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Redecan Turnkey Automation Winterization System

THE STORY OF MARATEK AND REDECAN

Who is Redecan?

Redecan is a proud Canadian Cannabis company with indigenous roots. It is family-owned and operated, answering to both patients and customers with care. With 30 years of experience in agriculture, and using one-of-a-kind growing methods to continually refine their process. With a location in the Niagara region, they utilize the microclimate of the Ontario Greenbelt, they excel in growing operations using proprietary technology, ozone-treated irrigation water, sunshine, and surveillance from master growers. Redecan have been one of Maratek's clients since 2019, and the first to use the TAWS system



**"There is no way we
would ever go back
to the old way."**

What Redecan Was Looking For

Setting a goal to increase your efficiency within your production plant is no easy task. You must take into account operations, processes, regulations, training, what equipment is required for the production, and the costs. To achieve their goal of expansion, higher throughput, and to become more efficient, Redecan had sought out the right company to provide processing equipment to achieve this. Going from 60 KG in a month, to processing 60 KG in a day, the Turnkey Automatic Winterization System was the solution for Redecan!



The First Solution

Before the TAWS machine, Redecan was using a bucket and manpower for winterization. Essentially they would:

- Take about 1 KG of CO2 crude material.
- Dissolve it into 10L of ethanol on a stir plate mixing it all in, completely dissolving the oil into the ethanol.
- Put in a -20° C degree freezer, and leave it there for several days.
- Then take it out and filter using a Buchner funnel. In order for this to work, you would have to filter it slowly meaning the material is warming up as well.
- As it's warming up, all the fats and lipids are going back into the solution, and then the material would have to be recovered on a rotovap.
- The rotovap would be a mess because it would be coated in waxes and fats on the rotovap ball.

This tedious process was doing about 1 kilo at a time with mixing it by hand.



'I would say it improved our efficiency by at least 90%'



Some of the main issues were inconsistent measurements, and the requirement for a full-time operator to run this process while having to do the manual labor that was about 6 times as long as the automated system process. Maratek's winterization system was the solution. The machine provides a higher throughput stream without the time and labour that the old process required with constant stirring, mixing, transferring, and heating. The TAWS machine is 6 times faster, 90% more efficient, and one person can operate this unit while also focusing on other duties.

'In terms of a person doing this day to day and automation - it's night and day!'

Where Maratek Came In

Redecan now is able to process through 120 KG of crude oil a week. Our team of engineers works extremely closely with Redecan's post-processing team making sure everything is well maintained and up to date. The efficiencies have improved so much that Redecan is continuing to work with Maratek to upscale a new facility, allowing them to more than double their current amount of throughput.



**'What used to take
one month takes us
a few days, its crazy
in comparison.'**

**Jackie Fletcher,
Director of Science and
Innovation**