Group III-N semiconductors play a very important role in our daily lives. On the basis of these materials white LEDs are built and intensive work is currently underway on the production of LED diodes for the UV range. In addition, high power transistors that are used in radar systems and electric vehicles are constructed by using III-N semiconductors. One of the challenges that III-N semiconductors face in the context of their applications in UV LED diodes and high power transistors is to obtain transparent electrical contacts with the desired electrical characteristics. This research project is dedicated to this issue. In contrast to earlier solutions, we plan to solve the problem of transparent electrical contacts by combining III-N materials with van der Waals crystals (h-BN, $MoS_2$, $MoO_2$, $MoO_3$, etc.). In this type of crystals in one plane there are very strong covalent bonds and between these planes there are very weak van der Waals bonds similarly as in graphite from which individual layers, i.e. graphene layers, can be isolated. Due to this difference in the strength of bonds, the size of such a crystal can be easily reduced in one direction to a single layer to obtain a stable material with high transparency and controlled electrical properties. In the framework of this project we intend to combine the van der Waals crystals with III-N materials and study the opto-electrical properties of such combinations.