



# Analysis in Mind

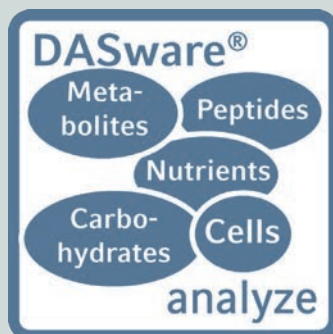
DASware® analyze software—Seamless integration of analytical devices

»The ability of the system to integrate both external PAT and in-house developed controllers was vital to the success of our application.«

Stephen Craven, PhD, Life Science Team Leader, APC Ltd, Dublin, Ireland

#### The smart solution for automated bioprocesses

DASware® analyze enables seamless integration of sampling and analytical laboratory devices to the bioreactor system. A broad and growing range of analyzers can be integrated.



DASware analyze:  
Simply automate your  
bioprocess by integration  
of autosamplers and  
analyzers to your  
bioreactor system.

#### DASware® analyze at a glance

- > Integration of third-party lab devices into bioreactor control units
- > Enables bidirectional OPC interconnectivity, process-triggered feedback control loops and sampling on demand
- > Allows for online calculations and event- or data-driven decisions
- > Users benefit from integration of existing benchtop equipment, better process understanding, and optimal process control
- > Nutrient analyzers and cell counters, biomass monitors, mass spectrometers, automation platforms and autosamplers, HPLC, Raman spectroscopy, and others can be integrated

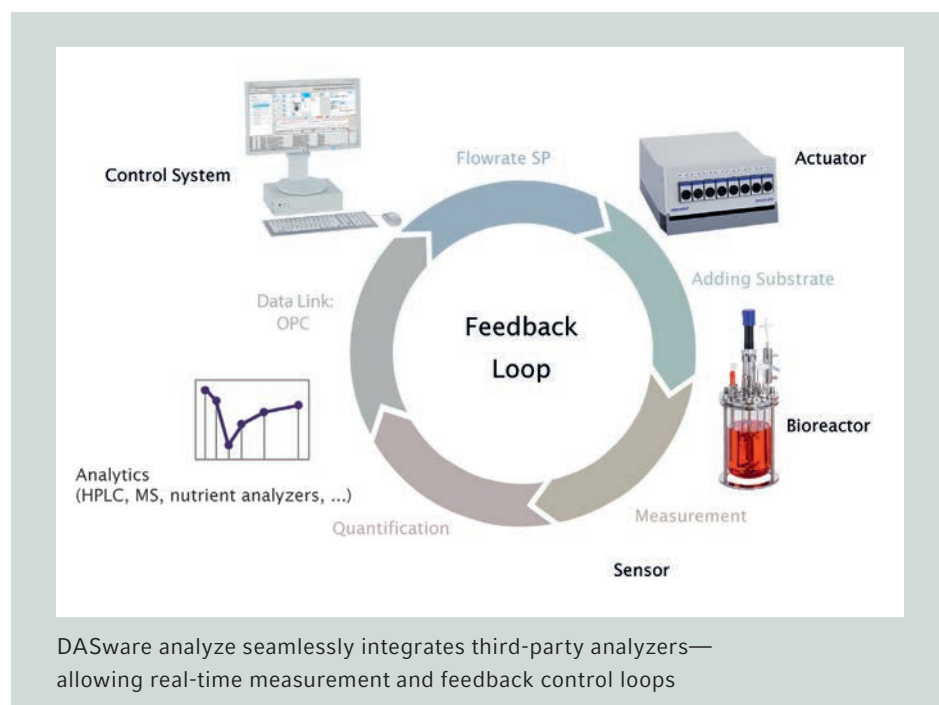
Automate your workflows—minimize manual operations, get reliable results, and save time

### Integrate third-party analyzers

The DASware analyze software was developed to integrate multiple laboratory devices from various third-party providers with bioreactor systems under control of the DASware control software.

The functionality was tried and tested for several in-line and on-line process analyzers and autosamplers:

Analytical instrument	Model
Exhaust analyzers	DASGIP® GA4, New Brunswick™ EX-2000
Biomass measurement	DASGIP OD4, Aber Futura®, Hamilton® FOGALE iBiomass
Mass spectrometer	Thermo Scientific® Prima PRO
Nutrient analyzers	Cedex® Bio, Nova BioProfile®, YSI®
Autosamplers	BaychromAT®, Flownamics SEG-FLOW®
Nutrient analyzers	Cedex Bio, Nova BioProfile, YSI
Cell counters	Cedex
HPLC	Agilent®, Shimadzu® Nexera®
Raman spectroscopy	Kaiser Optical Systems



### Close the loop

The OPC network protocol as well as the Modbus® protocol allows for interconnectivity between the bioreactor system and the analyzer, including the possibility of direct feedback from the bioreactor system according to online measured analytical data.

This facilitates feedback control loops for nutrients, biomass or product concentrations. Online calculations as well as event- and data-driven decisions are supported. The bidirectional OPC communication available for supporting devices enables sampling on demand and feedback control loops.

- > Learn how scientists at APC Ltd. in Dublin established a Quality-by-Design approach to increase process understanding in biopharmaceutical development: Download application note no. 300 by scanning the QR code on the right.
- > Find this and other application notes and information on [www.eppendorf.com/DASware-analyze](http://www.eppendorf.com/DASware-analyze)



**Ordering information**

Description	Order no.
<b>DASware® analyze</b> , OPC client standard (OPC DA e.g. for ext. analyzer license) for 1 vessel	76DWANA
<b>DASware® analyze</b> , serial/Modbus® integration (e.g. for ext. biomass sensors) for 1 vessel	76DWANAM
<b>DASware® analyze</b> , OPC client professional incl. 1x tunneler lic. (OPC DA e.g. for ext. analyzer with autosampler) for 4 vessels	76DWANA4P
for 8 vessels	76DWANA8P
for 12 vessels	76DWANA12P
<b>DASware® analyze</b> , cable and license	
for 4 Aber Futura® sensors	76DWANA4AF
for 4 Hamilton® Fogale sensors	76DWANA4HF

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