

CASE STUDY

Chemical Watch prepare for a future driven by data



Back in 2007, the EU's newly announced REACH regulations hit anyone making, using, selling or importing chemicals hard.

The complex new rules had a significant impact on how companies conducted their day to day business, and it became apparent that there was a need across the industry to take a more proactive approach regarding chemical compliance. A central hub of compliance news, analysis, events and training; run by trusted sources with deep sector knowledge, would ensure that companies could mitigate risk in future. Sector specialists Julian Rose and Mamta Patel seized the moment, and Chemical Watch was born.

Providing a 360 degree view of the chemical regulatory agenda, Chemical Watch fast built a reputation for being an invaluable source of impartial information via its website, training, conferences and reports. With a bulging contacts book of stakeholders spanning industry, regulators, lawyers, consultants and NGOs, the team were able to gain off diary insights into regulation, quickly report on compliance from a variety of angles, and their strong journalistic approach meant they could write pieces that were brimming with the kind of business intelligence companies needed to make tactical business decisions, but also written in plain English.

All change in information services - data is king

However, Chemical Watch were determined not to rest on their laurels. A ten year anniversary of the business provided the ideal opportunity to look at how far they had come and what their customers were likely to need moving forward. Customers were becoming more data driven, expecting improved user experiences, and were faced with an increased number of information sources offering chemical regulation news. Although the new, free content

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available from longtail sources was not of the same quality, it did have an undeniable breadth and scale. Chemical Watch needed to cement its position as a high end provider of vital and unique business intelligence to ensure it differentiated itself from any competition.

Business challenge:

How do we optimise our current content to allow our members to extract more value and to improve the overall customer experience?

Chemical Watch worked with technology partner 67 Bricks to strategise a way forward. The team decided that to leverage their proposition to clients they needed to enrich their content further, by making connections that would offer higher value customer insights, power value-add features and support future product innovation.

Being surprised by new regulations and not being able to respond quickly enough risked business reputation for customers. Therefore it was critical that any new system could help Chemical Watch's customers receive relevant, advanced warnings of regulatory developments in a timely and clear manner via personalised user experiences and custom alerts. The chance to power new product features and to slice and repackage existing content was also essential in meeting customer's needs. 67 Bricks recommended that semantic fingerprinting was an ideal way of delivering this. To go with this supercharged new approach to the back end, the team relaunched their flagship product in parallel to showcase Chemical Watch's new content capabilities and provide an overall sleeker user experience.

What is a semantic fingerprint?

A semantic fingerprint is a comprehensive set of metadata for a piece of content or user that describes it uniquely and can therefore be used to match the content or user with a degree of similarity against other pieces of content or users. Semantic fingerprints can be used to power personalised user experiences and drive multiple product features such as the display of related content, improved content notifications, in-line links to further information, taxonomic browse, faceted search, content collections and semantic search.

Figure 1: The new Chemical Watch site showing a detailed search functionality around materials

The semantic fingerprinting project

The project started with a short elaboration phase during which 67 Bricks analysed existing Chemical Watch data and content, ran workshops with stakeholders and developed a clear view of the product features the semantic fingerprinting capability could enable in the short, medium and long term.

The team then carried out extensive customer research so their needs were captured and informed the user stories, UX and UI design process. The priority user focussed features Chemical Watch chose to support first were - faceted **search**, better **discovery**, for example by showing related articles or resources to the document you are reading or in-line links to information about chemicals, and customisable **"lenses"** on the content which could be set by Chemical Watch or by the user.

We then moved into a 3-month agile build phase. The joint project team worked collaboratively following an agile development approach, incrementally evolving the capability to react to user feedback and evolving requirements, converging on an optimal solution that delivers the greatest value to Chemical Watch's customers.

The outputs of this phase of the project were

- A production ready semantic fingerprinting capability that is being used to power improved search, discovery and customised lenses on Chemical Watch's newly relaunched flagship product
- Documented APIs for the semantic fingerprinting capability that can be utilized by Chemical Watch, 67 Bricks or another third-party developer to meet future product development needs and drive internal efficiencies
- A prototype user interface (UI) that allowed Chemical Watch stakeholders to test the quality of the output from the semantic fingerprinting capability and understand how it can be used to deliver business value.

Chemical Watch have now fingerprinted around 30,000 documents, with that number growing and set to continue to grow. They are able to fingerprint not just news articles, but any piece of content a

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user might be interested in - resources, events, jobs, webinars etc - which gives significant value. In the next phase of the project, the team hope to be able to focus on driving new internal efficiencies; for example, by automating some manual content production tasks to free internal staff up to work on more business critical tasks.

Value to the business

In the short term, the semantic fingerprinting work has enabled the successful relaunch of Chemical Watch's new, higher-value service offering with improved search, discovery and personalisation. Looking to the future, transforming content into a data asset means Chemical Watch are well placed to build on this success and deliver innovative products and services that meet the needs of their customers both now and in years to come. For example, a substance tracker that would help customers proactively mitigate risk by tracking 1000s of chemicals used in their products is a potential next step. They are also planning ways to use semantic fingerprinting to power internal efficiencies - for example auto tagging of content, identifying news-worthy stories, spotting trends and creating automated marketing emails.

What does Chemical Watch's semantic fingerprinting capability do?

- The new capability examines each piece of content on Chemical Watch's site, including news, features, third party PDFs and conference presentations, to create its unique semantic fingerprint. This incorporates:
 - Keyword extraction using grammatical and statistical analysis
 - Automatic identification of key information for customers, for example, jurisdiction (e.g. country, region, continent etc.), substance (e.g. chemical, synonyms, trade names, chemical groups etc.), legislative initiative (e.g. REACH, K-REACH, TSCA etc.), topic (e.g. Brexit, risk assessment etc.) and sector (e.g. aerospace, automotive and engineering etc.)
 - Machine learning to improve the identification of categories over time
- This enriched content can then be used to boost onward discovery of information, power new product features and be packaged, customised and marketed in new ways.

"We recognised the power of data in meeting the needs of our customers and have used it to launch a class-leading service, offering news, insight and intelligence in a way that will delight our customers, and help unlock the full value of compliance within their organisations.

Our aim has always been to be our members' preferred source of information supporting their dynamic compliance efforts, and our investment in semantic fingerprinting technology has reinforced this proposition, significantly enhancing the value of our offering. By partnering with 67 Bricks to implement this as a strategic capability, we are now well positioned to meet our customers' needs, now and in the years ahead."

Richard Butterworth
Commercial Director, Chemical Watch

Call Sam Herbert at 67 Bricks on **+44 (0)7734 138274** or email us at **contact@67bricks.com** to discuss how we can help you.