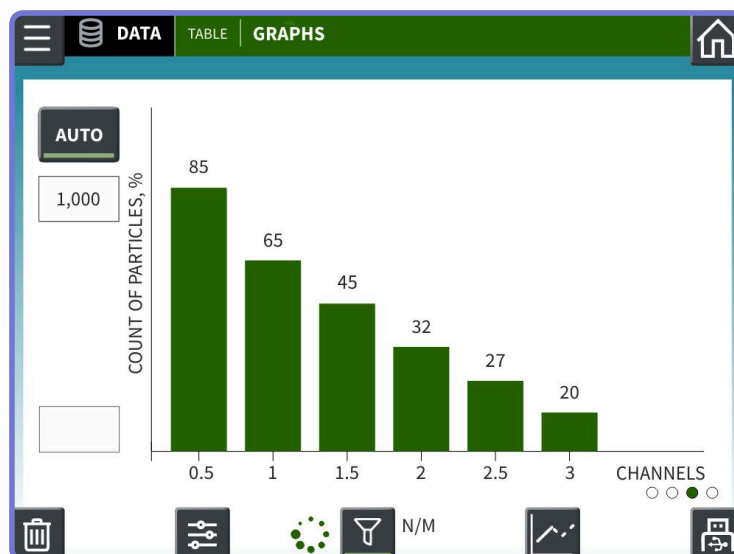# PARTICLE COUNTING DEVICE UPGRADES

Datasheet

Project objective

Design a complex firmware to control operations for the new generation of particle counting device. Extend functionality and upgrade UI of particle counter to provide intuitive and reliable operations control in compliance with high precision measurement requirements and data integrity standards. All the enhancement for the device has to be done in view of its major requirements – to ensure the appropriate responsiveness and stability to work 24/7.

Result

The client gained a more functional, secure, and user-friendly particle counter that provides both onsite measurements and continuous remote monitoring. The upgraded device fully responds to international standards for high precision measurement devices and is ready to be launched to market.

Scope of work

- Architecture design for the whole system, including all layers, services, applications, and inter-communications
- Implementation of GUI for the device with built-in display for portable field measurement
- Implementation of web interface for remote operation, continuous monitoring, and updates
- Provision of the functionality of data export and visualization, reports generation, device configuration, and self-test, users' management, multi-language support
- USB, Wi-Fi, Ethernet, and NFC support
- Link Qt QML-based interface with VxWorks RTOS providing find the best way of data exchange using limited possibilities of Qt-framework
- Final integration & onsite Acceptance testing. Technology transfer for the system to be modified in the future by the client's staff

Activities

- Requirement definition
- HMI proof-of-concept
- Architecture design
- Specifications development
- UI implementation
- Software development
- Qt optimizations
- Quality assurance (onsite)

About the project

Technologies

◈ VxWorks

◈ Qt-framework & QML

◈ C/C++14

◈ .NET

◈ Angular

◈ HTML/CSS

◈ JavaScript

Platforms

◈ Embedded

Project size

◈ 7 Software Engineers

◈ 3 QA Engineers

◈ 2 Technical Writers

◈ 1 Graphics Designer

Duration

5 years

May 2017 – March 2022