

# MUSEUM FÜR TECHNOLOGIE- UND METALLURGIEGESCHICHTE

## MUSEUM OF THE HISTORY AND TECHNOLOGY OF METALLURGY

Irina N. Dashevskaya  
Zaporozhye State Engineering Academy  
Lenin Av. 226, 69006 Zaporozhye, Ukraine  
Tel.: +380 612 60-13-85, Fax: +380 612 60-13-85  
E-mail: interdep@zgia.zp.ua

### **Zusammenfassung:**

Beinflusst durch die globalen Prozesse der sozialen Umwandlung ändern Museen ihre Strategie, um ihren Platz in der neuen Informationsgesellschaft zu finden. In Zaporoschie (Ukraine) haben eine Hochschule und ein Museum ihre Aktivitäten vereint, um ein gemeinsames modernes Volksmuseum und Bildungsstätte zu schaffen, unterstützt durch neue Informationstechnologien -- das Museum für Technologie - und Metallurgiegeschichte.

Historische Erfahrungen der Metallherstellung sind ein wichtiger Bestandteil des menschlichen Erbes. In der heutigen Zeit ist ein erfolgreicher Umgang mit dem Erbe durch Ausnutzung von traditionellen Mitteln sowie mit Mitteln der neuen Informationstechnologien möglich.

Mittel und Ziele des erwähnten Museums bewirken einen offenen, komplementären, korrelativen, mobilen, modularen, der breiten Öffentlichkeit zugänglichen Charakter der Projektstruktur. Die grundlegenden Komponenten wie Ausstellung, Bildungszentrum, Modulares Interaktives Zentrum bauen auf dem bereits bestehenden Computerzentrum auf. Dadurch wird moderner interaktiver, mediativer Wissensraum des Metallwesens geschaffen.

### **Abstract:**

Under the influence of the processes of social transformation museums change their policy in order to find their place in new information society. In Zaporozhye City (Ukraine) high education school and museum combine their efforts to create modern and united public museum and educational service enterprise promoted through the new information technologies – Museum of the History and Technology of Metallurgy.

Historical experience of human art of metal making is an important element of human heritage. Nowadays successful communication with the heritage is possible by using both traditional and new information technologies.

These means and the aims of the mentioned Museum cause open, complementary, correlative, mobile, modular, accessible to wide-ranging public character of the project structure. Its basic components -- museum exposition, educational center, modular interactive center are based on the existing computerized centers. They will form modern interactive meditative space of knowledge about metal.

Like any other elements of the whole social organism museums are in the process of transformation now. Under the influence of the global economical development and information technologies progress the understanding of the human heritage and the museums' role of its custodian has changed. Museum policy became more wide, open and active.

Now museums reconsider forms and methods of their traditional kinds of activity like preservation of the pieces of heritage. They extend and vary new unaccustomed activities, especially in the sphere of museum communication. As a result, new kinds of museums have appeared. Idea, process, spirit of some human activity, life, history but not only the piece of heritage, the artifact by itself became the base for information transmission, for searching individual and social senses of

life. They really became social and cultural centers absolutely open to educational, cultural, museological and technical experiments and innovations.

Such are common sociocultural grounds for elaborating united museological and educational project "Museum of the History and Technology of Metallurgy" (MHTM) on the base of Zaporozhye State Engineering Academy (ZSEA), Ukraine.

The main idea of the project is to combine traditional museum and educational means with museological innovations and multimedia, Internet, virtual, interactive technologies in order to create the cultural interactive environment, in which historical experience of human art of metal making is represented as an important element of the whole human history and culture of life.

Metal is one of the most ancient materials used by man during a long ages till nowadays. That way, human interest in historical experience of manufacture and use of metals is eternal, general and stable.

Special interest to this theme have those people who live on the territories like southern-east of Ukraine. Here traditionally metallurgy is the key industry. Zaporozhye is one of the largest cities of this industrial region. It has great human resources, engineering and scientific potential. Historically it developed as metallurgical center with adjoined territories of great natural resources. The first large metal manufacture is known here from the period of ancient Slavs proto-town Protoltche on the Khortitsia Island (IX-XIV cent.). Now here are more than 50 metallurgical plants in Zaporozhye, in which most of the citizens are employed. Thus it is very important to provide here wide information about historical and industrial significance, economical perspectives, ecological dangers and simultaneously to promote the searching of their reasonable combination for worthy, secure and comfortable life in the region.

Such regional social policy tasks lay in the grounds of the project and define its main objectives and correspondent structure. Complex of cultural, educational, communicative, informative, scientific aims cause open to another subprojects and programs, complementary, correlative, mobile, modular character of its structure. Its basic components are:

- museum exposition;
- educational center (education, training);
- modular interactive center;
- applied laboratories and workshops (correspond to the project's main means – museum, educational, technological).

Museum communication tasks are to be solved through reconstruction, preservation and interpretation of such kind of heritage as human skills, art and culture of metal making and consumption. Museum exposition is an area, in which recreational and entertainment approach can be manifested better than in the other parts of the project. It will combine traditional exhibit of the artifacts and computer representation, visualisation of technological processes of ore extraction, metal manufacture, work up and use, of chemical, physical structure of the metals and so on, promoted through new information technologies. The sources of exhibits and information for the project are numerous – from archaeological diggings, collections of the local history museums and non-state museums of the metallurgical plants to metallurgical plants by themselves, research and training institutes, laboratories etc.

The main themes of the exposition will be:

- the sources of raw materials and perspectives of the future deposits;
- history of the main metals manufacture;
- technological processes of metallurgy;
- use of the metals in other industries;
- use of the metals in human life;
- ecological problems and ecological defense in metallurgical region;
- economical management of metallurgical industry;
- science in metallurgy.

Visitors will be able to get direct information and interactive experience of metal making not only from the interactive exhibits but also at the special laboratories, e. g. of experimental archaeology or at the workshops e. g. of making specimens and sections and other units of applied forms of reconstruction and interpretation of metallurgical heritage.

Museum exposition will closely correlate with educational center of the MHTM. Now it exists just as the Training Students Center (TSC) at the Academy's Faculty of Economy and Management (FEM). Later together with the Academy's science library it will turn into the space of information, advice, education, science on all aspects of metallurgy for everybody from schoolchildren to specialists and researchers.

Being completed with computerized equipment TSC can also serve as a model to another basic element of the MHTM project – modular interactive center where multimedia, Internet, interactive and virtual technologies will be used for the purposes of communication, information, recreational education and entertainment.

Now it functions only for training economical management training. Its analytical system of modelling includes:

- training systems for program products and program means Word, Excell;
- methodical directions on different disciplines in electronic and video variants;
- information systems for training on special disciplines (e. g. information system for macro-, micromodelling in different fields of metallurgy, mathematics modelling);
- automation systems of testing and rating knowledges;
- teleconferences in the local net;
- integrate information system for modelling different economical processes (e.g. marketing planning).

In cooperation with the Academy's Center of Informational Technologies (CIT) future educational center will be able to work up new information programs for the MHTM project development.

Such basic means of the Academy and its cooperators are rather reliable grounds for fulfillment by the Museum of the History and Technology of Metallurgy its role as a mediator which facilitates access of a wide-ranging public to the history, art and science of metal making and their influence on our life. Attractive theme and uncompleted cultural niche in Ukraine, urgent social problems, optimism of the project staff will promote its successful development as a modern and united public educational and museum service enterprise either.

Suppose, in perspectives it will turn to something like Cite of Metal, the local and even national powerhouse of innovation and development in the field of preservation, enlargement and diffusion the knowledges about metals.