

The concept of the formation of cross-border service iron and steel cluster with a specialization on the Bulgarian and Romanian shipyards

Iermakova Olga,

*PhD in Economics, associate professor
Odessa National Economic University*

Internationalization of business processes and increased competition have contributed to the role of service function as an important part of modern steel products market. The role of price and quality isn't crucial any more, at the same time service, which takes into account consumers' specific needs and provides them with an integrated set of products and accompanying services, determines a competitiveness of steel market participants. The main idea of the service economy is in providing not only a product, but a solution of client's problems.

Many Bulgarian and Ukrainian steel companies have become players in the service market. They offer such standard services as an assistance for customers in product selection and free replacement of defective products. The most advanced steel plants have made a service orientation as an important part of their business: for example, a company with an average production margin about 15% receives 25-40% profit on its service. However, usually this kind of services is offered inconsistent and irregular [1]. Moreover, in most cases it is unreasonable for iron and steel enterprises to manufacture iron and steel products in response to individual specific customers' requirements, because of unprofitability of readjustment of production lines. This problem finds its solution within a service iron and steel cluster, which provides centralized additional processing of metal according to the specific demands of a consumer.

The first service centers in the world steel industry appeared in the middle of the nineteenth century. The aim of these service centers was, on the one hand, to rationalize a sale function of iron and steel works and, as a result, to reduce a storage space, and, on the other, - to exempt consumers from necessity to do resource consuming procurement operations. Further service centers development added to their warehousing functions also metal processing functions: correcting, cutting, bending, grinding, coating etc. Another change in the organization of these centers was their focus not only on domestic market, but also on foreign trade operations.

Currently, the system of service iron and steel centers in developed countries has become an independent industry [2, p. 136-140].

There are two main types of service in steel industry:

1) A set of organizational and financial services, which includes simple operations: metal processing (such as cutting to size or bending), prompt dispatch and goods delivery to the consumer, large selection of steel products and its availability on a stock, packaging arrangement. The main task of such service is "an acceleration of the warehouse" without losses in product range.

Among the important innovations in this group of service benefits should be noted a significant spreading of commercial lending practices for corporate clients. And financial schemes such as factoring are implemented in work with some big

customers.

2) Service steel processing with the help of expensive equipment, which includes complex technical operations of the significant metal processing into a new product - semi-finished products, suitable for use in engineering or construction industry without its further processing by a customer. Here we are talking about the concept of "service iron and steel center" [3, p. 49-50].

However, in terms of globalization of world economic development, a service function in the steel industry requires fundamentally new approaches to its practical integrated implementation. One of such approach is a cluster approach to the realization of the concept of service economy in the steel industry. Thus, the third organizational type of service in the steel industry that meets the requirements of modern business is a service iron and steel cluster - the union of iron and steel manufacturing, service businesses, in particular, service steel centers, which work closely with research, educational institutions, public, industry organizations and local authorities in order to achieve synergies.

The popularity of service ideology in the work with consumers of steel products is increasing in many countries. Attention to service function in the steel industry is caused by two factors: 1) increased competition: enterprises introduce new production methods and technologies, resulting in reduced differences in production costs and competitors have to find new competitive advantages; 2) consumers' increased concerned about the organization of interactions with suppliers [1].

Traditionally, the cluster approach to the development of service in the steel industry is used in industrially developed countries. A pioneer in the organization and development of service iron and steel centers was the United States. Recently, the processes of cluster forming activated in the CIS, including Kazakhstan, where the cluster "Metallurgy and metal working" was set up, one of cluster projects in Russia is the iron and steel cluster in the Amur region.

In Ukraine, in policy documents of public authorities, including the State Regional Development Strategy by 2015, the State economic program "Development of innovation infrastructure in Ukraine in 2009-2013", the Concept of State regional policy, the Concept of the state industrial policy, strategies of socio-economic development of some regions of Ukraine, it is declared the transition to an innovative socially-oriented type of economic development of the state, one of the key tools of this process is a cluster model of industry development.

There are two generations of cluster policy [71]. Cluster policy of the first generation includes measures of identification of clusters, general cluster policy support, which are undertaken by state and regional authorities. Cluster policy of the second generation is based on knowledge of existing clusters in the country and provides an individual approach to the development of each cluster. State may stimulate the development of clusters, conducting various measures: 1) "broker" policy - a platform for dialogue between different actors of a cluster, 2) diversification of a local demand through placement of government contracts in local companies, 3) training the local workforce through the implementation of special educational and 4) creation of a "brand" of a region to attract foreign investment.

At the current stage of cluster policy implementation in Ukraine it is necessary

to conduct the first-generation cluster policy, which will develop generally accepted "rules" for the clustering process. Such supporting cluster policy in Ukraine will provide a platform for cluster development and stimulate the emergence of new cluster initiatives.

There are prerequisites for the setting up of a cross-border service iron and steel cluster in the Ukrainian Danube region, which will provide an additional processing of metal according to the specific demands of Bulgarian and Romanian shipyards. Schematically, the possible participants of this cluster are represented on the Figure 1.

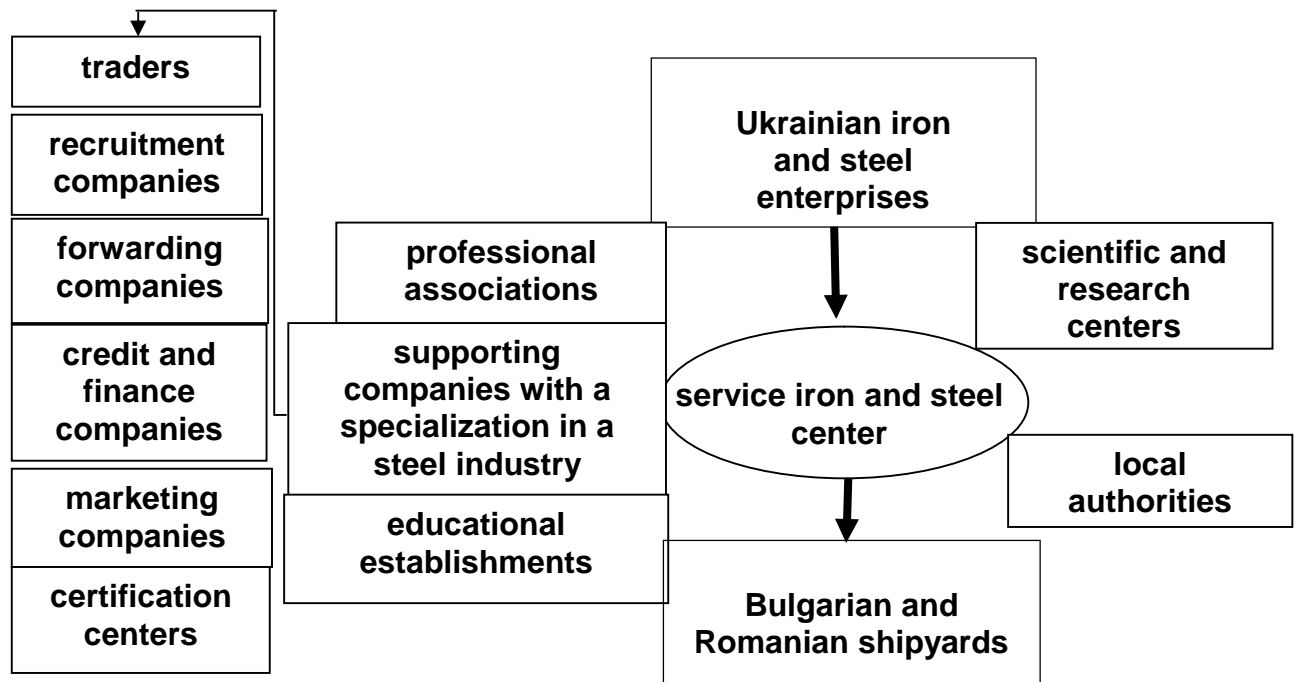


Figure 1. Participants of the Ukrainian-Bulgarian-Romanian cross-border service iron and steel cluster

Cluster will provide the following services:

- manufacture of metal parts, which are ready for assembly and installation on the consumer's works, technical consulting (*superprocessing principle*);
 - integrated planning and management of flows of information, materials and services from suppliers of raw materials through the enterprise and warehouses to the ultimate consumer (*subcontracting principle*);
 - decanting, remarking, repacking, formation of specific lots;
 - confirmation of metal quality, its mechanical and geometrical characteristics;
 - certification due to various international standards;
 - infrastructure services;
 - organization of product delivery into the customer's working area within the specified time frame (*modern logistics concepts: «just in time», «just in sequence»*).
- } (*outsourcing principle*)

The expected clustering effect can vary from 15 to 40% due to optimizing the manufacturing program, waste and transportation costs reduction, and also it will increase the added value of steel products.

Service iron and steel cluster creates added value and receives an income from it, but if you compare the price of a product manufactured by various contractors and price of product manufactured by cluster, the comparison will be in favor of the second, especially considering the logistics and time costs.

Cluster approach to the development of service activities in the steel industry can significantly expand the range of services provided by an individual service iron and steel center. In particular, existence of powerful research center within the cluster makes it possible to provide consumers with qualified consulting about processing and usage of metal, to organize various courses, seminars, schools on different aspect of metal usage that will improve the quality of the finished product. Moreover, the existence of research center within the cluster will enable more widespread adoption of new technologies that will provide innovative development of enterprises within the cluster. The goal of educational establishment in the cluster is professional preparation of qualified personnel (senior management as well as middle-level professionals) with specialization in metal processing field.

The benefits of the service iron and steel cluster will be received not only by its direct participants, but also by the region, in which the cluster functions, and by the states (Table 1).

Table 1

The benefits of a service iron and steel cluster

State level	<ul style="list-style-type: none"> • Development of metal-consuming industries; • Development of marine businesses that provides transportation of steel products to the consumer; • Stabilization of short-term fluctuations in the domestic market; • Reduction of the share of raw materials and semi-finished steel products in exports; • Simplification of control procedures for the granting of tax concessions and distribution of profits; • Receiving of a synergistic effect from the state financial instruments
Region level	<ul style="list-style-type: none"> • Growth of a gross regional product; • Increasing of foreign investments; • Increasing of employment in the region; • Infrastructure development of the region; • Development of scientific and innovative potential; • Development of social capital;

	<ul style="list-style-type: none"> • Strengthening of the region's position in world markets
Enterprise level	<ul style="list-style-type: none"> • Reduction of metal losses: according to estimations, metal cutting in the service center reduces metal loss by 8-10% compared with the doing of the same operations in the ordinary metal procurement division of a shipyard; • Reduction of transaction costs: the ultimate consumer signs a supply contract only with the cluster instead of a big quantity of contracts that it is necessary to sign beyond the cluster (a contract with a freight forwarder, ship owner, broker, surveyors, stevedores, etc.); • Reduction of delivery time, which is especially important in a changing conjuncture; • Reduction of risks: due to attracting reputable insurance companies and financial institutions cluster takes more risks than individual providers can take; • Stability of supply and predictability of prices through the establishment of long-term partnerships between the participants of the cluster.

So, a cluster approach to the development of service sector in the steel industry provides a powerful boost to the region, steel industry and the state due to a combination of economic growth with increasing intellectual and technological capital. Service iron and steel clusters will stimulate the development of the steel industry as well as other related industries, increase the competitiveness of enterprises on world markets and solve a number of socio-economic problems and activate a cross-border cooperation between Ukraine, Bulgaria and Romania.

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