



**MANUFACTURING PLANT**

# ENERGY EFFICIENCY

Improving production flows and identifying savings opportunities in a manufacturing plant with real-time energy monitoring



SimbleSense

# BACKGROUND

## About Corex Plastics

Corex is one of Australia's leading suppliers of Corflute sheets with over thirty years of experience in innovative plastic manufacturing.

## Pain point - energy prices

Australia's manufacturing industry is one of the most energy-intensive in the world. Energy is a significant input to production and while the industry has historically benefited from low energy prices, businesses are now under enormous stress. A lack of investments in energy efficiency has left the sector vulnerable to sustained price increases.

## The need for energy monitoring

Corex recognised the need for greater visibility and proactive cost management of energy consumption at a granular level. Corex needed to know where energy was being consumed within the plant in order to minimise waste and clarify the proportional cost for shared resources.

## SimpleSense

SimpleSense allows manufacturing companies to zero in on projects and get a detailed understanding of energy usage across the board. The platform helps establish and monitor benchmarks to ensure all components of the manufacturing process run as efficiently as possible.



SimpleSense

# PROJECT OVERVIEW

**Monitor, Identify, Predict, Prevent**

## Track energy spend

Corex engaged Simble to install a full energy metering solution for the purpose of monitoring and tracking energy spend at its manufacturing facility in Dandenong South.

## Benchmark Production Lines

Simble arranged the deployment and installation of Wattwatchers energy sub-meters to accurately monitor, visualise and analyse the energy consumption with the various production lines inside the manufacturing facility.

**Deployment:** July 2017 - present

**Software:** SimbleSense

**Hardware:** 30+ energy sub-meters



## Monitor Shared Equipment

In addition to the main production plant, the focus extended to shared infrastructure such as compressors and chillers.

## Plan for the Future

The solution can now be used to budget for future projects, avoid bill shocks and enable cost effective equipment upgrades.

*"In line with our sustainable practices policy, we wanted to know where energy was being wasted and how we could operate our machinery more efficiently." -*

*Simon Whiteley, CEO*



SimbleSense

# KEY OUTCOMES



## Productivity Increase

Corex was able to identify faulty equipment before it was physically apparent as the software showed irregularities in energy consumption of electrical motors. Early response prevented costly interruptions and production losses across the production plants.



## Waste Reduction

SimpleSense alerted Corex of ongoing energy load on production lines that were supposed to be turned off. The savings generated from this issue are estimated to be in excess of A\$200/day for non-production days.



## Performance Visibility

SimpleSense provided detailed visibility on performance metrics improving the Corex capital upgrade schedule. Equipment is now being prioritised based on actual energy performance and predicted cost savings of new equipment can be verified.



## Optimise Efficiency

Corex can now determine in real-time how much energy is being used by each production line. The data enables the company to prioritise more efficient line setting, improve production planning, energy cost allocation and ensure all equipment runs at maximum efficiency.



## Cost Visibility

Corex can now calculate the pro-rata energy consumption for each product and appropriately allocate energy costs to each unit and improve pricing and cost management.

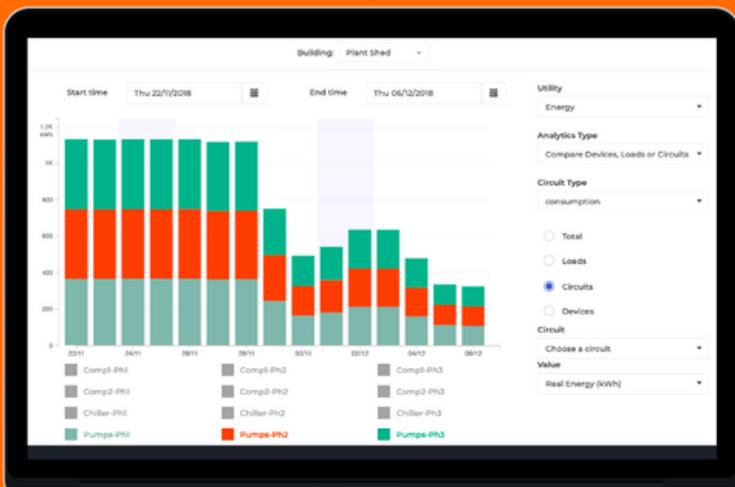


## Project Verification

SimpleSense allows Corex to change the configuration of manufacturing equipment to the most efficient settings and verify that decisions implemented are correct. The company monitors changes in real-time to ensure configuration does not lead to unexpected outcomes.

# DATA WATCH

## A quick payback



SimpleSense revealed previously unknown inefficiencies, enabling over 50% savings in a single water pump. The platform uncovered a flat energy profile in water pumps as load was changed in the system.

This graph shows the significant drop in energy consumption. Energy waste can be costly and goes typically unnoticed due to production equipment requirements.



Source: SimpleSense Platform

*"So far we have reduced the average energy cost for 1 kg of plastic by 15%" -  
Simon Whiteley, CEO*

# FUTURE PLANS

## Continuous Improvements

Corex intends to continue to use SimbleSense to further streamline manufacturing activity, reduce costs, identify areas of improvement and run the business in the most efficient way.

## Expand to Additional Sites

Corex is in the process of rolling out SimbleSense and associated hardware to additional sites to implement energy monitoring and control capabilities.

## Predict and Prevent

SimbleSense offers an ongoing layer of protection as a monitoring tool to spot faulty equipment before it interrupts production flow.

## Project ROI

SimbleSense provides accuracy to support existing information related to performance and allows Corex to audit vendor claims of new capex energy consumption.

## Implement IoT

There is potential for Corex to connect additional sensors and control systems to the SimbleSense platform.



*"The SimbleSense platform is a comprehensive and cost-effective solution that helped my company reduce costs and improve the overall productivity of the business."*

*- Simon Whiteley, CEO*



# LET'S TALK ABOUT THE NEW ENERGY WORLD!

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