

Project:

**Autonomous and Unmanned Vessels in International Law:
Yara Birkeland and Norway's challenge to the Law of the Sea**

(Abstract for the general public)

Dynamic technological development, computerization of almost every field of human activity, the advancement of works on artificial intelligence, and the growing demand for 'green technologies' have been the main reasons for the intensification of engineers' works on autonomous and unmanned vehicles (including maritime vessels) in recent years.

Currently, Norway and the partnership of the Norwegian companies Yara and Kongsberg Maritime are the pioneers in the development of work on autonomous and unmanned ships. The Yara-Kongsberg partnership is the first one in the world to create a fully unmanned, environmentally friendly (zero emission), partially autonomous cargo vessel *Yara Birkeland*. The operation of *Yara Birkeland*, flying the flag of Norway, is estimated to begin by mid-2020 and is to take place only within the territorial sea of Norway (mainly due to numerous doubts regarding international legal regulations). It must be emphasized that the unclear legal situation of autonomous and unmanned vessels stipulates one of the main grave obstacles for their worldwide operation (at the time of the drafting of the majority of maritime legal regulations, the possibility of autonomous and unmanned vessels operating on the seas seemed to be very distant and almost unthinkable).

Due to the enormous potential of autonomous and unmanned vessels, especially the possibility of limiting the involvement of the human factor in maritime transport (which would allow, among others, significantly lowering the fatality rate in the shipping industry), there is a strong demand to create an appropriate legal regime enabling their universal operation. The possibility of making maritime transportation less dependent on the human factor is significant for humanity, especially in the context of the recent global pandemic of the SARS-COV-2 virus. Since the world economy is based on maritime transportation (transport of over 90% of world merchandise is carried out by sea), as well as the danger of a pandemic returning shortly, the worldwide explanation of autonomous and unmanned vessels would also be a response to such disasters.

The project tackles the problem of the lack of exhaustive legal studies regarding the possibility of the operation of autonomous and unmanned vessels worldwide in the contemporary law of the sea and international maritime law systems. Thus, this explorative study will analyze the legal situation of autonomous and unmanned vessels in international law (primarily in the law of the sea and international maritime law). The planned research aims to verify the central research hypothesis, which is that the contemporary law of the sea does not offer a satisfactory legal framework towards a worldwide operation of autonomous and unmanned vessels. As a consequence, the project will determine the regulatory barriers preventing their global operation

The project will be realized during the total period of 24 months. The total period of 24 months will be divided into four repetitive cycles of six months, where the crucial regulatory areas will be analyzed. Every cycle will be concluded with the article publication in the Gold Open Access Scopus Magazine (the total –minimum– number of four peer-reviewed articles will be published). Moreover, two seminars on progress, achievements, and results of the project will be organized at the Faculty of Law and Administration of Jagiellonian University. The collaboration with the Scandinavian Institute of Maritime Law at the University of Oslo and the presentation of the research results at the Annual Conference of the European Society of International Law (ESIL) are also planned.