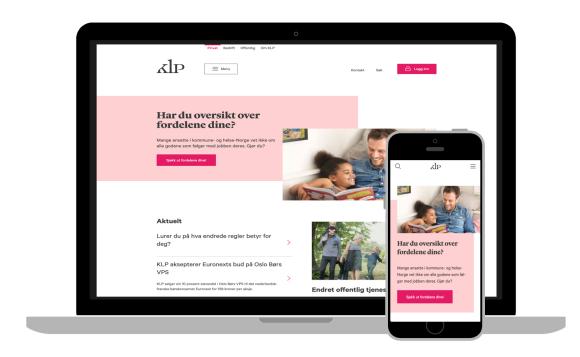
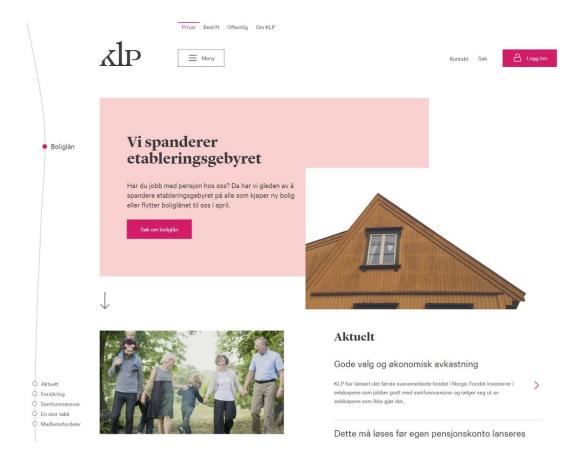
CASE STUDY:

How \$80BN financial services company **KLP** chose a digital platform for the future







Read the story of how mutual insurance company KLP selected a digital platform for the future.

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EXECUTIVE SUMMARY

- KLP is a USD 80 billion financial services company operating in Norway. In 2018 the company was on the lookout for a new digital platform, shortlisting Enonic and one other company that would perform separate PoCs.
- KLP's requirements included integration with their design system, personalisation, login services, marketing automation integration, and A/B testing.
- Enonic delivered more than the requirements ahead of deadline, in the course of two weeks.
- Enonic XP was chosen by KLP due to its user-friendly nature and emphasis on JavaScript.

INTRODUCTION

Kommunal Landspensjonskasse Gjensidig Forsikringsselskap, commonly known as KLP, is a Norwegian mutual insurance company responsible for the management of municipal and county pensions and insurance issues. Based in Oslo, KLP has total assets of NOK 692 billion (approximately USD 80 billion), with 414 municipal and county authorities, 25 health trusts, and 2,500 public sector companies as clients.

In 2018 KLP decided to replace their aging CMS and digital platform, in order to meet the digital customer requirements of the future. After a thorough process with careful deliberations, KLP landed on a shortlist of two potential vendors in October 2018. This included Enonic and the platform Enonic XP.

CHALLENGE

The task of choosing a new digital platform is not to be treated lightly, as many employees and co-workers must deal with the given solution for the next 5–10 years. There are many different factors to consider and take into account, like what direction the customer is going in, what digital trends are emerging, and how to build a future-proof platform today.

KLP needed a platform that was faster, better, and more secure than their current solution, as well as having the following abilities:

- Integration with their design system
- Personalisation
- Login services
- Marketing automation integration
- A/B testing

KLP had used one CMS for over 10 years, and during this time period KLP had to build their own front-ends and several features in addition to the original solution. Furthermore, KLP were unsure about whether they should run the new platform on premises or in the cloud.

All these issues and more were delivered as tasks for the two potential vendors to solve in an on-site time limited proof of concept (PoC).

SOLUTION

Enonic and the competing vendor were tasked with a head-to-head PoC, accompanied by KLP's development team consisting of KLP's own employees and hired workers. Consulting partners Accenture and Itera facilitated the PoC process, which began when the specification was delivered by KLP on Tuesday, 6 November 2018. The work itself started on 12 November.

What followed was two parallel, but isolated runs between the vying vendors in a two weeks implementation at KLP's offices—with daily status meetings, a presentation, and a report at the end of the period. Even though Enonic's access to KLP resources were unstable in the beginning, the software company delivered ahead of time.

TIMELINE

15. october:

PoC.

Enonic received shortlist confirmation from KLP, with message about an upcoming

12. november:

PoC start.

11. december:

KLP's final decision on choosing Enonic.

OCTOBER NOVEMBER DECEMBER

6. november:

Enonic received

PoC spec.

22. november:

PoC delivery and presentation.

TEAM

The PoC consisted of key resources from Enonic, Itera, and Accenture, with efforts making up a total of 26 workdays. The workers from Accenture and Itera had no previous experience with Enonic XP, but were quickly up and running in the intuitive platform.

Three instances of Enonic XP were set up to deliver the PoC: Development (Dev), Quality Assurance (QA), and Production (Prod). Additionally, a Git repository and a build server (Jenkins) was set up, continually delivering to the Dev environment, while manually triggered deployment was set up for the QA environment.



DESIGN SYSTEM INTEGRATION

The KLP design system was only available for internal users, which posed a challenge not related to Enonic XP itself. The solution to this particular issue consisted of making available a generated version of the design system and adding it to the Enonic project, granting Enonic a form of access.

The design system was used right out of the box in Enonic XP, with the following use cases:

- Fully responsive layouts used in the grid system, with custom column setup, padding, and weighing.
- Enonic XP's page elements used several components from the design system, including accordions, article lists, action boxes, and buttons.
- The menu was dynamically generated from content placed in XP.
- "Skeletons" were used as placeholders in personalised widgets.
- Macros were used for placement of icons in text fields.
- The Enonic form builder was customised to directly make use of the design system, including validation.

EDITORIAL ROLES

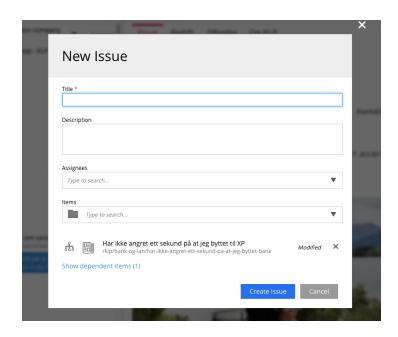
Enonic XP is delivered with standard roles and access management, but in the case of KLP Enonic also set up additional roles for:

- Content producer (can change and create content)
- Editor (full rights in Content Studio)
- Administrator (full rights)

An editorial environment usually rests on hierarchies and workflows, and the issues management feature in Enonic XP was used for this purpose. An editor or a content producer can at any time create an issue and add one or more content elements relevant to the task at hand to receive feedback from co-workers.

Issues can also be created before producing content, and elements can be added on the fly. Finally, elements and dependencies can be published directly from the issues management feature, at the same time the issue is closed.

Access to reading, writing, and publishing content is decided



by using XP's access management. Access can be granted to roles, groups, or users, and can be managed all the way down to a single item in the CMS.

CONTENT TYPES

Content types are an important feature for content editors in any CMS. In Enonic XP content types make up the core itself, as they enable structure and reuse. Content types also represent flexibility in terms of what editors can put on a given site in a developer-approved and verified manner. In the PoC, Enonic crafted the following content types based on KLP's requirements:

Article

A content type for articles was made, where editors only need to fill in a form before publishing. Image management and sizing functions works automatically, while title and URL can be customised by need. This is a feature for all content in Enonic XP.



Other content types

In addition to the article, other content types that were made or tailored especially for KLP in Enonic XP included landing pages and forms.

PAGES AND COMPONENTS

Page templates

A page template was created as a base for presentation of articles. A content producer or an editor can by need break out of the page template, and make his own presentation by using available page components.

Users with adequate rights can edit and publish page templates, in a similar manner as with additional content.

Macros

Macros are used to handle special types of content in XP, including quotes and "become a customer" functionality. The macros allow editors to easily add advanced components like the aforementioned directly into any text field.

Teaser

A component was made to enable the use of "teasers" for articles. A teaser can be placed freely on e.g. landing pages around the website, and the feature allows editors to override certain fields, while the rest of the information derives from the article.

MENU STRUCTURE

A top menu and a mega menu, both 100% dynamic, were built due to KLP's requirements. Editors and administrators in KLP can control elements in the menus, as well as a bread crumb path, by the following factors:

- Placement in the content tree structure
- Option for "show"/"do now show" in the content menu
- Optional menu name (in addition to title and URL)
- Manual or automatic order

Elements can easily be placed in the menu, either directly or as shortcuts. A 1:1 connection between the menu structure and the URL structure is possible, and makes it easy to navigate on the website, as well as easier to maintain the website.

LANDING PAGE EXAMPLE

Enonic provided a live landing page example for a funding certificate in the PoC. The landing page was completely editable and dynamic, and was built using XP's text component and macros for the icons. Combining these with layouts, Enonic recreated many of the fields without programming.

A step list guiding the funding process was recreated as a configurable part, where each step was generated dynamically. Alternatively, an editor could also have built the same solution using a four-column layout, a text component, and the icon macro.

For reference, visit the original landing page on KLP.no.

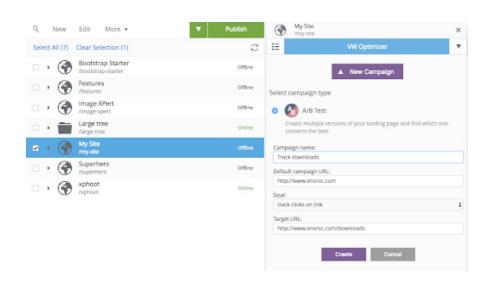
A/B TESTING

In order to stay relevant for their customers, KLP required the ability to perform A/B tests in their new digital platform.

It is possible to perform A/B testing in Enonic XP through the integration with Visual Web Optimizer (VWO). VWO makes it possible to A/B test every page on a website, and the solution can also be applied to other websites and services.

To make VWO work one needs a paid user subscription, but during the PoC Enonic acquired access through a trial period—creating new users for KLP by need.

VWO let KLP see active campaigns directly on one page, where it also is possible to run or stop any given campaign. KLP received information on the status, without leaving Enonic XP.



A/B testing in Enonic XP is not limited to Visual Web Optimizer. Other A/B test tools can be used as well, for instance Sitegainer or Optimizely.

PERSONALISATION

Being able to tailor and target content toward specific user groups is paramount for a modern financial services institution. KLP already had user profiles and personalisation functionality in place and wanted to see if they could continue the practice with Enonic.

Enonic created a personalisation component with React. Accordingly, every piece of personalisation and underlying logic can run without the need for editorial intervention, although e.g. interest rates can be managed manually.

In the PoC, Enonic also demonstrated a placeholder mode when editors work with the personalisation component—with the use of the design system. This approach can be advantageous for certain complex JavaScript-based parts, or for external components, thus making sure they do not disturb the page editing tool.

is not a member.	
User visited within last 5 minutes: true	

Floating:	2.5 %
Fixed:	3.34 %

The personalisation was divided into three subcategories:

Member/non-member

A Rest service was developed to respond to whether or not a given user is a member, i.e. a registered customer, while also returning the user's name.

Editorially managed interest rates

A custom part shows the correct interest rate based on a document, independent of the user being a member or not.

Enonic solved this task by building a content type for interest rates with fixed fields, and simultaneously adding their headless API called "Guillotine," which exported the data through a GraphQL API.

Behavioural personalisation

The last part of the personalisation feature is based on whether a user has visited a given page in the last five minutes. If the user visits a page for the first time, or returns after five minutes, a "false" status is delivered behind the scenes. If the user has visited several times within the last five minutes, the status will be "true." In the latter instance KLP can decide to show e.g. an advertisement in addition to the content.

The solution is built with the help of the browser's local storage, which Enonic uses to save information about the user's last visit to a page. All of this happens without the use of cookies.

FORM BUILDER

To build forms for the KLP PoC, Enonic used their own standard form builder as a starting point. The form builder is able to utilise Bootstrap CSS or be customised with your own styles.

Design system customisation

As KLP's design system is not based on Bootstrap, Enonic decided to customise the form builder to the design system in order to get the best possible user experience. The form builder was therefore integrated directly and seamlessly into the KLP PoC project, with the added possibility to send email receipts if desired.

By forking the open-source form builder one can easily keep the customisation updated alongside eventual changes in the main project.

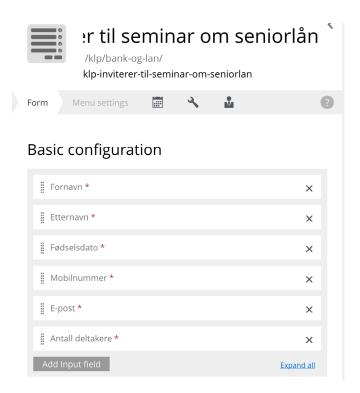


KLP inviterer til seminar om seniorlån Sted: KLP-Huset ved jernbanen, Zander Kaaes gate 7, Bergen Dato: 29.05.18

Fornavn		
Etternavn *		
Fødselsdato		
Mobilnummer		
E-post *		

Content studio form editing

The custom form can be edited within Content Studio—the CMS part of the Enonic XP web platform. In Content Studio there is also a widget showing inputs from the form, but this part may be skipped if KLP wishes to store the answers elsewhere.



The XP integration is possible due to the open-source code of the form, and Enonic have only adapted the front-end part of the form. Form data storage, listing, etc. remain unchanged.

Form integrations

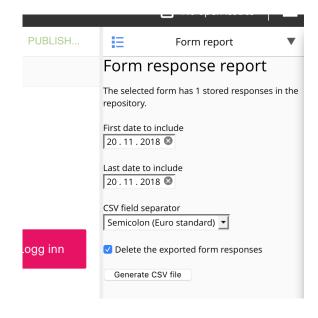
Out of the box, the form builder can be integrated with other systems in several ways, e.g. with the help of events in the repository without special customisations.

With the solution chosen by Enonic, KLP are free to perform any type of integration and customisation they deem necessary. This may include sending the data directly to a CRM system, customise storage, or do other visual or technical customisations—like drawing the form entirely with React.

Storing of data

By default the form builder stores data in its own repository dedicated to this purpose. The data are both structured and searchable, and may be changed directly through an API. KLP can skip storing in XP entirely by configuration, if desired.

The form builder further supports file uploads, but this was not prioritised in the implementation of the design system.



Finally, there is a user interface in Content Studio allowing editors to generate reports. In accordance with GDPR editorial users can also delete every form answer if needed.

MARKETING AUTOMATION AND ENGAGEMENT

As part of KLP's strategy to delight their customers, marketing automation is a mandatory feature.

Enonic XP aims to be the leading platform for developing and building custom web solutions and content production. As a part of this strategy Enonic have made a conscious decision on using third-party applications that are best of breed in their respective areas, such as A/B testing, analytics, etc. The same strategy applies to marketing automation (MA).

The advantage of this approach is to use cost effective, cloud-based solutions within each area, while at the same time being free to replace the solutions by need. The solutions are tightly integrated with Enonic XP, but can also be adapted to customer specific needs if necessary.

CRM and marketing automation

As a marketing automation tool is fully dependent on a CRM to function properly, Enonic in general advise their customers to use a MA tool best integrated with the CRM tool they use. Thus, Pardot is recommended for Salesforce, Click Dimensions is recommended for MS Dynamics, and so on. With e.g. HubSpot you get a CRM and MA in one solution.

The advantage of this approach is to use cost effective cloud solutions within each area, while simultaneously being free to replace the solutions by need. In any case, the solutions are tightly integrated with Enonic XP, and may be adapted to customer specific needs if necessary.

Gathering of data

To use a CMS as efficiently as possible, it is useful to integrate MA tools for the purpose of personalisation and collection of data. Data gathering is usually handled by regular tracking scripts, and depending on the tool the trackers can be connected directly to form solutions and pages in general to gather activity information. An obvious example is Google Analytics.

Personalisation

MA can be used to fill in forms automatically in the CMS, or show the users more relevant content, like visited content, an ad, or a banner. For instance, if a user visits a retail site and only browses through the transportation section, a MA tool can show transportation content only on the front page the next time the user visits.

An example of such an integration in Enonic XP could be:

- Creation of the content type "banner."
- Add a "segment" field, allowing editors to tag each banner with the most fitting segments. Segments are retrieved in realtime from the MA/CRM solution.
- With the presentation of the banner, first the user's segments are retrieved from the MA solution, before there is a search in the banner list with the relevant segments. The CMS returns a list of banners with ranking.

More advanced solutions, e.g. machine learning, is possible in XP by building an appropriate logic or using a third-party service. The content itself is produced and maintained in the CMS, while the integrations are simple and easy to maintain.

Content in marketing automation

In many cases it may be desirable to reuse content from the web pages in emails sent out by the MA tool, or directly in the CRM. Enonic offers both a headless API and support for retrieving page elements as HTML, if needed.

In this way, the marketing department may build campaigns that retrieve content from the website and reuse it.

Customer data platform

Enonic are leading an initiative in the standardisation organisation Oasis Open. The goal of the project is to standardise an API for customer data platforms, or CDP, and thereby making it easier to gather and use customer data across systems effectively, and in accordance with privacy laws and GDPR.

The standard is expected to be completed in 2019.

Apache Unomi

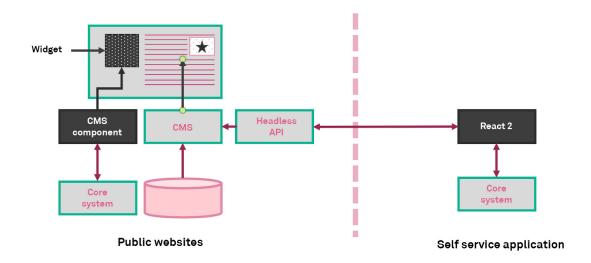
In parallel with the development of the Oasis Open standard, there has also been implemented an open-source CDP by the name of Apache Unomi. Enonic aim to release this solution as a cloud-based service.

Apache Unomi will also offer APIs for personalisation, including recommendations and other optimisations.

HYBRID, HEADLESS, AND TRADITIONAL CMS

Facing the fractured reality of today's and tomorrow's plethora of digital channels, KLP needed a platform able to deliver any piece of content to any type of channel, whether it's a traditional website, an app, a smartwatch, or something else.

Enonic XP offers one of the most powerful and flexible solutions for hybrid CMS on the market. While built around the concept of content types and the ability to consume this data through an API, XP also supports the production of landing pages and web content.



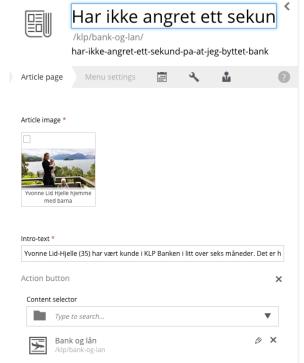
Traditional CMS

Enonic XP supports the "traditional" use of CMS, where an editor can produce structured content, upload media, build landing pages, and see a fully fledged preview. A traditional CMS also includes producing several types of content over time and batch-publishing content.

XP features a modern content architecture that enables structured content to hog the limelight, while marking a strict separation between content and presentation. Every piece of content that is produced has a defined content type—websites, folders, page templates, and images are all content types, just like custom content types such as articles and interest rates.

The flexibility to make content types in XP is comprehensive, and allows the user to group fields together in order to make complex structures. An example is the form builder, which is defined by a content type.

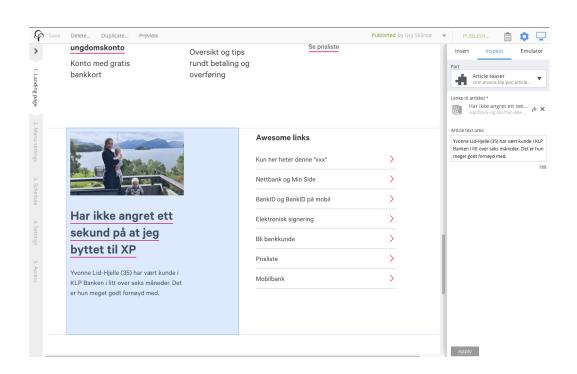
This part of XP can be used without building anything front-end, essentially making it a purely editorial database.



Page builder

Enonic XP comes with a flexible and feature rich page builder, where you can set up pages and configure them with the aid of different component types, including:

- Layouts
- Free text
- Image
- Parts (custom components)
- Fragments (reuse of elements across pages)



Direct access to components

Pages in Enonic XP are built by adding components—for instance the article teaser built for KLP. In addition to existing within a page, the component can also be accessed through its own URL.



Har ikke angret ett sekund på at jeg byttet til XP

Dette er et eksempel på at man kan lenke til samme artikkel fra flere steder

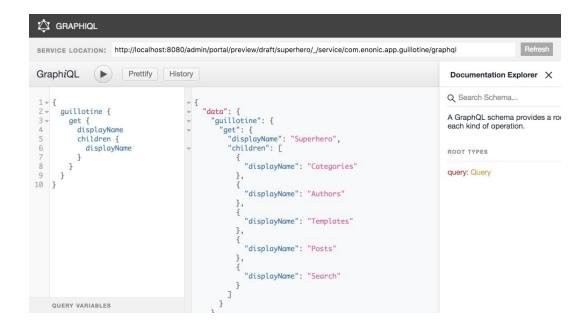
En overskrift

When pulled out as standalone, the component will by default be shown without the rest of the page elements, like CSS and menu. The developers maintain full control over the component, and may thus choose how to treat a directly visited component. Actually, a component is a full MVC application, even handling input.

For the KLP PoC, the interest rate component was customised to function by itself.

Headless GraphQL API

In Enonic XP KLP and any other user can download the Guillotine application for a headless GraphQL based API on top of a website. Guillotine is also available as a library, granting developers extended control over the API. In the PoC Enonic added the library without any customisations.



Through the API, developers can access all relevant fields and retrieve them through a simple query. This approach optimises both speed and the amount of data that is transferred, in addition to making it easy to use by developers without involving the website or CMS.

SEARCH

A company like KLP faces an immense amount of data in the form of content, customer transactions, and financial information. KLP needed a fast and smart search for both front-end and back-end purposes, in order to satisfy both customers and employees alike.

Enonic XP comes with an integrated database which is built around the search engine Elasticsearch—no installation or integration with a hird-party search engine is necessary. Every content that is produced or placed in XP is immediately searchable, with both free text search and more complex results—like date histograms and facets.

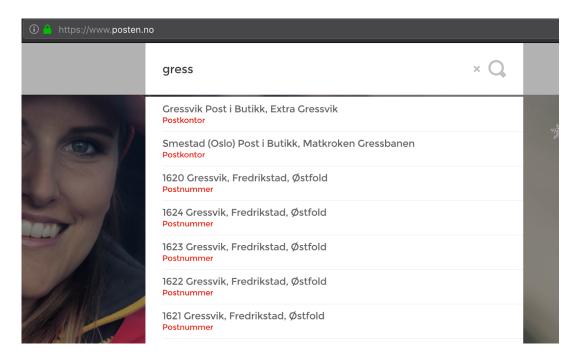
Developers can easily use the "Enonic Query Language" to pull out data, something which can be done down to single cases with the different value types present in the system. The principle encompass everything from "text strings" to "geoPoint," meaning that you can make queries on elements within a given geographical position.

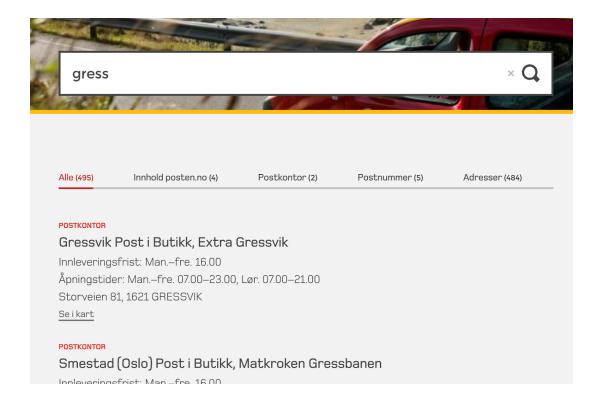


Example: Norway Post

The official website of Norway Post, Posten.no, has made extensive use of Enonic XP's search capabilities. Norway Post uses several functions in the search:

- Custom UI
- Autocomplete
- Boosting
- Fuzzy search
- Faceting of different types of data
- Search on all street addresses in Norway in addition to web content
- Ranking across all data sets
- Synonyms
- Search in files (PDF etc.)
- API to deliver the search function and data storing





Thanks to Enonic XP, Norway Post was able to eliminate a third-party search engine and a self-developed Ruby based search solution, as well as the former CMS.

Search behind login

The basic search function in Enonic XP may also be used to perform searches in the administrative UI. Every piece of content in Enonic XP features detailed access rights management. Customers can enable searches toward data structures where this security model is used, and as the search automatically takes the access rights into account, a given user can only find and access the information he or she has a corresponding right to read.

Another customer of Enonic has built a decision service that is completely based on search navigation and content stored in XP. The same customer has also built an intranet delivering location based content, also based on the search.

CONTENT MIGRATION

Being able to easily migrate content from KLP's old system to their new system is paramount for keeping time and cost down in a transition phase.

Enonic XP offers several methods to migrate and import content. What solution is chosen depends on several factors, but the amount of data and the frequency play a vital role. A combination of different strategies is also possible.

Import format

Enonic XP features a standard format for exporting and importing raw data, and said format can be used to primarily extract data from one XP installation and into another. The format is "human readable" and can be recreated both programmatically and mechanically. The disadvantage of this low level format in regard to import is the lack of validation.

During the KLP PoC developers used import/export to migrate content they built themselves locally to the "Prod" instance, through the Data Toolbox tool.



API

The preferred method of importing data in XP is through the API. There is both a content API for importing data to the CMS and a node API for importing directly to the database. The API is easy to use and provides validation of imported data.

When importing content it is important to remember to import files first through the createMedia function, before importing structured content. The reason for this is that links are made between content elements by the use of keys. HTML fields must for instance use special formats for links and images.

Manual import

Last but not least, you can produce and add content manually. In many cases this will be the preferred method, especially if the volume is low and there are many different content types. In the case of KLP there was no information about landing pages in the data sets, meaning they had to build anew anyway.

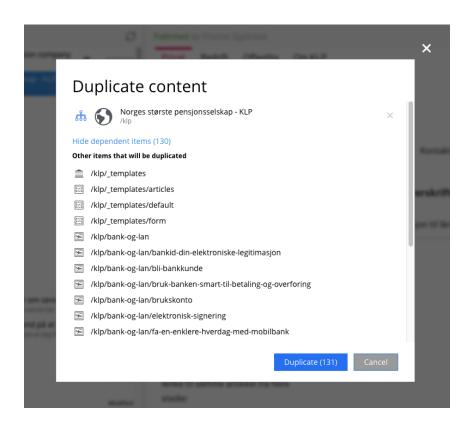
An example of effective migration is to easily upload files in XP, either single or bulk, through the drag and drop functionality.

CAMPAIGN SITES

KLP wanted a quick way to produce and launch campaign sites. There are several ways to do this, but a precondition is that the application for the website is ready and offers the necessary components required by editors.

Site cloning

An existing website can be duplicated with a few clicks, and editors can immediately view and work on the duplicated website. The only technical step to do initially is to enable traffic to the domain you wish for the website.



New app with site

Another solution is to install an application that also imports data when started. This can be a solution for a first time deployment of a new website with a new app.

If desired, a reuse of KLP.no components can be effectively solved by building libraries with common functionality, used by both applications. An example of this function is to install the Superhero or Corporate theme application from Enonic Market. These applications will automatically create respective websites in accordance with the installation.

Enonic Market

There are several ready-made applications available on Enonic Market for expanding an existing website, like integrations with Google Analytics, Siteimprove, or the form builder. All applications can easily be installed and used in an existing installation of Enonic XP.

Enonic Cloud

If KLP want to run campaigns isolated from their main installation at KLP.no, the most effective method is to use Enonic Cloud. With Enonic's cloud-based hosting any customer can set up new XP instances and subscribe on a monthly basis.

FEATURES NOT SPECIFIED IN THE POC

Enonic exceeded the requirements of the PoC during the project and also did the following:

Footer

The footer was made dynamic and customisable from the website in Enonic XP.

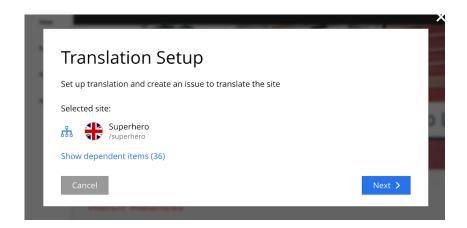


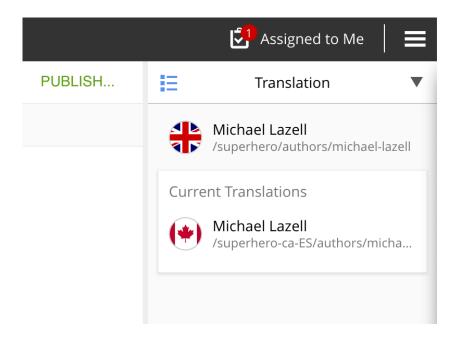
Login

A demonstration was set up with IDprovider and pages requiring login. IDproviders are pluggable apps responsible for login.

Localisation

Enonic added support for "text phrases." For example, on the Norwegian site it says "Meny," while on the English site it says "Menu." The feature is also present in the content type article, where a user with a preference for English will be shown both XP and forms in English—with the default being Norwegian.





English website

A small test version of the English language website was set up, with the same templating as the Norwegian. All the same possibilities and features are present here as well.

Additional considerations

In addition to the above deliveries, Enonic also answered or presented solutions to the following tasks from KLP:

- Language support
- System documentation
- Third-party integration
- Cloud/on site integration
- Redundancy support
- Backup and recover
- Test environment setup
- Security architecture
- Runtime location
- Upgrade regime and downtime
- Response time
- Costs
- Technical strategy
- Market strategy
- Training offer and plan

RESULTS

The intense hands-on PoC process at KLP's offices resulted in a collection of codes and a 40-page report delivery from Enonic. With this, KLP possessed a unique basis for making their decision.

Not only did Enonic deliver more than required before deadline—like for instance app localisation—they also answered requirements outside of the PoC—including market strategy, upgrade regime, and security architecture.

During the project Enonic demonstrated the ease of training developers and getting them started in Enonic XP. The user-friendliness and intuitiveness of Enonic XP, along with best practice provided by Enonic and a close collaboration between all actors, ensured a solid and satisfactory delivery.

KLP finally chose Enonic's solution on 11 December 2018. The financial company understood that Enonic can help them change and adapt digital solutions in a faster and more secure way, as well as receiving quality deliveries on e.g. localisation.

Following the PoC, KLP started an implementation project in January 2019 and launched its public website hosted in Enonic Cloud in June 2019.

TECHNICAL OVERVIEW

- Enonic Cloud
 - O Enonic XP 6.15
 - Development (Dev)
 - Quality Assurance (QA)
 - Production (Prod)
- Headless CMS
 - Guillotine library
 - GraphQL
- Enonic Market
 - O Form builder (customised to KLP's design system)
 - SEO Meta Fields
 - Visual Website Optimizer
 - Menu lib
- KLP Design System
- Gradle (build system)
- Github (Git Repo)
- React
- HTML5
- Jenkins (continuous delivery)
- Trello (task management)

TESTIMONIAL



Enonic XP is both accessible and easy to work with. In addition, Enonic's solution was best suited for KLP's existing skill set, which includes JavaScript.

Åsne Taksrud, Vice President IT Digital Customer Solutions at KLP

FREE DEMO OF ENONIC XP

Get a free demo and test Enonic in the cloud.

REQUEST DEMO