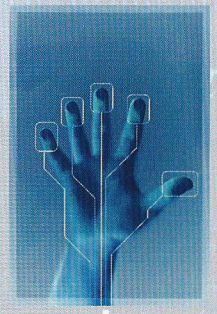
Lanit-Tercom
smart software solutions

Company Facts

- Founded in 1991
- 300+ employees
- 3 production sites in St. Petersburg
- Customers from the EU and USA
- Long-time partnership with leading educational and research Institutions (St. Petersburg State University)

Competence

Competence center is focused on the software for mathematical algorithms in different domain areas. Lanit-Tercom skills combine experience in proprietary algorithms and customers algorithms development, adaptation of algorithms by defined technology or productivity requirements. Lanit-Tercom solutions are designed to help customers solve their nonstandard technological and mathematical problems. Systematic and methodological approach to every mathematic or R&D task dramatically improves the results.

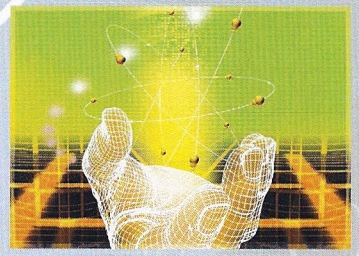


Advantages

- Deep knowledge of specific algorithms adaptation
- Use of proprietary and customer's algorithms
- Close cooperation with the strongest scientific professionals from St Petersburg State University (Mathematics and Mechanics department), IT Institute and training center
- 4 full professors and 16 PhDs
- Established relationship with the academic world (American, Finnish, Swedish and German universities)

Where our algorithms can be applied

- Digital signal processing
- Video processing
- Model-based calculations for energy stations
- Logistics
- Mathematical software



Project examples

2M video streaming (multimedia, entertainment) - audio and video recognition software for the Horeca sector; specific approach with the proprietary algorithms; deep understanding of customer's domain area. Technologies used: C/C++, Linux, MPEG2, H.264

IIG (software for precise calculation methods) – the main task was to change the algorithm that would support more types of diffraction gratings, develop a modern graphical user interface, and the second was to optimize the usage of computer resources. The proposed solution includes the set of programs designed to create and solve multi-layer plain and concave diffraction gratings. The algorithm uses different computation optimizations – precomputation of common parameters, caching of intermediate results, and parallel computations. Technologies used: C++, MFC, Aladdin HASP Keys

Mycrotools (mathematical software for cars diagnostics) – algorithms for the frequency noise analysis; .Net interface development for unmanaged libraries; automated testing based on .NET Reflection, etc. Technologies used: .Net

Video recognition algorithms for the automotive industry - Through the last years Lanit-Tercom has experienced significant improvement in video recognition technologies development. This progress would be impossible without mathematical software and algorithms development.

One of the solutions by Lanit-Tercom has the following features:

- Video capture subsystem, connected with the two high-resolution cameras
- Predicts dangerous situations (e.g. collisions or other emergencies) by the motion dynamics analysis
- Initial video processing subsystem – level correction and normalization, image rectification for the right and left cameras
- Image segmentation subsystem
- Global parameters search subsystem (e.g. for automotive market – skyline, linear and angular acceleration and camera speed)
- The subsystem of the sample objects with the existing model – road signs, cars, traffic lane markings

Echo cancelling mathematical algorithm - The customer is the world leader in mobile communications from Finland, one of the largest telecommunication companies. Lanit-Tercom introduced very sophisticated algorithms for echo compensation, which isolates the echo from the proper signal and reduces it.
Since these algorithms were absolutely new, several modeling levels were developed because it was not possible to predict their effectiveness.

Key customers

Finland, USA, Denmark

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