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PANAMA

# Technical report: Strengthening the Industrial Information and Documentation Centre (CEDIIN) of the Union of Panamenian Industrialists (SIP) *

Prepared for the Government of Panama
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme

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Vienna

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## I.BACKGROUND

This project was proposed to UNIDO in late 1985 by the then president of the Sindicato de Industriales de Panamá. The request was for an information systems specialist to evaluate the Centro de Documentación e Información Industrial (CEDIIN) and recommend measures (including possible automation) to strengthen the services the center provides to the members of its parent organisation, the Sindicato de Industriales de Panamá (SIP). Neither implementation of the recommendations, nor follow up, are included in the project scope.

The reader interested in more detail will refer to the Project Profile/Solicitud de Consultoria and job description for POST DP/PAN/81/010/11-05 available from the UNIDO Backstopping Officer and the UNDP Office (UNIDO - Junior Professional Officer) in Panama City.

The expert was fielded during a four week period in May - June 1987.

## II.-METHODOLOGY

The mission was carried out via meetings with personnel from the following organizations:

Sindicato de Industriales de Panamá (SIP)
Centro de Documentación e Información Industrial (CEDIIN)
Consejo Nacional de Inversiones (CNI)
Ministerio de Planificación y Política Económica (MIPPE)
Instituto Nacional de Telecomunicaciones (INTEL)
Presidencia de la República

See Appendix 1 for a list of persons visited.

Appendix 2 contains a copy of the work plan agreed upon with SIP, CEDIIN and UNDP/UNIDO (JPO). There were no significant deviations from the work plan.

A round table discussion on information sources, dissemination and uses was led by the consultant on June 4. CEDIIN personnel, the Executive Director of SIP and the SIP staff economist participated. An outline of topics covered in the round table may be found in Appendix 3. Those interested, may obtain a copy of the presentation materials from the Consultant.

The purpose of the round table was to inform the SIP of the latest UNIDO activities in the field of industrial and technological information, propose that they act as the INTIB focal point in Panama, and discuss online data bank access. Descriptions of various UNIDO programs were distributed. A description of the UNIDO INTIB project is contained in UNIDO document "Elements of INTIB, Medium-term Programme" (doc.no. IPCT 7). Appendix 4 describes UNIDO's Technology Advisory Services (TAS) which may be of special interest to SIP members.

The round table also covered methods of information dissemination and use, and ways to promote the services of CEDIIN.

## III.-CEDIIN TODAY

A major part of the consulting mission has been the study of the present functions of CEDIIN. In addition to providing recommendations for improvement, this section of the report will describe conditions as they exist today.

It is the opinion of the consultant that the Center's activities and work methods are not well known by SIP. The transfer of this operational information is especially important in light of the full take over of the Center by new personnel as of the end of 1987.

### A.-ORIGIN OF THE CENTER

In October of 1978 the Ministerio de Planificación y Política Económica (MIPPE) and the Sindicato de Industriales de Panamá (SIP) signed a Memorandum of Understanding (Appendix 5) to create the Servicio de Información y Extensión Tecnológica (SIET) (Technological Information and Extension Service) SIET is a part of a larger project funded by the Organization of American States.

The main goals of SIET were to

1. Act as a channel for the transfer of scientific and technological knowledge to the industrial sector.
2. Assist small and medium industry in the solution of practical problems originating in their factories.
3. Orient SIET services to improving productivity in certain sectors.
4. Direct research toward a better use of natural

resources and local technology.

5. Provide assistance to industries without the trained personnel to modernize their productive processes.

The SIP agreed to provide office space, equipment and the necessary materials for the completion of the project. MIPPE was to provide an "engineer" to execute the project at SIP headquarters. Overall project coordination was to be handled by MIPPE. Eventual computerization of certain SIET information was foreseen in the original OEA project.

Perhaps due to the rather general nature of the SIET goals, the main activity undertaken was the formation of a library service geared toward industrial and technological information. Eventually, two additional persons were assigned to the project by MIPPE. Until 1985, all three employees were paid directly from the OEA project funds. In 1985 they became official employees of MIPPE, though their salaries continue to be supported by the OEA project.

In August of 1984 the SIP Executive Board made the decision to form CEDIIN and make it an integral part of SIP. All of the SIET project resources (some 10,000 documents) were turned over to CEDIIN and control of the project passed to a SIP CEDIIN coordinator (member of the SIP executive board). MIPPE continued and will continue to supply three persons for the development of the Center until the end of 1987.

The goals of CEDIIN are basically the same as those of the previous SIET organization, with a greater emphasis on the question/answer service related to commercial and technological issues. (See Appendix 6). The policies of CEDIIN are now entirely controlled by the SIP organization. To fulfill the computerization commitment, an IBM-compatible personal computer will be provided with OEA project funds (projected for June 1987) for the use of CEDIIN. Once automation of the center is complete and MIPPE personnel are withdrawn, (projected for December 1987) government involvement in the Center will cease.

## B.-ORGANIZATION OF THE CENTER

### 1. PERSONNEL RESPONSIBILITIES AND TRAINING

The three MIPPE personnel on loan to the Center have organized their work in individual specialties and team functions. The work has been carried out with little or no direction from either MIPPE or SIP.

The Center receives an average of 1300 documents per year and had some 800 users during 1986. (More detailed figures may be found in section 4). Individual functions are currently divided as follows:

**INDUSTRIAL ENGINEER** (Administration)
(Mercedes Castillo)

- Work coordinator CEDIIN
- Revieus all material received to determine appropriateness for, and use by, the Center.
- Develops the "Boletin de Difusión Selectiva de Información".
- Analyzes and selects technical articles (from magazines) for the Technical Information Bulletin.
- Prepares CEDIIN news articles.
- Prepares the CEDIIN annual report.
- Has final responsibility for the accuracy and up-to-dateness of all control registers (lists) used to run the Center.

**LIBRARIAN**

- Prepares cards for card catalogue using the keyword classification system.
- Maintains control list of received material.
- Represents the Center in the Infoplan network (preparation of contributions, meetings, info exchange).
- Classification and registration of AILA, ALADI and ALALC (Associations of Latin American Industrialists) documentation.
- Maintenance of discarded material register.

**ASSISTANT LIBRARIAN**

- Processes all magazines, bulletins, statistical publications using "Kardex" system.
- Classification of material by section (publication type).
- Typing of cards for card catalogue.
- Preparation of keyword cards and maintenance of keyword register.
- Document signature labeling (final step in processing).

**Team/Common Functions**

- Helping Users. (Visitors to the Center, telephone requests, SIP Personnel).
- Organization of material to be processed.
- Separation by section, institution and country.
- Discard of repetitive material and material of no use to the Center.
- Organization and processing of Caribbean Basin Initiative Documentation and International Commercial Exchange Information from the U.S. Embassy.
- Development/maintenance of control and administrative forms used by the Center.
- Maintenance of various control registers.
- Provision of documentation and information to other information centers and networks.
- Promotion of CEDIIN services by means of material provided to SIP publications.

**Training**

In addition to her university degree in administration (Ingeniería Industrial Administrativa), Ms. Castillo has attended various short term courses (1 - 21 days) related to informatics and information centers. No direct or long-term training in library science has been given.

Ms. M. Daisy de Gracia is working on her thesis in library science at the Universidad de Panamá. She has participated in various seminars related to industrial information networks (Infoplan) and systems, reference book

use, thesaurus keyword use and word processing(DATA 5000).

The assistant librarian, Ms. Domitila Sánchez is currently in her third year studying economics at the Universidad de Panama She has attended various seminars relating to agricultural information, the national planning network (Infoplan) and word processing (DATA 5000)

## 2.- DOCUMENTATION

### a. HOLDINGS

While there are no exact figures, it is estimated that some 85% of the material received by the Center is either donated or obtained at no cost (cost free subscription) There exists no fixed budget for the build up of the Center's collection. Appendix 7 contains a list of the principle sources of documentation. While not all of this material is ultimately classified or retained by the Center, it does undergo initial review to determine its usefulness. Duplicate items, magazines older than 5 years and out-of-date publications are discarded periodically.

Exhibit No. 1 contains figures for material received by the Center in the last three years.

The Center's present collection is now (June 1987) in the range of 15,000 documents. Of this collection the vast majority represent items of a commercial, trade or general business nature (statistics, economic data, etc.) or industrial information (sources, opportunities, directories). The technical (how to fabricate, latest technologies, etc.) collection is very small (less than 2.5%) as may be seen from Exhibit 2.

Exhibit 1

CEDIIN - MATERIAL RECEIVED

| | 1984 | 1985 | 1986 | 1987 (January-May) |
|---|---|---|---|---|
| General Collection | 3 | 5 | 5 | 6 |
| Reference Materials | 123 | 107 | 127 | 73 |
| Magazines | 323 | 286 | 392 | 189 |
| Statistics | 47 | 63 | 65 | 48 |
| Documents (Meeting, reports, etc.) | 257 | 365 | 428 | 193 |
| Bulletins (6) | 556 | 551 | 938 | 432 |
| Other | 58 | 210 | 29 | 29 |
| CBI (Caribbean Basin Initive) | 156 | 16 | -- | -- |
| TOTAL | 1,523 | 1,603 | 1,984 | 970 |

Exhibit 2

CEDIIN
TECHNICAL MATERIAL COLLECTION
BY INDUSTRIAL SECTOR

| | DOCUMENTS BOOKS | MAGAZINES |
|---|---|---|
| Agroindustry | 67 | 2 |
| Beverages | 1 | - |
| Chemical Products | 18 | 1 |
| Construction | 9 | 3 |
| Electronics | - | 2 |
| Energy | 39 | -- |
| Engineering | 3 | 2 |
| Food Products | 90 | 2 |
| Leather | 14 | -- |
| Machine Industry | -- | 4 |
| Metals Industries | 19 | 5 |
| Minerals (Non-Metallic)Industries | 14 | 2 |
| Paper & Paper Products | 8 | -- |
| Plastics | 2 | 1 |
| Service Industry | 8 | 4 |
| Textiles | 20 | 1 |
| Wood | 21 | 2 |
| TOTAL | 333 | 31 |

The figures are estimated to be correct within 10%. The total represents 2.5% of the total holdings of the library.

b.- Classification System

Until 1981 the Dewey decimal system of classification was used in the library. In 1981 a changeover to a keyword method (Sistema Unitérmino) of classification was made. The change was made on the basis of the recommendation of an OEA consultant. It formed part of a pilot project for the use of this type of classification system throughout Panama. The project was a joint MIPPE-OEA effort.

The Sistema Unitérmino was developed by a Panamenian library science graduate student. Each book/document is assigned a unique identifying number known as the access number. This number is made up of one alphabetic character representing the section to which the document pertains (described in more detail later), and a six digit number. In a manual Unitérmino system four separate index cards are prepared for cataloging by Author, Title, Access Number and Country of Publication (added by CEDIIN). A keyword card is also maintained.

Each card contains an abstract of the documents' contents and keywords describing the important themes. In a manual Unitérmino systems searches may be done by author, title, country of publication or keyword. The books/documents themselves are physically stored in ascending numerical order within section.

To the best knowledge of CEDIIN personnel, the Center is the only organization which has fully implemented the Unitérmino system. The system was always seen as a precursor to computerization of the card catalogues. The reasons for the six year delay in automation is explored in a later section of this report.

As with any untried system, certain modifications had to be made to Unitérmino during its day-to-day use. At the present time three classification methods are used in the CENTER.

1) **KARDEX Classification**

Used for various types of periodicals (magazines, statistics, and bulletins). Exhibit 3 shows an example of the form used to track receipts of these publications. Kardex is a very common system of periodical control.

The Unitérmino system was, at first, used for processing and cataloging periodicals and their contents. Because of the volume of work involved in a manual Unitérmino method (4 index cards per item), this was deemed impractical and the Kardex system was adopted.

2) **Keyword (Sistema Unitérmino de Indización Post-Coordinada) Classification**

Used for the general collection, reference books, certain statistics and documents. Four types of cards are prepared for each document:

AUTHOR
TITLE
ACCESS NUMBER
COUNTRY OF PUBLICATION

Exhibit 4, 5, 6 and 7 show an example of each.

The source for the keywords used is the OECD Macrothesaurus, 1979. On a yearly basis library personnel update the thesaurus from lists received from the OECD. This Macrothesaurus is not particularly oriented to industrial, commercial or technical publications or vocabulary.

3) **Control Lists**

Library personnel have found that certain publications received by the Center were better classified separately. Some, at the request of their donors (Caribbean Basin Initiative Information), or because of their highly specialized/limited use nature (Canal Commission Bid Lists). These and other control lists will be described further in a later section.

Exibit 3

## KARDEX FORM

TITULO: ONUDI - boletín informativo.

EDITOR: ORGANIZACIÓN DE LAS NACIONES UNIDAS PARA EL DESARROLLO INDUSTRIAL

DIRECCION: Apartado de Correos 300, Bajos - Viena, Austria

FECHA PUBL. _____ PERIODICIDAD: mensual CLASIFICACION: Boletín PRECIO: Gratuito

OBSERVACION _____

INICIO DE SUBSCRIPCION: 1975 -

| Año | vol. | Ene. | Feb. | Mar. | Abr. | May. | Jun. | Jul. | Ago. | Sep. | Oct. | Nov. | Dic. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | | | | | | | | | | |
| 1975 | | 2 | | | | | | | | | | 91 | 92 |
| 1976 | | 3/13 | 94 | 95 | 96 | 97 | 98 | 99 | 100 | 101 | 102 | 103 | 104 |
| 1977 | | 4/14 | 106 | 107 | 108 | 109 | 110 | 111 | 112 | 113 | 114 | 115 | |
| 1978 | | 5/15 | 119 | 119 | 120 | 121 | 122 | 123 | 124 | 125 | 126 | 127 | 128 |
| 1979 | | 1 | | 131 | 132 | 133 | | 135 | 136 | | 138 | 139 | 140 |
| 1980 | | 2 | | 146 | 146 | | 146 | 147 | 148 | 149 | 150 | | |
| 1981 | | 3 | 154 | 155 | | 157 | | | | | | | |
| 1982 | | 4 | | | | | | | | | | | |
| 1983 | | 5 | | | | | 182 | 183 | 184 | 185 | 186 | 187 | 188 |
| 1984 | | 1 | 190 | 191 | 192 | 193 | 194 | 195 | | 197 | 198 | 199 | 200 |
| 1985 | | 2 | | 203 | 204 | 205 | 206 | 207 | 208 | 209 | 210 | 211 | 212 |
| 1986 | | 3/13 | 214 | 215 | 216 | 217 | 218 | 219 | 220 | 221 | 222 | 223 | 224 |
| 1987 | | 4/15 | 226 | 227 | | | | | | | | | |
| | | 5 | | | | | | | | | | | |

TITULO: BOLETIN INFORMATIVO - ONUDI

Exhibit 4

## ACCESS NUMBER CARD

| B | | | 0 | 0 | 0 | 9 | 2 | 2 |
|---|---|---|---|---|---|---|---|---|

No. de Acceso

Ficha Catalográfica:

Toppan Printing Co.
Hong kong trader.-- vol. 3 .-- Hong Kong: Toppan Printing Co.
(H.K.S.O. 1979.
147p.: il.

Palabras Clave: /MATERIAL DE REFERENCIA/ /INDUSTRIA ELECTRONICA/ /EXPORTACION/ /HONG KONG/.

Resumen: Se analiza sobre como se fábrican radios, relojes, teléfonos lámparas, teléfonos alarmas y otras series de artículos eléctricos.

Fuente: Servicio de Información y Extensión Tecnológica.

Exhibit 5

AUTHOR CARD

| B | | | 0 | 0 | 0 | 9 | 2 | 2 |
|---|---|---|---|---|---|---|---|---|

No. de Acceso

Ficha Catalográfica:

Toppan Printing Co.
Hong kong trader.— vol. 3.— Hong Kong: Toppan Printing Co. (H.K.S.) 1979.
47p.: il.

Palabras Clave: /MATERIAL DE REFERENCIA/ /INDUSTRIA ELECTRONICA/ /EXPORTACION/ /HONG KONG/.

Resumen: Se analiza sobre como se fabrican radios, relojes, teléfonos, lámparas, teléfonos alarmas y otras series de artículos eléctricos.

Fuente: Servicio de Información y Extensión Tecnológica.

Exhibit 6

## TITLE CARD

| B | | 0 | 0 | 0 | 9 | 2 | 2 |
|---|---|---|---|---|---|---|---|

No. de Acceso

Ficha Catalográfica: Hong Kong Trader

Toppan Printing Co.
Hong kong trader.— vol.— Hong kong: Toppan Printing Co. (H.K.S.) 1979.
147p.: il.

Palabras Clave: /MATERIAL DE REFERENCIA/ /INDUSTRIA ELECTRONICA/ /EXPORTACION/ /HONG KONG/.

Resumen: Se analiza sobre como se fabrican radios, relojes, teléfonos, lámparas, teléfonos alarmas y otras series de artículos eléctricos.

Fuente: Servicio de Información y Extensión Tecnológica.

Exhibit 7

COUNTRY OF PUBLICATION CARD

| B | | | 0 | 0 | 0 | 9 | 2 | 2 |
|---|---|---|---|---|---|---|---|---|

No. de Acceso

Ficha Catalográfica: Hong Kong

Toppan Printing Co.
Hong kong trader.— vol. 3 .— Hong Kong: Toppan Printing Co. (H.K.S.). 1979.
147p.: il.

Palabras Clave: /MATERIAL DE REFERENCIA/ /INDUSTRIA ELECTRONICA/ /EXPORTACION/ /HONG KONG/.

Resumen:

Se analiza sobre como se fabrican radios, relojes, teléfonos, lamparas, teléfonos alarmas y otras series de artículos eléctricos.

Fuente: Servicio de Información y Extensión Tecnológica.

## Sections

Materials are physically stored in the library in sections. The section letter forms part of the unique access number for items classified under the keyword system.

### A.- General Collection

Books on administration, economics, industry, marketing, labor and, of a general nature. Technical books on these subjects would be displayed here. Classified using "Keyword" system, stored in ascending access number order.

### B.- Reference

Bibliographic material including guides directories, manuals, dictionaries, catalogues, event calenders, lists and encyclopedias. Classified using 'keyword' system, stored in ascending access number order.

### C.- Magazines

Stored alphabetically for the most recent five years. The CENTER receives approximately 50 separate magazines on a regular basis.

### D.-Statistics

Statistical documents and periodicals both national and international. National Statistics are displayed in accordance with the sections designated by the 'Contraloría Nacional' (Economic and Social Indicators, International Migration, Balance of Payments, etc.). International industrial statistics are displayed in ascending access number order. Other international statistics (social, economic) are organized by the issuing organization or country.

### F.- Documents

National and international documents, generally reports by theme, meeting or industry. Economics, commercial, labor, technology, or industrial related

documents are displayed in ascending access numbe- order. Documents on other themes are organized by national issuing institution (if Panamenian) or by organization or country (if foreign).

G.- Bulletins

National and international bulletins and newsletters. Stored alphabetically for the most recent five years.

H.- Other Material

Pamphlets, press clippings, single sheets, announcements among others. No specific order is maintained.

Official Gazettes

All official gazettes (legislation, decrees, edicts, national contracts) from 1946 to the present. Organized trimonthly by year.

Energy

Documents mostly donated by ICAITI (Central American Institute of Industrial Technology), in the energy field organized in ascending numerical order (keyword system). Because of various ongoing energy related projects by donators/users this (primarily ICAITI) material has been assigned its own section.

CBI (Caribbean Basin Initiative)

All documentation regarding the CBI, filed by section (legal, investments, technology, etc.). This information is maintained in its own section as the request of the donor.

IRHE (Institute of Hydraulic & Electrification Resources)

All documentation donated by this organization. Stored in order of receipt. Kept apart because of its highly specialized/limited use nature (essentially working documents of the legal advisor).

**AILA/ALADI/ALALC** (Latin American Industrialists Association

All documentation donated by these organizations (meeting documents & decisions, by and large). Filed by theme. Maintained apart as donor request.

The original keyword (Unitérmino) system only included five sections: general collection, reference works, periodicals, special material (non-conventional) and documents. In practice it was found to be necessary to add certain sections as described above.

C.- **CONTROL REGISTERS**

The original keyword system provided for a single control register (list) of all material processed by the information center. In practice, individual registers by section were found to be required. Additional control registers were developed to track various types of material that is not processed using the keyword system.

The new control registers developed may be divided into five groups:

A.- **Material Received**

Sequential list of all material received by the center. Maintained monthly by section.

B.- **Keyword System Related**

Identifying data on materials processed, by section: General Collection, Reference, Statistics, National Documents and International Documents. Access number, author, title and country of publication are listed. The lists are maintained in ascending access number order. Registers of discarded material, access numbers used, and keywords in use are also maintained.

C.- **SIP Documents**

Control registers were developed to track articles, magazines, statistics issued by SIP and frequently used by members. These include lists of: Economic Supplements of Industrial Magazine, those from the Productivity Magazine, a list of other SIP reference

material, and lists of articles (from magazines) references selected for publication in SIP periodicals.

D.- Periodic Government/Canal Commission Documents

Certain documents which have limited time value are classified using control lists.

C.- **PROCESSING METHODOLOGY**

One of the key differences CEDIIN sees between its role and that of a library is in the type and amount of material stored. Materials must relate to commercial, industrial or technical themes that are of use to the SIP members. Material is not maintained purely for historical reasons.

Only material meeting these criteria are processed using the keyword system. Other material is either discarded (actually, given away to interested parties) or retained for a limited period, but not processed. Up-to-date information is also key to the Center. As such, outside of certain government publications and statistics, periodicals are kept for only five years. Obsolete documents are discarded.

CEDIIN personnel identify key items received and publish news of those receipts in various SIP periodicals. This news includes lists of articles which appear in magazines received by the Center. These lists are the only periodical indices available. None of the commercial periodical indices are received by the Center.

Exhibit 8 contains a flow diagram with an overview of document processing at the Center. It should be noted that while the review of all material is done in the month in which it is received, actual processing is often backlogged. There currently exists a backlog of some 500 documents to be processed.

Exhibit 8

CEDIIN
DOCUMENT PROCESSING

WHEN

ACQUISITION

AS TIME PERMITS — REVIEW BY SIP PERSONNEL

UPON RECEIPT FIRST FILTER — REVIEW BY CEDIIN PERSONNEL USEFUL? → No → DISCARD

↓Yes

UPON RECEIPT — NOTE ITEMS FOR SIP LIST OF NEW RECEIPTS

UPON RECEIPT — STORE IN SECTION TO BE PROCESSED

25th OF MONTH — CLASSIFY BY SECTION, UPDATE RECEIPT LIST

BY END OF MONTH — SECOND FILTER — REVIEW MATERIAL BY SECTION PROCESS? → No: Store in a separate area by section

↓Yes

**BOOKS/DOCUMENTS**

1. Assign Access Number
2. Select Keyword
3. Prepare abstract
4. Prepare draft cards (4/document)
5. Review draft cards (CEDIIN ADMINISTRATOR)
6. Update various control lists
7. Type cards & place access number (physical identifier) on book. Update keyword cards.
8. Store books by sections
9. Discard Duplicates/out-of-date items.

**PERIODICALS**

1. Complete "Kardex" card.
2. Select technical articles for SIP reference.
3. Store

d.- INFORMATION RETRIEVAL

Material not processed using the keyword system is retrieved by means of the control lists (SIP material, CBI documents), date of receipt order within section (official gazettes) or theme within section (Energy, AILA, IRHE). Information that will be processed using the keyword system but has not yet been, is stored by section and theme within section. The receipt list by section is used for retrieval.

Periodicals are retrieved alphabetically. Technical articles listed in the article register are retrieved by that means. Others would be searched issue by issue by the table contents.

The card catalogues are the main vehicles for information retrieval in the keyword "Unitérmino" system. There are five distinct catalogs:

1. Access Number
2. Author
3. Title
4. Country of publications
5. Key Word.

The first four are represented by Exhibit 4 - 7. An example of a keyword card is shown in Exhibit 9. A keyword card contains the access numbers of all materials identified with that keyword.

Searches in the first four card catalogues are straightforward. Searches by keyword are more problematical. One is confronted by a list of access numbers that covey no meaning beyond the section to which the document pertains. The user then has to either look at each access number card for an abstract of the document's contents and/or refer to the actual document. Such a keyword card then, is of questionable rise when compared to the Dewey system subject cards which refer to actual titles and authors. Those, of course, contain no document abstracts. One may note that, as a precursor to computerization, the Unitérmino system is very good. As a manual system is still has drawbacks.

Exhibit 9

## KEYWORD CARD

EXPORTACIONES

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---|---|---|---|---|---|---|---|---|---|
| U090 | B 0911 | 0912 | 0133 | 0044 | 1155 | 1276 | 0007 | 0138 | |
| | B 0921 | B 0922 | B 0903 | F 1314 | B 0915 | | B 0907 | 0138 | |
| | B 1321 | | B 1053 | | F 1315 | | | 1278 | |

Servicio de Información y Extensión Tecnológica (S. I. E. T.)

Impresora Chilena, S.A. - Chile

In Panama in general, and in the CEDIIN library in particular, users (especially industrialists) are accustomed to asking the librarian to locate reference materials for them. The North American style of self-directed user research is not common. In practice the librarians use the various control lists (handwritten and not available to the public) and their memory to retrieve material. They have all been with the library more than five years and know the collection "inside out".

CEDIIN personnel have made various changes to the original Unitérmino system to aid in information retrieval. The control lists have been mentioned.

Other changes include:

- Organization of material to be processed by section, within section by theme, institution and/or country.
- Creation of the country of publication catalog.
- Control lists, by section, of material received.
- Institution of a discard policy and control lists.
- Elimination of Unitérmino processing of periodicals and institution of Kardex.
- Control Lists, by section, of material processed.

A later section will provide an evaluation of the systems used by the Center.

## 3.- CEDIIN SERVICES

### a. Industrial Information Library

Collects, catalogs, maintains a collection of documents geared to industrialist's use. Visiting hours are 8:30-12 and 2-5 daily.

### b. Question/Answer Service

Search of library resources to provide answers to user's questions. Most users are attended via this service. Telephone requests, especially by SIP members, are not uncommon. If the material requested by the user is not available, suggestions are given as to where the material can be obtained. Occasionally CEDIIN will obtain such info from third parties for the user.

c. Link to other Information Centers

CEDIIN has established links with several other national and international services in order to give users access to the widest possible variety of information.

Information and material are exchanged on an as-needed basis with the following organizations:

-Instituto Panameño de Comercio Exterior
-U.S. Embassy
-British Embassy
-Italian Institute of Foreign Trade
-Ministerio de Comercio e Industrias
-Contraloría General de la República
-MIPPE & other government ministries
-Caja de Seguro Social
-Universidad de Panamá
-Universidad Santa María La Antigua
-Universidad Tecnológica
-Cámara de Comercio e Industrias
-Panama Canal Commission
-Consejo Nacional de Inversiones
-OEA
-UNIDO
-UNCTAD-GATT

and others from time to time. Good working relationships have been established with the local organizations.

d. Publications

As a means of letting SIP members know about materials and resources available in the library CEDIIN publishes columns in various SIP publications. These columns include lists of books, documents, magazines, technical articles and details of commercial opportunities conveyed to the Center by various government agencies, embassies and consulates. This information appears in the Boletín de Difusión Selectiva de Información, Informativo Industrial, Revista Industria and the Semana Industrial.

In 1985, CEDIIN in conjunction with SIP, published several editions of the CEDIIN-SIP Bulletin. This periodical provided more detailed information/descriptions of library holdings by various sectors. While well received, the bulletin was discontinued for back of funds.

### e. Commercial Opportunities Listing Service

CEDIIN maintains up-to-date lists of commercial opportunities available to the industrial community. These are supplied by government agencies, the Canal Commission and various embassies and consulates. Those listed in the UNIDO bulletin are also available.

### f. Professional Personnel Databank

CEDIIN maintains the curriculum vitae of available professional personnel recently graduated from the Universidad de Panamá, Universidad Santa María La Antigua and the Universidad Tecnológica. Brief resumes of the personnel's qualifications are published in the SIP "Informativo Industrial" to inform SIP members of their availability. The C.V.s may be reviewed in the library. CEDIIN personnel will verify the availability of the candidates on a case by case basis.

### g. Node of "RED-NAPLAN"

CEDIIN acts as a node of the National Planning Information network (RED-NAPLAN). This network is the joint work of various national institutions. It exchanges information with other planning organizations in the Latin American region notably (INFOPLAN of CEPAL). The "Red" publishes, every three months, a listing of documents produced in participating organizations that have to do with economic and social planning.

CEDIIN provides information (in a predetermined, keyword based format) on SIP documents that are relevant. References to some 25 publications have been made in the last 3 years. (This is the pre-arranged volume of data to be exchanged).

## 4.- USER STATISTICS

| | TOTAL USERS* | SIP PERSONNEL | GENERAL USE** | CBI |
|---|---|---|---|---|
| 1984 | 622 | 64 | 506 | 54 |
| 1985 | 1,126 | 51 | 950 | 125 |
| 1986 | 821 | 98 | 763 | 49 |
| 1987 (January-May) | 256 | 15 | 228 | 13 |

*Refers to individual visits or telephone requests, does not include multiple questions by a single user.

**Figure includes SIP members, (about 35%) government officials (5%), students (45%) others (5%).

The largest number of visitors to the library coincided with the year (1985) that a CEDIIN coordinator from the SIP Executive Board was appointed and active. Publicity for CEDIIN resources and services was markedly higher during that year. There was no CEDIIN coordinator during 1986 or 87 nor any specialized CEDIIN publications. Staff meetings of CEDIIN and SIP personnel have not taken place.

User statistics are included in the annual reports of CEDIIN activities submitted yearly to SIP and MIPPE personnel since 1983. These reports detail the activities of the CEDIIN personnel, recommendations for improvement, equipment/supplies requests and goals for the coming year. Little or no feedback on these reports has been received from either SIP or MIPPE.

Lists of types of information requested from SIP are also included in the annual reports. The majority of questions are of a general economic and commercial nature probably due to the fact that most of the users are students. Statistical and industry specific references are commonly requested by professional users.

## 5.- Experiences with Automation

As was previously mentioned the original SIET-OEA-MIPPE project included provision for computerization. Various meetings were held in late 1983 to determine the feasibility of building a SIET database using the MIPPE computer (Wang LVP mini computer).

With sporadic programmer assistance, input forms and output reports were developed using the Wang File Management System (Sistema de Administración de Archivo). Due to the limitations of SAR (common to many database packages of that era) the final SIET record consisted of 511 characters as opposed to the 1011 characters requested by the SIET (CEDIIN) library personnel. This record did not include a document abstract.

Some 200 records were entered in the system as a pilot project. In mid-1985. The project was discontinued for the following reasons:

1. Data format did not meet SIET needs.
2. Inconvenience of using MIPPE computer (located 25 minutes away by car) and lack of transport funds.
3. Unreliable access to MIPPE computer
4. Lack of budget for supplies (paper, diskettes, etc.)

From 1985 to the present there have been discussions with MIPPE about the provision of an IBM Compatible personal computer for CEDIIN automation. Is now appears as though this machine will be delivered in June of 1987.

The equipment is of the same configuration as that purchased for the MIPPE library from the OEA project funds, as follows:

| Model | Description |
|---|---|
| Z-159 Model 3 | Zenith Data Systems PC 20MB fixed disk, floppy diskette drive 360KB, 640KB RAM, serial and parallel port, Hercules compatible video card, amber monitor |
| FX-286 | Epson 200 cps printer with tractor feed. |
| ZM-2401 | 2400 Baud Modem. |

MS-DOS Operating System version 3.1 software and CROSSTALK communications software will be provided by the supplier. SIP has expressed great interest in connecting the PC to the INTELPAQ network in order to access international databank services.

MIPPE plans to provide a copy of DBASE III-Plus software already in its possession. SIP also has DBASE III Plus running on its Wang PC. Both MIPPE and CEDIIN plan to use DBASE III-Plus to develop their documentation databanks. MIPPE has agreed to provide general MS-DOS and DBASE III-Plus training of several days to at least one CEDIIN employee.

## 6.- CEDIIN Evaluation

### General Findings

The reader may have noted that CEDIIN's activities and services are documentation and resource oriented. If questioned, most SIP members would be hard pressed to identify CEDIIN's services beyond the library. Three persons would be identified as CEDIIN employees.

In fact SIP personnel (especially the SIP economist) are involved in projects and studies directed toward improving industrial and economic information available to SIP members and improving their productivity. Many SIP seminars are oriented toward these goals.

One of the primary purposes for the creation of CEDIIN was for SIP to have policy and operative control of the information center (formerly SIET). The lack of a CEDIIN coordinator since 1985 has effectively hindered true SIP-CEDIIN integration. The two organizations work quite separately. No SIP-CEDIIN policy or work plan have been developed. Staff meetings between the two groups are not held. Both groups are ill-informed about the other's activities.

Evaluation of specific areas of CEDIIN proper (as described in the previous sections) follow. Recommendations for action and improvement are included in the final section of this report.

### Personnel

The CEDIIN personnel are bright, competent professionals. They have done a very good job of organizing the library's holdings, with few resources. Their modifications to the experimental "Unitérmino" classification system were resourceful and creative.

Their combined library science and administrative skills have been of great importance in bringing CEDIIN to where it is today. Good working relationships have been established with other information sources and centers in the country.

The lack of direction from either MIPPE (their employers) or SIP, since the departure of the CEDIIN coordinator, have severely hindered their and CEDIIN's integration with SIP. Not surprisingly, morale is low. The personnel are underutilized.

Their experience in starting an information center from scratch (the former SIET) should make them very valuable as resources to other information projects in the country. Hopefully, however, MIPPE will be somewhat flexible about the timing of their departure. Their help in automating CEDIIN and training new employees will go a long way to making that project a success.

Documentation

The Center has built up a very good collection of economic, commercial and industrial reference material. The technical, technical reference and industry specific collection is small. The library does not have up to date bilingual dictionaries, management or technical dictionaries (bilingual or otherwise) or commercial periodical indices (catalogs by "keyword" of articles published in periodicals, available by subscription). The magazine collection is weak, particularly in the high technology fields (computers, bio-engineering, materials engineering, robotics, etc.). Books and materials on technology processes and sources are few.

There exists no directed donation program nor specific budget for the Center. The list of books to be purchased, drawn up by CEDIIN personnel, have not been purchased. In the consultant's opinion, CEDIIN has been too passive in the building of its collection.

The Unitérmino classification system has worked well for CEDIIN. It is ideal for computerization but labor intensive when used manually (4-5 cards for each reference). Total processing for a single item takes some 3 hours. It is unfortunate that the Center has had to operate so long under less than optimal circumstances. On the positive side 75% of all the holdings to be computerized are ready for immediate data entry.

The system is, however, unfamiliar to the average user trained to a "Dewey" library. As such, its physical layout and cataloging procedure need to be explained to users in order for them to do research on their own.

In addition, the delay in passing materials from SIP to the library and the library's delay in processing them, reduces the amount of material available to a user.

Retrieval

The Unitérmino-keyword card system doesn't encourage exploring on the part of the user. The user is effectively dependent on the librarians to access the information he is seeking. The more accurate he is in formulating his request the more likely they will be able to help him.

Fortunately this style of library use is common/expected in Panama. Since the librarians have an impressive knowledge of the Center's holdings, information retrieval for current users & CEDIIN activities is not a problem.

A distinct weakness in retrieval, though, is the lack of periodical indices. While the librarians compile their own for certain technical articles, a keyword indexed list would be a great help. Such indices are commercially available by subscription.

Services

In its first two and a half years of operation the Center has built up a good commercial and industrial reference service. The existing services suffer from lack of promotion, depth and technical material. This is reflected in the drop in number of users from 1985 to 1986, directly tied to the level of promotion of the Center.

The Center's current holdings, personnel and resources do not allow it to undertake some of the original CEDIIN goals. Providing solutions to member's technical problems and consulting services for production process modernization are NOT possible.

## Automation

Computerization of the Center's catalogues and control lists is a good idea indeed. Most of the time consuming part of the job is in fact done (keyword and abstract preparation).

The Zenith computer hardware to be purchased will be able to handle the job. A larger monitor (screen) would have been preferable as it is doubtful that the input record form will fit on a single screen.

DBASE III-Plus will be used for the CEDIIN and MIPPE library databases. The decision to copy the software, rather than purchase it should be carefully considered. Training, documentation and software updates, and support could be hard to come by in the future.

There is some controversy about the suitability of DBASE III-Plus for large, primarily text databases. Some feel that ISIS, a mainframe and minicomputer-based retrieval system is preferable (read faster access). ISIS was developed by the United Nations agency UNESCO. A micro-computer (PC) version is under development. In this consultant's opinion ISIS is difficult to use and maintain by non-technical users. It provides no database management facilities. Documentation and software maintenance updates are not of the same caliber as those of DBASEIII-Plus. The lack of availability of the micro version speaks for itself.

## III.- CEDIIN INFORMATION SOURCES

The personal computer to be delivered to CEDIIN will open up a wider range of information sources. This section explores the availability of such sources and the logistics of utilizing them.

### A.- Sindicato de Industriales de Panamá Databanks

The SIP economist has developed and/or is developing several databanks for use in various studies. Those mentioned below could be made available on the CEDIIN PC for member or librarian research.

#### Existing Databanks

1) "Contratos con la Nación

A LOTUS 1.2.3 database of approximately 150 companies granted limited tax free status under Decree 413. The database contains various indentifier data about the company and its investment required under the law. This information is also published in a limited distribution "National Register" and is considered very valuable. The LOTUS 1.2.3 database could be converted to DBASE III-Plus.

2) Empresas que han recibido Certificados de Abono Tributario

Another LOTUS database of approximately 120 companies granted export duty funds. Data that could be released to a converted DBASE III-Plus version would include company name, industrial activity (SIC Code) and the yearly fund figures.

3) Companies That Have Exported During 1987

A DBASE III-Plus database of some 300 companies who have exported during the current year. Data includes company name, activity (SIC code), countries to which they export and means of transport.

4) SIP_Member_Database

This membership database is of general interest to many users, students and potential investors. Is includes company identifier information, manager name, location, mailing address, telephone, telex, telefax, company products and trade marks. The DBASE III-Plus database contains information on some 300 SIP members.

5) SIP_-_Union_DATABASE

This database, under development, contains information on which companies have contracts with which unions. The DBASE III-Plus database is set up by union and contains the union name, general secretary's name, number of members, location, federation and central group to which it belongs, and the companies that employ workers (members) of the union

When transferred to the Center library, company names could not be mentioned but company activity (SIC Code) and activity name would be given. It is planned to add the names of clauses included in the union contracts, to be codified using the ILO classification scheme for contract clauses.

Databanks_Planned

All the planned databases would be developed using DBASE III-Plus.

1.- Economic_Indicators

To include general economic reference data such as inflation figures, unemployment, growth, etc. Could be made available to the CEDIIN library computer.

2.- "Productivity"_Database

This database will identify, by company, its activity (SIC) Code, number of supervisors by level of education, whether or not they receive training and/or ongoing skill development courses, suggestions on courses SIP should give, and persons in their company who can give training.

It is unlikely that this database would be made

public, i.e. transferred to the CEDIIN PC.

3.- Installed_Capacity_Use_Database

The purpose of this database is to identify companies that have free manufacturing time (are not using their facilities 24 hours per day). SIP is often approached by foreign firms who want to utilize excess manufacturing capacity and asked to identify such firms.

The part of the database that could be made public (transferred to the CEDIIN library PC) would include the company name, SIC activity, location, number of employees and whether or not the firm were operating 24 hours per day.

B.- Consejo_Nacional_de_Inversiones_de_Panamá_Databanks

CNI (National Investment Council) has recently completed a UNIDO assistance project and a consulting contract with Arthur D. Little. Both projects recommend the formation of various databanks with investment information. The Little project proposes that the CNI be made into a 'one-stop' information shopping center where investors could get all the info they need on Panama and Panamenian companies.

The build-up of the various databanks counts on input from several sources including SIP. Certain of the CNI databases could also be of interest to SIP, among them Economic Indicators, CNI Installed Projects Statistics and Panamenian Company Statistics. The two organizations may wish to work together to avoid duplication of effort.

B.- Other_National_Databanks

A meeting with Dra. Argelia Buitrago of the President's Office brought to light a study undertaken by the Informatics Committee of the Panamás project. The project surveys government institutions, private companies and universities on databases they have developed. United Nations assistance is being sought in the analysis and processing of the completed surveys.

When completed, SIP should not fail to secure a copy of the report or the guide to national databases which will be the result of the study. Perhaps databases of which they are not now aware will be identified and be of use to the SIP membership.

## D.- International/Foreign Databanks

### 1. RELIC

RELIC (Latin American Commercial Information Network) is an international network covering 19 countries. The databanks contain a wide range of foreign trade information. IPCE (The Panamenian Institute of Foreign Trade) is the official Panamenian representative to RELIC.

SIP members are free to consult the RELIC data via the IPCE. They have been informed of the services of RELIC in a letter an brochure sent by the then CEDIIN-SIP coordinator in 1985. The RELIC services are thus immediately available to the Panamenian business community.

Like many international networks national access is via national focal points. IPCE has assumed this role and is really the most appropriate organization to do so. CEDIIN-SIP can act as the intermediary between SIP members and IPCE-RELIC if SIP members do not wish to deal with the IPCE government organization directly. A direct CEDIIN-SIP and RELIC connection would be a duplication of effort.

### 2. UNIDO_INTIB

CEDIIN-SIP has expressed interest in acting as the INTIB focal point in Panama. This fact will be communicated, by the consultant, to the INTIB coordinators in Vienna.

As the national INTIB focal point CEDIIN activities would involve answering requests for industrial and technological information for all of Panama (those received directly and those referred by INTIB-Vienna). All INTIB resources would be at the disposal of CEDIIN. Questions that could not be answered directly would be referred to INTIB - Vienna for reply from their sources of information.

Initial communication would be via telex and letter (UNDP pouch). As discussed during the information round table, once the UNIDO-INTIB pilot network project is completed, communication could be via the electronic mail, IBM-based network they are testing. The CEDIIN PC, modem and CROSSTALK software could be used for the occasional access. An IBM-compatible word processing/mail package may be required. Follow up by both CEDIIN-SIP and UNIDO-INTIB

will be necessary to concretize their working relationship and procedures.

3. Other_United_Nations_Databanks

Various organizations of the United Nations have or are developing, databases which could be of use to SIP members. It is suggested that CEDIIN obtain a copy of the:

Directory of United Nations Databases and Information Systems
United Nations Publications
United Nations
New York, NY USA
ISBN: 92-9048-295-8
ISSN: 0255-920X

for review of available information. While access to such databanks would be only occasional, they might provide an important aide to SIP members.

4. Commercial_Databanks

Aside from the public sector databases already mentioned there exist hundreds of commercial databases. Most of these databases make their information available in printed form (computer printouts) or via microcomputer or computer terminal. Most database producers sell their database information through database vendors (companies that represent more than one database). Many database vendors charge a subscription free, a per hour connect charge and printing fees (if used).

DIALOG is a major database vendor/representative that would be of special interest to CEDIIN-SIP:

DIALOG Information Services
200 Park Avenue
New York, NY 10016
USA

DIALOG offers access to over 200 databases relating to business, industry and technology. By writing to DIALOG, CEDIIN can obtain detailed descriptions of the individual databases. This is essential in order to make a decision whether to subscribe to the service and to determine which of the databases will be of interest (fields covered are as diverse as agriculture, computer

technical and trade information, energy and environment, science and technology, and medicine to name but a few).

DIALOG also represents Predicasts' 'Business and Industry News' which abstracts articles from over 1000 business and trade journals. Such a service is often an excellent source of business trends, opportunities and technologies available. Predicasts will even provide copies of summary articles from over 2000 sources worldwide. Data Courier and Management Contents (also represented by DIALOG) are other database producers that index and abstract numerous, mainly business publications.

There exist several directories (in book form) which serve as guides to publically accessible databases. These include:

1. Information Trade Directory
   An International Directory of Information Products and Services
   Learned Information Ltd.
   Besselsleigh Road
   Abingdon, Oxford
   OX13 6EF United Kingdom

   ISSN 0142-0208
   ISBN 0-904933-26-1

   North & South American Editions
   ISSN 0000-0450
   ISBN 0-8352-1291-2

2. Computer Readable Databases
   A Directory and Sourcebook
   Knowledge Industry Publications
   701 Westchester Avenue
   White Plains, NY 10604
   USA

   ISBN 0-914236-97-0
   CODEN 35ZPAA

3. Database Directory
   Available from the same company as 2 above.

   ISSN 0749-6680
   ISBN 0-86729-081-1

4. Encyclopedia of Information Systems and Services

Gale Research Company
Book Tower
Detroit, Michigan 48226
USA

International Edition
ISSN 0734-9068
ISBN 0-8103-1538-6

U.S. Edition
ISBN 0-8103-2494

U.S. & International Editions
ISBN 0-8103-1537-8

Familiarization with such directories and information from database vendors will be crucial to the profitable use of such resources by CEDIIN.

Panama is fortunate to have an up-to-date packet switching telecommunications network known as INTELPAQ. The use of this network to access overseas databases provides greatly increased speed and reliability over conventional long distance telephone access. The CEDIIN PC, modem and CROSSTALK communications software together with a telephone are all the equipment needed to access overseas databases.

INTELPAQ requires a service contract with the following fees:

| | |
|---|---|
| Fixed Access Cost | $25/month |
| Connect Cost | $0.20/minute |
| Volume Cost | $0.48/kilocharacter transmitted |
| Minimum Cost | $1.50/call |

The relevant information for setting up such a contract has been handed over to the SIP Executive Director.

The question of whether or not overseas and especially overseas commercial database access is expensive is key. In fact the answer depends entirely on the value to the user. Combined network and database access fees of $300 (for example) may be considered minimal if the information received saves a SIP member a trip abroad or puts him a jump ahead of his competition.

Knowing which databases to access and perhaps, even more

important, how to pose the question are critical to cost effective use of computerized databases. Study of database directories, trial access runs, keeping records of their results and training courses (where available) should all be undertaken. CEDIIN would be in a position to build up such knowledge and offer foreign database access to SIP members. Users could be required to pay for the services as used.

## IV. CEDIIN Recommendations

This section will outline specific recommendations for strengthening and consolidating the activities of CEDIIN. The ability to successfully carry out the program described is dependent on the integration of CEDIIN with the SIP organization.

As such, the most important recommendation of this report is the appointment of a CEDIIN coordinator from the SIP Executive Committee. This person should work alone or with a committee to develop a CEDIIN policy. CEDIIN could be developed into an advanced, world-class industrial information and investigation center with a large technical collection, connections to overseas databanks and investigation services. This will take an investment of time, commitment and money from SIP members. The CEDIIN policy should define if this is the direction in which efforts should be focused, or, if the library services currently offered are sufficient.

Whatever the policy developed, it should be supported by an operating budget to be controlled by the CEDIIN coordinator. This budget should include provision for the CEDIIN full time staff member(s), CEDIIN supplies, book, magazine and document acquisition, and investigative services (including on-line database access).

Without a high level coordinator and a budget, the possibilities for improving CEDIIN are strictly limited. The MIPPE personnel have done an admirable job of building an information center from scratch with no fixed budget. To take CEDIIN to the next level of sophistication and make it more valuable to the SIP membership, increased support from the SIP administration and members is required. The following recommendations assume that SIP will provide that support.

## SHORT_TERM_RECOMMENDATIONS (JUNE - DECEMBER 1987)

### 1. Appoint_CEDIIN_Coordinator

As mentioned, the first task of the coordinator will be to develop a CEDIIN policy and secure the approval of that policy by SIP. The term of the coordinator should be at least one year and preferably two. The post should always be filled and not experience gaps between when one appointment ends and the next begins. The CEDIIN coordinator will be responsible for detailing and carrying out the work program of CEDIIN.

### 2. Establish_a_CEDIIN_Budget

The CEDIIN coordinator should develop a yearly budget for approval by SIP. The budget will include provision for the CEDIIN employee(s), supplies, book purchases, investigative services and equipment purchases where necessary. SIP members may consider the build up of CEDIIN sufficiently important to allocate additional (to their existing membership fees) monies for that purpose.

With increased resources CEDIIN could begin to act as an intermediary between government information sources/agencies and SIP members. In general, business people are hesitant to deal with government agencies or disclose in much detail the type of information they are seeking. The small size of the market and business community here make Panamenian business people especially cautious. CEDIIN could act as their 'agent' in securing the information they need.

This and other new services may be valuable enough to warrant a special fund to pay for the development of CEDIIN. The fund could accept special one-time donations and a CEDIIN 'supplement' in addition to the monthly SIP membership fee. Even $100 additional from each of 300 members would give a budget of $30,000. Such methods of 'creative financing' should be explored in more detail by the CEDIIN coordinator.

### 3. Hire_a_Librarian

The MIPPE staff will be withdrawn from CEDIIN in December 1987 (or thereabouts). It is imperative that training of a new person start as soon as possible (preferably in June 1987). During the initial six months one person working with the MIPPE employees will be

sufficient. In order to implement the medium and long term recommendations a second (at least part time) CEDIIN staff member will be required.

In the short term a librarian (university trained in library science) would not be required. In the medium and long term a librarian or student pursuing a library science curriculum should be hired. Such a person would have the professional qualifications and interest to keep abreast of developments in the library and information processing fields and will be invaluable in maintaining a first-class library. The ideal candidate will have at least a working knowledge of English.

4. Automate the Card Catalogue of the Library

As described in the organization of the Center section, the Unitérmino classification system is well suited to computerization. Automation will eliminate the cumbersome drafting and typing of 4 - 5 index cards per item. This time saver (of approximately 1.5 hours per item processed) is the primary reason that two persons (instead of the current three) will be able to handle the day-to-day work of CEDIIN.

In the automation project the Unitérmino and Kardex manual systems should be maintained until all the data is entered in the system. Appendix 8 contains an overview of system specifications (assuming DBASE III-Plus use) for the CEDIIN. Unfortunately there was not sufficient time to produce more detailed specifications. Appendix 8 also contains an estimate of the time required to enter the existing card catalogue and backlogged material.

5. Obtain the Personal Computer

SIP personnel should follow up with the MIPPE-OEA staff to assure the June delivery of the CEDIIN PC. The computer should be installed in the CEDIIN library.

6. Purchase a Surge Supressor and Word Processing Program

A surge surpressor regulates fluctuating voltage and is considered essential for computers used on a continual basis. The CEDIIN PC will be an integral part of the library, running constantly. All precaution should be

taken to avoid data loss and fixed disk damage (often caused by fluctuating voltage). The $200 - $400 investment is a prudent one.

A word processing program will be of great value in publicizing the services of the Center, for use by the CEDIIN coordinator, to develop an 'electronic bulletin board', and could even be offered as a service to users. No top-notch information center would be without it.

8. Computer Supplies and Maintenance

Purchase the basic computer supplies - paper, diskettes, and printer ribbons. Sign a maintenance contract with the computer supplier, so that regular reliable service, parts and software and/or hardware updates are available.

9. Computer Training

Train at least one of the MIPPE employees and the new (to be appointed) CEDIIN employee in the general use of the PC, the MS-DOS operating system and DBASE III-Plus.

The computer supplier does not give this type of training. It should either be provided by MIPPE, as previously agreed, or via private computer institutes. This training should be undertaken as soon as possible after the computer is received, preferably with the same week.

10. Appoint Coordinator of Automation Project

As may be surmised from Appendix 9, the automation project is a big one. Someone should be named to coordinate the implementation of the project. Duties will include development (it is thought that the coordinator will also be the software developer) of the DBASE III-Plus entry screens, database and reports, coordination of data entry and system testing. This person will be responsible for developing a more detailed work plan and for resolving problems that arise in connection with its implementation. Without a coordinator the project will flounder.

11. Solicit Information on Industrial Thesauruses

The OECD Macro Thesaurus currently used for uniform keywords is of limited use in an industrial library. CEDIIN should write/phone/telex for information on thesauruses oriented to industry.

CEDIIN personnel have the data necessary to contact ICAITI (Instituto Centroamericano de Investigación y Tecnología Industrial), CENDES (Centro de Desarrollo Industrial del Ecuador) and the IDRC (International Development Research Center) for detailed information on their thesauruses. Once received, CEDIIN personnel together with the CEDIIN coordinator should decide which, if any, of the new thesauruses would be more appropriate for CEDIIN use.

12. Continue CEDIIN Publishing

CEDIIN should continue to publish news of new receipts and commercial opportunities in the various SIP publications as they do now.

13. Continue Existing Links to Information Centers

Established links to other databases and information centers should be maintained during this period.

14. Continue Question/Answer Service

Maintain the existing question and answer service and regular library hours.

## B. Medium Term Recommendations (1988)

The medium term recommendations assume completion of the CEDIIN automation project in late 1987 or very early 1988. These recommendations begin the process of expanding CEDIIN services and actively promoting them.

### 1. Solicit Information on Electronic Databases

Purchase at least one or two of the directories to electronic databases described in Section IIID of this report. Contact DIALOG (see Section IIID) for details on their databases and subscription requirements.

### 2. Train for Database Access

Explore opportunities for training in overseas database access. Learning how to formulate the question is key to cost effective use of computer databases. Contact local computer suppliers, the OEA, U.S. Information Service and others as necessary for information on such training. Participate in a training program and/or read everything possible on the subject.

### 3. Visit INTELPAC Users

The CEDIIN coordinator and employee should visit INTELPAC users (INTEL will gladly provide the names of client references) to learn how they are using the network and their experiences. One may also learn about experiences with access to databanks and representative costs. These type of visits are a good way to learn valuable information from those who have already been down a path!

### 4. Develop a User Charge Back Scheme

The CEDIIN coordinator should develop a method for charging users of overseas databases. Access to such databases for SIP research purposes would be paid by SIP. The monthly fixed cost ($25) should be paid by the CEDIIN budget. Access by individual users (SIP members or others) should be directly paid by them. INTEL should be contacted to see if they can provide detailed bills by call (individual access). The decision should be made whether to ask for a deposit form users and/or to bill them after use.

5. Subscribe_to_Overseas_Databases

Subscribe to one or two overseas databases for a trial period. Subscription fees should be paid out of the CEDIIN budget. Subscriptions would be extended and expanded to more databases as needed.

6. Sign_INTELPAQ_Access_Contract

The SIP Executive Director has the necessary information, forms and contract for the INTELPAQ network access.

7. Establish_INTELPAQ_Connection

Once the contract with INTELPAQ is signed they will assign a user password and identification number. The connection should be tested.

8. Database_Pilot_Runs

Access to the subscribed foreign databanks should be tested. Notes should be kept on each access - quality of the connection, problems encountered and utility/quality of the information received.

9. Add_SIP_Databanks_to_CEDIIN_PC

Put copies of the SIP databases described in Section IIIA on the CEDIIN library computer. Train the library employees to access and demonstrate the databases (since they are or will be converted to DBASE III-Plus the training necessary should be minimal). Provide updates to the databases on a regular basis.

10. Inaugurate_Overseas_Database_Access

Undertake an investigation using overseas database access for one or two SIP members. The aim is to gain experience in this type of research and hopefully produce a concrete success story that can be publicized to other SIP members.

11. Set_up_Role_as_UNIDO_INIB_Focal_Point

Follow up, with UNDP Panama and UNIDO Vienna, on arrangements to make CEDIIN the official national focal

point for UNIDO's Industrial and Technological Information Bank (INTIB). See Appendix 4 for more details on INTIB. CEDIIN can, of course, use INTIB services before it assumes the role as focal point.

12. Explore Use of UNIDO's TAS Services

UNIDO's Technology Advisory Services include seminars and training materials on transfer of technology negotiation and consultants on a short term basis to provide advice on specific problems of technology acquisition and negotiation. Appendix 5 provides more details on TAS.

Such services could be of interest and use to SIP members and serve as a means to broaden CEDIIN's services to meet some of the original goals of the organization. SIP could work together with UNIDO to introduce TAS to its membership possibly via a workshop or seminar.

13. Publish Brochure of New Services

Put together a brochure, pamphlet or insert in a SIP Publication describing the new services of CEDIIN. These would include:

- Industrial Library
- Computerized bibliographies of CEDIIN holdings
- Access to overseas databases
- Links to other information centers
- Question/Answer service (by telephone if required)
- Access to SIP databases

Update the brochure as new services are added.

14. Develop Library User Guide

Write a guide which describes how to use the CEDIIN library. Explain the Unitérmino and Kardex methods of classification and physical location of books on the shelves. Explain how to use the computer to find the material a user wants. The guide should be available in printed form and on-line via PC word processing.

Because of the reduction of staff in the library it will be imperative to train users (especially students) to do more of the research work themselves. This should not be

difficult if a clear user guide is developed and 10 - 15 minute user training sessions are held once or twice a week. Posters could also be displayed in the library to explain procedures.

15. Library Display

The CEDIIN library as set up does not encourage exploring, none of the material available is 'on display'. The purchase of a magazine rack to enable the display of the periodical collection is suggested. Current magazines and bulletins should be immediately visible upon entering the library. A table could be set aside to display new books received or materials available on a given theme. The library must improve the 'communication' of its holdings to users and this is an easy method to do so.

16. Upgrade the Technical and Reference Collection

If SIP-CEDIIN adopt a policy of developing into a first rate information center the technical and reference collection of the library must be built up. As previously mentioned technical works compose less than 2.5% of the total holdings.

The following are some of the types of materials needed by the library:

- Business Periodical Index (if such an on-line database is not subscribed to)
- Up-to-date Spanish/English Dictionary (general)
- Spanish/English Technical Dictionary
- Spanish/English Business Terms Dictionary
- Other Bilingual Dictionaries as necessary
- Technical Magazines (have SIP members recommend periodicals that would be of most interest to them)
- UNIDO Advanced Materials Newsletter
- UNIDO Micro Electronics Monitor
- UNIDO BioEngineering Newsletter
- UNIDO TIES Newsletter
- Technical Reference Books (to be recommended by SIP members - they are in the best position to know the top reference materials in their field)
- Library Science Journal (to keep up to date on library/information center developments.

### 17. Start Donation Program

Most of the CEDIIN library material is donated by outside organizations. CEDIIN should consider starting a more directed donation program where donors are given specific suggestions as to the material CEDIIN needs. This program can be tried with the embassies and consulates that currently are giving material on a regular basis.

SIP members can be asked to donate a subscription to the most relevant periodical in their field. Donations of technical books by SIP members should be encouraged. The program could direct donations by industry (each member to donate books relating to his field) or by topic by year ('this year we are seeking to build up our computer reference collection'). Book plates (labels) could be inserted in the front of the donated materials naming the donor organization. Recognition events could be held to thank those who have made the largest donations.

### 18. Start 'Micro' CEDIIN Sessions

SIP frequently holds seminars at its headquarters. These events are a perfect time to promote the resources of CEDIIN. A display of materials (books, magazines, reports, etc.) relevant to the seminar topic could be set up in the seminar room. A bibliography of the CEDIIN materials and materials available from overseas sources (would be produced from a database access) could be distributed.

If relevant, 15 - 20 minutes could be taken from the seminar to explain CEDIIN services and resources. The point is to take every opportunity to promote the CEDIIN - having services that no one knows about is like not having them at all.

### 19. Set Up a Roster of Experts

If CEDIIN policy encompasses assistance to small and medium enterprises in the solution of their manufacturing problems as stated in the original CEDIIN description (Appendix 7), CEDIIN should begin to make such experts available. One way to do so is to set up a roster of experts available for short term assistance.

Sources would include SIP members, UNIDO and the UNIDO TAS services, other international agencies, university professors, retired executives, etc. CEDIIN could publish an 'Expert Wanted' and 'Expert Available' column in one of the SIP publications. All inquiries could be directed to CEDIIN to maintain the requestor's confidentiality. Such a roster could be maintained on the CEDIIN PC.

20. Explore Cooperation with CNI

Section IIIB of this report describes the plans of the Consejo Nacional de Inversiones to build a series of databases. CEDIIN-SIP may wish to explore cooperation with CNI to exchange information and avoid duplication of effort. On-line access to each others databases should be considered.

21. Explore RELIC Use

CEDIIN could act as an intermediary between SIP members requiring foreign trade data and IPCE - RELIC. CEDIIN should seek out one or two SIP members who might have interest in such a service and discuss its usefulness with them. Trial runs of access to the RELIC databases could be made. Securing information, from third parties, could become a regular service of CEDIIN.

22. Maintain User Records

Better user records should be maintained. In addition to the information currently requested about user visits, CEDIIN should note whether or not the user is a SIP member, student, business professional or government official and whether or not this is the user's first visit to the library/CEDIIN resource center. If databases are accessed, the database name, connect time and usefulness of the information received should be noted.

23. Continue Publications

CEDIIN should continue publishing news of commercial opportunities, new library holdings and services in the various SIP publications. CEDIIN may want to issue its own publications as it did in 1985 if the volume of material is sufficient.

## 24. FAX Services

CEDIIN - SIP may consider the rental or purchase of a FAX (facsimile) machine for use by SIP members (both sending and receiving). There appears to be interest in such a service and for non-confidential material it works very well. A user charging scheme would have to be developed.

## 25. Electronic Bulletin Board

The word processing program could be used to develop an 'electronic bulletin board' on the CEDIIN PC. (Specialized programs are available but the WP program would work as well!). The bulletin board ('news' document) could contain news of CEDIIN receipts, new services, commercial opportunities and experts available and wanted. Visitors to the library could peruse the 'bulletin board' on the PC.

## C. Long Term Recommendations (1989 and beyond)

### 1. Begin Work as INTIB node

While it may take place sooner, CEDIIN should endeavor to begin its work as the UNIDO INTIB focal point no later than 1989. Joint publicity activities would have to be discussed to reach potential users beyond the SIP membership.

Logistics of the electronic mail - network connection (see Section IIID) would have to be worked out. As previously mentioned it may be necessary to purchase additional software to participate in this network.

### 2. Offer Investigative Services

The medium term recommendations contain the beginnings of an investigative service for SIP members. In the long term CEDIIN could provide a comprehensive research service. Members could contact CEDIIN with research projects: 'find me the suppliers of clean room technology', ' I want copies of all technical material available on ceramic use in conductivity', or 'get me a list of U.S. textile manufacturers looking for overseas suppliers due to the new U.S. Immigration Law' are a few examples.

CEDIIN could undertake the necessary research using CEDIIN resources, overseas databanks, information center contacts, embassy/consulate contacts, government information sources, INTIB, CNI U.S. offices and others as necessary. The 'answer' or packet of material would then be presented to the requestor.

Top quality information in the shortest possible time should be the motto of this service. The CEDIIN coordinator must be responsible for the quality of the information delivered to requestors. The service will incur costs that should be charged back to the user. No one will hesitate to pay for a really valuable piece of data that gives them a competitive edge, saves them a business trip, or saves hours of their own time. Such an investigative service could make CEDIIN a world class information center.

### 3. Purchase a Microfiche Reader

As the CEDIIN collection grows, document storage could become a problem. Reprints of many magazine articles and documents are now available at lower cost on microfiche. Microfiche obviously saves a great deal of space. CEDIIN would be able to maintain a much greater volume of material for immediate access by users. Most reader vendors also offer the service of putting documents on microfiche - in this way selective CEDIIN holdings could be transferred to fiche. Prices of microfiche readers are now in the $2000 - $3000 range.

### 4. Install a Coin-Operated Copy Machine

The installation of a coin-operated photocopy machine in the library would allow users to make (and pay for!) their own copies.

### 5. Auto Answer Service on PC

At some future date CEDIIN may wish to purchase 'auto-answer' equipment for the PC. This would allow SIP members with PCs to dial into the CEDIIN PC to access the holdings database, SIP databases and the 'electronic bulletin' board (if set up correctly). Details would of course have to worked out (exact equipment needed, what could be accessed, hours of access, etc.).

### 6. Book/Article Reviews

CEDIIN should begin to publish more detailed 'reviews' of the material it receives in the library (currently little is published about the content of new receipts). Reviews would cover the content of new books or articles (or even databases).

Appendix 1

## PERSONS VISITED

UNDP

Mr. Jakob Simonsen
Officer-in-Charge

UNIDO
Mr. Rene Bastiaans
Junior Professional Officer

SIP
Mr. Daniel Vega
Executive Director

Mr. Alfredo Arias
President

Mr. Rogelio Alvarado
Economist

Ms. Flor Ortega
Public Relations/Press Office

Mr. J. Crespo
Legal Affairs

CEDIIN
Ms. Mercedes Castillo
Administrative Officer

Ms. María Daisy de Gracia
Librarian

Ms. Domatila Sánchez
Assistant Librarian

Consejo Nacional de Inversiones
Mr. Pedro Arboleda
Manager, Research & Development

Presidencia de la República
Dr. Argelia Buitrago
Coordinator, Plans & Programs

Ministerio de Planificación
y Política Económica (MIPPE)
Ms. Carmen Guevarra
Head, Department of International
Technical Assistance (DATI)

Mr. Osbaldo Sánchez
Official Contact, SIET Project

Ms. Nuvia Zarzavilla de Jarpa
Director, Economic & Social
Planning

Mr. Hernan Arboleda
Head, General Programming

Ms. Maritza Salazar
Central Planning, General
Programming

INTEL (Instituto Nacional de
Telecomunicationes)
Mr. Horatio Hoque
Manager, International Service

# PLAN DE TRABAJO

## Fortalecimiento del Centro de Documentación e Información Industrial (CEDIIN), Sindicato de Industriales de Panamá (SIP) (DP/PAN/81/010/11-05)

1.) Actividad: Elaboración de un Plan de Trabajo

Descripción: Lo que se pueda esperar de la especialista 11 - 05.

Resultado: Plan de trabajo

2.) Actividad: Evaluar el CEDIIN para fortalecer y consolidar sus actividades como un centro de información industrial

Descripción: Presentaciones por y visitas con personal del DATI, SIP y el Centro sobre:

A. Origen del centro

B. Organización del centro

1. Personal
   A. Funciones
   B. Adiestramiento
2. Documentación
   A. Registros de Material
   B. Clasificación
   C. Secciones
   D. Recuperación de Información

3. Servicios

A. Consultas

B. Enlace con otros centros de información

C. Publicaciones

D. Asesoria comercial a las empresas

E. 'Banco' de profesionales disponibles

F. Nudo de la Red InfoPlan

4. Informes del Centro

C. Experiencias hasta ahora con Automatización del Centro

Resultado: Capítulo en el informe final con descripción del Centro hoy en día y evaluación de y recomendaciones para su organización y actividades.

3.) Actividad: Investigación de otras fuentes de información en el SIP y el CNI

Descripción: Familiarización con bancos de datos existentes y planeados (producción, insumos, productividad, etc.) en el SIP y el CNI y otros como necesario.

Resultado: Descripción escrita en el informe final

4.) **Actividad:** Orientación del funcionamiento de otros centros de información

**Descripción:** 'Mesa redonda' para el personal de la biblioteca y otros del SIP dirigida por Sra. Pawelczyk sobre:

A. Actividades de la ONUDI en Información técnica e industrial
- -INTIB
- -TIES
- -TAS
- -INPRIS
- -Publicaciónes

B. Biblioteca del Vienna International Centre (sirviendo las organizaciónes de las Naciones Unidas en Viena)

C. Actividades y organización del International Business Center de Boston, USA - un centro muy activo especialmente en el campo de asistencia en exportaciónes.

**Resultado:** Mesa redonda informal y descripción corta del mismo en el informe final

5.) **Actividad:** Elaboración de un plan de trabajo para el Centro

**Descripción:** Incluirá recomendaciones de la consultora sobre:

A. Automatización (o no) del Centro

B. Enlace con otros centros de información internacionales

C. Recomendaciones para promover los servicios del Centro

**Resultado:** Planes de trabajo a corto, mediano y largo plazo, incluyendo recomendaciones para harduare y softuare (cuando sean apropriados).

# CRONOGRAMA

| | MAYO | | | | | JUNIO | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 25 | 26 | 27 | 28 | 29 | 1 | 2 | 3 | 4 | 5 | 8 | 9 | 10 | 11 | 12 |
| Introduciones y Elaboración del Plan de Trabajo | XXXXXXXXX | | | | | | | | | | | | | | |
| Evaluación del CEDIIN | | | XXXXXXXXXXXXXXXXXXXXXXXX | | | | | | | | | | | | |
| Investigación de Fuentes de Información SIP/CNI | | | XXXXXXXXXXXXXXXXXXXXXXXX | | | | | | | | | | | | |
| Preparación para la Mesa Redonda | | | | | XX | | | | | | | | | | |
| Mesa Redonda - Sistemas de Información | | | | | | XX | | | | | | | | | |
| Elaboración de un Plan de Trabajo para el Centro (Informe Final) | | | | | | | | | XXXXXXXXXXXXX | | | | | | |
| Discusiones Informales sobre el contendio del Informe Final (SIP, PNUD, DATI) | | | | | | | | | | | | | | XXXXX | |

C. Pawelczyk
'Plan'

5/27/87

Appendix 3

## ROUND TABLE OUTLINE

THEME: Information

I. Resources

A. UNIDO

1. INTIB
2. TIES
3. TAS
4. INPRIS

B. Vienna International Center Library

C. Databank Directories

D. Others

II. Dissemination

A. How UNIDO (especially INTIB) handles info dissemination

B. Boston Library Association

C. International Business Center - Boston, MA, USA

III. Use

A. User training

B. Microsessions by Topic

C. Display

IV. Promotion

A. Publications

B. Microsessions

C. Subscription Program

D. Display

NOTE: Presentation materials available from the consultant or CEDIIN personnel.

# TECHNOLOGICAL ADVISORY SERVICES

## Note by the UNIDO Secretariat

### 1. Background

Since the industrialization of developing countries heavily depends on the access to imported technology, the strengthening of negotiation capabilities has become a major issue for the recipients of technology. Under the formerly called Technology Programme, UNIDO has been carrying out extensive work to assist developing countries in this field.

The main components of such work are:

a) Assistance in setting-up and upgrading infrastructure for transfer of technology evaluation and acquisition;

b) Seminars, workshops and training materials on transfer of technology negotiation;

c) Technology advisory services (TAS) to provide ad-hoc advice on concrete problems of technology acquisition and negotiation.

### 2. Scope of TAS

Developing country Governments often encounter difficulties in the negotiation of technology transfer contracts, particularly in evaluating their terms and conditions.

TAS was designed to provide rapid, objective and impartial advice to Governments of developing countries in the negotiation of the different types of technology contracts, particularly for major industrial projects. TAS are prepared to cover all the relevant issues related to technology acquisition through contractual arrangements, including assistance in the evaluation of proposals and selection of suppliers, preparation for negotiation, drafting of agreements and advice during negotiation.

TAS services have in the past been provided in such areas of transfer of technology transactions as joint ventures, turn-key deliveries, licensing agreements and franchising arrangements. Such services have been welcomed by Governments and have helped to reduce technology transfer payments and improve conditions of technology transfer.

## 3. Recent trends in TAS

The main thrust of TAS is to provide to negotiators impartial advice so that fair and reasonable conditions reflecting internationally acceptable practices might be achieved.

This kind of approach has even induced the suppliers of technology to look at TAS as a means of facilitating the negotiation of agreements with the recipient counterparts in developing countries. In this context an increased trend in demands for TAS to advise on negotiations has been observed, and TAS has been instrumental in impartially assisting both negotiating parties to bridge their positions and to achieve mutually advantageous deals. UNIDO has also expanded the scope and flexibility of TAS outputs, by also providing a desk service to provide advice from the headquarters on selected topics of negotiation, or to review technology contracts, or to supplement the analytical work carried out by the recipients or by the regulatory authorities for technology transfer in developing countries.

## 4. TAS, pool of expertise

TAS activities are based on the services of specialized UNIDO staff and selected outside consultants, and is supported by the contributions of the different Branches and Units of UNIDO thus combining experienced negotiators of technology agreements with technical experts in various industrial fields.

A unique advantage of TAS is the possibility of easy access to an invaluable amount of information on conditions of agreements that can be selected from the Technological Information Exchange System (TIES) which was created by UNIDO for the purpose of identifying basic data on concluded transfer of technology agreements between partners from developing and developed countries.

5. How to obtain TAS services

Governments of developing countries may request UNIDO for TAS services. Public and private corporations in developing countries may also require TAS services, provided the Government endorses such request.

In principle, all services provided by UNIDO under the TAS scheme, should be reimbursed to UNIDO.

Requests for TAS services should preferably be presented through the local UNDP office or the Senior Industrial Development Field Advisor. They can also be directly addressed to UNIDO, Transfer of Technology Programme Branch.

For further information please contact the Chief, Technological Advisory Unit, Transfer of Technology Programme Branch, UNIDO, Vienna International Centre, P. O. Box 300, A-1400 Vienna, Austria.

Appendix 5
Memo of Understandin

*República de Panamá*

*Ministerio de Planificación y Política Económica*

*Panamá,*

**ENTENDIMIENTO ENTRE EL MINISTERIO DE PLANIFICACION Y POLITICA ECONOMICA Y EL SINDICATO DE INDUSTRIALES DE PANAMA PARA LA CREACION DEL SERVICIO DE INFORMACION Y EXTENSION TECNOLOGICA (SIET)**

**I. OBJETIVOS**

**Los Objetivos Prioritarios del Centro son:**

**1- Constituir el canal de transferencia de los conocimientos científicos y tecnológicos con el fin de ponerlos a disposición del Sector Productivo Nacional, en especial al sector Industrial.**

**2- Asesorar a la pequeña y mediana empresa en la solución de problemas prácticos que puedan originarse en sus fábricas.**

**3- Orientar los Servicios de Asesoría hacia el mejoramiento de la productividad de sectores definidos como prioritarios para el desarrollo autónomo del país: Pequeña Industria y Sectores Básicos en la Economía.**

**4- Dirigir la investigación hacia una mayor y mejor utilización, tanto de recursos naturales (materia prima), como tecnología local, a fin de minimizar costos en la producción y promover la creación, adaptación y difusión tecnológica.**

**5- Dar asistencia a Industrias que no dispongan del personal técnico idóneo, para adecuar las novedades científi-**

cas y tecnológicas a sus procesos de producción.

6- Servir de Canal Selectivo a la transferencia de tecnología de conformidad con las necesidades del país; evitando así la importación de tecnología inadecuada para el país.

II. PARTICIPACION Y CONTRIBUCION DE LAS PARTES

Los principales organismos participantes en el proyecto serán el Ministerio de Planificación y Política Económica y el Sindicato de Industriales de Panamá y las demás dependencias del Estado que estén vinculadas en una u otra forma a los objetivos del proyecto.

El Sindicato de Industriales proporcionará las oficinas, el equipo de oficina y materiales necesarios para la ejecución del proyecto.

El Ministerio de Planificación y Política Económica proveerá los servicios de un ingeniero que actuará como Coordinador y se encargará junto con el personal asignado de la ejecución del proyecto.

Además el Ministerio de Planificación y Política Económica promoverá la más estrecha coordinación y participación de otras entidades.

III. SECUENCIA DE OPERACIONES

Los participantes iniciarán el proyecto en la fecha en

que este entendimiento entre en vigor.

Este proyecto se desarrollará en dos etapas:

A. Operaciones Preliminares

Durante el período de operaciones preliminares se realizarán visitas a las industrias por el personal técnico del - "SERVICIO DE INFORMACION Y EXTENSION TECNOLOGICA" y se establecerá contactos con los técnicos de estas empresas con el propósito de detectar sus problemas y ayudar a su solución.

Se crearán tres programas especiales:

a) Programa de Práctica:

A través de este Programa la empresa se ve beneficiada con los estudios y proyectos que los estudiantes de las diferentes especialidades realizan en ellas, en los últimos semestres de la carrera.

b) Banco de Trabajo:

Consistiría en un Sistema de Información actualizada de los egresados del Instituto Politécnico y de la USMA, que cumpliría la función de facilitar a la empresa, el reclutamiento de profesionales de las diferentes especialidades.

c) Educación Contínua:

Se considerarían cursos y seminarios que se ofrecerían periódicamente a las empresas, con la finalidad de actualizar y capacitar al personal de las mismas e incidir en su eficiencia. Este programa podría ser patrocinado por el Gobierno Nacional, la Empresa Privada u Organismos Internacionales como AID, OEA, ONU, etc.

B. Operaciones Definitivas:

Las operaciones definitivas se continuaran en forma extensiva una vez firmado este entendimiento.

IV. SERVICIOS QUE OFRECERA EL CENTRO DE DESARROLLO Y EXTENSION TECNOLOGICA.

1. Alerta: (INTELIGENCIA INDUSTRIAL)

Esto servicio tiene el propósito de indicarlo al usuario cuáles informaciones recién llegadas le podrían interesar. Se hará mediante dos formas:

a) Boletines Técnicos

b) Difusión Selectiva de Información

2. Enlace Industrial:

Puede considerarse un servicio básico ya que auxilia al industrial en la identificación de problemas, formulación de preguntas y coopera en la búsqueda de soluciones.

Consiste en un programa permanente de visitas personales a la industria, dirigidas al personal directivo o técnico.

Los beneficios que da este servicio son de especial interés ya que permite un conocimiento real de la situación de la industria con sus problemas, intereses y planes futuros de desarrollo.

3. Pregunta - Respuesta:

Este servicio estará dirigido a resolver problemas específicos que necesitan la información como elemento básico de solución. Su orientación es resolver problemas prácticos relacionados con la actividad diaria de la industria.

Este servicio se prestará como resultado de una detección realizada por el personal técnico durante su visita a la industria. Durante la visita el técnico ayuda al industrial a identificar el problema y formular la pregunta respectiva relacionada al problema encontrado. Consecuentemente, la -- efectividad del servicio está en detectar las causas y no los síntomas del problema planteado.

Se mantendrá un archivo completo para efecto de seguimiento. Este servicio será de tipo confidencial.

4. Extensión Técnica Industrial:

Sus áreas de acción cubrirán las siguientes actividades:

- Orientación en la selección de materias primas, maquinaria, herramientas, etc.
- Asesoramiento en la instalación, distribución de la planta y puesta en marcha.
- Mejoramiento de las técnicas de producción, mantenimiento y almacenaje.
- Asistencia en la utilización de normas técnicas referidas a productos y procesos.

Para la ejecución de los objetivos y actividades consignados en este entendimiento, lo suscriben:

p/ Gustavo R. González
Ministro de Planificación
y Política Económica

Ing. Vicente Pascual
Presidente del Sindicato de Industriales
de Panamá

Dado en la ciudad de Panamá, a los 25 días del mes de octubre de 1978.

# Centro de Documentación e Información Industrial

# ¿ QUE ES ?

# cediin-sip

UNA PUBLICACION - SIET, MIPPE-SIP - PANAMA, REPUBLICA DE PANAMA

**¿QUE ES EL SINDICATO DE INDUSTRIALES DE PANAMA?**

El Sindicato de Industriales de Panamá es un organización de empleadores privados para impulsar el desarrollo económico-social del país a través de la defensa y promoción de la actividad industrial en general y de los intereses comunes de sus miembros en particular. No persigue fines lucrativos ni políticos y se rige por principios democráticos y de respeto al sistema de empresa y de libertad individual.

**¿CUALES SON LOS OBJETIVOS DEL SIP?**

** Proponer a los organismos pertinentes del Gobierno cuantas medidas y actividades considere convenientes para la orientación y desarrollo de las actividades económico-sociales del país, especialmente las de carácter industrial y agropecuario.
** Patrocinar, gestionar o realizar encuestas, estudios e investigaciones para el mejor conocimiento de la evolución del desarrollo industrial del país y de los factores, condiciones y medios que se requieren para su continuo y creciente progreso.
** Acopiar y difundir toda clase de información y conceptos capaces de promover un entendimiento general y equitativo de la participación e incidencia de la industria nacional del desarrollo social y económico del país
** Alentar, promover y gestionar el adecuado desarrollo de la educación profesional, vocacional y técnica.
** Promover, auspiciar y organizar exposiciones, ferias y museos industriales.
** Promover un mayor grado de comprensión y bienestar dentro de los distintos factores de la producción.
** Prestar a los miembros o asociados todos los otros servicios que considere factibles y convenientes.
** Todas las demás actividades lícitas que no pugnen con los Estatutos del SIP.

**EL ORIGEN DEL CENTRO DE DOCUMENTACION E INFORMACION INDUSTRIAL DEL SINDICATO DE INDUSTRIALES DE PANAMA. CEDIIN-SIP.**

El 25 de octubre de 1978 el Ministerio de Planificación y Política Economica en representación del sector gubernamental y el Sindicato de Industriales de Panamá como representante del sector industrial-privado, suscribieron el "Documento de Entendimiento" por el cual se creó el Servicio de Información y Extensión Tecnologica, conocido con la siglas "SIET-SIP" (Programa MIPPE-SIP).

El 10 de agosto de 1984, el Sindicato de Industriales de Panamá, decide fortalecer el SIET (Programa MIPPE-SIP), incorporando el Servicio de Información y Extesión Tecnológica a una estructura organizativa y operacional llamada Centro de Documentación e Información Industrial del Sindicato de Industriales de Panamá (CEDIIN-SIP.)

**OBJETIVOS DEL CEDIIN-SIP.**

** Informar a los industriales panameños o extranjeros sobre iniciativas de desarrollo y proporcionar un clima receptivo y una capacitación adecuada para la adopción de políticas y de

ejecución de programas de inversión y exportación.
** Analizar e identificar oportunidades de mercado para los productos manufacturados y posibles obstáculos hacia de los E.E.U.U. o Internacional.
** Ejercer influencia positiva entre los sectores productivos del País: Agricultura; Industria Manufacturera Agro industria y Comercio
** Constituir el canal de transferencia de los conocimientos científicos y tecnológicos con el fin de ponerlos a disposición del Sector Productivo Nacional , en especial al Sector Industrial.
** Asesor a la pequeña y mediana Industria en la solución de problemas prácticos que puedan originarse en sus fábricas.
** Orientar los Servicios de Asesoría hacia el mejoramiento de la productividad de sectores definidos como prioritarios para el DEsarrollo autónomo del país: Pequeña Industria y Sectores Básicos en la Ecomonía.

** Dirigir la investigación hacia una mayor y mejor utilización, tanto de recursos naturales (materia prima) como tecnología local, a fin de minimizar costos en la producción y promover la creación, adaptación y difusión tecnológica.
** Dar asistencia a Industrias que no dispongan del personal técnico idóneo, para adecuar las novedades científicas y tecnológicas a sus procesos de producción.
** Servir de canal selectivo a la transferencia de tecnología de conformidad con las necesidades del país; evitando así la importación de tecnología inadecuada para el país.

**PRINCIPIO FUNDAMENTAL.**

Fomentar el crecimiento industrial mediante la Información, Documentación y Evaluación tecnológica e industrial.

**SUS FUNCIONES.**

** Determinar el tipo de información que necesita el industrial como el inversionista.
** Promover la mejor utilización de los conocimientos existentes en el país o en el extranjero, relacionados con la Industria y Tecnología.
** Poder ubicar inmediatamente la fuente de toda la información solicitada.

**SERVICIOS QUE SE PRESTAN.**

** Diagnóstico Industrial.
** Enlace Industrial.
** Infornación Industrial.
** Extensión Técnica Industrial.
** Consulta de Bancos de Información.
** Servicios Especializados.
** Biblioteca General y Especializada.
** Servicio de Información para la Iniciativa de la Cuenca del Caribe.

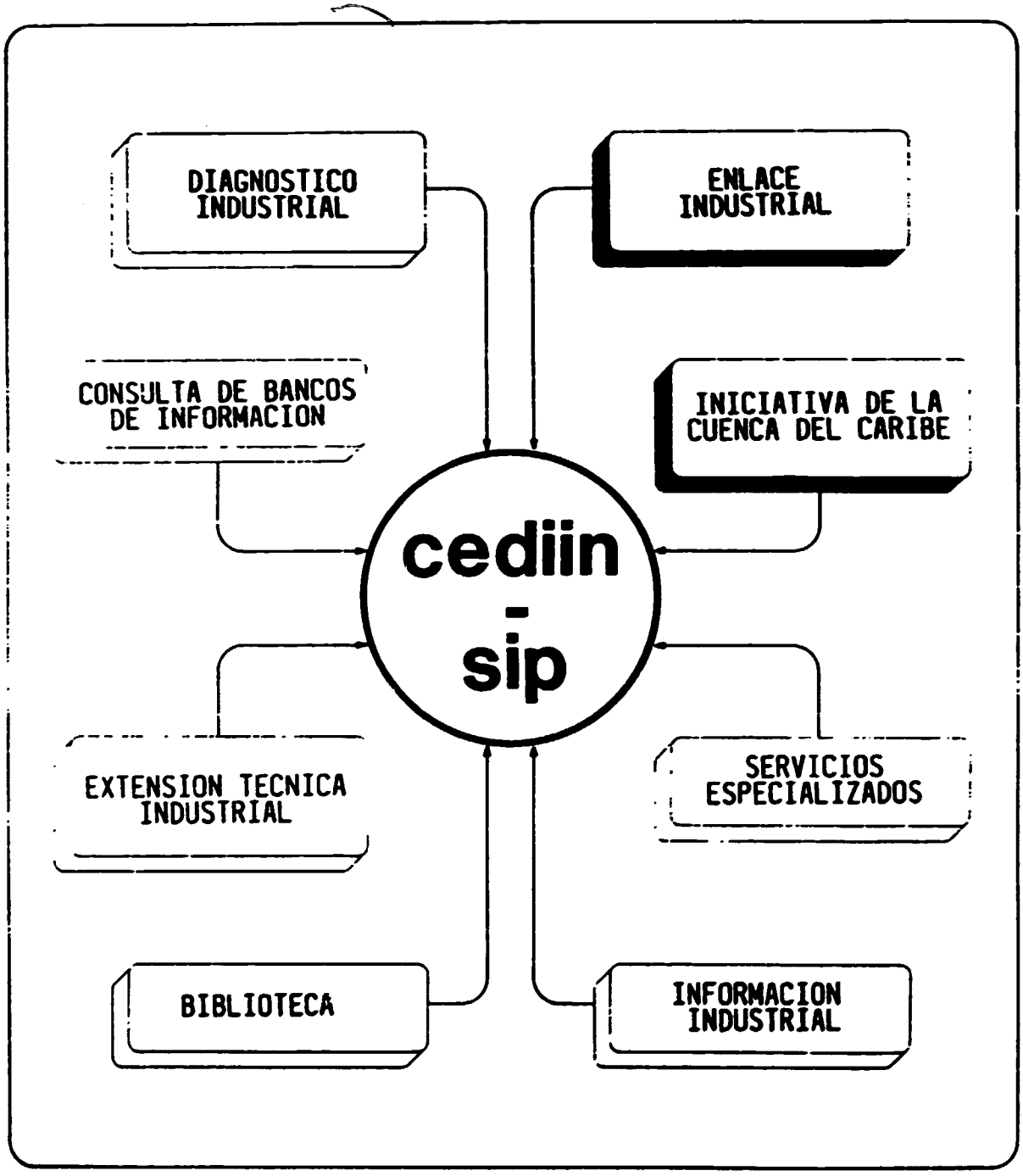
**FORMA EN QUE SE PRESTAN LOS SERVICIOS.**

** Señalando la atención de los industriales usuarios de los nuevos acontecimientos e informaciones de importancia en la esfera de interés correspondiente.
** Emprendiendo la búsqueda de las informaciones y prestando los resultados en forma apropiada.
** Poniendo a los industriales usuarios en contacto con fuentes adecuadas de conocimientos y asesoramientos especializados tanto locales como extranjeros y solicitando ayuda o apoyo a los Centros de Información homólogos tanto nacionales como extranjeros.
** Adquiriendo o editando boletines, bibliografías, indices, servicios de advertencia, partes informativas, estudios de publicaciones, análisis de la situación y otros materiales.
** Tramitando solicitudes de préstamo biliográficos, fotocopias y otros servicios de de biblioteca.

**SERVICIO ESPECIALIZADO DE INFORMACION SOBRE LA INICIATIVA DE LA CUENCA DEL CARIBE. CBI.**

** Servicios de Facilidades para la Industria.
** Atención y desarrollo de misiones industriales, tanto a nivel de promoción de productos nacionales como de inversión y/o co-inversión.
** Consultoría y marco de referencia de operaciones industriales.
** Publicación de Boletines especializados en Información sobre la Cuenca del Caribes

# ORGANIGRAMA DE SERVICIO




**INFORMACION GENERAL:**

** Dirección: Edificio Ricardo Galindo Quelquejeu - SIP, Ave. Ricardo J. Alfaro.
** Apartado Postal: 6-4798 Zona 6-A, El Dorado - Panamá.
** Teléfono: 67-4191 - Ext. 25.
** Horario de Consultas: Lunes a Viernes de 8:am a 12:m y de 2:pm a 5:pm.

Appendix 7

## CEDIIN
## SOURCES OF DOCUMENTATION

### National Organizations

APEDE (Asociación Panameña de Ejecutivos de Empresas)
APLAFA (Asociación Panameña para el Planeamiento de la Familia)
Banco de Colombia
Banco Nacional de Panamá
Caja de Seguro Social
Cámara de Comercio Industrias y Agricultura
Canal de Panamá
CONEP (Consejo Nacional de la Empresa Privada)
Contraloría General de la República
Corporación Azucarera la Victoria
COFINA (Corporación Financiera Nacional)
Dirección Nacional de Empleo
IDAAN (Instituto de Acueductos y Alcantarillado Nacionales)
IDIAP (Instituto de Investigaciones Agropecuarias de Panamá)
IFARHU (Instituto para la Formación de Recursos Humanos)
IMA (Instituto de Mercadeo Agropecuario)
INTEL (InstitutoNacional de Telecomunicaciones)
IRHE (Instituto de Recursos Hidráulicos y Electrificatión)
Junta Nacional de Moralidad
Ministerio de Comercio e Industrias
Ministerio de Desarrollo Agropecuario
Ministerio de Educación
Ministerio de Hacienda y Tesoro
Ministerio de Planificación y Política Económica
Ministerio de la Presidencia
Ministerio de Relaciones Exteriores
Ministerio de Salud
Ministerio de Trabajo y Bienestar Social
Municipio de Panamá
Sociedad de Fomento Fabril
Universidad Tecnológica de Panamá
Zona Libre de Colón

### Consulates and Embassies

Canada
Colombia
Costa Rica
El Salvador
France
Guatemala
Greece
Great Britan
Honduras
Israel
Japan
Mexico
Peru
Spain
Switzerland
United States of America
Uruguay
Venezuela
Yugoslavia

International Organizations

AILA (Asociación de Industriales Latinoamericanos)
ALADI (Asociación Latinoamericana de Integración)
ALALC (Asociación Latinoamericana de Libre Comercio)
Alianza Para el Progreso
BID (Banco Interamericano de Desarrollo)
Banco Mundial
BIRF (Banco Internacional de Reconstrucción y Fomento)
CEPAL (Comisión Económica para América Latina)
Centro de Comercio Internacional
CIAT (Centro Interamericano de Administradores Tributarios)
CITERFOR (Centro Interamericano de Investigación y Documentación Profesional)
Comerico Exterio Latinoamericano
Conferencia Internacional del Trabajo
Congreso Iberoamericano de Promoción Profesional de la Mano de Obra
Consejo Interamericano de Comerico y Producción
Consejo sobre la Calidad Ambiental y la Secretaría del Estado
Conselho Nacional de Pesquisas
Corporación Financiera Internacional
Departamento de Defensa de los E.U.A.
FAO (Food and Agriculture Organization)
Fundación Dominicana de Desarrollo
Grupo Andino
JETRO (Japan External Trade Organization)
Naciones Unidas
NAMUCAR (Naviera Multinacional del Caribe)
OEA (Organización de Estados Americanos)
OECD (Organization for Economic Co-operation and Development)
OIT (Oficina Internacional del Trabajo)
ORIT (Organización Regional Interamericana del Trabajo)
OPIC (Overseas Private Investment Corporation)
SELA (Sistema Económica Lationamericano)
Shell Briefing Service
SIAL (Salón Internacional de la Alimentación)
UNCTAD - GATT
UNESCO
UNIDO

Appendix 8

## Computer System Specification Overview

The Unitérmino method of classification for books and documents and the Kardex system for certain periodicals should be maintained. Both should be computerized.

### 1. Unitérmino System

Discussions with CEDIIN personnel, comparison with the previous automation project and study by the consult have led to the following record layout for the Unitérmino system. The layout and reports described the use of DBASE III-Plus.

| Description | Number of Digits | Type |
|---|---|---|
| Access Number | 7 | 1 Alpha, 6 Numeric |
| Title | 150 | Alphanumeric |
| Subtitle | 100 | Alphanumeric |
| Author | 150 | Alphanumeric |
| Publisher | 100 | Alphanumeric |
| Country | 20 | Alpha |
| Year | 4 | Numeric |
| Pages | 4 | Numeric |
| Volume | 3 | Alphanumeric |
| Number | 2 | Numeric |
| Edition | 3 | Numeric |
| Keyword 1 | 25 | Alphanumeric |
| Keyword 2 | 25 | Alphanumeric |
| Keyword 3 | 25 | Alphanumeric |
| Keyword 4 | 25 | Alphanumeric |
| Keyword 5 | 25 | Alphanumeric |
| Keyword 6 | 25 | Alphanumeric |
| Keyword 7 | 25 | Alphanumeric |
| Keyword 8 | 25 | Alphanumeric |
| Abstract 1* | 266 | Alphanumeric |
| Abstract 2* | 266 | Alphanumeric |

*The abstracts should appear one after the other on the entry screen.

Data_Entry_Notes

An attempt to enter a duplicate access number should signal an error to the user. Entering an alpha character in a numeric field (and vice versa) should signal an error. Facility to correct errors at the time they are entered and after a record has been placed in the database must be provided. Users must be able to delete records.

Outputs_Required

Users must be able to search the database by the following fields or any combination thereof:

Access Number
Author
Title
Country
Keyword

Partial matches (i.e. part of a title) and exact matches should be possible. Searches should be available at the following levels:

1. All
   i.e. all records in the system in alpha order or by title, or ascending order by access number, etc.

2. Selective
   i.e. all records with author's name beginning with A, all records with the keyword 'petroquimica' , etc.

3. Specific
   i.e. the record with access number F065433, the record with the title 'Solid State Research in Technica' Universities', etc.

Users should be able to choose between two types of display:

1. The complete record (all fields)
2. Access Number, Title and Author.

Users should be able to view the results on the PC screen before deciding whether to print the results.

In addition to the above search reports, the following administrative reports are required:

1. List_of_Keywords

This is a list of keywords (in alpha order) entered in the system. The list should be available on the screen at the time a user wants to start a keyword search and in printed form.

2. List_of_Discarded_Material

List of deleted records and their access number. In this way users will know which access numbers can be reused. The programmer may wish to have the system assign access numbers at some point in the future.

The database described above would be used for material that has been or would be processed using the Unitérmino system.

2. Non-Processed_Material/Receipt_List

This separate database will be used to track all material which enters the library (the reader will remember that for various reasons not all material is processed using the Unitérmino system - see Section IIB). A facility must be made to transfer data on material that will be processed to the Unitérmino database.

The database layout should be as follows:

| Description | Number_of_Digits | Type |
|---|---|---|
| Section Letter* | 1 | Alpha |
| Title | 150 | Alphanumeric |
| Author | 150 | Alphanumeric |
| Volume | 3 | Alphanumeric |
| Number | 2 | Numeric |
| Year | 4 | Numeric |
| Receipt Date | 6 | Numeric |

*Corresponds to first digit of access number in the Unitérmino database.

Output

1. Receipt List

A list (with all fields) must be generated at the end of the month with all of the material received that month.

2. Non-Processed Material Searches

Ability to search by section letter, author or title with the same criteria as noted for the Unitérmino system (all, selective, specific - on screen or printed).

PROCEDURES

The material selection process and separation by section will remain the same up to the item 'Update Receipt List' in Exhibit 8. From there the following procedures are proposed:

1. Update Receipt List(Database)
   To be done directly on the PC

2A. If material is to be processed
   a. Assign access number
   b. Select keywords
   c. Prepare abstract
   d. Prepare draft input (card)
NOTE! e. Transfer data from receipt database to Unitérmino database (automated feature required). Identify item by title.
   f. Enter remainder of data in Unitérmino database (keywords, abstract, etc.)
   g. Store books by sections
   h. Discard duplicates/out-of-date items. Delete from database.

2A. If material is NOT to be processed

   Store books by sections

At the end of each month a receipt list would be generated from the receipt database. After items to be processed in the Unitérmino system are copied to the Unitérmino database (and the receipt list is generated) they should be deleted from the receipt database.

### 3. Technical_Article_Database

A database of technical articles of special interest to SIP members could be developed. It would include:

| Description | Number_of_Digits | Type |
|---|---|---|
| Section Letter* | 1 | Alpha |
| Document Title | 150 | Alphanumeric |
| Article Title | 200 | Alphanumeric |
| Author | 150 | Alphanumeric |
| Page Number | 3 | Numeric |
| Keyword 1 | 25 | Alphanumeric |
| Keyword 2 | 25 | Alphanumeric |
| Keyword 3 | 25 | Alphanumeric |
| Month/Year of document | 4 | Numeric |

Searches would be by keyword, document title, article title and author at the three levels possible in the other two databases.

### 4. Kardex_Database

A database could be developed to track periodical receipt as in the manual Kardex system. The same type of form could be reproduced.

## General Observations

### Menus

If possible, a menu-type format should be used in designing the CEDIIN systems. This type of user interface is alot easier for inexperienced users to learn. Commands that have to be memorized should be avoided.

### Processing and Backlog

In the consultant's opinion the library should try to process as much of the material as it receives as possible. In this way the greatest amount of material will be available by keyword. Material should be processed in the month in which it is received. A backlog of more than one month should not be built up even if overtime is required.

### Automation Time Required

The following are estimates of the time required to automate the CEDIIN library (Unitérmino items only) as it stands today. This does NOT include databases 2, 3, or 4 described above. The figures do NOT include program preparation time nor training.

1. Material Ready to Process

   1600 Unitérmino items to be entered
   x 15 minutes per item data entry
   24,000 minutes or
   400 hours or
   approximately 11.5 weeks (@ 35 hours/week).

2. Material Requiring Processing

   500 items
   x 1.5 hours/item (selecting keywords, writing abstract, preparing draft)
   750 hours or
   approximately 21.5 weeks @ 35 hours/week

Data entry of above items:

500 items
x 15 minutes/item
7500 minutes or
125 hours or
approximately 3.5 weeks

Since the abstract, etc. writing can take place even before the system is done it should be possible to complete the automation by the end of 1987. This assumes that Activity 2 begins immediately and that data entry (Activity 1) begins no later than the beginning of August.

It should be noted that in the current manual system the total processing time per item is 3 hours (1.5 hours for abstract, etc. and 1.5 to prepare the five cards). In the automated system total processing time will be reduced to 1 hour and 45 minutes per item.

As time permits databases 2, 3, and 4 can be developed and brought on-line. The scheduling as described above is ambitious and will require constant monitoring by the Automation Project Coordinator.