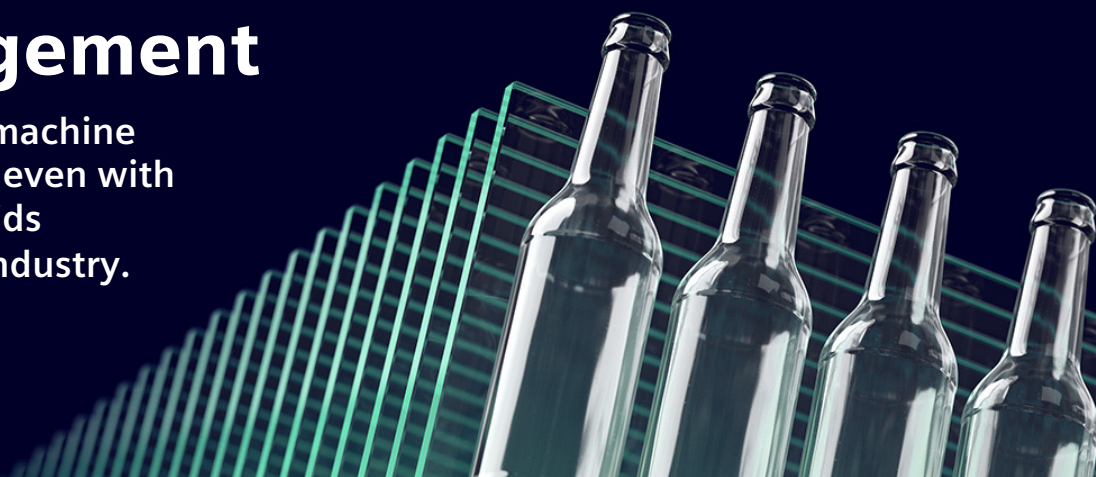




Smart Power Management

Ensure your machine performance even with unreliable grids in the glass industry.



The challenge

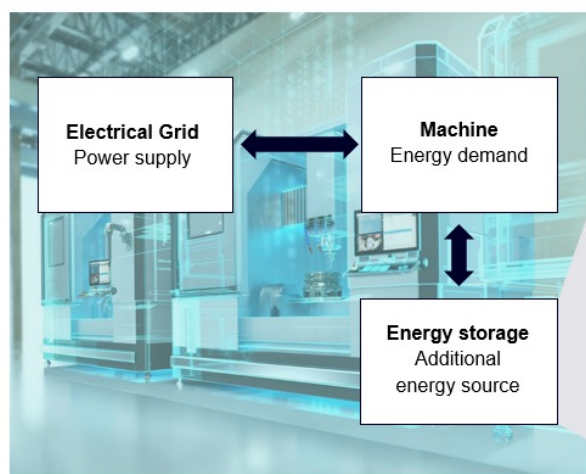
The glass industry is traditionally a segment with high energy demand.

In addition to yearly increasing energy cost, reduced reliability of energy supply due to outdated or weak infrastructure becomes a new challenge. At the same time machine performance is continuously increasing, leading to considerably higher costs in case of outages. What can machine builders do to ensure un-interrupted machine operation despite of unreliable grids? Smart Power Management offers cost-effective and sustainable solutions.

The solution

Smart Power Management ensures machine performance and availability, easy and cost efficient – due to the direct integration of an energy storage into the SINAMICS drive system. This storage supplies the necessary energy during grid faults, but also allows to reduce load peaks in the grid and recover braking energy for direct re-use in the machine.

A specific sizing and selection tool allows to analyze the load profile of the machine and to simulate different kind of storage devices to find the optimum solution. Various energy storage systems are available, all designed for easy integration into the SINAMICS S120 drive system.



Uninterrupted Machine Operation

Ride through grid faults, Controlled Shutdown



Peak Power Reduction

Reduction of Power Demand and Grid Connection Cost



Re-use of braking energy

Savings in Energy & CO₂



Peak load reduction and energy saving through smart use of energy storage

The energy storage can be used to supply the power for load peaks, so the grid power demand and the electrical installation can be kept low. At the same time, braking energy is stored and re-used for the next load peaks. A typical use case are rotary table applications with permanent high power acceleration and braking phases.



Advantage of peak load reduction with Smart Power Management

- Cost savings in electrical infrastructure
- Stable grid voltage due to low power demand and no power peaks
- Energy saving with recovery of braking energy
- Easy integration, with standard energy storage units "ready to connect"
- Minimum application programming because of smart power management algorithm
- End-to-end support from load profile analysis through energy storage selection and sizing to support during commissioning and optimization.



Energy Storage for uninterrupted machine operation / controlled shutdown during voltage dips / blackouts.

The energy storage supplies the power to continue machine operation during voltage dips or perform a controlled shutdown in case of longer grid faults. This ensures an uninterrupted production and prevents damage to the machine, waste of material and long downtimes. Typical use cases are processing or handling of hot glass.

Advantage of uninterrupted machine operation with Smart Power Management

- Maximum availability and productivity
- Energy recovery to the grid is still possible
- Significantly reduced investment and lower energy consumption compared to AC UPS
- Fast amortization
- Easy integration, with standard energy storage units "ready to connect"
- End-to-end support from load profile analysis through energy storage selection and sizing to support during commissioning and optimization.

Publisher
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