

GRACE: “Steps forward in the Graphics Industries towards a Circular Economy”

Fons Put¹, Willem Uyttendaele²

¹ Flemish Innovation Center for Graphic Communication, Collegestraat 11 bus 3, 2300 Turnhout, Belgium

² Centexbel-VKC

E-mail: fons.put@vigc.be, wu@centexbel.be

Short abstract

For the first time since the creation of both organizations, Centexbel-VKC (Knowledge Center for the Textile and Plastics Sector) and VIGC (Flemish Innovation Center for Graphic Communication) will join forces to prepare the Print & Sign sector towards a circular economy.

The GRACE project wants to offer the Large Format Print & Sign sector tools to make their products more circular. This is done by providing insight into the possibilities of material efficiency, material reuse and recycling through training, demonstrations and publications.

Both parties target all companies in the LFP & Sign value chain to share knowledge within this theme, create overview and insight and, where necessary, conduct additional research and thus build a bridge between all parties.

The GRACE project is based on the knowledge of the graphics sector that VIGC has and on the expertise of Centexbel-VKC and VIGC in the field of circularity.

In this project we want to focus on an integrated approach by:

- Research existing circular initiatives
- Mapping production and waste flows to identify the necessary actors in the entire value chain.

The end goal is to create more awareness and coordinated action within the sector. We look at the problems at different levels and strive to improve circularity based on the principles of the Reduce, Reuse and Recycle principle.

The Large Format Print & Sign market

The market is characterized by its large variability in substrates and printing methods. A 5% CAGR is predicted for 2028 (<https://www.marketsandmarkets.com/Market-Reports/large-format-inkjet-printers-lfp-market-523.html>). If you take for example a Formula1- event (Zandvoort, Netherlands), 25.000m² large format prints are made for this weekend event! A centralised value chain will be necessary to improve the circularity of large format prints. Every stakeholder will have to contribute towards a more sustainable large format Print & Sign market.

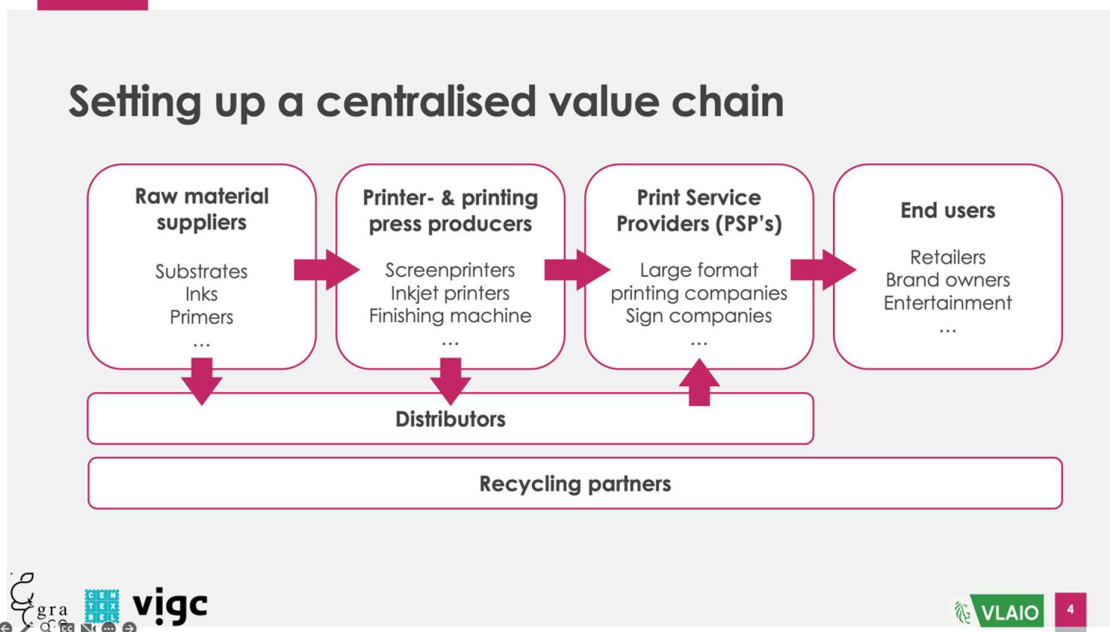


Fig. The need for a centralised value chain in large format print & sign.

Reduce, Reuse, Recycle

The building block to achieve more sustainability are reduce, reuse and recycle of materials. First printing trials have been carried out to investigate if less ink consumption is possible without compromising graphic quality. Setting a maximum ink limit, building colors with maximum use of black ink and advanced screening are the graphic parameters that determine the ink consumption. In printing more complex print products, material can be saved by using nesting & ganging software.

Reuse of large format prints could be possible if the printed top coating is easily removable. This is currently under investigation for a number of materials.

A major Dutch large format printer has successfully initiated a 'recycle' action. Printed material has been collected, shredded and under pressure and heat reformed to a new printable substrate (<https://signagain.com/>). This product has been recently awarded at the latest DRUPA (<https://edpawards.com/wp-content/uploads/2024/05/EDP-Awards-Winners-2024-Press-Release-FINAL.pdf>).

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