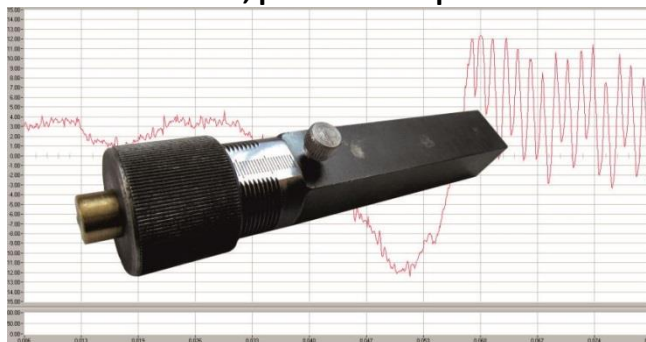




Course: Machine building

1. **Name of innovative development:** Strengthening-smoothing technology for increasing wear-resistance of friction surfaces of contacting couples.
2. **Purpose and scope:** The technology used to provide regulated operational requirements that apply to machine parts and devices. The use of appropriate development in the construction department, followed by their introduction into production areas of engineering complex of Ukraine.
3. **The main characteristics, the essence of development:** The most important indicators of development are increased durability and operational quality, which determine the inter-repair resource as individual friction units, as well as the product as a whole. During the strengthening-smoothing treatment, chips do not form, and there is a thin plastic deformation with the simultaneous strengthening of the surface layer of the workpiece, as a result of which the surface of the required micro-geometry and strengthening and the fibrous structure of the surface layer, the feature of which is the lack of surface scratching with abrasive particles.
4. **Comparison with the world analogues, the main advantages of development:** Due to the larger support area, in comparison with traditional methods of treatment, the working surface provides in the loading process a more complete contact of the surfaces that interact with each other. The resultant reduction of contact pressure on the working surfaces of the surface leads to an increase in the multiplicity of surface deformation, thereby contributing to a reduction in wear.
5. **The State of Intellectual property protection:** 4 patents of Ukraine were received for useful model.
6. **Demand on the market:** Increasing the inter-repair resource of modern technology requires almost all enterprises of the machine-building complex of Ukraine.
7. **Condition of development readiness:** produced a laboratory model, research-industrial tests, confirmed the expected characteristics.
8. **Color illustrations, photo development:**



9. **Coordinators for communication:**  
Sergey Moroz, [s.moroz@lntu.edu.ua](mailto:s.moroz@lntu.edu.ua)  
Anatolii Tkachuk, [a.tkachuk@lntu.edu.ua](mailto:a.tkachuk@lntu.edu.ua)