

Abstract for presentation for the 12th Roundtable on Sustainable Consumption and Production

Topic III – Sustainable Production and Resource Efficiency

Title: Optimizing Manufacturing Processes

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InterfaceFLOR is a worldwide leader in the production of environmentally-responsible modular floor coverings with European-wide offices and production sites. Over the last 14 years the company has gone through a comprehensive transformation process aimed at becoming the first genuinely sustainable company by 2020. This vision is known throughout Interface companies as “Mission Zero” which combines sustainability with economic success.

To achieve the ambitious Mission Zero goal a clear seven-element strategy was formulated and implemented. Important aspects in that strategy related to “optimizing manufacturing processes” are

- “Employee engagement”,
- “Eliminating waste”,
- “Closing the loop” and
- “What gets measured gets managed”.

InterfaceFLOR in Europe effectively combined the classic Total Productive Maintenance (TPM) practices with its Mission Zero sustainability strategy. The result is an engaged workforce that experiences a meaningful added value in their jobs and contributes to both environmental and economic success. The trick is to create an environment where the attention on process and product innovation (some big steps forward, typically top down) is well combined with continuous improvement (many small steps forward, typically bottom up). Furthermore, since 1994 Interface companies have been working to reduce energy usage to an absolute minimum and only green electricity is used.

The presentation titled “Doing well by doing good” covers the strategic setting, the practical Total Productive Maintenance and sustainability integration (autonomous maintenance, OEE, continuous improvement, waste elimination) and the achieved results.

The first benchmark implemented is Overall Equipment Effectiveness (OEE) – a tool to measure, address and improve all areas of the factory on a shift-by-shift and daily basis. One of the initial results since the implementation of these operational changes has been the identification of a bottleneck within the packaging division. Through the implementation of Kanban and Total Productive Maintenance, downtime within this unit was reduced by 71%. The “QUEST” staff bonus scheme takes the OEE further and rewards employees for reducing waste and minimising downtime. Furthermore, OEE is used to form part of the appraisal process for everyone within the company, from the staff on the shop floor to senior management.

All Operations staff are trained in TPM. The TPM autonomous maintenance approach enables the operators to take ownership and this results in a proactive continuous improvement process. Shop floor data is collected on a shift-by-shift basis and is used for internal benchmarking and forms a basis for the improvement projects. Improvement proposals are captured with a red tag system. This red tag system prioritises initiatives that are openly discussed at operation engineering meetings to identify ways in which productivity can be improved.

Through these operational changes, InterfaceFLOR has made significant headway in improving manufacturing efficiencies. To support these improvements the company has made significant financial investments. For example through Value Stream Mapping (VSM) the company identified a bottleneck in the latex line and subsequently invested in SMED (Single Minute Exchange of Die) capability to smooth out the product flow. As a result the value stream lead time will be reduced by 100 hours. Further investments include a “Cool green” machine that grinds up industrial waste and end-of-life products for reuse as backing material for new carpet tiles. Thus less waste material is produced.

According to an independent audit by Gallup International, staff engagement has increased by 23% by then. This is a direct result of the introduction of TPM, SMED and by allowing staff to take ownership of their own machinery. The productivity in terms of units per man-hour increased over the last three years with 27%.