

FRIDGE

Chemicals Sector Summit

Preparation:

**Information System Strategy
(Step 4)**

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EXECUTIVE SUMMARY

In preparation for the Chemicals Sector Summit in 2005, FRIDGE commissioned assistance in evaluating the necessity to expand the existing information system in the chemicals sector, and in devising an appropriate development strategy to address any gaps.

The diverse range of stakeholders in the chemicals industry has a wide range of different information requirements ranging from market and trade issues, technical information such as academic papers or Health, Safety & Environmental (H,S&E) guidelines, and personal interest information such as employment opportunities or chemistry in daily life. The objective was to ensure that stakeholders' information requirements are met by increasing the information available to stakeholders both inside and outside the chemicals sector by means of a portal-type website. A web portal is a type of website that provides a tailored 'gateway' to the internet. It provides access to resources (including original content and content from third-party providers) as well as a range of features such as news bulletins or a search engine.

The [Chemweb and the Chemissa websites](#) form the backbone of the current information system for the chemicals sector in South Africa. These will be merged into one website in the future. In addition, ChemSource – a CD-ROM-based database – provides information on suppliers in the chemicals industry. There may be an opportunity to integrate the data into the Chemweb/Chemissa website when merged.

Overall, there is good provision of links to information by the Chemweb website and detailed statistics by the Chemissa website; however, these sites currently fall short of providing a comprehensive information system. The main gaps in information provision that have been identified in this study include:

- ▶ Lack of current links to international websites that provide international market information
- ▶ Information on chemicals research and technology in South Africa and internationally
- ▶ Government initiatives and support for the chemicals sector in South Africa
- ▶ Information relating to hazards and environmental issues internationally, for example, initiatives such as Responsible Care

Further, the structure of the current website requires improvements in order to enable users to navigate the site and find relevant information more easily and quickly.

There are two main approaches to filling these information gaps: linking to other sites that provide relevant content, and/or developing new original content for the portal site. The table below provides a summary of recommendations on websites to which the portal site can be linked, and areas where development of original content is required.

Information required		Recommendation
Sector Overview	Information on international sub-sector and end use markets	Link to sector organisation sites including: Plastics Council, World Chlorine Council, European Council of Vinyl Manufacturers
Country overview	Market overviews for potential export markets	Link to country profiles for all countries provided by the CIA
Production	Information on international chemicals production	Link to production information for the EU and international comparisons provided on CEFIC Develop similar information for the South African market
Trends	Global trends in the chemicals sector	Link to trends detailed on the American Chemical Society website

Information required		Recommendation
Trade	Trade agreement information	Link to sites on trade agreements, including Generalised System of Preferences, Southern African Customs Union on the Department of Foreign Affairs site, COMESA website, SADC Trade, Industry and Investment Review 2004, AGOA
	Trade issues	Link to CEFIC Position papers page (Links could be made directly to specific articles relating to key trade issues)
	International trade in chemicals products	Link to specific sections of the trade data offered by the dti Link to Austrade's search page for export information by category and target country Link to US Trade information
Employment	Employment in the chemicals sector in South Africa	Link to employment statistics on CEFIC Link to pages providing information on trade unions, including CEPWAWU Link to the Department of Labour
Health and safety indicators	Health and safety indicators for South Africa and other countries	Link to OECD Chemicals safety site for South Africa
Academic	Further links to academic resources relating to chemicals research	Link to sites offering free searches of chemicals journals and article abstracts
Training/Skills	Information on skills available	Link to CHIETA, and in future link to skills database on CHIETA website once this has been developed Link to sites offering networking opportunities
	Further links relating to educational matters	Link to pages offering educational material on chemicals
Current Issues	More recent material on issues facing the chemicals sector	Develop more recent South Africa-specific articles with input from industry experts
News	Links to news websites relating to the chemicals sector	Link to sites offering news articles, and journal articles, e.g. www.chemicalmarketreporter.com , trade publications on www.chemindustry.com
Events	Links to relevant organisations required	Contact relevant organisations, e.g. Department of Science and Technology, to ascertain event schedules and post dates on website Link to expo information on www.chemnet.com for expos worldwide, e.g. ChemSpec Europe 2005, ChemSource 2005
Tenders	Details on tenders in the chemicals sector in South Africa	Link to tenders on Engineering News and Tradeworld Link to government gazette tenders
Chemistry in daily life	Chemistry information for people outside the chemicals sector	Link to information on chemicals uses and products pitched at a level that is widely understandable
Physical processes/chemical reactions	Information on physical processes used in the manufacture of chemicals	Link to sites detailing physical processes and chemical reactions at levels that are accessible for both people inside and outside the industry

Information required		Recommendation
Relevant legislation	Links to applicable legislation	Link to legislation relating to: <ul style="list-style-type: none"> ▶ Agricultural Produce Agents ▶ Agricultural Product Standards ▶ Marketing of Agricultural Products ▶ Basic Conditions of Employment ▶ Labour Relations ▶ Companies ▶ Compensation for Occupational Injuries and Diseases ▶ National Health ▶ Occupational Diseases in Mines and Works ▶ Disaster Management ▶ Engineering Profession ▶ Natural Scientific Professions ▶ Environment Conservation ▶ Environmental Laws Rationalisation ▶ National Environmental Management ▶ Biodiversity ▶ Explosives ▶ Patents and Intellectual Property Laws ▶ Mineral and Petroleum Resources Development ▶ Petroleum Pipelines ▶ Petroleum Products ▶ National Research Foundation ▶ Pharmaceuticals ▶ Fertilisers, Farm Feeds, Agricultural and Stock Remedies
Incentive and support entities	More direct links to entities	Link directly to incentives offered and support entities, including Small Business Development, Technology Transfer Guarantee Fund, SPII Fund, National Research Foundation, Department of Science and Technology, Innovation Fund, The Enterprise Organisation (TEO), Industrial Development Corporation, National Treasury, Technology for Women in Business (TWIB)
Research and innovation	Information on R&D expenditure in South Africa and other countries	Link to South African National Survey of Research and Experimental Development 2001/02
	Additional sources of information	Link to the Innovation Hub
Hazards	Further links providing information relating to chemical hazards	Provide company Material Safety sheets on website Link to UNEP chemicals programme page, UNITAR Chemicals & Waste, Basel Convention, INFOCAP, IPCS, Intergovernmental Forum on Chemical Safety, Green Institute
International Initiatives	Information on the Responsible Care Initiative	Link to Responsible Care information at CEFIC, American Chemistry Council (ACC), FECC, The Chemical Industry site, ICCA, CAIA, and Canada Chemicals Producers Association page
	Information on the High Production Volumes Initiative	Link to information on the High Production Volume (HPV) Chemicals Initiative
	Information on the Long Range Research Initiative	Link to information on the Long Range Research Initiative at ICCA, CEFIC, ACC, JCIA
Sustainable Development	Further information on sustainable development	Link to Chemicals and the Environment on the EU site, United Nations framework on climate change, etc.
Consumer confidence and safety	Further information on consumer health and safety	Link to US Food and Drug Administration, EU site on consumer safety with relation to chemicals

Information required		Recommendation
Industry organisations	Links to international industry organisations	Link to: <ul style="list-style-type: none"> ▶ International Council of Chemical Associations ▶ American Chemical Society ▶ Society of the Plastics Industry (United States) ▶ Canada's Chemicals Producers ▶ Japan Chemical Industry Association ▶ National Industrial Chemicals Notification and Assessment Scheme (NICNAS) ▶ Plastics and Chemicals Industry Association Australia ▶ New Zealand Institute of Chemistry

These recommendations form the basis from which to develop an ongoing improvement programme for the portal site. Initially, the website structure should be improved, the list of links suggested in this document should be finalised and incorporated into the website, and where new material has been recommended, this should be developed. On an ongoing basis, the website should be regularly assessed and updated, and new material should be incorporated as it becomes available.

As the Chemicals Sector Summit considers expanding the information system, it should follow best practices in website management. The content of linked websites should be assessed according to authority, currency, accuracy, relevance, objectivity, comprehensiveness and coverage. Website format should be assessed according to design and layout, presentation and copyright and cost issues. The content and format of the portal site should be kept up-to-date and the site should be promoted to current and potential users to increase awareness and drive traffic to the site. User surveys and traffic measurement should therefore be used to assess and monitor the effectiveness of the website.

1 Introduction to the document

As part of the FRIDGE study in preparation for the Chemicals Sector Summit, research has been commissioned into various aspects of the chemicals sector in South Africa. This document details the output of Step 4 of the project, the development of a strategy to expand the existing information system.

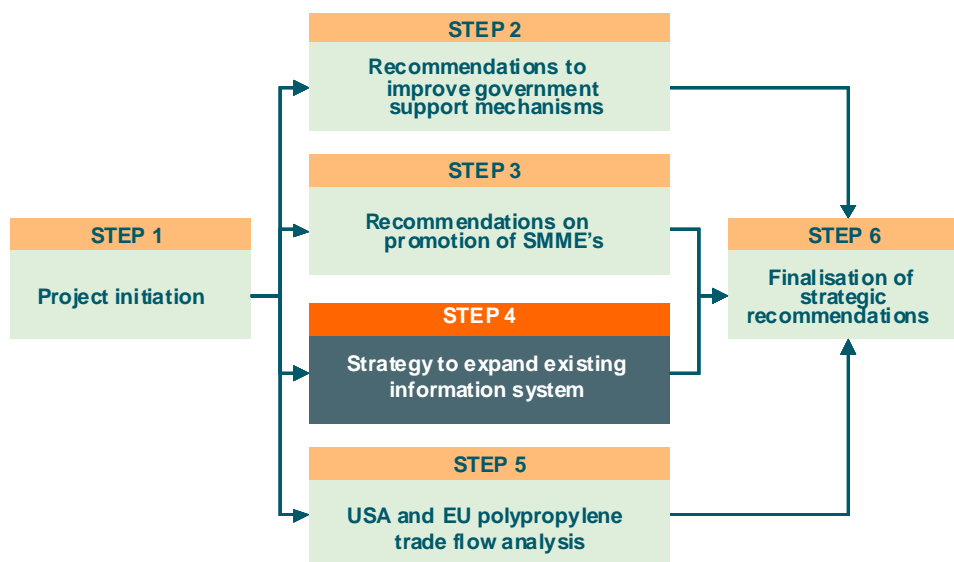


Figure 1: Overall project process

The key objective which motivated this step was to increase the information available to stakeholders both inside and outside the chemicals industry, by means of a portal-type website. A web portal is a type of website that provides a tailored 'gateway' to the internet. It provides access to resources (including original content and content from third-party providers) as well as a range of features such as news bulletins or a search engine. This step therefore aimed to develop strategic recommendations for achieving this in a relevant and useful way.

The key objectives of this work stream were therefore to:

- ▶ Review and assess the available sources of information in the chemicals sector
- ▶ Develop recommendations to expand the information system
- ▶ Develop a strategy for the ongoing expansion of the information system

2 Methodology

The methodology that was used is detailed further below :

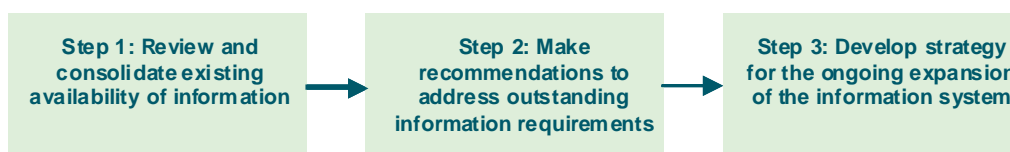


Figure 2: Project methodology

2.1 Step 1: Review and consolidate available information

The sources of information that were reviewed as constituting the available South African information system were:

▶ [Chemweb/Chemissa:](#)

The dti and the CSIR developed the Chemweb and the Chemissa sites to provide information to the chemicals sector. They will be merged into one website in the future.

- Chemweb was originally developed as a specialised portal for the chemicals industry in South Africa to provide information relevant to companies operating in the sector, including news, current issues facing the sector such as environmental issues, and overviews of the chemical sector. It also provides links to relevant sites.
- Chemissa was originally a subscription website which provided detailed and up to date information regarding production, consumption and trade of chemicals in the SADC countries.

In the review below Chemweb and Chemissa were assessed as two different websites as at the time of the project they had not yet been merged.

▶ ChemSource:

ChemSource is a CD-ROM which contains a database of suppliers in the chemicals sector. It may be discontinued as a CD-ROM for purchase, and there may be an opportunity to integrate the data into the Chemweb/Chemissa website.

Available information on best-in-class international sites and feedback from the constituencies was consolidated and a list of content areas was drawn from this review. This provided a benchmark against which the provision of information by Chemweb and Chemissa could be measured and allowed information categories that are not available from these sites to be identified.

The current sources of information were also reviewed according to user friendliness and design, as this affects the usage rate of the website and therefore access to information. This was only done for Chemweb, as this is the basis for the newly merged website.

2.2 Step 2: Address outstanding informational requirements

As part of this step an extensive review of national and international websites was conducted. These websites were compiled from:

- ▶ A comprehensive search of the World Wide Web for chemicals related websites
- ▶ Websites referenced in articles of interest
- ▶ Recommendations from the constituencies

Further, sources of information were investigated and consolidated for the subjects of:

- ▶ Hazards in chemical production in South Africa
- ▶ Hazards in chemical use in South Africa
- ▶ Legislation applicable to the chemicals sector
- ▶ International chemical initiatives including:
 - Environmental initiatives e.g. Responsible Care initiative
 - Health and safety initiatives e.g. the HPV initiative
 - Trade initiatives

Websites covering these issues were reviewed in terms of the content they provide, in order to assess the relevance of the information provided to the chemicals sector in South Africa.

For a detailed list of these websites see [Appendices 1](#) and [2](#). In addition, these were evaluated using against a number of criteria, including:

- ▶ Content criteria
 - Authority
 - Currency
 - Accuracy
 - Relevance
 - Objectivity
 - Comprehensiveness
 - Coverage
- ▶ Format criteria
 - Design
 - Layout
 - Presentation

Further, recommendations were provided for addressing outstanding informational requirements by either linking to relevant websites where these are available, or by developing original content for inclusion in the website.

2.3 Step 3: Develop strategy for the ongoing expansion of the information system

This included a review of best practice in website management, involving the strategic approach to selecting sites for links and maintaining content that is up-to-date and relevant. The outcomes of this were detailed in [section 5](#).

In this step, best practice was determined from reviewing international guidelines on website management.

3 Overview of the current information system

Chemweb/Chemissa and Chemsources were assessed to determine the extent of coverage of topics and access to further sources of information which they provide to users. These websites were selected because they constitute the most comprehensive sources of information in the chemical sector in South Africa. As such, they would be the starting point for expanding the information system available by means of a portal site, as confirmed by the constituencies.

The current Chemweb site structure is shown in the diagram below :

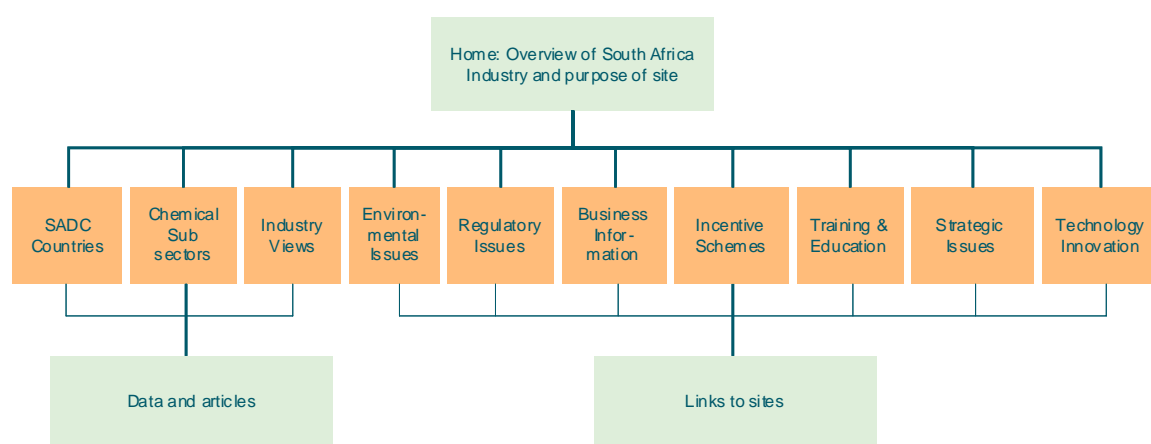


Figure 3: Current Chemweb site structure

Content of websites

Key strengths and weaknesses in information provision are discussed below for each category of information. Overall, there is a lack of links to international websites which may provide useful information relating to international market information, information on chemicals research and technology, government initiatives and support, and information relating to hazards and environmental issues, for example initiatives such as Responsible Care. (The table in [section 3.1](#) below shows the following findings in more detail.)

Market information:

- ▶ There is sufficient market information provided on South Africa and the SADC countries, although statistics relating to employment, R&D expenditure, and health and safety indicators are lacking
- ▶ There is insufficient information on international chemicals markets and market trends

Academic resources:

- ▶ The site links to the Chemicals Abstract Service, which provides a comprehensive international database of journals and patent literature

Careers and training:

- ▶ Extensive links are provided to recruitment agencies, both general and chemical-specific, e.g. the Sasol careers page
- ▶ Extensive links are also provided to educational organisations and services
- ▶ Links are provided to education and training policy
- ▶ There is no specific information on skills available to the chemicals sector