

CIMUZET-2009.

“Dream of your museum”.

Panel № 1. “Integrating Science - Technology – Culture”

«Practical Use of Modern Museum Technologies in the A.S. Popov Central Museum of Communications, St. Petersburg»

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Russian science and engineering museums in the process of social and culture reformation

New comprehension of culture is coming up worldwide, culture as the power of the community togetherness, unity and viability of the whole nation, preservation and increase of intellectual and creative potential of the country. Within such comprehension the cultural policy of Russia may become the fundamental strategic direction of state policy, guarantee of efficient development of the country, its ponder ability in the world public opinion¹.

Reformation in the cultural domain is a direct consequence of happening economic and political

¹Museum /4/2009. E. Medvedeva. Production + Departmental = Corporate. Page 1.
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transformations, that's why it is necessary to find solutions facilitating the preservation of cultural values, including the technical heritage, on the one part, and creation of economic mechanisms enabling the development of culture in new market conditions, on the other part.

Creation of state-private partnership institutions is an important factor facilitating the culture development in Russia, which implies²:

1. Development of patronship and charity in the culture domain;
2. Development of cultural values market, joint participation of the state and business in development of the specified market, as well as in economically efficient projects in the culture domain.

The process of formation and development of science and engineering museums is connected with public apprehension of the significance of engineering for the culture. At the same time numerous

² Target program of Ministry of Culture of the Russian Federation on industry development until 2011.

burning problems of Russian science and engineering museums are caused by “perestroika processes” in the country and separately in branch ministries; imperfection of regulatory structure in museum business; revolutionary changes in information technologies and communications. Information technologies are becoming an integral part of the community’s culture, and they more and more manage the community and the culture. All newly formed structures for coordination of cultural activities are in fact based on implementation of cutting-edge telecommunication systems and provision of resource centers with state-of-the-art computer equipment³.

Modern Museum Technologies of Science and Engineering Museums

In order to facilitate successful development all engineering museums have to deal with numerous

engineering and technical problems, which can be divided into prospective ones: technical re-equipment, implementation of state-of-the-art information and museum technologies, creation of technological infrastructure, building of exposition-supporting technological infrastructure, internal communication "Intranet" network, providing access to the worldwide "Internet" information network, creation of integrated internal automated museum information systems, building of the telephone networks infrastructure, as well as infrastructure for access networks and for transportation networks providing multiservice facilities, and the current ones: showpieces restoration, equipment and maintenance of collection depositories, repair and maintenance of buildings, engineering support of expositions and employees' worksites, disunity and lack of coordination in the activities of museums and other cultural institutions, as well as non-compliance of traditional methods of work in the realm of culture with

³N.A. Nikishin, A.V. Lebedev, Information management as museum activities arrangement technology. // Museum of the future: information management p. 17.

demands and challenges of modernity, which substantially constrains the museums' opportunities to develop and to become a part of the world's cultural universe.

For great number of Russian museums, and among them the engineering ones, this results from several factors: poor technical potential of museums, absence of indispensable competent specialists; orientation towards and resting upon the traditional forms of the material presentation; ineptitude and sometimes reluctance of the museum specialists to respond the modern trends, tendencies and approaches.

Eventually, all this predetermines the modern situation in the museum communities as well, which still live on their old conceptions and materials. That is the reason why the modernization works under current conditions cannot be organized and implemented without the informatisation of the museum in whole. This is all the more necessary at present when the technologies become determinative not only in museum studies but also in education,

business, management and many more of various lines of human activity⁴. Informational and telecommunication infrastructure has become the basic part and the foundation of the information society open for all. Shared use and the outspread of global knowledge aimed at the development can be encouraged by elimination of the barriers on the way to provide equal access to the information used in various activities pertaining to economics, social sphere, politics, public health service, culture, education, science, as well as by facilitation of access to the information being the public domain⁵.

The exposition of a modern museum, and primarily of an engineering museum, is impossible without introduction of different technological tools of visualization into its "context". Some specific problems related to the difficulty of perception of the "museum product" offered to the consumer by the

⁴ Prolyetkin IV PRC NIT Saratov's State University, Shpak M.E., Saratov's State Fine Arts Museum named after A.N.Radischev

⁵ Declaration of Principles "Creating of information society – the global task for in the new millennium". World conference... Genève, 2003, Tunis, 2005.

museum should be specifically highlighted. In my opinion, the attitude of the so-called "progressists"⁶ is the most vital for the scientific and engineering museums where the modern technical tools do not come in contradiction with the form of exposition and with the basic idea – the idea to demonstrate the importance of engineering in the social life. It is obvious that using the modern technical tools and facilities as well as information technologies would be most effective, and consequently, organizationally and economically gainful, only if they meet various interests of the consumer both in informational and recreational museum services. As for the process of continuous changing, it concerns also the ways of solving the problems of cultural and ideological upbringing. Upon creation of exposition much attention is given to the interactive engagement that enables to illustrate memorials of history and technology as well as the opportunities furnished

by information technologies. More and more the museum is becoming an institution for educational, enlightening, scientifically informative and formative as well as for the recreational activity, including family leisure time spending.

Practice of the A.S.Popov Central Museum of Communications in St. Petersburg

Scientific and technological advance, especially in the realm of telecommunications, has changed people's needs and demands, particularly of the oncoming generation, which presents the substantial target group of the basic museum activities of the Central Museum of Communications.

Having introduced the technological tools and devices into the museum exposition the employees of the A.S.Popov Central Museum of Communications using them as an auxiliary facility have been trying to respond to various demands and requests of their potential visitor and to give him an opportunity to realize

⁶ Driker A.S. The ideal display in the traditional museum and new technological space.//Museums and informational space: problems of informatisation and the culture heritage: 10th annual conference of ADIT-2006,5-10 of June,2006.

his or her exigencies in a fullest manner.

Creative and dialogic character of communication in the modernized museum is provided and supported by comprehensive use of interactive equipment and functioning models.

Moreover, the technological tools serve as a carrier for accompanying and ancillary information in the exposition, which in its turn allows the pieces of exposition to become more "information-intensive" and investigative for different age and educational groups and categories of visitors.

Thus, for instance, the "Modern communications services" section interactively presents the services of modern contact center (Protey), of the digital television broadcasting (Telemedium), of the public WEB-telephone (Siemens), as well as data transmission services and IP-telephony (Cisco). In the NEC company showcase, different video reviews related to communication utilities are demonstrated on plasma panels (which serve as an example of

modern devices of information display).

The classical telephony services are demonstrated interactively using the institutional electronic station DEFINITE as a sample in the next telecommunication module adjoining to the "Digital telephone stations. Evolution towards the networks of the future" show-case. The multimedia form of display is realized for the information demonstrating the gradual progress from the classical telephony system with demultiplexing towards the batch methods of data transmission. as well as demonstrating the change-over to a new network architecture where the two levels are segregated, namely the transportation level and the access level⁷.

The exposition of the "Physical fundamentals of electric communications" hall uses the interactive dummies widely as well.

Here their idea and solutions comply with the only one purpose that is to bring to the notice of

⁷Booklet "The A.S.Popov Central Museum of Communications. St.P., 2007.

visitors the fundamental principles of physical phenomena of electric communication, the mechanisms and mode of functioning of the equipment; to raise the concernment with active familiarization with the following sections of the museum's exposition.

The essence and the main import of visualization of physical phenomena presentation is expressed by the fact that the rare showpieces are neighbored by a big number of interactive functioning models which can be touched, studied and observed in process of functioning. The exposition is divided into four zones dedicated to the evolution and basics of the telegraph, telephone, radio receiver, and television set. The interactive showpieces as well as the video reviews shown on the sensor display screens are very helpful for a person aiming at puzzling out with these questions⁸. The interactive zone is planned and designed in such a manner enabling the children, without any risk of breaking the rarities of historical importance, could independently carry

out experiments and construct, thus satisfying their own inquisitiveness. In this case, the devices of the exposition equipment offer an opportunity to explain demonstrably the museum showpieces, to string together the new knowledge translated during the museum communication with everyday's visitors experience, and thus to simplify the digestion of this new knowledge.

In no way less important is the usage of the technological and information facilities in realization of the museum's recreational function. As for the A.S.Popov Central Museum of Communications, these requirements are met by the Internet-centre, the postal department; the centre for electronic entertainment is mapped out. The postal department is organized as an operating modern mailing unit, where the letters and parcels can be posted and the postmarks are sold, the basic operations aided by the devices and solutions of new technologies: electronic succession, cyber-money, cyber-mail in the renewed branded style marks. The main purpose of the

⁸ Booklet "Physical basics of electro-communications", St.P., 2008

Internet-centre is to provide any visitor with an opportunity to connect to the Internet network and its services, to browse through the electronic version of the museum, to log into the game network or to watch a film or a musical broadcast, or to exchange some information with colleagues using electronic mail. The multimedia kiosks play a special part in the provision with information, i.e. in "approximating" the potential of the museum to the interests and needs of visitors. The electronic entertainment centre implies the setting up of electronic and electromechanical simulators, game robots or thematic game machines, which would most likely attract the attention of visitors of the younger age and help to create the appropriate conditions for the family leisure.

Among the new museum technologies the following are paid special attention and care: creation of conditions for implementation of multiservice technological network at the exposition and automation of employees worksites, implementation of integrated computer-aided museum

information system "CAMIS" enabling to create an electronic database of museum collection items⁹, accommodating enhanced access to the historical monuments of communication technology, marketing information system based on the "Terrasoft" system for strategic planning, fundraising and museum design.

The multilevel information system for visitors, the visualization of cognitive processes, wide use of interactive equipment and functioning models as well as technical support of two websites of the museum using the resources for exposition sections updating – all these are new museum technologies facilitating basic activities of the Central Museum of Communications in gathering, safekeeping, studying and presentation of the monuments of the history of technology in the modern world's cultural space. One of the most up-to-date methods of attracting of visitors to the museum,

⁹ The Technical task for the special module of "Numbering and registration of the marks of the postal payment in The complex automatic museum information system "CAMIS", 2005.

requiring a most significant attention and expenses is the creation of interactive sections for the visitors of the junior school age who present one of the most critical categories of the museum visitors.

The museum product of the museums of communications is realized as a kind of scientifically cognitive process associating in one focus the history of development of telecommunications, technological equipment, software, and services and is formative for the oncoming generation, educative and outreach for wide groups of visitors and very curious for younger children¹⁰. The opinion poll carried out in a group of school leavers demonstrates that in the age of increasing role of information and telecommunication technologies, engaging them in visiting the museum would require boggling the imagination of the fastidious youngsters audience with the help of new methods of visualization of the museum's scientific and technological sections

¹⁰ Bakayutova L.N. Modernisation of the activity of technical museums on the example of museums of communications. Papers in museology , 2008.

or the temporary exhibitions as, for instance, the exhibition of the Stockholm's Nobels Museum «Alfred Nobel: Innovation Networks», which was presented and held in the Central Museum of Communications from March till June, 2009, and was especially popular among the students and their tutors groups, for the level of visualization and new approach to presentation of historical material.



The provision of interactive feedback between the visitor and the object (model) on the ground of dialogue or even polylogue encourages the better accessibility and visibility of the technological processes as well as intensifies interest in the very visiting of the museum of technologies, including for the entertaining purposes.

Prospective Directions of Russian Communication Museums Development.

Monuments of history, science and technology available in the specified museums, are for the

purposes of development of science and engineering, culture, education, patriotic, moral, national, international, professional and aesthetic education of people, therefore:

1. The profile museums are becoming the most efficient basis for construction of branch culture, which is based on deep historical knowledge joint by uniform assessment of artifacts, modern experience in public display of genuine showpieces and wide access to informational content.

2. The museum facilitates the branch development in general, acting as a non-commercial intermediary between any branch producer, including the mass media producers, and its target audience. Cooperation with producers and developers extends the museum's marketing opportunities of elaboration and implementation of the most demanded educational programs and museum products. The museum uses extra arguments and opportunities for replenishment of its collection "on-line", when the product becomes an object of display and study

immediately after its market appearance, and receives additional financial and organizational resources for performance of its chartered activities.

3. The profile museums' contribution to the educational process and occupational guidance is invaluable, when a museum specialist "plunges" young auditorium into the "communication world", giving both education information used directly in the learning process, and enlightening and providing the scientific cognition process.

4. The museum ambience of "communication world", as a rule, generates in the visitors the feeling of solemnity, which may be used for extension of museum activities as a branch or regional historical and cultural center, for holding presentations, award events, graduation events of school leavers, graduates of colleges and profile universities, congratulation of veterans.

5. Such events, in their turn, held within the professional community,

with so called "plunging" into the communication ambience enable to make use of additional opportunities for personnel incentives, development people's pride in the chosen occupation and responsibility to the future. It is the contacting with the history that generates the feeling of involvement in high level professionalism and harmony of interests. In the political system of a state economic benefits are determined not only by revenues directly derived from production activities of a certain institution, but even more by the factors, which affect the intellectual and moral growth of working masses, eventually resulting in improvement and increase of such work efficiency. If to interpolate the above stated in terms of the present, then apart from the terminology preconditioned by development of communications nothing has hanged.

6. The nature manages to find time for innovations. It keeps changing within the evolutionary process. The society and culture give numerous useful pieces of advice as regards the improvement and

innovation process. By all means, innovations and reforms are an essential and even key feature of each modern society. What is meant here is to cooperate being an evolutionist and innovator, to find understanding, support and to keep explaining why the innovations are good, correct and necessary. It is for these purposes that the branch culture may use the profile museums, in which the ambience itself is nutritional medium for holding round tables, discussions, workshops and conferences devoted to the topical issues of modern society for securing better interaction between branch researches, clients and personnel.

7. The sponsoring function of enterprises for the civil society is invaluable. It becomes possible to hold numerous actions, establishments and initiatives of sport associations, culture triggers, folklore groups, school forms and other groups in the museums only thanks to their financial support. But the enterprise giving only its money is not contributing everything, and probably not the most valuable of its resources

to the innovation center of civil society. It's the other way round, for solution of its production problems it uses the potential offered by the public engagement. Today the "corporate citizenship" is a far-reaching new strategy of business operations described as investments in innovation field of the enterprise. It is not referring to self-representation of enterprises, but to versatile educational process, which may facilitate various innovations both within and outside the enterprise.

8. Corporate civil projects show the further development direction of public institutions, such as profile museums. Corporate civil projects mobilize a great number of companions-in-arms at all levels and result in growing reputation of the company and production. The profile communication museums are the best possible site for active actions intended for creation of corporate civil projects.

9. Pressing by involvement of the new direction as Mass media communications to the branch culture, the communication museums are able

to get the role of experimental sites for promotion of the projects directed to a huge number of people both present and in the distance. Conferences in the regime of multileveled polilog (for example Telebridge) with the auditoriums of the other cities and different countries much increase the possibilities of projects managers, give the possibility to expertise new technologies, public programs and show business method (for instance, theater performances, conversations, concerts) which is in practice in the foreign museums.

10. And when we are speaking about the role of museums in a new understanding of culture, as a force for human unification of the society, we suppose that telecommunication specialists are exactly the correct group to accept strategic results of the reasonable support of the branch's communication museums to effective construction of branch culture, connecting all workers of the telecommunication sphere in order to professional growth and corporate tasks solving.

The balanced accord of cognitive and recreational functions in the museum of science and technology produces the most positive effect, and in full responds to the requirements of exploring the mechanisms of adaptation to the market-based economy conditions. Moreover, such an approach contributes to generation of interest in consuming the services of science and technology museums.

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