

## Schedule 1 – Programme of Requirements

The Programme of Requirements forms a Schedule to the Descriptive Document for the European Tender "E-Lending – Online Library" of the KB.

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## 1 General requirements

1	MH/SH	Weight	Description
M1.1	Must		As soon as the Contractor knows or ought to know that the Contract will not be performed, or will not be performed on time or properly, the Contractor shall immediately inform the KB in writing and by telephone, stating the circumstances.
M1.2	Must		The Contractor shall not issue any communications about the Framework Agreement/Agreement or the relationship with the KB without the KB's written consent.
M1.3	Must		<p>During the term of the Framework Agreement/Agreement, a strategic and tactical evaluation meeting shall take place at least once a year between a designated official of the KB and the Contractor's account manager.</p> <p>The Contractor is responsible for recording the meeting discussions in writing, including the agreed actions to be taken and areas for improvement, and for providing this record, whether or not in digital format, no later than one week after the meeting. The KB is responsible for setting the agenda for this meeting.</p>

## 2 Functional requirements

### A. Reading and listening features

Content can be accessed and consumed across multiple devices and front-ends, including the website, mobile apps (Android/iOS) and e-readers. Reading and listening takes place entirely within these front-ends. The user experience within the app and on the web is supported by a set of core reading and listening features, such as personal settings, text highlighting, searching within content, and note-taking. The reader is designed to be smooth and intuitive to use, with seamless transitions between online and offline reading and listening.

2A	MH/SH	Weight	Description
M2A.1	Must		<p>The solution must support seamless switching between devices (app and web), including synchronisation of reading position, playback position, preferences, annotations, and bookmarks.</p> <p>When a user re-borrows an e-book or audiobook, the title must automatically resume at the last known page or listening position from the previous lending period, with all annotations and bookmarks preserved.</p>
M2A.2	Must		<p>The mobile app (Android/iOS) must support offline access to downloaded e-books and audiobooks, allowing users to read or listen without an internet connection.</p> <p>While offline, the solution must record and retain reading position (for e-books) and playback position (for audiobooks), as well as allow users to create annotations and bookmarks. All offline activity, including positions, annotations, and bookmarks, must be automatically synchronised when connectivity is restored, ensuring consistency across the mobile apps and web environment.</p>
M2A.3	Must		<p>The application must provide a listening experience comparable to that of leading audio platforms. Users must be able to:</p> <ul style="list-style-type: none"> <li>Listen with their phone locked or in their pocket;</li> <li>Pause and resume playback via connected devices such as headphones.</li> </ul>

			The listening functionality must be reliable and intuitive across operating systems and devices, without unexpected interruptions or loss of playback position.
M2A.4	Must		The solution must support Text-to-Speech (TTS) functionality, enabling written content to be converted into spoken audio using a synthetic voice. The TTS functionality must support adjustable playback speed and be available within the reading interface, in the mobile app (Android/iOS) and in the online reader.
S2A.1	Should	5	The solution should support synchronised ("karaoke") reading functionality, where the text is highlighted in real time with spoken audio (TTS or pre-recorded narration). The feature should allow users to follow the reading position within the text and include the ability to adjust the reading speed and select a voice.
S2A.2	Should	2	The solution enables users to look up word definitions directly in the e-book by selecting or highlighting a word, without leaving the reading interface. It leverages the device's built-in dictionary where available and supports multiple languages.
M2A.5	Must		The solution must provide clear and informative error messages whenever an issue occurs, enabling users to understand the problem and how to proceed. Error messages must be specific to the situation and provide guidance where possible, rather than displaying only generic or technical system messages.

## B. Personal features and user preferences

To support a personalised and user-centric experience, the solution must provide functionality for authenticated (logged-in) users to manage their wishlist, reading and listening history, and create and maintain profile information and personal preferences. These capabilities help users keep track of their interests and interactions with the service and support more relevant content discovery and engagement.

2B	MH/	Weight	Description
	SH		

M2B.1	Must		The solution must enable users to create, manage, and access their own wishlist: users can add, view or remove titles from a personal wishlist without initiating a loan. Wishlist data must be synchronised across all user devices.
M2B.2	Must		The solution must enable users to view their reading and listening history.
S2B.1	Should	2	The reading and listening history provides users with filtering, sorting, and search options to easily find previously read or borrowed titles.
S2B.2	Should	2	The solution enables users to hide or remove specific titles from their reading and listening history (i.e. remove from user-visible history), without affecting underlying transaction records.
M2B.3	Must		The system must allow end users to view, update, reset and remove their own profile information within both the website and the mobile app (Android/iOS). The location of this feature must be clearly visible and easily accessible, ensuring a user-friendly experience across all platforms.
S2B.3	Should	2	The solution allows end users to select their preferred catalogue display mode, such as thumbnail view or list view. It enables users to switch between these display modes, and it persists their chosen view across sessions and devices.
S2B.4	Should	2	The mobile app (Android/iOS) provides a distraction-free mode that allows users to read or listen without interruptions. This may include muting or minimising in-app notifications, requesting audio focus to reduce sounds from other apps, and/or offering users the option to enable the device's "Do Not Disturb" mode.
S2B.5	Should	2	The mobile application (iOS and Android) must support a dark mode interface that allows users to switch between light and dark display themes. The dark mode must apply consistently across the application and should also support automatic switching based on the device's system settings.

### C. Search, preview and lending

The system must support e-lending of multiple digital content formats and enhance the user search experience through intuitive auto-complete, intelligent

search and filter features, enabling users to quickly and easily find the desired digital content items with accuracy and overall usability.

2C	MH/	Weight	Description
<b>SH</b>			
M2C.1	Must		The solution must support the e-lending of digital content items and allow users to borrow titles via the website and mobile app (Android/iOS).
M2C.2	Must		The platform must support at least the following digital content file formats for ingestion, storage, and user consumption: EPUB, PDF, MP3/ZIP, MP4/ZIP (ZIP for ingestion and storage only).
M2C.3	Must		The application must allow users to borrow digital content items for a limited loan period. When the loan period expires, access to the item must automatically end (both online and offline).  The user must have the possibility to view information about the loan period.
M2C.4	Must		The solution must allow end-users to access a preview of an e-book or listen to an audio sample before borrowing the title. This functionality must be integrated within the reading or listening environment, allowing users to experience the content without leaving the interface. The functionality must provide the preview of the e-book and/or an audio sample for audiobooks and function consistently across both web and mobile app (Android/iOS) environments.
S2C.1	Should	5	The solution allows end-users to explore the platform and try out samples (e.g. book previews or audio fragments) without logging in, both on the website and in the mobile app (Android/iOS).
M2C.5	Must		<b>Auto-Complete</b> As users type in the search bar, the system must automatically complete partially entered words or phrases with relevant suggestions based on the available collection. Suggestions must update dynamically as the user types, with minimal delay.

S2C.2	Should	10	<p>Intelligent Search</p> <p>The solution provides intelligent search assistance that helps users find relevant content even when queries are misspelled, illogical, unclear, or produce no direct matches.</p> <p>The system:</p> <ul style="list-style-type: none"> <li>• Supports searching across multiple searchable categories, including at minimum title, author, series, subject/genre, and other relevant metadata, and allows users to search within a general ("search all") scope as well as, where applicable, within specific categories;</li> <li>• Offers auto-suggestions (e.g., "Did you mean...?") based on indexed data or frequent search terms, while allowing users to proceed with their original query;</li> <li>• Presents meaningful alternative results when no direct matches are found, clearly marked as alternatives, explaining their relevance (e.g., similar genre or topic), and offering clickable links;</li> <li>• Supports semantic search by interpreting natural-language queries, understanding intent, handling synonyms and related concepts, and ranking results by contextual relevance rather than pure keyword matching;</li> <li>• Provides configurable logic for suggestions and alternatives (e.g., similarity, popularity, or metadata relationships), as well as back-end-level search configuration that allows administrators to define which metadata fields are used when users perform a general ("search all") query.</li> </ul>
M2C.6	Must		<p>The solution must enable users to refine search results through filtering on multiple metadata fields simultaneously.</p> <p>The system must:</p> <ul style="list-style-type: none"> <li>• Support filtering on commonly used catalogue metadata, including at minimum: author, title, subject/genre, publication date, language, format (e.g. e-book, audiobook, periodical, video), and availability status;</li> <li>• Allow users to apply and combine multiple filters at the same time;</li> <li>• Dynamically update search results based on selected filters;</li> </ul>

			<ul style="list-style-type: none"> <li>Clearly display active filters and allow users to easily add or remove filter criteria.</li> </ul>
M2C.7	Must		The solution must allow users to sort search and filtered result lists based on relevant criteria, including at minimum publication date (e.g., newest first / oldest first). Additional sorting options (e.g., relevance, title, author, popularity) must be supported where applicable.
S2C.3	Should	2	<p>The solution enables authorised employees to configure, at back-end level, which metadata fields are available as filters in the user interface.</p> <p>Employees are able to:</p> <ul style="list-style-type: none"> <li>Enable or disable specific metadata fields for filtering;</li> <li>Define the order and user interface presentation of available filters (e.g. display order, grouping, and filter type such as dropdown or checkbox list);</li> <li>Define the labels for filtering;</li> <li>Configure filter logic where applicable (e.g., single-select or multi-select);</li> <li>Apply these configurations without requiring code changes or vendor intervention.</li> </ul> <p>Changes to filter configuration are reflected consistently across the website and mobile apps (Android/iOS).</p>

#### D. Web-based reader and media player

To enable users to consume digital content directly within the website without requiring additional applications or devices, the solution must provide browser-based reading, listening, and viewing functionality. This includes an online reader and a web-based media player.

These components enable users to read, listen to, and view borrowed content directly in the browser and complement the mobile applications and other supported reading, listening, or viewing environments, ensuring a consistent and accessible user experience across platforms.

2D	MH/	Weight	Description
	SH		

M2D.1	Must		The solution must provide an online reader that allows users to read digital content items directly in the web browser without requiring local downloads.
M2D.2	Must		The solution must allow users to read via the online browser-based reader without requiring any additional software installation.
M2D.3	Must		The solution must allow users to listen to audiobooks and play video content directly within the web browser through a browser-based media player. Content must be streamed and playable without requiring local downloads or additional software installation.
M2D.4	Must		The online reader and media player must support at least the following web browsers: Firefox, Chrome, Edge, and Safari, ensuring full and reliable functionality in each of these environments.
M2D.5	Must		The solution must provide intuitive navigation features within the online reader and player, including navigation buttons, content access controls, and other features specified for the in-app reader.

## E. Periodicals, series, authors and narrators

To support discoverability and intuitive navigation, the solution must provide clear presentation and navigation of series, periodicals, authors and narrators. By presenting contextual relationships – such as series order, related titles, and periodical issues – users are better able to explore content logically, follow authors, series or publications of interest, and stay informed about new releases or editions.

2E	MH/	Weight	Description
<b>SH</b>			
M2E.1	Must		<p>Display and navigation of series information.</p> <p>The solution must display series information for titles that are part of a collection or series, including the series name and the sequence or volume number within that series. Users must be able to:</p> <ul style="list-style-type: none"> <li>• See clearly that a title belongs to a series;</li> <li>• View the series name and order/sequence.</li> </ul>

			Objective: To provide users with contextual and navigational metadata that enhances discoverability and supports logical browsing through related titles.
S2E.1	Should	2	The solution allows users to navigate from a title that is part of a series to a dedicated series view, where other titles within the same series can be explored in their logical order.
S2E.2	Should	2	The solution must allow users to navigate from a title to a dedicated author and narrator view. From this view, users must be able to explore other titles associated with the same author or narrator within the catalogue, supporting discovery of related digital content items.
S2E.3	Should	5	The solution enables users to follow authors and periodicals and receive notifications when new titles or editions become available. The solution provides a mechanism to manage these preferences.
S2E.4	Should	5	The system displays periodicals (e.g., magazines, newspapers) in a clear, structured, and user-friendly manner. Each periodical is presented as a single identifiable title with access to all associated issues. The solution may implement this structure in different ways, provided that the relationship between the periodical title and its issues remains clear and intuitive for users.

## F. Multilingual support

The solution must support a multilingual user experience, enabling users to interact with the platform in their preferred language. In addition, the solution must correctly handle diverse writing systems and scripts to support a broad and international range of digital content within the reading and listening environment. To serve users in Bonaire, Sint Eustatius, Saba, Aruba, Sint-Maarten and Curaçao, as part of the Caribbean region of the Kingdom of the Netherlands, support for the Papiamentu language is required. The solution ensures consistent language behaviour for Papiamentu across all user-facing channels, including the website and mobile apps (Android/iOS).

2F	MH/	Weight	Description
	SH		

M2F.1	Must		<p>The solution must support multiple languages for both the website and mobile app (Android/iOS), with at least Dutch and English available.</p> <p>Users must be able to select their preferred language, and the system must ensure consistent language behaviour (user-facing text, labels and messages) across all platforms, including web and mobile app (Android/iOS).</p>
S2F.1	Should	5	<p>It is considered an advantage if the solution already supports Papiamentu for both the website and mobile app (Android/iOS).</p> <p>The solution enables users to select Papiamentu as their preferred language and ensures consistent language behaviour (user-facing text, labels, and messages) across all platforms, including the website and mobile app (Android/iOS).</p>
S2F.2	Should	2	<p>The solution supports multiple writing systems and scripts (e.g., Arabic, Cyrillic, Chinese) within the digital reading environment. The system correctly displays and renders such content, including:</p> <ul style="list-style-type: none"> <li>• Proper handling of diverse character sets and encoding standards;</li> <li>• Consistent font rendering and text flow across web and app interfaces;</li> <li>• Compatibility with mixed-script content, such as annotations or embedded translations.</li> </ul>

## G. Editing and curation

To curate the collection and inspire and guide end users, editors should be able to manually and automatically create, manage and publish selections for content blocks such as carousels, grids, banners, lists and title blocks. Editors must be able to create these collections either on the basis of a rule set (metadata and/or tags) or by manual selection. Any selections created automatically by the platform must be editable by the editor (for instance, to remove a title).

A book’s metadata as provided by the publisher or distributor is not always fully tailored for use within an e-lending solution. Within the e-lending solution, additional tags may therefore need to be added to content by the editor to enable content selections that are not supported by the original publisher metadata. Editors must be able to add editorial content (manual text, image, video) to specific content blocks, including banners and single title or subject blocks.

In addition, the solution must enable the management of service pages, FAQ pages and landing pages for customer service, marketing, and campaign purposes. Employees must be able to create and edit these pages by adding and formatting text, images and video, and by placing visual elements such as banners or promotional blocks. Where supported, the solution may also allow configuration of page layout.

2G	MH/ SH	Weight	Description
M2G.1	Must		<p>The application must support both automatic and manual creation and modification of content selections and their publication in content blocks (e.g. carousels) in the front-end interfaces (website and app) to highlight titles, themes, or collections.</p> <p>Editors must be able to:</p> <ul style="list-style-type: none"> <li>Automatically generate content blocks based on defined keywords, tags or metadata (e.g., "Create a carousel based on this tag");</li> <li>Manually select and curate titles for content blocks;</li> <li>Combine automatic and manual methods and override auto-generated results when needed;</li> <li>Define and adjust the sorting order of titles within content blocks, including both automatic sorting (e.g., newest first) and manual ordering.</li> </ul> <p>The system must ensure that content blocks are regularly updated based on current metadata and tagging, and that editors have full control to override or adjust automatically generated content.</p>
S2G.1	Should	2	The application supports the creation and management of tags for digital content items.
M2G.2	Must		The application must provide a dedicated announcements and outage screen and/or banner that staff can manage to communicate important information (e.g. incidents, maintenance, service updates) directly to users.
S2G.2	Should	10	The solution supports multiple visual layouts for content blocks. Examples of desired formats are carousels, large tiles, single title/subject content blocks, grids, tall-card layouts, and

			other visually distinct block styles that enhance the browsing experience and allow for different ways of curation.
S2G.3	Should	5	The system enables images, video files, and audio files to be added as editorial content to certain content blocks (single title/subject title block), such as inspirational or promotional clips, to enrich the user experience.
M2G.3	Must		<p>The system must support user segmentation based on attributes such as age category, membership type, and user-defined preferences.</p> <p>For authenticated (logged-in) users, segmentation and associated personalisation must be applied automatically upon login and during the user session. Based on the applicable segment(s), the system must automatically present differentiated editorial and recommendation content (e.g., collections, curated lists, featured items, and other promotional content) tailored to the user group.</p> <p>Authenticated users must be able to view and update their preferences to maintain the relevance of personalised and community-based content recommendations.</p>
M2G.4	Must		<p>The solution must allow users to select their areas of interest from a predefined list of interest categories in order to support personalised content and recommendations.</p> <p>Employees must be able to configure and manage this list in the back-end, including creating, modifying, and removing interest areas. Changes to the list must be reflected consistently across the website and mobile applications (iOS and Android).</p>
S2G.4	Should	5	<p>The solution supports SEO features to ensure visibility in external search engines.</p> <p>The solution:</p> <ul style="list-style-type: none"> <li>• Supports customisation of SEO metadata (page titles, meta descriptions, alt text);</li> <li>• Supports configurable, human-readable, SEO-friendly URLs.</li> </ul>
M2G.5	Must		The solution must enable the creation, management, and publication of service pages and landing pages for customer service, marketing, and campaign purposes. The solution

			<p>must also support the management of a cookie banner and privacy statement in compliance with applicable data protection and cookie regulations.</p> <p>This functionality must be available for both the website and the mobile applications (iOS and Android), allowing content to be managed centrally and presented consistently across all channels.</p>
M2G.6	Must		<p>The solution must allow administrators to manually upload digital content items and add or edit metadata directly on the platform. This functionality must include:</p> <ul style="list-style-type: none"> <li>• Support for standard e-book and document formats;</li> <li>• The ability to enter or edit metadata (e.g., title, author, subject, description, rights information);</li> <li>• Optional assignment to collections or categories;</li> </ul>
M2G.7	Must		<p>The system must support deep linking so that when a user clicks a link (e.g., from a newsletter), it opens the relevant page in the mobile app (Android/iOS) if installed, or otherwise opens the corresponding web page in the browser.</p>
M2G.8	Must		<p>The solution must support role-based access control (RBAC) for employees, allowing the creation and management of distinct employee role groups with different permissions. This concerns, for example, functional management, purchaser, editor, and customer service employee roles.</p>

## H. Presentation and visual identity

The solution must provide a consistent, recognisable, and user-friendly visual presentation across all channels. Through branding, content rendering, and differentiation of formats and user segments, the interface must support intuitive discovery, accessibility, and a high-quality user experience on both the website and mobile apps.

2H	MH/	Weight	Description
	SH		

M2H.1	Must		The solution must apply the visual identity (branding, colours, logo, typography, etc.) delivered by the KB consistently across the app and website.
M2H.2	Must		<p>Imported cover images must be displayed as provided, without deformation, cropping, or aspect-ratio changes; the original proportions of the covers must be preserved.</p> <p>If audiobooks, e-books, and periodicals are presented on the same page, a subtle logo should be used to differentiate between them.</p> <p>NB Audiobooks have a square cover image and must be represented as provided.</p> <p>To ensure a uniform presentation, the solution may visually fill or frame cover images (e.g., by adding background padding, blur, or neutral fill areas) where necessary, provided that the original cover image itself remains unaltered and fully recognisable.</p>
S2H.1	Should	10	The solution presents titles in a format-neutral way in content blocks and search results, displaying the work without a specific format. Beneath the title, the system displays all available formats (e.g., e-book, audiobook). The solution enables users to easily navigate to their preferred format from this view.
S2H.2	Should	5	The solution supports a dedicated look and feel for specific user segments (e.g., youth, children, or other distinct groups). For each segment, the system enables tailored design and presentation, including navigation patterns, theming or branding, banners, and the application of segment-specific access restrictions where required.

## I. Lending models and access rules

The platform serves multiple user groups (e.g. youth and adults), for which different loan conditions may apply. This may relate to subscription costs, but also to a target-group-specific collection or the maximum number of digital items that a user may borrow.

content

2I	MH/	Weight	Description
<b>SH</b>			
M2I.1	Must		The system must allow administrators to configure lending rights at the subscription level, such as the number of simultaneous loans, loan duration, and access to target-group-specific collections. These settings must be easily adjustable without requiring technical changes.
M2I.2	Must		The system must support the addition and management of new subscription types. This includes flexibility to configure different rules, allowances, and limitations per subscription type.
S2I.1	Should	2	The system enables administrators to set and adjust lending rights at the individual title level, including parameters such as loan duration, number of concurrent loans, and renewal options. These settings are managed directly within the platform.
M2I.3	Must		The platform must support multiple e-lending models, including (but not limited to) one-copy–one-user, one-copy–multiple-users and an unlimited number of loans (cost-free, public domain).
M2I.4	Must		The solution must support an e-lending model based on borrowing limits per time period, whereby users may borrow a defined maximum number of titles within a fixed period (e.g. 10 e-books per 3 weeks and 5 audiobooks per 2 weeks). Early return of titles before the expiry of the lending period must not be possible. In the event that early return or removal is technically unavoidable, such returned or removed titles must continue to count towards the applicable borrowing limit until the relevant time period has fully expired.
M2I.5	Must		The solution must support customer group–specific loan and access rules, including: <ul style="list-style-type: none"> <li>• Target-group-specific access, allowing certain groups to borrow only titles from defined subcollections or categories (e.g. youth content only);</li> <li>• Maximum number of concurrent loans, configurable per customer group;</li> </ul>

			<ul style="list-style-type: none"> <li>• Maximum number of loans within a defined period, e.g. per month or per subscription year, configurable per customer group;</li> <li>• Exclusion of free content from loan limits;</li> <li>• Separate loan counting per content type (e.g. e-books and audiobooks count separately);</li> <li>• Composition and assignment of subcollections (categories) to specific customer groups, determining which titles are available under which subscription conditions.</li> </ul>
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## J. Support for user reviews and feedback

To better understand user experiences and improve the quality and relevance of the service, support for collecting and managing user reviews and feedback is required. User feedback provides valuable insights into content appreciation and platform usability and supports continuous improvement of the e-lending service.

2J	MH/	Weight	Description
<b>SH</b>			
S2J.1	Should	2	<p>The solution supports user reviews and ratings.</p> <p>The solution enables users to choose whether their reviews or ratings are shared publicly or kept private for personal reference. Users are able to adjust this visibility setting easily at the time of submitting a review or afterwards through their account settings.</p> <p>The solution also enables authorised employees to view and monitor user reviews in order to support moderation. Employees must also be able to update or remove reviews and ratings where necessary.</p>
S2J.2	Should	2	<p>The application provides features to collect user feedback across the website and mobile app (Android/iOS), including ratings, open-text responses and multiple-choice options. Feedback prompts (e.g. pop-ups) are configurable and manageable by authorised employees.</p> <p>The solution enables employees to:</p>

			<ul style="list-style-type: none"> <li>• Schedule feedback pop-ups with specific start and end dates/times;</li> <li>• Manually activate or deactivate pop-ups at any time;</li> <li>• Configure trigger-based deactivation (e.g., after a predefined number of responses);</li> <li>• Control visibility rules and placement of prompts across platforms.</li> </ul> <p>Collected feedback is stored securely, accessible for analysis by authorised employees, and presented in a structured and analysable format.</p>
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## K. Analytics and Tracking

To gain insight into platform usage, content performance, campaign impact and user behaviour, analytics and tracking capabilities are required. These insights support monitoring, reporting, and the ongoing optimisation of the e-lending service.

2K	MH/	Weight	Description
	<b>SH</b>		
M2K.1	Must		<p>The solution must provide an analytics platform for measuring user interactions across the service. The Contractor must state which analytics platform is used.</p> <p>The analytics platform must enable reporting on user behaviour, including:</p> <ul style="list-style-type: none"> <li>• Visits to Title Details Pages and subsequent borrowing actions;</li> <li>• Session duration;</li> <li>• Reading and listening behaviour;</li> <li>• Effectiveness of editorial placement and promotional activities;</li> <li>• User feedback analytics (aggregate trends and detailed entries);</li> </ul>

			<ul style="list-style-type: none"> <li>Breakdown of transactions by device type, for example distinguishing between e-reader downloads, mobile devices, and web/online reading environment;</li> <li>General application usage metrics, such as platform distribution (e.g. iOS versus Android), number of active users (daily, weekly, monthly), and user retention metrics.</li> </ul> <p>Provide analytics access, including:</p> <ul style="list-style-type: none"> <li>A clear, user-friendly dashboard for authorised employees;</li> <li>Filtering, analysis, and export of aggregated data (at least CSV and XLSX);</li> <li>Daily updates of analytics data.</li> </ul> <p>Ensure GDPR-compliant analytics, including:</p> <ul style="list-style-type: none"> <li>No collection of directly identifying personal data;</li> <li>Use of anonymisation or pseudonymisation;</li> <li>The platform must not include third-party tracking technologies, third-party analytics scripts, or third-party cookies. Only cookies and tracking mechanisms placed and managed through the KB's own designated analytics solution (currently Matomo) are permitted.</li> <li>Ability for end users to opt out of analytics tracking where required;</li> <li>Adherence to privacy-by-design principles.</li> </ul>
S2K.1	Should	2	The solution tracks and stores, in a privacy-compliant manner, user reading and listening progress for e-books and audiobooks. This tracking enables the KB to analyse how much of a title is read or listened to across users and which titles are partially or fully consumed.

## L. Content Protection Measures

In the current situation, the KB's main content supplier, CB (Centraal Boekhuis), applies content protection measures where applicable. For content obtained from any other repositories, the solution must ensure that source files containing copyrighted material are adequately protected against unauthorised access and illegal distribution. The purpose of these measures is to safeguard intellectual property whilst enabling secure and user-friendly access for end users.

2L	MH/SH	Weight	Description
M2L.1	Must		<p>The e-lending solution must be able to apply appropriate security measures to unsecured or already watermarked content files. The solution must retrieve all content types from a distributor or repository and make them securely available for consumption via the website, mobile applications (Android/iOS), and supported devices.</p> <p>For materials consumed on e-readers, the solution must apply Radium Licensed Content Protection (LCP).</p> <p>For audiobooks and periodicals, Radium LCP is the preferred security mechanism, or an equivalent industry-standard content protection solution.</p>
M2L.2	Must		<p>The e-lending solution must implement effective measures to prevent unauthorised copying, extraction, and distribution of e-books and other protected content.</p>
S2L.1	Should	2	<p>The solution supports automated testing using the KB's designated test tools (including BrowserStack or equivalent cross-browser testing platforms) without DRM-related restrictions blocking or invalidating test execution.</p> <p>DRM protection (e.g., LCP) must be configurable in non-production environments to support automated testing. This may include the use of designated test content without active DRM enforcement, or the controlled disabling of DRM protection for predefined test materials in environments such as the acceptance or test environment.</p> <p>Such configurations must be strictly limited to non-production environments and must not compromise content protection in the production environment.</p>

### 3 Interfaces

For an overview of the architecture and interfaces, see the architectural diagram in Schedule 2 – Architecture E-Lending Landscape.

The requirements in this chapter further specify the expected integrations and interface capabilities of the solution.

#### A. APIs and Protocols

The KB is seeking a supplier that supports both the consumption and provision of data via APIs. The KB follows the relevant guidelines of the Dutch Government and uses open standards wherever possible. Where available, the KB builds on industry standards.

3A	MH/	Weight	Description
SH			
M3A.1	Must		<p>The solution must be able to handle at least one of the following metadata standards for ingesting and processing bibliographic data:</p> <ul style="list-style-type: none"> <li>• MARC21</li> <li>• ONIX 3.0 or later</li> </ul>
M3A.2	Must		<p>The solution must integrate with the KB infrastructure by consuming the KB's API to import data, including cover images, preview files, and audio samples.</p>
M3A.3	Must		<p>The solution must be able to correctly render all HTML formatting exactly as provided in the delivered book descriptions.</p>
M3A.4	Must		<p>The solution must provide a mechanism to connect with future additional content providers in order to import digital materials (metadata, e-books, audiobooks, cover images, preview files, and audio samples). The import mechanism preferably supports OPDS as a standard for metadata and content exchange.</p> <p>The Contractor must describe: Which import mechanisms are available (e.g., APIs, SFTP, OPDS).</p>

S3A.1	Should	2	<p>The Contracting Authority should be granted sufficient insight into the import process, including access to relevant logs and status information, and visibility into validation results and error messages.</p> <p>The solution supports effective troubleshooting by the Contracting Authority by providing diagnostic information and, where applicable, administrative tools or dashboards showing the status of content imports.</p> <p>The level of transparency enables the Contracting Authority to analyse and understand import failures without requiring vendor intervention for standard operational issues.</p>
S3A.2	Should	2	<p>The platform stores price information per loan with pricing linked to the corresponding licences to ensure correct application and reporting.</p>
M3A.5	Must		<p>The solution must provide methods to export bibliographic metadata and metadata on current e-content holdings. Holding metadata must include licensing information, availability information and information about delivery options such as "downloadable file with DRM protection".</p> <p>Export must be delivered through an API using either the OAI-PMH standard (preferred) or a REST API.</p>
M3A.6	Must		<p>The solution must consume the KB's API for importing metadata and e-content holdings; the API will be implemented using either the OAI-PMH standard (preferred) or a REST API.</p>
S3A.3	Should	2	<p>The platform provides an API that allows the KB's organisation to retrieve, for each user, which titles they are currently reading and which titles they have previously borrowed.</p>
S3A.4	Should	2	<p>The platform supports integration with a third-party (external) recommendation engine, enabling the exchange of user interaction data and the receipt of personalised recommendation results via standardised interfaces (e.g., REST APIs).</p>
M3A.7	Must		<p>The platform must provide APIs that allow the KB to develop its own app and/or website.</p> <p>These APIs must include at least:</p> <ul style="list-style-type: none"> <li>• Search functionality;</li> <li>• Lending/borrowing functionality;</li> <li>• Access to content files (e.g., EPUB, audiobook files);</li> </ul>

			<ul style="list-style-type: none"> <li>• Access to metadata and related information.</li> </ul> <p>Additionally, the API preferably supports an open standard, such as OPDS.</p>
S3A.5	Should	2	The platform supports integration with the third-party customer support application Omnidesk to enable direct chat communication between users and the KB's Customer Service team. This chat functionality is available and accessible within both the website and the mobile app (Android/iOS).

## B. Connecting with and processing information from CB

In the current situation, Centraal Boekhuis (CB) is the KB's main content supplier. The solution must connect with CB for importing and ordering e-books, audiobooks, licence information and loan conditions. Ordering via CB is required because CB manages the financial settlement and payment to publishers. Licence and loan conditions for the majority of e-books and audiobooks are supplied by Centraal Boekhuis to the solution via imported licence data in XML format (an example XML fragment is provided).

Within this model, specific parameters in the XML define availability, loan conditions, and applicable restrictions. For example, the XML includes flags that indicate whether certain DRM mechanisms may be applied, dates that define the validity of a licence, and parameters that determine loan duration and contractual conditions such as pricing or zero-cost access.

Example for one book:

```
<Product>
  <ProductIdentifier>
    <ProductIDType>03</ProductIDType>
    <IDValue>9789180518024</IDValue>
  </ProductIdentifier>
  <ProductIdentifier>
    <ProductIDType>15</ProductIDType>
    <IDValue>9789180518024</IDValue>
  </ProductIdentifier>
  <AdobeDrmAllowed>N</AdobeDrmAllowed>
  <Available>Y</Available>
  <Licence>
    <LicenceName>Basis 1</LicenceName>
    <LicenceDate>
      <DateRole>14</DateRole>
      <Date dateformat="00">20231002</Date>
    </LicenceDate>
    <LicenceDate>
      <DateRole>15</DateRole>
      <Date dateformat="00">20991231</Date>
    </LicenceDate>
  </Licence>
  <LoanPeriod>
    <Quantity>21</Quantity>
    <LoanPeriodUnit>01</LoanPeriodUnit>
  </LoanPeriod>
</Product>
```

```

</LoanPeriod>
<LicenceCondition>
  <LicenceConditionType>02</LicenceConditionType>
</Quantity>100</Quantity>
  <LicenceAmount>0.00</LicenceAmount>
</LicenceCondition>
</Licence>
<ProductType>audiobook</ProductType>
<PPN>440101999</PPN>
</Product>

```

3B	MH/	Weight	Description
<b>SH</b>			
M3B.1	Must		The solution must provide a mechanism to connect with Centraal Boekhuis (CB) to import e-books, audiobooks, and licence information.
M3B.2	Must		<p>The e-lending solution must support publisher-defined device restrictions for e-content.</p> <p>Publishers must be able to specify on which front-ends content may be accessed, including the option to:</p> <ul style="list-style-type: none"> <li>• Allow access on all supported front-ends; or</li> <li>• Allow access on all front-ends except e-readers.</li> </ul> <p>The platform must enforce these restrictions consistently across the website and mobile apps (Android/iOS).</p>
M3B.3	Must		<p>The solution must be able to interpret and enforce multiple subscription and loan parameters as provided through imported licence data (XML). These parameters must be applied for both the website and mobile apps (Android/iOS).</p> <p>At a minimum, the solution must support the interpretation and enforcement of the following licence parameters from the XML data (an example XML fragment will be provided):</p> <ul style="list-style-type: none"> <li>• IDValue – used as the unique product identifier for entitlement, access control, and catalogue synchronisation.</li> <li>• AdobeDrmAllowed – used to determine whether Adobe DRM restrictions may be applied.</li> <li>• Available – used to determine product availability for discovery, access, and lending.</li> </ul>

			<ul style="list-style-type: none"> <li>• LicenceDate – used to determine licence validity, including start and end dates, and to enforce access only within the permitted licence period.</li> <li>• LoanPeriod – used to determine the maximum duration of a loan and to enforce automatic expiration of access after the loan period ends.</li> <li>• LicenceCondition – used to interpret contractual conditions (e.g. pricing, fees, or zero-cost access) and enforce them in entitlement and lending logic.</li> </ul>
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### C. Authentication and authorisation integration

The e-lending platform operates within the KB’s existing identity and access management landscape. To ensure secure and consistent access control, the platform must integrate with the KB’s Identity Management system and authorisation API.

The KB’s Identity Management system holds accounts and subscription information of end users. An API provides access to relevant information of end users (subscription information, for example). User authentication is carried out via OpenID Connect. The login screen is always provided by the KB’s Identity Management system. The KB’s security policy does not permit user credentials to be held in applications other than the Identity Management system.

KB employees accessing the e-lending management platform do so using their KB employee account. Authentication is provided via Microsoft Entra ID using OpenID Connect.

The following requirements describe the expected technical integration and supported authentication protocols, including OpenID Connect.

3C	MH/	Weight	Description
	<b>SH</b>		
M3C.1	Must		<p>End-user authentication must be implemented via OpenID Connect (OIDC) using the KB’s Customer Identity Management (CIAM) system.</p> <p>The CIAM system provides the login interface, and the solution must accept and validate the returned OIDC tokens</p>

			to establish and manage authenticated user sessions on both the website and mobile applications.
M3C.2	Must		The solution must integrate with the KB's authorisation service by sending authorisation requests to the KB's Authorisation API. Access-control decisions (e.g., entitlements, subscription status) must be validated through this API.
M3C.3	Must		Employee authentication must be implemented via Single Sign-On (SSO) using the KB's Employee Identity Management System (Microsoft Entra ID). The solution must rely on Microsoft Entra ID for authentication and accept the issued identity tokens to establish employee sessions. Access to the e-lending platform for employees must only be possible after successful authentication through this system.

#### D. Connecting with the KB's Data Warehouse

To support reporting and analytical purposes, specific datasets must be made available to the KB's Data Warehouse (DWH). These datasets enable reporting to the Dutch Ministry of Education, Culture and Science, public libraries, and the marketing department regarding the titles available on the platform and their lending activity. Part of this data collection is required as mandated by the Wet stelsel openbare bibliotheekvoorzieningen (Wsob, Dutch Library Act).

To facilitate this reporting, the KB's DWH requires structured information from the solution concerning titles and related transactions. This information must be delivered to the DWH in two separate data extracts.

3D	MH/	Weight	Description
<b>SH</b>			
M3D.1	Must		The solution must support automated daily data export via SFTP. The export must consist of two CSV files: <ol style="list-style-type: none"> <li>1. Titles (approx. 70,000 records)</li> <li>2. Transactions (approx. 25,000 records).</li> </ol> Each file must contain all relevant attributes for either a defined reporting period or a specific point in time, as specified by the KB. The transactions export must include a breakdown of

			<p>transactions by device type, for example distinguishing between e-reader downloads, mobile devices (e.g., smartphone or tablet applications), and web/online reading environments.</p> <p>The integrity of each exported file must be verifiable (e.g. via checksums) and must ensure GDPR-compliant handling of all exported data, including appropriate anonymisation or pseudonymisation where required.</p>
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## 4 Security

As a public-sector organisation, the KB is required to comply with strict security standards and regulatory frameworks, including the obligations arising from the NIS2 Directive and its implementation in Dutch law. The platform will process user data and operate as part of a broader digital ecosystem, which requires a high level of protection against security threats, unauthorised access, and data breaches.

The Contractor must therefore ensure that the platform is designed, implemented, and operated in accordance with security best practices and security-by-design principles. Appropriate measures must be in place to safeguard data, ensure system integrity and availability, and support compliance with applicable laws, standards, and security policies.

The following requirements describe the minimum expectations regarding security controls, operational security practices, and compliance measures.

### A. Security – authentication and authorisation

4A	MH/	Weight	Description
<b>SH</b>			
M4A.1	Must		The Contractor maintains a record of which individuals acting on behalf of the Contractor have access to the e-lending platform and can provide an overview of this to the Contracting Authority upon request.
M4A.2	Must		No one is granted access to information, data, or documents of the Contracting Authority without appropriate authentication. The Contractor applies adequate techniques and tools to verify the unique identity of individuals and systems requiring access to perform tasks and functions.
M4A.3	Must		The web application provides the ability to automatically log out Users after a certain period of inactivity. This period is configurable.
M4A.4	Must		The e-lending platform provides the ability to automatically log out Users and Administrators after a certain period of inactivity. This period is configurable.
M4A.5	Must		The Contractor ensures that employee passwords not managed within the Contracting Authority's Microsoft Entra ID

			meet at least the password criteria defined by the Contracting Authority. These criteria are configurable.
M4A.6	Must		The Contractor ensures that employee passwords stored for the e-lending platform, which are not managed within the KB's Microsoft Entra ID, are hashed using appropriate and up-to-date methods. Encrypted and hashed storage must use adequate encryption standards, adhering to OWASP's recommendations.
S4A.1	Should	2	The e-lending platform allows for the automatic revocation of granted authorisations to KB's users and administrators upon termination of employment.
S4A.2	Should	2	The e-lending platform enables the Contracting Authority to perform authorisation management independently as part of Functional Management. Authorisation management includes granting, modifying, and blocking user access to specific parts, modules, and/or specific information within the e-lending platform. Functional Management can obtain an overview of configured users and their authorisations.
S4A.3	Should	2	The e-lending platform allows for the use of self-defined authorisation roles (in accordance with the RBAC model) to grant users access to specific features. A feature or function not authorised for a user is not available to that user.

## B. Security – encryption

4B	MH/SH	Weight	Description
			<b>SH</b>
M4B.1	Must		Transport Layer Security must be configured in such a way that Qualys' SSL Labs SSL Server Test will result in at least "A" scores and any remaining weak ciphers are offered last in the handshake for all internet-facing endpoints of the e-lending platform and web application.
M4B.2	Must		The e-lending platform, web application and mobile application must by default use secure communication protocols such as HTTPS, SSH, and SFTP. HTTPS must conform to the NCSC's "IT Security Guidelines for Transport Layer Security (TLS)"

			v2.1, which includes the use of at least TLS 1.2, preferably TLS 1.3 or newer. Additionally, HSTS must be enforced.
M4B.3	Must		Data within the e-lending platform must be encrypted at rest using adequate encryption standards (at least AES-256). This also applies to backups.
S4B.1	Should	10	Within one year of the contract start date, the solution shall support a Customer-Managed Key (CMK) or Bring Your Own Key (BYOK) model. The e-lending platform performs data encryption and decryption operations, whilst encryption keys are generated, managed, and controlled by the KB through a dedicated Key Management System (KMS) or equivalent secure key management mechanism.

### C. Security – input validation

4C	MH/	Weight	Description
<b>SH</b>			
M4C.1	Must		The e-lending platform restricts uploaded files to a fixed location, filtered by expected extensions (e.g. PDF, JPG, PNG, mp4, mp3, epub, ZIP), and limits maximum file size. Uploaded files are scanned for malware and quarantined if necessary.
M4C.2	Must		The e-lending platform, web application and mobile application includes checks for completeness, mandatory fields, and validation of allowed value(s), helping prevent input errors by End Users, employees and administrators. The e-lending platform validates the content of a(n) (HTTP) request prior to use. Input validation must address the most recent OWASP threats, such as Cross-Site Scripting, SQL injection and cross-site request forgery.

### D. Security – organisational and people controls

4D	MH/	Weight	Description
<b>SH</b>			
M4D.1	Must		The Contractor has demonstrably implemented appropriate and proportionate technical and organisational security

			measures to guarantee the availability, integrity, and confidentiality of the e-lending platform, web application, and mobile application.
M4D.2	Must		The Contractor implements cybersecurity controls for detection, prevention, and recovery in combination with appropriate risk awareness amongst its staff.

#### E. Security – vulnerability management & hardening

4E	MH/SH	Weight	Description
M4E.1	Must		All components comprising the e-lending platform (e.g., but not limited to (Cloud) platforms, hypervisors, container platforms, (operating) systems, database platforms, web servers and mobile applications) must be adequately hardened by the Contractor based on CIS benchmarks or comparable vendor guidelines (comply or explain).
M4E.2	Must		The Contractor applies a robust patch management scheme to keep all components of the e-lending platform (such as firmware, operating systems, applications) up to date, in order to implement improvements and resolve known issues. All components must be supported by the respective vendor/manufacturer, at least with regard to security updates.
M4E.3	Must		Where the e-lending platform, web application and mobile application use Cookies or HTTP traffic, appropriate security settings must be applied. Cookies must have "secure" and "HTTP only" flags set. Cookies must not contain personal information and must always be exchanged over secure transport as per E22.14. HTTP Secure Headers must be applied in accordance with best practices (e.g., OWASP Secure Headers Project).
M4E.4	Must		The production release of the e-lending platform, web application and mobile application, and all major changes, must be free of known vulnerabilities, including at least those listed in the current "OWASP Top 10" and "SANS/CWE Top 25 Most Dangerous Software Errors". The Contractor must

			demonstrate this by means of a preventive vulnerability scan and/or a penetration test.
M4E.5	Must		An independent white-box penetration test is conducted annually on the full e-lending platform (including web application and mobile applications). Reports are made available to the Contracting Authority upon request.
M4E.6	Must		At least quarterly, the digital infrastructure and web applications of the e-lending platform are checked for vulnerabilities by the Contractor via a vulnerability scan. Reports are made available to the Contracting Authority upon request.
M4E.7	Must		The mobile app must be designed and built in such a way as to prevent the OWASP Top 10 mobile risks.

#### F. Security – supply chain

4F	MH/	Weight	Description
<b>SH</b>			
M4F.1	Must		The Contractor discloses its supply chain, including all sub-suppliers, at the request of the Contracting Authority.
M4F.2	Must		The Contractor ensures that all security requirements are met by its suppliers and sub-suppliers.
M4F.3	Must		The Contractor performs annual risk analyses to identify cybersecurity risks in the supply chain of the e-lending platform.

#### G. Security – logging and monitoring

4G	MH/	Weight	Description
<b>SH</b>			
M4G.1	Must		All IT components of the e-lending platform (including web application and mobile application) generate security logging (minimal system and audit logging).
M4G.2	Must		All security logs are retained for a minimum of 3 months.
M4G.3	Must		All security logs are retained for a maximum of 12 months.
S4G.1	Should	2	Logs generated by the e-lending platform are stored in a single, hardened log server (SIEM).

S4G.2	Should	2	Security monitoring on the e-lending platform is performed on a 24/7 basis.
M4G.4	Must		The Contractor maintains an escalation procedure for information security breaches and supports the data controller in their obligation to report data breaches and other security incidents.
M4G.5	Must		The Contractor informs the Contracting Authority within 24 hours after identification of a significant security incident. See definition NIS2-directive for "significant incident".
M4G.6	Must		The Contractor provides all the necessary details of a significant security incident to the Contracting Authority within 72 hours after identification of a significant incident. See definition NIS2-directive for "significant incident".

#### H. Security – API security

4H	MH/	Weight	Description
<b>SH</b>			
S4H.1	Should	2	All APIs are secured in accordance with the OWASP REST Security Cheat Sheet or the OWASP GraphQL Cheat Sheet.
M4H.1	Must		All APIs require authentication and authorisation.
M4H.2	Must		API traffic must be rate-limited and protected against abuse (e.g., brute-force, enumeration).
M4H.3	Must		Use of API gateways and validation mechanisms to prevent injection attacks and ensure secure communication.

#### I. Security – Reporting, Auditing and Compliance

4I	MH/	Weight	Description
<b>SH</b>			
M4I.1	Must		The Contractor shall deliver quarterly security reports containing security incidents, risks, penetration test results, vulnerabilities, and their mitigation status, regarding the e-lending solution.

S41.1	Should	2	The Contractor possesses, or will provide within one year, an independent Service Organisation Control (SOC) 2 Type 2 or SOC 3 report, or an ISAE 3402 Type II statement to demonstrate compliance. The Contractor ensures the ongoing maintenance of the assurance report.
M41.2	Must		The Contractor shall demonstrably hold a valid ISO 27001 certification (or equivalent) covering the e-lending platform. The (Cloud) Service Provider engaged by the Contractor must hold valid CSA STAR level 2 or higher, as well as ISO 27001 and ISO 27017 certification (or equivalent). Both the Contractor and the engaged (Cloud) Service Provider shall maintain these certifications throughout the duration of the contract.
S41.2	Should	2	The Contractor complies with the requirements established in ISO standard 27018:2014 or 27018:2019.
M41.3	Must		The solution must comply with the applicable cybersecurity requirements derived from the NIS2 Directive and the corresponding Dutch legislation implementing this Directive, including risk management, incident handling, and supply-chain security.
M41.4	Must		The Contracting Authority has the right to perform (or have performed) an (independent) audit of the design, existence, and functioning of information security measures. The Contractor agrees to audits by a Contracting Authority employee or an appointed accounting or research firm. The Contractor also agrees to periodic audits and may submit a third-party auditor report.
M41.5	Must		The Contractor has implemented measures, processes, and procedures regarding the e-lending platform (including the web application and mobile application) to enable the Contracting Authority to comply with the Government Information Security Baseline (BIO). Compliance can be demonstrated through certification and reporting.

J. Security – AI Security

4J	MH/SH	Weight	Description
M4J.1	Must		The Contractor is obliged to obtain prior written consent from the KB if the service or product supplied makes use of artificial intelligence (an AI system), as defined in the AI Regulation (Regulation (EU) 2024/1689). This applies both to the initial delivery and to any subsequent addition, modification or activation of an AI component, including situations in which the Contractor's employees otherwise gain access to AI, for example via a link to a third-party AI system. The Contractor must fully comply with the AI Regulation, even if certain provisions thereof are not yet in force at the time of the Tender.
M4J.2	Must		If the Contractor utilises AI, the Contractor shall demonstrably implement measures by design in accordance with OWASP's 2025 Top 10 Risks and Mitigations for LLMs and Generative AI Applications.
M4J.3	Must		If the Contractor utilises AI, the Contractor shall maintain and provide an AI Bill of Materials (AIBOM).
S4J.1	Should	2	If the Contractor utilises AI, the Contractor demonstrably adheres to ISO/IEC 42001.
S4J.2	Should	2	If the Contractor utilises AI, the Contractor has AI security periodically verified by AI Penetration Testing or AI Red Teaming through an independent and knowledgeable party, and provides the Contracting Authority with the resulting reports.

## 5 Non-Functional Requirements

The new platform is scheduled to go live on 1 October 2027. This target date serves as the basis for planning, implementation, migration, and testing activities associated with the solution.

### A. Availability, performance and scalability

The platform must ensure high availability, scalability, and performance.

5A	MH/SH	Weight	Description
M5A.1	Must		The platform must support 1,000,000 registered end users, with at least 50,000 concurrent users.
M5A.2	Must		The platform must handle 50,000 or more concurrent users with response times of under 2 seconds for 95% of requests.
M5A.3	Must		The solution must be able to scale to handle peak loads of at least 2–3 times normal traffic without performance degradation.
M5A.4	Must		The e-lending solution and the web application must guarantee at least 99.7% availability (but preferably higher), measured over a calendar month on a 24/7 basis. Indicate the availability guaranteed by the e-lending service provider.
S5A.1	Should	2	Changes and updates are performed using live deployment methods, meaning there is no maintenance window involving downtime.
M5A.5	Must		The e-lending solution provider must have a tested recovery plan that guarantees the availability of data in the solution. The plan must define and meet the following objectives: <ul style="list-style-type: none"> <li>• Recovery Time Objective (RTO): the solution must be fully operational within 8 hours after a major incident or disaster.</li> <li>• Recovery Point Objective (RPO): data loss must not exceed 24 hours prior to the incident.</li> </ul>
M5A.6	Must		The Contractor must guarantee adequate backup and restore facilities for the e-lending solution. The creation of backups must not have a disruptive impact on the availability or performance of the service.

M5A.7	Must		The e-lending solution must have a backup facility that is not affected by incidents impacting the primary production environment. This may be achieved, for example, by means of geo-redundant backups or equivalent measures that ensure backup availability and recoverability in the event of a disaster.
M5A.8	Must		The Contractor must periodically, and at least once per year, demonstrate that the backup and restore facilities function correctly and comply with the agreed Recovery Time Objective (RTO) and Recovery Point Objective (RPO). The Contractor must document the results of these tests in a report and make this report available to the Contracting Authority.

## B. Test approach

The platform is part of a broader digital ecosystem and service chain. Changes to the platform – including functional enhancements, configuration changes, updates or patches – may affect other components in this chain. The Contractor must therefore define a test strategy describing how changes are validated before release, how regressions are prevented, and how risks to dependent systems are mitigated. The test approach must ensure that updates can be deployed in a controlled and predictable manner without disrupting users, employees, or integrated services.

The following requirements describe the minimum expectations for testing processes, environments, and quality assurance.

5B	MH/	Weight	Description
<b>SH</b>			
M5B.1	Must		The Contractor must provide separate acceptance and production environments. The acceptance environment is functionally equivalent to the production environment. The acceptance environment supports final user testing before deployment. The acceptance environment supports a complete end-to-end test chain, including integration with the Contracting Authority's own systems (such as Identity and Access Management and

			customer authorisation, KRS). This includes fully functional mobile apps (Android/iOS) connected to the acceptance environment, enabling realistic user and integration testing prior to production deployment.
S5B.1	Should	2	The Contractor provides and maintains a comprehensive test plan that describes the testing strategy, scope, and methodologies for ensuring software quality throughout the development lifecycle.
M5B.2	Must		The Contractor also delivers test reports for each release, detailing the tests performed, outcomes, identified issues, and their resolution status. These reports are made available to the Contracting Authority prior to deployment in the production environment.
S5B.2	Should	2	<p>The Contractor ensures that all relevant user interface (UI) elements in the application are assigned Persistent Unique Locators (PULs) to support the KB's automated test framework. Each PUL is:</p> <ul style="list-style-type: none"> <li>• Unique within the scope of the application;</li> <li>• Persistent across releases, language versions, and layout changes;</li> <li>• Human-readable and functionally descriptive where possible (e.g., "searchButton" instead of random strings);</li> <li>• Accessible through standard automation or accessibility frameworks;</li> <li>• The Contractor documents the strategy for PUL assignment and demonstrates in automated test scenarios that the locators remain valid across at least one version update.</li> </ul>

### C. Digital Accessibility

Providing inclusive user experiences across all services is a key principle of the KB. Accordingly, international standards are applied to ensure that online services are as user-friendly as possible, including for individuals with limited digital skills.

5C	MH/	Weight	Description
<b>SH</b>			
M5C.1	Must		The website, mobile app, online reader, and employee-facing back-end interfaces are designed to be digitally accessible. They shall demonstrably meet digital accessibility requirements, as described in the latest version of European standard EN 301 549, which includes the international guidelines for accessibility, the Web Content Accessibility Guidelines (WCAG). The website, mobile app, online reader, and employee-facing back-end interfaces shall be developed in accordance with the latest Web Content Accessibility Guidelines, levels A and AA.
M5C.2	Must		The Contractor shall provide an audit report upon completion, demonstrating that testing has been carried out in accordance with a reliable evaluation method: WCAG-EM or an equivalent method. If the Contractor does not fully comply with all points, then by agreeing to this requirement, the Contractor guarantees that the specified accessibility requirements will be fully met within the first year of the Agreement.
M5C.3	Must		Every three years, the Contractor shall submit a new audit report in accordance with WCAG-EM. The Contractor shall report on the period for resolving the remaining agreed-upon improvement points and the status of the implementation thereof at least every six months, as well as on any new improvement points following any expansion of the services.

#### D. Logs and metrics

5D	MH/	Weight	Description
<b>SH</b>			
S5D.1	Should	2	The solution supports exporting logs and metrics to the Contracting Authority's monitoring platform. This export should preferably be compatible with OpenTelemetry. If OpenTelemetry compatibility is not supported, compatibility with Prometheus is required.

## E. Service management

5E	MH/SH	Weight	Description
M5E.1	Must		<p>The Contractor must agree a Service Level Agreement (SLA) with the Contracting Authority and, where applicable, a Dossier of Agreements and Procedures (DAP). This must include agreements on incident management and escalation matrices, governance and consultation structures, and reporting arrangements.</p> <p>The Contracting Authority may provide draft versions of the SLA and DAP for discussion. These drafts are indicative and serve as a basis for negotiation; the final content will be agreed upon and must be approved prior to contract signature.</p>
M5E.2	Must		<p>The Contractor must adhere to the agreed governance and consultation structures. This includes participation in periodic coordination meetings with the Contracting Authority and other relevant suppliers, including at least two chain coordination meetings per year involving all suppliers within the service ecosystem.</p>
M5E.3	Must		<p>The Contractor must provide and maintain complete, accurate, and up-to-date documentation of the platform, including functional and technical documentation, and API documentation. All documentation must be provided and maintained in English.</p>
M5E.4	Must		<p>The e-lending solution provider's service desk must be readily accessible to the Contracting Authority and must operate during working hours (09:00–17:00) aligned to the Central European Time (CET) time zone.</p> <p>The Contractor must indicate how the e-lending solution provider will organise this. Considerations include overlapping working hours, a 24/7 emergency number (for Priority 1 failures and data breaches) and a customer portal.</p>
M5E.5	Must		<p>Throughout the term of the Agreement, the Contractor must periodically provide the Contracting Authority with reports demonstrating the operational health of the application. These</p>

			reports must include, at a minimum, information on performance, incidents and resolution time.
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## F. Exit strategy

The KB requires the ability to ensure a controlled and seamless transition at the end of the Agreement, whether to the KB itself or to a new Contractor. The solution must be designed and operated in such a way that continuity of service for end users is safeguarded.

This includes maintaining control over critical assets such as data, domain names, and app store listings, ensuring that the service can continue without disruption and without requiring end users to switch applications or platforms.

Upon termination of the Agreement, the KB requires a clear and effective exit strategy that enables an orderly termination of the Contractor's services and supports a smooth transition to a successor solution. The Exit Plan sets out the approach and responsibilities for this transition.

5G	MH/	Weight	Description
<b>SH</b>			
M5F.1	Must		<p>The Contractor must publish and maintain the mobile applications (iOS and Android) under the Contracting Authority's app store accounts, using the Contracting Authority's designated app name, which must remain unchanged. For the website, the Contractor must use the domain name as provided by the Contracting Authority.</p> <p>The Contracting Authority must retain ownership and control over the app store accounts and listings. The Contractor must use these accounts to publish and manage releases, with access granted by the Contracting Authority.</p> <p>This setup must ensure continuity for end users, allowing the application to be updated under the same app store listing in the event of a transition to another provider, without requiring users to install a new application.</p>
M5F.2	Must		<p>The Contractor declares that, upon termination of the Agreement, it will cooperate willingly and free of charge in ensuring a smooth transition from the existing services to the</p>

		<p>Contracting Authority and/or a new contracting party, for which no additional costs may be charged to the Contracting Authority. The solution must include a documented exit strategy that defines the processes and responsibilities applicable upon termination of the Agreement. The Exit Plan must be provided to the Contracting Authority and approved prior to signing the contract. The Contractor must review the Exit Plan annually and update it where necessary to ensure it remains accurate and effective. The Exit Plan must include the information requested in the Contracting Authority's Exit Plan template.</p> <p>As part of this exit process, the Contractor must:</p> <p>Provide full support for exporting all relevant platform data in a structured, machine-readable format.</p> <p>Ensure that at minimum the following data is exportable:</p> <ul style="list-style-type: none"> <li>• Each user's complete reading history;</li> <li>• Each user's bookshelf / saved titles / wishlist;</li> <li>• Each user's reading preferences (if applicable).</li> </ul> <p>The export process must be delivered in a secure manner and within an agreed timeframe, ensuring data integrity and GDPR compliance throughout.</p> <p>After export, the Contractor must permanently and irreversibly delete all organisational and user data from all systems, backups, and storage locations, and supply formal data-deletion certificates as proof of secure deletion.</p>
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## 6 Legal

6	MH/	Weight	Description
	SH		
M6.1	Must		The general and/or sales terms and conditions of the Tenderer are expressly rejected. The Tender of the Tenderer may not refer, in whole or in part, to other legal conditions.

## 7 Privacy (GDPR)

7	MH/SH	Weight	Description
M7.1	Must		<p>The solution must provide a mechanism to anonymise lending data after a specified period.</p> <p>Lending records must be anonymised in scenarios such as the removal of titles from a user's reading history or the termination of a user account. Anonymised data must remain available for statistical and analytical purposes, without being traceable to individual users.</p>
M7.2	Must		<p>The Contractor shall establish processes and procedures to ensure that its processing of personal data in the deliverables takes place in accordance with the General Data Protection Regulation (GDPR) and the General Data Protection Regulation (Implementation) Act (UAVG). The Contractor guarantees compliance with applicable laws and regulations in the field of data protection law.</p>
M7.3	Must		<p>The Contractor shall submit its Tender via a European legal entity that is not subject to American legislation (including the Cloud Act). The Contractor processes data from the KB only within the EEA (European Economic Area).</p>
M7.4	Must		<p>If the Contractor qualifies as a Processor, the Parties shall conclude a Data Processing Agreement. This Data Processing Agreement shall be concluded before the Contractor proceeds to process personal data of the KB.</p>
M7.5	Must		<p>Access to personal data by the Contractor's employees is restricted on the basis of clearly defined roles, and the purpose of the processing and the access granted must be verifiable.</p>
M7.6	Must		<p>Where data is eligible for anonymisation within the framework and meaning of the General Data Protection Regulation, the deliverables shall have the capability to anonymise data and generate a report confirming that this has taken place.</p>
M7.7	Must		<p>The deliverables shall include the option of enabling and configuring retention periods for the automated deletion of personal data, in a manner that facilitates the Contractor's compliance with applicable laws and regulations. When</p>

			personal data is removed from the deliverables, it must be removed from all systems and backups of the Contractor.
M7.8	Must		As a rule, data from the production environment shall not be used in an acceptance, test, or demonstration environment. If production data is nevertheless required in a different environment for certain situations, this must be agreed in advance with the KB. The Contractor guarantees that when transferring personal data from the production environment to another environment, this data will be anonymised so that it can no longer be traced back to natural persons.
M7.9	Must		The Contractor is not entitled to use the data, information and/or other insights obtained as a result of entering into this Framework Agreement/Agreement for other purposes, including product improvement, without the express written consent of the KB.
M7.10	Must		The KB is entitled to assess the Contractor's compliance with the Programme of Requirements or to have this assessed by an independent party. The Contractor shall cooperate fully in this regard, including by providing the requested documentation and granting access to the data files and systems in which the data is processed. The KB may have a maximum of one audit carried out per year.
M7.11	Must		At the first request of the KB, the Contractor shall cooperate in carrying out a Data Protection Impact Assessment (DPIA) in accordance with the KB's model.
M7.12	Must		The Contractor shall ensure the adequate transfer of all relevant data to the KB or a third party designated by the KB.
M7.13	Must		The model Data Processing Agreement, as attached to the tender documents, applies.
M7.14	Must		The deliverables provide the option to minimise or restrict the copying and exporting of personal data. When personal data is copied or exported, this must be recorded.

## 8 Invoicing

8	MH/	Weight	Description
	SH		

M8.1	Must		After full performance and acceptance by the KB, the Contractor shall send an invoice for each Call-Off quotation issued in relation to the work or additional work, stating the name of the Framework Agreement/Agreement and the purchase order number.
M8.2	Must		Payment by the Contracting Authority will take place after acceptance of the results of the Contract/delivery of the product.
M8.3	Must		The KB applies a payment term of thirty days after the invoice date, provided that the invoice is undisputed.
M8.4	Must		<p>An invoice must contain at least the following information:</p> <p><b>Data Contractor</b></p> <ul style="list-style-type: none"> <li>• Company name</li> <li>• Address</li> <li>• Telephone number</li> <li>• Chamber of Commerce number</li> <li>• VAT number</li> <li>• IBAN account number</li> <li>• Debtor number</li> <li>• VAT number.</li> </ul> <p><b>Data of KB</b></p> <ul style="list-style-type: none"> <li>• Name of organisation</li> <li>• Address</li> <li>• Contract number</li> </ul> <p><b>Invoice details</b></p> <ul style="list-style-type: none"> <li>• Invoice date</li> <li>• Invoice number</li> <li>• Purchase order number</li> <li>• Period to which the invoice relates</li> <li>• Total invoice amount excluding VAT</li> <li>• VAT rate</li> <li>• VAT amount on invoice</li> <li>• Total invoice amount including VAT</li> </ul>

			<p>Cost overview attached. Data as specified in the cost overview requirement.</p> <p>The final content and layout of the collective invoices will be determined during the implementation phase in consultation between the KB and the Contractor.</p>
M8.5	Must		<p>Invoices will be sent exclusively stating the purchase order number as an e-invoice, in accordance with the UBL 2.1 standard, via Peppol or digitally in PDF format to <a href="mailto:facturen@kb.nl">facturen@kb.nl</a>.</p>
M8.6	Must		<p>If an invoice does not meet the conditions specified in the Tender Documents, the Contractor will be notified of this in writing within fourteen calendar days of receipt. The invoice in question will only be processed once it meets the conditions specified in the tender documents.</p>
M8.7	Must		<p>If any amounts are owed by the Contractor (credits), the KB is entitled to set these off against amounts owed by the Contractor to the KB.</p>