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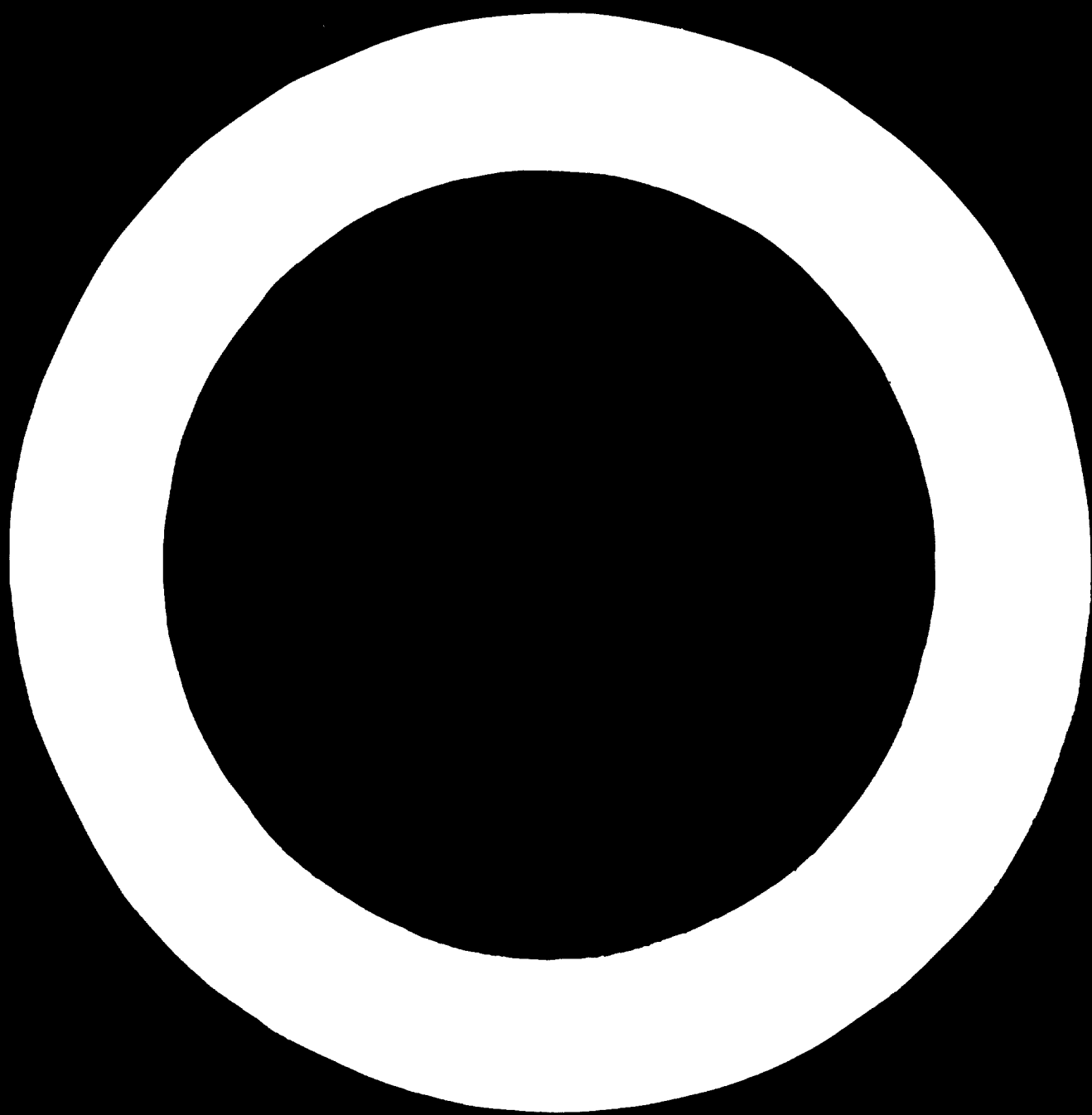
**STANDARDIZATION AND ITS PLACE IN NATIONAL
ECONOMY DEVELOPMENT OF THE UZBEK REPUBLIC**

by

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STANDARDIZATION AND ITS PLACE IN NATIONAL ECONOMY DEVELOPMENT OF THE UZBEK REPUBLIC

One of the most pressing problems of the present moment - one which ensures success in the economic development of the Soviet Union as a whole and the Uzbek Republic in particular is that of improving the quality of produce. This problem remains in the focus of attention of the Government, the ministries and departments and the workers of science and industry of Uzbekistan. The problem of raising quality of goods is all the more acute in view of the rapid development of industry and agriculture in the republic.

The national economy of Uzbekistan has given priority development to the light and food industries, cotton ginning, agriculture and particularly machine building for cotton growing. The industry of the Uzbek Republic comprises over 1,300 large enterprises covering various branches many of which, as radio engineering electronics, have been developed during the last few years. The industry of Uzbekistan is known far and wide and its goods are exported to over 80 countries of Europe, Asia, Africa and America.

The development of industry and agriculture, the growing demands to the quality of goods have gone hand in hand with the development of standardization as one of the primary prerequisites for a planned improvement in the quality of goods.

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Standardization in Uzbekistan is conducted through the efforts of ministries and departments, special standardization centres and industrial enterprises in accordance with standard-

ization plans on the national level, on the level of the Uzbek republic, the given branch of industry or the plant or factory concerned. Major problems of standardization affecting the national economy are included into the plans for the development of the national economy of the USSR and Uzbekistan in particular.

The standardization plan of the republic envisages three stages : elaboration and revision of existing standards and technical provisions ; supervision over the introduction of standards ; supervision over the adherence to standards, technical provisions and quality of goods.

Responsibility for the methods and technical guidance in standardization activities by ministries and departments and various enterprises is vested with the Commissioner for the Committee on Standards, Measures and Measuring Instruments under the Council of Ministers of the Uzbek Republic and the laboratories of the State Inspection of Standards and Measuring Instruments.

Back in 1930 the Council of People's Commissars of Uzbekistan (the Government of the Republic) set up a Standards Committee which even at that time drew up annual and long-range plans for standardization activities, co-ordinated elaboration and introduction of standards, stimulated improved quality of goods and supervised the introduction of and adherence to normative and technical documentation at all the enterprises of Uzbekistan.

Bureaus of Standards have also been set up in Samarkand, Bukhara and Kokand to render practical aid to industrial enterprises in realizing standardization.

In the following years the Council of Ministers of the Uzbek Republic set up an office of the Commissioner for Standards, Measures and Measuring Instruments in Tashkent and state control laboratories in the regional centres. A special department of standards was also set up at the State Planning Commission of the Uzbek Republic.

A Laboratory for State Supervision of Standards and Measuring Instruments was set up in Tashkent in 1965 under the Commissioner for Standards and the territorial state control laboratories were reorganized into laboratories of state supervision over standards and measuring instruments. This reorganization was necessitated by the growing volume of work in standardization and new tasks facing inspection of standards and measuring instruments.

At present the office of the Commissioner for the Committee of Standards, Measures and Measuring Instruments under the Council of Ministers of the Uzbek Republic operates through 12 subordinated laboratories of state supervision for standards and measuring instruments : the Central Laboratory of State Supervision, 10 regional laboratories and one town laboratory in Kokand.

The laboratories of state supervision for standards and measuring instruments are equipped with modern high precision instruments and have a staff of some 600 highly qualified standardization and metrology specialists.

The office of the Commissioner for the Committee of Standards under the Council of Ministers of Uzbekistan has the following scope of activities. It elaborates standardization plans jointly with the State Planning Commission, presents them to the Government of the Republic for approval and super-

vises their fulfilment. The Commissioner's office works out recommendations for the USSR standardization plan, organizes the activities of ministries, departments and enterprises in the field of standardization and supervises timely introduction of standards and technical provisions, improvement of quality of goods, preparation of goods for state quality inspection, broad introduction of faultless manufacture at industrial enterprises, etc.. The Commissioner's office also trains standardization and metrology specialists, organizes conferences and seminars on standardization, supervises the work of all the state inspection laboratories and maintains contacts with the ministries and departments.

The Central Laboratory for State Inspection of Standards and Measuring Instruments in its turn provides methods guidance to the regional State Inspection laboratories, the ministries, departments and enterprises in the field of standardization. It enforces state supervision over the introduction and adherence to standards and technical provisions and quality of goods at industrial enterprises in Tashkent and Tashkent region, as well as state registration of technical provisions approved by the local ministries and departments and partly by the State Planning Commission of the republic. State registration of normative and technical documentation is undertaken with the purpose of supervising quality of these documents and the adequateness of the accepted indices and norms to modern requirements by subjecting them to a commission of experts.

The regional laboratories of state inspection over standards and measuring instruments provide methods guidance to enterprises in standardization, supervise the introduction

of standards and adherence to them and also look after quality of goods at the enterprises of the city and region.

The standardization department of the State Planning Commission of the Uzbek Republic jointly with the office of the Commissioner for Standards elaborates plans of standardization in the republic, presents them to the Government for approval and supervises their fulfilment. The department also works out recommendations for the USSR state standardization plan and examines and approves local standards and technical provisions.

The ministries and departments of the republic operate in the field of standards under the methods guidance of the office of the Commissioner for Standards and the State Planning Commission of Uzbekistan. The enterprises of the ministries elaborate plans for branch standardization, approve branch technical provisions and exercise branch supervision for the introduction and fulfilment of standards and technical provisions and the quality of goods.

The research institutes, designing bureaus and design-technological departments prepare the drafts for branch standardization plans, provide methods guidance to the branch enterprises in standardization, elaborate and present to the ministries for approval drafts of branch and other technical provisions.

The standardization service at the enterprises keeps a register of the normative-technical documentation in circulation, introduces the necessary changes into these documents, participates in the elaboration of standards and technical provisions and their introduction into industry, conducts studies to estimate the economic efficiency of standardization.

The large machine-building enterprises of Uzbekistan have big standardization departments which work on various aspects of standardization, unification and units construction.

In 1969 the enterprises of Uzbekistan had a total of 737 standardization service centres with a staff of 1,400.

The office of the Commissioner of the Committee for Standards operates directly under the Council of Ministers of the Uzbek Republic and the Committee for Standards, Measures and Measuring Instruments under the USSR Council of Ministers (see scheme).

Structural scheme for the organization
of standardization in the Uzbek SSR

Committee for Standards, Measures
and Measuring Instruments under
the USSR Council of Ministers

Council of Ministers of
the Uzbek SSR

Office of the Commissioner of
the Committee for Standards,
measures and Measuring Instru-
ments under the Council of Mi-
nisters of the Uzbek SSR.

State Planning Commission

Central Laboratory of State Su-
pervision for Standards and
Measuring Instruments.

Ministries and departments

Territorial laboratories of
State Supervision for standards
and measuring instruments.

Central standardization
establishments.

Administrative
subordination

Enterprises

Methods guidance

There are at present over normative-technical
documents in circulation in Uzbekistan including state
standards which cover the entire produce of the republic.

All the standards and technical provisions which are under operation are tested for adequateness to modern quality index requirements. Standards and technical provisions with outdated quality indices are annuled and replaced by modern standards or are altered to meet up-to-date requirements.

During the last two years alone some 250 technical provisions have been worked out in Uzbekistan for machines, instruments, apparatuses, technological accessories, materials, articles for household and cultural use with quality indices meeting the requirements of the national economy of the republic.

Attention is focused on the timely introduction of new and progressive standards. The Government of Uzbekistan has adopted instructions outlining the procedure for drawing up and introducing standards into the national economy according to which the ministries and departments co-ordinate their work in standardization, work out plans for organizational and technical measures ensuring the introduction of new standards.

Under the plans for organizational and technical measures the enterprises undertake preparatory work preceding the introduction of new standards : they specify the blueprints, the technological and other documentation, develop new technological accessories, develop systems for controlling quality of goods in accordance with the standard indices, inspect the control, measuring and testing instruments and apparatuses to ensure their conformity with standard requirements and also determine the expected economic effect from the introduction of the new standard.

The Laboratory of Standards at the Central Research Institute of the Cotton Industry has worked out a state standard

for raw cotton. The standard includes requirements to the quality of Soviet fine-staple varieties of cotton. The Institute has just worked out a state standard for machine-picked raw cotton. The introduction of this standard in agriculture will make it possible to develop considerably machine harvesting of cotton.

The Chirchik Branch of the USSR Research Institute of Electric Transformer Construction has developed a standard for transformers with live voltage adjustment (GOST - 12965-67)* which has been introduced at the Chirchik Transformer Plant. The introduction of the new transformer has reduced power losses from idle run and short circuiting, cut down on capital investment and resulted in the saving of over 222,000 roubles.

The introduction of standards has an enormous economic effect. During the period from 1966 to 1969 the annual saving in the national economy of Uzbekistan from the introduction of 480 standards amounted to over 6 million roubles.

The Central Laboratory of State Supervision over Standards uses a special system of mechanical computers operating with perforated cards to ensure efficient registration of standards. This system provides instant data on the preparation and introduction of standards at individual enterprises, ministries, departments and allows for radical measures to be taken to speed up introduction of these standards.

In view of the considerable increase in the volume of work connected with standardization and the introduction at the Standards Committee of a rapid data service, the laboratories of state supervision in Uzbekistan are preparing to turn over to an automatic system of registration of standards involving electronic computers.

Considerable attention is devoted in Uzbekistan to problems of unification and unit construction. The use of unified parts on the basis of the unit construction principle in designing new machine models reduces the time required for developing the model and placing it on the conveyor line and also cuts down on costs. For instance the Tashkent Special Designing Bureau For Cotton Growing Machinery makes wide use of the method of unification, unit construction and utilization of standard parts in developing new models. This bureau has designed a unified cotton harvesting device which can be taken up without heavy expenses for quantity production as a twin- or four-row harvester adapted for operation on plantations with inter-row spaces equal to 60 or 90 cm.

The cotton harvesters designed in Tashkent have a very high unification ratio -- the ratio of unified parts to the total number of parts taken for the given model. The cotton harvesters manufactured at the Tashkent Farm Machinery Plant have a unification ratio of up to 90%. The utilization of a unified harvester unit and other parts in the design of the four-row 14 -- HV-2.4 model has enabled the plant to begin quantity production of the machine in a very short period.

The engineering and economic indices of the new cotton harvester are much better than of the previous model (HT-1.2). The 14-HV-2.4 model can operate along four rows simultaneously (instead of two). Its annual output has been raised 1.8 times. The weight of the machine has been increased by 700 kg and now stands at 3.9 tons as against 3.2 tons in the previous model. However the specific metal capacity is 52.6 kg/hectare as against 76.2 kg/hectare previously. All this has been

achieved while retaining a relatively high operational reliability equal to 0.93 .

The cotton boll strippers and cultivators for cotton plant dressing manufactured at the Chirchik Farm Machinery Plant have a unification ratio of 80 % while the cotton drills put out by the Uzbek Farm Machinery Plant in Tashkent have a unification ratio of 63 % .

Extensive unification work is being conducted at the Chirchik Chemical Machinery Plant, the Tashkent Textile Machinery Plant and at other enterprises manufacturing cotton ginning equipment.

During the last few years the Tashkent Special Designing Bureau for Cotton Ginning Equipment has developed standards for design and technological elements : apertures, ladders, guards, springs, limiting normals for materials and imported articles, screw conveyors for delivery of raw cotton.

The number of types of ventilators, angle pieces and metal structures has been reduced and the unification ratio reaches 85 % in cotton screw conveyors, 76.7 % in seed screw conveyors and 59.6 % in piping. The annual economic effect from this work has been estimated at 600,000 roubles.

The office of the Commissioner for Standards and the laboratories of state supervision for standards and measuring instruments work in close co-operation with the trade unions, the "Znaniye" (Knowledge) Society for the Dissemination of Engineering Knowledge and the Inventions and Rationalization Society with the aim of drawing the engineering and technical personnel in Uzbekistan to active participation in the problems of standardization, measuring instruments and improved quality

In 1969 the office of the Commissioner for Standards jointly with the State Planning Commission of Uzbekistan, the Uzbek Council of the Scientific and Engineering Society and the Uzbek Society of Inventors and Rationalization Workers conducted a review of standardization, quality of goods and metrology. There were 900 enterprises and establishments participating in the review and they came out with 4,500 recommendations aimed at improving standardization, the quality of goods and measuring instruments. Over 4,000 recommendations have been introduced in the course of the review and this had an economic effect of 2. million roubles.

There is an inter-departmental committee of the Uzbek Scientific and Technical Society on standardization and metrology. This committee comprises scientists, engineers and other specialists from various branches of industry.

There is a special machine reliability centre in Tashkent which also deals with standardization and quality of goods. This centre organizes lectures and provides consultation on various aspects of machine reliability and durability and high quality of goods. The inter-departmental committee and the reliability centre work out joint recommendations on major problems of standardization, examine drafts for state standards, participate in conferences, seminars and exhibitions.

The inter-departmental committee jointly with the office of the Commissioner for Standards organized a special exposition on standards and measuring instruments in Uzbekistan at the Exhibition of National Economy Achievements of the Uzbek SSR in Tashkent. This exposition had on display a big number of exhibits illustrating the achievements of the republic in

standardization and measuring instruments. The exposition was also shown in a number of regional centres in the republic and total attendance reached 30,000. Special films were shown at the exposition and a seminar held on standards and metrology which was attended by over 600 specialists.

The laboratories of state supervision over standards and measuring instruments conduct extensive work in disseminating standardization and raising quality of goods through the media of the press, radio and television. The Tashkent TV studio has a regular programme entitled "Standards --state norms" in which the staff of the laboratories comment on the advanced experience of industrial enterprises in developing standardization, improving quality of goods and preparing their produce for the "Quality Trade Mark" status.

The laboratory also comes out with articles in the papers and magazines and published booklets on various aspects of standardization.

In 1968 a conference was held in Tashkent of scientific and technical workers to discuss quality of goods, reliability and durability of produce. The conference recommended to the ministries, departments and enterprises of Uzbekistan to introduce the method of quality production and delivery of faultless items. The ministries and departments and industrial enterprises of Uzbekistan jointly with the office of the Commissioner for Standards worked out and approved branch recommendations and plans of organizational and technical measures aimed at introducing the method of quality production. Over 130 enterprises in Uzbekistan have taken up this method and as a result the quality of goods has gone up considerably, waste has been reduced and economic efficiency has gone up.

In 1969 the introduction of an integrated system of goods quality improvement has enabled the "Krasnaya Zarya" Clothing Firm in Tashkent to save 10,000 roubles, the Tashkent Mechanized Bakery saved 12,000 roubles, the Kokand Clothing Firm -- 2,500 roubles and the Behabad Steel Mills saved over 500 tons of steel.

Extensive organization work has been conducted in the republic to prepare various production items for state quality certification. This year the State Certification Commission has studied the quality indices of the brand 85-500 carboxymethylcellulose produced by the Neftangan Chemical Works and found it to conform fully with the best world standards with the result that the cellulose received the "quality mark" and the plant received an additional income of 100,000 roubles.

At present the ministries and departments are preparing over 90 items for the "quality mark".

Large-scale training has been started of specialists for standardization work in industry and in state supervision laboratories. Since the higher educational establishments of Uzbekistan do not provide training facilities for such specialists the ministries and the Central Laboratory for state supervision over standards and measuring instruments organize special courses to train specialists. Highly qualified specialists from various ministries and establishments with practical experience in the field of standardization are invited to lecture at these courses. Besides specialists are given an opportunity to go in for advanced learning at special courses organized by the Committee for Standards in the large cities of the Soviet Union. Last year alone 2 specialists

from the Uzbek Central Laboratory of State Supervision finished the USSR Institute of Standardization and Metrology by correspondence. Another 15 specialists completed special courses.

Beginning last year the curriculum of the higher educational establishments in Uzbekistan has a special course on the fundamentals of standardization.

In view of the further development of the national economy, greater demands to quality of goods the problems of standardization acquire great importance. The growing volume of industrial output in the republic and the modern requirements of technical progress have necessitated the further development of standardization activities, the introduction of progressive standards and other normative-technical documents based on the latest achievements of science and engineering.

All this places before the industrial workers of Uzbekistan and the personnel of the office of the Commissioner for Standards extensive and responsible tasks aimed at the radical improvement of standardization and the quality of goods.

The following are the most important tasks of the present day :

1. Elaboration of scientifically substantiated recommendations aimed at improving the organization of state supervision over the introduction and adherence to standards, the introduction of a state system of control over quality as well as proper assessment of the level, planning and registration of quality indices .

2. Elaboration of the basic principles in the development of standardization in the republic, inter-branch unification, co-ordination of research in the field of standardiza-

tion and quality of goods .

3. Approval and state registration of local standards, scientific and methods guidance of the checking services.

4. Testing and state certification of the quality of goods ; organization of work directed at achieving high-quality production, elaboration of standards for new methods of checking and quality tests.

5. Elaboration of annual and long-range plans for state and local standardization, expert examination and participation in production tests of standard drafts, state supervision over introduction and adherence to standards.

6. Improvement of the structure of the Central Laboratory for supervision of standards and measuring instruments.

7. Development of standard supervision network.

8. Improvement of quality of goods by faultless production.

9. Improvement of effectiveness in registration of standards by the introduction of modern means of data processing including electronic computers.

The fulfilment of all these tasks calls for a reorganization of the Central Laboratory for Supervision over Standards and Measuring Instruments into a research centre and the construction of new premises in Tashkent.

In conclusion it must be said that the Uzbek Republic has all the necessary prerequisites for the further development of standardization and the improvement of quality of goods. This is borne out by the following :

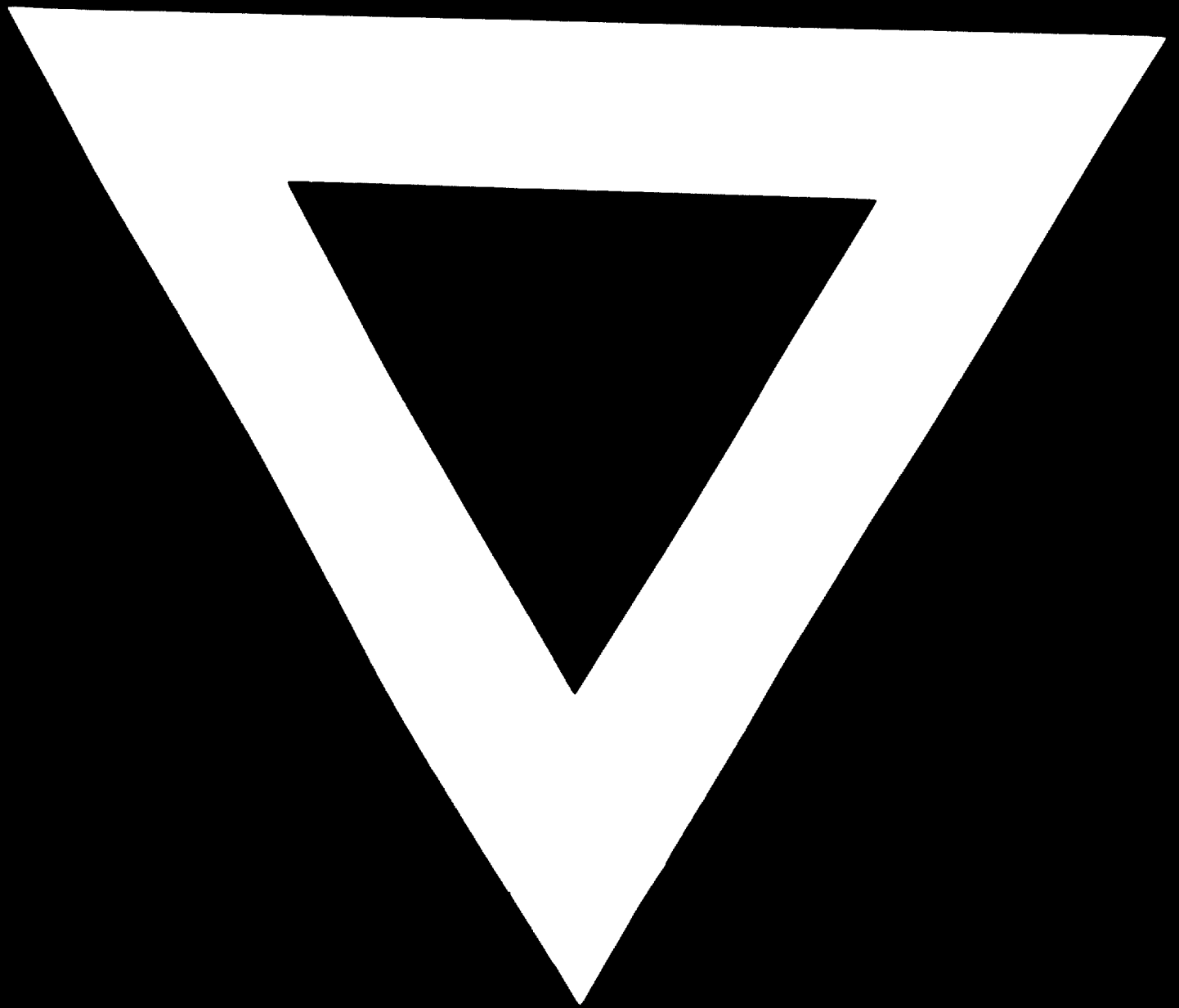
a) the high level of scientific research in the republic;

b) the high level of industrial development and the pro-

duction of the most diversified industrial goods which conform to the most progressive demands of the domestic and foreign markets ;

of the existence of highly-trained management and engineering personnel and skilled workers.





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