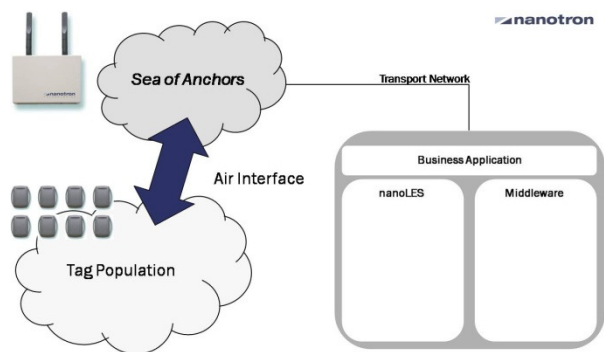


nanoLES Location Engine and Server

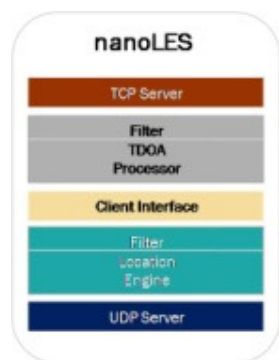
High throughput location and monitoring solutions

RTLS Simplified by Nanotron



RTLS System Architecture

Only three hardware elements and one piece of software are required to form a Real Time Location System (RTLS): The *tags*, the *anchors* and the *transport network* connecting them to the location engine.



nanoLES

The location engine is part of Nanotron's *nanoLES* software product. The *nanoLES Location Engine and Server* combines wireless anchor synchronization, location calculation, and tag-payload transmission. It provides the required interfaces to *management client* for system set-up and maintenance and

business application. The product is completely developed in native C++. All external interfaces are based on UDP or TCP/IP.

Nanotron offers its *nanoLES Location Engine and Server* for integration with middleware products that are used to combine different RFID and sensing aspects with location awareness. This way one unified interface for business applications is provided.

The nanoPAL RTLS Toolbox

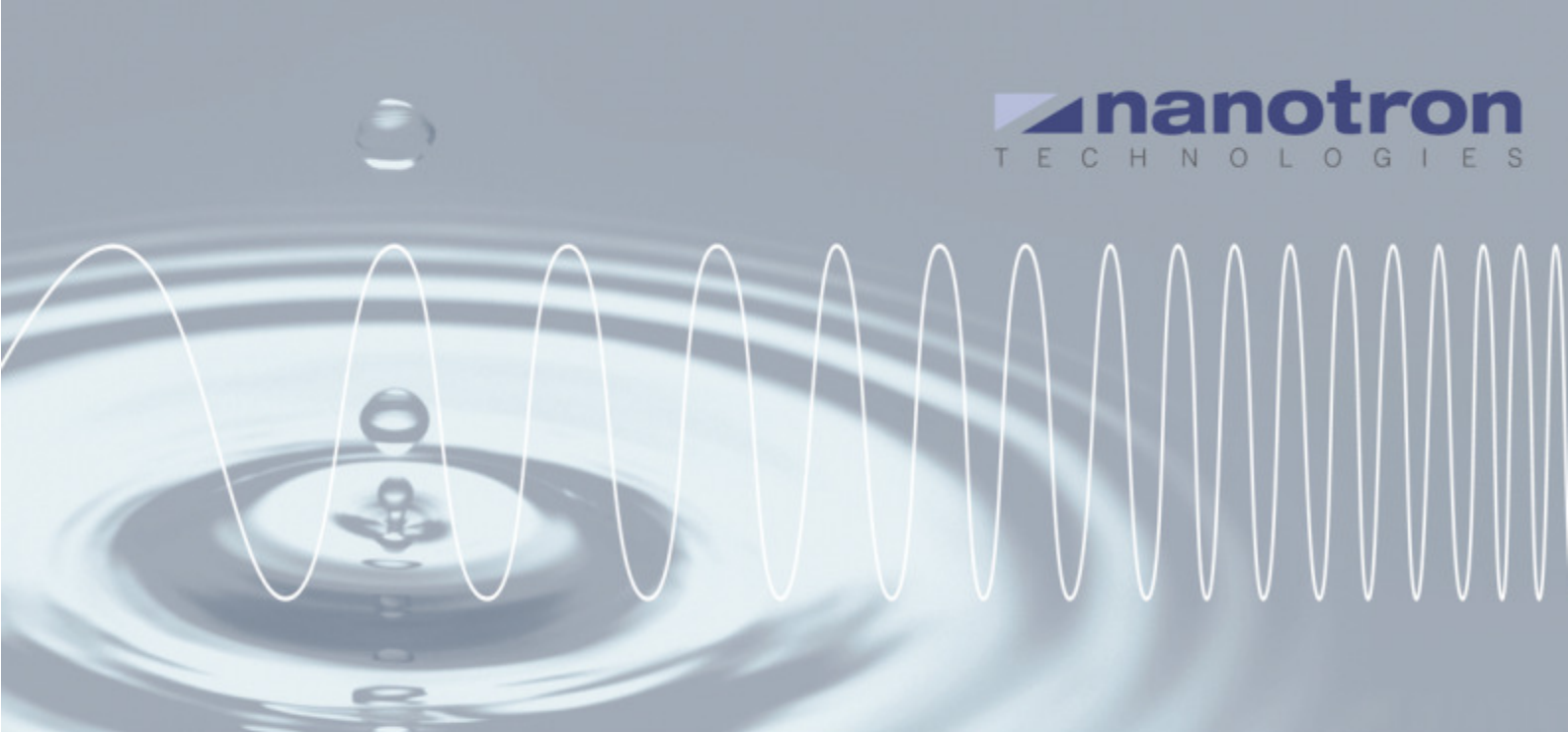
nanoLES is available to developers of RTLS middleware as part of the *nanoPAL RTLS Toolbox*.

In the Toolbox the *nanoLES Location Engine and Server* comes with a development license and detailed documentation of its interfaces. Sample implementations of a Location GUI and the Management Client provide a functional reference for system integrators who integrate *nanoLES* in their RTLS middleware.

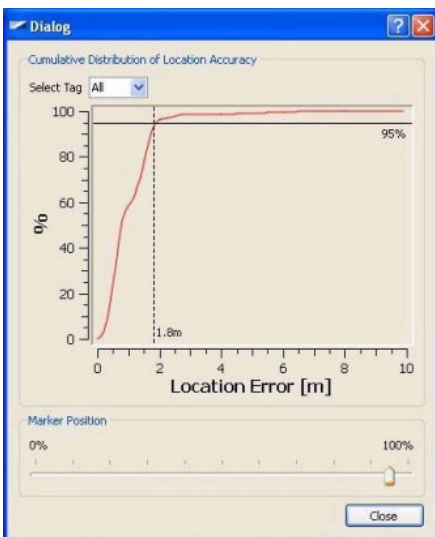


RTLS Set-Up-Tool

To build a RTLS demonstration a number of *nanoANQ RTLS Anchors* are mounted and connected to the server. Their physical location will be made available for *nanoLES* with the help of the Management Client included in the toolbox. Using the *RTLS Set-Up-Tool* the user can check radio coverage and optimize anchor positions. The tool can be put in critical positions to record CDF (Cumulated Distribution Function) data providing objective information on location accuracy. The *CDF-diagram-tool* is part of the GUI provided.



Upon completion of the set-up optimization the user can now start with application testing.

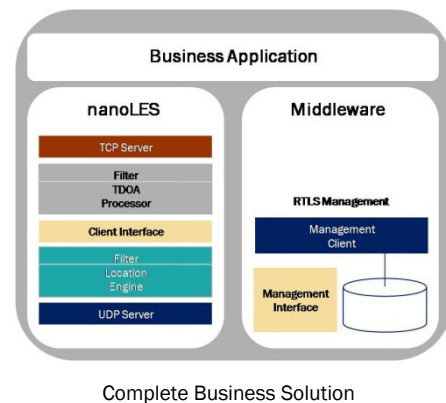


Cumulative Distribution Function (CDF)

Development Support

With a working RTLS Set-Up and application tests done software integration can start. Dedicated system set-up and maintenance functionality is added and *nanoLES* is connected with the business application that now becomes location-aware. Alternatively *nanoLES* can be integrated with existing middleware.

Nanotron provides technical support through its team of qualified field application engineers for quick time to market.



Ordering Information

Licenses for volume production are available either per *nanoANQ RTLS Anchor* or per Processing Node (i.e. Windows PC that is running *nanoLES*).

Number	Description
KNRTB01	nanoPAL - RTLS Tool Box
SNLES01AL	nanoLES - Location Engine & Server - Anchor License
SNLES01NL	nanoLES - Location Engine & Server - Node License

Additional Information

Please refer to the product information on the *nanoPAL RTLS Toolbox* for a description of Nanotron's RTLS development tools.

Visit www.nanotron.com for more information on Nanotron's complete line of products and tools or write to us at Nanotron Technologies GmbH, Alt-Moabit 60, 10555 Berlin, Germany.