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INTIB Energy and Environment Information System: *Peru*

February 1993

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CONTENTS

The targeted customer base for the INTIB/EEIS is the Peruvian small and medium industry (SMI) sector. This is characterised in the following, before assessing the existing and potential demand for energy and environment information in Peru.

1.1 THE POTENTIAL CUSTOMER BASE - THE SMALL AND MEDIUM INDUSTRY (SMI) SECTOR

Peruvian industrial structure shows five clearly differentiated entrepreneurial strata, namely the handicrafts, micro, small, medium and large-scale industries sectors.

Official industry data are provided by the Ministry of Industry which requires enterprises to complete an annual statistical form. Most large and medium-scale industries respond to this questionnaire. There is a simple form for small-scale industry. The last year for which there is complete statistical information is 1987. These data are used in the following to characterise Peruvian industry [1]. Although 30% of small-scale industries do not comply with the simplified registration requirement, the analysis includes these companies in the informal sector.

- *Handicrafts:* defined by the use of traditional technologies, with a high degree of manual work that gives its products high cultural and in some cases artistic value. The use of traditional technologies distinguishes this sector from micro-scale industries. The handicrafts sector has a fixed assets intensity of US$300/employee.

  In 1987, the sector employed an estimated 165,000 workers or 22.9% of the economically active population (EAP) in the industry sector. During the last 20 years, this percentage has remained constant. There are almost 55,000 enterprises in the sector, producing 5% of the industrial gross domestic product (GDP).

- *Micro-scale Industry:* characterized by the small size of enterprises with between 1 and 4 employees and low fixed assets intensity (US$600/ employee). The sector employs an estimated 210,000 workers or 29.3% of the industrial EAP. There are 84,300 micro-industrial enterprises with an average of 2.5 employees. The sector represents 8% of industrial GDP.

  The sector is labour-intensive, and has gone beyond traditional 'artistic' technology, creating a potential for flexibility and openness to technological change. However, as a rule micro-scale industries use little and unsophisticated machinery, and levels of technical expertise are low.

[1] It is therefore not possible to examine the development of individual sectors over time

As a result, productivity is low and the income generated generally allows a standard of living only at subsistence level.

- *Small-scale industry*: defined by number of workers from 5 to 19, with fixed assets intensity of US$3,000/employee. The total number of workers in the sector is estimated at 137,000, representing 19.0% of the industrial EAP. There are 17,100 small enterprises with an average of 8 workers, generating 13% of the sector GDP. Its technological basis is modern, with more productive equipment and machinery than micro-scale industries. The sector therefore is more economically stable than micro-scale industry.

- *Medium-scale industry*: characterized by a workforce of between 20 and 199 workers, with average fixed assets intensity of US$12,000/employee. Employment is estimated at 115,000, or 16% of the sector EAP. The sector comprises 2,300 enterprises with an average of 50 workers. It generates 28% of industrial GDP and uses modern, capital-intensive technologies with high productivity levels. These enterprises operate in competitive markets.

- *Large-scale industry*: defined as enterprises with over 200 employees, with a fixed assets intensity of US$40,000/employee. This sector employs 92,000 workers, or 12.8% of the sector EAP. The number of enterprises in 1987 was 206, with an average of 446 employees. Because of its capital intensive technology and its high productivity, this sector generates 46% of industrial GDP.

Table 1.1a summarises key characteristics of the five sectors described above.

Table 1.1a
Industry Sectors in Peru (1987)[1]

Sector	Work-force	Industry EAP[2]		# of Enter-prises[3]	Fixed Assets/ Employee (US$)	% of Industrial GDP
		Total	%			
Handicraft	1-8	165,000	23	55,000	300	5
Micro-industry	1-4	210,000	32	84,268	600	8
Small-industry	5-19	137,000	18	17,125	3,000	13
Medium-industry	20-199	115,000	15	2,311	12,000	28
Large-industry	+200	92,000	12	206	50,000	46
TOTAL		**719,000**	**100**	**158,910**		**100**

1 Source: Villarán et al.

2 Economically Active Population in the industry sector.

3 Including the informal sector which is estimated to account for 30% of small-scale industries in Peru.

In the absence of more recent Ministry of Industry data, Fernando Villarán carried out a projection of the number of industries in Peru in 1992 [1]:

- There are 12,663 establishments in the small-scale industry sector and 2,146 in the medium-scale industry sector. [2]

- The small-scale industry sector has 95,476 employees, and the medium-scale industry sector 105,207 employees.

- Small-scale industry accounts for 16.4% of industrial GDP and medium-scale industry for 28.7%.

Assuming that the potential customers of the INTIB/EEIS would be small, medium-scale and large (but not micro and handicrafts) industries, the potential customer base in Peru would therefore consist of around 15,000 enterprises. However, it is unlikely that small-scale enterprises with under 20 employees would become heavy users of the INTIB/EEIS. A more realistic estimate of the potential customer base of the system would therefore be 3,000 enterprises. This base could be expanded if the system uses appropriate 'grassroots' dissemination channels.

Table 1.1b presents the geographical distribution of small and medium-scale industries in Peru. [3] It shows the extraordinary concentration of industrial activities in the province of Peru/Callao which accounts for 72% of all enterprises in Peru, and for 80% of all medium-scale enterprises. It must therefore be concluded that an effective network to reach SMIs should be differentiated by sector and function rather than geographically. Taking into consideration the fact that large industries (which are marginally less concentrated in the Lima region than small and medium industries) are more likely than SMIs to access non-local (ie Lima-based) information sources is located elsewhere, the INTIB/EEIS would not need to focus on building a country-wide network of Secondary Contact Points (SCPs) in order to have the potential of reaching the majority of Peruvian industries; SCPs in outlying provinces would bring only incremental additions to the number of SMIs and other enterprises that can potentially be reached.

Table 1.1c gives a breakdown of industrial activities by industry sectors. The four dominant sectors are food processing (19.2% of all enterprises), textiles and garments (17.9%), wood, paper and printing (16.7%) and metal finishing (9.6%); together, they account for 63.4% of industral enterprises in Peru.

Overall sector averages are determined by the equal weighting giving to the large number of small enterprises which account for between 71.9% (plastic products) and 87.0% (food processing) of all enterprises in a sector. However, there are clear differentials in the composition of the three

[1] *El nuevo desarrollo; la pequeña industria en el Perú* (New Development; Small-Scale Industry in Peru).

[2] The divergence of this figure from the figure of 17,175 and 2,311 for 1987 is explained by the exclusion of the informal sector, and also reflects a real reduction in the number of companies due to the internal economic problems that have been experienced by Peru.

[3] The number of enterprises excludes micro-industry and handicraft, and is lower than the one presented in *Table 1.1a* because it takes account only of the official statistics provided by the Ministry of Industry

industry groupings: the medium-scale sector shows a smaller than average number of enterprises in the food-processing and a higher number of enterprises in the plastic finishing subsectors, while the large enterprises sector has relatively fewer enterprises in the wood, paper & printing, metal finishing and leather & tanning subsectors, and relatively more enterprises in the food, textiles & garments, petrochemicals and metal industries subsectors.

The use of the INTIB/EEIS will be determined by industry size because medium and large industries are more likely to use external sources of information than small industries. In conjunction with the Primary Contact Point (PCP), UNIDO should therefore decide whether a focus on particular sectors whose composition by size makes information use likely could access a disproportionately large base of potential users and therefore create scale economies.

Similarly, any sectoral specialisation of the INTIB/EEIS should take into consideration not only the pollution generated by the sector and existing pressure on the sector to clean up, but also the size and composition of the sectors in terms of enterprise size and therefore likehood of using information.

Recommendations concerning any sectoral specialisation of the EEIS would require a more in-depth analysis of the Peruvian industry sector than could be carried out in the framework of this Study. The PCP that will be nominated should be expected to be in a position to make such recommendations, based on its knowledge of the industry sector and on existing contacts. For instance, CEPIS propose that the EEIS pilot phase should focus on three SMI industrial sectors where contacts already exist through an ongoing waste minimisation project:

- Textiles and garments
- Tanneries/leather
- Metal finishing

Together, these sectors account for 33.1% of companies in the Peruvian formal industry sector (33.3% of small enterprises, 32.8% of medium enterprises and 27.6% of large enterprises).

TABLE 1.1c: SECTOR BREAKDOWN

1.2 *Potential Demand for Energy and Environment Information among SMIs and Other Industries in Peru*

1.2.1 *Demand*

Demand for technical information on energy and environmental issues is potentially high within the Peruvian industrial sector. A UNIDO/ UNDP paper entitled *Policies, Strategies and Financing for the Industrial Sector Re-Organization*, prepared by Villarán, concludes as follows:

> *"There is still a lack of technological information - updated and available - addressed to the labor zones of small and micro-scale industries. Although some institutions have the information, it is not available for the producers. This problem is partly solved by means of the establishment of dissemination and fluent communication mechanisms between users and institutions which provide the information services. The establishment of networks and workstations in the productive areas may be the solution for this lack of information."*

Peru already has a number of institutions and organisations that work for and promote activities in the SMI sector (see *Section* 3.2) and could be harnessed to promoting and disseminating the INTIB/EEIS.

The decision by industrialists to use such an information system is likely to be driven by economic rather than regulatory and enforcement factors: although Peru has a body of environmental legislation, there are no effective control bodies. On the other hand, the current recession in Peru is compelling managers to reduce production costs and might therefore induce them to seek certain types of information, particularly in the fields of recycling and waste minimization. Any marketing strategy for the EEIS should therefore focus on demonstrating the economical benefits from the use of new cleaner technologies.

In addition, severe draught and inadequate energy capacity has resulted in a serious energy defficiency and in daily electricity rationing to 8 hours in several cities, including Lima. Besides, Peruvian electric tariffs are among the highest in Latin America. This puts national industry at a competitive disadvantage in the international market. In order to lessen the impact of this situation, Peruvian industry has found its own generation methods, most commonly through generator sets operating with petroleum and fuel, which are, however, subject to high taxes. There is therefore a high potential need for energy efficiency information that could be provided by UNIDO databases.

However, this demand is currently only latent and needs to be activated. Key factors to achieve this would be the following:

- Identification and harnessing of 'grassroots' dissemination channels to achieve a local presence of information sources.

- Provision of information in Spanish, either directly or through intermediation by SCPs.

- Provision of information that is relevant to the specific economic situation of Peruvian SMIs.

1.2.2 *Willingness to Pay*

All information services in Peru incur costs which are being passed on to users. Institutions which currently provide industrial information services (eg CEPIS, ESAN, IPAE, ITINTEC and JUNAC; see *Section* 3), ie which have databases and answer technical queries, confirm that industries pay for these services. This policy has the two following advantages:

- The users will only request the material they actually need.
- As a minimum, providers recover input costs.

For instance, ITINTEC, a governmental institution, charge US$15 per bibliographic search and US$0.20 per photocopied page; private institutions such as ESAN and IPAE charge approximately US$20 per bibliographic search. CEPIS fees cover only material costs, while the intellectual work and the information value itself is seen the contribution provided by the Centre. Fees are therefore lower than those charged by other Centres. The costs, including remittance, are given below in *Table 1.2a*; preferential rates for Latin America and the Caribbean reflect the REPIDISCA mandate. In Peru, payment of services in dollars is allowed and is common practice.

Recently, two information networks with a mandate similar to that of the INTIB/EEIS have started operating in Peru: the National Network of Industrial Information (RNII) and the Peruvian Scientific Network (PSN) (see *Section* 3). Due to their pilot status, no payment mechanisms have yet been established for database searches available through these networks. However, in the long term, they will charge for the information services they provide. The only constraint to realising this objective, which holds also for the INTIB/EEIS, would be if prices were set at too high a level.

CEPIS envisage three parallel payment mechanisms for the INTIB/EEIS:

- *PCP payment to UNIDO.* For instance, CEPIS may draw a check in US dollars at a frequency that remains to be established.

- *SCP payment to UNIDO.* The SCP could pay in Peruvian currency to a pre-determined bank account held by the PCP which in turn would exchange this amount to US currency for inclusion in the PCP payment to UNIDO.

- *Users to the PCP or SCP.* Users may either pay directly to the Institution providing the service, or deposit the corresponding amount in a bank account.

Box 1.2a
CEPIS Service Fees

• **BIBLIOGRAPHIC SEARCH**	
Latin America & the Caribbean	
Minimum cost (includes one page)	$ 1.50
Additional page (approximately 10 records)	$ 0.10
Other countries	
Minimum cost (includes one page)	$ 5.00
Additional page (approximately 10 records)	$ 0.20
Remittance cost	
Air mail - page	$ 0.10
Facsimile - page	$ 5.00
Courier - 1 to 100 pages	$40.00
Courier - 1 to 100 additional pages	$10.00
• **DISKETTES**	
Record of first diskette	$ 3.20
Record of additional diskette	$ 0.75
Cost per diskette (double-density 5 1/4")	$ 2.50
Cost per diskette (high-density 5 1/4")	$ 4.00
Cost per diskette (high-density 3 1/2")	$ 5.00
Remittance cost	
Certificate air mail - 1 diskette	$ 3.00
Certificate air mail - 2 diskettes	$ 4.00
Certificate air mail - 3 to 5 diskettes	$ 5.00
Courier - 1 to 10 diskettes	$40.00
Courier - 1 to 10 additional diskettes	$10.00
• **PHOTOCOPIES**	
Page/Latin America and the Caribbean	$ 0.10
Page/other countries	$ 0.20
Remittance cost	
Air mail - page	$ 0.10
Facsimile - page	$ 5.00
Courier - 1 to 100 pages	$40.00
Courier - 1 to 100 additional pages	$10.00
• **MICROFICHE**	
Every 60 pages	$ 1.00
Remittance cost	
Air mail - 1 to 10 microfiche	$ 0.10
Courier - 1 to 50 microfiche	$40.00
Courier - 1 to 50 additional microfiche	$10.00
• **VIDEO-CASSETTE**	
Record up to 30 minutes	$ 7.50
Record additional 30 minutes	$ 3.50
Cost of Beta or VHS	$12.00
Remittance cost	
Certificate air mail	$16.00
Courier 1-2 video-cassettes	$40.00
Courier 1-2 additional video-cassettes	$10.00

2 *CRITERIA FOR SELECTING FIRST AND SECOND LEVEL CONTACT POINTS*

The success of the INTIB/EEIS will hinge on choosing the most appropriate primary contact point (PCP) for the system. The choice of this focal institution needs to be made on the basis of an assessment by means of key criteria. These are as follows:-

- Acceptability to second level contact points (and endusers).
- Existing expandable network of relevant customers, or capability to build a comprehensive network.
- Existing information handling capabilities.
- Existing information technology infrastructure.
- Experience with UNIDO-type information items (technical information).
- Commitment to environmental issues.
- Commercial interest in information system and financial constraints.
- Existing marketing mechanisms.

Secondly, the INTIB/EEIS needs to build an effective network of intermediaries or second-level contact points who will need to meet the following criteria:-

- Large customer base
- Commitment to disseminating information to their customer base.
- Translation and consultancy capabilities.
- Existing marketing tools and willingness to promote EEIS through these tools.
- Commitment to commercial provision of information services (directly or indirectly).
- Willingness to cooperate with the chosen primary level contact point.

3 RECOMMENDATIONS FOR NETWORK MEMBERSHIP

3.1 CANDIDATES FOR PRIMARY CONTACT POINT

The Consultants identified four possible institutions that could serve as Primary Contact Point (PCP) for the INTIB/EEIS in Peru:

- Pan American Center for Sanitary Engineering and Environmental Sciences (CEPIS)
- Instituto de Investigación Tecnológica Industrial y de Normas Técnicas (ITINTEC)
- The Peruvian Scientific Network (PSN)
- Sociedad Nacional de Industrias (SNI)

These are briefly described in the following. *Table 3.1a* considers these candidate institutions for the PCP role by means of the roster of criteria set out above in *Section 2*. *Table 3.1b* summarises the key advantages and disadvantages of using these organisations as PCP.

CEPIS

The Pan American Center for Sanitary Engineering and Environmental Sciences, CEPIS, operates REPISDISCA, the Pan American Information and Documentation Network in Sanitary Engineering and Environmental Sciences, as a regional information system related to sanitary engineering and environmental sciences. The service aims to facilitate decision-making in the LAC (Latin America and Caribbean) region by increasing the availability of technical information from throughout LAC and the world.

REPIDISCA is a decentralised system operating through National Coordinating Centers which, together with second level Cooperating Centers, are responsible for REPIDISCA development in their own countries. CEPIS carries out the regional coordination role; its functions include the following:

- Selection, analysis and dissemination of bibliographic material, with special emphasis on documents produced in Latin America and the Caribbean. It also covers research reports, university theses, conference papers and technical standards.
- Consolidation of information in several databases.
- Provision of visual aids, softwares, training materials etc.

The network covers the following subject areas:

- Environmental health and sanitation.
- Environmental and sanitary engineering.
- Applied and environmental sciences.
- Water resources and water pollution.
- Water supply.
- Wastewater.
- Solid and hazardous wastes.
- Soil pollution.
- Air pollution.
- Occupational health and safety.

REPIDISCA products include the following:

- REPINDEX, a quarterly index with over 700 bibliograpic references.

- TABCONT, a quarterly publication containing the tables of contents of 82 journals from around the world.

- Pan-American Health Organisation (PAHO) CD-ROM, a CDS/ISIS based CD Read Only Memory updated every four months.

- Computerisation packages.

- Bibliographic searches.

- Access to other databases.

REPIDISCA receives approximately 200 queries per month from Peru, mostly from technical managers from enterprises and institutions specialised in sanitary engineering and environmental sciences, and from university students/professors. Queries received break down into three main types:

- Technical information (eg methodologies for the study of environmental impact).

- Statistical information (eg number of Peruvian cholera cases in 1991).

- Referential information (eg name/address of Peruvian NGOs related to the environment).

Customers present their queries in person, by telephone, mail, fax or electronic mail. Depending on the request, the reply will be in any one of these media.

Peruvian customers pay for the service, according to the table of prices shown above. These prices reflect only the costs of service input, since it is PAHO policy to supply information services as part of the cooperation provided in every country. [1]

[1] For instance, in the case of photocopies, CEPIS only charge the cost of paper and toner.

Advantages of using CEPIS as PCP are as follows:

- CEPIS has experience in network coordination
- CEPIS already is a professional provider of information services
- As an international agency, CEPIS is well accepted by national Peruvian institutions.
- CEPIS has an environmental mandate.

Disadvantages of using CEPIS as PCP are as follows:

- CEPIS operations have a regional focus and are therefore not as closely in touch with Peruvian institutions as might be desirable.
- CEPIS appear to have little direct involvement with industry.

RNII/ITINTEC

The *Instituto de Investigación Tecnológica Industrial y de Normas Técnicas (ITINTEC)* (Industrial Technological Research and Technical Regulations Institute), the Peruvian standards institute, houses the *Red Nacional de Información Industrial (RNII)* (National Information Industrial Network). RNII, which is in its pilot stage, enables enterprises and other users equipped with a computer and modem to carry out database searches through digital communication. Most queries received by the network concern standards or licenses (patents).

However, ITINTEC belong to the government sector; industry acceptance is therefore rather low. This is reflected in the low usage level of the system: the network currently has 380 registered users (200 enterprises and 180 pilot users). Network usage over the last 6 months is shown in *Table 3.1a*.

Table 3.1a
National Network of Industrial Information: System Usage (1992)

	03/92	04/92	05/92	06/92	07/92	08/92
New Users	2	20	8	22	24	14
Total Calls	95	131	64	157	149	87
Time Consumed (minutes)	760	917	448	942	1043	696

Note: Data are from second week of March 1992 to 15 August 1992

The INTIB/EEIS databases could be included into RNII and would thus be directly accessible by end users and SCPs. However, due to its different

focus from the EEIS and its low level of acceptance among Peruvian SMIs, it is not recommended that RNII be nominated PCP.

Peruvian Scientific Network

The Peruvian Scientific Network (PSN) is a low cost national network that currently links 132 institutions throughout the country, mainly universities, NGOs and international organisations. The main services provided are electronic mail, access to distributed national listservers, technical and user training and software installation. PSN has contributed to establishing innovative inter-institutional cooperation and coordination links within Peru and has achieved high operational standards over a short period of time; the use of electronic mail has allowed national researchers to obtain information which was not available by other means a short time ago. Its information and communications technology infrastructure is described in *Box 3.1a*. CEPIS and other providers of information services have access to this Network.

Data flow through the network is being increased through a number of trends within the network:

- Installation of referential data bases distributed over the network and available via electronic mail (listservers).
- Thematic subnets (eg health and epidemological networks).
- More than 20 national and international interest groups

PSN is organised as a non-profit institution. As an autonomous cooperative organisation, the operational budget of PSN relies on funds provided by member institutions on an annual and monthly payment basis [1]. PSN also seeks grants, contributions and other types of financial assistance from national and international sources.

However, the focus of the network is rather different from that required of an INTIB/EEIS PCP. Rather than using PSN as the PCP for Peru, we therefore recommend that PSN be incorporated into the INTIB/EEIS network as a dissemination channel.

Box x.xa
PSN Infrastructure

[1] For instance, CEPIS pay US$ 135 per year and US$ 50 per month, regardless of the number of characters transmitted.

PSN is a dial-up active node in the USENET (Internet) network. It runs on a UNIX/OS and uses the store and forward system of NOVELL networks, token rings, DOS PCs, VAX, SUN, DEC and other systems integrated in the national network.

PSN makes use of the national telecommunications infrastructure that exists or is being developed:

- Public and private national and international telephone lines (CPT and ENTEL)
- National x25 network (Perunet)
- Special circuits or dedicated lines (CPT and ENTEL)
- Optic fiber networks (RED DIGITAL, ENTEL)
- Cellular telephone networks (CPT and Celular 2000).

It is also supported by the transponder in PANAMSAT I that belongs to the Ministry of Education, and by international carriers which render this service in Peru.

Recent needs have led to the development of a network architecture to allow for national (IP), regional (IP links with neighbouring countries, especially the Andean countries, and through them with the rest of LAC) and international (IP dedicated link with NSF) links.

Sociedad Nacional de Industrias

Sociedad Nacional de Industrias is more closely involved with Peruvian industry and the SMI sector than CEPIS or PSN; their *Comité de Pequeña Industria (CPI)* is the national representative body for SMIs and provides a limited amount of management assistance. However, SNI do not have the necessary infrastructure to provide information services.

Recommendation

We recommend that CEPIS be nominated the PCP for Peru, with Terms of Reference that allow for a regional use of the INTIB/EEIS and on condition that potential end users and SCPs have direct access to INTIB/EEIS databases installed in CEPIS computers through RNII and PSN.

Table 3.1b
First Level Contact Points: Evaluation Criteria

	CEPIS	RNII/ITINTEC	Peruvian Scientific Network	Sociedad Nacional de Industrias
Acceptability	• Regional organisation but high level of acceptability to Peruvian institutions • Committed to provide information at low cost	• Government sector: low level of acceptance in private sector enterprises • Information dissemination mandate	• High acceptability among specialised user groups • Information dissemination mandate	• High acceptability among industrialists • No information mandate
Existing/Expandable Network of Organisations	• Large informal regional user network • Existing regional network of secondary contact points • 200 queries from within Peru per month	• Registered users network; 380 registered users	• Registered users network; 132 institutions (universities, NGOs, international organisations)	• 30 associations and 2,500 members • Branches throughout Peru
Commercial Interest/ Financial Constraints	• Commercial (non-profit, subsidised) provision of information services	• Pilot stage; commercial provision of information envisaged for the future	• Pilot stage; commercial provision of information envisaged for the future	• On cost recovery basis
Information Handling Capabilities	• 2,592 customers/year • 8,417 queries/year	• Currently up to 150 queries/month • Electronic network	• High: electronic network	• No provision of information services
Information Technology Infrastructure	• In-house LAN • HP mini-computer 37 x E with 7 terminals	• No adequate IT infrastructure for information service	• NOVELL • UNIX O/S • Existing telecommunications channels in Peru	• No IT infrastructure adequate for information service
Technical Information Experience	• Provision of environmental technology and engineering information	• Mainly standards/patents information	• Focus on facilitation of information exchange rather than on provison of information	• No experience with technical information
Environmental Commitment	• Environmental mandate	• No	• No	• No
Marketing Resources	• Marketing literature • Meetings • Professional associations • Bulletins	• Marketing literature • Bulletins	• Marketing literature	• Marketing literature • Bulletins • Meetings • Advertising

Table 3.1b
First Level Contact Points: Evaluation Criteria

	CEPIS	RNII/ITINTEC	Peruvian Scientific Network	Sociedad Nacional de Industrias
Network Coordination Capabilities	• Existing informal LAC network (not focused on Peru) • Strong network coordination capabilities	• Doubtful if INTIB/CEIS could be a distinct network within RNII	• Existing sub-networks and interest groups	• Could be the coordinator of a network

Table 3.1c
First Level Contact Points: Summary of Key Advantages/Disadvantages

Organisation	Advantages	Disadvantages
Pan American Centre for Sanitary Engineering and Environmental Sciences (CEPIS)	• Existing (even if informal) user network • Experience in network coordination (existing network of second-level cooperating centres) • Professional provision of information services • Existing information technology infrastructure • High level of acceptance by national Peruvian institutions (ie potential SCPs) • Access to and use of sophisticated communication infrastructure • Electronic network: high information handling capabilities • Electronic links to potential SCPs • Environmental mandate • Marketing experience • Commercial provison of information	• Regional focus of operations • Little direct involvement with industry
Institute de Investigación Tecnológica Industrial y de Normas Técnicas (ITINTEC)/ Red Nacional de Información Industrial (RNII)	• Existing registered users network • Electronic network: high information handling capabilities • Electronic links to potential SCPs • Commercial provision of information planned	• Facilitating role rather than provision of information • Information provided relates to standards and patents rather than to technologies • Public sector: low level of acceptance by private sector institutions • Doubtful if INTIB/EEIS could function as a distinct network within RNII • Electronic network might be a barrier to inclusion of non-computerised SCPs
Peruvian Scientific Network (PSN)	• Existing registered users network • Electronic network: high information handling capabilities • Access to and use of sophisticated communication infrastructure • Sub-networks: INTIB/EEIS could function as a distinct network • High acceptability • Commercial provision of information planned	• Facilitating role rather than provision of information • Electronic network might be a barrier to inclusion of non-computerised SCPs

Table 3.1c
First Level Contact Points: Summary of Key Advantages/Disadvantages

Organisation	Advantages	Disadvantages
Sociedad Nacional de Industrias (SNI)	• Close involvement with Peruvian industry and the SMI sector	• Lack of information technology infrastructure • No experience in providing information services

3.2 *Second Level Contact Points*

Peru has a number of institutions that provide information services to industry but the main focus of whose activites is on other subjects. These organisations are proposed as second level contact points (SCPs). They include the following types of organisatons: [1]

- 2 governmental organsations
- 6 trade organisations and NGOs
- 2 international organisations
- 6 universities and educational institutions

CEPIS feel that all of the institutions listed perform competently as communication/dissemination channels to end-users from Peruvian Industry. All potential SCPs have been contacted and are willing in principle to act as SCPs. However, if this implies any investment on their part, they would have to be previously aware of the corresponding commitments.

These second level contact points are briefly characterised in *Table 3.2a*. *Table 3.2b* summarises their resources of relevance to the proposed INTIB/EEIS, by means of the criteria set out in *Section x* above.

[1] Includes PCPs.

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
SOCIEDAD NACIONAL DE INDUSTRIAS: COMITÉ DE PEQUEÑA INDUSTRIA (SNI-CPI)	Private institution, founded in 1971	Lima and settlements in the Lima conurbation	• To represent small-scale industries and protect their rights • To encourage the integration of small-scale industries • To establish and maintain relationships with national and international institutions • To provide SMIs with permanent assistance in management • To foster the creation of new productive units	• Enterprise organization • Manager training • Consultancies
UNIVERSIDAD DE LIMA, CENTRO DE INVESTIGACIÓN ECONÓMICA Y SOCIAL (CIES-UL)	Private institution	Lima	• To contribute to the development of the country • To study the international economic business cycle and its effects on the national economy • To promote research by the teaching staff of the economic faculty and by advanced students • To establish contacts with related institutions to exchange points of view and promote the joint execution of studies and courses	• Training • Technical cooperation • Publications
UNIVERSIDAD DE LIMA, CENTRO DE INVESTIGACIÓN DE LA PRODUCTIVIDAD INDUSTRIAL (CIPI)	Private institution	Lima	• To promote R&D and scientific, humanistic and technological services in industrial engineering, in order to contribute to productivity enhancement and encourage the industrialization of Peruvian natural resources	• Industrial engineering • Industrial management • Personnel management • Computer science • Research and development • Investment projects • Marketing

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
ASOCIACIÓN DE EXPORTADORES (ADEX)	Non-profit organization (private)	Lima	• To promote non-traditional export of Peruvian products	• Promotion of commerce • Advisory services • Training • Information services • Publications
BOLSA DE SUBCONTRATACIÓN DE LIMA (BSCL)	Private institution	Lima, Arequipa, Trujillo	• To serve as technical mediator and matchmaker for the subcontracting of industrial processes • To increase the utilization of industrial capacity • To foster the horizontal and vertical integration of the industry	• Subcontract matchmaking • Trade fairs • Data base • Technical information • Investment projections
ESCUELA DE ADMINISTRACIÓN DE NEGOCIOS (ESAN)	Private institution	Lima	• To provide advanced courses on business administration at post-graduate level • To conduct research into small-scale industry in Peru	• Industrial training • Business administration training

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
FEDERACIÓN DE ASOCIACIONES DE PEQUEÑAS EMPRESAS INDUSTRIALES DEL PERÚ (FENAPI PERU)	Private institution, founded in 1983	Lima, Arequipa, Chiclayo, Trujillo; 30 associations in provinces	• To represent and lobby for the Peruvian SMI sector • To promote joint activities of general or sectoral interest, at national and international level • To advise competent organizations on measures which encourage the development of the SMI sector and support the creation of new industries • To coordinate mutual assistence and support among the member associations of the Federation • To provide training to industrial middle management and labourers working in the SMI sector • To represent and coordinate the manager point of view on industrial problems • To support the organization of small and medium-scale industry associations in regions and provinces which lack them	• Technical cooperation • Publications • Technical information

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
INSTITUTO PERUANO DE ADMINISTRACIÓN DE EMPRESAS (IPAE)	Private institution, founded in 1959	Lima, Ica	• To provide general and specialized educational services in administration management • To coordinate the exchange of best practice among industrials, managers and other enterprise personnel • To realize research on the development of business technology in accordance with the national reality	• Manager training • Research • Information services
INSTITUTO DE INVESTIGACIÓN TECNOLÓGICA INDUSTRIAL Y DE NORMAS TÉCNICAS (ITINTEC)	Industrial decentralized public institution, founded in 1970	Lima, Arequipa, Cusco, Iquitos, Puno, Trujillo	• To contribute to technological development through research into industrial technology, technical regulation, metrology, quality control, industrial property, technology information and technology transfer	• Research • Technical cooperation • Publications • Technology transfer • Project development • Regulations • Industrial property • Metrology • Technical information
JUNTA DEL ACUERDO DE CARTAGENA (JUNAC), INDUSTRIAL DEPARTMENT SMALL AND MEDIUM-SCALE INDUSTRY PROGRAMME	International organisation, founded in 1969	Lima	• To promote the balanced and equitable development of the member countries by means of economic and social integration and cooperation • To accelerate economic growth and employment generation • To support the regional integration process towards a Latin American common market	• Export promotion • Technical cooperation • Employees organization • Training • Subcontract matchmaking • Andean technology information system

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
PEQUEÑA EMPRESA, TECNOLOGÍA Y SOCIEDAD, CENTRO DE INFORMACIÓN, INVESTIGACIÓN Y APOYO (PEMTEC)	Non-governmental organisation (NGO)	Lima	• To provides advisory and information services to individual SMIs and SMI associations, and to NGOs, international cooperation agencies, national institutions and regional governments	• Consortium • Advisory and information services • Research
PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ (PUCP)	Private university	Lima	• To provide university education, conduct research and make social projections	• Research • Technical cooperation • Professional education • Social planning
SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL: INSTITUTO DE APOYO A LA MEDIANA Y PEQUEÑA EMPRESA INDUSTRIAL (SENATI-IDAMPEI)	Public institution, founded in 1973	Lima, Arequipa, Trujillo	• To encourage and support the creation, strengthening, extension and diversification of small-scale industries • To increase the industrial expertise of small-scale industrial managers and their labor force • To promote the industrializing of the productive resources through SMIs • To contribute to the knowledge of the SMI sector	• Technical cooperation • Financial support • Marketing • Managerial training • Professional education • Industrial promotion

Table 3.2a
Potential Second Level Contact Points

Organisation	Type	Branches	Objectives	Services
UNIVERSIDAD DEL PACÍFICO, PROGRAMA DE APOYO A LA PEQUEÑA EMPRESA (UP)	Private institution	Lima	• To support research into small-scale industry • To promote supporting actions to SMIs, mainly in areas with scarce resources (Sierra and Selva)	• Manager training • Social planning • Technical cooperation

Table 3
Network Members: Capabilities

	Customer Base	Marketing Channels	Information Service	Technical Expertise	Consultancy	Commercial Interest
SECOND-LEVEL CONTACT POINTS						
ADEX	• 1,200 exporters	• Bulletins • Meetings • Committees	• Data bases • Publications	• Technical information	• Advisory services • Training • Promotion	• On cost recovery basis
BSCL	• Open access and members	• Bulletins	• Matchmaking • Database	• Technical information	• Yes	
ESAN	• Open access to post-graduate students	• Publications • Electronic mail • Advertising	• Bibliographic searches • Electronic attent.	• Technical information	• Training • Advisory services	• On cost recovery basis
FENAPI PERU	• 107 associations • 4 branches	• Bulletins • Promotion in the field • Meetings	• Informal	• Technical information	• Advise on SMI development • Assistance coordination	
IPAE	• 64 assocations • 150,000 managers	• Bulletins	• Bibliographic searches • Databases	• Technical information	• Best practice exchange	• On cost recovery basis
JUNAC	• Open access to members in 5 countries	• Bulletins • Meetings	• Databases • Matchmaking • Andean technology information system	• Technical information	• Advisory services	
PEMTEC	• 107 associations	• Bulletins • Meetings • Promotion	• SMI information services	• Technical information	• SMI advisory services	
PUCP	• Researchers	• Promotion	• Publications	• Technical information	• Yes	
SENATI-IDAMPEI	• Open access	• Promotion	• Databases • Publications	• Technical information	• Advisory services	

Table 3
Network Members: Capabilities

	Customer Base	Marketing Channels	Information Service	Technical Expertise	Consultancy	Commercial Interest
First-Level Contact Points						
CEPIS	• Large informal regional user network • 200 queries from within Peru per month	• Marketing literature • Meetings • Professional assocations • Bulletins	• REPIDISCA network • Databases (in-house and CD-ROM) • Provision of information by electronic mail	• Sanitary and environmental engineering expertise	• Consultancies • Courses	• Established commercial (non-profit) information service
ITINTEC	• Registered user network: 380 registered users • Currently up to 150 queries/ month	• Bulletins	• National Industrial Information Network (electronic network)	• Mainly license and patent information	• Consultancies	• Pilot phase but to be commercialised
PSN	• Registered user network; 132 institutions		• Electronic network	• Technical information provided through network		• Pilot phase but to be commercialised (fees for members)
SNI	• 30 industry associations and 2,500 members from throughout Peru	• Bulletins • Meetings • Advertising	• Personal	• Library • No information services provided	• Consultancies	• Fees for members (on cost recovery basis)

Table 3
Network Members: Capabilities

	Customer Base	Marketing Channels	Information Service	Technical Expertise	Consultancy	Commercial Interest
CIES-UL	• Open access	• Bulletins	• Publications	• Technical information	• Yes	
CIPI	• Open access	• Bulletins	• Publications	• Technical information	• Yes	
UP	• Open access	• Bulletins	• Publications	• Technical information	• Yes	