

# AI

Accelerate content creation, streamline operations, and deliver context-intelligent assistance with integrated AI.

Businesses around the world leverage Liferay DXP to build powerful digital experiences, and with the platform's integrated AI features, business users, developers, and front-end designers can do so even faster. In this document, you'll find a few of the ways AI is built into our platform across different capabilities, such as content management, search, and commerce.

## Benefits



**Accelerate content and image creation, asset management, and translation processes** using integrated AI



**Display personalization recommendations and search results** to users immediately



**Deliver AI-powered insights** to drive more efficient operations and better decision-making



**Integrate with other AI technologies** using Liferay's extensive set of APIs to enable more use cases for your organization

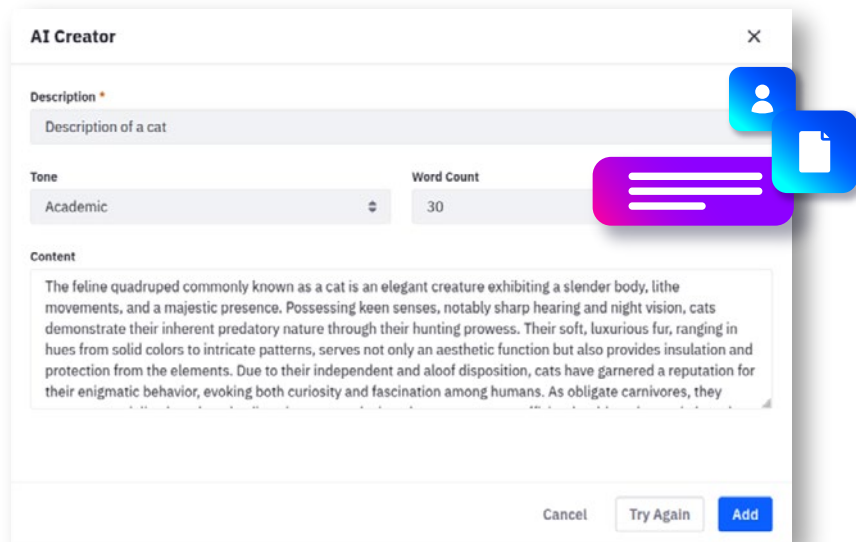


Rest assured that **Liferay is using and handling AI responsibility** in our products and as a company. We have created a Responsible AI program to ensure we comply with existing and future regulations. For example, our program is aligned with the OECD framework, which is the basis for the EU and upcoming Brazilian AI regulations.

# With Liferay AI Capabilities, You Can:

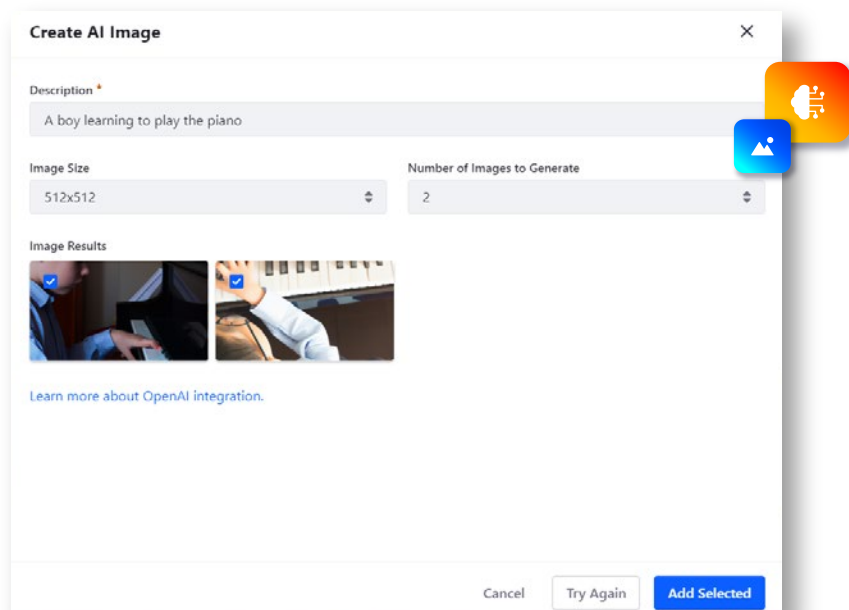
## Accelerate Content Creation

With Liferay's AI Creator Tool through native integration to tools like ChatGPT, content creators can simply define their word count, tone, and a short description to begin generating content to work with.



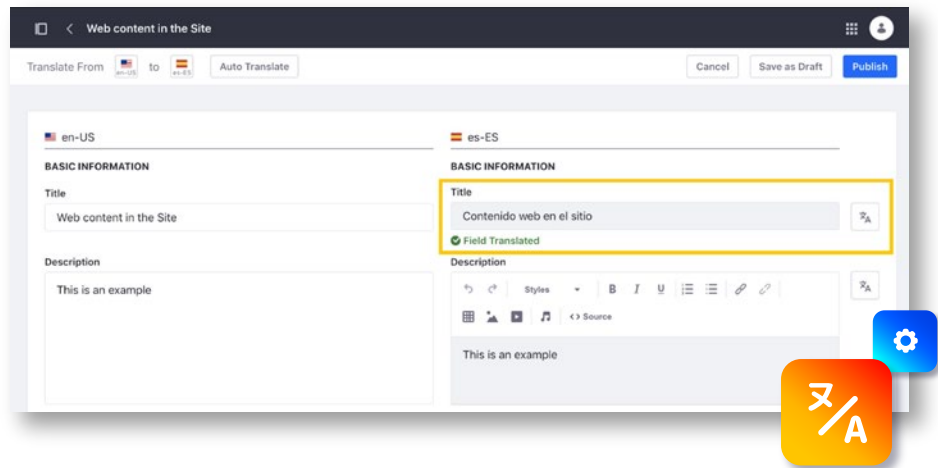
## Generate Images using AI

Generate unique and relevant images directly within your DAM system. Powered by DALL-E, content creators are able to define a description, image size, and number of images to automatically generate images.



## Quickly Translate Content

Liferay integrates the following service APIs to generate automatic translations of Content Pages and Web Content: Google Cloud Translation, Amazon Translate, and Microsoft Translator. With a single click, you can translate content across content fields and pages into the selected language.



## Auto-Tag Assets

Automatically tag assets such as text-based documents, web content, blog entries, and images upon upload. This not only helps save time for your team, by organizing assets in a structured manner, but also makes these assets easier for users to search for.

There are two text auto-tagging providers available for our DXP:

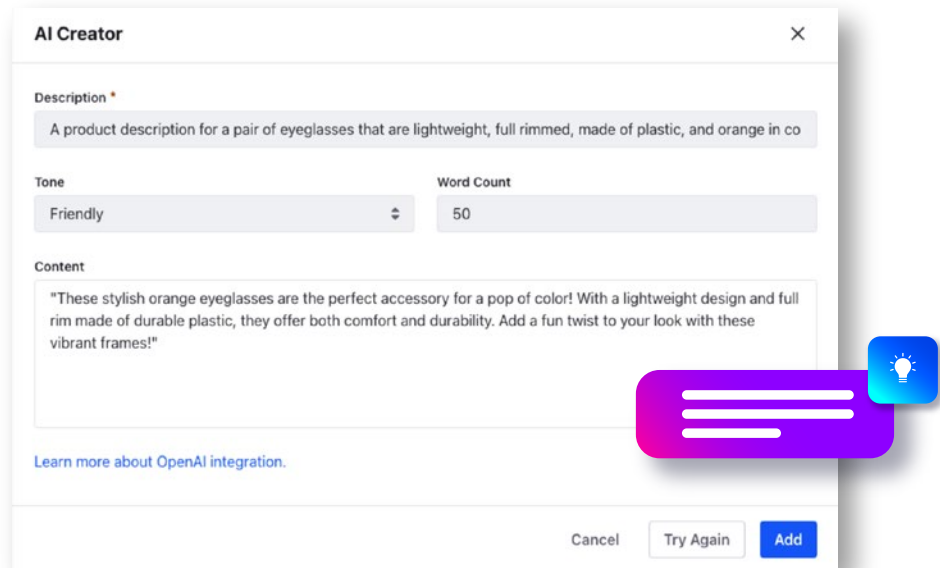
- **Google Cloud Natural Language Text Auto-Tagging:** Uses the Google Cloud Natural Language API to analyze and automatically tag content.
- **OpenNLP Text Auto-Tagging:** Uses the open source Apache OpenNLP library to analyze and automatically tag portal content. Three models are used: location name finder, organization finder, and person name finder.

For image auto-tagging, there are three providers available:

- **TensorFlow:** An open-source library that provides machine learning capabilities. TensorFlow image auto-tagging in DXP is based on TensorFlow's LabelImage sample for Java, and uses the Inception5h model.
- **Google Cloud Vision:** Uses the Google Cloud Vision API to automatically tag images.
- **Microsoft Cognitive Services:** Uses Microsoft Cognitive Services to automatically tag images.

# Upload Products Faster

Liferay's OpenAI integration also can be used to create product descriptions and images with a single click, improving content creation efficiency.



# Assist Users More Quickly

## Integrations to Chatbots

Liferay now offers integration with a number of live support chat platforms, including Zendesk, Intercom, Hubspot, LiveChat, and more. Enabling this integration adds a chat window to sites on your Liferay instance and can be used to enable improved support and site experience for your users.

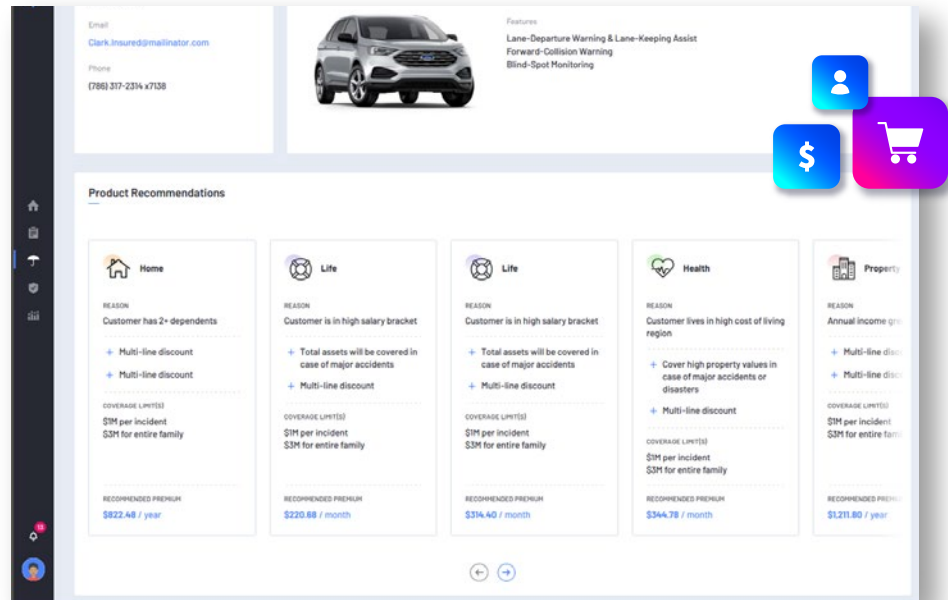
## Recommend Products and Content to Users

Based on a user's role, history, and previously purchased products, you can recommend products to customers to help them find the right products or up-sell or cross-sell with relevant complementary items.

A few product recommendations include:

- **Content-Based Product Recommendations:** Recommends Products similar to the currently viewed Product.
- **User Personalized Recommendations:** Recommends Products based on the purchase history of similar customers
- **Context Aware User Personalized Recommendations:** Recommends Products of similar categories and the buying history of similar customers

- **“You May Also Like” Recommendations:** Recommends Products based on the purchase history of all customers
- **Also-Bought Product Recommendations:** Recommends Products frequently purchased with the viewed Product



Additionally, you can recommend content for users based on their interests and viewed content to surface content that would be most helpful for their journey. For example, when a user visits a sporting goods site and clicks on articles about fishing poles, the ecommerce manager might want to surface content related to fishing.

Liferay DXP uses a number of different criteria to determine user interest, including content elements such as title, description, categories, and tags. It can then display a Dynamic Collection of content that matches the interests of your users. You can define the type of items in the Dynamic Collection, along with criteria for these items, to ensure users see the right recommendations for their interests.

Home > Individuals > Abbigail Torp

### Abbigail Torp

Overview **Interests** Segments Details

Interest ↑	Contributing Pages
compelling metrics	1 Contributing Pages
holistic ROI	1 Contributing Pages
productize best-of-breed web services	1 Contributing Pages
world-class e-tailers	1 Contributing Pages

Segments / Financial Services / **Interests**

< All Interests

### Intranets

Interest Score

Dec 26-31, 2018  
Interest Score 48  
Views 152

TOUCHPOINTS 252 views across 19 pages from Jan 26 - 31, 2018

Filter and Order Search Touchpoints

Page Title / URL	Unique Views	Page Description
<b>Liferay Use Cases</b> https://www.liferay.com/solutions	98	Enterprise Portals. WCM. Intranets. Mobile Development Platform. See everything you can build with a single...
<b>Liferay DXP: Intranet Portal Software</b> https://www.liferay.com/home	42	Liferay intranets connect people and systems through a modern interface to help teams make decisions, cr...
<b>Agenda   Liferay</b> https://www.liferay.com/web/events-symposium-north-amer...	12	Liferay intranets connect people and systems through a modern interface to help teams make decisions, cr...
<b>IT and Business Leadership Resources   Liferay</b> https://www.liferay.com/resources/17990category/ids=93364	11	Liferay intranets connect people and systems through a modern interface to help teams make decisions, cr...
<b>Webinar Liferay   Intranet Solution</b> https://discover.liferay.com/intranet-solution-webinar-0	10	Liferay intranets connect people and systems through a modern interface to help teams make decisions, cr...
<b>Webinar Liferay   Migration vers Liferay DXP</b> https://discover.liferay.com/migrating-to-liferay-dxp-webinar-0	8	Ce webinar aidera les utilisateurs Liferay à comprendre comment se préparer au processus de migration vers Lifera...

## Surface Intuitive Search Results

Customize search results based on user intent with Semantic Search. Semantic Search parses index content and users' natural language search phrases with a machine learning model, so that results better reflect the intent of their search.

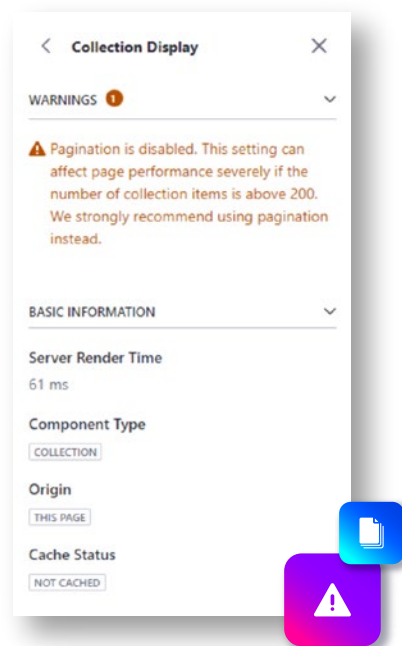
For example, if a user searches “how does a skate move?”, a model trained on marine biology will provide different results than one trained on recreation.

## Enable Better Decision Making

### Forecast Sales

Use AI-powered sales forecasts to help your sales and finance teams estimate revenues and identify potential opportunities for growth.

Liferay can also alert sales reps when there's an unexpected dip in purchasing, indicating risk of churn. The platform does this by calculating customer loyalty scores through order history and frequency of orders.



### Build Better Pages with In-Context Performance Feedback

Liferay's Page Audit tool displays performance-related information about the server render time, component type, component's origin, and cache status as well as warning messages about potential performance issues. The tool will also provide recommendations to help fix these issues.

# Integrate to other AI platforms

While Liferay DXP provides native AI capabilities, the platform's incredible flexibility and extensible architecture makes it easy to integrate with other AI platforms as well. We provide an extensive set of headless APIs and batch processing capabilities to make it easy to connect to the AI technologies you need.

For example, by integrating with external AI platforms you can:

- **Deliver hyper-personalized customer experiences** to recommend products, services, and content.
- **Add AI-powered virtual agents in commerce experiences** to help customers find products and services.
- **Provide intelligent self-service through virtual agents** that can help answer customer questions, retrieve information, and conduct basic transactions.
- **Predict equipment failures before they occur** to enable proactive maintenance and reduce downtime.
- **Optimize supply chain operations** by forecasting demand, optimizing inventory levels, and identifying inefficiencies in logistics processes.
- **Detect fraudulent activities** by analyzing transaction patterns, user behavior, and other relevant data sources.



## Next Steps

With Liferay DXP, you are able to start accelerating business processes with integrated AI. But on the same platform, you can also begin to personalize user journeys, launch commerce storefronts, eliminate data silos, and empower business users to launch new sites.

AI is just one of Liferay DXP's out-of-the-box capabilities. With two decades of organic product development, every capability of our platform is designed to work in harmony. Learn about all the native capabilities Liferay DXP provides in this [ebook](#).

Dive deeper into Liferay's Commerce capabilities by requesting a demo [here](#).

