

# *Capacity-building for business information networking*

The UNIDO support programme



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
**economy environment employment**

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**Small and Medium Enterprises Branch**



UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION  
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## SUMMARY

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The rapid advances in information and communication technologies (ICTs) have far-reaching effects on both government and business operations. Small and Medium Enterprises (SMEs) need to have access to adequate information to enhance productivity and facilitate market access. However, in most developing countries, the SME sector is suffering from inadequacies in the provision of business information, which is only available from stand-alone institutions, often slow and cumbersome to access, limited in scope and not provided in an integrated manner. Moreover, access to information is insufficient; SMEs need tailor-made information *solutions*, i.e. business information services that assess, verify and apply information to a specific business problem.

In order to respond to the specific needs of SMEs, the Business Information Services programme of UNIDO creates value added by bringing together information from different sources and transforming that information into solutions, including ICT and e-business support, in order to enable the integration of SMEs in national and global value chains. As called for in the United Nations Millennium Declaration, the programme involves the private sector in partnerships for development.

Based on its global contacts, UNIDO has developed a methodology for establishing an integrated business information solutions network (BISnet) that link all relevant national and international information sources into a “One-Stop-Shop” (OSS). The OSS operates on a demand-driven and commercial basis, ensuring SMEs' trust and support through a strong local ownership of public and private sector business partners. Commercial operations also ensure sustainability of the operation of the OSS.

The process of establishing an OSS follows four sequential steps, which can be undertaken independently: (a) an SME needs assessment to ascertain the information and e-business gaps and requirements, (b) the development of a commercial business plan, (c) the establishment of a commercially operating OSS and (d) rural extensions of the OSS (business telecentres) to enhance the national SME information support infrastructure.

## THE UNITED NATIONS MILLENNIUM DECLARATION AND THE ROLE OF ICTS IN POVERTY REDUCTION

*Though enhancing productivity and fighting marginalization of developing countries, UNIDO is supporting the achievement of the United Nations Millennium Development Goals. UNIDO's Business Information Services Programme contributes to the MDGs by bringing ICT to SMEs, enabling them to exploit their significant potential as key contributors to employment creation and poverty reduction.*

When 147 heads of State signed the United Nations Millennium Declaration in September 2000, they reaffirmed their commitment to working towards a world in which sustaining development and eliminating poverty would have the highest priority.

The Millennium Development Goals (MDGs) form an overarching guidance to national governments and international development institutions alike. Through its support to industrialization in developing countries and countries in transition, UNIDO plays an important role in addressing the MDGs, since a growing and strong industrial sector is vital to sustainable development and poverty alleviation.

While UNIDO's overall mission supports the declaration's first goal, the eradication of extreme poverty and hunger, the Organization takes a mul-

tifaceted approach towards the achievement of the Declaration's individual objectives. Within its Small Business Development (SBD) module, UNIDO supports another goal of the declaration: the development of global partnerships for development. In cooperation with the private sector, SBD helps to “make available the benefits of new technologies—especially information and communications technologies”<sup>1</sup> (ICTs).

ICTs are being utilized to support poverty reduction strategies as they can help to overcome geographic barriers, to connect communities to local and remote markets, and to create new income generating opportunities. They have the potential to provide individuals and businesses with fast and affordable access to all kinds of information. These benefits are particularly important in the context of Small and Medium Enterprises (SMEs), as SMEs carry great potential to function as the key source of income, employment, and innovation. Business information solutions provided by ICT, if available to and well utilized by SMEs, could diminish the disadvantages they may face by enhancing their efficiency and facilitating their market access and integration in value chains. Competitive and productive SMEs can, in turn, be key contributors to the reduction of poverty.

## THE NEED OF SMEs FOR BUSINESS INFORMATION AND SOLUTIONS

*The availability of dispersed information requires an enabling environment, in which information is turned into integrated business solutions that can solve problems of SMEs.*

The rapid advances in information and communication technologies (ICTs) are having far reaching effects on business organizations. The amount of information available on-line is increasing exponentially.<sup>2</sup> Society today is aptly termed an information

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<sup>1</sup>United Nations Millennium Development Goal No. 8

<sup>2</sup>The number of indexed web pages used by the Internet search engine Google is more than 3 billion!

society, in which information plays an increasingly important role in all aspects of our lives. Information has begun to change the very source of wealth. It is no longer material things, but rather knowledge applied to a business process that creates value. When markets shift and technologies proliferate, when activities multiply and become obsolete overnight, successful institutions are those that consistently use information to create and apply new knowledge. Increased competition forces entrepreneurs to invest in the improvement of their manufacturing potential. This has led to a growing demand for information on technology and markets. Strategically handled information facilitates decision-making and knowledge building in organizations facing complex or uncertain situations. In fact, information is to be considered an essential business resource.

Empirical evidence shows, that SMEs are the driving force in industrial development. They comprise more than 90 per cent of all enterprises in the world and are on average responsible for 60-80 per cent of total employment, and thus help to contribute to long-term sustainable poverty reduction. The challenge in many developing countries is to combine the employment potential of SMEs to enhance their productivity. This requires shifting their productive base from low value, price-determined modes of operation to higher value, knowledge-based patterns of production. This imperative needs an enabling environment that facilitates growth of SMEs, including easy access to business information.

In most developed countries, business information services are provided by commercial entities, which are predominantly private sector-driven and operated. They openly compete with one another on quality and are continually tuned to the evolving needs of their clients. The services are provided to their clients in the form of value-added services, i.e. as business solutions, using relevant national or international sources of information.

In developing countries, however, there is often a lack of awareness of the value of business information; it is often considered as something that should be made available free of charge by the Government. SMEs are sometimes not aware of the existence of national business information or are discouraged from using it because of the cumbersome access procedures. There is often much information and knowledge in national institutions, but they do not reach the private sector. Business information is only available from isolated institutions; not as integrated solutions, but only as ad hoc answers based on the particular competency of the information source. Hence, due to the low demand, markets in developing countries miss the incentives to develop commercial business. As a result, value-added information services do not develop automatically and national information sources in developing countries are not optimally utilized to support the growth potential of SMEs.

Besides information from national SME support institutions, there is the large amount of information available on the Internet. However, an Internet connection alone cannot provide a solution to solve business problems. SMEs do not need just information; they need solutions to solve specific problems. It is, therefore, essential to be able to verify the reliability and the accuracy of the information, and process it into a business solution, i.e. assess, verify and apply it to a specific situation. In general, SMEs have limited resources to develop these skills themselves, in particular in view of the relatively high connectivity charges, the cost of retrieving commercial data and the time it requires to get satisfactory results.

The existing information support infrastructure in developing countries is often unable to develop these services by itself. Hence, there is a need to assist in building sustainable capacities to provide these services.

## **BUSINESS INFORMATION AND THE NEED FOR INFOMEDIARIES**

*Integrated business solutions are provided by a “One-Stop-Shop” that networks with SME information sources and support institutions. The “One-Stop-Shop” operates on a demand-driven and commercial basis, ensuring the SME sector's trust and support through local ownership and public-private sector partnership.*

One of the means for overcoming the gaps in catering to the business information needs of SMEs could be in the form of a national “infomediary”. This is an institution or company that would function as an information intermediary and network with national and international information sources; it would provide operational linkages with other SME support programmes and offer integrated information solutions, tailor-made to the specific requirements of SMEs.

Within the information chain, where data are translated into bases for decision-making, the infomediary would support the needs of SMEs at crucial points. Raw data have to be accessed, assessed, processed and transformed into information. Subsequently, information has to be applied to a problem (using existing and/or new knowledge), in order to define a solution. The infomediary would provide services related to the search for relevant and reliable data, at national and international level and, based on its accumulated knowledge, assess and apply it to a solution for the client SME.

The function of the infomediary is to provide services that an SME cannot efficiently develop on its own, i.e. network the scattered national and international information sources into one focal point, a One-Stop-Shop (OSS). Based on its “network potential”, the infomediary would be able to provide an integrated solution rather than a series of ad hoc information components. Depending on its specialization, the OSS would be able to address a large variety of inquiries in an efficient manner, making it a cost-effective service for an SME. The infomediary would utilize the resources within the Business Information Solutions Network (BISnet) set up as a result of the UNIDO programme and put together integrated business information solutions for SMEs, and make it available through the OSS. The infomediary would network with all relevant national SME support institutions and link with international sources of information.

To assure sustainability, the OSS has to be demand-driven and function as a profit centre of an existing national institution or as an independent company with public/private sector shareholders. It has to be locally owned and has to network with partners from both public and private sectors.

There is a need to support the development of such OSSs in developing countries. The key requirements for the capacity-building support for business information solutions networking are, therefore: commercial sustainability, local ownership and public-private sector partnership.

## **ICT—A NEW TOOL FOR BUSINESS**

*ICTs have become a critical success factor in the highly competitive global business environment. They increase productivity and facilitate the interaction of SMEs with governments, business and consumers.*

The development of ICTs has accelerated the dynamism of the global business environment. ICTs now play a decisive role in business and they are a critical success factor in the highly competitive global business environment. A key issue in

this respect is how to exploit ICTs to either improve existing business or create completely new business processes. ICTs are essential for internal office applications, as well as to access and process information. Moreover, the Internet is becoming crucial in building up a new type of businesses: the e-business,<sup>3</sup> including e-commerce, e-payments and e-procurement.

SMEs could enter into e-business with Government, Business and Consumers (respectively B2G, B2B and B2C),<sup>4</sup> which are briefly described below:

- B2G applications have significant potential in developed countries with an advanced level of e-readiness,<sup>5</sup> i.e. where companies and Government offices are on-line and have the potential of establishing e-procurement procedures. It is a growing area in developing countries;
- B2B applications could be of potential interest to SMEs in developing countries, because a number of large suppliers in major industries have adopted Enterprise Resource Planning (ERP)<sup>6</sup> packages for inter-firm transactions. Manufacturers and retailers in remote countries can offer their products or services with information on product capabilities and benefits, content or components, prices, production schedules, delivery terms, and payment conditions. This information allows manufac-

turers to order from the most competitive suppliers. Other types of on-line cooperation are e.g. data entry services or call centre support. Recently, a new type of Internet B2B cooperation is upcoming: telework, i.e. one or more companies jointly producing digital products and services;

- B2C applications assume that consumers have access to the Internet and purchase goods and services on-line, implicitly assuming access to credit cards and efficient delivery systems. A lack of consumers using it, a limited number of consumers connected to the Internet and lack of an efficient distribution service make B2C less feasible in developing countries.

Indeed, the availability of ICTs in most developing countries provides new opportunities for e-business. Large enterprises have a significant advantage through their existing business relations and financial resources. It is, however, almost impossible for individual SMEs in developing countries to develop sophisticated Internet-based business solutions, requiring expensive and sophisticated networking equipment, security and ICT skills. Hence, there is a need to support SMEs with the specific use of ICTs for e-business: Enterprise Internet Solutions to support increased business at national and international level.

## BUSINESS INFORMATION SERVICES

*UNIDO recognizes the importance of information support for SMEs, which requires national, sustainable capacities to deliver tailor-made business solutions.*

Prior to the existence of the Internet, UNIDO had a global SME support programme supported by a central database (INTIB)<sup>7</sup> to develop and enhance the national and regional information capability of

<sup>3</sup>E-Business is the use of advanced ICTs to create new business relationships, enhance existing ones and increase the efficiency of business flow processes without the constraints of time or geographical barriers (ITU, 2002).

<sup>4</sup>B2G—Business to Government, B2B—Business to Business and B2C—Business to Consumers.

<sup>5</sup>The level of readiness of a company to conduct e-business activities.

<sup>6</sup>Enterprise Resource Planning (ERP)—includes the management of every operation of the value chain in order to minimize the cost and time of getting products to customers.

<sup>7</sup>INTIB: Industrial Technology Information Bank.

developing countries and to contribute to their efforts to strengthen the competitiveness of SMEs. With the Internet becoming widely available, the centralized approach was considered ineffective compared with the new potential for decentralized information networking. The new approach developed into a programme on business information services to better serve the demand for business information, particularly from SMEs. The output of the programme is a Business Information Solutions Network (BISnet) providing business information solutions to SMEs through a commercially sustainable OSS.

UNIDO's present programme to assist with the establishment of information networking capacities is based on its experience and knowledge gained in several developing countries over the last ten years. It is based on the following considerations:

- Information is an essential factor for industrial development and growth. The SME sector plays a key role in industrial development;
- The private sector in developing countries does not readily see the profit potential of commercial information services due to the low demand and awareness of the potential users of the value of information. Technical support is vital to create a momentum for sustainable business information networking operations;
- UNIDO can play the role of an honest broker to foster public-private sector cooperation for business information networking;
- Business information networking, the use of ICT for business and the development of e-business are areas that are intrinsically related to each other and should be addressed simultaneously;
- Capacity-building activities for business information networking, ICT and e-business support should be synergized with other technical cooperation activities of UNIDO in order to achieve maximum impact at national level;
- The problem of e-security and e-trust to enable e-business is a global need, beyond the indi-

vidual country. Hence, it requires a global approach that can only be implemented jointly with the private sector;

- There is a large potential to synergize with other national and international information networking initiatives, which should be pursued by UNIDO.

The UNIDO programme for business information services concentrates on the establishment of an OSS as a demand-driven business information solutions provider. The OSS is a physical location (with regional or rural offices), where entrepreneurs can walk in for business advice and support. The OSS would host ICT training facilities for individual and group training. The OSS will not store industrial and marketing information. Instead, it will have databases on the location of information sources with a facility to access these. The institutions/initiatives that are linked will become network partners or nodes. This will also ensure the ownership and accuracy of information available from the respective nodes.

The OSS will act as a catalyst for better communication and interaction among SME support institutions, trade and industry associations and other stakeholders, including governmental support programmes for SMEs. This will facilitate more transparent and well-informed decision making at various levels, leading to more effective use of available resources. Within the OSS, business information support, the use of ICT for business and the development of e-business will be addressed simultaneously. Users of the OSS will benefit from access to industrial, technology and market information, business and ICT training, technologies and industrial processes, as well as Internet-technology based solutions.

Several trends support the feasibility of a national OSS in developing countries:

- Growing interest of business users for information and information services;
- Growing awareness about the role of information in facilitating decision making;

- Growing acceptance that information is an essential input in the business process;
- Growing willingness of SMEs to pay for tailor-made information;
- Growing understanding that the main feature of information is its quality;
- Growing availability and quality of the telecommunication infrastructure.
- Reduced technical barriers to trade; access to local best practices;
- An intelligent window for business opportunities.

These trends would indicate that there is a sufficient foundation for setting up sustainable OSS within a national BISnet that would enable:

- Active public and private sector cooperation;
- Enhanced information flow within and outside the country;
- Shared industrial and market information to facilitate production, industrial investments, exports, and decision making processes;

UNIDO's assistance in setting up of an OSS within a BISnet is within the guidelines of the Committee of Donor Agencies for Small Enterprise Development for Business Development Services (BDS).<sup>8</sup> Long-term subsidies for BDS might distort the market and crowd out the commercial provision of services, thus undermining the objectives of impact, outreach, cost effectiveness, and sustainability, which are the pillars of the BDS market development paradigm. However, in the case of the OSS, there is no existing private sector information provider. Rather, the OSS is introduced as a new product that would actually facilitate market development of BDS by increasing awareness and providing intermediating services.

## A PROGRAMME FOR CAPACITY-BUILDING

*Capacity-building activities for business information networking:*

- *SME information needs assessment;*
- *Development of a business plan;*
- *Awareness building and identification of network partners;*
- *Establishment of the OSS;*
- *Rural Extensions of the OSS services.*

UNIDO has developed a specific approach for its business information networking activities based on the following principles and prerequisites:

- Networking national information resources: decentralized and demand-driven;
- Linking with international information sources;
- Creation of an OSS;
- Public-private sector cooperation in the operations of the OSS;

- Private-sector driven operations, but with an SME development objective;
- Sustainability through provision of commercial information and value-added services;
- Integration with existing and planned SME support initiatives;
- National ICT potential exploited: use of national expertise and networking technology;
- Awareness creation programme to use national SME support capabilities;
- Providing training to entrepreneurs on the use of ICTs for improvement of business.

UNIDO's support to implement business information services in developing countries is based on the request of the host country. The first activity is to arrange a fact-finding mission primarily to obtain relevant information and to ascertain the interest level of various stakeholders to the concept.

<sup>8</sup> *Business Development Services for Small Enterprises: Guidelines for Donor Intervention, 2000 Edition, prepared by Committee of Donor Agencies for Small Enterprise Development, November 2000.*

Subject to the findings and the availability of funds, UNIDO would define an implementation strategy, encompassing the following phases:

### **1. Information needs assessment of SMEs**

To be competitive and innovative, SMEs require easy access to information on markets, finance, technology and skills. UNIDO will conduct a detailed information needs assessment in these areas, with assistance of national experts to identify the information needs of SMEs, bottlenecks in information supply, and the type of services that are required to support the sector. The estimated time required for a needs assessment is four to six months.

The following stakeholders would be covered in the needs assessment: end users, national public and private information sources, international information sources, infrastructure providers, R&D institutions, financial institutions, training institutions, consultancy organizations, and any other institution (commercial or otherwise) providing market and business development or technological services to SMEs.

### **2. Development of a business model and business plan**

Based on the results of the needs assessment, and using UNIDO's experience with similar projects in other developing countries, a business model and plan will be formulated. The business plan will identify possible services and pricing to provide the basis for a commercial information network. To avoid duplication of efforts, the business plan would also ensure an operational link with related initiatives of other donors/development organizations for the benefit of SMEs. There would be a variety of approaches to establishing the information support network, depending upon the status of development of a country, the potentials of existing SME institutions, availability and development of ICT in a country, the need for training, and the availability of other resources such as human resources, hardware and software.

It would take about one to two months for UNIDO to develop the draft business plan. The draft plan

will then be presented to national stakeholders to solicit comments and establish national ownership of the business plan. A steering committee will be established to move the project to the next phase.

### **3. Partnership building process**

The steering committee, appointed in the first stakeholders' meeting, would undertake the partnership-building process with the assistance of international and national experts.

The partnership building process will be responsible for building awareness among stakeholders of the initiative, identification of network partners or nodes, the type of ownership/management structure of the OSS, and the identification of an institution to host the OSS. This phase would also determine shareholding structures in accordance with the type of organizational structure chosen. The average time period for this exercise is two to three months.

UNIDO has developed three different models to be used for the ownership/management structure of the OSS. All three models will ensure that the OSS operates and delivers services in a business-like manner, thus achieving the objectives of impact, outreach, cost effectiveness, and sustainability.

The first option is to identify an existing organization that could host and implement the OSS as a profit centre within its own operations. The organization should be involved with SME activities but could be either from the public or private sector. To ensure that the interests of other actors in the sector are met, an advisory committee would be constituted, consisting of representatives of other stakeholders. This model will only be practical if the host organization could contribute resources required for the implementation of the project.

The second option is to ensure private sector management of OSS with funding being provided from the Government or other public sector sources, i.e. a Government-owned contractor-operated structure, the contractor being from the private sector.

The third option is to set up an entirely new entity with shareholders from the public and the private sector, with the majority of the shares being held by the private sector. With this option, the shareholders would be represented in the Board of Directors. Stakeholders in the OSS might be interested to invest in the OSS in order to support SME operations (development banks, SME associations, governmental institutions) or for commercial reasons (Internet Service Providers, IT and e-business/Internet companies, IT-training institutions).

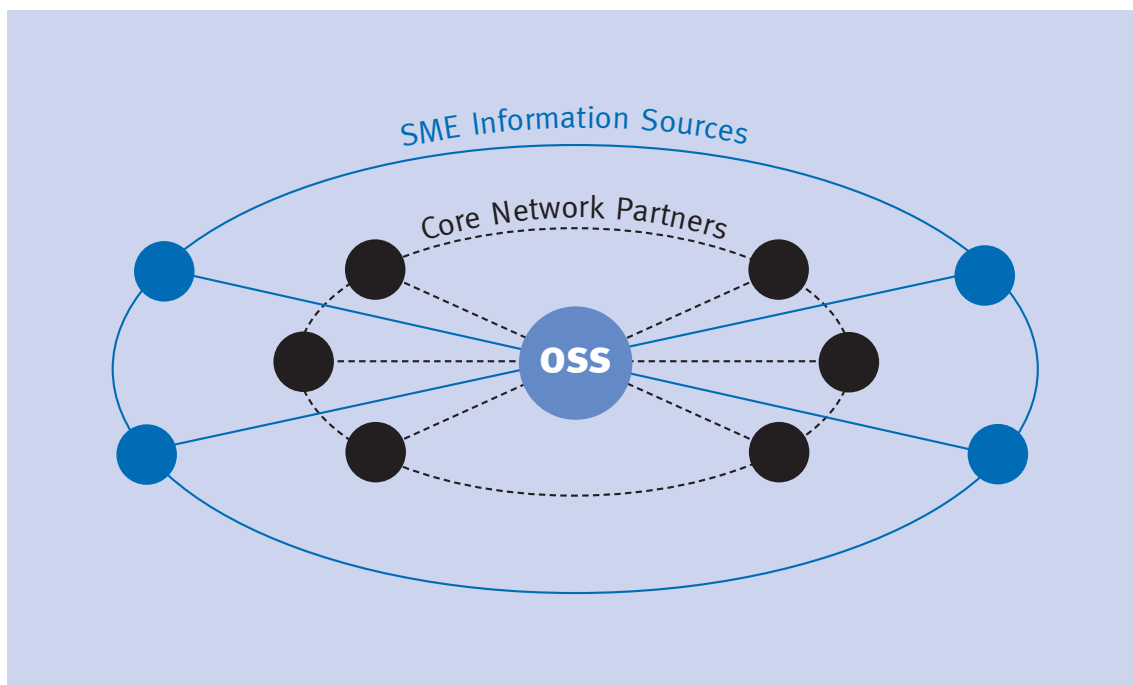
#### 4. Establishment of OSS

The following activities are supported by UNIDO to establish an OSS. This could normally take 12 months, although the activities are not necessarily sequential. The establishment of the OSS will be carried out by UNIDO in cooperation with the national counterpart for the project selected by the steering committee during the partnership building process.

- Design and set up the network architecture;
- Select and procure hardware, software and set up the office of OSS;
- Select and recruit staff, provide on the job training and study tours;
- Review, catalogue and strengthen existing information resource bases;
- Develop the Network Management Information System;
- Develop a Focal Point web site and e-commerce portal;
- Develop cooperation agreements with network partners;
- Develop a marketing plan, pre-sales and awareness activities;
- Soft launch followed by commercial launch.

The BISnet is conceived as a decentralized and demand-driven network. The building entities of the network are as follows (see figure):

BISnet—the OSS and its partners



**Focal Point:** offices of the OSS linked with the nodes of the BISnet. Appropriate network architecture will be developed on the basis of the existing ICT infrastructure in the recipient country.

**Core Partners:** institutions that are involved in collecting, processing and disseminating of industrial technology and/or market information. Ideally some of these institutions should also be the shareholders of the proposed network, if it is decided to set up a new entity. Nodes are linked on a dedicated/dial up basis based on the volume of traffic. Each node is expected to share their information/databases. An e-networking tool that has been developed by UNIDO will allow the OSS to have easy access to the information sources of the national network partners.

**External Nodes:** national and international information sources; they contribute as a window to the external world and provide the link to the institutions and international agencies in various countries dealing with industrial, technology and market information.

## 5. The service mix of an OSS

Recent experience has made it clear that an information company in a developing country has to provide other related services, especially in the short to medium term, to ensure financial sustainability. This further highlights the fact that companies do not operate in a vacuum and their performance depends heavily on their national environment.

To support the business information services, related services have to be offered, such as Business and ICT Training, and Enterprise Internet Solutions (EIS). Accordingly, the OSS would have three business units as profit centres, namely Business Information Services, Business/ICT Training, and Enterprise Internet Solutions. The possible portfolio of services that could be provided include:

**Business Information Services:** Information brokering and research, technology transfer brokering, consultancy services. These services will be provided on an ad hoc basis and as regular publications, e.g. profile reports for exporters, reports on relevant technology offers, industry reports (statistics, trends, new technologies, market opportunities, both local and international), etc.

**ICT Support and Training Services:** Management skills, corporate ICT development for SMEs (financial, business applications), Training Needs Analysis, customized training workshops/seminars, presentation skills, web technologies, e-commerce strategies, on-line market research, etc.

**Enterprise Internet Solutions:** EIS solutions using ICTs through Web strategy development; Web site development, hosting and maintenance; development of e-business solutions, including portals; development of Intranets and Extranets; and e-procurement activities, including enterprise integration into global value-chains and procurement networks. The latter require e-security and e-trust support, which are basic requirements for sustainable e-business.<sup>9</sup>

Within its EIS component, UNIDO is also offering a capacity-building programme for the development of e-business exports. This would exploit the emerging opportunities of outsourcing ICT services that can be rendered using the Internet. The latter would create employment and promote exports and develop a critical mass of people with specialized skills to provide e-enabled services in this area. The two main sectors identified in the e-business exports are Call Centre telemarketing and Data Entry with niche markets (e.g. online book keeping).

The services to be offered will be delivered by a group of professionals with specialized knowledge

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<sup>9</sup>UNIDO is developing a programme to provide a cost-effective security and e-transactions solution based on Public Key Infrastructure (PKI).

and skills to perform their duties. UNIDO, through its technical assistance programme, will provide training both within the country and overseas to enable the network operators to gain the necessary exposure and experience in operating the network. This technical assistance would also help to iron out operational problems in the first few months of commercial operations. In keeping with the dynamic and evolving nature of activities, the OSS will have to provide ongoing training programmes for the continuous development of its most valuable asset—the staff.

Other components of local UNIDO programmes can be linked with the OSS, such as UNIDO's Business Partnerships, the SME Cluster Development Programme, UNIDO's subcontracting network SPX, the UNIDO business portal UNIDO/Exchange (including the UNIDO Investment and Technology Promotion network, the Network of Technology Centres, National Cleaner Production Centres), etc.

## 6. Rural extensions

As the services of the OSS mainly serve the business information requirements of SMEs in cities and their immediate environs, it is important that they be expanded to reach rural entrepreneurs. Accordingly, the second stage of the BISnet development in a country is to extend the services to rural areas by setting up Rural Business Resource Centres (RBRCs). In this regard UNIDO could identify existing initiatives in a country (such as health care networks, school networks, mobile phone networks) to use them as a vehicle to establish the RBRCs. This helps to reduce the set-up costs and builds on the momentum already created. The important success factors are the availability of a working telecommunication infrastructure and a critical mass of micro and small enterprises.

To make the RBRCs sustainable, they could offer some of the following services: business information and advisory services, business and ICT training, e-learning, www services including e-

commerce, consultancy services, cybercafé operations, teleworking (cooperation among enterprises based on digital provision of services), etc.

The type of services a rural centre provides depends very much on the local situation. The rural centre is the vehicle for the OSS in the capital city to extend its services to the rural areas, whilst the rural centres use the OSS as the backup for some of its services. Ownership and management of RBRCs will be designed to spur local entrepreneurship. In addition to utilizing the resources of existing SME support initiatives, the participation of the local community is encouraged. In this regard, there are three options that could be adopted. The first option is for the OSS at the capital city of a country to own and operate the RBRC. This option, however, limits the participation of the local community in the affairs of the RBRC. The second option is to select an existing SME support institution and provide appropriate capacity-building. In this case the OSS enters into an agreement with regard to the services to be provided by both parties. The third option is to adopt a franchising concept, whereby the local community is encouraged to initiate and participate in the operation of the RBRC, with the central node (OSS) providing the technical backup.

National objectives to support the use of ICT and Internet by rural communities can benefit from the RBRC concept. The recurring costs of connectivity and the replacement costs of IT equipment and its support might for a large part be supported by the productive use of a national information infrastructure. Indeed, the income of the RBRCs from SMEs could even provide the financing for the core cost of connectivity and IT equipment, and as such enable schools and medical centres to piggy-back on the IT infrastructure and thus benefit from the ICT revolution with e.g. e-learning and e-medicine. Business plans need to be prepared for each of the rural centres to include some of the aforementioned alternative services in order to ensure their sustainability.

## 7. Networking and ICT tools

UNIDO is cooperating with other organizations to share electronic tools and has developed e-tools in support of OSS and BISnet activities. Two soft-

ware packages are used in various projects: e-readiness and the e-networking tools.

### E-Readiness

UNIDO's Ready-For-E-Business-Tool is intended to provide the entrepreneur and/or manager of an SME with important "need to know" information to assess how ready a company is to conduct procurement using the Internet and other ICTs. Conducting an e-procurement readiness assessment of a company provides an understanding of the main types of e-procurement systems, the benefits and risks of online selling and buying, and the various options the company can select to successfully implement online buying and selling systems using the Internet and ICT.

### E-Networking

To support the operation of the OSS, UNIDO has developed a web-based extranet software package for its project in Uganda (NETMIS). The networking software system enables the OSS to link with the databases at the various locations of the network partners in order to access information available from the partners and to maintain a central web site with available national information.

## EXAMPLES OF COUNTRY EXPERIENCES

The experience of the projects that have been undertaken by UNIDO for business information services is different from country to country. Although the concept remained the same, a different approach was applied in each country to suit local conditions and utilize the existing SME support infrastructure. To make best use of the knowledge and experience accumulated over the project lifetime, UNIDO is using the local staff of the information projects in other developing countries as experts.

### Egypt—BISnet

In cooperation with the Egyptian Social Fund for Development, UNIDO has formulated a business

plan to establish Egypt-BISnet, an SME business information network with the Small Enterprise Development Organization (SEDO) as the host organization. The project will include a hub in Cairo (OSS) and 10 other Regional Centres that are to be integrated with the SEDO regional offices as well as with selected Technology Access Community Centres (TACCs) of UNDP and Business Resource Centres of the Industrial Modernization Programme (IMP) of the EU.

### Guatemala—MINECOnet

The overall objective of Guatemala's BISnet, the MINECOnet is to establish a national industrial information network on the basis of a common pool

of SME support information and value-added services. The network will also function as a channel of communication for the international business community to establish industrial cooperation activities with the local industry. As a first step, a dynamic SME portal was established with the Ministry of Industry. In the next phase, MINECONet will be enlarged with the participation of several national partner institutions.

### **Pakistan—IIN**

The Industrial Information Network (IIN) in Pakistan has initially been established as a web-based nationwide network providing industrial information for SME development in Pakistan. The IIN is hosted by COMSATS and provides an interactive website for SME support, as well as assistance in improving quality of products; sector specific trade support; training opportunities for SMEs, and a platform for foreign investors, as well as information regarding rules, regulations and laws governing SMEs. Recently, the Government of Pakistan approved the extension of IIN to include other major national stakeholders for further development.

### **Uganda—UBIN**

UNIDO recently set up the Uganda Business Information Network (UBIN) in Uganda based on the model of ITMIN (see below), though modified to suit local conditions. UBIN is a private limited company with shareholders from public and pri-

ivate sectors. The company provides value added business information services, training and Enterprise Internet Solutions to SMEs. The project will be extended to other parts of Uganda, by linking the central node with eight District Business Resource Centres. The latter will be implemented in association with the District Promotion Centres of UNDP and the regional centres of UNIDO's Master Craftsman Programme.

### **Sri Lanka—ITMIN**

ITMIN (Industrial and Technology Market Information Network), set up as an OSS in Sri Lanka, was one of the first initiatives of UNIDO to apply decentralized BISnet activities. ITMIN was developed and implemented with strong involvement and financial support from both the public and private sectors, UNDP and the Government of Sri Lanka. It was set up as a legal entity with shareholders from both public and private sectors with the private sector holding majority of shares. ITMIN, in addition to providing information value added services, also provides training and Internet Services, including Enterprise Internet Solutions and Internet connectivity. The company has set up two subsidiary companies, which are presently running independently, an Internet Service Provider (ISP)—ITMIN Internet Services Limited, a Training company—ITMIN Business and Management Training (Private) Limited, whereas ITMIN Limited continues to provide information value added services.

## **FUTURE PROGRAMME ACTIVITIES**

*The continuing experience of BISnet operations initiated by UNIDO in different countries is an increasing source of knowledge for implementation of similar activities in other recipient countries.*

Presently, virtually all developing countries face the problem of information networking. Accordingly, many Integrated Programmes of UNIDO have an information/ICT related component. From experi-

ence, it has become clear that due to the need to develop sustainable networks, Governments are keen to make use of UNIDO's experience.

At present there are ongoing information networking projects in Algeria, China, Cuba, Djibouti, Nigeria, Egypt, Guatemala, Guinea, Mali, Morocco, Pakistan, Senegal, Sudan, Tunisia, and Uganda.

The continuing experience of BISnet operations in different countries is an increasing source of

knowledge for implementation of similar activities in other recipient countries in an efficient and effective manner. Once a critical mass of developing countries in the different regions of the world have developed and implemented BISnets,

the focus could shift to develop regional BISnets. This would be an ideal vehicle to regionalize the issues facing SMEs and to create synergies through Economic Cooperation among Developing Countries (ECDC) programmes.



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