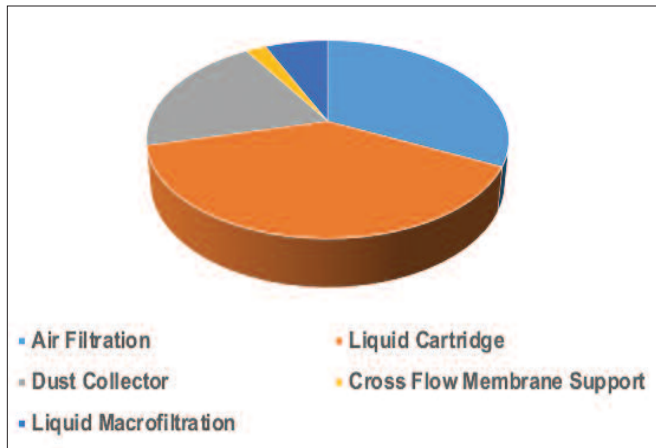


Nonwoven Filter Media in the Post Digital Era

By Robert McIlvaine, President, McIlvaine Company



Nonwoven media filtration revenues

The Industrial Internet of Wisdom (IIoW) will empower the Industrial Internet of Things (IIoT) and lead us into the post digital era. This will change the way nonwoven media for stationary filters is selected and sold. International Filtration News and the American Filtration and Separations Society (AFS) will play an important role in this increasingly interconnected world.

In 2019, \$9 billion will be spent for nonwoven media for stationary filters. What is included: HVAC air filtration including gas turbine inlet filters; liquid cartridge filtration for industrial, residential, and commercial filtration; dust collectors, which are cleaned by air pulsing, reverse air or shaking; cross flow membrane support for microfiltration, ultrafiltration, and reverse osmosis; cloths, bags, and belts used in liquid macrofiltration.

What is not included: medical device filtration, lubrication and hydraulic filtration, face masks, automotive and other mobile filters.

Media manufacturers are generally larger than their original equipment manufacturer (OEM) filter customers. Their products are critical to filter performance. The greatest potential for innovation is in the media. It is therefore important that the media suppliers understand the filter products and the processes in which the filters are used. This has been difficult because the filter manufacturer has been reluctant to share or may not have process knowledge.

This situation is starting to change thanks to the advent of IIoT and remote operations and maintenance (Remote O&M). The best example is the 3M Filtrete™ furnace filter. It has a blue tooth embedded pressure sensor, which alerts 3M when the pressure drop becomes excessive. In the future there is likely to be prolific data on performance for millions of HVAC filters. If this same amount of data were available for all stationary filters, the total cost of ownership for each type of filter in each application could be determined. This data would provide media suppliers with the knowledge they need to innovate and provide better media solutions.

With the likely proliferation of performance data through data analytics and remote monitoring, media manufacturers will have the opportunity to work with end users as well as filter suppliers to provide superior products. IIoW involves interconnecting the people and knowledge in a way to serve the 4As knowledge needs: Alerts, Answers, Analysis, and Advancement.

In order for a company to determine the Serviceable Obtainable Market (SOM) from the Total Available Market (TAM) for each product in each process there needs to be a continuing quest to leverage the 4As.

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Strategic plan for future opportunities.

International Filtration News is an example of a resource, which provides the 4As. It provides Alerts, which will be valuable in terms of determining markets and designing products for those markets. A good example is Adrian Wilson's "New Industries Will Secure Continuous Growth for Non-woven Filter Media." This feature article provides Answers and Analysis relative to markets, competitors, and product opportunities.

AFS conferences are another major source of Answers and Analysis. The speeches plus the opportunity for direct discussions provide 3 of the A's. The training courses held in conjunction with the conference provide the 4th A – Advancement.

International Filtration News and AFS make all this information available in archives. The challenge is to make this information readily available when needed. Access to the data needs to be accompanied by extensive decisive classification to identify what is relevant.

The Mcllvaine recommendation is that this task of organizing and classifying the relevant information fall on the shoulders of the filter and filter media suppliers. In fact they have a big opportunity to convince customers that they have the best product with the lowest cost of ownership. They can justify these claims with proper use of the available data. The role of the Mcllvaine Company is to help suppliers use the 4As to forecast not only the available market but also the SOM.

The filter/media supplier program should address each prospect in each industry and each process within that industry where the supplier's product will have the lowest total cost of ownership (LTCO). Lowest total cost of validation (LTCOV) is accomplished with collaboration and a combination of the 4As, which not only present the LTCO but also validate it by connecting with the individual purchasers. Magazines such as International Filtration News and conferences such as held by AFS can not only be a source of information, but can enhance the LTCOV by providing customer connections. This is the route to higher sales.

The role that Mcllvaine plays is to leverage the 4As to determine the aggregate of the LTCOV opportunities. This aggregate is the SOM. The next step is to find the individual prospects. Mcllvaine has identified 20,000 purchasers of stationary filters representing 70 percent of the market. Once the SOM is established, a right to win strategy can be prepared. The role of the filter media supplier should be expanded. The media is the heart of the filtration process. IIoT empowered IIoT will allow the media supplier to understand the processes, design media tailored to the process and communicate the LTCO to the filter supplier and end user.

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