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How continuous should 'continuous' monitoring be?

Recent developments in measurement technology have raised the possibility of greatly increased frequencies of monitoring, at least for a limited number of determinands. Attractive as this prospect might be for gaining a better understanding of the processes under examination, monitoring at high frequencies raises a new question—at what point is the effort devoted to obtaining more data no longer justified by the increase in knowledge that it provides?

This Technical Brief discusses the reason for diminishing returns as the frequency of monitoring

Correlation can be important in a second way because it leads to redundancy in the collection of data – obtaining data for a time-correlated variable that are too close to one another is really equivalent to a repeat measurement of the same thing and as such adds little additional i