

IRRADIATOR METRICS IMPROVE PROCESS EFFICIENCY

konnTRACK product tracking module collects many data points during the irradiation process. When this data is presented in an easy-to-understand manner, new operational insights are gained that often lead to improved efficiency.

Bar graphs can be compared at regular intervals to see if the machine is running more or less efficiently. If there is a specific time where the result is very positive compared to other times, further investigation can determine if such operational patterns are repeated. Similarly, if periods with particularly unfavorable efficiencies are evident, a detailed analysis of the historical schedule report may specify the conditions that led to such inefficiencies. These conditions can then be avoided.

The following aggregate data collected by konnTRACK is easily extracted from real operational conditions. This data illustrates the variability in efficiency occurring from one week to the next in an irradiation facility. Data is extracted via a macro, and the extracted data is graphed in Excel.

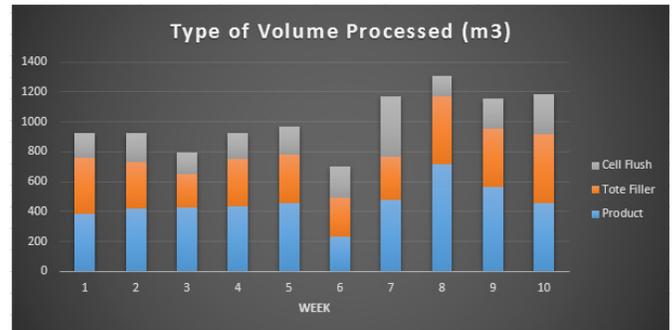
Here are some example of irradiator metrics graphs.

GOOD METRICS EXAMPLE: THROUGHPUT



Historically, irradiator operators can easily extract how many totes were processed over a given period. This information is obtained by counting the cycles throughout this period. In the example above, throughput goes up when additional cobalt is added.

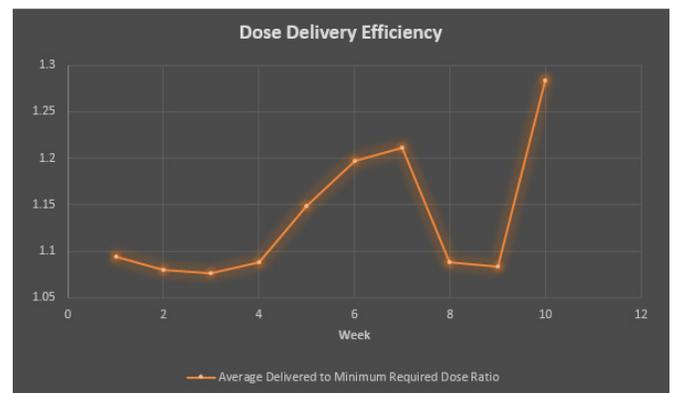
MORE USEFUL METRICS EXAMPLE: TYPE OF VOLUME PROCESSED



Empty totes, dunnage, or flush totes do not typically generate revenue, so it is better to see throughput categorized by volume and type of material processed.

In the second example above, a production manager may wish to further analyze what was processed during week eight that had the least amount of flush product and the highest volume of product and tote filler material. This is accomplished by previewing the historical schedule report.

GAINING ADDITIONAL INSIGHTS: DOSE DELIVERY EFFICIENCY



If a higher dose is delivered to a product, profit margins are reduced and it is possible that the product will be overdosed. It is useful to see how close to the minimum dose, on average, a product is processed through irradiator week by week or during any other period length selectable by user.

Product processed during week eight has delivered dose closer to the minimum while week 10's performance was drastically increased. Similarly, a historical schedule can be reviewed to see if there are patterns that can be avoided or repeated.

Note: Dosimetry analysis requires dosimeter measurements to be saved in konnTRACK's database. This feature is available if the dosimetry station option is available, or the Bruker interface has been installed.

Hosts of other irradiator metrics can be extracted from konnTRACK that contains a great variety of accurate data and that is presented in an easy-to-understand format.

In conclusion, irradiator metrics that are easily retrievable and presented in a user-friendly manner provide insight in how to improve efficiency and the profitability of an irradiation facility.

Originally from Slovakia, Peter Veselovsky studied electrical engineering at the University of Toronto. An avid skier, Peter quickly fell in love with Canadian winters. While working with Nordion leading their Irradiator Control Systems and Radiation Therapy Control groups, he realized that the level of innovation was lacking. Peter believed it was possible to integrate sterilization control systems with a manufacturer's complex work flow while maintaining highly effective and safe systems that would meet stringent regulatory standards. With this in mind, Peter formed Konnexis in 2000. Today, Konnexis' handpicked team provides control systems and integration services for a variety of sterilization systems across the globe.

**300 March Road, Unit 102
Kanata, Ontario, Canada**

**1.613.599.7371 ex. 223
www.konnexis.com**

