

Direct Access to Chromatography Data System through Smart Device

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Introduction

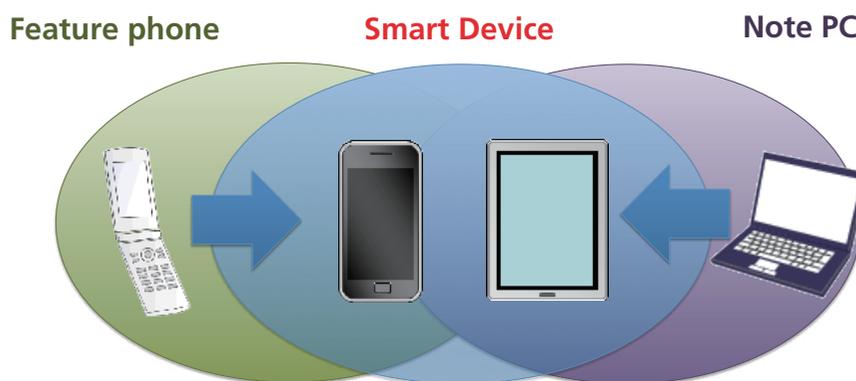
The use of smart devices, such as smartphones and tablet PCs, continues to increase while becoming simple multi-functional terminals.

These information terminals create a new paradigm, one that is expected to lead to solutions for various problems and increase economic growth.

To utilize this trend with analytical instruments, a Web server operating a Chromatography Data System (CDS) from an external terminal is installed on a PC.

The demand to confirm the instrument status in the laboratory and operate the instrument everywhere and anywhere is realized by this technology.

Paradigm Shift of the ICT Terminals

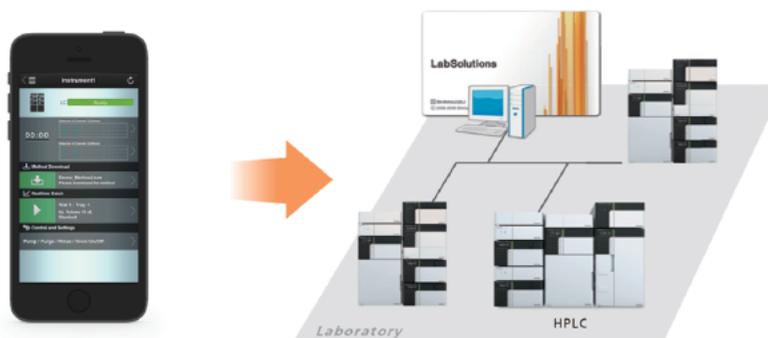


The number of shipped Tablet PC's will exceed the number of Notebook PC's because of Light and Mobile terminals

with intuitive operation and reasonable pricing. The leading ICT terminal will be replaced.

User Requirements in the Laboratory for a Smart Device

- Monitor and control the instrument outside the laboratory as well as in front of it.
- Check the running status while performing other work.
- Share the instrument and adjust the test schedule.
- Quickly search the SOP and other necessary information in the laboratory.



Technical Features realized by Smart Device

Direct Access	<ul style="list-style-type: none"> • Direct control and change instrument parameters. • Download methods and start / stop batch analysis. • Monitor chromatograms, pump pressure, oven temperature and batch analysis status. • Display and cancel error message.
Simple Operation	<ul style="list-style-type: none"> • Intuitive operation with functions arranged on compact screen. • Quick response to provide stress-free operating environment by asynchronous communications technique.
Simple Setup	<ul style="list-style-type: none"> • No special software is required. • iPhone, iPad, Android and other PCs are available.

Direct Access to CDS through Smart Device

Perform Analysis with Simple Operations

A Web server to operate the CDS from an external terminal is installed on a PC in order to utilize a smart device. This realizes an increasing demand to confirm the laboratory status and operate the instrument from anywhere.



1. After login, select the instrument.



2. Download the selected method.



3. Start instrument operation.



4. Monitor the instrument status. The flow rate can also be changed.



5. Select the batch file and run data acquisition.

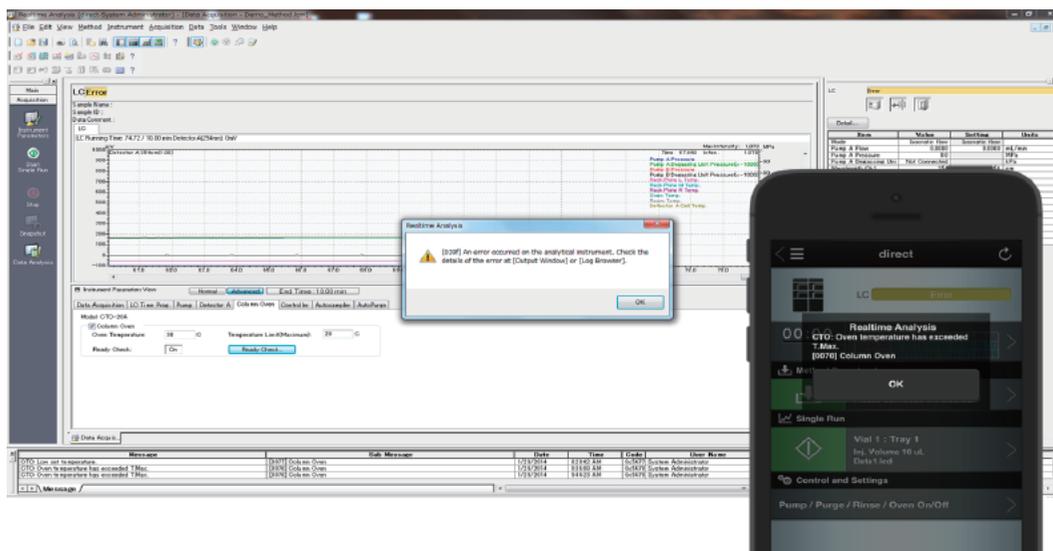


6. During data acquisition, chromatograms, pump pressure values, etc. can be monitored.

Direct Access to Chromatography Data System through Smart Device

Notify Instrument Error in Case of Emergency

Monitor the instrument status from anywhere and remotely recover the system in case of emergency.

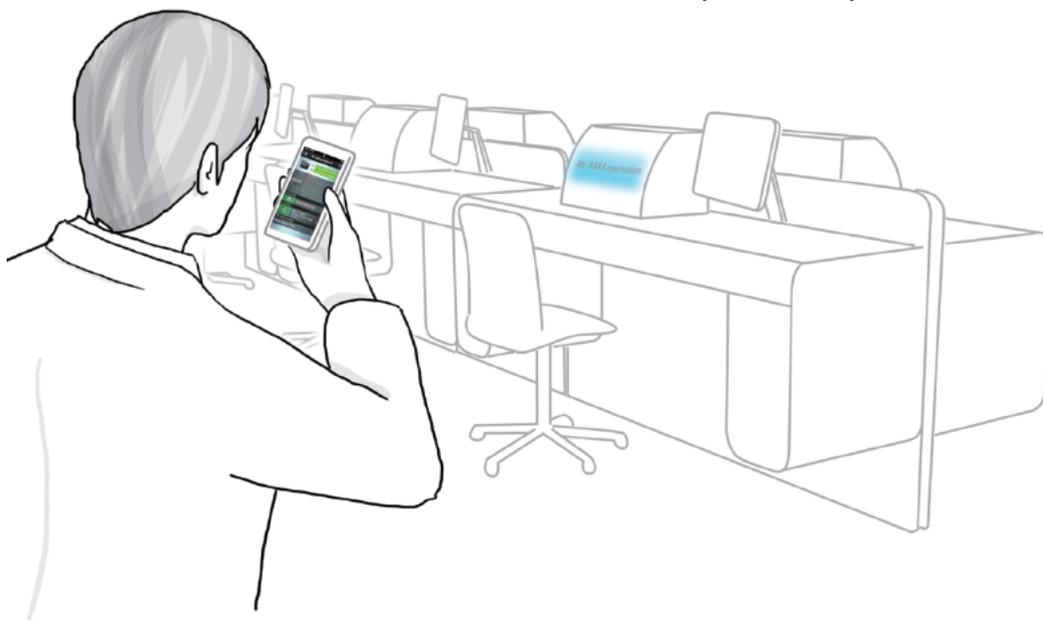


Application Example

Open Access Control

Use the smart device as an open access terminal.

- Share a single instrument with multiple users on an open access environment.
- Monitor and control the instrument on the PC in the office, and on the smart device outside the office.
- Productivity increases by a factor of 2.

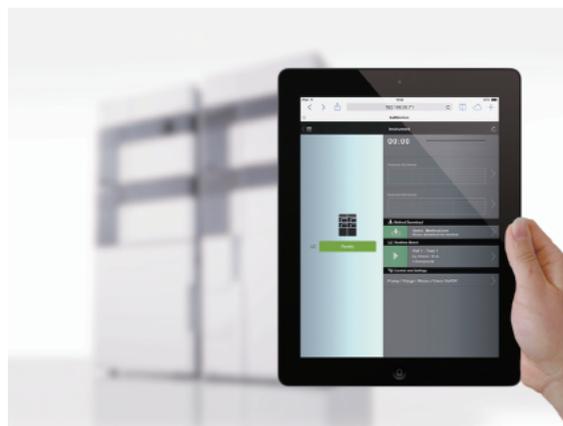


Direct Access to Chromatography Data System through Smart Device

Multiple Functional Terminal

Use the smart device as a multi-functional terminal in the laboratory.

- Browse SOP and operate in front of the instrument.
- Use your tablet PC as a multi-functional terminal.
- Achieve space savings in the laboratory and quickly access the instrument without extra investment.



Simple Client/Server System

Scale up a stand-alone CDS to a simple client/server system for multiple users.

- Control 4 HPLCs with a single PC.
- Use smart devices as a control panel for each HPLC.
- The stand-alone PC is enhanced to a simple client/server system with 4 terminals to operate HPLCs separately.



Conclusion

Smart Device technology creates a new paradigm in the analytical laboratory.

- In addition to monitoring the laboratory status, daily analysis workflow requirements, including monitoring the real-time chromatogram plot, controlling the instrument, downloading a method and submitting a queue, can be performed from a smartphone or tablet PC using this new technology.
- Does not require a special application to be installed into the smartphone or tablet PC to operate CDS. In addition, in a laboratory where a wireless LAN cannot be used, it can be operated through the PC's browser via a wired LAN.
- This function introduces a mobile environment into stand-alone CDS to scale-up to a simple client/server system for multiple users.

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