

## HISTORY OF THE CREATION OF UNMANNED AIRCRAFT APPARATUS

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### Abstract

The article discusses the history of the creation of unmanned flying vehicles. Development of the field of radio-controlled objects. High scientific research work of military engineers and inventors, which laid the foundation for the development of unmanned aerial vehicles.

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1849 Uprising in Venice. On the wave of bourgeois revolutions in Austrian Empire, the Venetians declared independence. The city was besieged. The artillery work was not effective due to the peculiarities relief and good fortifications on the approaches to Venice.

*Frank Von Juchatik* - Lieutenant of the Austrian artillery, advanced the idea of bombing the city from balloons. July 12, 1849 first two balloons with bombs were launched into the condemned city. On board were bombs with shrapnel, as well as mechanisms that drop them at the right moment. The bombing did not bring significant results, but it caused panic among the Venetians.

*This case considered to be the first documented in history evidence of the use of unmanned aerial vehicles.*

Wartime is a time of active use of new technologies and innovative developments in various fields of science and technology.

But the history of drones begins *sooner on the water* than in the air. In 1899, Croatian inventor, physicist and engineer *Nikola Tesla* designed and presented public the world's first radio-controlled boat, which did not go unnoticed by scientists environment and *gave impetus to the development of the sphere radio-controlled objects [1]*.

**Bomb with wings.** 1910 Inspired by the brothers' successes *Wright*, American military engineer from Ohio *Charles Kettering*, proposes the idea of an unmanned aerial vehicle - By essentially a bomb with wings. Thus pawning *the beginning of the development of unmanned strike aviation.*

According to the creator's plan, a plane filled with explosives was capable of fly in a straight line, without a pilot, for some time. The drone then dropped wings and fell into enemy positions. As is known, in 1914 Kettering received an order from the US Army to manufacture such unmanned aerial vehicles. airplanes. A total of 45 units were manufactured. Later they were adopted by weapons, but I never had a chance to test them in battle.

The First World War gave impetus to the development of many fundamental technologies of our time, including radio-controlled unmanned flying vehicles. Experiments with drones began almost immediately after the beginning of the mass introduction of radio transmitting devices. Then they began

experiments on converting conventional aircraft to remote control.

One of these developing projects during the First World War was *Hewitt-Sperry Automatic Airplane*. Its creators - *Elmer Sperry and Peter Hewitt* served together in the US Navy. *Sperry* was involved in the creation of gyroscopes for the use of the latter on destroyers. They were both passionate about aviation and saw potential in unmanned aerial vehicles [2].

One day they managed to interest the command, and they began developing their own unmanned torpedo. Essentially it was radio controlled winged bomb. *First successful test flight took place in September 1917.*

### ***The first unmanned aircraft.***

1935 Great Britain engineers are creating an unmanned aerial vehicle reusable device. It was named "*QueenBee*". Behind based on the *Fairy biplane model Queen* After reconstruction and improvements, the drone could be controlled remotely from a sea vessel on distance up to 5 km. The maximum speed of horizontal flight reached up to 170 km/h. Having received a code name - *DH82B* model used by the Royal by the Royal Navy and the Royal Air Force as a target for target practice up to 1947. By the beginning of World War II, radio-controlled unmanned objects have already been mass produced. Especially the *Target type*. One of these UAVs was famous radioplane *QQ-2*. The first working model of which appeared in 1939 The *QQ-2* radioplane was the most produced drone. Total 14,000 copies were produced.

### **The use of UAVs in combat conditions**

*Combat - classic application of drones. It is the military industry that drones owe their origin.*

The first prerequisites for autonomous aircraft appeared back in the 19th century. In modern military industry they use high-tech UAV models that are constantly being improved. The devices are actively used as scouts, shock systems aviation, ground action coordinators, etc.

### **Combat use of unmanned aerial vehicles.**

Since 1945, the United States has concentrated on creating remote guided missiles and aerial bombs, returning to the idea of drones only in the 60s.

The conduct of the Cold War stimulated the United States to produce reconnaissance drones, mass production of which began in 1962. Late 60s In the 1990s, the first unmanned helicopter was created. Drones active were used during the Vietnam War, where they finally proved their efficiency.

The main breakthrough in the production and use of UAVs was the development satellite navigation system (GPS). Since the nineties, drones are actively used for reconnaissance, surveillance and target designation. Drones found its application in the Gulf War, in conflict resolution in Yugoslavia, Iraq and Afghanistan as UN peacekeepers.

Currently, drones have proven themselves to be effective multi-use military weapon:

- ✓ intelligence service;
- ✓ situation monitoring;
- ✓ active military operations.

Combat drones perform long flights and are resistant to external influences, have relative autonomy (capable perform specific tasks on the battlefield, as well as independently land).

### ***Basic advantages applications UAV in conditions combat actions***

Modern drones are distinguished by high-quality technical equipment, surpassing classic manned vehicles in terms of combination of factors:

➤ **Autonomy.**

This property makes drones reliable reconnaissance aircraft. Technique capable of exploring hard-to-reach terrain, recording received data and promptly transmit them to ground headquarters. The flight will be completed regardless of weather conditions.

➤ **Savings on operation.**

Compared to classic manned aircraft UAV are ten times cheaper. The flight does not require special preparation and pilot participation. There is no need to spend financial resources on their training.

➤ **Ability to simultaneously perform a group of assigned tasks.**

Drones perform several functions in combat: reconnaissance, coordination, information and attack. The devices have high carrying capacity and are capable of carrying weapons that can be launched if necessary.

➤ **Removing the problem of the “human factor”.**

During combat operations, the pilot works to the limit of his capabilities. capabilities, both physical and mental (intellectual, emotional). High overloads are superimposed on extreme stress on the psyche when you need to take in a short period of time important decision. The use of drones makes the problem irrelevant: the drone's actions are programmed or controlled by an operator who is out of danger and able to think rationally.

➤ **No risk to human life.**

The ability of drones to fly without human intervention is particularly relevant in combat, where the lives of military personnel are at risk. An autonomous drone simultaneously performs two functions:

- ✓ actively participates in hostilities
- ✓ keeps fighters safe.

We are talking not only about the possible death of the pilot, but also about flights in conditions of increased radiation, chemical exposure, etc.

**The role of unmanned aerial vehicles in the weapons system of a modern army**

In the modern military industry, drones receive special attention attention. They outperform alternative military equipment in terms of many parameters, especially in terms of the “cost - efficiency”.

Military UAVs perform the following tasks:

- ✓ *reconnaissance activities;*
- ✓ *transmission of information to the ground point in real time;*
- ✓ *combat attack;*
- ✓ *guiding aircraft to ground targets;*
- ✓ *adjustment of missile force fire;*
- ✓ *diverting enemy attention through the creation of false targets;*
- ✓ *communication relay .*

They are investing in the development and improvement of military drones significant government budgets, especially for large ones world powers (Russia, USA, China). The main goal of engineers at the present stage is to make future UAVs as autonomous as possible [3]:

- *independently make tactical decisions during the battle;*

- *coordinate your own actions without operator participation;*
- *select a target and destroy it.*

In addition to autonomy, work is underway on the size of drones and their functionality. It is planned to reduce the size of drones, which will allow to reduce the cost of their production and operation, as well as increase maneuverability [4].

Another development is the creation of a combat UAV system. Group work drones are aimed at jointly achieving set goals. In progress flight devices exchange information among themselves, distribute tactical tasks [5].

**Conclusion:** The first drones began to appear more than 100 years ago. With development of technology and the advent of GPS production and use of drones received a new round of development. Modern devices are different high autonomy, ability to independently carry out tactical tasks in combat and stay in the air for more than 12 hours. UAVs are superior to traditional manned equipment at a price, mobility and overall efficiency in conditions of military operations. Despite barriers that do not allow use of unmanned aerial vehicles everywhere, they remain one of the most popular and promising technologies.

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