

CASE STUDY

infopulse



Manufacturing
Company

Development of E-procurement Marketplace for Chemical Building Blocks Distribution

Streamlining the Process of Chemicals Purchasing
and Distribution with an E-Commerce Platform

Client: Chemical Production Company

Industry: Chemical

Location: Ukraine, UK

Employees: 500+ employees

Cb =pH[H ⁺]	[OH ⁻]	Alpha(A ⁻)	Phi
7.403.98E-08	2.51E-07	0.201	0.201
7.602.51E-08	3.98E-07	0.285	0.285
8.001.00E-08	1.00E-06	0.500	0.500
8.403.98E-09	2.51E-06	0.715	0.715
8.801.58E-09	6.31E-06	0.863	0.864
9.001.00E-09	1.00E-05	0.909	0.910
9.403.98E-10	2.51E-05	0.962	0.963
9.801.58E-10	6.31E-05	0.984	0.988
10.001.00E-10	1.00E-04	0.990	0.996
10.206.31E-11	1.58E-04	0.994	1.003
10.403.98E-11	2.51E-04	0.996	1.011
10.602.51E-11	3.98E-04	0.997	1.021
10.801.58E-11	6.31E-04	0.998	1.037

CLIENT BACKGROUND

A global chemical production company that provides a comprehensive set of chemical and biology R&D services to pharmaceutical and biotech companies, academic and drug R&D institutions, and other research organizations worldwide. Our client has gathered the massive reputable collection of

chemical compounds, including high throughput screening compounds, chemical building blocks, and fine chemicals.

BUSINESS CHALLENGE

Aiming to satisfy the ever-increasing needs of their customers in drug research and molecules discovery, our customer and their partners needed to develop a global e-procurement marketplace for chemical blocks distribution:

- Develop a platform for simplified sales and worldwide delivery of chemical building blocks.
- Design and build a global database of chemicals.
- Implement instant search with advanced search features and a broad range of search parameters across billions of products.
- Invent, design and develop a new notion of graph-based search: a part of pictured chemical compound entered by a user should properly search for all possible chemical structures, which contain this fragment. Infopulse had to solve an uncommon technical task in the area of the database records indexing, which required an academic-level approach to software engineering. Due to the absence of matching platforms or technologies, including noSQL ones, which could provide an out-of-the box solution for this chemical cybernetics task, a proper solution had to be designed from scratch.
- As there's a multitude of international conventions and approaches to the complex chemical structure naming, the platform in question had to support all of them.

- Albeit being present in the database, many chemical structures, are not discovered anywhere yet except for the customer's lab. Hence, the platform had to solve the challenge of the certifications, safety labels, etc.
- Improve customer engagement. Since the marketplace would be used globally, it had to be user-friendly, reliable, and secure.

While the project was initially challenging due to the high subject/domain-related complexity of the e-commerce portal ("chemical cybernetics"), the task was even more complicated by the fact that the customer had limited positive experience with external IT service providers.

SOLUTION

Infopulse worked closely with customer's IT team, chemical and biology experts in order to cooperatively create the e-commerce marketplace with a proper model of the database for molecule samples and chemical building blocks, ensuring proactive support of client requirements:

- Full cycle development and support of online marketplace for chemical building blocks distribution
- Workflow process analysis & implementation

- Software development (PHP) and testing
- Web development (markup & CSS), Marvin JS for chemical compounds visualizations and editing
- CRM software implementation and support (suiteCRM / sugarCRM)
- Database development (MySQL) and integration (Zapier)
- Solution deployment and support (Apache HTTP Server & Linux based platform)
- Integration of business systems with CRM (VoIP / SIP, accounting systems, Email marketing systems, etc.)
- Invoicing modules implementation
- Social networks integration
- Integration of Google Analytics & Web Master Tools
- Continuous support and implementation of new requirements as the marketplace evolves

TECHNOLOGIES:



BUSINESS VALUE

The solution, developed by the customer team together with Infopulse experts, quickly became the leading database of molecules on-demand. An open online marketplace is connected to a powerful database with limitless scalability, which makes this platform a one stop-shop for the ordering of chemical building blocks across hundreds of millions unique structures.

- Unique flexible e-commerce platform with seamless client experience and a user-friendly interface.
- Streamlines the process of chemicals purchasing and distribution, serving as a single source for all small molecule needs as well as medicinal chemistry R&D services.
- Near-instant search within the enormous library of chemicals: hundreds of millions of molecule samples and chemical building blocks immediately available for sale and purchase.
- Eliminated intermediaries and addressed the issues of reliability of chemical building blocks offerings, vastly improving the interaction between buyers and sellers.
- Improved sales processes, optimized supply chain, increased delivery speed.
- The flexible and productive sales process is organized using the implemented CRM system.



ABOUT INFOPULSE

Infopulse, part of Nordic IT group EVRY A/S, is an international vendor of services in the areas of Software R&D, Application Management, Cloud & IT Operations, and Cybersecurity to SMEs and Fortune 100 companies across the globe. Founded in 1991, the company has a team of over 2,000 professionals and is represented in 10 countries across Western and Eastern Europe. Infopulse is trusted by many established brands, such as BICS, Bosch, British American Tobacco, Citrix, Credit Agricole, ING Bank, Gorenje, METRO Cash & Carry, Microsoft, Mondelēz, OTP Bank, Raiffeisen Bank Aval, SAP, UkrSibbank BNP Paribas Group, VEON, Vodafone, and others. For more information, please visit

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