civilization is brought to the population of Ukraine. The effect of world trends in informatization and intellectualization of society has contributed to a significant change in the incomes of our country's population. This change is explained by the fact that it is necessary to invest more in human capital and is often not manifested in improving the knowledge and skills of the employed but in the excessive consumption of material goods.

Consequently, Ukraine should find its place in the global economy through the use of its strengths of economic, scientific, technical, industrial and intellectual capital.

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PROBLEMS OF THE UKRAINE GAS TRANSMISSION SYSTEM

The gas transmission system (GTS) now requires a significant restructuring, both technical and managerial, economic and financial. The natural gas transmission system of Ukraine is a complex of natural gas transmission pipelines for gas import and transit in Ukraine. It is one of the largest gas transmission systems in the world. The system is linked with natural gas transmission systems of Russia and Belarus on one hand and with systems of Poland, Romania, Moldova, Hungary and Slovakia on other hand. The system is owned by Government of Ukraine and operated by Ukrtransgaz. Some local transmission lines together with distribution sets are owned by regional gas companies.

The reliability of the operation of compressor stations largely determines the reliability of the operation of the main gas pipeline (MG), which depends on the reliability of the gas pumping units (GPU), the technological strapping schemes and the reserve set on the CS.

The gas transportation system of Ukraine provides annually supply of about 75 billion cubic meters of natural gas to domestic consumers and 110-120 billion cubic meters to European consumers.

At present, the Ukrainian GTS includes 37600 kilometers of gas pipelines (including 22.2 thousand kilometers of main and 15.4 thousand kilometers of outlets), 81 compressor stations (CS) on which 765 GPU are located including: 51 CS (63%) – driven by GTE's, 455 units, including 267 – stationary, 98 – convertible from aviation GTE's military applications, 90 – convertible from ship GTE's of military applications; 19 CS (23,5%) with the electric drive, CS – 13.5% – gas compressors), 13 underground gas storage facilities with a total volume of over 30 billion cubic meters, lower 1300 gas distribution stations.

The total throughput capacity of the GTS (design) at the entrance to Ukraine is 290 billion cubic meters, at the output – 170 billion cubic meters gas per year.

Transit trunk gas pipelines in Ukraine (the most Soyuz, Urengoy-Uzhhorod, Yamburg-Western Europe) were built mostly at the end of the 70's and 80's of the last century. Their basic diameters make 1200-1400 mm, working pressure – 7.5 MPa. Inner trunk gas pipelines were built in Ukraine in the early 70's and 80's (Shebelinka-

Poltava-Kiev, Yelets-Kiev-Western Ukraine). The diameters of these gas pipelines are 500-1200 mm. the working pressure is 5.4 MPa. In 80th years all main gas pipelines were built – jumper (Bogorodchany – Dolina, Shebelinka – Slavyansk, Ananiev – Bogorodchany).

Gas turbine units are one of the main elements of the GTS. The first GTU's for the KS drive were stationary.

They had a high metal capacity of low efficiency – no more than 28%, requiring a significant amount of work for installation and debugging.

The main disadvantages of these GTE's are:

1. Time on failure only 1 – 3 thousand hours.
2. Short service life – 50 – 60 thousand hours.
3. Small overhaul life – 10 – 20 thousand hours.

Today the STS of Ukraine has two main technical problems:

1. 70% of GPU's have practically worked out the resource (100 thousand hours and foreign analogues – more than 150 thousand hours) and is subject to scheduled replacement of 136 GTP.
2. Low efficiency – 18 – 25% of GTU. Foreign analogues – 34 – 38%.

In order to improve existing and new GTRs it is possible to carry out research on the following main directions of GTU development:

1. Intensification of the working process by increasing the gas temperature in front of the turbine and the degree of air pressure increase in the compressor with optimization of the cycle parameters.
2. Optimization of GTE design by specific gravity and reliability index.
3. Application of new heat-resistant and light materials, as well as high-tech processes in the production of engines.
4. Development of fundamentally new engine designs with a significant improvement in fuel economy and environmental performance for harmful emissions and noise.
5. The introduction of effective means of monitoring the technical condition and improving the methods of their operation to ensure an appropriate level of reliability and minimize operating costs.
6. The use of microprocessor technology in the automated control systems for gas turbine engines to expand the range of stable operation of engine components and optimize the operating conditions with fuel consumption.
7. Carrying out new energy-intensive and ecological fuels.

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THE DEVELOPMENT OF ARTIFICIAL INTELLIGENCE IN GAMES

Artificial Intelligence (AI) has been used in many fields of our lives, but not many people know about using it in field of gaming industry. It's clear that video games were