VÚTS, a.s., has been engaged in the calculation and manufacture of cam mechanisms for more than thirty years. During this time, a scientific workplace, the Mathematics and Physics Department, has profiled itself on the performance of thousands of computations in this field of technical mechanics.

The range and diversity of tasks called for creating its own unique computer system that integrates design, kinematic and dynamic analysis and synthesis, production on CNC machines and evaluating the measurements of made cams.

Thanks to its perfectly mastered final technological operation of cam grinding, proven in tens of thousands of produced pieces of radial and axial cams, VÚTS, a.s., has achieved outstanding success in the progressive influencing of the dynamic properties of new machines. These successes are documented in a number of excellent world-famous textile machines.
RESEARCH AND APPLICATION OF MECHATRONIC SYSTEMS

In the fields of drives and movement implementations of the working links of mechanisms and machines, mechatronic systems are applied increasingly. In this area, VÚTS, a. s., is involved mainly in the research and application of electronic cams, which are servo drives controlled by a master controller. The electronic cam system is able to flexibly respond to a change of displacement laws of the working elements of the manufacturing process (flexible automation) and to cooperate within its own or superior control system with any peripherals, including communication with the user. The system of electronic cams is suitable for both the complex solution of the working movements of a machine as a whole and replacing individual conventional mechanisms because the inclusion of an electronic cam (system integration) into the machine or a superior manufacturing system is easy.

VÚTS, a. s., has been involved in the calculations and manufacture of conventional cams for more than 30 years. An extension of research and applications with electronic cams is a logical continuation with the use of all the knowledge and experience in this important area of technical mechanics.

VÚTS, a.s., APPLIES KNOWLEDGE FROM RESEARCH AND DEVELOPMENT IN THESE AREAS

- Optimizing displacement laws according to various criteria.
- Dimensioning servomechanisms in the modes of machine running.
- Dynamic modelling and simulating applications.
- Flexible automation solutions by designing rotary tables and step mechanisms.
- Control systems of single-purpose devices with electronic cams (including the control systems of single-purpose machine tools).
- Electronic cam system integration into any host (superior) system.
- Suppressing residual oscillations in rest intervals of electronic cams, where the rest interval is a technological production time period.
- Synergic mechatronic solutions of applications (combination of conventional and electronic cams).
- Consultancy in the applications of conventional and electronic cams (assessing costs, price comparisons, evaluating various alternative solutions with conventional and electronic cams, etc).