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**INFOMATIZATION OF SOCIETY - A PATH FHOM CHAOS OF
THE TRANSITIONAL PERIOD TO STABILITY OF POST-
INDUSTRIAL CIVILIZATION**

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SUMMARY

Informatization of society is a necessary prerequisite to post-industrial civilization, a new superlong-term informational cycle which starts with crisis, chaos, bifurcation. All-embracing informatization of every sphere of society life takes place: science and production, market and ecological systems, social and political relations, education and culture, medicine and sport. Markets of informational services, software products, hard-ware are forming, these markets are becoming global in scope. Countries and international communities support directly and indirectly developing and spreading of informational systems, regulate markets of informational services, further their demonopolization.

1. INFORMATIONAL REVOLUTION AND TRANSITION TO POST-INDUSTRIAL CIVILIZATION

On the verge of the third millennium the mankind has entered the transitional period - from industrial to post-industrial civilization (Yakovets, 1993 ch.3). This period will last more than a decade and is accompanied with a continuous profound crisis which involves one group of countries after another and will result in revolutionary transformation of man himself (his needs, abilities, knowledge, skills), of technological basis of society and mode of organization of production of economic, social and national, political and legal relations, science and education, culture and morals, ideology and religion.

Forming of informational society, radical transformations in the essence, technical means, methods of collecting, processing, storing, transferring and using various information is characteristic of post-industrial civilization. Informatization expressing the nucleus of modern technological change is based on microelectronics, computerization of society, on development of telecommunications networks, video and multimedia means, it reflects processes of growth of science-intensive social reproduction, increases many-fold productivity of intellectual labor and effectiveness of intellectual product, it is accompanied with forming of local, regional, later - national and global informational space. O.Liodelski and W.Thompson point out that leading sectors which help to integrate the world community on a democratic basis correspond best of all to formation of international democratic community. "One such basic sector is communications that holds out the possibility, through the application of computers, space satellites and fiber optics, of knitting together the human race, via multi-media, in a dense network of voice, video, and data links. We might be reaching the point where, over the next two-three decades, the exchange of information, instantaneously and world-wide, will raise global networks to a yet higher level, creating something like a central nervous system for human organization" (Hodelaki, Thompson, 1992, p. 57).

Transition to a new civilization starts with bifurcation, increase in chaotic movement, aggravation of contradictions leading to military conflicts, growth of unemployment, a few waves of economic, social and political and ecological crises. It is an agonizing but unavoidable state and every country, every people and the whole world community has to pass it faster losing as little as possible. The road from chaos to a new coherence lies through comprehensive informatization of society on the basis of latest technologies, acceleration of technological change.

The coming of informational revolution is on the agenda, it will last about half a century (last quarter of the XX - first quarter of the XXI century) and can be compared from the point of view of its historic significance and consequences with invention of writing or book-printing

In order to comprehend this upheaval, its fundamentals, structure and dynamics one should turn to studies of general regularities of cyclic dynamics, genetics and synergetics in this specific sphere of human activity.

2. INFORMATIONAL CYCLES AND CRISES

The ability to perceive, select, process, store, accumulate, produce information is the universal and indispensable property of living matter existing from the moment of origin of life on the Earth (a few billion years). The progress of living matter expresses itself in multiplication and complication of informational flows, their regulating and consolidating in hereditary invariant (genotype), its enriching on the basis of selection which allows organisms (systems) to adapt themselves to constant and irregular changes in the environment.

Informational selection is an important factor of evolution.

Evolutionary processes (including those in the sphere of information) develop irregularly - in a cyclic way (Yakovets, 1992, pp.12-21). Increase in scale, multiplication and differentiation of informational flows which provide for vital functions of existing systems conflict from time to time with radical changes in the environment. An informational crisis begins which results in bifurcation - a spasmodic change of properties of a given system or its disintegration and substitution with a new, more progressive one. An informational crisis is expressed in increasing inability of a system to adequately perceive and qualitatively process information, produce informational signals in time for adapting to impetuously increasing external shifts. The system gets obsolete, its coefficient of perception of incoming signals becomes lower, reaction slows, the ability of objective assessment of information weakens, the same is true for the ability of making radical decisions. A transitional period comes main property of which is a state of chaos, uncontrolled informational flows and decision-making, contradictory and non-effective actions, non-co-ordination of elements, derangement of the whole system.

But somewhere deep inside this chaotic movement elements of new stability are born. Among vast number of mutations most of which are doomed to destruction one can see a cluster of innovations which correspond to the highest degree to changed conditions and enrich the genotype becoming an initial basis for forming of the next cycle which makes flows of coordination in the world of chaos broader. But this is not a return to the former state rather a transition to a new coil of the spiral, to informational flows which are qualitatively changed in their content, technical means, organizational forms and scale. When this coordination state becomes prevalent, limiting the sphere of chaotic fluctuations a transitional period comes to an end.

Newly established informational system becomes predominant and stable. It develops evolutionary, rejects revolutionary changes which could doubt its homeostasis. Elements of monopolism and stagnation increase with time. Latent prerequisites for a new crisis, state of chaos are created from which another state of co-ordination emerges in a long-term perspective. And this takes place cycle after cycle, one coil of the spiral after another.

Hence comes the conclusion: periodical coming of states of chaos in dynamics of any system is unavoidable, it is a regular phase of cyclic dynamics of a system, manifestation of its crisis, bifurcation as a prerequisite of revival on a new basis or substitution of an obsolete system. The problem is 'to foresee in time the coming of this state of chaos, its periods, scale, depth, making losses smaller, select and support elements of new co-ordination.

One should distinguish informational cycles (and correspondingly, periods and amplitude of chaotic fluctuations) of different time spans:

- cycles which take place every ten years as a result of renovation of machinery and technology generations and mid-term economic crises and require co-ordinated changes in scientific, economic and educational information;

- cycles which last 20-30 years; they are connected with long-term fluctuations of investment activity, successive changes in generations of people, periods of their economic and political activity (Schlesinger, 1992, pp. 50-52); here one can observe a broader field of renovation of informational flows;

- semi-century Kondratieff cycles, initial point of which is the change of scientific paradigms, technological modes, a cluster of basic innovations, shifts in social and political life, a transition to new stages in dynamics of civilizations (Kondratieff, 1989, pp. 199-208). Qualitative leaps in informational sphere, invention and mastering of radically new technical means and methods of collecting, processing, transferring and using information are components of these changes;

- lasting a few centuries civilizational cycles which start with emerging of a new

civilization; this process is accompanied with a long transitional period of chaotic fluctuations, deep crises and revolutions in science, technology, economic, social and political relations, in education, culture, ideology (Yakovets, 1993, ch. 3). During transitional periods radical shifts in informational sphere take place, informational chaos increases, restructuring of informational flows goes on as well as their technical basis, algorithms, forms and methods of processing, transferring and using information. The mankind is living through such a period now; it is important to comprehend essence and logic of current changes timely and adequately.

3. BIRTH OF INFORMATIONAL SOCIETY FROM CHAOS OF THE TRANSITIONAL PERIOD

The last quarter of the XIX - the beginning of the XXI century will be characterized by historians of the future as a global transitional period (embodying the cluster of deepest crises which embrace all sides of society life) connected with transition from industrial-machinery civilization to informational-humanitarian one. This, transition has begun in the 70-ies in a group of highly developed countries and is spreading all over the planet catching new groups of countries. Russia and other-former republics of the USSR cannot be outside this process. The transition has turned out to be lasting and troublesome, it opens up brilliant prospects but is also rich in contradictions and conflicts, especially in Russia and other countries of the CIS, Eastern Europe countries, a number of Asian, African and Latin American countries.

As synergetic research shows transition of a big system from a non-co-ordinated, chaotic state to a co-ordinated one (or vice versa) is a property of the system itself (the principle of self-co-ordination). "Rigid" static systems are subject to catastrophes, under certain disturbances they disintegrate. More flexible systems which possess dynamic stability are adapted more easily, remain stable even under major changes of external conditions (Mutchnik, 1990, pp. 53-54). Rigidity of economic and social and political systems in totalitarian states has become a factor of their disintegration when military confrontation of the two political systems ceased to exist and a new challenge of transition to a flexible post-industrial society took place. That's why, in such countries the state of chaos, non-co-ordination 'of movement reaches a critical point when disintegration of multi-national states, international conflicts and civil wars follow. However they cannot last for ever - decline is followed by rise, chaos is followed by co-ordination. The question is what price we will have to pay for this transition and how long it will last. But let us turn back to problems of informatization. Earlier we have characterized post-industrial civilization as an informational humanitarian one. What does it mean? Do radical shifts in informational sphere and its place in society really take place? Do we have grounds to speak about informational revolution? There are serious arguments for giving positive answers to these questions.

First, reproduction of material goods, services and spiritual values is based more and more on informational technologies. Without them it is impossible to produce competitive goods, successfully work on the market, satisfy increased spiritual needs. Not only the process of reproduction but also social and political and spiritual life becomes still more complex, multi-factor, science-intensive. Social systems cannot survive, quickly adapt to swiftly changing external conditions without a new quality of collecting, processing, storing, transferring and using information. All-embracing informatization becomes a necessary factor of vital activity.

Second, the second technological revolution, transition to the 5th technological mode, breakthrough in the field of microelectronics, computer technology, multi-media have created material prerequisites for increasing many-fold the speed, volume and complexity of information processing (co-ordination).

Third, creation of informational systems, computer networks, progress of telecommunications using satellites, cable TV, fiber optics, telefaxes, machine translation help form intergrated informational space not only within the borders of a region or a country, but on a global scale and break down informational barriers.

Fourth, major progress is observed in a new branch of science' informatics, development of fundamental and applied problems of application of modern informational technologies in different, spheres, theory of recognition of images, classification of information, forming of data bases and knowledge bases, modelling and algorithmizing. The share of scientists, designers, engineers programmers occupied in the field of informatization increases quickly. This changes the character of labor, frees man from subordination to machine technologies, makes his work more creative.

4. EFFECTIVE FIELDS AND CONSEQUENCES OF INFORMATIZATION

In Table 1 we show the fields of effective application of modern informational technologies and its possible consequences.

The initial field of society informatization is the sphere of scientific activity and designing. To gain new knowledge, invent an original competitive construction, work out an effective project, prove (or refute) a new brave hypothesis one should study a vast and quickly growing amount of scientific and technical information, compare his own results with the best existing analogues, try tens of variants, check and assess the reliability of scientific conclusions, originality of a designer's decision. In periods of scientific and technological crises and upheavals chaos expands in this sphere as well, scientific and technical information depreciates quickly and requires radical reevaluation. Using data bases, overcoming monopolism and conservatism one should select effective scientific and design decisions (which will serve as a foundation of new generations and directions of technology) and build new co-ordinated informational flows. It is important not to make mistakes, not to pursue a brilliant idea which time has not come yet because a mistake in science can be very expensive in practice if an ineffective innovation is materialized.

Table 1

Fields of application of Informatization and Consequences of informatization

Fields of application of Informatization	Consequences of informatization
1. <u>Science</u> ; informational technologies, data bases, CAD, artificial intelligence	Increase of reliability of conclusions, forecasts, new opportunities for revealing regularities
2. <u>Production</u> ; flexible automation, control, microcomputers	Acceleration of innovations, accounting for demand, resource saving, getting labor more intellectual
3. <u>Market</u> ; informational commercial networks, stock exchange and banking systems, marketing research	Acceleration of resources turnover, quickness and reliability of decision-making, conditions for competition
4. <u>Ecology</u> systems of ecomonitoring and ecocontrol	Resource saving, reduction in pollution, making environment better
5. <u>Social and political sphere</u> ; analytical systems, public opinion studies	Democratization of society, weakening of totalitarian, pluralism of opinions
6. <u>Education</u> ; teaching systems, interactive discs, TV teaching	Growth in effectiveness, continuing education
7. <u>Culture</u> ; art production, art telecommunications	Availability of masterpieces of arts to everybody, flourishing of national cultures,

	international cultural exchanges
8. <u>Medicine</u> ; diagnostical systems, medical computer networks, data base.	Correctness of diagnoses, effectiveness of treatment, prophylaxis, medical education

Modern informational technologies lead to radical changes in the sphere of production of material goods and services. Industry giants which are based on rigid informational and technological schemes cannot react quickly and effectively to accelerated rate of changes in needs, market conjuncture, new scientific discoveries and inventions. Now comes the time of flexible systems of design and manufacturing of plants, easily reconstructed, open to innovations. The place of a man in production is changing: he becomes freed from rigid connection to a technological system, from the role of a passive appendage to a system of machines his creative role in collecting and processing information, algorithmizing and programming, in management increases. All this is connected with constant complication, restructuring, diversification of informational flows, chaotic fluctuations which are succeeded with new co-ordination.

Under these conditions significance of commercial market information increases greatly: an amount and structure of demand, prices, exchange rates, deposit rates, conjuncture of neighbouring and distant markets and so on. Monopolistic limitations, deconcentration of production, establishing and bankruptcy of hundreds and thousands of small firms, increase of competition and connected with it hiding of information, fever-like overfalls in conjuncture - all this it seems leads to chaos, non-co-ordination, *unreliability of economic information, to impossibility of acquiring and using it in time. In such a situation one can rely on modern informational technologies, telecommunicational and computer networks, reference systems, data bases, satellite communications, faxes and other miracles of radioelectronics which help find Ariadne's clue amongst chaos, choose the optimal way in a labyrinth, of competition, limitations and bans. Modern market economy functioning is practically impossible without such co-ordinated informational flows; it takes an increasing share of production and circulation costs to pay for them.

No less important are national and global systems of ecological information - data on condition, quality, reproduction, exhaustion, saving of natural resources, level of pollution of the environment, natural and technogenous catastrophes, effectiveness of ecological measures and programs being realized. Because nature does not recognize state borders many ecological processes and accidents are global in their consequences, informational chaos, late and not sufficient or false information is especially dangerous in this respect (The Yabinsk and Chernobyl disasters are vivid examples). We should have a global system of ecomonitoring based on modern informational technologies. But as creation of such a system is very expensive and will take a long time, we can speak about selecting critical points (zones of increased danger, social and cultural centres, points where typhoons, tsunamis, earthquakes are formed) starting from which forming of coordinated informational ecological flows could take place. Gradually the number of such points will grow, that will lead to creating of regional and world ecological networks based on space means of observation and control making the whole system cheaper. From the very beginning this work should have an international character.

Requirements to social and political information are changing. The amount of such information increases many-fold, it becomes more complex, differentiated. It relates to data on the level and quality of life of many different social groups, accounting for their specific demands and interests, changes in public opinions, assessment of political groups and parties activities, openness of mass media, availability of information on legal regulations, various state organs activities, criminal situation and so on. Increase in stratification of society, aggravation of struggle for power, disintegration of totalitarian states which had also been

based on rigid reclamation and selection of informational flows, seizure of new levers by mafia-like structures - all this leads to increase in chaotic state of social and political information, to informational instability and overload, stress situations, nervous breakdowns or apathy among considerable part of the population. Informational flows should be selective, coordinated; the question is who, how and in whose interests does it. Social and political information is a double-edged weapon, and various political forces and parties struggle to control it.

Significance of educational information increases at high rates. In periods of general crises and upheavals it lags behind being conservative and having longer duration of educational cycles. It is the more so dangerous, as the sharp acceleration of changes intensifies the process of outdateding of knowledge and skills, stereotypes from textbooks. The amount of losses from functional illiteracy and professional incompetence of workers incapable of effective performing of their functions under radically changed conditions grows strongly; it is accompanied by growing number of the unemployed who have to leave their working places feeling helpless in roaring informational flows.

The stem of coordination of educational information becomes forming of the system of continuing (more exact-continuing-cyclo) education (Yakovets, 1984. 2.1; 1988, 7.4). Optimal amount and content of information should be determined for every educational cycle in human life beginning with pre-school education and ending with education of pensioners; the most effective methods, forms, technical means of educations should be chosen which allow with minimal costs, in short periods of time to achieve desired results; systemic education in different types of educational institutions (schools, technical schools, higher institutions, post-graduate studies, etc.) should be combined with constant self-education with the help of modern informational means (audio- and video-cassetts, CDs, interactive CD-ROM discs, TV programs, cable TV, etc.). Without overcoming of chaos, effective (giving freedom of choice and strengthening wish and readiness to learn) coordination of educational information it is impossible to adapt working force to new conditions of life and labor, to achieve higher level of productivity and quality of work.

The sphere of culture does not use modern informational technologies on a sufficient level, though it represents the most adequate field for them, especially in Russia which possesses great cultural heritage. It is enough to mention that in Russia in 1989 there were 364 theatres which staged 145 thousand performances for 59 mill, spectators; 1160 museums (including 175 artistic ones) which had 38 mill, objects (196 mill, people saw them that year); 62,5 thousand libraries which kept 1155 mill, books and journals, 74 mill, people visited them.

Crisis in Russia and other countries created a real threat to cultural heritage: the number of visitors of museums, theatres, libraries falls as well as the number of their workers; valuable artistic objects are stolen more often. A wave of mass culture has poured into these countries through videosaloon and TV. Crisis of culture is global in scope. The most effective way of overcoming it is Informatization of art and aesthetic education. The program of the World Decade of Development of Culture (1988-1997) approved by UNESCO and UN contains a number of measures aimed at restoring cultural and human values in the centre of economic and technical development ("Practical Guide ... ", 1988, p. 17). Key role in saving and revival of cultural heritage will belong to education and information all resources of traditional and new technologies should be used for that purpose and first of all means of mass art (cinematograph, photography, animated cartoons, TV, sound recording) and "technological art" (video, laser, holography). Informational meetings in museums will take place, data bases on cultural wealth will be created as well as national means of production and distribution of audio and video programs, multifunctional cultural centres, international system of distribution of audio and video materials on culture is to be improved, regional

informational centres and informational structures devoted to cultural problems are to be established; international projects in the sphere of specialists' training for culture and communications are to be realized (op. cit., pp. 21-22-24, 39-41, 43,44,51). Russian state conversion program "Modern informational technologies in art" developed and coordinated by the International consortium "Masterpieces of art" and approved by the Government of Russia and UNESCO is aimed at reaching a synthesis of high art and high technology. The program includes: forming data bases in museums, making video-films, video-cassettes, CDs, CD-ROM discs, holograms, slides, computer guides on museums (sub-program "Art production"); establishing in Russia and other countries of a network of museum, educational regional, commercial, social and other artcentres - electronic galleries equipped with modern Informational technologies (sub-program "Artcentres"); working out series of TV programs for aesthetic education, conducting TV bridges "Excursions through space" subprogram "Art TV Space"); organization of ecomonitoring of major museums (the Hermitage, the Tretyakov Gallery, museums of the Moscow Kremlin), working out means of conservation of museums' valuables (sub-program "Artecomonitoring"); working out economic and legal Application of modern informational technologies in the sphere of culture will allow to save and enrich cultural heritage, form national and global cultural space, make masterpieces of art open to every family, every school.

Informatization of medicine is no less important. Broader application of modern informational technologies in this sphere opens up new horizons:

- possibility of earlier and more correct diagnostics with the help of computers and data bases;
- having necessary consultations (via satellites from the most qualified specialists in case of disasters, epidemics, complex operations);
- organisation of medical monitoring, state of health control, control over epidemics spreading and so on;
- qualitative improvement in means of prophylaxis, medical propaganda, mastering of basics of medical knowledge by the population, propaganda of sports activities;
- organization of control of radioactive and other forms of pollution influence on human health;
- development of telematic technologies used in medicine, establishing of a trans-european telematic network for medical purposes;
- development of medical science, data bases, international informational computer networks for medical purposes and sports' activities.

Programs of informatization of medicine are realized on both national and international levels, are enjoying support of the World Health Organization, EC institutions.

Thus, step by step modern informational revolution embraces practically all spheres of society and every family activity, provides a new quality of life.

5. FORMING OF THE INFORMATIONAL SERVICES MARKET

Work in the sphere of Informatization (developing, mastering, equipping, servicing, using informational systems) involves more and more people engaged in national economies, it becomes a specific field of labor and economic life. Informational market is now being formed. It includes:

- market of scientific and technical products - developing means of informatization, element base, informational networks, space communications, etc.;
- market of technical means of informatization-integral circuits, computers, videoequipment, multi-media, modern means of communications, satellite systems, and so on;
- market of software products necessary for operation of computers, multi-

media, informational systems;

- market of informational services proper, for direct users according to their interests (scientific information, informational services in the field of production, market, ecology, education, culture, medicine, and so on).

Peculiarities of the last market consist in the fact that its object of buying and selling is a specific high-technological intangible good which satisfies certain needs of institutions and individuals. TV companies, informational agencies, videostudios, educational and medical informational institutions and companies, etc., act as salesmen in this market. Purchasers of informational services can be both institutions, acquiring information services for collective use (schools, higher education institutions, libraries, cinemas, artcentres, videosaloons, commercial structures, hospitals, polyclinics, etc.) and individuals; in this case we mean a segment of consumer market - a market of payable services.

Informational services market is divided in a single-point one (informational networks in a museum, library, research centre), a local one (cable TV, local radiobroadcasting), a regional one (TV programs for specific regions), a national one (national informational networks - TV, radio broadcasting), an international one (covering the CIS countries, EC, etc.) and a global one. This division influences geographical limits of informational services price formation. These services vary greatly, they combine serving mass users with satisfying individual needs. Hence the difference in prices for similar services depending on regions, scale of the market, regularity of providing services, etc.

In a totalitarian state with centrally planned economy informational services are firmly controlled by the bureaucracy, they are usually produced by state enterprises and institutions. In market economies state and international regulation of a number of indicators and segments of informational market (distribution of frequencies, standards in services, ban on pornography, existence of state TV and broadcasting companies, informational centres) is combined with private and collective sector supplying these services, co-existence of monopolistic groups and numerous small and medium informational enterprises. Freedom of informational activity, competition in the given services market is one of the most important conditions of forming and functioning of the market, democratic society, protection of person's rights and freedoms.

However, not the whole field of informational services bears market features. Considerable portion of such services which are of prime social importance are provided free of charge, especially in the spheres of medicine, education, culture, social protection, ecology. Means for these spheres are provided by the state, municipal organs, pension funds, philanthropic organizations. Part of the informational services are provided in households.

Informational market differs in some specific features depending on the type of services in various fields. As the informational society grows the structure of informational services market becomes more complex, its share in GDP, national income, number of engaged in production, enterprises and federal expenditures grows.

6. STATE REGULATION OF INFORMATIZATION OF SOCIETY

Taking in consideration the utmost significance of informatization of society in forming of post-industrial civilization, in satisfying needs of different layers of population and in the potential of the country, as well as large scales of investments in developing and creating of informational infrastructure, the state actively supports - directly and indirectly - this process.

First of all, this support is expressed in financing programs of developing and mastering modern informational technologies. So, in the third frame EC program (1990-1994) 2221 mill. ECU are allotted for development of informational and communication

technologies -38,956 of all expenditures for the program, including 1352 mill. for informational technologies, 489 mill. - for communication technologies, 380 mill. - for telematic systems (support of forming of trans-european communications network among administrative services, transportation services, health protection, flexible and extramural education, libraries, etc.) (Program of Scientific Research... 1992, pp. 7, 35-39).

National programs of informatization also take place. In Japan a report "The Plan of Informational Society - the National Goal for the Year 2000" was prepared in 1972, in which eight programs aimed at realizing this goal had been defined. In France the Program of National Computer Policy aimed at developing informational technologies was adopted in 1978. In 1983 the United States announced about the program "Strategic Computer Initiative" which aim is to work out avant-garde informational systems. In Great Britain the State program of complex development of informatics (Alvey Programme) was adopted in 1982 which included 4 sub-programs and 315 projects; expenditures for the program amounted to 525 mill.doll. (Antonyuk, 1989, pp. 73-76).

In Russia 8,6 bill, roubles were allotted for informatization programs in 1992- 17,5% of all expenditures for federal scientific and technical programs. Besides, 8,9 bill, roubles were allotted for the state space program. The draft of the federal conversion program "Modern Informational Technologies in Art" provides investments from all sources of more than 5 bill, roubles (in prices of the end of 1992).

Indirect ways of state support of informatization programs can include: easy credits, tax exemption, tariff preferences, accelerated depreciation of equipment, and so on.

Besides, the state supports development of foreign economic ties in this sphere, attracting foreign investors, personnel training, as well as it regulates some rules and limitations in providing informational services from the point of view of social protection of population and guarding state interests.

7. CONCLUSION

Thus, the most important way of overcoming chaos of the transitional period into which the mankind has entered in the last quarter of the XX century, forming of co-ordination of post-industrial civilization is the all-sided informatization of society, mastering of achievements of contemporary informational revolution. This will lead to radical transformations in every spheres of society, changes in the quality of life, forming of a vast market of informational services which becomes more and more international in scope being regulated by national states and world community. To move more effectively along this path, minimizing losses on the way while overcoming transitional crisis and chaos it is necessary basing on the theory of cyclic dynamics to develop and periodically renew the network of national and international forecasts and programs of informatization of society, conduct training and retraining of qualified personnel, especially young scientists, forecasters, programmers. This kind of research work as well as schools of young forecasters would also be expedient to conduct on the base of the World Futures Studies Federation. The International Kondratieff Foundation, Association of forecasters "Forecasts and Cycles" are ready to participate in these activities.

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