

# New Organization for Library Administration and Information Service Facility and Its Activities in Research Laboratories at Sumitomo Chemical Company, Osaka (Kasugade) Area

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New library and information service facility were established on April 2003 to serve several research laboratories and works in Osaka, Kasugade Area of Sumitomo Chemical Company. On this occasion those activities distributed in individual laboratories were unified and their operation was entrusted to Sumika Technical Information Service Inc. We have renewed these facilities and their activities on the basis of our concept “Key station of information retrieval in the 21st Century” and “Place comfortable for researchers to bring forth new idea”. In this paper we introduce our new organization and the activities.

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## Introduction

Sumitomo Chemical Company, Ltd. (Sumitomo Chemical in the following) is a comprehensive chemical company with ten research centers in five locations, Tsukuba, Chiba, Osaka, Takarazuka and Ehime. Among these, the Kasugade area in Osaka is one of Sumitomo Chemical's oldest research sites, and up to this time, it has given birth to a large number of products, such as medical and agricultural chemicals as well as pigments, centered around fine chemicals. Currently, along with Sumitomo Pharmaceuticals Co., Ltd., one of the companies in the group, there are 11 research buildings in the Kasugade Area. The Kasugade Area research library and information service facility that will be introduced this time is in Research Building 10 (LR-10), which was newly constructed in 2003, and it was established to integrate the Organic Synthesis Research Laboratory that moved from Takatsuki in Osaka Prefecture and the IT-Related Chemicals Research Laboratory Library and Information Department. We will describe the LR-10 Library and Information Services Facility in the following.

At the same time as the LR-10 Library and Information Services Facility was established all of the affairs of the Library and Information Services Facility were con-

signed to Sumika Technical Information Service, Inc., and a new system for providing library and information services to meet the needs of the research laboratories and researchers was constructed. Currently, the LR-10 Library and Information Services Facility is implementing detailed library and information services for four research laboratories in the Kasugade Area (Organic Synthesis Research Laboratory, Fine Chemicals Research Laboratory, IT-Related Chemicals Research Laboratory and the Process & Production Technology Center) and the Osaka Works.

We are reporting on the organization and functions of this new Library and Information Services Facility and about the current state of library and information service functions as well as research and development support activities in terms of science and technology information retrieval, processing, transmission and management.

**Fig. 1** shows photographs of the counter and the periodicals and browsing corner.

## Basic Concept and Design of LR-10 Library and Information Services Facility

### 1. Basic Concept

The design concept of the new LR-10 research build-



**Fig. 1** Reference Desk and Periodical Stacks and Reading Area

ing contains details focused on the future, such as results of the synergy in research functions as a research building that contains a place for research spanning various fields, introduction of state-of-the-art systems for barrier-free handling and the like (employing the Heart Building Law (Act on Buildings Accessible and Usable by the Elderly and Physically Disabled)) and consideration of measures for environmental safety such as countermeasures for chemical hazards and the like. Within this, the Library and Information Services Facility is positioned as “the principle public zone that is a place for researchers to exchange knowledge” and the following was determined for the basic concept. In other words, the new Library and Information Services Facility is to be “one with information and library functions appropriate for company research laboratories in the 21<sup>st</sup> Century, placing importance on transmission of research laboratory information with IT functions, and creating a place for retrieval of information that researchers have collected for research and development as well as one for the reflection that gives rise to new ideas.

The following three tasks arose in the realization of this concept.

- Sufficient utilization of the results of combining the information departments of the IT-Related Chemicals Research Laboratory and the Organic Synthesis Research Laboratory.
- Continuously improving the information functions in the future and having a library facility that assures sufficient space to store the book and other collections.
- Fusion of the information functions and library func-

tions, forming a new function on the largest scale in the Kasugade Area. Additionally having functions adaptable for the information of the entire company in the future.

## 2. Library Facility Configuration and Space

### Design Study

As mentioned above, the Library and Information Services Facility is positioned as a principle public zone, and during the design stage, it was located where it would be most convenient within the research laboratory. With the concept of its providing a “thinking space”<sup>1)</sup> for researchers as the main focus, we came up with the grand goal of making a new start and creating a completely new information space. This solved the problems of producing a rich information space suitable for communications and combining the information departments already functioning in the Kasugade Area as well as continuing their good points. We promoted the transfer project with everyone involved, and carried out a study of the library facility configuration and space.

In general, what is good and bad about public libraries is evaluated by the relaxed atmosphere, generosity of the space and the responsiveness of people in charge of the counter. Since company libraries are spaces that researchers use frequently for their day-to-day research work, there are strong requirements for comfort and convenience. Good atmosphere and convenience are determined by design, and it is important to specifically clarify what kind of design is effective in achieving a comfortable space that has convenience. For the purpose of absorbing an original sense for the transition because it is often difficult to

change one's thinking with many years of experience working, we visited as many new libraries in the Kansai region as was possible. It is often difficult to visit the libraries at private companies, so we leaned toward libraries connected with universities. We confirmed the following points by visiting five locations, the Osaka University of Pharmaceutical Sciences Library, the Osaka Institute of Technology Faculty of Information Science and Technology Library, the Nara Women's University Library, the Osaka Medical College Library and the Kyoto Seika University Library and Information Center.

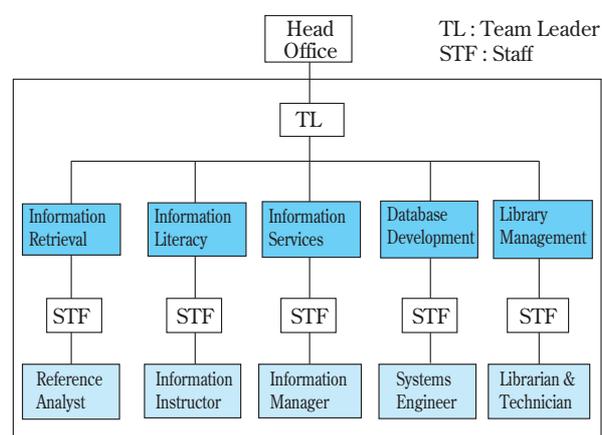
- The counter is sufficiently large and positioned so that it is a point users aim for.
- There is sufficient natural illumination, and blinds are used effectively.
- The bookshelves assure extra storage space.
- The concept is compatible with the barrier-free research laboratory concept (width of aisles, height of bookshelves and the like).
- In terms of countermeasures for noise, a vaulted structure going up two stories is not very suitable.
- The information zone is a confidential area, but it has a position and an atmosphere such that researchers can easily enter it whenever they want.

After confirming the design concept with the people involved based on the survey above, we moved ahead with the specifics of the layout. The layout design was determined by having a competition among five companies specializing in that area. After the layout design was determined, we began the transfer in January 2003, and the new Library and Information Services Facility opened in April. The LR-10 Library and Information Services Facility is the largest in scale in Sumitomo Chemical. We can be proud of its being a library space with a design like no other in Sumitomo Chemical in terms of its positioning of convenience as important and the creation of its abundant space.

### Library and Information Services Facility Organization Control and Functions

The functions this team has are introduced in **Fig. 2**. This team has a system arranged so that work can progress efficiently with a staff member (STF) who is responsible paired with a subordinate. This system is set up so that a staff member can be responsible for

dealing with the execution of work and can foster personnel with one or more subordinates. In addition, it was set up so that there were no dropouts in information transfer by having information from other locations or the outside sent to two or more persons. Therefore, the arrangement is such that another staff member will step in when a team leader (TL) is absent. The current functions will be described in the following order. 1. Library management and operation function, 2. information retrieval and investigation function, 3. information transmission function, 4. information education function, 5. information processing (creation of databases) function.

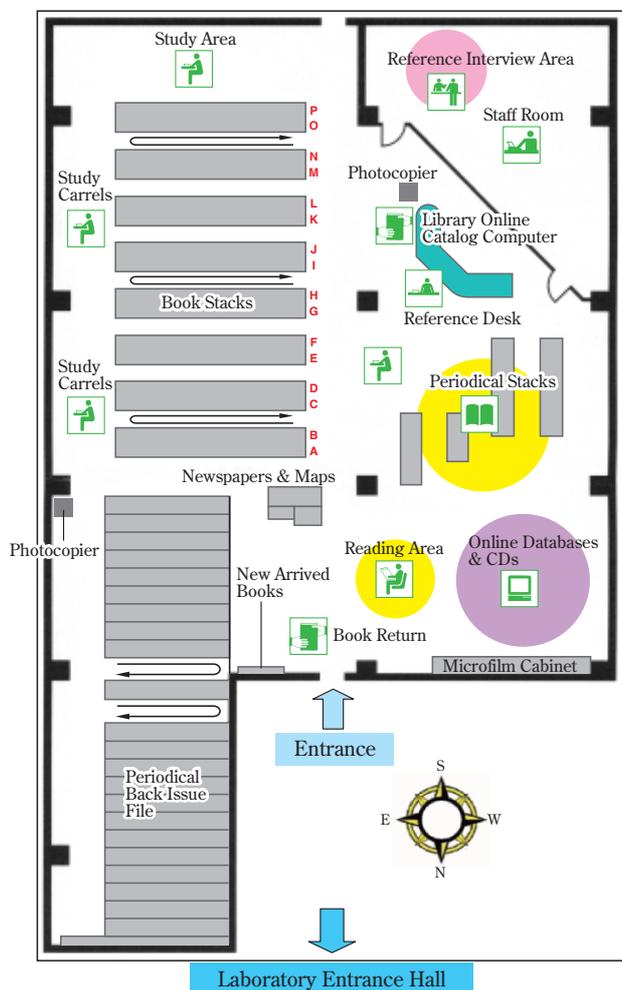


**Fig. 2** Organization of Technical Information Group of Sumitomo Technical Information Service at Kasugade

#### 1. Library Management and Operation Function

The layout of the Library facility is shown in **Fig. 3**. Taking the basic concept into consideration, we set up a browsing corner, search corner, a corner for newly arrived periodicals and a reading corner to make it a library that is functional and bright and has abundant space.

- 1) The browsing corner is a corner for reading newspapers and periodicals, and it gives a easygoing atmosphere as you enter the library. In addition, it is a comparatively large space that can be used by many researchers at one time.
- 2) The search corner is set up with various databases answering the requirements of researchers and microfilm for sufficiency in large volumes of patents and periodicals from the past.



**Fig. 3** Layout of the Library

- 3) New periodicals are all changed regularly each week and displayed for one week. Therefore, the readers can get by with checking once per week.
- 4) To combine the technical books in the two locations, they were all reclassified. There are detailed classifications (UDC classification = Universal Decimal Classification) and rough classifications (our own classifications), and both of them have their good points and bad points. However, placing importance on ease of being able to assign classes and ease of finding things from search results in the LX System<sup>®</sup> (library management system), we used the two jointly (our classifications for common fields + UDC classifications for specialized fields).
- 5) For ease of searching titles, the Japanese and western titles were not separated in the periodicals on the periodical shelves and the mobile book shelves and were given a A to Z then Japanese syllabary "A" to

"Wa" arrangement.

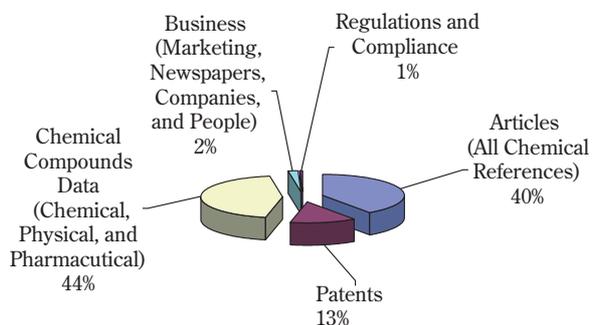
- 6) Furthermore, selected books, pamphlets catalogs and the like are collected and displayed near the counter as link to various kinds of information that has been transmitted.

The LR-10 library is different from the libraries belonging to research laboratories up to now, and since its range of service extends outside of Research Building 10 to the IT-Related Chemicals Research Laboratory, Fine Chemicals Research Laboratory, the Osaka Works and the Kasugade Area as a whole, it may be that the distance from working places to the library is felt to be unequal and may lead to a lowering of services to the users. To relieve that feeling of inequality and also to further improve services, we are aiming at detailed services that always catch the needs of researchers and even more improvements.

## 2. Information Retrieval and Investigation Function

In terms of information retrieval, both requested searches by reference analyst and end-user searches are implemented. There are three reference analysts, and they take care to be able to handle requests from any position, without a predetermined specialty. Since other members also have search techniques, we can respond in a flexible manner.

**Fig. 4** shows the proportion of search targets according to field. Most is taken up by references, patents and chemical compound data, and in terms of the content of requests, there is the novelty of compounds and compositions, production, reactions, applications, physical properties, preliminary investigations, trend surveys, markets, suppliers, regulation and the like. Mainly, STN<sup>®</sup>, PATOLIS<sup>®</sup> and other online search systems, as well as full text



**Fig. 4** Information Demand by Field

patent search systems, such as PatentFocus plus® (PF+) and PatentWeb, are used. Furthermore, there is also a contract with a marketing data bank, and surveys of market information are used.

The number of retrieval orders varies with each of the four research laboratories, but as a whole they have decreased over the past several years. On the other hand, the use of SciFinder® by researchers has only been increasing, and in addition, since search tools introduced into the company for patents, reactions and the like are more enhanced, a substantial amount of searching is carried out by the researchers themselves. Therefore, the content of requests is quite different from what it was several years ago, and most of them are complex search formulae and things with a high degree of difficulty for which coverage, precision and speed are necessary. Furthermore, the range of services targeted has increased, so we must handle a wide range of technical content. In addition, there is an increase in the needs for things like statistical processing and simple reports, and we are resolved to respond to these needs as well as possible.

For search requests, we first receive a retrieval order and response form (Fig. 5) with the required items filled out via e-mail. After that, we meet with the person making the request and respond according to the desired timeframe and format (electronic data, print-out, etc.). The search content is entered into the retrieval order and response form, and we ask the person making the request to enter his or her satisfaction with the results in a four gradation evaluation, note the needs for another search and return it for our reference for future improvements. The trend is toward evaluation results around the average point, but this is useful as a means for confirming whether a follow-up is necessary for individual requests and as motivation for us to aim at a high level of satisfaction.

We are introducing the necessary information retrieval systems for end users to the extent possible. Among those that have been introduced to the company as a whole at present, there are CIMS (reactions, reagents, etc.), PF+, PatentWeb, JP-ROM New Client Server System® and the like. Besides these, many others have been introduced through determinations made by this team. CA on CD®, pharmaceutical related databases, MERCK®, dissociation constant calculation software (ACD pKa), Database of New Announcements on Published Chemical Substances Based on the Law Concerning the Examination and Regulation of Manufacture etc. of Chemical Substances and Industrial Safety and Health Law® and various types of MSDS are included. It is possible to use these on individual PCs and on PCs in the Library and Information Services Facility. In addition, the tools that can be used over the Web can be used from the Intranet Web (IntraWeb in the following) site, and STN and PATOLIS have been opened to researchers with access possible from the IntraWeb site. When the Internet is used, there are tools where the response is slow due to the effects of the network environment, and we have introduced one

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			回答件数 (件)
			料金
評価 報告日より3週間を目処に記入、印刷、捺印して担当者へ返送願います。 自由記述 (ご意見等):			
結果への満足度 No. 1.ほぼ満足 2.普通 3.やや不足 4.不満足			
再検索の希望 No. 1.否 2.要 (要→担当者にご相談下さい)			

Fig. 5 Retrieve Order and Response Form

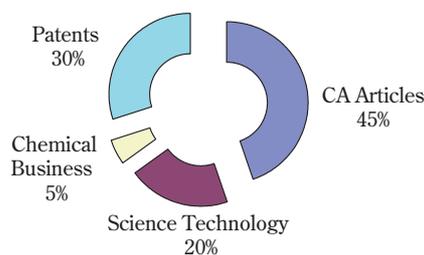


Fig. 6 The Number of Information Retrieval by SDI

optical line terminal that does not go through the company network for using these.

The Selective Dissemination of Information (SDI) services for providing the latest information to researchers are contracted for being brought together and implemented by this facility, and they are reviewed once each year. There are more than 100 SDI services being implemented at present, and **Fig. 6** shows them divided according to field.

### 3. IntraWeb Site (Home Page) Construction and Information Service Function

The providing of means and methods for researchers to acquire important information is very important work for information departments. This team has positioned the IntraWeb site as the best tool for this, and we have put special effort into the construction of the site. Since it was first provided in 1998, the content and design have been reassessed numerous times, and we have worked toward improving usability by actively introducing the latest technology. In the future we would also like to contribute to research and development by supporting the ability of researchers to quickly acquire high quality information to the advancement of research and development. The special functions will be introduced in the following.

#### (1) Support of access to various databases

Automatic login screens that do not require an ID and password are provided for many Web databases. In addition, an environment is set up so that systems

that must be installed can be installed from the IntraWeb site.

#### (2) Electronic Journals

The “Electronic Journals” page is one of the most frequently accessed pages. The number of subscription journals that are electronic is increasing each year. The contract conditions, titles and the like change each year, and if we include free sites, Website management is extremely complex. This team manages the title list as a database, and we have greatly reduced the work hours for management by using ASP (server script language that operates on the Web server program) and directly reading the content from the database. With this system we centrally manage and provide a Kasugade Area version and a version for the entire company.

#### (3) Selectively providing Internet information

Various types of information obtained in the Internet is independently selected, processed and provided on the IntraWeb. For example, articles related to the Organic Synthesis Research Laboratory are automatically picked up by a search robot from the home page of a specialty journal, automatically processed using PerlScript and edited to provide the breaking news as “Organic Synthesis News” each day. Again, using the Nikkei BP Article Search Service<sup>®</sup>, which we have under a paid contract, we provide articles on special themes each month.

#### (4) Providing information from the Library and Infor-

**Fig. 7** What do you Know

mation Services Facility

This team independently drafts and provides various kinds of information necessary for data collection. For example, besides various introductions and guides from this team, topics on investigation and the like that are useful for researchers appear in the Library News magazine, and it is published periodically. In addition, besides existing manuals, a large number of manuals created independently by this team appear in "Manual Downloads." Furthermore, the "Search by Objective (What Do You Know?)" shown in Fig. 7 and created according to the wishes of researchers is frequently used.

(5) Request Liaison for the Library and Information Services Facility

Most of the requests to this team can be sent from the IntraWeb site by means of a system that uses ASP. The content that is sent can be saved in a database as necessary, and it is set up to be input, edited and searched on the Web. For example, starting with the "Order Form for Articles" shown in Fig. 8, there are the "Order Form for Patents," "Library Book Purchase Order Form," "Training Session Application" and "Information 110 (Q&A)." With "Information 110,"

there is a system for easily sending queries to this team and submitting requests from the IntraWeb site, and a collection of answers to questions has been set aside for display. This is constantly used several times per month.

(6) IntraWeb Use in Various Operations (Pages Limited to the Team)

Outside of the pages aimed at researchers, the IntraWeb site is used to increase the work efficiency within the team. "Results from Retrieval Orders" and "Article and Patent Order Forms" are entered on the Web, and this is a system where searching, editing and the like can be done, with the content saved in a database. In addition, the management of shared files is done on the Web. Furthermore, access logging and counting is carried out using CGI so that we can check the usage frequency for the main pages on the IntraWeb site.

4. Information Literacy Function

With the goal of supporting improvement in the search capabilities of researchers, who are our end users, we have a history of individual sessions at each of the individual research laboratories from the time before they were combined. Recently, we have constantly held around ten training sessions per year. In FY2004, we held seven (more than ten themes) training sessions, but of these, there were five where 20 or more researchers participated. Furthermore, we have twice held them at other areas by request, and conversely, even at the training sessions held at the Kasugade Area, there are cases where researchers from other areas attend, with out getting high marks both inside and outside the area.

Each year we have "Information Literacy Education" mainly aimed at new incoming employees, and it is arranged to encompass the general knowledge necessary for collecting data. The dedicated text book (approximately 60 pages) is an original by this staff, and by reassessing it each year, we are always providing the latest information. Most of the other training sessions also use original text books, and we are holding training sessions that stick to the needs of the researchers. In addition, we plan practical training sessions where one terminal per participant is provided and we are resolved to providing practical content.

The setup is such that the schedule for each training session can always be checked on the IntraWeb site,

Fig. 8 Order Form of Articles

and applications can be sent from the site for ones for which applications are being taken at the time. **Fig. 9** is the schedule for information education for 2005. In addition, there is a scheme where separate posters are created and supplied to the various research buildings. Surveys are always taken after the training sessions, and we are working to get the needs of the researchers. The results of the surveys are published on the site.

2005年度 春日出地区 講習会ご案内			
2005.4.5更新			
開催時期等変更になる場合がありますので、あらかじめご了承下さい。 リストのない講習会をご希望がございましたら、 <a href="#">情報110</a> までご連絡下さい。			
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 申込受付中 (4/22締め切り)	電子ジャーナル講習会	5月10日 (火) (A)13:10~ 15:00 (B)15:10~ 17:00	LR4 2F 研究講 堂
	情報教育2005(講義)	6月予定	LR10
	CA on CD・NC講習会	6月予定	LR10
	CJMS・ISISデータベ ス講習会	7月予定	
	SciFinder講習会	未定	
	特許データベース講習 会	9月予定	
	PatentWeb講習会	未定	

**Fig. 9** The Education Program on IntraWeb Site

## 5. Database Development Function

At the Library and Information Services Facility, we collect data and carry out analysis from various types of scientific and technological information according to the needs of the research laboratories and the researchers, and we work daily on constructing databases. Here we introduce the construction of a database of information related to micro reaction technology as an example.

Research and development on micro reaction technology began around 1996 at the Organic Synthesis Research Laboratory. At the time, the information department was in charge of supporting investigations,<sup>2)</sup> and starting in 2003, we moved ahead with the creation of a database so that researchers throughout the company that needed to could use related information that had been collected over a long period of time. At present, with the research theme having concluded, this database has an accumulation of 5,000 references and 3,800 pieces of patent information.

With consideration given to convenience, the bibliographical items for this database is managed in Excel, and searches based on authors (inventors), sorted by authors or inventors, have been prepared.

## Unearthing User Needs and Work on Handling Them

### 1. Establishment of the Library and Information Services Committee

A library and information services committee was established before the combining of the facilities, and it was active in reassessing journal purchases and directly exchanging opinions with researchers. This Library and Information Services Committee was established so that this team, which was taking over the system, would incorporate the opinions of users. For the first meeting of the Library and Information Services Liaison Group at the beginning of 2004, we held an informational meeting concerning the problem of the introduction of electronic journals, which had steeply risen in price. We plan to hold these periodically, and as we gather important opinions from users and exchange information, we want to create a user-friendly information department system where we have the participation of researchers in new plans.

### 2. Grasping User Needs: User Evaluations through Surveys and the Related Flow

We conducted a usage survey centered on the library facility for researchers connected with the Osaka Works in the Kasugade Area and research laboratory researchers in other areas that had used the Library and Information Services Facility in 2004, approximately a half year after the completion of the move and preparations. This was the first survey after the move. As a result, the response rate was 30%, and of those responding, half used the LR-10 Library and Information Services Facility once or more per week, a response that was fairly satisfying. Among the open comments, there were requests to be able to submit book checkout requests from the IntraWeb site, and we immediately responded to this as mentioned previously for the convenience. In addition, we also quickly set up chairs that are convenient for reading, even for a short time, in the book stacks zone. We continue to respond in the direction of purchasing other publications besides those for specialized fields. In the future, we plan to conduct surveys of researchers periodically.

### 3. Introduction of Electronic Journals, InsideWeb® and the Like

There has been a rapid conversion to electronic media for western journals, and many journals can be read as electronic journals. Initially, they could be read as an addition to the book forms at no cost or a low cost and we introduced them comparatively rapidly, but recently, it has become necessary to bring them into the company as a whole since electronic journals have become the main current. In particular, the proportion of all of the western journals purchased is high for three publishers, Elsevier, Wiley and ACS, and since the proportion of library funds that is entailed is high, we started introduction of all of them from the three publishers in 2005 to improve the services to researchers. Because of the speed and convenience of electronic journals, they are extremely significant to users, but at the same time, there are several problems. Most of these problems are that there are limitations to the ability of this company to handle them by itself, and in the future, it will be necessary to cooperate with other companies in the same chemical industries.

Furthermore, we introduced InsideWeb, in order to reduce the number of western journal titles purchased. For journals that are not purchased by the Library facility, we use a contents alert service and users directly acquire the original reports.

### 4. Patent Information Usage and Emphasis

Several years ago, we introduced a full text search system for Japanese patents and foreign patents into the company as a whole. PF+ is the system for Japanese patents, and since 1993, it has been recording unexamined patent application publications, and since 1989, examined patent application and registered patent publications. PatentWeb is the system for foreign patents, and full text for the patent application publications for various countries from the US, EP and WO, English abstracts from Japanese published unexamined patent applications, patent families and legal information can be used. For both it is possible to use proximity operations, register an SDI individually in ID units or assign individual classifications and comments, and we are using them as common tools in the company for patent information, but PF+ has a dramatically greater usage frequency.

From the standpoints of acquisition, maintenance and management of intellectual property rights, there

has been an increase in the importance of investigating the relationships with the rights in other company patents on several levels in recent years. Even in the requested searches, a large proportion is taken up by patent searches. Currently, most researchers use PF+ or PatentWeb on an everyday basis at almost every state of research and development, and patent search activity has truly improved. Therefore, we do not see many search requests with simple content. In addition, most cases are ones in which the researchers themselves make requests after having searched with PF+ and the like, and even more exhaustive or highly difficult searches are required. Dedicated personnel specializing in search requests and having advanced search techniques respond to these search needs. Combining the use of various databases besides PF+ and PatentWeb, such as PATOLIS-J®, CA® and WPI®, these are carried out with strict care in the search ranges and search formulae so that reliable information can be supplied with careful investigation of the content of searches already made and existing information.

## Results of Combining the Library and Information Services Departments and Topics for the Future

### 1. Results of the Combination

At Sumitomo Chemical, there has never been an information services department that targeted services for multiple research laboratories up to now. We will touch on the results due to combining the information services departments for two locations and the results of work consignments to STIS which was functionally spun off.

Specialization and rationalization through the consolidation of library and information functions at Sumitomo Chemical has also been investigated in the past. This time, we were successful in combining the libraries for the Organic Synthesis Research Laboratory and the IT-Related Chemicals Research Laboratory with the goal of consolidation and rationalization (personnel, costs and space) of information functions within the company, using the opportunity of the moving of the Organic Synthesis Research Laboratory to the Kasugade Area. The major effect was a cancellation of duplicate purchases of western journals, and this led to a large reduction in library costs. Furthermore, we can expect results from the synergistic effects of the cross-flow between different fields in the future.

Researchers can come into contact with books and journals from different fields from those in the past, and this will probably lead to the creation of new seeds due to the expansion of their vision. In addition, since we went the whole way in the merger, it produced a lot of space, so we were successful in creating a spatial abundance.

On the other hand, by combining information functions, all of the various tools and services that were owned or provided by one organization were unified and made common, and it was possible to provide them to all responsible departments within the range of possibility. In terms of the merits, there are the mutual reinforcement and creation of commonality for various resources, elimination of costs for duplicated purchases and updates, unification of management work and the completeness of content in various services. In addition, it is possible to handle work and problems by interactively using the knowledge and experience of members, and the quality of service content is improved and sped up.

Naturally, there has been a quantitative increase in the individual services and management work due to the increase in the research fields and the number of researchers that are targets of the services, but the multiple members have been arranged as being charge (responsible parties) and there is a thorough system for cooperation within the team. In addition, we have created and are reassessing the sequential operation sheet so as to be able to effectively carry out management work. If we leave out the condition of the location of the library facility, the information services functions are basically complete from the standpoint of the users.

## 2. Changes in Thinking due to Work Consignment

At the same time as the move described earlier, the work of the Library and Information Services Department was consigned by Sumitomo Chemical to STIS. For the combined information department, its main duties are complete utilization of its functions and the providing of fair and equal services to all research laboratories, suitably responding to the needs of the research laboratories and researchers that are its customers. From this standpoint, the merits of operation as a separate organization and rationalization effects of the combination are remarkable. At present, we are functioning with services targeting four research laboratories, but in the future, we are thinking in terms of expanding the departments we target by building up a

good record, and we think that we can build up a basis for handling them if we do so.

Awareness of costs by those in charge of the work and changes in thinking, such as taking the user's position and unearthing needs are progressing due to the work consignment. There are also many problems in the arrangements with the departments involved for the administration of affairs and performance of tasks that accompany the consignment work. However, all of these problems are solvable by devising and changing the ways they are done. In addition, by building up an extensive good record and obtaining the trust of researchers, we think that many of these items will be improved or disappear. We think we are being called to have the attitude of working toward the future and taking on the challenges.

## 3. Topics for the Future

About two years have passed since the combination, and progress has been made in the arrangement of individual, with the content and configuration almost settled.

The information being supplied is increasing, and within this there is little buried or hidden information. Therefore, if we work on the way it is presented and change it to stimulating information, it will be possible for the researchers to quickly find the presence and value of that information. In the future, we will continue to focus getting a grasp on the needs of users and making further progress in services that can provide high quality information. We can cite several specific examples of this.

### 1) Finding and providing new services

Looking ahead to the needs for changing research topics, it is important that we always watch out so we can make timely introductions and use of helpful databases and systems. Even for current services, there are demands for searching out and providing new content, formats and methods. For example, the changes in newspapers and e-mail distribution of SDI information are intense, and we come to grips with them as the occasion may demand. Along with cost-performance, it will also be necessary to have clearance in terms of handling copyrights in the future.

### 2) Contributing to investigative report functions

The results of information retrieval are provided without processing, but cases where surveys require

processing and analysis are increasing. There are points that have to be clarified, such as division of work, but we would like to be able to handle reports on technical content in the future. By introducing software for statistical analysis and the like and accumulating methods, it will be possible for us to provide reports that are visually easy to understand.

### 3) Enrichment of user training, consulting and the search and utilization environment

The amount of information is doing nothing but increasing, and improvements in search techniques are necessary for acquiring suitable information. To increase the information literacy of users, we must make suitable changes to the frequency of training sessions, their content and format, and we must work actively on individual advice and the like.

Besides the above, there is the enriching of the collections in the library facility, arranging of electronic journals, enriching of the IntraWeb site, finding and introduction of new information tools, constructing and promoting the use of internal company databases, fostering of personnel responsible for library and information services and the like.

In addition, we are unearthing researcher needs and actively taking part in planning for various outside organizations and conferences to work effectively on the problems above in research with special themes. Conventionally, we have actively carried out research society activities and information exchange for different types of operations or different companies within the same industry. Along with these being effective for practical and important tools for the acquisition and use of information, they are also effective for improving the techniques of the members of this staff.

When we think that of the ten research laboratories in Sumitomo Chemical, four are actually targets for the services of the LR-10 Library and Information Services Facility, the role we must play is extremely important.

As the department responsible for being the nucleus of the information functions for Sumitomo Chemical, we feel that we want to actively provide information to researchers that will further activate their research spirits.

## Conclusion

At present the consignment contract for services to the four research laboratories in the Kasugade Area is reassessed annually in terms of the work content and cost effectiveness, and we are making an effort to perform tasks in pursuit of being a truly useful information service. The Organic Synthesis Research Laboratory handles this consignment contract as the representative for the four research laboratories in the Kasugade Area. While fairly considering the different circumstances of the multiple research laboratories in the various problems and proposals being carried by this team, the handling is always thorough.

Finally, we would like to express our deep gratitude for the support and cooperation of the people connected with the various universities and many other people that gave us guidance. They gave us the determination for establishing and implementing through ingenuity the research center library and information services work aiming at a leading-edge model for the construction of the library and information management and utilization system and Sumitomo Chemical.

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