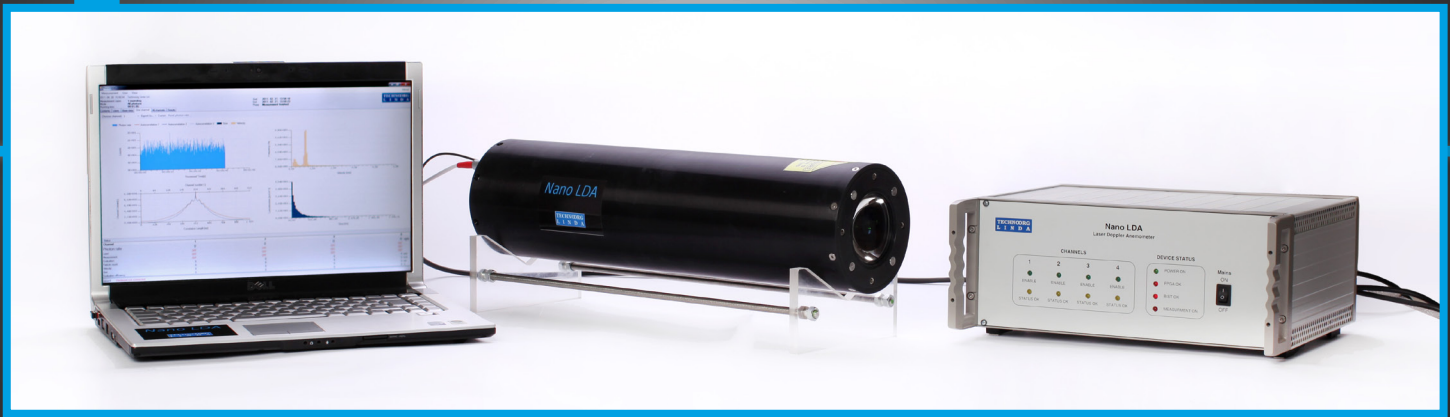
TECHNOORG
L I N D A

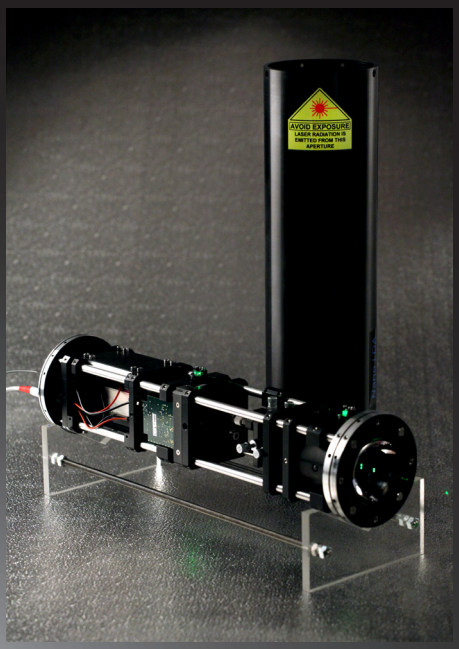
Nano LDA

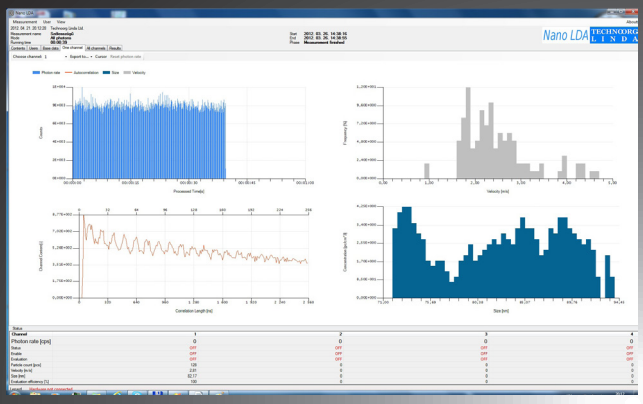


Technoorg Linda Ltd.
Ipari Park u. 10, H-1044 Budapest, Hungary, Tel: (36-1) 479 0608, (36-1) 479 0609, Fax: (36-1) 322 4089, E-mail: info@technoorg.hu
Web: www.technoorg.hu

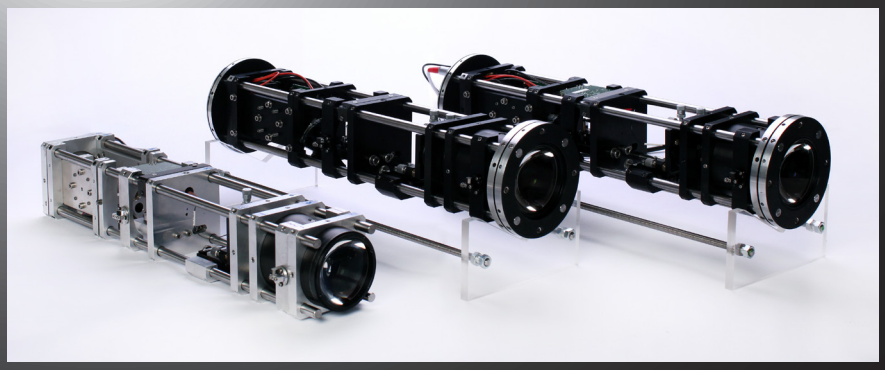
The NanoLDA system makes possible measurements and process control in a series of cases of nanotechnology.

Due to an *in situ* contactless method it is capable to measure simultaneously velocity, size and volume concentration of individual particles in the 50–1000 *n*meter size, 0 – 200m/s velocity range and up to $5*10^7$ p/cm^3 concentration. The implemented backscattering optical geometry provides a user friendly optical alignment property.





A novel type of photon correlation and high level data acquisition technique is implemented. For this purpose proprietary measurement simulation software was developed which works on the database of single particle transit constructed by burst selecting, Lee filtering and model based function generating from the input photo-electron impulse train.



The electronic hardware is implemented on a multilayer surface mounted FPGA board. Four independent equivalent channels are constructed in the electronic control unit. The GUI is accessible from the internet through the UDP and TCP ports. Different user rights are implemented to avoid illegal cross talks between users (s.a. measurement starter, measurement stop, user administrator, super administrator). The equipment provides monitoring process control and modelling facilities at a wide scale of manufacturing technologies.
As examples it can be mentioned the production processes of composite materials, paints, ceramics, sintering technologies.

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