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INNOVATIONS IN MODERN AVIATION AND THE WAY IT MIGHT LOOK IN NEAR FUTURE

The aim of this work was to show the reader the main directions aviation is moving today and possible outcomes it might end up with in the not that distant future. The work examines such topics as the question of fuel economy, ways of decreasing the pollution engines produce and the question of the fuel itself. The second topic is the materials aircrafts are built with in the first place and different ways of improving our proficiency in applying those materials into our flying constructions.

Nowadays, with customers investing so much time in their financial situation and hence in their traveling expenses particularly on the longer flights, airlines are willing to invest more time and money in efficiency, stability and new cutting-edge technologies to progress in delivering passengers as efficient as possible.

In our time when gas emissions produced by aircrafts make up from 4 to 9 percent of all emissions, it is crucial more then ever to think of new ways of propelling our aircrafts up and forward into air. One of the best solutions we have is electric power, which replaces combustion engines with quiet and clean motors.

Two best-known ways to sustain these motors with energy are batteries and solar power. And while solar power may seem quite promising with, for example, solar-powered sailplanes that are already able to fly around the Earth it is still too rudimentary to be used in the short term. For the time being, batteries promise a little more realistic future for the electric powered aircrafts. For example, a company called Zanum Aero just revealed their plans on producing a battery-powered commercial jet with help from such aviation giants as Boeing and JetBlue Ventures. A full working hybrid prototype is believed to be ready as soon as 2020 [1, p. 54].

A discussion about aeronautical innovations cannot possibly exist without mentioning smart materials. Even though new types of aircrafts are constantly emerging, it is just as well possible to create a new and efficient plane with just the classic models but with changed materials used and technologies applied. Thinking about future, graphene seems like a thing that is going to change it for the aviation and for a lot of other industries as well. With just one atom thick, it was discovered in 2004 by two scientists who were experimenting with graphite and peeling away layers from it [2, p. 614]. This innovation will find usage everywhere but specifically in aeronautics it will help to line the wings and especially prevent them from taking on water. Still, graphene seems like a long-term solution to currently existing problems and more short-term innovations might be explored until it finds it way to every plane that takes off from Earth.

REFERENCES

1. Hirst, M. (2012). Innovation in Aeronautics. England: Woodhead Publishing, 217 p.

2. Tom D. Crouch (2004). Wings: A History of Aviation from Kites to the Space Age. England: W. W. Norton & Company, 738 p.