



Past, Present and Future - HIPIMS from the point of view of a coating machine builder

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HIPIMS first entered the research stage around the millennium. Starting from the first papers it was intensively explored by academia in different places like e.g. at the Sheffield Hallam University, Linköping University or the RWTH Aachen. A lot of advantages of this new technology were seen, but also some challenges related to the high demand capability to the coating machine were discovered: e.g. in the early stages the reliability of power supplies, how to deal with high currents and high voltages in the megawatt range, high heat load on the target, how to upscale from a lab coater to an industrial size units.

However the results of improved performance on cutting tools and components - HIPIMS gained interest of machine builders to overcome the disadvantages and provide solutions. Hauzer was involved right from the beginning of the HIPIMS development with providing solutions and ideas towards industrialisation of this technology for industrial end users.

In today's real production of coated parts the requirement is not only providing good coating properties on cutting tools or components, but also production related topics like reliability, easy maintenance, cost per part and flexibility of the coating unit itself plays an important role.

In this regard we are presenting an overview about HIPIMS development from the past to the present on different examples in modern cutting tools and components and give an outline to the future. In addition to this, we also would like to highlight the developments which are needed to have HIPIMS technology ready for industrial serial applications.