



## TTNA hosted an event at Industrial Decontamination in October

In recognition that all industrial fibre, textile and PPE practitioners are looking to extend the lifecycle of their products, the TTNA organised for a tour of Industrial Decontamination Services Pty Ltd (IDS) for members and colleagues.

IDS represents a new generation of companies that are forging new ground by capitalising on the opportunities created by extended producer responsibility standards. The company was formed after eight years of research and development and field trials into the effects of laundering and decontamination on the protection provided by items of protective equipment.

In the course of manufacturing or processing, most large industrial sites generate polymer based hazardous wastes that cannot be discarded as general waste. Hazardous polymer waste can take the form of raw ingredient packaging, filtration medium for wet and dry filtration processes, machinery components and pipe-work, and will include materials such as PVC, Polyester, Poly-propylene, Poly ethylene and HDPE plastics - both film and woven.



Figure 1: stock pile of used filtration media

Traditionally these wastes have been deposited in specially design hazardous waste land fill sites that are either run by the local authorities or are built and run on site. Due to escalating landfill costs and environmental concerns about land filling as a waste management solution, the practice is becoming less tenable for industry. Businesses are now looking for methods of disposal that minimise or eliminate any environmental impact, reduce the long term costs of land filling and result in reuse of the wastes wherever possible.

In responding to this growing need for better waste management and with strong support from local industry, Industrial Decontamination Services Pty Ltd has constructed the first of our polymer decontamination facilities in Gladstone Australia.

The company founder and Managing Director, Ben Jones, explained to the audience of 35 TTNA members and colleagues that while the company commenced providing services that were essentially an extension of the laundering process, it has subsequently developed a unique process for the decontamination and recycling of filtration medium from heavy industry. These materials, including dust extraction filters, liquid filtration cloths and rigid filter were previously destined for contaminated landfill sites are now decontaminated before being converted back to plastic resin for reuse in a number of applications. The company has also adapted their processes to handle cyanide contaminated products including packaging and in-plant waste.

The lifecycles of products that were formerly sent to landfill can now be extended through industrial cleaning and calorific separation.

The plant is based on the process that IDS has developed for processing and reuse of protective clothing and equipment. The process allows for effective decontamination and reuse of polymer based protective clothing and equipment without causing damage

to the polymer structures. Ben explained that the IDS process minimises damage and provides reusable PPE product that carries the original level of protective integrity.

Currently IDS processes waste products from the region's industrial processing plants including QAL, BSL, Rio Tinto, Alcan and Orica. All of these products were formerly sent to landfill and are now being stockpiled ready for processing. The cleaned polymer product will be further processed to produce resin that can be sold back to plastic products manufacturers. In summary the polymer recycling process provides the following benefits.

- Reduce the volume of waste material to landfill by up to 15600m<sup>3</sup> per annum
- Allows the reuse/recycling of a waste material
- Substitutes virgin raw materials in the plastics manufacturing process with recycled materials
- Reduced costs when compared to land fill charges particularly as land fill options become less available with time
- Promotes environmental management objectives.

Organisations throughout Australia - and across the world - are increasingly taking their environmental responsibilities more seriously and are becoming more astute at applying innovation across products and internal processes to meet greater environmental outcomes, including reducing waste to landfill, reuse/recycle of waste material and the substitution of virgin raw materials. Industrial Decontamination Services Pty Ltd represents a new generation of companies that are forging new ground by capitalising on the opportunities created by extended producer responsibility standards.