phase concludes with the Supplier's confirmation that the Services and the Cloud Services have been established and are ready for the Approval Test within the agreed Delivery deadline, and a formal Go/No-Go decision by Vy.

Go-live and stabilisation

In this project phase, the OneTrack Solution is deployed to production in accordance with the approved Cut-over plan, ensuring a controlled transition and continuity of operations. During the stabilisation period (Hypercare), the Solution is closely monitored and supported to secure stable and predictable operations. From and including the date on which the OneTrack Solution is put into production, an Approval Test shall be conducted over a period of three (3) months. The Approval Test is conducted to verify that the delivered Services and Cloud Services operate in accordance with contractual requirements and agreed specifications. This project phase concludes when the Approval Test is completed and approved, marking the Delivery date and transition to the Management phase.

Relevant project phases and milestones shall be repeated, as applicable, for each rollout to additional units or user groups and/or for each deployment of new functionality, in accordance with the agreed rollout and Go-live plan. Vy's preliminary considerations for Go-live are described in chapter 4.2.2.

The Establishment phase concludes when all contractual requirements related to the Establishment of the OneTrack Solution have been delivered and accepted by the Customer.

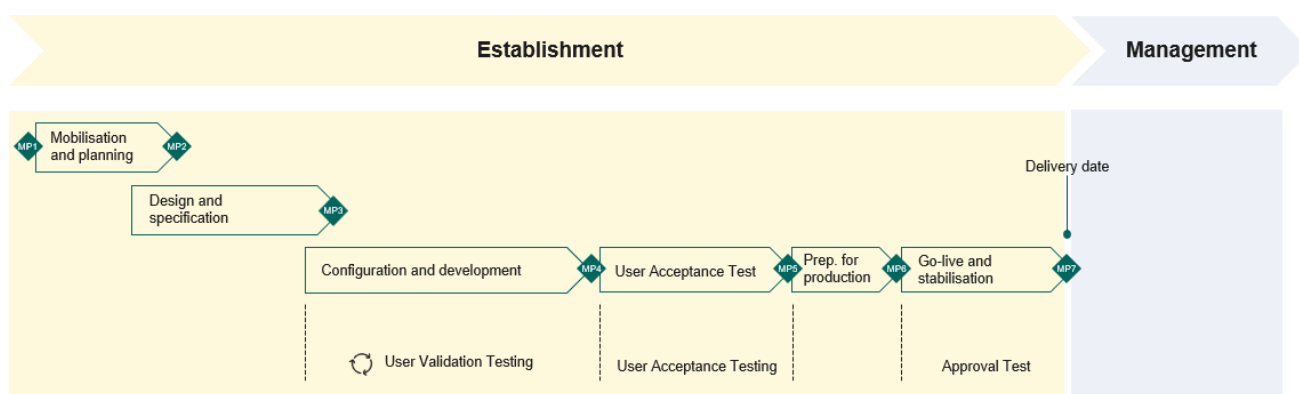


Figure 2: Illustration of project phases

Vy proposes that the following milestones are included in the Initial and General Plan, based on the project phases and deliverables described above. However, the Supplier may propose adjustments to the listed milestones and may include additional milestones where this is considered relevant and beneficial.

Id	Milestone
M1	Kick-off / start mobilisation and planning
M2	Agreed and approved General Progress Plan and Establishment Plan
M3	Agreed and approved solution design
M4	OneTrack Solution ready for User Acceptance Test
M5	Approved User Acceptance Test
M6	Go-live - OneTrack Solution deployed in production
M7	Approval Test approved – Delivery date

Table 1: List of suggested milestones

To evaluate the realism and robustness of the Supplier's intended project approach and plan for the Establishment, the Supplier should present a complete and coherent Initial and General Plan for the Establishment in Appendix 4 – Attachment 1. The described plan should be illustrated in Appendix 4 – Attachment 2. The Supplier should also describe their understanding of the top five success criteria and top five risks and known pitfalls related to the Establishment of the OneTrack Solution.

4.2.2 Preliminary Considerations for Go-Live Approach

Vy's current assumption is that a controlled and phased rollout approach will provide the most appropriate basis for reducing Implementation risk and ensuring operational readiness. The rollout is expected to start with a limited pilot, involving non-driving personnel groups, intended to verify critical functionality, Integrations, operational procedures, training and support arrangements before broader deployment. Lessons learned from the pilot shall be used to adjust the rollout approach, strengthen readiness and reduce Implementation risk. Following the pilot, deployment is expected to be conducted in 2-3 phases across defined units, such as regions or traffic packages. Each phase should include a coordinated Cut-over for the relevant unit to ensure a clear transition to the new solution, limit the duration of hybrid operations and reduce operational complexity. This approach is intended to support incremental value delivery, controlled Implementation risk and robust operational readiness for each Go-live.

The initial release for rollout must constitute a complete end-to-end functional system that enables safe and stable operations from Go-live. All business-critical and safety-critical functionality shall be included, while only non-essential functionality may be referred to a prioritised post-Go-live backlog.

The Supplier may propose an alternative rollout strategy where this is better suited to its Solution and implementation experience. The proposed Initial and General Plan should be based on the Go-live approach described above, or the alternative approach suggested by the Supplier. The final rollout strategy, including sequencing and Cut-over approach, shall be agreed during the mobilisation and planning phase and reflected in the Establishment Plan.

4.2.3 Project organisation

To support effective project execution, the Supplier shall establish a lean, robust and competent project organisation tailored to the scope and complexity of the OneTrack Establishment. The organisation should include clearly defined roles, stable key resources, sufficient capacity and decision-making authority to manage system delivery, coordination, risks, dependencies and progress throughout the Establishment phase.

The roles and competence areas listed below illustrate the expected counterparties between the Supplier's and Vy's project organisations. The Supplier is expected to cover the relevant Supplier-side roles or equivalent competence areas and ensure clear counterparts for coordination with Vy.

Role	Supplier	Customer
Project Owner	Responsible and overall accountability for the Supplier's delivery, escalation handling and ensuring that the Supplier's organisation has the competence and capacity for successful delivery.	Customer-side responsible for overall project ownership, strategic alignment, internal anchoring, governance decisions and ensuring that the Customer organisation provides the direction, competence and capacity required for successful Implementation and adoption.
Project Manager	Supplier's delivery lead responsible for overall system delivery, project governance, planning, reporting, risk management and coordination with the Customer.	Customer-side lead responsible for the receiving project, internal governance, decision preparation, stakeholder coordination and follow-up of the Supplier's delivery.
Team Leader(s)	Supplier-side workstream leader(s) responsible for coordinating delivery teams, prioritising tasks, following up progress and ensuring quality in assigned delivery areas.	Customer-side workstream leader(s) responsible for coordinating business and technical resources, clarifying priorities and ensuring progress on Customer-side activities.
Systems Expert / Subject Matter Expert	Supplier's product specialist responsible for explaining standard functionality, advising on configuration, assisting in clarification and	Customer's domain or system specialist responsible for explaining current processes, validating proposed functionality and

	resolving solution-specific issues.	supporting clarification of business and system dependencies.
Solution Architect	Supplier's solution architect responsible for overall solution design, integration approach, security considerations, scalability and alignment with agreed architecture principles.	Customer-side architect responsible for architectural direction, integration principles, security requirements and alignment with Vy's enterprise architecture and platform standards.
Technical Expert	Supplier's technical specialist responsible for solution setup, troubleshooting and technical delivery related to integrations, environments, IAM, data or platform configuration.	Customer-side technical specialist responsible for Customer environments, IAM, data, integrations, platform prerequisites and technical coordination with the Supplier.
Developer	Supplier's Implementation resource responsible for developing, configuring, documenting and maintaining agreed Solution components, integrations and adaptations.	Customer-side Implementation resource responsible for Customer-owned integration components, data preparation, technical adaptations and support for verification where relevant.
Test Manager	Supplier's test lead responsible for supplier testing, test planning, defect management, reporting and evidence required to demonstrate solution quality.	Customer-side test lead responsible for planning and coordinating UVT, UAT and approval-related activities, including participation, priorities and acceptance input.
Test Resource	Supplier's test specialist responsible for preparing, executing and documenting supplier tests, supporting defect analysis and verifying corrections.	Customer-side tester responsible for preparing, executing and documenting business validation, reporting defects and verifying that corrections meet operational needs.
Training Lead	Supplier's training resource responsible for product training, training materials and knowledge transfer related to the OneTrack Solution.	Customer-side Training Lead responsible for Vy-specific training plans, training content and adapted materials, supporting new ways of working and consistent practice before, during and after Go-live.

Table 2: Roles and competence expected in the project organisations

One person can have more than one role or represent more than one competence-area.

The Supplier shall provide a full-time Project Manager to ensure necessary governance, reporting, agile collaboration and decision making.

If key project resources in the Suppliers project organisation are replaced, there must be at least three (3) weeks overlap for the persons involved.

To evaluate the competence and relevant experience of the key project resources and suitability of the resource composition, the Supplier should list key project resources for the Establishment of the OneTrack Solution and justify its proposed resource composition in Appendix 4 – Attachment 1. The Supplier should also provide a CV for each of the resources in Appendix 4 – Attachment 3.

4.2.4 Governance and Collaboration

Vy considers clear interfaces, defined counterparts and an appropriate balance between remote and on-site collaboration to be important prerequisites for efficient cooperation, timely clarifications and controlled progress across the different phases of the Establishment. This also requires a clear allocation of roles, responsibilities and interfaces between the Customer and the Supplier across the project lifecycle.

The Supplier shall:

- Appoint a representative to a joint steering committee, accountable for the Supplier's total delivery.
- Establish common routines and regular meetings for project administration, reporting (on time, cost and quality), steering committee meetings, error handling, and change management.
- Report any deviations to costs, risk, schedule, dependencies, quality, functional and technical scope to the Customer without unnecessary delay.
- Give the Customer's representative(s) the opportunity to review and present comments to minutes of meetings before formal approval and distribution.
- Ensure that all formal communication regarding the Establishment, scope or collaboration must be done in writing and sent electronically to the Customer.
- Maintain a shared register for all outstanding communication (not answered), issued by both the Supplier and Customer, identifying subjects that require urgent action.
- Use Norwegian or English for all communications, correspondence and documentation during project execution.

To evaluate the effectiveness of the Supplier's intended governance and collaboration approach, the Supplier should describe its proposed governance and collaboration approach for the Establishment of the OneTrack Solution in Appendix 4 – Attachment 1, chapter 1.4.

4.3 GUIDELINES FOR THE IMPLEMENTATION, FACILITATION, QUALITY ASSURANCE AND TESTING

4.3.1 Guidelines for Implementation

This chapter defines Vy's expectations for the Supplier's contribution to Implementation-related activities required to establish organisational readiness and support effective adoption of the OneTrack Solution. It describes how Implementation-related services, including training, development of routines and organisational development support, are to be planned and executed as part of the overall delivery.

Vy will be responsible for organisational readiness related to the introduction and use of the OneTrack Solution, including change management, capability building and benefit realisation. This includes ownership of the organisational setup, governance structures and business processes required to adopt and operate the OneTrack Solution.

The Supplier shall contribute to Vy's Implementation activities by providing relevant tools, methods and expertise within training, development of routines and organisational

development. The Supplier's contribution shall enable effective project execution, organisational readiness and adoption of the OneTrack Solution.

The Implementation will involve a diverse set of user groups across the train production domain in both Norway and Sweden, as described in Appendix 1, chapter 1.4.3.2. These figures should be used as a basis for understanding the scope and complexity of the Implementation activities.

4.3.1.1. Training during the Establishment

The Customer requires training specifically for Vy, cf. the General Terms clause 2.2.8.

Training is a key enabler for safe, efficient and independent use of the OneTrack Solution. The overall objective is to ensure that training is delivered in an efficient manner and supports controlled Implementation and sustainable adoption of the OneTrack Solution.

Vy considers the following principles important for training-related services:

- **Role-based and differentiated training**
To adapt training to different user groups, including subject matter and system experts, planners, dispatchers, onboard personnel, group leaders and relevant support functions.
- **Project enablement**
To give project members early training so that they can work efficiently and make informed decisions in the early phases of Implementation.
- **Operational relevance**
To ensure that training reflects the operational context, scenarios, business processes and ways of working users will encounter when using the OneTrack Solution.
- **Progressive learning and reinforcement**
To ensure that training supports learning over time, including preparation before Go-live and reinforcement during early operational use (e.g. Hypercare).
- **Knowledge transfer to Vy**
To transfer knowledge from the Supplier to Vy, for example through train-the-trainer approaches, enabling Vy to deliver and maintain training internally where appropriate.

The Supplier shall:

- provide project enablement for Vy's designated Key Users to ensure their effective participation in design, configuration, testing, validation and other relevant project activities. The enablement shall be sufficient to allow such resources to perform their assigned roles and support internal competence transfer.
- enable Vy's designated Key Users to deliver and maintain end-user training internally. This shall include coaching and knowledge transfer enabling Vy to adapt Supplier-provided training materials to its operational context, processes and agreed ways of working.
- provide user-friendly, relevant and role-based training materials, including user manuals, tutorials and online resources, supporting all relevant user groups in the efficient use of the OneTrack Solution, in English, Norwegian and Swedish. The training materials shall be provided in a format that allows Vy to edit, adapt and maintain the content for local needs.

To evaluate the feasibility and effectiveness of the Supplier's approach to project enablement and training, the Supplier should describe its proposed approach to training and provide a training plan for the Establishment of the OneTrack Solution in Appendix 4 – Attachment 1.

4.3.1.2. Training Workspace

The Supplier shall deliver a Training Workspace that supports demonstrations, structured training and hands-on practice.

The Training Workspace must:

- provide functionality and a user experience that enables users to acquire the knowledge and skills required to perform their job responsibilities accurately, safely and independently when using the OneTrack Solution.
- support the use of representative training data that enables users to practice scenarios relevant to their roles and work tasks in a realistic manner.
- be dedicated to training activities, be isolated, stable and shall neither affect nor be affected by live operational tasks, production activities, other environments or services.
- provide capabilities that enable Vy to plan, conduct, reset and repeat training activities in a controlled manner across relevant user groups, roles and training scenarios without Supplier involvement.

The Supplier shall describe how its proposed Training Workspace fulfils the must-requirements set out above in Appendix 4 – Attachment 1. To evaluate the suitability of the Training Workspace the Supplier should also describe how its proposed Training Workspace enables Vy to conduct training activities efficiently and how it supports the execution of the proposed Training Approach.

4.3.1.3. Development of Routines

The Supplier shall assist the Customer with development of routines, cf. the General Terms clause 2.2.9.

The Supplier shall:

- support Vy in developing and documenting the operational and administrative routines and processes required for effective and sustainable use of the OneTrack Solution.
- contribute relevant experience and best practices for structuring routines and processes.

4.3.1.4. Organisational Development and Digital Transformation

The Supplier shall assist the Customer with organisational development and digital transformation, cf. the General Terms clause 2.2.10.

The Supplier shall contribute with structured and experience-based support, including:

- Advisory input related to organisational implications of introducing the OneTrack Solution, including implications for organisational design, processes, routines, roles, responsibilities and interfaces.
- Contribution to assessing capability needs and potential competence gaps associated with the introduction of new processes and system functionality.

4.3.2 Guidelines for Facilitation

This chapter defines Vy's expectations for the Supplier's Facilitation-related delivery required to prepare, enable and document the OneTrack Solution for operational use within Vy's technical and operational environment. The chapter covers configuration and

Customisations, Integrations, data conversion, identity and access management, and the related Facilitation deliverables.

The Customer retains overall responsibility for business ownership, architectural direction, internal coordination and decision-making within Vy's organisation. This includes defining priorities, approving key design choices, providing relevant business and technical resources, and ensuring that dependencies related to surrounding systems, data ownership and access governance are addressed.

The Supplier shall be responsible for:

- providing functional, technical and architectural expertise required for Facilitation activities.
- configuring the OneTrack Solution in accordance with agreed requirements, approved design and architectural principles.
- preparing and maintaining relevant Facilitation artefacts, including configuration, Integration, data conversion and IAM documentation.
- identifying technical dependencies, constraints, prerequisites and risks related to the OneTrack Solution.
- supporting verification, troubleshooting and issue resolution where this depends on the OneTrack Solution, configuration or technical components.

The Customer shall be responsible for:

- defining business priorities, operational requirements and acceptance criteria.
- providing system ownership, domain expertise and decision-making authority for affected systems, processes and data domains.
- defining architectural principles, security requirements, Integration guardrails and platform standards.
- providing or coordinating access to required environments, identity services, source data, platform components and Customer-side prerequisites.
- ensuring internal anchoring, stakeholder coordination and timely Customer-side decisions.

The Parties shall jointly be responsible for:

- agreeing scope, responsibilities, dependencies and delivery expectations for Facilitation activities.
- ensuring alignment between functional requirements, technical design, Implementation approach and operational needs.
- coordinating Facilitation activities with testing, Go-live preparation and transition to operation.
- managing risks, issues, changes and exceptions affecting Facilitation scope, progress, quality or readiness.

This allocation of responsibilities is intended to ensure that design decisions, technical implementation and operational requirements remain aligned throughout the Facilitation activities, while maintaining clear accountability between the Parties.

To evaluate the Supplier's ability to manage and coordinate Integration activities effectively, the Supplier shall describe its approach to roles and responsibilities for integration activities in Appendix 4 – Attachment 1.

4.3.2.1. Configuration and Customisations

Configuration and Customisation activities define how the OneTrack Solution is prepared, adapted and enabled for use within Vy's environment. These activities provide the

configurable baseline for the OneTrack Solution and ensure that agreed requirements and architectural principles are reflected in the configured solution.

The Supplier is expected to configure and set up the Cloud Service to reflect Vy's needs, including establishment of environments, baseline configurations and relevant identity, access and Integration-related capabilities. Configuration activities also include systematic documentation of applied settings to support transparency, traceability and maintainability.

Where standard configuration does not fully meet the Customer's needs, controlled and limited Customisations may be applied. Such Customisations are expected to utilise supported extension mechanisms and to be scoped in a manner that preserves standard functionality, upgradeability and long-term supportability. Any deviations from standard configuration should be clearly documented, including implications for operations, maintenance and future changes.

Together, configuration and limited Customisation activities establish the technical foundation for a solution that is aligned with Vy's requirements while maintaining a balanced and sustainable approach to solution evolution.

4.3.2.2. Integrations

Integration activities are critical to ensuring that the OneTrack Solution operates effectively within Vy's overall system landscape and supports end-to-end business processes, reliable information exchange and operational continuity. Successful Integration delivery requires close collaboration between the Supplier and Vy throughout the Establishment Phase.

The Supplier is expected to take a leading role in the design, specification, configuration, documentation and technical enablement of Integrations related to the OneTrack Solution. Vy is responsible for the governance of the overall Integration landscape, including the Service Platform and Customer-owned Integration components. Both parties are expected to collaborate to establish, verify and maintain Integrations that are secure, robust, scalable and operationally sustainable.

All Integration activities are expected to be planned, designed and executed in accordance with the following principles:

- **Platform-first:** Integrations shall, as the preferred approach, be implemented through Vy's Service Platform. Direct point-to-point Integrations shall be regarded as exceptions and require explicit approval by Vy.
- **Design-first and contract-first:** Interface definitions, interaction patterns, data structures and responsibilities shall be agreed before Implementation begins.
- **Standard-first:** Standard capabilities, supported APIs and established Integration mechanisms shall be used whenever possible. Custom development shall be limited to what is strictly necessary.
- **Security by design:** Authentication, authorisation, encryption, logging, monitoring and auditability shall be incorporated as integral parts of every Integration.
- **Maintainability and traceability:** Integrations shall be designed, documented and governed to support efficient testing, operations, troubleshooting, change management and future upgrades.
- **Operational ownership:** Ownership, support responsibilities and escalation paths shall be clearly defined for each Integration.
- **Observability:** Integrations shall provide sufficient monitoring, logging and traceability to support operational insight and rapid fault resolution.

The Supplier shall be responsible for:

- Define and maintain interface specifications, API contracts, message structures, schemas and related technical documentation for Integrations involving the OneTrack Solution.
- Provide technical expertise and recommendations related to Integration architecture, patterns, data exchange mechanisms and design decisions.
- Configure and enable Integration capabilities within the Cloud Service, including APIs, events, endpoints, authentication mechanisms and required technical settings.
- Identify and document technical prerequisites, dependencies, constraints, assumptions and risks related to the OneTrack Solution.
- Provide data mappings, transformation rules, validation requirements and other implementation artefacts necessary for Integration delivery.
- Contribute actively to the development and maintenance of Integration designs and Integration documentation.
- Support Implementation, troubleshooting, testing and verification activities where this depends on the Supplier's solution, components, documentation or specialist knowledge.
- Participate in planning, coordination and follow-up activities required to manage Integration dependencies, risks and delivery progress.
- Provide sufficient documentation and knowledge transfer to support implementation, testing, operations, maintenance and future changes.

The Customer shall be responsible for:

- Govern the overall Integration architecture and integration landscape.
- Manage and operate Vy's Service Platform and Customer-owned integration components.
- Provide relevant architectural principles, technical standards, integration requirements and operational constraints.
- Facilitate access to environments, systems, information and technical resources required for Integration activities.
- Coordinate dependencies related to Customer-owned systems and third-party systems under Vy's responsibility.
- Review and approve Integration designs, interface specifications and architecture decisions where required.

The Parties shall jointly be responsible for:

- Establish and maintain an agreed Integration design covering architecture, interfaces, security requirements, dependencies and operational considerations.
- Plan, coordinate and prioritise Integration activities throughout the project lifecycle.
- Maintain an agreed Integration catalogue.
- Identify, assess and manage Integration risks, constraints and dependencies.
- Define and execute Integration testing, end-to-end verification and operational readiness activities.
- Ensure that Integrations meet agreed security, reliability, performance and operational requirements.
- Maintain clear ownership, accountability and support responsibilities for each Integration.

Integrations shall be classified to support prioritisation, planning, risk management, testing and operational readiness activities.

The classification shall, as relevant, include:

- **Integration pattern:** API-based, event-driven, message-based, file-based or hybrid.

- **Business criticality:** Critical, important or supportive.
- **Technical complexity:** Low, medium or high.
- **Readiness:** Maturity of prerequisites such as endpoints, schemas, credentials, environments, data availability and dependent systems.
- **Ownership:** Involved systems, data owners, system owners and operational responsibility.
- **Operational dependency:** Impact on end-to-end business processes, monitoring, error handling and recovery.
- **Security classification:** Sensitivity of data exchanged and associated security requirements.

Integrations classified as highly critical, highly complex or having significant operational dependencies are expected to receive additional attention during planning, design, testing and operational preparation.

For each Integration, sufficient documentation shall be established and maintained to support implementation, verification, operation, support and future maintenance.

The documentation shall, as relevant, include:

- **Integration Catalogue** containing Integration name, purpose, scope, involved systems, ownership and operational responsibilities.
- **Solution Design** describing architecture, Integration pattern, dependencies and design decisions.
- **Interface Specification** covering APIs, endpoints, message formats, schemas, versioning and interaction patterns.
- **Security Design** covering authentication, authorisation, credential management, encryption and audit requirements.
- **Data Mapping Specification** describing source and target data structures, transformation rules, validation requirements and master data dependencies.
- **Error Handling and Recovery Design** describing exception handling, retry mechanisms, reconciliation processes and operational responsibilities.
- **Monitoring and Operational Design** covering logging, metrics, alerts, dashboards and operational procedures.
- **Non-functional Requirements** including performance, throughput, latency, capacity, resilience and availability considerations.
- **Integration Test Specification** describing prerequisites, test scenarios, test data requirements, expected outcomes and acceptance criteria.
- **Operational Runbook** describing support procedures, escalation paths, troubleshooting guidance and recovery procedures where relevant.

The Supplier shall be responsible for producing and maintaining documentation related to the OneTrack Solution, its interfaces and its Integration capabilities. Documentation related solely to Vy-operated Integration components and the Service Platform shall be maintained by Vy. Jointly developed Integration documentation shall be maintained according to agreed ownership.

To evaluate the Supplier's understanding of the complexity, dependencies, risks and coordination required for successful Integration delivery, the Supplier shall describe its recommended approach for organizing Integration activities based on experience, best practice and Vy's approach in Appendix 4 – Attachment 1.

4.3.2.3. Data Conversion

The Supplier shall contribute with supporting the execution of Data Conversion and ensuring the quality of the conversion process, cf. the General Terms Clause 2.2.6.

Data conversion activities cover the preparation, transformation, validation and transition of relevant data from existing systems to the OneTrack Solution. The purpose is to ensure data quality, continuity and operational readiness for testing, Go-live and subsequent operational use.

Data conversion is expected to be based on clear ownership of source data, agreed conversion scope, defined quality criteria and traceable validation of converted data. The approach should support a controlled transition from existing systems and provide sufficient confidence that relevant historical, operational and master data can be used reliably in the OneTrack Solution.

The Supplier shall be responsible for:

- Supporting the agreed data conversion approach within the scope of the OneTrack Solution.
- Providing technical input to the conversion design and defining target data structures.
- Supporting the definition of data mappings, transformation rules and validation rules.
- Executing or supporting agreed data conversion activities, including extraction, transformation and loading activities where applicable.
- Supporting the identification of source systems, data domains and target structures.
- Providing reconciliation information and reports required to verify data completeness, correctness and consistency.
- Supporting the handling of data quality issues and documenting technical assumptions, limitations, exceptions and residual data risks.
- Ensuring that conversion activities under its responsibility are performed in accordance with applicable security and data protection requirements.

The Customer shall be responsible for:

- Ownership of all source data.
- Defining and prioritising conversion scope, data domains and business-critical data sets.
- Providing access to relevant source systems and source data.
- Defining data quality requirements and acceptance criteria from a business perspective.
- Determining which data is required to support operational continuity.
- Providing business expertise and subject matter resources required for data mapping, validation and acceptance activities.
- Reviewing and validating converted data and confirming whether business requirements have been met.
- Identifying and assessing business-related data risks, exceptions and required remediation actions.

The Parties shall jointly be responsible for:

- Agreeing the overall conversion scope, priorities and approach.
- Agreeing data quality criteria, validation methods and acceptance procedures.
- Defining data mappings, transformation principles, reconciliation requirements and exception handling processes.

- Agreeing extraction, transformation and loading principles, including sequencing and dependencies.
- Ensuring traceability between source data, transformation rules, target data and validation outcomes.
- Reviewing conversion results in a structured manner and resolving identified issues and exceptions.
- Documenting assumptions, limitations and agreed decisions related to data conversion.
- Ensuring that data conversion is performed in a controlled, traceable and quality-assured manner that supports testing, operational readiness and reliable use of the OneTrack Solution.

4.3.2.4. Identity and Access Management

Identity and Access Management defines how user identities, access rights and authentication are established and governed for the OneTrack Solution. IAM activities shall ensure secure, compliant and controlled access based on Vy's centrally managed identity services, access governance and HR master data.

The OneTrack Solution shall integrate with and rely on the Customer's IAM framework, including Microsoft Entra ID, unless otherwise agreed. IAM activities include authentication, role and permission configuration, identity attribute mapping, access provisioning and de-provisioning, IAM documentation, and logging or auditability where relevant.

The Supplier shall be responsible for:

- configuring IAM capabilities within the OneTrack Solution in accordance with the Customer's IAM framework and agreed access model.
- implementing or supporting authentication mechanisms using agreed standards and Customer-provided identity services.
- configuring roles, permissions and access structures based on approved role and access mappings.
- documenting solution-specific IAM dependencies, access mappings, configuration settings and operational procedures.
- identifying technical prerequisites, constraints and risks related to authentication, authorisation and access control.
- supporting verification, troubleshooting and issue resolution where this depends on the Supplier's IAM configuration or solution components.

The Customer shall be responsible for:

- providing and governing identity services, including Microsoft Entra ID and related authentication services.
- defining IAM principles, access policies, access governance requirements and identity lifecycle processes.
- providing or governing HR master data, identity attributes, groups and other Customer-side identity information required by the Solution.
- approving access models, role structures and access mappings relevant to the OneTrack Solution.
- managing Customer-side access provisioning and de-provisioning processes, including joiner, mover and leaver processes.

- providing required Customer-side platform configurations, approvals, credentials and technical prerequisites related to IAM.

The Parties shall jointly be responsible for:

- agreeing authentication flows, access model, role structure and access mapping.
- ensuring alignment between IAM design, security requirements, operational needs and the Customer's governance model.
- coordinating IAM dependencies across solution configuration, HR master data, identity services, testing and operational readiness.
- managing risks, issues, changes and exceptions affecting IAM scope, security, access governance or operational readiness.

IAM activities are expected to ensure secure, traceable and governed access to the OneTrack Solution throughout the solution lifecycle.

To evaluate the Supplier's understanding of the complexity, dependencies and governance required to establish and maintain secure and compliant identity and access management in Vy's environment, the Supplier shall describe its recommended approach to identity and access Management activities in Appendix 4 – Attachment 1.

4.3.2.5. Facilitation Deliverables

Facilitation deliverables are expected to document the configured, integrated and operationally prepared solution. They provide the basis for Implementation follow-up, testing, Go-live preparation and subsequent management of the OneTrack Solution.

The deliverables should ensure sufficient transparency, traceability and maintainability across configuration, Integrations, data conversion and identity and access management. They should reflect the agreed design, applied configuration, implemented Integrations, conversion approach and IAM setup relevant for the OneTrack Solution.

At a minimum, Facilitation-related deliverables should include:

- **Configuration documentation**, including a Configuration Catalogue describing relevant configuration settings, non-default settings, environment-specific parameters and agreed Customisations.
- **Integration documentation**, including an Integration Register, interface contracts, supporting technical artefacts, operational documentation and an as-built Integration architecture showing how the OneTrack Solution interacts with surrounding systems through the Customer's Service Platform.
- **Data conversion documentation**, including conversion scope, source systems, data domains, mapping specifications, transformation rules, validation approach, reconciliation principles, assumptions, limitations and residual data risks.
- **IAM documentation**, including identity services, authentication flows, access model, role structures, access mappings, IAM dependencies, configuration settings and operational procedures for lifecycle management of access.
- **Readiness and handover documentation**, including documentation required to support testing, Go-live preparation, transition to operation and subsequent management of the solution.

The level of detail should be adapted to the scope, criticality and complexity of the relevant Facilitation area, while ensuring that the documentation is sufficient to support verification, operational readiness and future maintenance.

These deliverables are expected to be developed, reviewed and maintained throughout the relevant Facilitation activities and to reflect the configured, validated and operationally prepared solution.

To evaluate the Supplier's approach to Facilitation deliverables and documentation required for Implementation, operational readiness and future maintenance, the Supplier shall describe its deliverables related to Facilitation in Appendix 4 – Attachment 1.

4.3.3 Guidelines for Quality Assurance and Testing in the Establishment

This chapter defines Vy's expectations and guiding principles for quality assurance and testing during the Establishment phase of the OneTrack Solution. It describes how quality is to be planned, managed and verified across all phases and milestones, ensuring that deliverables meet defined requirements prior to approval and acceptance.

The purpose is to establish a structured framework for verification, validation and approval, supporting consistent execution, transparency and alignment between the Supplier and Customer throughout the project lifecycle.

To evaluate the Supplier's proposed approach to Quality Assurance and Testing for the Establishment phase, the Supplier shall provide its response in 'Appendix 4 – Attachment 1.

4.3.3.1. Quality Assurance and Test Management

Quality assurance and test management provides the framework for planning, monitoring and controlling quality throughout the Establishment phase for the delivery of the OneTrack Solution.

The Supplier shall be responsible for:

- Applying structured quality assurance practices throughout the Establishment phase.
- Applying risk-based quality assurance and test planning throughout the delivery.
- Maintaining defined practices for defect and deviation management aligned with contractual quality requirements in the OneTrack delivery.
- Supporting Quality Assurance audits related to the OneTrack Establishment phase and provide relevant QA artefacts upon request.
- Cooperating with the Customer on quality-related priorities, status reviews and handling of issues and deviations that affect progress, scope, readiness or milestones.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- Quality and test planning documentation supporting prioritisation, follow-up and coordination of QA and testing activities.
- Quality status reporting providing visibility of progress, key risks, defects, deviations and other quality-related matters relevant for governance, readiness assessments and decision-making.
- Structured overviews of defects, deviations and other quality-related observations documented in a tool supporting transparency, follow-up and prioritisation.
- Documentation required for reviews, audits and readiness assessments.

4.3.3.2. Test approach and structure for the Establishment phase

The test approach shall support transparency, traceability and controlled follow-up of quality throughout the Establishment phase and be aligned with the project phases described in

Chapter 4.2.1. Testing shall be planned, executed and controlled in alignment with the Quality Assurance framework.

The Supplier shall be responsible for:

- Establishing, maintaining and applying a structured test approach throughout the Establishment phase.
- Performing testing at relevant test levels, including unit, Integration and system testing.
- Applying relevant test types, including functional and non-functional testing where appropriate.
- Maintaining traceability between requirements and verification results.
- Maintaining traceability between identified risks and test activities.
- Applying defined practices for managing and monitoring test coverage and test completion.
- Performing regression testing to verify that changes do not negatively affect existing functionality.
- Supporting Integration testing involving Customer systems through technical support, troubleshooting and defect management.
- Ensuring that relevant non-functional testing is completed prior to Customer validation and acceptance activities.
- Cooperating with the Customer on planning, execution and follow-up of testing activities.

Vy defines the validation and acceptance needs on the Customer side and participates in validation and readiness assessments through Integration testing, UVT, UAT and Approval Test as described in Chapter 4.3.3.6.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- A maintained Test Plan describing scope, organisation, test levels, test types and execution of planned testing activities.
- Test status reporting providing visibility of progress, execution, defects, risks and quality status.
- Traceability information supporting follow-up of requirements, verification results and test coverage.
- Traceability information supporting follow-up of identified risks and associated testing activities.
- Test results, execution evidence and other test artefacts required to support validation, reviews and approval-related activities.

4.3.3.3. Defect and deviation management

The Supplier shall be responsible for:

- Establishing, maintain and apply defect and deviation management practices aligned with contractual quality requirements and the needs of the Establishment phase.
- Recording, classify and track defects and deviations until resolution, acceptance or closure.
- Cooperating with the Customer on prioritisation and escalation of defects and deviations affecting functionality, Integrations, readiness, milestones or acceptance-related decisions.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- A maintained overview of defects, deviations and related quality observations, including status, classification, ownership and resolution progress.
- Defect and quality status reporting providing visibility of open issues, trends, risks and their impact on priorities, readiness and progress toward milestones.
- Information and evidence required to support validation, governance reviews and approval-related follow-up.

4.3.3.4. Test Automation

Vy defines the overall validation and acceptance needs on the Customer side.

The Supplier shall be responsible for:

- Maintaining and apply an established test automation approach where appropriate throughout the Establishment phase.
- Cooperating with the Customer where automated verification affects test progression, readiness assessments or quality-related decision-making.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- A maintained overview of automated test coverage and automated regression scope.
- Reporting on automated testing activities, including execution results, failures and impacts on quality.
- Automated test artefacts and supporting material required to execute, maintain and troubleshoot automated tests used in the delivery.

The application of test automation should be aligned with the overall test approach and focused on areas where automation provides measurable value in terms of quality, efficiency and repeatability.

4.3.3.5. Test Environment and Test Data

Vy defines the overall validation needs on the Customer side and contributes to prerequisites, dependencies and access to relevant source data where needed. Test environments and test data should support planned verification, validation and readiness activities while complying with applicable security and data protection requirements.

The Supplier shall be responsible for:

- Ensuring that test environments sufficiently support planned testing activities throughout the Establishment phase.
- Ensuring that test data used for testing is representative of intended use and compliant with applicable data protection requirements.
- Providing, maintaining and manage the test data required to support planned testing activities, unless otherwise agreed.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- A maintained overview of test environments, including availability, allocation and readiness to support planned testing activities.
- A maintained overview of test data used in the delivery, including data sources, preparation activities, refresh principles, availability, dependencies and controls related to data protection and security requirements.

- Documentation and supporting material required to enable validation, Integration testing and readiness assessments, including relevant information on environment setup, data availability and dependencies.

4.3.3.6. Validation-, Acceptance- and Approval Test

Validation, acceptance and approval activities provide the primary basis for assessing whether the solution is ready for operational use and formal acceptance. A structured approach to UVT, UAT and Approval Test supports early feedback, controlled progression and informed decision-making throughout the Establishment phase.

The error categories and related provisions defined in the General Contract shall apply to all defects identified during Supplier testing, User Validation Testing (UVT), User Acceptance Testing (UAT) and Approval Test. The classification and status of defects shall be used as part of readiness assessments, Go-live decisions and Approval Test evaluations.

Vy applies a structured validation, acceptance and approval approach across the Establishment phase consisting of UVT, UAT and Approval Test. UVT supports early business validation, UAT supports readiness for operational use, and Approval Test supports formal contractual acceptance in accordance with the Agreement.

User Validation Testing is performed continuously as functionality becomes available for validation. User Acceptance Testing is conducted when the solution has reached a level of completeness that enables meaningful end-to-end validation of business processes and operational readiness. Approval Test is conducted following Go-live and forms the basis for contractual acceptance in accordance with the Agreement.

Successful execution of UVT, UAT and Approval Test relies on the consistent application of the following principles:

- Risk-based prioritisation of validation activities
- Traceability between requirements and validation results
- Structured identification and handling of defects and deviations
- Alignment between iterative validation results and acceptance readiness
- Close cooperation between Vy and the Supplier throughout all phases

Both functional and non-functional aspects shall be considered where relevant to support validation, readiness and acceptance.

Vy defines the validation and acceptance needs on the Customer side, coordinates business participation and makes the final acceptance-related decisions.

The Supplier shall be responsible for:

- Ensuring that delivered functionality is verified prior to UVT, UAT and Approval Test.
- Participating in and contribute to joint risk-based assessments used to support prioritisation and planning of Customer-led validation activities.
- Supporting transparent reporting of test results and quality status throughout validation, acceptance and approval activities.
- Ensuring that documentation required to support Customer validation and acceptance activities is made available prior to the planned execution of such activities.
- Supporting the execution of UVT, UAT and Approval Test through provision of relevant verification results, defect handling and technical support.

The Supplier shall provide and maintain the following deliverables as part of the Establishment phase:

- Documentation and supporting input to Customer-led planning and execution of UVT, UAT and Approval Test, including relevant information on solution scope, functionality, dependencies and technical considerations.
- Relevant system test cases and associated test materials used by the Supplier, to the extent they may support planning and execution of UVT and UAT.
- Documentation and supporting material required to enable validation, Go-live preparation, stabilisation and Approval Test, including test results, verification evidence, defect status and relevant technical support for assessment and decision-making.

The Parties shall establish a structured cooperation model supporting efficient execution of validation, acceptance and approval activities throughout the Establishment phase. The cooperation model shall support alignment on progress, priorities and quality status, and enable timely identification, communication and handling of defects and deviations.

4.4 TRAFFIC SAFETY

The Supplier shall, as part of the mobilisation and planning phase, prepare a project-specific safety and security management plan covering the Supplier's scope of responsibility. The plan shall be maintained throughout the Establishment, and as a minimum, describe how the Supplier will comply with, and operationalise relevant parts of CSM SMS (EU Regulation 2018/762), CSM RA (EU 402/2013) and NIS2 (EU 2022/2555).