

Are you following the trend?

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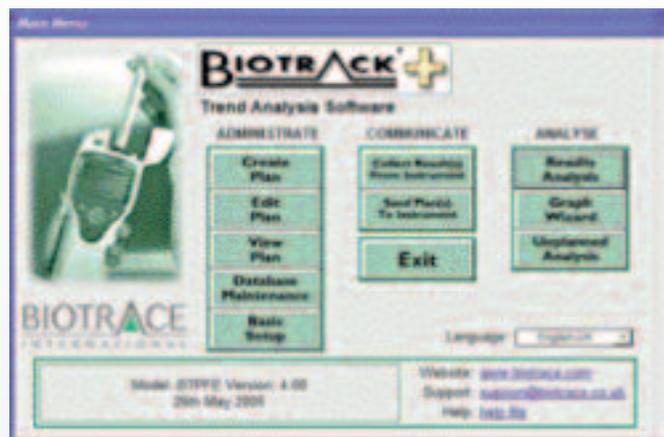
ATP rapid hygiene monitoring is an important method of cleaning verification in the UK and is an accepted technology throughout the food and beverage industry. Based on the principle that if ATP (the energy molecule found in all living cells) is present on a visibly clean surface, organic residues, in the form of food or other cellular material, must be present.

The presence of these food residues creates a possible breeding ground for microbes, potentially leading to the contamination of products during the manufacturing process. ATP based rapid hygiene tests seek to measure the amount of ATP present at the critical points of a production line, thereby giving an indication of the hygienic status in less than a minute.

The technology typically involves a sample being taken using a surface swab or water test, the test is activated and a bioluminescence reaction takes place.

The test is measured in a luminometer which assesses the amount of light emitted by the reaction. The light produced by the test is measured and converted into Relative Light Units (RLU) for easy interpretation.

The greater the RLU the more ATP present and, therefore, potential contamination risk. Having used RLU values to determine pass, cau-



Trend analysis software can bring real benefits to the food and beverage sectors.

tion, fail limits for each critical control point, the user can then immediately determine if the point tested is clean or if further re-cleaning is needed prior to production commencing.

Rapid and ongoing benefits

Such rapid technology offers many benefits; ATP tests deliver results in seconds, giving real-time hygiene information that a food or beverage manufacturer can act on.

Tests are incredibly simple to use and provide clear pass or fail results,

allowing all operatives to perform the testing with no specialist personnel or laboratory required. Records can be kept to show due diligence and to demonstrate that an effective cleaning regime is in place as part of the company's HACCP system.

It enables companies to not only quickly identify a hygiene trouble spot but also to take immediate corrective action to ensure the critical area is within the required hygienic status and ready for production again. Rapid hygiene testing is also an excellent training tool – enabling personnel to see a clear and immediate link between good hygiene

practise and the hygiene test result.

With such immediate benefits available to the user it is no wonder that many food and beverage manufacturers utilise an ATP based rapid hygiene monitoring system, however, ATP testing offers much more than a rapid result.

Whereas a rapid result provides an opportunity to carry out corrective action in real-time, analysing these results over time offers an overview of performance and a system of review. Both are important in the demonstration of due diligence.

Therefore, in order to gain the full benefit of an ATP hygiene monitoring system the user needs to take full advantage of data analysis, also known as data trending.

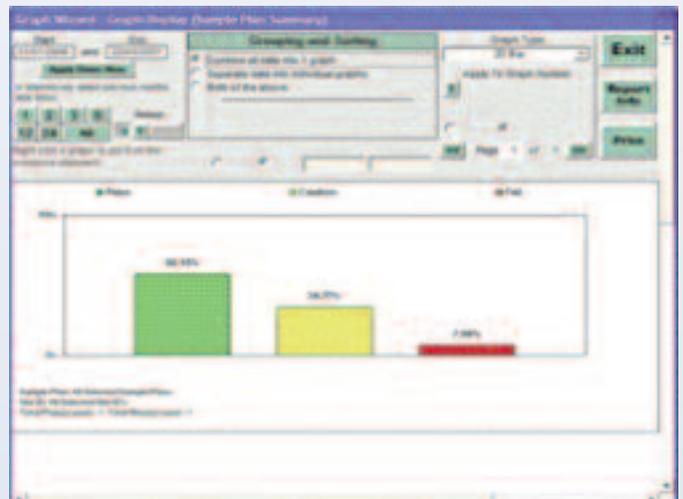
Data trending of rapid hygiene monitoring results is not a new phenomenon and the benefits to a business can prove invaluable, so why are some food processors still not taking advantage of the data at their fingertips?

Regular analysis of hygiene monitoring results enables food processors to monitor the hygiene status of their operations at all times by providing information on performance over time.

Broadly speaking, data trending helps to identify problem areas, measures the effectiveness of remedial action and allows managers to

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Station	Class	Sample Point	Test Point	RLU
1	1	ATP-001	10000	10000
2	1	ATP-002	10000	10000
3	1	ATP-003	10000	10000
4	1	ATP-004	10000	10000
5	1	ATP-005	10000	10000
6	1	ATP-006	10000	10000
7	1	ATP-007	10000	10000
8	1	ATP-008	10000	10000
9	1	ATP-009	10000	10000
10	1	ATP-010	10000	10000
11	1	ATP-011	10000	10000
12	1	ATP-012	10000	10000
13	1	ATP-013	10000	10000
14	1	ATP-014	10000	10000
15	1	ATP-015	10000	10000
16	1	ATP-016	10000	10000
17	1	ATP-017	10000	10000
18	1	ATP-018	10000	10000
19	1	ATP-019	10000	10000
20	1	ATP-020	10000	10000
21	1	ATP-021	10000	10000
22	1	ATP-022	10000	10000
23	1	ATP-023	10000	10000
24	1	ATP-024	10000	10000
25	1	ATP-025	10000	10000
26	1	ATP-026	10000	10000
27	1	ATP-027	10000	10000
28	1	ATP-028	10000	10000
29	1	ATP-029	10000	10000
30	1	ATP-030	10000	10000
31	1	ATP-031	10000	10000
32	1	ATP-032	10000	10000
33	1	ATP-033	10000	10000
34	1	ATP-034	10000	10000
35	1	ATP-035	10000	10000
36	1	ATP-036	10000	10000
37	1	ATP-037	10000	10000
38	1	ATP-038	10000	10000
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74	1	ATP-074	10000	10000
75	1	ATP-075	10000	10000
76	1	ATP-076	10000	10000
77	1	ATP-077	10000	10000
78	1	ATP-078	10000	10000
79	1	ATP-079	10000	10000
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93	1	ATP-093	10000	10000
94	1	ATP-094	10000	10000
95	1	ATP-095	10000	10000
96	1	ATP-096	10000	10000
97	1	ATP-097	10000	10000
98	1	ATP-098	10000	10000
99	1	ATP-099	10000	10000
100	1	ATP-100	10000	10000



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keep a close eye on the standards of cleaning by all operatives.

Data trending is an important audit tool, helping to meet the audit requirements that a customer may demand.

Continual improvement

One of the main areas where data trending can benefit a company is through continual improvement.

Often, an almost immediate improvement in cleaning is seen after the implementation of a rapid hygiene system, as prior to its introduction it can be difficult to assess how efficient cleaning systems are.

With real time measurement of hygiene and ongoing analysis of hygiene results, control over cleaning is better managed and different aspects of the cleaning system can be evaluated, such as:

1 Identifying areas where cleaning is repeatedly not meeting the level of hygiene required, allowing a review of the current cleaning schedule.

1 Indicating whether changes to the cleaning regime have been effective or not, for example, the introduction of a new cleaning chemical or sanitiser.

1 Identifying whether all cleaning operatives/teams are cleaning effectively and that they are following the correct procedures if corrective action is required following a fail result.

1 Providing the opportunity to optimise cleaning to reduce costs without compromising hygiene effectiveness.

1 Demonstrating due diligence.

Such information provides an understanding of cleaning effectiveness, empowering the quality team to fine tune the cleaning regime to achieve improved results.

As a consequence overall cleaning improves, and pass/fail levels can be reduced accordingly as a new, achievable level of cleaning is

reached. The value of a good ATP rapid hygiene monitoring system, that includes an advanced data trending tool, is no more apparent than when meeting audit requirements, whether internal or external.

Hygiene data can quickly be presented to the auditor through the use of sophisticated data filtering. In the case of a retest following re-cleaning, clear audit trails allow easy identification of the steps taken, by whom and when.

Data trending should also allow the production of hygiene reports without spending valuable time manipulating data.

Graphical representations should be generated easily for reporting needs.

To achieve all of the above the data trending system must be robust, easy to use, but have powerful reporting and graphing facilities.

It must be able to interrogate data quickly and be able to log information where corrective action has taken place, for example re-test results.

Such a system will bring full value to the ATP testing a company has put in place.

Data trending benefits have been exemplified by numerous food and beverage manufacturers worldwide.

The introduction of an ATP rapid hygiene monitoring system, including advanced data trending software, has allowed a UK based ready meal manufacturer to target problem areas in their production facility.

Contamination 'hotspots' were identified using the system, allowing the company to tailor the cleaning regime appropriately.

Consequently, they have seen a reduction in the level of environmental microbial contaminants, and also a significant reduction of microbial counts in final product. This helped the company to satisfy their customers and auditors as they were able to demonstrate that an effective and controlled cleaning regime had been established.



Another manufacturer, from the global beverage industry, utilised data trending to identify the slow build up of contamination in plant areas.

With the ATP system already in place, the data trending tool was put into action.

The data collected highlighted the problem of scale build up and potential biofilm on production surfaces.

As a result a structured deep cleaning programme was put in place and the problem was eradicated.

Big brother is watching

In the case of a global brewer, an increasing trend in final product contamination was identified and the use of their ATP system's data trending software enabled the company to identify the area of concern.

On examining the data, in particular the data entered under the re-test facility, it was discovered that where fail results were recorded on initial cleaning and corrective action was required, the re-clean had not been carried out appropriately.

It became evident that due to increasing production pressures short cuts in cleaning regimes were being taken, subsequently compromising end product.

Data trending identified this issue which allowed the quality team to resolve the problem. It also brought to the attention of the management the need for the re-education of all cleaning and production operatives to ensure they fully understood the importance of adhering to standard operating procedures and provide them with a greater vision of how the cleaning systems they were operating affected the company as a whole.

In a similar scenario, trend analysis reports enabled the technical team of a UK based condiment manufacturer to establish key performance

indicators (KPI) for individual departments so they could establish a 'right first time' cleaning policy.

The analysis software provided real time feedback for monthly KPI reports showing the strategy taken was proving successful.

It should, of course, be noted that not all ATP systems on the market have data trend analysis software as part of their package and those systems that do provide software should be evaluated on the software's functionality to ensure it meets the requirements discussed.

Biotrack+, from Biotrace International, part of the 3M company, is an advanced data trending software specifically designed for trending ATP hygiene results.

The software allows companies to easily analyse their results and produce basic reports such as the hygiene status of a production line over time, or more sophisticated analysis such as the ranking of which critical control points (CCPs) fail most often.

Powerful data filtering allows detailed analysis of specific aspects of the data which can then be turned into management reports.

Importantly, Biotrack+ and all the benefits associated from using a data trending software, are available to all Biotrace ATP customers at no extra cost to their current ATP spend.

In summary, by using data trending software such as Biotrack+, food processors can obtain even more value from their investment in ATP technology. Companies using ATP for cleaning verification already realise the benefits that real time results bring to them, yet not all companies go on to analyse their data.

These companies are missing out on valuable information that would allow them to make more informed decisions on improving hygiene over time and would get full value from their ATP system.

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