

will be valuable gains in the long term: taxpayers will be protected from financial risks stemming from the banking sector and the real sector will benefit from a level playing field in terms of access to finance.

Still, it remains to be seen how the new challenges will be addressed: The very high share of state-owned banks accompanied by the promise to provide blanket deposit state guarantees to them is far from ideal. Thus, banking sector reforms in Ukraine are far from over – stay tuned.

*Scientific supervisor: Rozum M.I.,
Senior Lecture*

UDC 004.946.5 (477) (043.2)

Sokolenko P.Yu.

National Aviation University, Kyiv

INTERNET OF THINGS IN UKRAINE

The Internet of Things (IoT) is a network concept consisting of interconnected physical devices with built-in sensors as well as software that allows the transmission and exchange of data between the physical world and computer systems, using standard communication protocols.

New Ukrainian IoT-projects are capable of conquering the local market and the whole world because of two reasons.

The first is an attempt to save internal resources: electricity, time, water, human strength. The second is the desire to be at the source of the multimillion-dollar business.

The Internet of Things is a connection to the Internet of all kinds of devices, except for smartphones, tablets and computers.

It can be used as heat and light sensors, special devices in cars, medical devices and just any other familiar items.

For example, if you insert a microprocessor, a sensor and a Bluetooth module into a simple toothbrush, then the data collected after each tooth cleaning will be transmitted to the "cloud" through the smartphone, and the attending physician will receive them from them in the form of clear graphs. This is a commonplace Internet of things.

Why can we say that IoT is already in Ukraine?

The first and most important indicator is the constant growth of mobile communications. According to mobile operators, by the end of 2014 they had more than 1 million SIM cards that are not used by people.

One of the Ukrainian companies reported that in June 2015 the number of SIM cards of machine customers increased by 63% compared to the end of June 2014. These connections are used by corporate clients. ATMs, freight transport, sensors in the industry and security sphere are connected to the network.

The main inanimate clients of mobile companies are banks, major security agencies, suppliers of transport monitoring solutions, point-of-sale solutions, carriers, taxi services, delivery services, electricity suppliers, and water utilities.

In other words, IoT in Ukraine prevails in the industrial sphere. Cellular operators call this service Machine-to-Machine – M2M.

The mass market of IoT in Ukraine, unlike the industrial one, has not been developed yet.

The main role in connecting the industry to the network is played by mobile operators, while the private sector is operated by gadget manufacturers and sellers. Any IoT-solution starts with a useful program on a smartphone: a pedometer, a physical exercise meter, a calorie counter etc.

Sooner or later, the smartphone's capabilities become small. There is a need for an additional device that would allow you to collect and process a larger array of data. Because the things able to do this are countless, it opens up a new overwhelming market.

Ukrainian enthusiasts-inventors are picking up the trend. Their appearance is interesting for large IT companies.

The main directions for implementing IoT are:

- education;
- sport;
- smart House;
- medicine.

Creativity of our developers is very extensive, so we look forward to the proper level of IoT development in Ukraine.

*Scientific supervisor: Tereminko L.H.,
Senior Lecturer*

UDC 11382575 (043.2)

Sokur A.M.
National Aviation University, Kyiv

AUTOPILOT AS THE FUTURE OF AVIATION

In modern Aviation there are a number of problems that thousands of specialists face every day. One of these problems is weight. The topic that we will touch today, in part, solves this issue, namely the Autopilot, since it minimizes the pilot's interference and simplifies the design of the aircraft in terms of weight, but it's very complex in terms of structure and aircraft maintenance, as well as its maintenance. Most of the flight, the control of huge passenger airliners is carried out by autopilots. Today the pilots actively participate only in taxiing, landing and take-off of the vessel, after which they transfer control to the autopilot system. The on-board computer greatly simplifies the tasks in control and monitoring. Modern control systems, such as "Fly-by-Wire", provide remote radio control of an aircraft. It allows to ensure the transmission of signals from the pilot himself to the mechanisms of the liner in the form of electrical signals. This means that, instead of using the old hydraulics, the pilots control, sending signals through the computer to individual machine mechanisms. After stabilizing the aircraft about all axes, it is possible to activate the automatic control system, but at the same time it is necessary to carry out regular monitoring of the indicators. Modern autopilot systems, such as the CDS (remote control system), have a number of protective functions against exceeding the maximum speed limits, increasing the angle of attack and many other modes that can somehow affect the safety of the flight.

Nowadays there are many different speed protection algorithms that depend on the