



TECHNOLOGY CONSULTING INNOVATION

# ELCA

## Automated search and monitoring of trademarks

The Swiss Federal Institute of Intellectual Property (IGE) wanted a new system to perform complex searches on its extensive trademark databases\*. The system was required to automate a large fraction of the manual operations necessary to produce search reports for IGE customers, improve the quality of searching, and allow new trademarks to be monitored automatically. For this purpose, ELCA developed an entirely-new fully-integrated working environment supporting the users' procedures, based on state-of-the-art technologies.

### The Problem

Registering a trademark allows a company or an individual to protect a distinguishing word, phrase, logo, image, or a combination of textual and visual elements from unlawful use by third parties. The trademark allows goods or services to be easily identified and distinguished by the public. Colour marks, three-dimensional objects and sound marks can also be registered.

Trademarks must be distinctive. In order to establish the unique character of a trademark, it is necessary to perform extensive searches through existing trademark collections. This searching activity is important for intellectual property offices that provide advanced search products and monitor new registrations on behalf of external customers, for law firms that represent trademark holders and handle registrations, for large companies that handle portfolios of trademarks, and for individuals seeking basic information when considering applying for a new trademark.

Trademark similarities must be identified based on both verbal and figurative criteria (see Figure 1). Verbally similar trademarks should be found by comparing the word or phrase under consideration with all existing trademarks. This is a complex procedure, which must be automated efficiently. Verbal searches must not only be performed in an exact manner, but must also retrieve broadly similar marks. Marks can be verbally similar for several reasons: they are pronounced in a similar fashion (STOXX vs. STOCKS), they are written in a similar way (BALLY vs. BALL), or they may be conceptually close (RED BULL vs. BLUE BULL). Figurative similarities must also be established, particularly for trademarks consisting only of an image, such as an arrow, a ribbon, or a tree.

### Figurative element



ORIGINS

### Verbal element

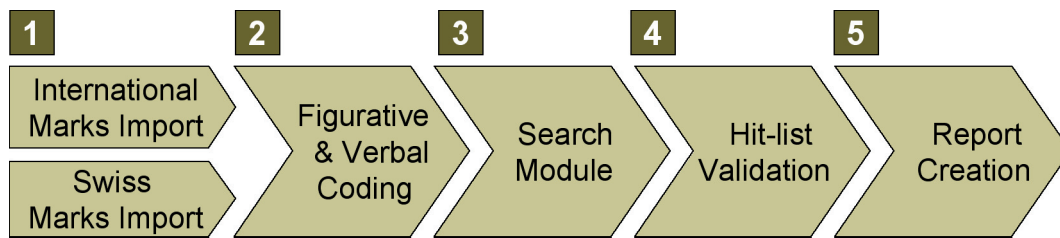
Figure 1: Trademark searching must account for both figurative and verbal elements.

\* The trademarks used or referred to in this document are the exclusive property of their respective holders. Data contained in this document serves informational purposes only.

## The Solution

The system built by ELCA, and used internally at IGE, consists of a number of modules to search and monitor trademark databases (see Figure 2). The different modules provide the following functions:

1. The trademarks are imported from two sources. The World Intellectual Property Organization (WIPO) provides trademarks registered in several countries. All international trademarks are loaded, not only those registered in Switzerland. Swiss trademarks are provided separately by the IGE.
2. A second module allows users to define the figurative coding assigned to each trademark, based on an international classification system for trademark images. Users also review the coding of the trademarks' verbal elements. The use of several verbal code words for each trademark allows verbal similarities to be identified easily.
3. The search module allows users to set search criteria and, if needed, set a frequency at which the system will automatically search for new matching trademarks. Searches can be performed, for example, for identical or similar verbal elements, for similar figurative elements, for all marks belonging to a given holder, or for various combinations.
4. The trademarks searchers manually review all the trademarks found to ensure a consistently high quality for the IGE customers.
5. Finally, reports can be generated in 4 languages, in Word format, and are sent to the IGE external customers by email.



**Figure 2: Elements of the solution: Five modules to successively import collections of trademarks, review their verbal and figurative coding, define search requirements and run searches, validate the hit-lists of marks found, and finally create complex reports.**

The function of all modules in the system can be automated. For example, the downloading and import of new trademarks is performed overnight. The system automatically suggests a verbal coding for all the new trademarks. Searches can be defined automatically to monitor new entries in the database. Trademarks in the hit-lists are pre-selected for inclusion in the reports based on various search criteria. Finally, reports can also be created automatically overnight when trademark monitoring is requested.

A single interface allows both end users and system managers to work with the different modules. The status of searches can be monitored, extensive statistics are accumulated automatically, and all search and report parameters can be adjusted.

## Solution Highlights

The import of data is based on XML standards. International trademarks are loaded in the XML format provided by WIPO, which is used for communicating with 30 national intellectual property offices around the world. The data is provided free for offices of WIPO member states, and at cost for third parties. Updates are provided weekly, and

are immediately made available for the IGE within the new solution. The system is designed to smoothly handle a large amount of information. The database currently contains around 700'000 trademarks, including 300'000 with figures.

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<b>ORIGINES</b>
<b>ORIGINAL</b>
<b>BIORIGIN</b>
<b>AURIGEN</b>
<b>ORIGEN</b>
<b>ORIGON</b>
<b>OXYLIN</b>
<b>OLIVIN</b>
<b>OLIMIN</b>
<b>EURIGEN</b>
<b>EUROGEN</b>
<b>EURIGEN</b>
<b>RIGIN</b>

Figure 3: Sample verbal similarities retrieved by the solution

Trademark searches retrieve verbal matches based on a variety of possible similarities. For example, words with syllables or letters added, removed, or permuted, as well as translations and synonyms, can be retrieved through similarity searches. Words that are pronounced similarly in four different languages are also found, as exemplified in Figure 3. Parameters allow users to tune the minimum similarity for each search, according to their needs. Figurative matches are found by searching the international classification of trademark images. Figure 4 shows a sample screenshot of the application being used for this task.

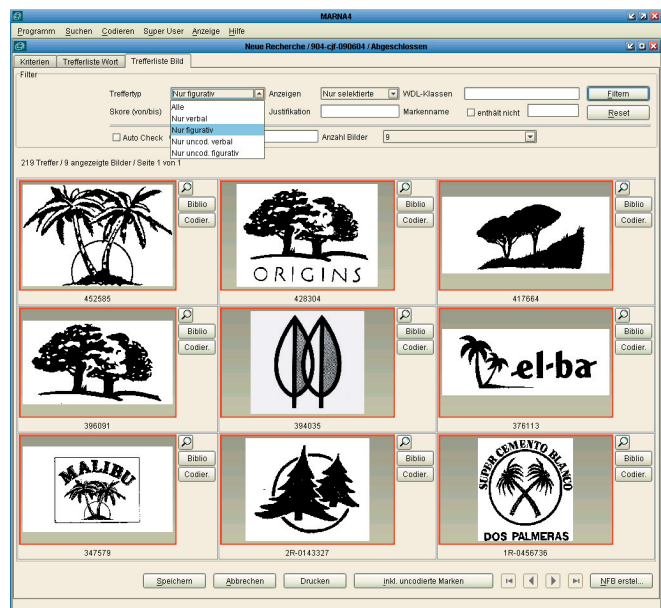
The end results of the searches are detailed search reports containing trademark registrations similar to those under investigation. These extremely detailed documents contain the full history of modifications to each trademark. For example, all owner and representative transfers, the details of all judicial decisions in all designated countries, as well as trademark partial transfers and fusions, are all available in the final search reports. The customized high-quality format of these reports allows them to be sent directly to external customers.

### Technical Details

The system developed is a J2EE 3-tier application composed of a rich Swing-based client application deployed with Java Web Start technology, a JBoss 3.0 application server running the business and data-access services, and an Oracle 9i database. The solution has been successfully developed with the help of the Lean Extensible Architectural Framework (LEAF), a J2EE framework developed by ELCA. It consists of

both a list of reference architectures and a thin platform to integrate technical and business services in order to simplify the development of information system applications. Here, the system makes extensive use of the LEAF batch framework for running the compute-intensive search and report generation tasks. In this way, the development time has been reduced, and a robust environment for handling the variety of automated jobs has been provided.

Figure 4: Screenshot of the application, showing of a list of trademarks found with figurative search criteria requesting the presence of two trees.





## ELCA

ELCA is a leading Swiss supplier in software development, systems integration, and business consulting ([www.elca.ch](http://www.elca.ch)). The company, headquartered in Lausanne, employs over 300 people, who are distributed among the various offices in Lausanne, Bern, Zürich, Geneva, Paris, and Ho Chi Minh City. ELCA positions itself as an implementation partner with a tight project and cost management and a large knowledge of software technology and integration techniques. Partnerships with leading IT suppliers such as Documentum, Microsoft, IBM, and others complete our offer.

As an independent consulting firm and system integrator, ELCA has successfully completed a variety of projects for the management of intellectual property. It has thereby acquired extensive know-how in the field, as well as practical experience with various leading products in the world market. ELCA is one of the few IT companies in Switzerland that are able to competently and reliably handle complex projects with demanding integration requirements.

## IGE

The Swiss Federal Institute of Intellectual Property ([www.ige.ch](http://www.ige.ch)) has its headquarters in Berne and is responsible for all matters relating to Intellectual Property in Switzerland. It was founded in 1888 and received its present status as an independent organisation incorporated under public law on 1 January 1996. As a legal entity in its own right, the Institute is financially and operatively autonomous, and is entered in Switzerland's Commercial Register. It keeps its own accounts and is independent of the Swiss federal budget in every way.

ip-search ([www.ip-search.ch](http://www.ip-search.ch)) is a service of the Federal Institute of Intellectual Property. The specialists working at the institute are engineers and scientists from every field with solid training and experience as search specialists. This important technical know-how and direct access to national and international databases allows the specialists to exploit patent, trademark and scientific data sources for your needs. The starting point is always an individual query, and the goal is to deliver the most optimal and comprehensive information possible so that you can build on it in your decision-making. All queries are handled with absolute discretion.

## IT-Solutions by ELCA. We make it work

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