



AL TSA

Leading with LED

LED Lighting Replacement Project
at PepsiCo Aliwal North, Escourt,
Klerksdorp and Epping

CASE STUDY



Luminescence for effervescence ALTSA helps PepsiCo sparkle, sustainably!

— Introduction

PepsiCo is one of the world's leading food and beverage companies. In South Africa, their key brands include Sasko, Weet-bix, White Star and LiquiFruit.

As part of their commitment to sustainability, PepsiCo partnered with ALTSA to replace all the lighting in their food and beverage facilities with cost effective and energy-efficient LED lighting.

— Project Objectives

ALTSA was tasked with enhancing the lighting quality and visual comfort for staff at PepsiCo food and beverage facilities. In addition, it was important to reduce energy consumption and operating costs.

The project also had to improve the overall sustainability and environmental impact for PepsiCo, as well as ensure their compliance with lighting standards and regulations. Critical to the project was that disruptions to daily operations had to be minimised and that integration of the new lighting into the existing infrastructure had to be seamless.

PROJECT



credit: www.tetris-db.com

CHALLENGES

Challenges

Staff safety. PepsiCo remained operational during the entire project. Therefore, stringent safety measures had to be in place to avoid any potential risks to staff and impacts on the manufacturing process.

Complex lighting requirements. Food and beverage facilities have specific lighting needs in various production areas. It was therefore necessary to ensure optimal lighting conditions while, at the same time, adhering to food and beverage regulations. This posed some challenges in both fixture selection and design.

Multiple stakeholders. There are many different departments in the production of food and beverages, including facility managers and manufacturing staff. To ensure a smooth implementation of the project, it was essential to coordinate between these different departments to provide information, address concerns and manage expectations.





Planning Phase

Overcoming challenges and ensuring a smooth, professional implementation always requires careful planning.

AL TSA's planning included the following:

Assessment and audit. A comprehensive assessment of PepsiCo's lighting system was conducted, including the evaluation of current fixtures, lighting levels, energy consumption, and maintenance requirements. This assessment provided insights into areas requiring improvement and served as a baseline for project planning.

Stakeholder engagement. Key stakeholders, such as PepsiCo's management, facilities staff, and food and beverage professionals were involved in the planning process to gather requirements, address concerns, and gain support for the project. Input from all employees was encouraged to ensure the best outcome - optimal lighting conditions for every area.

Budgeting and financing. A detailed budget was developed, covering the costs of LED fixtures, installation, infrastructure upgrades, disposal of old fixtures, and potential financing options. The budget also covered available incentives, such as government grants. Energy-efficiency programs were explored to optimize the project's financial feasibility.

Implementation Phase

Fixture selection and design. LED fixtures were carefully selected based on lighting requirements, energy efficiency, color rendering, and compatibility with manufacturing of food and beverage standards. Special consideration was given to areas such as food and beverage production, reception and office buildings, corridors, toilets, staff rooms, boardrooms, outside building lights, general areas and perimeter lights.

Installation. The project team collaborated with qualified and experienced electricians, contractors, and lighting specialists to develop a comprehensive installation plan. The plan included timelines, phasing strategies, and contingency measures to ensure minimal disruption to manufacturing. AL TSA conducted frequent oversight visits at every step in the implementation process to ensure that the work was done correctly and according to the specifications.

Commissioning and testing. After installation, rigorous testing and commissioning processes were performed to verify the functionality, lighting levels, color consistency, and compliance with safety regulations and standards.



Outcomes and Benefits

Enhanced lighting quality. The LED lighting replacement significantly improved lighting quality, creating a better color rendering, reduced glare, and improved uniformity. This enhanced visibility lead to improved work efficiency and productivity.

Energy and cost savings. The project achieved substantial energy savings, reducing PepsiCo's electricity consumption and operational costs. LED fixtures have a longer lifespan. This results in considerably reduced maintenance, which leads to additional cost savings over time.

Environmental impact. The reduced energy consumption and dramatically lowered carbon footprint aligned with PepsiCo's sustainability goals and environmental responsibilities.

Compliance with standards. The LED lighting system met lighting standards and regulations specific to food and beverage facilities, ensuring staff safety and regulatory compliance.

Improved staff experience. The upgraded lighting system positively impacted the overall staff experience by providing a more welcoming and comfortable working environment.

AL TSA LED Lighting Solutions

The following superior quality, energy efficient, LED Lighting Solutions were used to transform PepsiCo's food and beverage facilities.

1.



AL TSA Linear Fittings

2.



AL TSA Bulkhead

3.



AL TSA Max Bulkhead

4.



AL TSA Lamps & Tubes

5.



AL TSA Rhino Floodlight

6.



AL TSA Downlights

5 226

LUMINAIRES

INSTALLED FROM OUR INDOOR AND OUTDOOR COMMERCIAL RANGE

1 400

HOURS TO INSTALL

AN EFFICIENT PROJECT PLAN ENSURED OUR TEAMS INSTALLED ON SCHEDULE

Four

REGIONAL SITES

REQUIRED SIMULTANEOUS LIGHTING AUDITS & INSTALLATION SCHEDULES

COMBINED SITE RESULTS:

1,944

Maximum Power Saving (W)

177,386

Monthly Energy Saving (kWh)

R 249,012

Monthly Electricity Saving

R 274,492

Annual Maintenance Saving

R 20.70

Costs per kW (average)

2,207 tonnes

Annual Environmental Saving CO²

R 4,352,672

Total Project Cost

ROI 19.4

Average Payback Period (mnths)



RESULT

Individual Site Results

| | Aliwal North | Escourt | Klerksdorp | Epping |
|--|--------------|----------|------------|----------|
| Max Power Savings (kW) | 759 | 588 | 103 | 494 |
| Monthly Energy Savings (kWh) | 53,180 | 37,795 | 63,904 | 22,507 |
| Monthly Electricity Savings (ZAR) | 54,776 | 70,676 | 87,549 | 36,011 |
| Annual Maintenance Savings (ZAR) | 86,173 | 46,946 | 52,947 | 88,426 |
| Financial Cost per kW | 21.94 | 24.46 | 15.66 | 20.74 |
| Environmental Annual Savings CO ² | 632 Tons | 449 Tons | 759 Tons | 267 Tons |
| Total Project Cost (ZAR) | 1,595,345 | 944,836 | 1,012,298 | 800,193 |
| Payback Period (Months) | ROI 29.8 | ROI 14.7 | ROI 11.6 | ROI 21.4 |



CONTACT



Guarantee

We have the utmost confidence in our quality and expertise ensuring we deliver every time and our 5 Year Guarantee comes standard on:

- Our LED Lighting Solutions
- Compliant Lux Levels
- Our Installations



AL TSA
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Contact us

We look forward to partnering with your business as we lead the way with LED.

AL TSA Representatives

Martin Eygelaar - National Project Manager
cell: 074 793 0000 | e: martine@altsa.co.za

Charlie Higgs - Quality and Safety Manager
cell: 060 844 4371 | e: charlieh@altsa.co.za

www.altsa.co.za