Recent years have brought a significant dependence of all aspects of life on the availability and effectiveness of IT systems. Today, one of the research directions concerns the field of distributed systems, where multiple computing nodes work on a common task. In such environments, the trend is to move workloads to virtualized environments. In response, microservices have emerged. Microservice-based applications contain thousands of instances of services. Such distributed, often geographically dispersed applications introduce an additional cost of management that one has to carry. High requirements put on IT systems regarding reliability, availability, and serviceability, which, taking into account the scale, increasingly require autonomic features. This set of challenges in resource management caused that Autonomic Computing (AC) has risen. This type of computing reduces the complexity of the installation, configuration, optimization, and maintenance of heterogeneous systems. It is also necessary to realize that the way of designing and deploying software has changed rapidly in recent years. New applications are built as loosely coupled microservices. These microservices combined with the practice of including development teams are the foundations of the Cloud-native approach.

The project focuses on *autonomic management of Cloud-native execution environment* by extending the capabilities of the AMoCNA framework. The name AMoCNA comes from the first letters of Autonomic Management of Cloud-native Applications. AMoCNA provides dynamic, flexible, and scalable management functionalities of Cloud-native applications (CNAs). The mechanisms would take into account the diversity of origin of the Cloud-native execution environment components. The origin strongly influences the autonomic management capabilities of the components. The project would *contribute* to the Cloud-native area with a designed *model of autonomic management of the components of the Cloud-native execution environment*. The developed model will be implemented and merged with AMoCNA and then its usefulness will be verified experimentally. The developed model would have the potential to provide more general and robust management functionalities for Cloud-native execution environment, particularly autonomic management.