



**Asia-Pacific
Economic Cooperation**

**Concept for Development of an Integrated Information
Tool to Stimulate Involvement of SMEs of the Asian-Pacific
Region into the Global Trade System, Global Production and
Supply Chains**

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**Research and Assessment of Prospects for Development
of an Integrated Information Tool to Stimulate Involvement of
SMEs of the Asian-Pacific Region into the Global Trade
System, Global Production and Supply Chains**

SMALL AND MEDIUM ENTERPRISES WORKING GROUP

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INTRODUCTION

Currently, the world economy faces such challenges as the maintenance of stable economic development, employment promotion and assistance for self-employment. As it is well-known, small and medium-sized enterprises (hereinafter SMEs) are the backbone and driving force of any developed economic system and support of their internationalization, improving of competitiveness and assistance for their access to the world markets, as well as integration into global production chains are one of the priorities of any state.

Technology development, liberalization of national and international systems of economic regulation, the increasing use of international cooperation led to the formation of globalization trends in the global economy. Modern enterprises find new ways of entering the world market through exports, imports, strategic investments in foreign companies, receiving foreign investments, or through other forms of mutually beneficial partnership with foreign companies.

Currently not only large companies are involved in international business but also small and medium enterprises (SMEs). Entering the international level can provide them with more opportunities for growth and increase profitability. Therefore, the entry of SMEs of any country in the international market in the framework of the modern world trends is an objective process. For small and medium business, on the one hand, there are new opportunities caused by the availability of foreign markets and modern technology, on the other - a potential threat from competitors.

Today international opportunities for SMEs expand, as they can act as a supplier of specialized products, parts and components for large companies. This type of cooperation allows SMEs to access international markets with the support of large firms. With the right preparation, the SME will also be able to achieve significant success on the international level.

However, trying to enter the world markets and to find a niche in global production chains, SMEs are facing different internal and external difficulties and barriers often associated with search of information about business opportunities, potential business partners, market requirements, custom procedures, etc. as well as with their own limited resources and opportunities for such development.

To make an informed and correct decision how to penetrate the international market entrepreneur must possess the sum of both practical and theoretical knowledge. With the current update rate can be difficult to keep track of all changes in modern approaches to business, to assess the attractiveness of certain global trends, adopt new tools for facilitating the search and evaluation of partners.

There are various sources of information about foreign markets, opportunities and approaches for international business development. Under the conditions of a large amount of existing information, the more clearly understanding by SME the strategy of entering to the international level, the easier it will be to focus on the most important information. It is important that organizations and individuals, who can help, knew what capabilities enterprises are looking for, and what are its strengths and weaknesses. This can be achieved by networking, establishing and maintaining relations with representatives of the business community and state structures.

With this purpose it is necessary to form a unified integrated information resource for involvement of small and medium business into the global market, in particular for SMEs in APEC economies.

The APEC, since its creation, has three main objectives: promotion of sustainable economic development, the development of the multilateral trading system and, ultimately, the future economic prosperity of the member economies by encouraging economic cooperation between them.

Thus, the participation of SMEs in global value chains and international trading fits into the above goals and becomes one of the priorities of APEC, which has been repeatedly discussed at the meetings of Ministers of the APEC economies.

In the purpose of development of the free and open trade and investment promotion, stimulating and accelerating regional economic integration, to promote economic and technical cooperation, enhancing human security, creation of a favorable and stable business environment, promotion of economic cooperation at the level of SMEs and facilitate the internationalization of SMEs in APEC economies need to develop and use special instruments to support SMEs that would allow to overcome the existing barriers and difficulties and gain easier access to all relevant information and reliable contacts.

The main challenge facing APEC economies is to stimulate trade and investment, strengthening regional integration in the APEC region in order to achieve high rates of economic growth and improvement of living standards in our economies. An important role in this area belongs to the issues of business development that is the key for modern economic space.

To achieve this goal it is necessary to improve the administrative environment, to overcome barriers, to stimulate the development of small and medium-sized enterprises and innovation, to exchange experiences and share best practices in these areas.

For the continuous and sustainable economic growth it is important for APEC to focus on innovative development. Intensive interaction of the APEC economies to ensure economic growth includes the expansion of high-tech investment and the diffusion of technologies, strengthening cooperation in innovative and educational centers, and scientific institutions of the APEC economies, the development of the Internet economy, support of creative personality and improvement of cooperation in the field of education. These are the basic directions of cooperation in order to ensure the modern development of our economies.

Along with development of innovation business, access to finance and markets, the administrations of the APEC economies more often start to address the issues of novice and women's entrepreneurship, business of minority peoples, business ethics and support to small and medium enterprises in the case of natural disasters.

Any state aimed at development of the economy and establishment of competitive advantages of domestic goods, is interested in high-quality support of development of small and medium-sized enterprises and assistance in the promotion of such companies to international markets. For good reason most developed countries pay special attention to the support of this sector.

Contemporary economic history of the world's leading countries has shown that, despite all the difficulties inherent in the period of formation of the state, namely small and medium entrepreneurship remains a key "point of growth" of the economy. Better adaptation to changing market conditions, higher tax discipline, lower costs, and significant innovative activity also contributes to that.

Small and medium business is the basis for the formation and expansion of the middle class that is interested in political stability of the society, development of democratic foundations, improving the quality of human. More than anything else SMEs are able to provide competitive diversification of the economy with the necessary innovation component in global markets. Small and medium business is a natural reserve of the increases in the volume of exported non-energy and high-tech products, and products with high added value.

In addition, the development of SMEs is one of the decisive factors of innovative renewal - renewal on the principles of implementation of knowledge economy, human capital, growth of initiatives and responsibility. SMEs are the most adaptable and mobile in response to constantly changing market conditions, the emergence of new niches and market needs. Besides that:

- they provide high effectiveness of investment,
- form competitive environment,
- saturate the market with goods and services,
- increase tax revenues to budgets of all levels,
- provide quick generation of new jobs.

The activity of the main part of SMEs in APEC economies is focused mainly on the domestic markets, but at the same time numerous external factors are increasing their influence on the process of business development, including the need for SMEs to act on open world markets in the conditions of economic globalization, and therefore increased requirements for the overall competitiveness of enterprises and their products / services on international markets, international standards of quality and business management, efficiency of activity and promotion, etc.

Currently, the vast majority of SMEs in the Asian-Pacific region is still not quite ready for active output and activity in foreign markets; the reasons for this lie in the following:

- lack of information and knowledge about the situation on international markets, trends and existing niches (perspective directions and development, supply and demand in different sectors of activity and so on);
- lack of qualified specialists for the promotion of international markets and the conduct of foreign economic affairs;
- insufficient skills in the field of the export of goods outside the region and outside the country (the inability to identify the target markets, ignorance of local markets abroad, the lack of culture in international business correspondence and negotiations, poor skills in marketing on foreign markets and so on);
- lack of or not enough well-organized process of commercialization of research results and innovative developments in enterprises (lack of or poor access to information, lack of financial resources, lack of knowledge of international requirements and standards, and so on);
- poor skills in the field of international marketing and creation of brand / product brands (lack of information on existing approaches to advertising materials, poor knowledge of foreign languages, lack of creativity, no regular marketing policy, etc.);

- insufficient attention to the need of protection of intellectual property in international markets;
- insufficient control of production processes (low quality assurance, failure to reduce costs, obsolete equipment and so on);
- insufficient knowledge of the existing capabilities of the state program of support of small and medium-sized enterprises, including the field of promotion on international markets and low motivation for their use;
- poor infrastructure, offering the necessary services for SMEs seeking to the international markets.

That is why the acting information resources within the framework of its activities should strive to provide competitive SMEs all the necessary information about the existing capacities in the Asian-Pacific region, mechanisms and instruments of international markets, including measures of the state program of business support, international projects and programs, activities of leading development institutions; to stimulate competitive enterprises for the more active use of these opportunities, mechanisms and instruments; to assist in improving their competitiveness and effectiveness; to develop and to offer complex services in the sphere of entering global markets.

The aim of this project is to support and promote effective integration of small and medium enterprises of the APEC economies into the world trading system and into the global production chains, as well as stimulating their internationalization process by providing access to relevant information in a unified information resource.

The major tasks of the project that will strengthen regional economic integration through free and open trade and investment are:

- assessment of the existing experience / best practices of the APEC economies and evaluation of prospects of development of the information resource based on a combination of scientific research and analytical activities;
- development of the concept of information resource elaboration for the promotion of international cooperation and integration of SMEs;
- development of the detailed action plan for the creation of information resource.

For the development of their businesses, SMEs should receive all needed information from one and the same source ("one window", etc.) - different countries have different approaches, however, it may be useful for the development and use of one common information tool that will be used by the APEC economies seeking to support SMEs and to promote them to the world markets.

Of course, much has been done by APEC in the sphere of internationalization of SMEs and the experience and best practices will be explored and used for the development of the concept.

The present project aims to develop an integrated and unified resource of information to promote international cooperation and integration of SMEs based on a combination of analytical and organizational activities and on the proposal of the action plan for its effective implementation in SMEs in APEC economies.

The project corresponds to the objectives declared by the Working group on small and medium-sized entrepreneurship of the APEC Secretariat for the promotion of free and open trade and investment and the development of economic and technical cooperation for achieving sustainable growth and equitable development, and promotion of the trade and investment in the Asian-Pacific region.

In this regard, for the analysis of the current situation in the sphere of information support of small and medium enterprises of APEC economies, the study of their needs and requirements, development of proposals and recommendations on further development of the integrated information system for the purpose of involving SMEs in the processes of internationalization, expanding their access to foreign markets, elimination of informational deficiency in this field, we have used the existing materials and data from different studies of APEC economies in the field of information support of small and medium business, results of surveys of representatives of the state sector, public organizations and development institutions of the APEC economies on the subject, and the results of the study by experts of the Russian Agency of support of small and medium business among enterprises of small and average business from different regions of Russia and APEC economies.

In addition, for the compilation of the present report there were used analytical and statistical data from various relevant public information sources.

CHAPTER 1. PROPOSALS ON DEVELOPMENT OF INFORMATION SYSTEMS TO INVOLVE THE APEC SMALL AND MEDIUM ENTERPRISES IN THE FIELD OF INTERNATIONALIZATION AND ACCESS TO INTERNATIONAL MARKETS

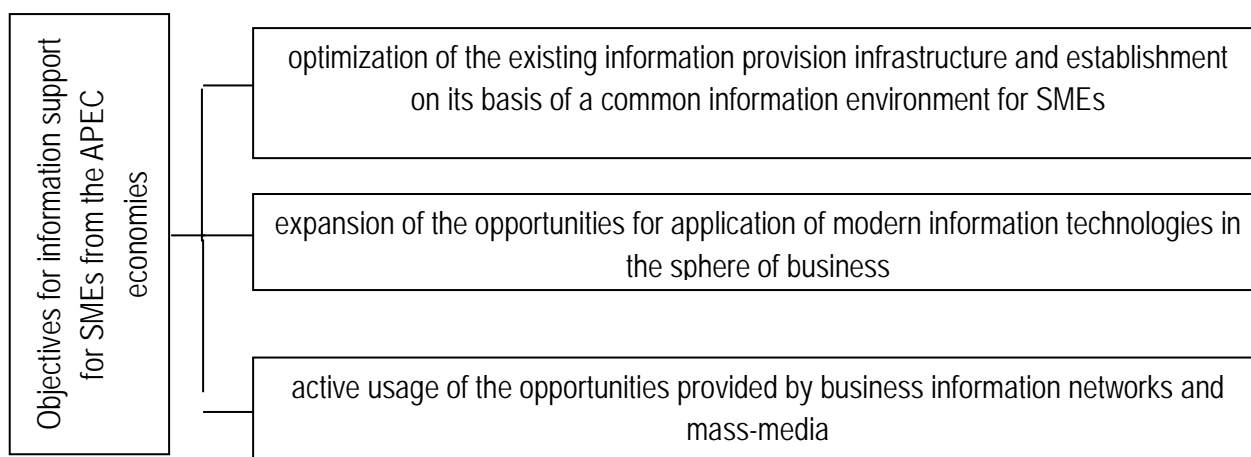
Objectives for the Development of Information System for Small and Medium Enterprises from APEC economies

Analysis of the existing in the APEC economies information systems for SMEs shows that there are some operating networks and systems that are able to satisfy the needs and demands of entrepreneurs in various kinds of information. At the same time the existing systems do not apply the consistent intergrated approach to the development of information resources and information provision system for entrepreneurs.

The results of the researches and studies conducted by project experts in the sphere of information needs and demands of SMEs from the APEC economies have defined a serious demand for considerable expansion of the spectrum of information resources accessible for SMEs. Apart from that the necessity to form positive public opinion stimulating development of SMEs underlines the need for implementation of various promotion and popularization activities. Also one has to consider the growing needs of SMEs for information support of their inter-regional and international promotion.

Thus, information support of entrepreneurship has to consider various opportunities to achieve the following objectives (Figure 1).

Figure 1 – Objectives for information support for SMEs from the APEC economies



The above mentioned objectives could be reached upon the following conditions:

- competence and good knowledge of information resources holders in the sphere of SME support and development;
- involvement into the everyday activities of an information provision system of all SME support infrastructure organizations and effective and efficient usage of their capacity;
- capacity development of existing information provision system infrastructure organizations;

- active administrative and resource support;
- development of effective and efficient cooperation / interaction among all organizations / institutions operating in the sphere of information provision and support market;
- effective and efficient of the opportunities provided by the new information technologies.

All those objectives could be reached only through organization and implementation of a special mass popularization and SME promotion public campaign. Taking into consideration specific spheres of activities of various information systems as well as their social – economic and public value, the popularization and promotion campaign has to be carried out in cooperation with mass-media.

Organization of the Information Support System for SMEs from the APEC economies

In the APEC economies the information provision system is usually operating on the basis of the existing SME support infrastructure organizations that includes the state, public and commercial institutions and structures as well as various institutions acting in the sphere of business cooperation development.

The research shows that in the majority of the economies the main element of such information provision systems is combined with the state portal / site for SME support and development that brings together various information resources existing within this or that economy as well as resources of different public and commercial structures.

At the same time the main principle of such information provision systems at present is development of a common information environment for SMEs through the improvement of separate elements and establishment of their effective and efficient interaction process.

The existing experience however shows that if any information provision system for SME has as the main objective development of software and telecommunication resources then their achievement could lead only to the format and the way for information provision.

In the APEC economies it is necessary to concentrate all the efforts on creation of new information provision resources for SMEs and to stimulate good access to the existing ones. The main principle for the development of the existing information provision systems should be based on the possibility to secure feedback from SMEs that use such resources.

Such an approach will allow not only to disseminate various pieces of information required by SMEs but through their feedback to set new priorities and to further develop the existing information resources. As the result various sets of information resources will be set up – from simple information databases to the information resources with social and economic data on this or that country or regions of the world.

At the same time, the general information potential of such systems and resources will be considerably increased by the users through the feedback mechanism.

With such information centres available in every APEC economy it would be possible not only to support SMEs in their internationalization strive but also to demonstrate to the public various social

effects, such as positive increase of the population employment rate, gradual development of economies, increase of the taxable base.

The results of the research done to evaluate the background for creation of information provision system for the SMEs from the APEC economies shows that establishment of a common and well operating information provision system on the basis of the modern information and communication technologies and know how will stimulate the further development of SME sector in this region of the world.

With that it is necessary to take into consideration the need to secure high level of information support for SMEs and good interaction of all the stakeholders involved in development of information environment including promotion of various plans, projects and programmes.

While developing such information provision systems in the APEC economies one has to consider the growing role of access to information all over the world. This is one of the main assets for all the SMEs operating within the knowledge and information economies.

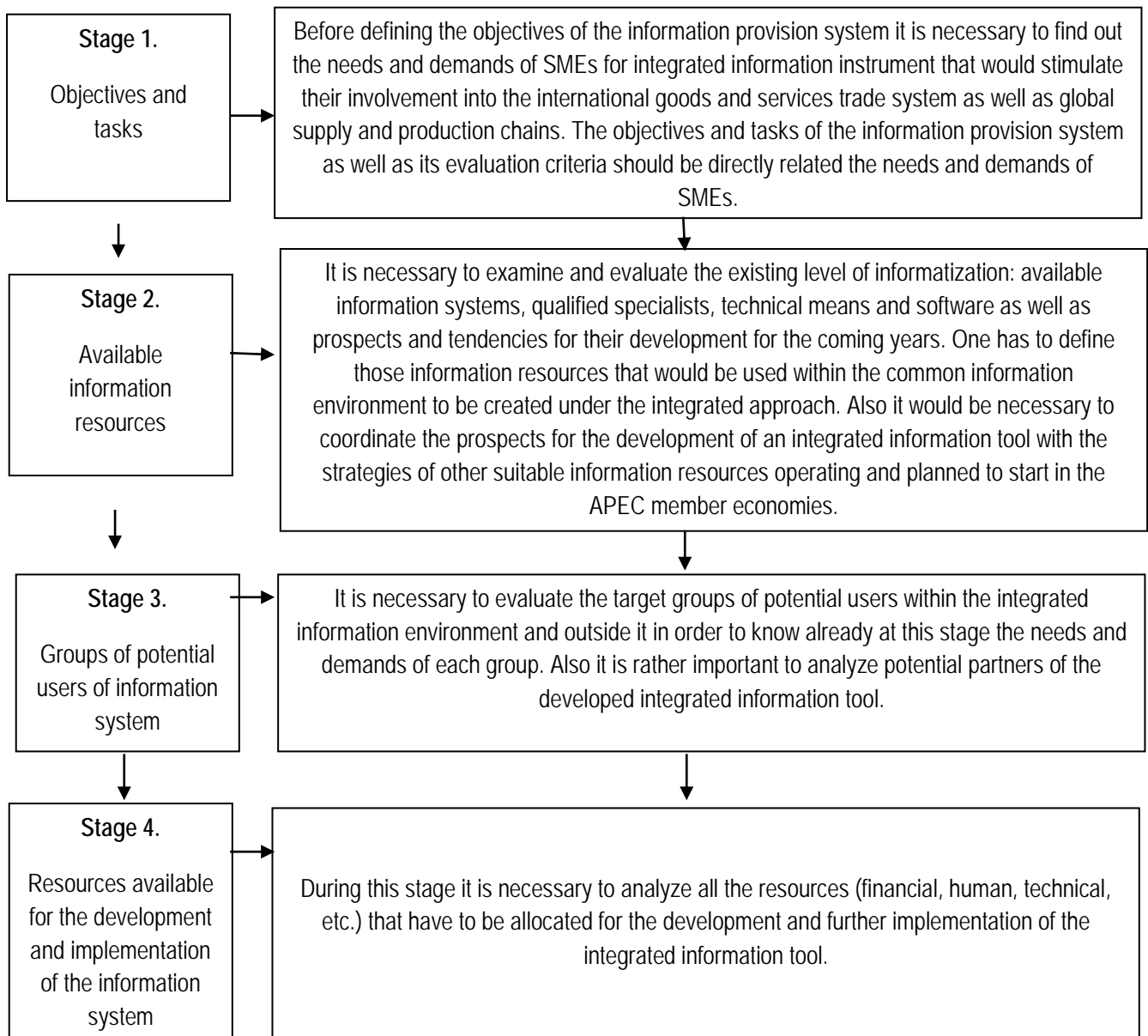
Of course, information on various aspects is more than enough but quite often business lacks information it needs right now and in the form suitable for it. Unfortunately, it is rather expensive and time consuming to get good quality and trustworthy information in the Internet where one could easily get lost with too many different web-sites.

The research of the SMEs information needs and demands shows that small and medium companies would like to have good access to reliable and easy to use information resources.

One serious existing challenge that could be solved by application of such a new information system is lack of information that could be used by SMEs from the APEC economies to make analysis of those spheres that are of interest for SMEs (mostly of the markets and products, sectors and spheres where SMEs operate).

With application of such an information provision system that could be implemented for SMEs of the APEC economies the following issues have to be solved while supporting SMEs (Figure 2).

**Figure 2 – Stages for the development of information provision system
for SME of the APEC economies**



It would be good to have the development plans done for several years ahead.

The expected outcomes of the work done will be presented with a Concept for the development of an integrated information tool for SMEs that would stimulate their international cooperation and also with a detailed action plan for its development.

It is supposed that such an Integrated information tool (Resource) would become a network of various national institutions / organizations operating in the member economies of APEC and supporting SMEs in export and internationalization spheres.

National governments will have to select and appoint one organization that would be the main operator of the network in this or that country and that would work directly with SMEs ready for and interested in internationalization of their business. Such national operators will be responsible for correctness and actuality of all the data and information on export and import as well as for answers to be given to SMEs and other national governments / operators of the network. The network will operate

on the basis of the unique set of standards and requirements applicable to each and every operator and will offer the same package of services in all the APEC economies.

The core of such a Resource will be constituted by a specially designed database that would include first of all proved and correct information on competitive SMEs with good products and services that are interested in internationalization of their business.

To be able to use the Resource, any SME will have to fill-in a special format (*Annex 4*) and to get registered in the database. Apart from direct search for potential partners in the database, the registered SME will be able to place its inquiry for search of information, contacts or partners with national operators.

Apart from that such database should also have special sections devoted to national legislation systems, customs procedures and logistics, national and regional trade fairs and exhibitions, infrastructure organizations, access to finance, regional initiatives and programmes, etc. – that is to all kinds of information that could be of help for potential exporters.

For those economies that include the Resource in their national SME support and development programmes and allocate the necessary budget for its functioning, it would become a good source of benchmarking on the experience and achievements of other economies.

It is rather important to define what services are going to be free of charge for SMEs (the costs covered by the national SME support and development programmes) and for what services they will have to pay (to cover the running costs of the operators).

The governments and SMEs from the APEC economies are direct beneficiaries of the integrated information tool because they will get an easy to use modern Resource aimed at involvement of SMEs into the world trade system as well as global supply and production chains and support of export to new markets and internationalization.

The state bodies of the APEC economies responsible for SME support and development on the national levels will have to regularly update all the information on their legislation in force and customs and tariffs systems explaining whether they correspond to those applied by the other APEC economies.

They will also have direct access to the best practices in the sphere of SME support and development that would allow to set an effective and efficient support system on the regional level and stimulate integration of SMEs into the world trade and global supply and production chains.

CHAPTER 2. CONCEPT FOR THE DEVELOPMENT OF THE INTEGRATED INFORMATION SYSTEM TO STIMULATE INVOLVEMENT OF THE ASIAN-PACIFIC REGION SMES INTO THE GLOBAL TRADE SYSTEM, GLOBAL PRODUCTION AND SUPPLY CHAINS

Background

Information in modern economy is important as economic resource and as an article of merchandize that meets human needs. Special direction of information use in economic activities is support of the effective functioning of organizations using quality handling of information and knowledge. Lack of necessary information, as well as excess of unnecessary, disorients any business activities.

The need to make optimal marketing decisions in conditions of tough competition obliges any business - and especially small and medium - to have huge amounts of marketing information. Specificity of modern life in the global markets requires the subjects of economic relations to analyze deeply all processes taking place in domestic and foreign market to find the right niches for their products, to ensure efficient use of resources and quality satisfaction of customer requirements.

Such information - especially if it is actual and reliable - allows any small SME:

- to reduce financial risks;
- to gain competitive advantages;
- to monitor the marketing environment;
- to find new markets and niches for their products;
- to coordinate the strategy;
- to evaluate the effectiveness of activities;
- to promote effectively the products and find business partners.

The effectiveness of any organization in terms of market relations is inseparably linked with information. Information in the company's marketing system is crucial, as any marketing activity is based on an understanding of the specific situation on the market of products / services. The lack of necessary marketing information, the use of inaccurate or irrelevant data can cause serious economic miscalculations. The purpose of using marketing information is to reduce uncertainty in making managerial decisions.

To survive in the competitive activity small and medium business requires large volumes of marketing information. Therefore the market of information services must respond flexibly to the changes in demand and preferences of SMEs, and the government should by all means assist the business to have always access to actual, reliable information:

- about enterprises of various industries and their products in the interested economies;
- about sales volumes of these goods / products, supply and demand trends;
- about the possibilities of entering the interregional and international markets;
- about trade and customs regulations;
- about the requirements of the market and technical standards;
- about the possibilities of enterprise foundation in other economies;
- about the possibilities of investments attraction, etc.

For the development of their businesses, SMEs should receive all needed information from one reliable source ("one window", etc.) - different countries have different approaches, however, their experience may be useful for the development and use of one common information tool that will be used by the APEC economies seeking to support SMEs and to promote them to the world markets. Of course, much has been done by APEC in the sphere of internationalization of SMEs and this experience was explored and used within the framework of the present project for the development of the concept of an integrated information tool for SMEs in APEC economies.

The present project aims to develop an integrated and unified resource of information to promote international cooperation and integration of SMEs based on a combination of analytical and organizational activities and on the proposal of the action plan for its effective implementation in SMEs in APEC economies.

The project corresponds to the objectives declared by the Working group on small and medium-sized entrepreneurship of the APEC Secretariat for the promotion of free and open trade and investment and the development of economic and technical cooperation for achieving sustainable growth and equitable development, and promotion of the trade and investment in the Asian-Pacific region.

The final concept contains information on the existing experience / best practices within the APEC economies in the sphere of support of SMEs internationalization process; it provides several alternatives for the development and implementation of the integrated information tool including its content, operational mechanism, SMEs involvement and participation opportunities, potential funding options and mechanisms; it describes main interested partners and stakeholders, development prospects, etc.

The present project was created by the initiative and support of the APEC Secretariat and Ministry of Economic Development of the Russian Federation.

Goals and Objectives

Integrated Information System of APEC economies (IIS APEC) is a supranational mechanism of formation of a single information space of APEC economies for SMEs.

The common goal is increase of the number of competitive SMEs of APEC economies involved in the process of internationalization of its business, contributing to the development of APEC economies.

The main goal of IIS APEC creation is cooperation on a mutually beneficial basis of the national information space of APEC economies at the expense of optimization and improvement of the efficiency of existing information resources of APEC economies on basis of their integration into a single information space, taking into consideration their interests in the development of cooperation in the agreed areas of stimulating the involvement of SMEs of the Asian-Pacific region in international trade in goods and services, global production chains.

IIS APEC should provide SMEs for information and consulting services in the field of foreign trade. Thereby, the available information should report about the situation inside the member economy in support and stimulation of foreign trade activities of SMEs, as well as about the situation in other economies they are interested in:

- Information about national system of support of foreign economic activities within a particular economy:
 - about the activities of public authorities in the field of regulation of foreign economic activities;
 - about measures and instruments, mechanisms and opportunities for government support in the field of foreign trade;

- about activities and programs of relevant development institutions;
- about the range of activities (conferences and forums, B2B meetings, exhibitions and fairs, business missions, etc.);
- about proposals from SMEs in foreign trade (supply and demand, search of partners, etc.);
- etc.;
- information about other member economies that are within the scope of IIS APEC activity:
 - about socioeconomic situation of the economy as a whole and about the state of various sectors of the economy;
 - about rules and regulations of economic activity as a whole, business registration, creation of joint ventures, etc .;
 - about regulation of foreign economic activities and technical requirements for foreign products;
 - about tenders, exhibitions / fairs and other events that make possible for SMEs to present themselves, and to find potential business partners;
 - about proposals from small and medium business in the field of foreign economic activities (supply and demand, partner searching, etc.);
 - etc.

At the same time information provided by IIS APEC can be open – that means to contain general information in the field of foreign trade, and closed – that means to be available to SMEs only after registration (e.g. search for potential foreign business partners, review of proposals from international partners etc.).

Consulting support should target on decision of particular requests / tasks of SMEs in search of any information, contacts of potential business partners, filling profiles, etc., including the collection and analysis of export proposals, claims and tenders received from domestic enterprises and foreign partners in IIS APEC.

Creating of IIS APEC will contribute to the following key objectives (*Figure 3*):

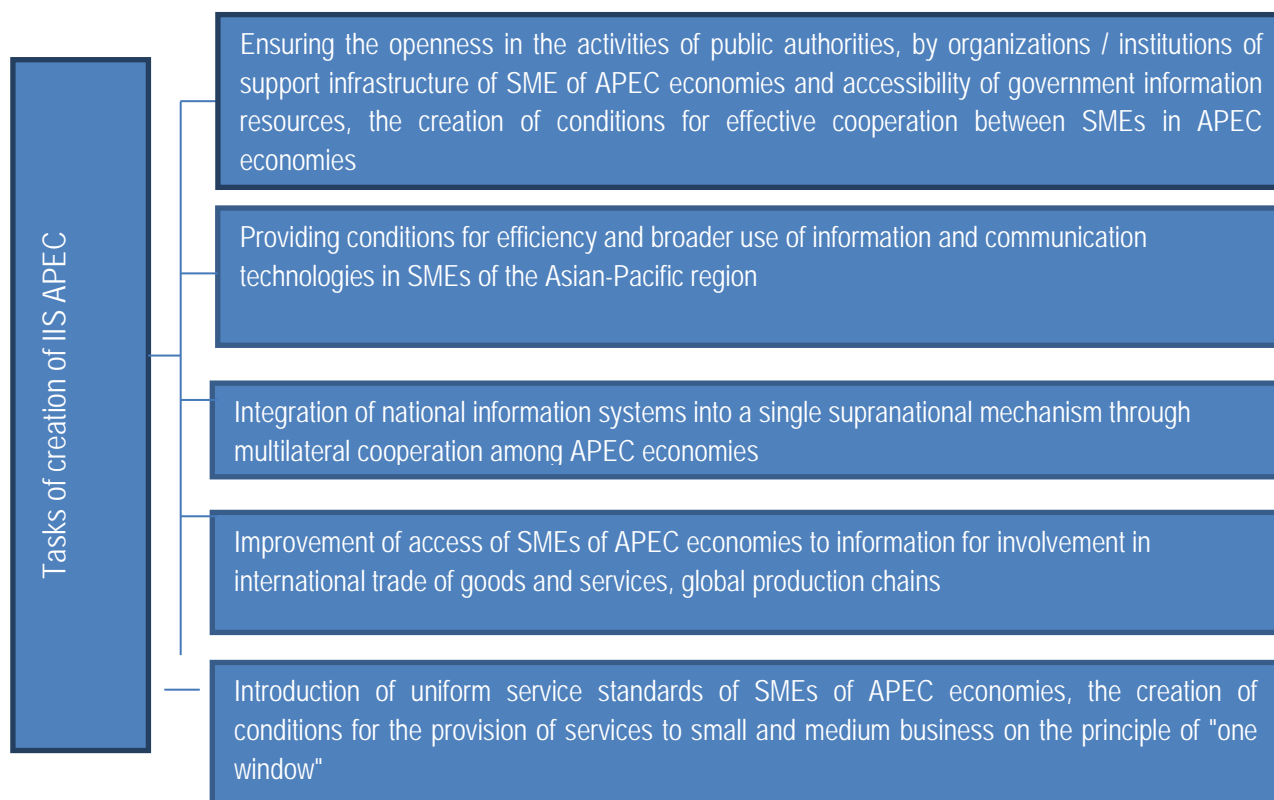


Figure 3 – Creation Tasks of the IIS APEC

Target group: public authorities, organizations / support infrastructure of SMEs in APEC economies, subjects of SMEs, national and international organizations that support the internationalization of SMEs and access to new markets.

The basic package of services for SMEs in APEC economies should be provided on a gratuitous basis.

Basic Principles of Development

The appearance of transnational economic structures, information and telecommunication systems globally indicate the transition to the information orientation of the development of economy and society.

This is precisely why the solution to the problems of information interaction should precede by the time each step in establishing cooperation in a particular area – it is necessary to monitor the information needs of SMEs of APEC economies and to suggest effective decisions for their satisfaction.

Formation of a unified information space of SMEs in APEC economies will allow better coordination of their activity to create favorable conditions for foreign trade, pursue a coordinated policy on various issues related to the implementation of foreign economic activities, access to foreign markets, the search for a foreign partner, the implementation of various forms of internationalization of SMEs of APEC economies during the interaction of their economies.

In the area of formation of information space there are rules that are both common to APEC economies and specific to each economy. The reason for these specific characteristics is that not all the items of information space are at the same time on one and the same stage. The process of

development of APEC economies is linear and the occurrence rate of each of these states into the information space can be different.

Accordingly the concept provides:

- the stages of formation and development of an integrated information space of APEC economies;
- organizational and technical base for the cooperation of the participating economies (national partners) in the information sphere;
- guidelines for the development of an integrated information system and the formation of an information space of the Asian-Pacific region;
- general architecture of an integrated information system;
- model of the created integrated information system;
- target audience: participants, operators, users;
- the structure of the database.

The present concept focuses on:

- improvement of the efficiency of information interaction of APEC economies on the agreed spheres of stimulating the involvement of SMEs of the Asian-Pacific region in international trade of goods and services, global production chains;
- protection of intellectual property;
- protection of the national interests of SMEs in APEC economies.

The concept is a part of the cooperation among APEC economies in the sphere of information and telecommunication, and will be realized through national programs of informatization and target programs for interstate cooperation in agreed areas of custom activity.

Development of the concept of IIS APEC is based on the following principles (*Figure 4*).

The mentioned principles take the issues of IIS APEC creating and activity of development of the information space to the priority tasks of interstate level, which should be constantly controlled by the heads of state structures governing the SME sector in APEC economies.



Figure 4 - Basic Principles of the IIS APEC Development

General Technical Requirements

IIS APEC is to support a set of functions to enable the submission of the documents in electronic format through a single entity in order to fulfill all regulatory requirements related to the implementation of foreign economic activity, the search for a foreign partner, access to foreign markets. The participants of foreign trade relations provide information only once in a single form, filling the approved profile form, involved agencies and organizations will receive a copy in electronic format. This provides update of stored information: the database always holds the last copy of the document.

IIS APEC is to meet the following general requirements:

1. Ensure the completeness of the database. Database (public) is to include: all normative documents concerning foreign trade procedures, acting requirements of all relevant government authorities of APEC economies, contact data of state authorities, organizations and institutions of support of SMEs in APEC economies and their employees, practical examples, guidelines for processing documents, information about the companies by industry and others.
2. Reliability and data security. Data storage reliability should be provided in view of physical and information security. IIS APEC should provide both external security (resistance to attacks of any kind) as well as internal - (threats associated with misuse or theft of confidential information). It is also necessary to ensure the reliability of data storage and backup system.
3. Ease of use and access to IIS APEC. To provide the options for access to the service for all customer groups. Access procedure in any of the options should be simple and clear.
4. The ability to make changes according to varying requirements. It must be a technical capacity to make changes to the work of IIS APEC sufficient to maintain its effectiveness in the event of change of procedures, requirements, etc. IIS APEC will allow effective extension of functions, particularly the addition of new interfaces and opportunities.
5. The ability of reporting. The most important property of IIS APEC should be its ability to provide quickly the necessary management information. IIS APEC should be able to make several reports by pressing a button. The list and the format of reports will be determined during the development of IIS APEC and agreed with the relevant agencies and departments and other involved authorities of APEC economies.

General System Requirements

The key requirements for the system are:

- openness - compatibility IIS APEC with all current standards and protocols, support for Internet technology, and the ability to increase the functionality due to the interaction of both own technologies of participants of the creatable system, as well as with software of independent provider and best practices of users;
- integrability of the information environment in which the corresponding complex of heterogeneous resources and services is presented to the user in consistent and integrated way through a single interface;
- universality – information environment must cover distant and distributed, independently accompanied sources and services of various formats and forms, should provide a search operation of information resources and localization of their location, request of resources and their delivery;
- transparency - information environment should be transparent to the user, maintain possibilities of public access and the personification of the interface, should be supported by user profiles

(fixing individual configurations of the user interface), information about the user's access rights, the rights of use of resources;

- reliability - ensuring the sustainability of access, load balancing, as well as data security and control of access to them to meet the requirements of copyright law, the terms of data provision, control of payment of the materials used, the responsibility for the contents, dissemination of false information, privacy compromise, etc.
- dynamism - providing with efficient information based on dynamic content updates;
- scalability as a key requirement in view of investment saving - to support the growth in the number of portals, resources, services, the volume of data, traffic, etc .;
- portability - the ability to run on different hardware platforms, operating systems, database servers;
- adaptability - the ability to customize on the developed system for any organization;
- actuality, reliability, authenticity, fullness of information is provided with profile authorities and departments in each APEC economy.

General Technical Requirements

The developed system must meet the following requirements:

- to ensure the building of common information space between different information systems of APEC economies in the sphere of SMEs;
- to use the experience of foreign construction both of integrated information systems of this kind, particularly Enterprise Europe Network, and of national systems, e.g. Austrade, Hong Kong Trade Development Council, NATRADE, Thailand Department of International Trade Promotion, New Zealand Trade and Enterprise, International Enterprise Singapore, etc.
- information in the IIS APEC should be presented in English to provide free access of all interested SMEs but at the same time it is necessary to create a possibility to distribute different information .

Requirements for Hardware and Software Tools

Hardware and software systems should be established on the basis of the world's leading technology in the field of telecommunications and automation of control and meet the following basic requirements:

- to support access to system resources via Internet, including using a secure protocol HTTPS;
- to use a unified open standard of metainformation representation;
- to use a unified system of classification and coding;
- to have a built-in tools of online analytical data processing;
- to operate in heterogeneous environments and on different hardware platforms;
- to ensure interaction and compatibility with a variety of software products already used by developers and users of resources;
- to ensure high reliability and error stability;

- to maintain the ability of upgrade in operational process.

Requirements for the Provision of Metadata

Organization of the information space as a set of information resources requires their unique identification and ensure of efficient navigation. As a tool for the identification of such information resources open standards should apply. Currently the most promising standard is DublinCore (DC), as it can be applied practically to all types of electronic documents and is available to the interpretation both a machine as well as a man, and, furthermore, is international.

On the first stage of the presentation of information resources it is advisable to limit to their aggregative description in DC (database, supply catalog, etc.). On the following stages there is a possibility of more detailed description right up to the description of each document.

Information about the resources provided by the parties, it is appropriate to provide in the form of a set of fields DublinCore (DC) and system extensions to it (classifications and codes).

In this environment the structure and data composition is not strictly regulated as in the catalog, there are no relationship between data elements, and there is a possibility of pre-identification of a resource in the form of a specific set of data.

Easiness of creation, easy indexing, the ability of additional charts for a more detailed search, interoperability are the arguments in favor of using DublinCore.

Metadata exchange is reduced to sending RDF / XML-files, i.e. can be fully automated

In order to maintain compatibility with the simplest description of the 15 elements DublinCore and, at the same time, to increase the detailing and complexity of the document description in different organizations, it is necessary to use additional classifications and references for the basic elements.

Universal and industry directories and classifiers allow adapting the system to the peculiarities of the particular organization, to make its "delicate" adjustment without breaking the traditions and technologies of information handling and creation of information resources adopted by these organizations.

Specification Requirements Rational Unified Process

The specifications Rational Unified Process (RUP) in the classification of the requirements for information systems use model FURPS+ which means the following set of requirements:

- Functionality
- Usability
- Reliability
- Performance
- Supportability.

The symbol "+" expands FURPS-model by adding to it:

- particular limitations of the project,
- implementation requirements,
- interface requirements,
- physical requirements to the system / software and computers.

Furthermore in the RUP specifications there are also such categories of the requirements as:

- requirements indicating a need for conformity with certain legal and regulatory acts;
- licensing requirements,
- requirements for documentation.

CHAPTER 3. COMPLEX SYSTEM MANAGEMENT OF THE SMES INVOLVEMENT INTO THE GLOBAL TRADE SYSTEM, GLOBAL PRODUCTION AND SUPPLY CHAINS

General Architecture

Integrated Information System of APEC economies should be a holistic technological and software environment of interaction of all participants in its target group on the basis of common principles and public generally accepted international standards.

Implementation of this project will allow to create an integrated information system, which links national, branch-wise and regional information resources, and provides within the framework of common standards with the collection, storage, processing, search and presentation of information in the interests of all interested parties of APEC economies.

The world economy is developing rapidly - within the framework of the transnational corporations of high-tech industries, based on knowledge of the latest achievements of science and technology, of advanced technologies and systems of production organization, the situation on the markets, etc. The basis of this development is information and communication technologies and standards.

The leading trend in the global informatization is associated with the formation of the information society, both in the global and regional scale. The United States launched a program for the creation of the National Information Infrastructure, as well as initiated the creation of a global information infrastructure.

EU countries developed and approved the structure of the all-European information space and the appropriate information infrastructure, as well as national programs. In the Asian-Pacific region a project of creation of the Asian-Pacific Information Infrastructure to bring together the national infrastructure in the countries of the region was initiated.

General principles and goals of building a global information society are determined by Okinawa Charter signed by the Heads of Governments in July 2000. Particularly it is stated there that "the essence of economic and social transformation stimulated by information and telecommunications technology is in its ability to assist people and communities in usage of knowledge and ideas", and that "the achievement of these goals and decision of appearing problems will require effective national and international strategies".

The main purpose of an integrated information system of APEC economies is (*Figure 50*).

The system should provide the following tasks:

- informing individuals and juristic persons about services and events in the field of foreign trade in the Asian-Pacific region, about the export opportunities of producers of export products of SMEs in APEC economies and relevant characteristics of such products through thematic information window (Figure 5):

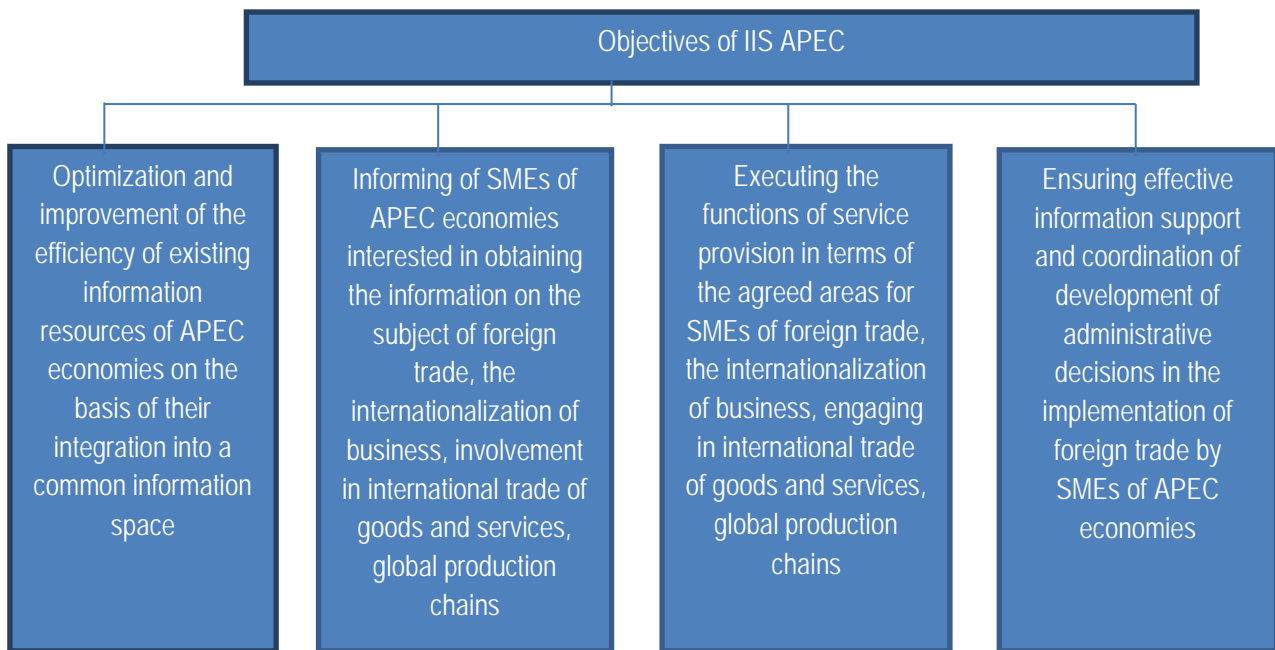


Figure 5 - Main Purpose of the IIS APEC

- Window "Database on SMEs" - business, scientific and technical cooperation, technology transfer;
 - Window "Information about the member economy in the field of foreign trade" - regulation of foreign trade, protection of intellectual property, goods and services markets;
 - Window "Interaction with big business" - business localization, subcontracting, supply chains;
 - Window "Investment attraction" - financial instruments, investment cooperation and investment projects.
- within the above windows IIS APEC provides operational information support to exporters in APEC economies and other subjects of foreign trade, including legal matters of implementation of such an activity;
 - system provides its users with the tools of access to operational information, means of its analysis and storage for later use;
 - ensure the provision of general and operational information to participants of foreign trade:

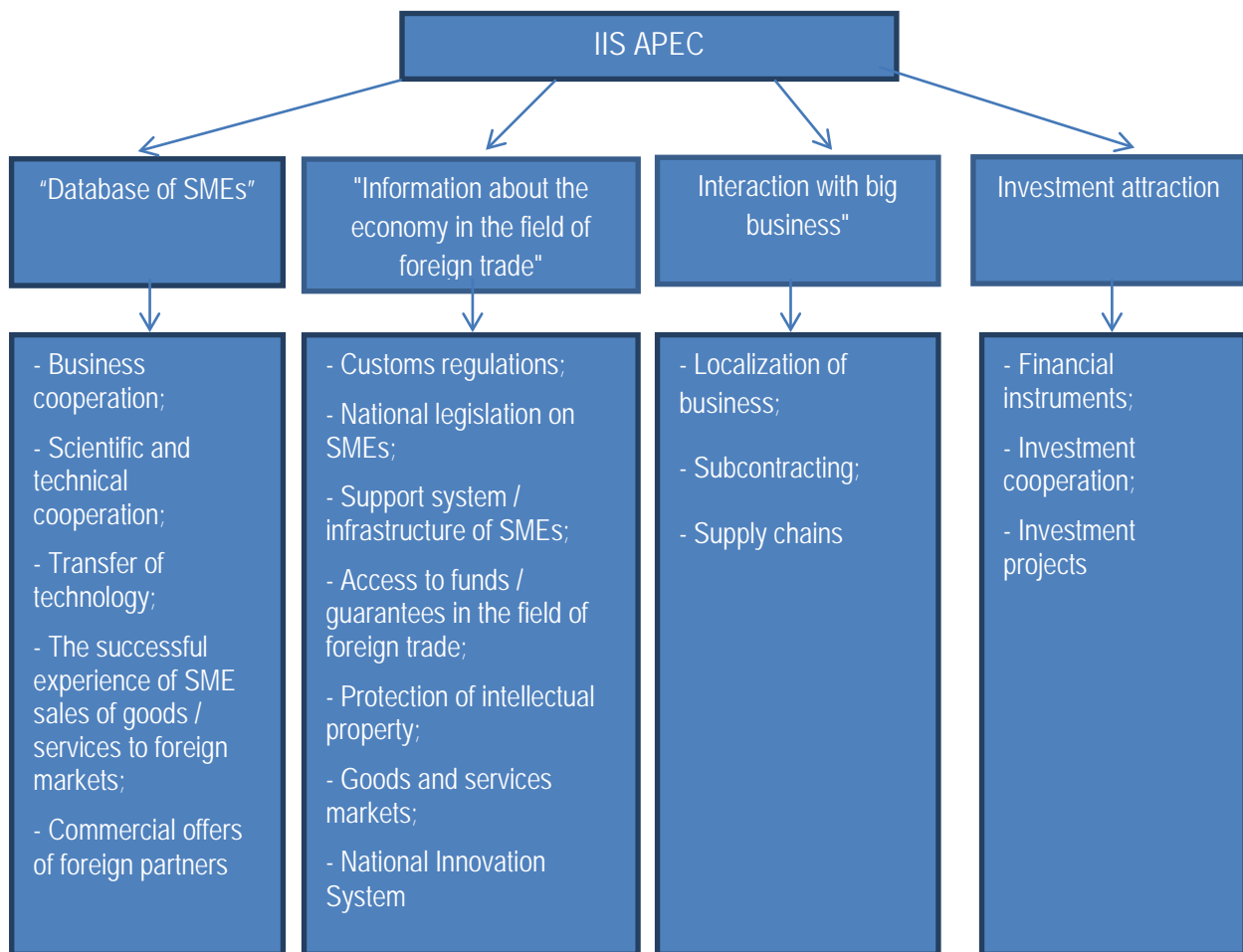


Figure 6 - Structure and Content of the IIS APEC Windows

- on state regulation of foreign trade;
- protection of intellectual property;
- conditions for registration and operation of the business;
- about activity in the special economic zones;
- aspects of customs regulations;
- about the system of support institutions / SME infrastructure, including in foreign trade;
- about the possibilities of attracting investments, the availability of funds / guarantees for SMEs in the field of foreign trade;
- publication of information and analytical materials on doing business in foreign economies, information about tenders and commercial offers of foreign partners, etc.;
- recommendations, practical advice and success stories promoting products and services of SMEs in APEC economies to international markets;
- the system has administrative instruments of content management, sufficient to support the transfer of functions to the external management system, while maintaining complete control over the performance of the system by authorized employees of the APEC Secretariat;

- the system has built-in mechanisms to maintain smooth operation, and provides the conditions for the most rapid elimination of potential problems, including a redundant subsystems for emergency replacement of defective critical components;
- the core system is a single database of foreign trade - a set of information and analysis on foreign trade activities, including:
 - plain text information resources;
 - complex information structures, such as directories, equipped with sophisticated tools of search and selection of a point of information. The central database must accumulate all available information on foreign trade for SMEs in APEC economies.

Project Stages

Creation and maintenance of IIS APEC is a complex organizational, technical and technological task. Its realization affects many aspects of practice in the field of scientific and technical information, and their implementation provides a sufficiently long period. Therefore, the realization of the main goal is split into several series to achieve the goals implemented in the independent stages, which specifies the practicability of a phased development of the system.

At the first stage the prerequisites for the realization of activities on the theme are formed. The main goal is to audit the current state of information systems of APEC economies (resources, relationships, technology, market, etc.), the choice of the best options for further work organization.

At the second stage there will be carried out a full-scale test of decisions made, consistent startup of the finished development of IIS APEC by the example of the selected economies (3 APEC economies at the option of the APEC Secretariat) for the purpose of pre-testing of the system, the analysis of practical results.

At the final stage there will be the plantation into the operation of full scope of the project decisions, taking into consideration changes that were made after preliminary approbation in all APEC economies.

For solving the main tasks for the formation of IIS APEC it is supposed to carry out the following organizational and technical steps (*Figure 7*).

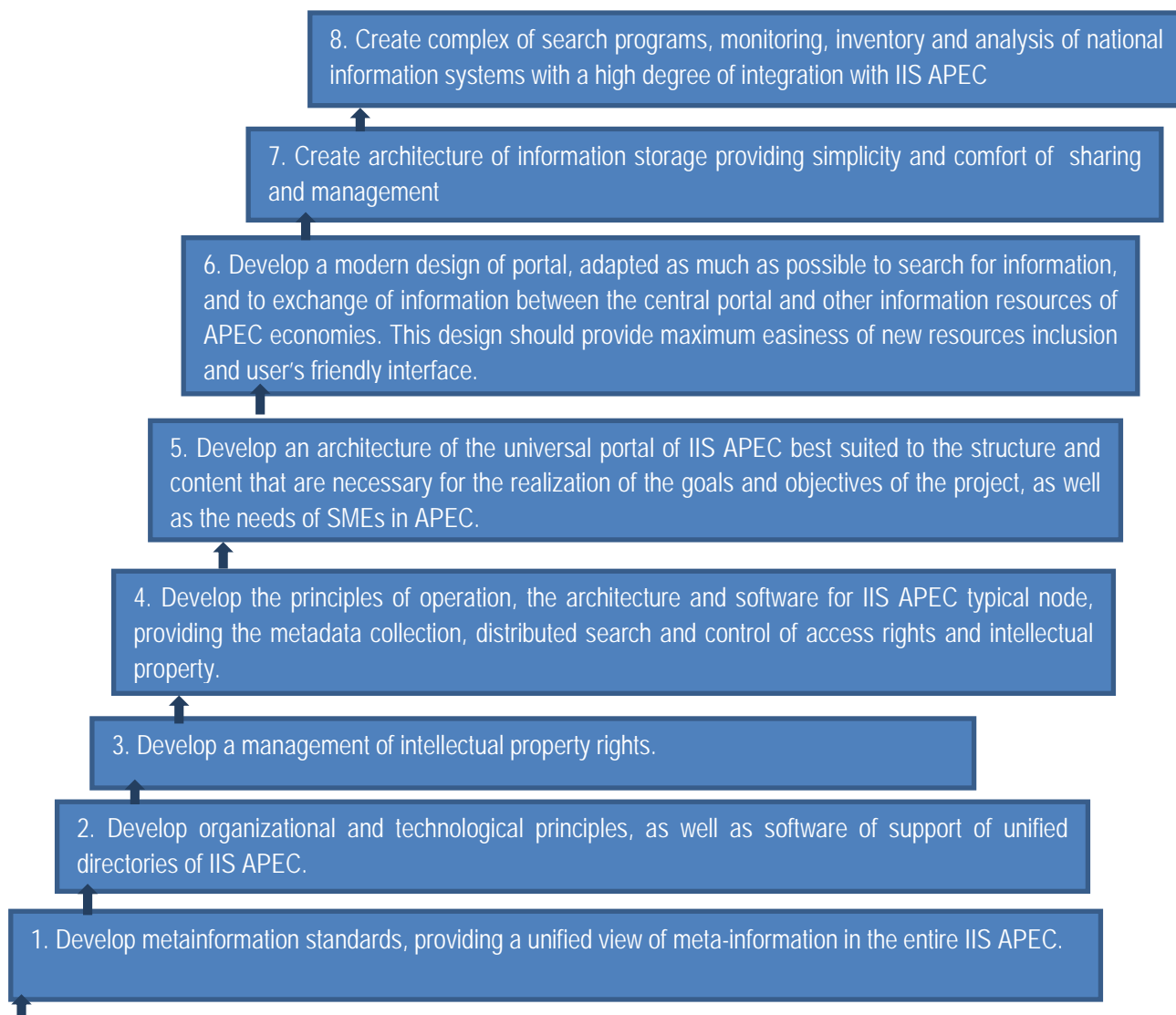


Figure 7 - Organizational and Technical Algorithm of the IIS APEC Creation

The solution to these problems must come from the requirements of decentralization of responsibility for information support. Each of integrable centers (national information systems) must be supported by its organizational structure, which has departmental responsibility for maintaining corresponding thematic collection of information - tracking its actualization and authenticity.

Participants, operator of IIS APEC

The main participants of IIS APEC should be:

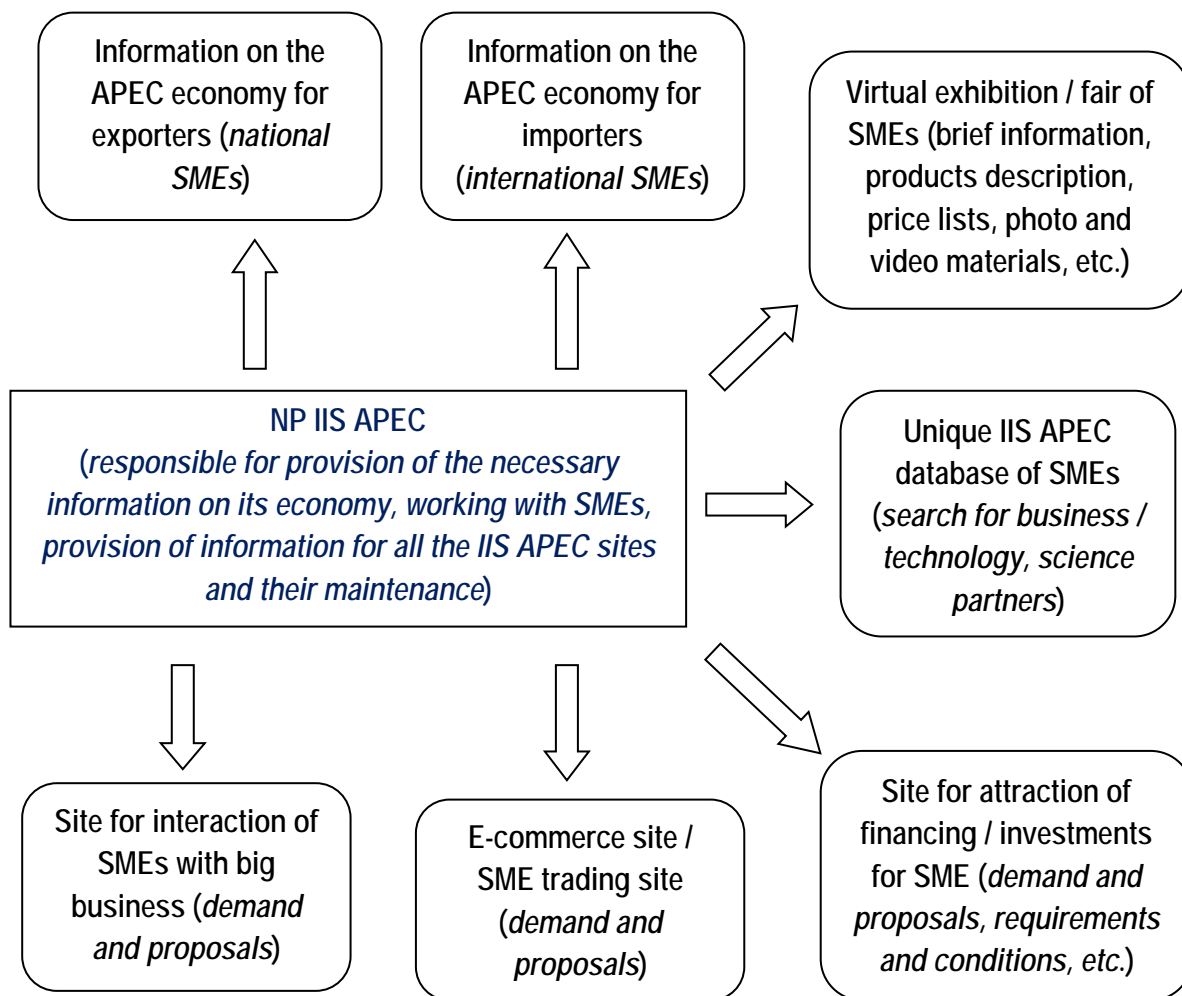
- profile structures of APEC economies, coordinating the activities of national information systems (national partner, which is determined at the national level on a competitive basis or on the basis of the decision of the national executive authority responsible for the field of entrepreneurship in the APEC economy);
- SMEs of APEC economies;
- support institutions / SME infrastructure on the territory of the APEC economies;

- international and national organizations that regulate the processes of internationalization and foreign trade.

Operator of IIS APEC is an organization to be selected by the APEC Secretariat for the implementation and coordination of the main objectives and tasks of the system, monitoring and control, marketing project IIS APEC.

National Operator is an organization to be selected on the national level by the responsible federal body to carry out and implement all the necessary IIS APEC functions.

Sphere of responsibility of a National Partner of the IIS APEC (Figure 8):



Management Structure

Sharing IIS APEC must be carried out in accordance with interstate and interdepartmental decisions and agreements of APEC economies.

For goal achievement it is necessary to create a mutually beneficial environment for SMEs of APEC economies and foreign entrepreneurs by access to the resource.

Realization of the decisions on the formation of an integrated information space of the APEC economies is based on the package of existing and developing international agreements that provide the organization and legal control of relations in the sphere of information and informatization.

The task of creating of interstate information systems as an integral part of the information in the Community is decided by the relevant intergovernmental and industry authorities. They work guided by decisions adopted at the international level, including this Concept.

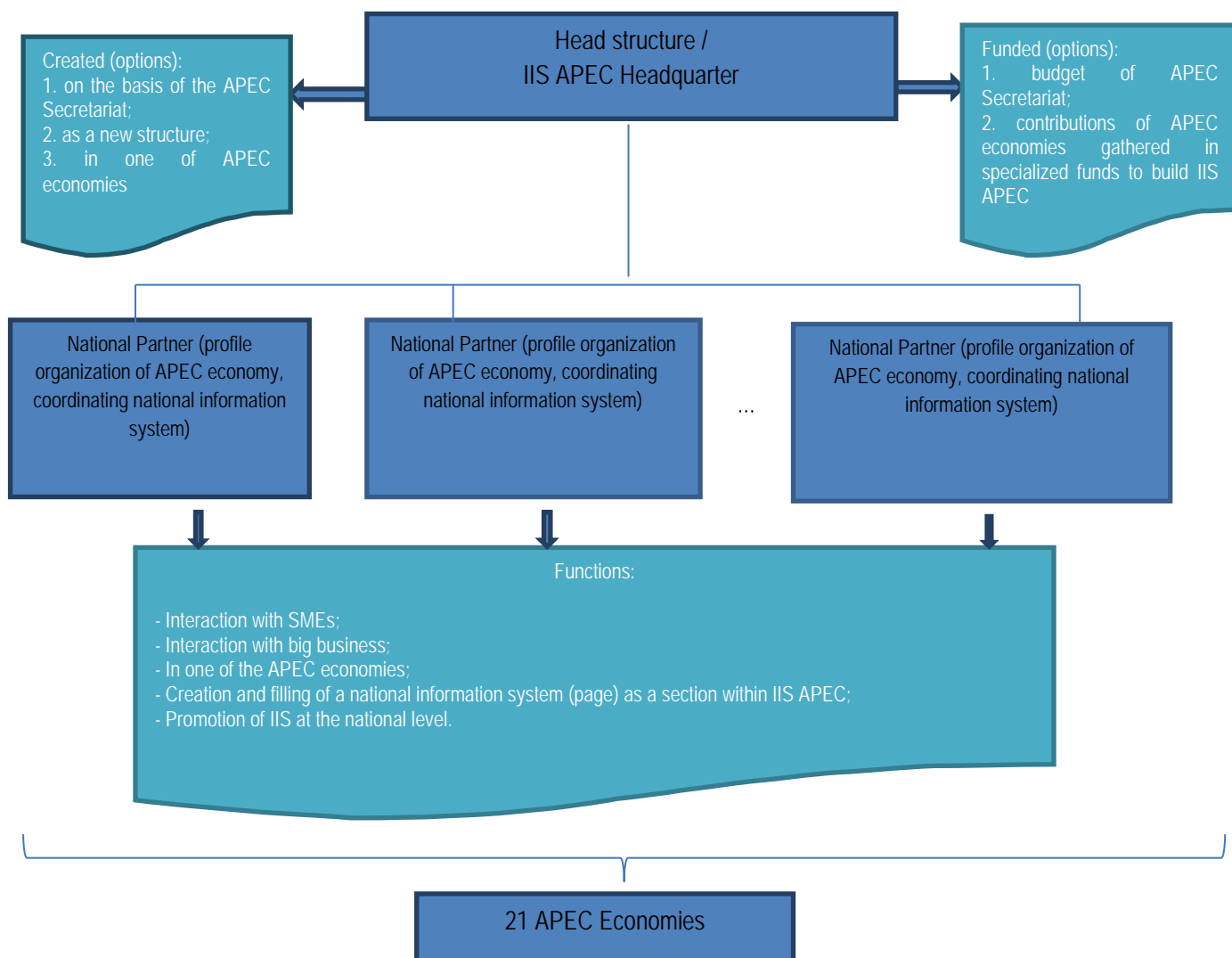
APEC economies and APEC Secretariat should carry out activities for the development of national information systems and IIS, as well as provide the advantageous environment for the implementation of information processes in those cases when it is important from the point of view of their interests, creates new opportunities for information exchange to promote cooperation according to intergovernmental agreements and international standards.

APEC economies create economic, institutional and legal conditions for the establishment of mechanisms of international cooperation in the field of an integrated information system and a unified information space of APEC.

One of the major problems of development of the information space of the APEC economies is to ensure each of them with its own information security and protection of its information sovereignty as well as the protection and preservation of APEC information resources.

A practical solution of ensuring national security information, bringing to responsibility for a threat or violation of information security in each of the APEC economies is carried out in accordance with their national law, international law and relevant intergovernmental agreements.

Management of IIS APEC will be as follows (*Figure 9*).



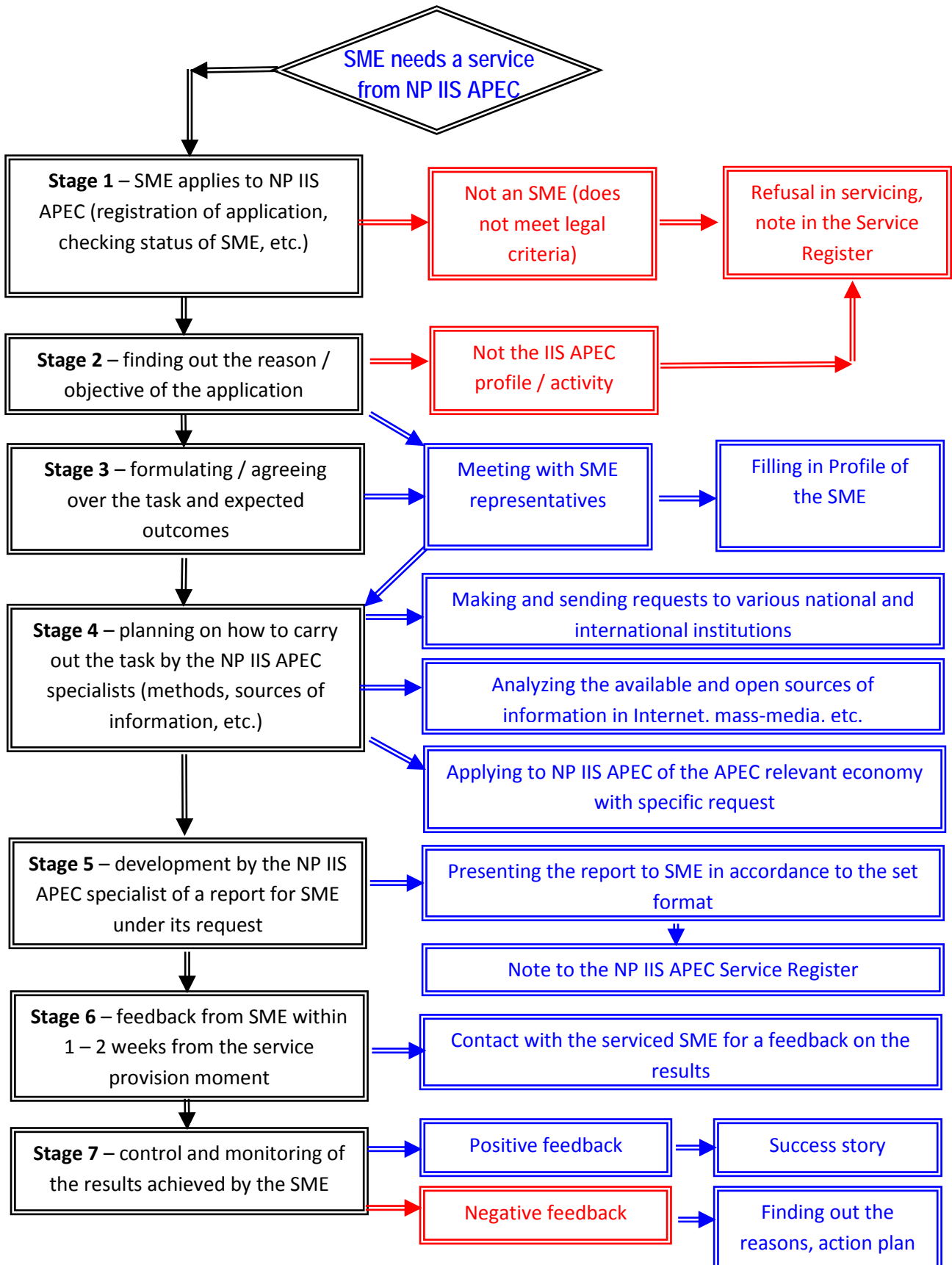
Thus, under the framework of IIS APEC it is necessary to create a unique database with profiles of those small and medium enterprises that have applied to the National Partner of the IIS APEC in order to get various information (information, analytical data, brief reports and overviews, etc.) and consulting (search for potential business / technological / scientific partners, subcontracting, investments attraction, etc.) services.

SME profiles should contain information in English on the company (name, address, location, contact person, web-site, e-mail, main sphere of activity, main products, etc.) as well as detailed description of its needs or proposal (search for a partner / technology, products sale, search for new products, etc.). Profiles might have as attachments product specification, price lists, certificates, etc.

It means that SME could apply to IIS APEC for information or consulting support. The whole service provision process should be carried out in accordance to special standards set by the IIS APEC and implemented within a certain period of time.

Also it is necessary to carry out on a regular basis special monitoring of SME (feedback opinion) that received this or that service from the National Partner of the IIS APEC.

The step by step interaction process (flowchart) for provision of information services for SMEs by the specialists of the National Partner of the IIS APEC (Figure 10):



The step by step interaction process (flowchart) for provision of partner search (business, technological, scientific cooperation) services for SMEs by the specialists of the National Partner of the IIS APEC (Figure 11):

Development Prospects

The next stage of development after the effective start of the project IIS APEC, as logical and natural essential will be the integration of both the international projects of its kind in the projects for a certain period, as well as the involvement of the economies interested in the stimulation of national SMEs to enter the markets of APEC economies and use of opportunities for the expansion of SMEs' support tools.

Expected Social and Economic Effect

Financing of the Project

To achieve the objectives of forming an integrated information space APEC it is required substantial amounts of funding.

Possible funding sources can be:

- The budget of the APEC Secretariat;
- Contributions of APEC economies – in case of joining any of economies to the IIS APEC.

Preliminary Realization Date and Estimated Cost

The practice of economies in the realization of similar projects for the formation of an integrated information systems shows different cost.

Preliminary estimate of the cost for building IIS APEC is 500.000 US dollars.

Preliminary period of IIS APEC realization: 2016 – 2020 years.

During the preparation of technical and economic ground of IIS APEC the specified time and cost will be refined and detailed.

Social and Economic Effect

The realization of the project on the creation and implementation of IIS APEC will provide socioeconomic effect on the level of APEC, separately taken APEC economy and SMEs, as well as the world economy in whole.

Benefits for APEC

Increasing the number of competitive SMEs involved in the internationalization process, promoting the development of APEC economies in whole. The formation of integrated information network will strengthen the role and importance as a market for the APEC economies in the world economy and APEC as a regional integration group in the SMEs sector.

Benefits for the National Economy

IIS APEC realization, aimed at involvement of more SMEs to foreign trade through the formation of a unified information space of the APEC economies, will increase the efficiency of governmental bodies and specialized agencies supervising the projects of SMEs support, to extend the format of support tools and increase the foreign trade turnover of the economy in whole.

Benefits for SMEs in APEC

The main advantage for business is that IIS APEC provides a participant of foreign trade with a unified channel for the receipt of all necessary information and documentation on the realization of foreign trade operations, the search for a foreign partner, opportunity to participate in the processes of internationalization and supply chains, which generally lead to reduce costs of participants of foreign trade relations.