

## **History of development of bulk AMMONO-GaN single crystals**

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Crystallization of bulk GaN is extremely demanding due to the high temperature and pressure conditions. Several approaches have been applied, but only the AMMONO method allowed the growth of large GaN single crystals, not affected by the use of foreign seeds.

In order to achieve this, a number of technical solutions must have been invented, developed and implemented, including up-scaling of the process. Several hundred seeds have been manufactured for enabling a production of 2-inch wafers. A modern production plant with 10 crystallization reactors as well as a crystal-machining department have been also constructed and brought to operation. The project, however, remained in the pilot phase, mostly because of difficulties in raising sufficient capital eager to invest in such long-term and cash-intensive ventures in the Polish innovation ecosystem.