

The most convenient source to determine the potential value of the detailed reports on the cost of all divisions, which allow to take full account of the inter-relationships between these units in the production process.

Thus, there is double, and in some cases multiple account of the same cost, because without this it is impossible to identify the impact of one element of the production-economic potential on the other, to determine the optimal value of this potential, and especially its optimal structure. But there are classical approaches. Among them, the resource-based approach to the definition of potential.

Consequently, the potential of an enterprise is a complex dynamic poly structural system. This agglomeration has certain patterns of development, such as the ability to use, which depends on the efficiency of the economy, the pace and quality of growth.

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## **ACHIEVEMENTS IN THE FIELD OF ARTIFICIAL INTELLIGENCE DEVELOPMENT**

Artificial intelligence (AI) is an attribute of intellectual systems to perform artistic functions, which are usually considered as a prerogative of human beings. AI is commonly associated with an affined task of using computers to recreate human mental power, but not obligatory limited to biologically probable techniques. One of the most famous examples of AI nowadays is Google Deep Mind (GDM) – a department of Google, where researchers investigate general intelligence and the possibilities of machines to use raw data, divided in small pieces and automatically predict large data sets and to structure the information intuitive.

Among the latest achievements, I would like to mention the victory of GDM's program – AlphaGo over the Lee Sedol, a famous Go player, who were the world's champion for 18 times. Go – is a Chinese game with more than 3 thousand years of history, which is known as one of the most complex games in the world. This was a moment of history that showed to the world community a possibility of artificial intelligence to use intuition and learn. The triumph of AlphaGo was a shock for experts, who couldn't expect such an event to happen in the nearest 10 years. It is a giant leap for artificial intelligence showing that machines can solve complex tasks without using predictable algorithms. It was not a first time a grand master has been humbled by a machine, but what makes AlphaGo different is that it's the first demonstration that machines can truly learn and think in a human way.

AlphaGo`s configuration, core principle

In recent years, deep convolutional neural networks were able to achieve good results in face recognition and image classification. The Google AI even taught himself to play the 49 old Atari games. In AlphaGo similar neural networks interpret positions of stones on the board and help to evaluate and select moves. Google researchers used the following approach: they used networks of value (value networks) and networks of policy (policy networks). Then these deep neural networks are trained both on games, played by people, and on games played against their copies. A search technique that combines the Monte Carlo method with value networks and policy networks is also all-new.

Neural networks were trained during several stages of machine learning. First of all, a controlled training of policy network was provided directly using moves of people-players. Other policy network was exposed to reinforcement learning. The second one played with the first and optimized it, so that the policy shifted to winning, and not just to moves prediction. Final learning stage is intended to use reinforcement of value network, which predicts the winner of games played by policy networks. The eventual result – AlphaGo, is a combination of the Monte Carlo method with value networks and policy networks. An impressive result of correct prediction of the next move in 57% of cases was achieved. Before AlphaGo, the best result was 44%.

As input data for the training, 160 thousand games with 29.4 million positions from the KGS server were used. The games were taken from the 6<sup>th</sup> to 9<sup>th</sup> dan players. Million positions have been allocated for the test and the actual training was carried out with 28.4 million positions.

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## **RIGHT MANAGERS: ONE STEP FURTHER**

To develop the right managers, you need to seek out the hybrids: those that will go one step further. If your candidates have just six of the following ten signs of leadership, it is worth investing in them.

Real good managers are hard to find. But once you have found them, it's worth investing the time and money to “grow” and develop them. There are six steps needed to grow managers effectively:

1. First, you need to select good seeds.

The candidates must have ability, EQ and IQ. Stability and motivation are also a must.