

Introduction – Company Profile

Corporate overview

Rexam is a leading global consumer packaging company with sales of £4.7 billion in 2011. We have 83 manufacturing sites in 25 countries across the globe and we employ 19,000 people in our continuing operations. Headquartered in London, England, we are an established member of the FTSE 100, a global leader in the manufacture of beverage cans and one of the world leaders in rigid plastic packaging. We are business partners to some of the world's most famous and successful consumer brands such as Coca-Cola, InBev and PepsiCo, and blue chip global brand owners such as Proctor & Gamble and GlaxoSmithKline.

Our vision to “be the *best* global consumer packaging company” is strongly supported by Rexam's four embedded core values: Continuous Improvement, Trust, Teamwork and Recognition. We have been committed to a path of Lean Enterprise across all our operations as a way of putting our Values into practice for over ten years. This approach is an essential part of what we call the “Rexam Way”.

Cuiabá Plant



Based in the Brazilian state of Mato Grosso, in central Brazil, Cuiabá started operations in 2006. It is one of the 12 facilities that make up our manufacturing sector known as Beverage Can South America (BCSA).

The plant was designed using Lean concepts, employing minimal conveyor lengths to reduce intermediate inventory levels and ensuring short distances between all key process steps through to warehousing to reduce any unnecessary motion.

Our Cuiabá plant employs 80 people: 54 in production, 11 in management, eight in maintenance and seven in administration.

The 148,000 sq.ft. facility has one aluminium can manufacturing line, with a total production of 2.2 million cans a day. The plant operates 24 hours a day, seven

days a week, divided into four shifts. Its main clients are Coca-Cola, Ambev and Petropolis, located in the centre and the north of the country.

Products and processes

The site produces 12oz and 8.4oz beverage cans starting from aluminium coils. The key process steps involve stamping and ironing aluminium discs to form the can shape. The cans are then washed before being labelled using in-line screen printers at speeds approaching 2,000 cans per minute. The total processing cycle time in this continuous flow process is approximately 27 minutes. As the process speed is very high, people and machines must work in a synchronised and standardised manner. Conveyor and machine speeds are controlled according to the process pull which we call ‘line control’. Quality is monitored automatically by measuring process variables at every stage of production process, providing real time SPC (statistical process control). These process variables are stored in a quality system for long-term trends and deeper inspection analyses. Food safety principles and good manufacturing practices are incorporated into the process and our technicians' activities.

Continuous improvement

Rexam has operated a global Lean Enterprise system since 2004, structured around building capability in specific tool sets of Culture, VSM, 5S, TPM, SMED and Six Sigma. Progress is reviewed annually and awarded a merit of bronze, silver or gold depending on performance levels. Cuiabá achieved gold level at their first assessment in 2008, and consecutively in 2010 and 2011. Alongside the effective use of tools, there are robust systems and a strong culture in place to drive the continuous improvement process.

Due to the process speed, a fast response is critical when conditions are abnormal. Processes are analysed continuously, and this is the key for guiding the management to take focused actions to keep indicators under control and trends positive. Our continuous improvement management cycle follows a PDCA approach where a regular gap analysis is performed using value stream mapping, resulting in a Hopper List of projects and long-term actions linked to our business goals.

Cuiabá has conducted 143 improvement events, based on SMED and Kaizen methods since 2006. Our 5S Programme involves all the employees in internal audits with a robust management control system. The Six Sigma tools are used for decision making, and statistical analyses are performed to confirm and predict data.

Achievements

Lean Enterprise achievements

- Gold status 2008, 2010, 2011
- In 2011 we had 53 Lean Projects, which led to US\$1.2m potential earnings
- Two certified Green Belts and one certified Black Belt.
- Active use of statistical analysis in process improvements, quality issues and other applications.
- TPM improvements led to greater reliability of equipment.
- Cuiabá is a benchmark in BCSA for its printing/decorating performance. Based on VSM, the maintenance team increased the speed of this bottleneck without affecting equipment reliability or increasing spoilage. Its OEE jumped from 71.5% in 2010 to 85.2% in 2012.
- SMED activities reduced the size conversion time from three days to less than one day. This changeover fundamentally affects the engineering of the entire line.
- Cuiabá had the lowest mean label changeover time in BCSA in 2011 (9.2 minutes).
- 11 innovation projects in 2011, one example being the development of a metallic die to reduce vibration in the Necker axis, improving the equipment's mean time between failure (MTBF).

Safety & Environmental

- ISO 14001:2009 environmental accreditation
- OSHAS 18001:2009 safety accreditation
- Zero lost-time accidents since 2009
- 33 people serving in the on-site fire brigade
- Zero environmental accidents since 2009
- Safety Risks Elimination Programme identified and treated 2,615 risks situations
- Banas Award for Best Sustainable Development in 2011
- Reforestation of 1.5 hectares, with around 3,400 trees planted adjacent to the site
- Our plant water is pumped out of the ground and once it has been used in the process, is returned to nature by garden irrigation
- All aluminium scraps are recycled to supplier



Quality

- ISO 9001:2009 quality accreditation
- ISO 22000:2011 food safety accreditation
- Assured quality through annual customer audits
- Banas Award for Best Quality Process in 2011
- Gold Class in Quali-MT (Regional Prize) for Excellence in Management

Employee Morale

- Recognition Programme for Lean Activities, such as participation in SMED activities or 5S improvements
- 85% of employees engaged with at least one Lean activity in 2011
- Cuiabá's "Good Day" programme donates money to social institutions whenever it fulfils its safety, quality and production records. In 2011 we had 44 Good Days
- Our Wellness Programme rewards leisure, fitness and other health-related behaviours adopted by employees.
- Absenteeism decreased 68% from 2008 to 2011
- 100% participation in employee engagement survey, with a favourable employee engagement index of 83%

Performance Delivery and Cost Reductions

- Plant productivity up by 30% since 2007
- Continuous reduction in spoilage since 2007, from 4.92% to an expected 1.49% in 2012
- Electricity consumption down 13% since 2008
- Thermal energy consumption fell 34% since 2008
- 30% reduction in varnish consumption since 2008
- Inside spray consumption reduced 6% since 2008

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