

AMET Ltd. – Enhanced Power and Precision

HPC-Competence Center

The Institute of Information and Communication Technologies of Bulgarian Academy of Sciences (IICT-BAS) according the National Roadmap of Research Infrastructures is a coordinator of the "National Centre for high performance and distributed computing". IICT-BAS hosts the Bulgarian largest HPC center and provides knowledge, expertise and services to businesses and researchers to develop innovative applications and products.



Enterprise

Established in 1995 AMET Ltd. is a company dedicated to development, modern manufacturing and distribution of electronic medical equipment and modules, mechanical parts and units for incorporation. Cooperative work between the management team and its highly qualified specialists form the company's image of a reliable and desired partner in the Bulgarian as well as in the foreign market. With ~100 employees AMET Ltd acquired position in highly competitive marked and needs scientific expertise in order to develop products with enhanced power and precision.



How HPC makes the difference

AMET Ltd., started to develop medical device for radio-frequency ablation of hepatic tumors. It needed precise mathematical modeling and computer simulation of the heat transfer process in order to optimize the parameters of this low-invasive therapy technique. Adequate representation of the problem was achieved by FEM discretization for a time-dependent partial differential equation of a parabolic type, generated based on segmented medical image. The 3D simulations were performed using super-computer and allowed precise estimation of the ablation parameters and increase of power efficiency.

AMET Ltd. Director, Janet Popova, confirms that the collaboration with the team of outstanding researchers from IICT-BAS and the access to advanced HPC infrastructure is instrumental in the development of precise and innovative medical equipment.

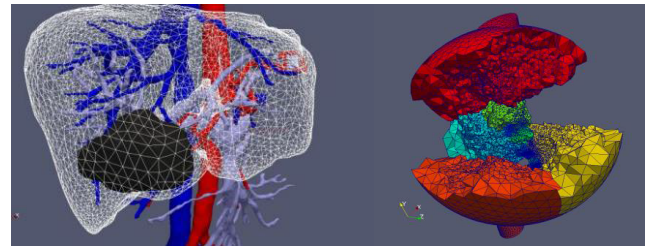


Fig: 3D FEM discretization of the liver and of the part of the liver based on a segmented medical image.

