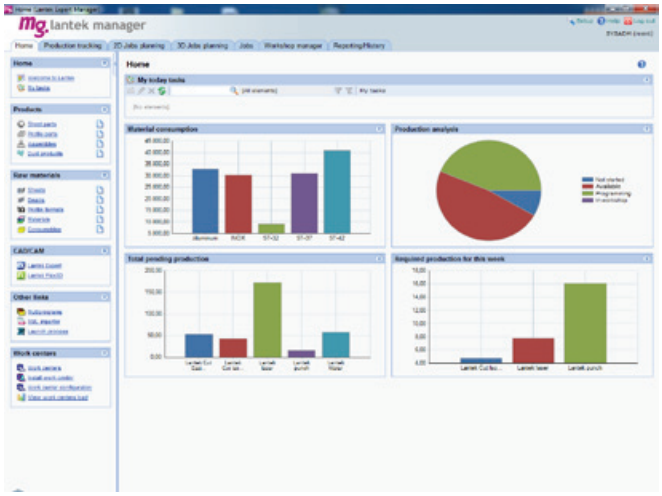
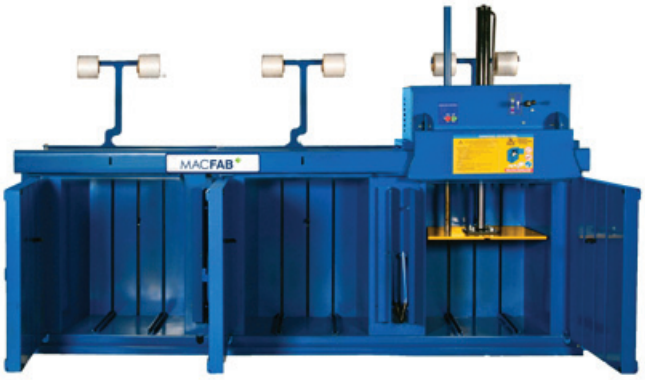
MACFAB OPTIMIZES ITS LEAN MANUFACTURING WITH LANTEK

Case Study: MACFAB your waste our solutions

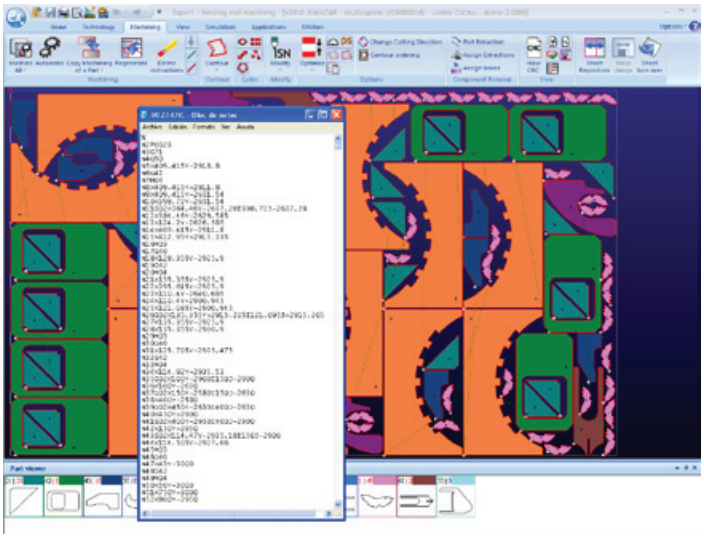
Lantek Expert CADCAM software has helped MACFAB to work towards the lean manufacture of its sheet metal parts and to increase its material utilization. Based in Carrickmacross, Ireland, MACFAB designs and manufactures cost effective waste baling equipment which is used by blue chip organizations such as Marks & Spencer, Kingspan and the NHS, and distributed, through an international dealer network, in markets as diverse as Japan, France and Chile.



Dane McMahon, Production Manager of MACFAB (www.macfab.com) says, “Lantek Expert was recommended to us by our machine supplier, Kerf Developments, and we use it on both our laser and plasma cutters. The technology of the software and the machine are well attuned, giving us a good clean edge which has made a significant difference to us, as it eliminates a subsequent descaling operation.”



MACFAB designs its products in Autodesk Inventor. Each baler assembly can consist of hundreds of parts and these are dragged and dropped in their unfolded state into Lantek Expert where the machine operator can check quantities and dynamically nest parts according to customer requirements. Dane McMahon says, “Batch sizes are small as we only make six or seven of each machine model at any one time, each of which is made up of a large number of individual sheet metal components. Typical overall order levels may be for 450 machines and these are sorted according to their delivery priority. By opting for the dynamic nesting in Lantek Expert we can put the shop loading in and produce a series of nests which are tailored to the exact requirements of our customers for that day.” The software sorts the requirements according to sheet thickness and priority and automatically produces the most efficient nest ready for manufacture. Parts are large and rectangular in shape, so few useable offcuts are produced, making the optimization of the dynamic nesting process highly important for maximum material utilization.



The company works on Toyota lean manufacturing principles to reduce waste in material, processing and stock, and is continually striving to improve efficiency, so using both Lantek Expert and Lantek Manager fits well with these principles. Lantek Manager holds the bills of materials lists of MACFAB's products and helps it to gain a better understanding of the cost of its balers. Dane McMahon says, "We use mostly 4m x 2m sheet and, when new material arrives, it is added to Lantek Manager then, as it is used, it is removed from the stock list. That way we can see what material is being consumed, ensure we have the right sizes available, and minimize over stocking."

Reducing waste is a key objective for the company and, in its costings, it assumes that 10% of the material will be wasted. Dane McMahon says, "We actually achieve 8-9% wastage and we are always working to reduce this figure.

Dynamic nesting in Lantek Expert plays an important role in enabling us to reach our lean manufacturing goals." The software also enables the company to accurately establish processing times for components. He adds, "Lantek Expert takes into account the different technology required for each material thickness. For example, the laser runs slower when cutting 8mm material than it does on thinner sheets, producing estimated processing times which reflect what happens in reality." For new designs of baler the software helps in the costing process. "We can quickly establish how much steel is going to be used in our prototypes. At the moment, 2mm steel is about 800 euros/tonne and we use around 500kg in each baler. Combined with accurate cutting times, this gives us a much better understanding of product costs and wastage."

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