



Project Implementation

Methodology, Structures and Tools

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1. Project Implementation

The Previsé professional services team is a multi-skilled, highly dynamic team with deep industry knowledge. Together the team has over 200 years of experience in the energy industry with most of this knowledge being developed either working directly as energy traders or from implementing and developing industry leading ETRM software for large multi-national customers around the globe.

We work directly with our customers to implement solutions that meet the customer's business objectives and solve their business problems using our proven implementation methodology. The focus areas of our methodology are

- faster realization of business objectives
- better alignment of costs and benefits
- flexibility to changing priorities
- minimal risk and disruption to daily business operations.

There are a few key differences between the ChorusLink & Coral solution(s) compared to other classical ETRM solutions, and these differences also lead to changes in implementation methodology.

Firstly, the concept of *Master Data as a Service* from ChorusLink means that the ChorusLink implementation mainly evolves around **Data Mapping and Data Validation**, with the amount of configuration rather limited. The process for the configuration elements is described in the context the various stages in the following sections. The rest of the ChorusLink solution evolves around **Trade Migration and Data Mapping** and is covered in detail in the document *Previsé Systems - Data Migration Process (Aug 2021)*. Since ChorusLink and Coral mainly use the same Master data, the work done for data in ChorusLink does not have to be repeated for Coral as the data source is the same. However, Coral has a few additional configuration elements (such as reporting configuration) which need to be addressed in addition.

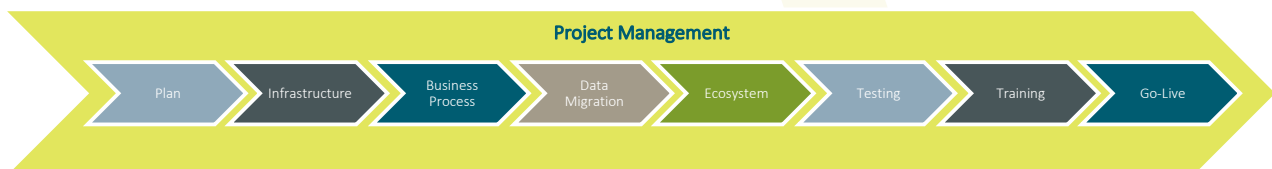
Secondly, a main part of the Coral Implementation is the mapping of required functionality to **Apps**, and to then install and implement the Customer-relevant Apps as part of the solution. This process is also covered and described in detail below.

Throughout the descriptions of the stages below we identify and highlight the key tasks and the main responsible party for those tasks. For simplicity, we have chosen to distinguish between either Previsé Systems, the Customer or a mix of both. However, it should be highlighted and noted that activities could also be carried out by a customer implementation partner.

On a similar note, if the customer also wished, some of the Previsé Systems activities could also be given to any of the recognised and certified Previsé Systems partner organisations. Also, a mix of customer and Previsé Systems tasks could also be passed to an implementation partner if that organisation was both a Previsé Systems recognised partner and a partner organisation of the customer.

2. Methodology

The Previsé Project Implementation methodology revolves around **8 stages**, all of which are then underpinned by Project Management:



Further details for these are explained in the following sections:

2.1 Plan Stage

During the Plan stage, the Previsé project manager will work with the customer Project Manager(s) and the customer's project team to confirm the project scope, develop the project work plan, resources plan, and communication plan, and

initiate the project. Solidifying this blueprint from the outset improves the likelihood of customer satisfaction and a successful project. Creating a detailed plan helps identify critical inter-dependencies and enables Previsé and the customer to eliminate any potential bottlenecks.

The jointly confirmed overall project plan would also detail out the requirements as to when key customer personnel, especially those from the business areas, would be required. This will allow the businesses to gain as early sight as possible as to when their resources will be required, such that planning can occur and hence the impact to the business is kept to a minimum.

Task	Main Responsible	Deliverable	Description
Scope Confirmation	Previsé & Customer	Confirmed Scope Initial App List (Change Orders)	Previsé will conduct workshops to review the scope using the standard software and work with the customer to confirm that everything the customer is expecting from this project is in scope. As part of the scope confirmation an initial App list will also be created and reviewed, and potential App vendors identified.
Project Tools	Previsé & Customer	Project Log Project Management Tools Document Sharing Solution	Previsé and the customer will agree on which collaboration tools shall be used as part of this project. A project log where tasks are to be captured and tracked needs to be identified - Previsé typically use Jira from Atlassian for that. Similarly, tools for project management need to be agreed and again Previsé would suggest Jira as the basis. A document sharing solution where Previsé and customer resources can share data, documents and documentation needs to be identified. Previsé typically use Microsoft SharePoint for that.
Resource Plan	Previsé & Customer	Resource Plan	Previsé and the customer will create a resource plan showing which resources are allocated to which tasks as well as when the resources are available, and ensure that vacation plans are taken into account. The resource plan also needs to take resources from App vendors into account.
Project Work Plan	Previsé & Customer	Project Work Plan	Previsé and the customer create updated project work and resource plans (with the input from the scope confirmation) and agree on the updated timeline. The project work plan also requires coordination with any App vendors ensuring that their tasks are also planned in.
Communication Plan	Previsé & Customer	Communication Plan	Previsé and the customer will create a communication plan including named resources responsible for different tasks as well as the structure and content of status reports, the frequency of steering committee meetings etc.
Data Migration Kick Off	Previsé		Previsé will walk through the process to migrate the customer's data to the solution.
Data Source Identification Workshop(s)	Previsé		Previsé will walk through the different master data elements which are required for the implementation based on the currently known scope in one or more workshops. Typically, different workshops are done for different data groups: <ul style="list-style-type: none"> • ChorusLink Master Data • Coral Master Data • Configuration Data • Trade Transactional Data • Transactional Data
Project Kick Off	Previsé & Customer	Kick off Presentation	Previsé and the customer will conduct a Project Kick-off meeting which shall include all project participants. The Previsé and customer team leads will communicate the project objectives, scope, approach, details of the Project Work Plan and project administrative policies.
Initial Application Training	Previsé		Previsé will conduct initial user training courses for the customer SME(s). Training will be conducted on the standard Previsé database showing basic functionality, and it will provide a high-level overview of the functionality in scope for this project phase. These services do not include any customized training materials, and the audience should only be the core team Customer subject matter experts ("SMEs") who will be active participants throughout the implementation of the current project phase. Note that this does not cover any Apps as training for those has to be ordered with the respective App vendors.
Use Cases Defined	Customer	Customer Use Cases	The Customer SME(s) working with the customer business areas should document the use cases for the implementation which will then also be used in subsequent stages, e.g. Testing. The use cases ensure the project and the customer business areas are aligned in terms of the functionality that this project will deliver and also serve as the basis for the test case delivery later on.

2.2 Infrastructure Stage

As the Previsé offerings are SaaS solutions, this stage is normally very light and is solely focussed on establishing connections, if required, between any customer applications either up or down stream from the Previsé solutions. This includes both customer Cloud-hosted applications, customer on-premise applications or other SaaS applications that the Customer utilises within their ETRM landscape.

Task	Main Responsible	Deliverable	Description
Infrastructure Review	Previsé & Customer		Previsé to conduct a workshop walking through the technical infrastructure of the platform. Customer to provide all infrastructure-related requirements from their point of view to ensure that Previsé and the customer are aligned.
Infrastructure Verification	Previsé & Customer		Previsé and the customer to test connectivity and access and ensure that necessary security and data access protocols are adhered to.

2.3 Business Process Stage

During this stage, the customer's business processes that have been documented previously are mapped to the Previsé product processes matrix to ensure that the customer processes map to 1 or more Previsé processes.

If some customer business processes cannot be mapped to a standard Previsé product process, then a dialogue will be opened with the customer on how best to close the gap e.g.

- modify the customer business process, or
- develop new features in the software via Apps (either contracted from Previsé, third Party vendors, customer-developed Private Apps or a combination of these).

Once the business-process-to-product-process mapping is complete, Previsé will work with the customer to define and determine the best possible Apps that can be implemented for the customer along with the pros and cons for the options available.

Once a finalised list of Apps is chosen, then a more detailed estimate for configuration and migration can be determined.

Task	Main Responsible	Deliverable	Description
Existing Business Process	Customer	Current Business Process Map Use Cases & Test Cases	Customer to conduct workshops presenting existing business process for the different business areas with Previsé and or App vendors.
Business Process Mapping	Previsé	Mapped Business Processes	Previsé to map the provided business processes from the customer to the Previsé Product Matrix and App business processes to ensure that all customer business processes are handled. All gaps need to be noted down and handled in the business process workshop(s).
Business Process Workshop(s)	Previsé	Business Processes Mapping Gap Resolutions (Change Orders)	Previsé will conduct dedicated business processes for the different business areas and work with the customer to ensure that all business processes are understood and agreed. All gaps identified need to be noted down and mutually agreed gap resolutions found. Some workshops will include App vendors as well to ensure that the end-to-end solution is shown to the customer.
Finalised App List	Customer	Finalised App List	Customer will ensure that the final list of Apps for this project are identified and that the scope is verified with the relevant App vendors. Customer will select App vendors for each App and ensure that scope and commercials with the App vendor is agreed.

2.4 Data Migration Stage

Using ChorusLink *Master Data as a Service* makes the process to migrate master data from legacy systems to ChorusLink or Coral **simpler and faster**, minimizing the cost of implementation.

In the below we outline each step and identify the owners of each task as either the customer or Previsé Systems. Previsé Systems' responsibility could, in many cases, be changed to an implementation partner instead.

The process goes through the following steps:

Step	Process	Stage	Responsible	Data Class	Description	Expected Outcome
1	Data Migration Kick Off	Plan	Previsé Systems	All	Previsé will walk through the process to migrate the customer's data to the solution.	→ Ensures that both the customer and Previsé Systems understand the process, especially around roles and responsibilities
2	Data Source Identification Workshop(s)	Plan	Previsé Systems	All	<p>Previsé Systems will walk through the different master data elements, which are required for the implementation based on the currently known scope in one or more workshops.</p> <p>Typically, different workshops are done for different data groups:</p> <ul style="list-style-type: none"> - ChorusLink Master Data - Coral Master Data - Configuration Data - Trade Transactional Data - Transactional Data 	<p>→ The customer understands which data is needed, so that he can go and find the source of the data in-house.</p> <p>→ Identify any gaps in the understanding of the customer as to where the data needs to be sourced from.</p> <p>→ Ensure that all the data that the customer expects to load into the solution has an identified source. Note here that the initial focus is on the core solution, not on data for Apps, so it is normal that certain existing data will be flagged against Apps rather than core tables. If not all of the Apps in scope are identified at this point, then some data might not be mapped against a specific App but flagged to ensure that the data is not lost or forgotten. As part of the Ecosystem stage later on, this data will then be picked up again.</p> <p>→ Allocate tasks for the customer resources to go and get the relevant data.</p>
3	Data Gathering & Formatting	Data Migration	Customer	All	<p>The customer will gather the data and provide it to Previsé Systems in the mutually agreed format(s). Note here that the source data needs to be provided in a way that allows for automatic mapping. For example, a list of counterparties must contain a public ID such as the ACER code or the LEI code.</p> <p>Only the specific data in scope for the implementation needs to be formatted.</p>	<p>→ The customer gathers the data from the various sources and ensures that the necessary data for mapping is associated on the records.</p> <p>→ The customer ensures that the provided data is clean and follows the agreed standards set by Previsé Systems.</p> <p>→ Ensure that the data source and data owner for all necessary master or configuration data of the customer is clear.</p>
4	Master Data Comparison	Data Migration	Customer	ChorusLink Master Data / Coral Master Data	<p>For public master data, the Customer compares the provided data to the data in ChorusLink and highlights any differences for later discussion with Previsé Systems.</p> <p>The role of the customer here is to serve as QA and ensure that no data the customer needs is missing. If data is missing the customer is expected to point Previsé to the source of this data and assist Previsé Support with access to and understanding of the data. Adding such missing data elements is not part of the billable services of the project, but rather part Support and will be managed and updated via Previsé Support.</p>	<p>→ The customer ensures that all the needed public master data is available and is correct from the customer's point of view.</p> <p>→ Any gaps, differences or discussion points on the public master data is identified and logged for a Data Review Workshop.</p>
5	Master Data Review Workshop(s)	Data Migration	Previsé Systems	ChorusLink Master Data / Coral Master Data	Previsé Systems will host a workshop going through the master data loaded and work with the customer to get to a common agreement on each data master data element. The outcome could be that:	→ Ensure that all the public master data is as expected by the customer and that a resolution path for all differences is agreed.

Step	Process	Stage	Responsible	Data Class	Description	Expected Outcome
					<ul style="list-style-type: none"> - The ChorusLink master data is used rather than the customers master data. - The ChorusLink Master data will be updated via ChorusLink support. 	
6	Configuration Data	Data Migration	Previs Systems	Configuration	Previs Systems will load the configuration data and conduct workshops to show the data to the customer.	<ul style="list-style-type: none"> → Customer understands all the loaded configuration data. → Around 85% of all configuration data is loaded by Previs Systems and signed off by the customer. The remaining part is loaded, but customer sign off is deferred until after the Testing stage.
7	Transactional Data Mapping	Data Migration	Previs Systems & Customer	Trade Transactional / Transactional	<p>For transactional data, the customer has prepared the data as part of Data Gathering and Formatting. Previs Systems will now map each field to the Previs data model.</p> <ul style="list-style-type: none"> - Each field is mapped, and the mapping documented. - For fields, where the mapping is not clear, the business purpose will be discussed in ad-hoc sessions with the customer. - The mapping exercise could lead to requirements around additional fields being added. Provided the relevant data group is in scope, Previs Systems will add such fields to the data model on behalf of the customer. - The customer reviews the final mapping and signs off on it. - As part of the transactional data mapping, it is very likely that a lot of configuration data is also mapped out, for example the trade mapping ensures that the necessary trade books are available. <p>The transactional data is <u>not</u> migrated as part of this task, but it is likely that Previs Systems will conduct test loads to ensure that the mapped data will go in as expected and also to facilitate discussions with the customer on the data.</p>	<ul style="list-style-type: none"> → Each field for transactional data is mapped between the customer's source data and the expected destination data. → For any gaps or questions a common resolution is found. → A jointly agreed mapping structure is created.
8	Configuration Data Migration	Data Migration	Previs Systems	Configuration	Previs Systems loads all the configuration data and ensures that the configuration data is available to easily reload either via scripts or API calls.	<ul style="list-style-type: none"> → All configuration data is loaded into the software. → The ability to reload the configuration data for future deployments is ensured.
9	Transactional Data Migration	Data Migration	Previs Systems	Trade Transactional / Transactional	Previs Systems loads all the transactional data in scope and ensures that the transactional data can easily be reloaded via API calls.	<ul style="list-style-type: none"> → All transactional data as of a given date is loaded into the software. → The ability to reload the transactional data for future deployments is ensured.
10	Data Verification	Data Migration	Previs Systems	All	Previs ensures that all the data is correctly loaded and checks that any special characters are handled as expected, the count of records is as expected, no orphan records are created etc.	<ul style="list-style-type: none"> → Data is verified and confirmed to be correct. → Previs Systems verifies that the calculated outputs for Position, Mark to market and P&L are as expected by the customer.

Step	Process	Stage	Responsible	Data Class	Description	Expected Outcome
					<p>The customer provides expected results as of various days to allow Previsé Systems comparing that the output is as expected by – and agreed with - the Customer.</p> <p>As part of data verification Previsé Systems will verify the Position, Mark to Market and Profit & Loss for two specific dates based on the data provided by the Customer.</p> <p>As part of this task Previsé Systems sets up automated “Health Check” scripts which can check for bad data and which can be executed automatically going forward and repeated for additional migration runs.</p>	→ Data health check scripts are configured and applied for automatic execution for later migration and for ensuring data quality in the system going forward.

2.5 Ecosystem Stage

In Previsé’s proposed solutions, any kind of customisation or custom functionality is delivered via Apps. A great benefit of allowing Apps to be developed in this way is that it allows for distributed development. This removes the bottleneck of a single development team, either in-house or external, as the sole responsible not only for new software coming into production, but also supporting the various versions of the software.

This stage is mainly focussed on the customer and the App developers – which could be the customer, Previsé Systems or Third-Party vendors – ensuring that each of the Apps is delivered and tested to the customer’s satisfaction. For each of the Apps, the customer and the App vendor will review and clarify the App scope. The customer will hand over test cases to the App vendor and the App vendor will use these to unit test the App. The App vendor will migrate any necessary App data, configure the App and conduct Business Process Workshops with the customer showing the functionality.

The following tasks applies to each App in scope:

Task	Main Responsible	Deliverable	Description
App Scope Verification	App Vendor	Updated Scope Text	The App Vendor and the customer will re-discuss the scope of the App and ensure that the expectations are aligned.
App Test Case Delivery	Customer	App Unit Test Cases	The customer will document and handover a complete set of App test cases to the App Vendor based on uses cases.
App Configuration & Data Migration	App Vendor	Fully Configured App	The App vendor will configure the App and migrate any necessary data to it. If the App vendor needs to do development on the App, this would also fall under this category.
App Unit Testing	App Vendor	Documentation Showing Proof of Successful Testing	The App vendor will play through all of the test cases from the Customer and ensure that test cases are meet. Should there be gaps or issues, then they have to be discussed with the customer and this can lead to either data changes, test case changes, further app development or change orders.
App Business Process	App Vendor	App Business Process Workshops	For each App in scope, the relevant App vendor will conduct workshops showing the functionality to the customer along with the proof of testing. The customer will identify any gaps and finally sign off the App delivery.
Previsé Custom Development	Previsé	Specific Deliveries as outlined in the SOW	As part of the delivery, customers often have specific additional items they would like Previsé to deliver for them such as custom reports, custom templates, development assistance etc. Such items will be separately outlined in the SOW and handled under this task category.

2.6 Testing Stage

During the testing stage the software and end-to-end processes will be tested by Previsé and the customer. Previsé prepares the tests by refreshing the environment and reloading the data from the data migration, so that the data is current and so that the deployment process can be verified as part of the testing. Once this environment is ready the following testing is then undertaken by or supported by Previsé:

- 1. System Testing Phase:** For the Previsé and/or partner-developed solutions and Apps, which form part of the Previsé total solution, extensive System testing will be undertaken to ensure that the delivered solutions work and integrate seamlessly to provide a robust and solid Previsé solution. This phase will be led and conducted by Previsé with support and input from App vendors.

As part of the system testing Previsé will review and pass on test cases from the customer which can be included into the standard automated unit testing of the Previsé software so that those test cases – going forward – can be automatically tested as part of new releases. Previsé expects the App providers to do the same with specific unit test cases for their software.

- 2. Integration Testing Phase:** This is where the delivered Previsé solution will be tested as part of the wider application landscape into which the solution is being deployed. During this phase the expectation would be that data flow etc are tested end-to-end across the whole IT landscape. This phase will be led and co-ordinated by the customer with Previsé support for their parts of the delivered solution.
- 3. User Acceptance Testing Phase –** This phase is where a subset of the customer's end users conduct their testing on the application to ensure that it is fit for purpose and fulfils their requirements across the whole Project footprint. This phase again will be led by the customer with support from Previsé for any issues found with the Previsé solution during testing.

Note here that its very likely that various gaps and enhancement ideas will be raised by the users as part of the user acceptance phase and it is critically important that the customer and Previsé note down these requests, but only correct critically defects prior to deployment. The additional items raised will go into the project log

The following tasks will be carried out:

Task	Responsible	Deliverable	Description
Test Environment Deployment	Previsé	Refreshed Test Environment Updated Deployment process & Scripts	Previsé will refresh the test environment and reload the environment from scratch including all configuration data to test that the deployment process is working as expected. Previsé will verify that the environment is generally working and available afterwards.
Test Data Migration	Previsé	Updated Test Environment Updated Data Migration process & Scripts	Previsé will redo the data migration as part of this process and ensure the data in the system is as current as possible. Previsé will perform an internal verification on the accuracy and completeness of the data. Previsé will execute sample customer test cases as an initial "alignment check" to mitigate risk with discovery of data and system issues.
Testing Plan	Previsé	Testing Plan Customer Test Cases	Previsé will prepare a Test Plan detailing the scope, plan, and schedule for Training, Application Testing, System Integration Testing (SIT), and User Acceptance Testing (UAT). Customer will review and update ensure that everything that the customer wants to test is included in the plan and that all use and test cases are available and complete.
System Testing	Previsé	System Test Report	For the Previsé and/or partner-developed solutions and Apps which form part of the Previsé total solution – extensive System testing will be undertaken to ensure that the delivered solutions work and integrate seamlessly to provide a robust and solid Previsé solution. This phase will be led and conducted by Previsé with support and input from App providers. As part of the system testing Previsé will review and test the test cases from the customer which can be included into the standard automated unit testing of the Previsé software so that those test cases – going forward – can be automatically tested as part of new releases. Previsé expects the App providers to do the same with specific unit test cases for their software.
Tester Application Training	Previsé		Previsé will conduct, if required, further user training courses for the customer resources who will be involved in the Integration and/or UAT testing who so far have not used or are not familiar with the Previsé solutions. These services do not include any customized training materials, and the audience should only be the core customer testers for Integration and UAT Testing.
Integration Testing	Customer	Integration Test Report	This is where the delivered solution will be tested as part of the wider application landscape into which the solution is being deployed. During this phase the expectation would be that data flow etc are tested end to end across the whole IT landscape. This phase would be led and co-ordinated

Task	Responsible	Deliverable	Description
			by the customer with Previsé support for their parts of the delivered solution and App support from the different App vendors.
User Acceptance Testing	Customer	UAT Test Report Fully tested Environment	As part of this task a subset of the customer's end users conduct their testing on the application to ensure that it is fit for purpose and fulfils their requirements across the whole Project footprint. This phase again will be led by the Customer with support from Previsé and the App vendors for any issues found with the Previsé solution during testing.
Testing Finalization	Customer	Final Data Configuration Sign Off Final Data Migration Sign Off Final UAT Sign Off	Customer will work with Previsé and the App vendors to finalize the data configuration, data migration and finalize the UAT sign off ahead of go live. It is expected that items and requests will still be open at this stage, but all of those need to be captured in the project log and a resolution needs to be identified for potential future delivery.

2.7 Training Stage

During this stage, the end-users of the system (who are not yet familiar with the system) are trained through a series of instructor-led workshops with hands-on sessions with the developed solutions and migrated customer data.

The training is designed with the end-users in mind and aims to provide the end-users with the knowledge and skills needed to effectively utilize the software in their role.

The following tasks will be carried out:

Task	Main Responsible	Deliverable	Description
Training Preparation	Previsé		Previsé will internally prepare for the delivery of the training sessions by reviewing the completed ChorusLink or Previsé Coral solution. Previsé may collaborate with the customer, as needed, to ensure that the training workshops are facilitated in a manner conducive to customer user learning, i.e. incorporation of the Business Scenario Definitions. Please note that no customized training material will be produced unless that has specifically been added to scope.
Training	Previsé / App Vendors	Training Workshops	Previsé will conduct user training sessions – also known as “Train-the-Trainer” training sessions. The audience should be limited to the core team customer SME's who have been active participants throughout the implementation. Training will encompass all in-scope business processes and Apps and will focus on the end-to-end business process.

2.8 Go-Live Stage

The Go-Live stage is the final stage of the project where the items in scope will finally be taken into productive use. As part of this stage, Previsé will prepare the final deployment, redo the data migration and finally cut over to productive use of the software. As part of this stage the following tasks will be carried out:

Task	Main Responsible	Deliverable	Description
Production Environment	Previsé	Production Environment Available	Previsé will prepare the production environment and work with the App vendors to ensure that all items are available in the production environment.
Final Data Migration	Previsé	Data Migration Finalized	Previsé will conduct a final data migration and verify that the data is loaded as expected.
Go-Live Dry-Run	Previsé	Deployment Process Ensured	Previsé and the customer will perform a dry run of the deployment including data migration and initial testing that everything is working as expected.
Go-Live Deployment	Previsé	System Live	Previsé and the customer will deploy the software and cut over to productive use.
Go-Live Assistance	Previsé	Transition to Support	Previsé will conduct assistance to the end users as agreed in the contract and handover further support to Previsé and ChorusLink Support.

2.9 Project Management

Project management is the foundation for all the stages of a Previsé project be it from a Previsé project manager or a customer project manager. The presence of robust project management is noticeable through the

initial orientation with a new customer, all the way through the final sign-off of the project. Previsé will produce and maintain an open project issues log, which identifies any required decisions or actions to be taken by either Previsé, the customer or a third-party partner. Weekly status reports and monthly management meetings allow Previsé, the customer and any involved SI or partners to communicate openly about issues, progress, and expectations.

The following tasks are included in this stage:

Task	Main Responsible	Deliverable	Description
Project Management	Previsé	Updated Resource Plans Updated Project Plans Updated Scope Updated Project Log	Throughout the project implementation, Previsé will ensure that continual review, management, and communication of the following is occurring: overall project status; scope; budget; schedule; resources; tasks and issues.
Program Management	Previsé / Customer	Monthly Steering Committee Meetings	Throughout the project implementation, Previsé management will monitor and review project status and progress with the customer via monthly steering committees and status meetings. Previsé management will also serve as a point of issue and risk escalation.
Project Status Communication	Previsé	Weekly Status Report	Previsé will create a weekly status report and the details with regards to the format and medium will be mutually agreed during the Communication Plan delivery in the Plan stage.
Project Change Management	Previsé	Change Orders	Previsé will monitor scope change requests and initiate a written Change Order to facilitate formal acceptance of scope change. Upon mutual execution of the written Change Order, Previsé will formally apply the changes and modify the project cost and schedule baselines, as needed. Please note that the budget for change orders can be exceeded and a change order for more change order time can be necessary if many change orders are raised.

3. Implementation Team & Structure

3.1 Project Roles

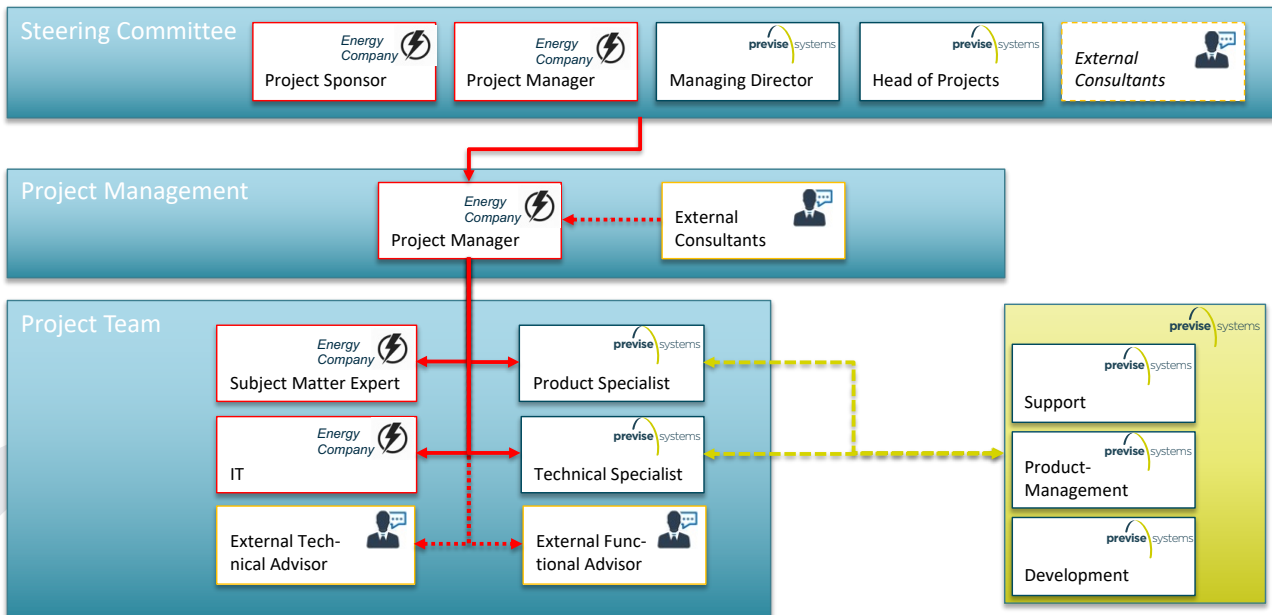
This section details representative tasks and responsibilities for the typical project roles:

Previsé Systems	Customer
Previsé Executive Sponsor / Managing Director / Head of Projects <ul style="list-style-type: none"> - Establishes a relationship with the Customer Project Sponsor and periodically and proactively discusses project status - Generally, participates in the Steering Committee and/or Executive Committee - Serves as an escalation point 	Customer Executive Sponsor / Project Manager <ul style="list-style-type: none"> - Responsible for overall project initiative - Controls project budget - Communicates project objectives to the Customer organisation - Generally leads regularly scheduled steering committee meetings
Previsé Project Manager – Principal <ul style="list-style-type: none"> - Creates and manages project plan - Coordinates project activities with Customer and other project manager(s) - Helps identify, document, escalate and resolve project-level issues - Obtains deliverable approvals - Records and reports task completion and progress - Prepares weekly status reports. 	Customer Energy Project Manager <ul style="list-style-type: none"> - Coordinates Customer resources - Helps prepare the organisation for deployment and change - Approves specific project deliverables - Reviews and approves all scope changes - Manages and co-ordinates various Project Stakeholders and partner organisations
Previsé Product Specialist – Principal, Senior or Junior <ul style="list-style-type: none"> - Executes assigned tasks and prepares deliverables according to schedule - Responsible for product expertise - Responsible for the overall quality of the product solution - Specialist in functional elements of Previsé products 	Customer Subject Matter Experts (SMEs) <ul style="list-style-type: none"> - Confirms business process decisions / design requirements - Validates the quality and integrity of data and migrations - May assist in the design and delivery of end-user training.
Previsé Technical Specialist – Principal, Senior or Junior <ul style="list-style-type: none"> - Executes assigned tasks and prepares deliverables according to schedule - Responsible for Technical expertise - Responsible for the overall quality of the technical solution 	Customer IT <ul style="list-style-type: none"> - Installs and supports hardware, system software, and application software on servers and desktops if required - Provides secure network connectivity to Previsé team members

Previsе Systems	Customer
- Specialist in technical elements of Previsе products	- Support connectivity between cloud and on-prem systems

3.2 Project Organisation Chart

The OrgChart below outlines the proposed structure of the main project roles for an implementation of Previsе Systems’ solutions at the Customer:



4. Project Tools

Previsе suggests the use of **JIRA for workflow tracking and Test and Defect Management** and **Azure DevOps for software release management**. Both tools have been used extensively by Previsе for customer project implementations and are also used by Previsе internally for development and release management.

JIRA is a recommended tool for this implementation as it allows support for project management, for requirement and backlog management, for sprint planning and can also be used for test management via tasks etc. The tool can also be used for issue and defect resolution tracking. JIRA can be hosted in the Cloud so allowing distributed and remote teams access to the tool. JIRA is widely recognised in the industry and the costs of licences are moderate.

In addition to the above, standard Microsoft tools would also be used for Project Management i.e. MS Project, Word and Excel for Project Reporting etc.

Further to JIRA and Azure DevOps, Previsе would also advocate the use of a **code repository tool** to aid with Release Management – Team Foundation Server (TFS) is a tool that Previsе uses extensively, therefore we are familiar and experienced in its use.

Throughout the hundreds of project implementations that Previsе consultants have undertaken in their careers, we have used and had exposure to a wide variety of customer-used and even customer-developed tools. We are happy to adopt any such tools that the customer or their partners currently make use of within house.

For *Data Modelling and Migration tools* please refer to the “Previsе Systems - Data Migration Process” document.

For *Process Mapping tools* – Previsé has an Excel template that is used during the Business Process Mapping stage as described above. We are happy to show and demonstrate how this tool can be used during any onsite demos.

5. Project Risks

There are a number of possible risks and mitigations that will occur with a Project / Program of the nature that the Customer intends to undertake. In the table below Previsé Systems have highlighted the key high-level risks and the possible mitigations as we see them.

Also, as new risks will occur and as risks will need to be managed as we progress together along this project journey, a key task of the Project Management stage within the Previsé Systems Implementation Methodology will be to create and maintain a joint RAID log for use by all parties such that risks, mitigations and issues can be tracked and managed.

	Risk	Mitigation
1	Lack of business engagement / re-resources for the project	Ensure the business are engaged early and have clear oversight of the plans including resource planning so they are aware of when the project will need business resources and engagement. Allow for possible delegation of some tasks to a system integrator.
2	Constant changing requirements affecting time and cost	Develop a robust change management process and ensure all parties and stakeholders follow this process.
3	Time and cost management	Ensure that as part of the planning contingency is built into the plan for both cost and time.
4	Lack of senior stakeholder engagement	Ensure regular update meetings occur with senior stakeholders so they can be kept up to date with progress and are available for any escalations required for risks or issues.
5	Solution not meeting business needs / requirements	Ensure close engagement with the business and that they are actively engaged in the project (e.g. via the Testing, Training and Business Process Stages) and that they are confirming the solution still meets their requirements and use cases as documented.
6	Solution not meeting required quality levels and so the Business not confident to accept the solution	Define quality exit criteria for each stage of the testing via the test strategy document and ensure test evidence is recorded and reviewed as a part of the testing stages.
7	App vendor risk – not identifying a vendor for a given App (in time)	The Business Process stage ensures that all processes map into either a Previsé System process or an App process. if not then we agree early how to close the gap, i.e. develop / extend an App or alter the business process.
8	App vendor risk – later delivery of an App	Ensure we have close and regular updates with the App vendors so we can closely track their progress and also ensure we build contingency into the plan and try to decouple the deliveries as much as possible.
9	App vendor risk – quality issues with an App	Ensure App vendors provide us with evidence of their unit testing on the Apps and that we system test the Apps using the provided use cases before signing off on App delivery.

6. Testing

The following tools are used in software quality management:

- Jira
- Azure DevOps
- TFS4Jira – syncing issues across DevOps and Jira
- Selenium – for UI testing

Software testing occurs on the following levels:

- a) Unit testing
 - Product specifies minimum (pass and fail) test cases with specification
 - Developer creates the unit test cases and checks in with code
 - Unit tests are executed on each compile automatically in DevOps Pipelines
- b) Integration and UI testing
 - Test cases (pass and fail) are created by product/QA, automated and checked into DevOps Test
 - Executed every day overnight when deploying to higher instance automatically
 - UI testing tool: Selenium
- c) Regression testing
 - Test cases are created by product management / QA, automated and checked into DevOps Test
 - End to end testing, executed before every production release
 - These are dependent test cases executed automatically in a logical order
- d) Manual verification
 - After successful deployment, QA team runs manual sanity checks on the environment
- e) Health check
 - Data integrity checks, making sure that there is no misconfiguration, missing data, etc.
 - Automatically executed within the application by our Task Scheduler
 - This generates a report within the application where customers can monitor if there is a problem – and review the suggested fix
- f) Reporting
 - Test execution reports are automatically created after each execution
 - Based on the results, the DevOps pipeline stops or continues the deployment (this is setup based on test case impact/severity)

Please also refer to Section 2.6 Testing Stage above.