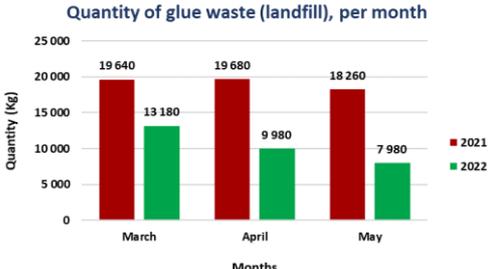


IAQ QUALITY SUSTAINABILITY AWARD 2022 - ONE-PAGE SUMMARY

The One-Page Summary should be in English and submitted as Appendix 1 to your Application. It will also be published on the IAQ Quality Sustainability Award Homepage; <http://iaqaward.com>. The length of this document must not exceed 1 page.

Project and contact details		
The name of the quality sustainability project (max. 100 characters) Lean-Green Value Stream Mapping & glue waste generation reduction		
Contact Person: Cláudia Pereira	Telephone + 00 351 918937635	Email claudia.pereira@colquimica.pt
Organisation(s), country, where the project-members are working, including Web-page links Colquímica Adhesives (Portugal)		

Project description
<p>Essence of the project and Problem statement: Pressure for sustainable development is growing more and more as years go by. Therefore, we understand it's not enough to say we care about sustainability in our processes if we do not give it the importance it deserves. That said, we had the goal to improve our processes efficiency by developing our first Lean Green Value Stream Map (VSM) at Colquímica with a fresh and disruptive way to look at this tool by adding sustainable data and relating it to our processes and not only looking to productive and quality data as is most common.</p> <p>Methodology: We launched a Lean Six Sigma project and used DMAIC cycle to structure it. The improvements opportunities were identified as our VSM was being constructed and subsequently analysed.</p> <p>Observation and Analysis: We started by defining for which productive line and range of products would we be constructing the VSM. Regarding the measurement step, we collected and measured all needed data to the VSM and started building the process flow from scratch. After this was done, we conducted an analysis to identify improvement opportunities. In this application and due to its nature, we will focus on the sustainability matter. That said, after analysing the data, we aimed to reduce the total glue waste generated given it revealed to be a concern to us.</p> <p>Improve: To reduce the total amount of glue waste generated, we conducted a brainstorming to identify the most effective ways to address the issue. Given that the solutions generated had no big investment needed, no further analysis was conducted. Of that brainstorming we constructed an Ishikawa Diagram and came up with a few solutions, of which we can highlight four. The first was the application of a grid on top of a siliconized box during the filter change process, to prevent the filters and glue from remaining in the same box, what made it impossible to separate them later. The second one was the creation of a purge box suitable for the pilot line to allow reusing 100% of this residue. We also implemented an isolation of the pellet line extrusion area. The objective was to reduce as much as possible the pellets that fall to the ground, to avoid contamination. Finally, we highlight the attempt to improve waste separation considering the European Waste List code.</p> <p>Results: From the improvements we were able to get major financial benefits. In the first place, the amount of glue sent to landfill became lower, what represented a transport cost reduction of about 50%, with a value of about 3400€, when evaluating only three months of activity with improvements. The biggest gain came from the increased amount of glue we are now able to recover. In March, April and May of 2021, we sent nearly 67 tons of waste to landfill, with a cost of roughly 130,000€. In the same months this year, we reduced the 67 tons in about 54%, sending only 31 tons of glue to landfill. These values represent savings of about 52,000€. Furthermore, we also changed the waste treatment, by changing our waste destination from a landfill to an incineration which is a better way to treat the residues and is less expensive than landfill. That said, this project relates with goal 9, once we innovated and changed our existing infrastructures to better serve our needs, and with goal 12, because with these improvements we became a greener company when looking at our waste generation and treatment.</p>

Project leverage potential	Picture/Image describing the project												
<p>Value Stream Map is a well-known quality tool. Making this adjustment to contemplate sustainability data is a mindset change and a very under explored way to look at the VSM which easily replicable in all productive industries.</p> <p>All companies face great pressure to have sustainable development. To achieve this, we need to change the way we work and adapt the tools we use. This adaptation can be done by all those who already use the VSM tool and by those who intend to use it in the future.</p>	<p>Quantity of glue waste (landfill), per month</p>  <table border="1"> <thead> <tr> <th>Month</th> <th>2021 (kg)</th> <th>2022 (kg)</th> </tr> </thead> <tbody> <tr> <td>March</td> <td>19 640</td> <td>13 180</td> </tr> <tr> <td>April</td> <td>19 680</td> <td>9 980</td> </tr> <tr> <td>May</td> <td>18 260</td> <td>7 980</td> </tr> </tbody> </table>	Month	2021 (kg)	2022 (kg)	March	19 640	13 180	April	19 680	9 980	May	18 260	7 980
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