

# CIRCULAR ECONOMY CASE STUDY: ENVIRO IMAGE SOLUTIONS



Canada united in the achievement of zero waste, now and for future generations

## GENERAL INFORMATION

- Print Service Industry
- Based in Vancouver, BC and commenced operations in 2007
- Client base: commercial printers located in North America, Europe, Japan and China
- Annual gross revenues >\$10,000,000
- 15 employees
- [www.enviroimagesolutions.com](http://www.enviroimagesolutions.com)



## EXECUTIVE SUMMARY

The print industry is big business in Canada. While there has been a big push towards digital media in the past decade, the printing industry is still one of Canada's largest manufacturing sectors which accounts for approximately 11% of the manufacturing in Canada. There are over 4,000 printers across Canada which employ over 50,000 people who create products worth over \$9 billion dollars per year to the Canadian economy.

### WHAT IS A PRINTING BLANKET?

The next time you open a newspaper or magazine, or sit down to read a book, there is a fair chance that the ink on the pages has been put there by a printing blanket. Most print – such as newspapers, books, leaflets and packaging materials – is produced using a traditional offset press. Although these machines vary enormously in size and complexity, and can cost up to millions of dollars, they all rely on a process in which the ink is transferred – or offset – from a printing plate to a printing blanket (a polymer-coated composite fabric, wrapped around a cylinder on the press) and then from the printing blanket to the paper. The final image quality depends entirely on an accurate transfer of ink, often at very high speeds and on to a variety of different types of paper.

In the past, big business has meant big waste when it comes to printing blankets used by the print industry. Before the Enviro Image Solutions (EIS) pioneered their proprietary Blanket Renewal Technology, which renews and recycles used printing blankets, printers would replace blankets as often as each printing job and typically discard their used blankets into landfills. To address this costly and wasteful process, EIS helps printers convert their printing blankets from one-time use consumables into multi-use assets, extending the life of their printing blankets by as much as 400% without compromising quality. With over 4,000 printers in Canada alone producing more than one tonne of printing blanket waste every year, EIS has the potential to save over 4,000 tonnes per year of waste going to the landfill annually in Canada alone. With plans to further expand into international market, EIS is positioned to make an even bigger impact.

While reducing their environmental impact is important to customers, they are attracted to the program primarily because it saves money and provides valuable operations feedback. By subscribing to the printing blanket renewal program, printing companies save tens or even hundreds of thousands of dollars, reduce overall printing blanket usage, improve press room efficiency, keep presses maintenance free for longer and most importantly eliminate printing blanket waste from local landfills. The company's circular economy innovation shifts the focus from a single use design to design for many life cycles, extending the life of the product.

<sup>1</sup> Accenture. (2014) Circular Advantage: Innovative Business Models and Technologies to Create value in a World without Limits to Growth.



## START-UP

In 2003 a group of printing industry professionals, engineers and chemists created a research and development team to develop a blanket renewal process. A high end printing plant hosted the trial and error testing of the developing technology.

After four years of beta testing, refining processes and significant funding, the team developed the world's first and only Blanket Renewal Program. EIS uses its proprietary multi-step processes to restore the printing characteristics of the used blankets to as good as new. The resulting specialized technology was developed and ready for commercial production in 2007.

In 2007 the Printing Industries of America and the Graphic Arts Technical Foundation awarded the company its coveted Intertech Technology Award. The year following EIS received two top awards at the Print Action 2008 Environmental Printing Awards.

## HOW IT WORKS

Once a printer determines that a blanket can no longer be used it is crated and sent to EIS for treatment with proprietary processes that restore it to full quality. EIS then ships the press ready renewed blankets back to the plant. If handled properly each blanket can be renewed between four and ten times (the average is four) as long as the top layer of a blanket is uncut. The printer retains ownership of the blanket throughout this process.

EIS provides an additional value-added service that helps to further extend the life of the printing blanket. It is the only company in the world that studies blankets after they have been used on press, multiple times. EIS analyzes the unique physical damages on the blankets to identify issues that reduce blanket life and negatively impact production efficiency. They then make custom recommendations to the pressroom to prevent the physical damage from recurring on the press. On average over 30% of the blankets have issues

that are entirely preventable. Accordingly, EIS' service not only reduces the direct cost of blankets through its renewal technology but also reduces the total volume of blankets used by the printer as new and renewed blankets last longer on press with fewer change outs, resulting in a more efficient production process for its customers and less waste.

Once the printer understands these benefits, they routinely ask for additional products and services available from EIS.

Accordingly, the opportunity to cross-sell other products or services using the blanket renewal platform is significant. This front line customer communication creates a trust that allows for the introduction of new products or services that could complement the existing system, such as inks, washes, premium blankets, or complete blanket-ink-washes packages, etc. The company's goal is to manage the entire consumable supply chain, deliver a superior sustainable and money saving package, and lock in the customer relationship.

Since its first customer in 2007, the company has adapted its technology to address other printing methods, such as web and sheet fed. Its services are now available for all types of printing presses.



The company is committed to sending zero waste to landfill. Thus, it also designed a Blanket Recycling Program for spent blankets. Once a blanket can no longer be renewed, the aluminum or steel bars are cut off, and the rubber and fabric materials are chopped into small pieces for use in other processes. For example, EIS upcycles printing blanket waste into wallets, belts, Ipad sleeves and other products, capturing the residual value of the blanket at the end of its useful life. The remaining waste is used for clean burning fuel. The residual ash from combustion is combined with mineral waste streams and other raw materials in the manufacture of Portland cement, keeping the blanket program landfill free. This further eliminates the consequential GHG emissions during the degradation of the rubber biomass from the printing blankets in the landfills. Finally, each time one blanket is renewed, the carbon emission from the manufacturing of one new blanket is eliminated.



## CUSTOMER RECEPTION

EIS can serve customers anywhere in the world and to date has clients in North America, UK, Japan and China.

Customers are attracted to the lower price point of the renewed blankets which also compliments suitability and continuous improvement initiatives. EIS' ability to reduce blanket costs by up to 60% from its competitors who offer single use blanket sales, has resulted in considerable growth since its launch in 2007. High customer satisfaction has assured repeat and consistent business.

To attract customers and overcome the initial barriers, the company offers a free trial of its technology. Online videos of satisfied customers realizing thousands of dollars in cost-savings address many of the concerns printers face when considering the new technology.

Larger printing facilities with multiple presses have saved more than \$300,000 and eliminated in excess of 25,000lbs of printing blanket waste from landfills per year by subscribing to the Blanket Renewal Program. Medium sized printers with a handful of presses generally save between \$100,000 to \$200,000 and 10,000lbs to 20,000lbs each year.

## SATISFIED CUSTOMERS

**Lehigh Phoenix**, a four-year subscriber to the program, stated: "Our company has been utilizing this program with great success. We have around 15 machines running 24-7. Even with a half-hearted first year, we saved \$100,000. Now that the pressmen and supervisors have bought in, we're looking at a conservative forecast of around \$250,000 this year, based upon the first 2 months of this year."

**Metropolitan Fine Printers**, one of the world's most awarded commercial printers, has printed many award winning projects using their renewed blankets. Their president reports that they "have saved more than \$350,000 and eliminated over 30,000lbs of printing blanket waste from Vancouver landfills since we began the program in 2007" with only two sheet-fed presses. "From a print quality and life of blanket perspective, our EIS-treated blankets are as good as new and we continue to print award winning projects." The company's annual blanket replacement costs have decreased by 76%. They have also worked with their customers to up-cycle blanket products and the response has been fantastic.



Developed by the National Zero Waste Council in collaboration with the Ministry of Environment.

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