Energy efficiency – it’s in your hands!

The cost savings with wireless battery powered access control: a case study

But how sustainable is the production of the lithium-ion batteries needed to operate wireless locks, such as ASSA ABLOY’s Aperio range?

According to research published in 2010 by the Argonne National Laboratory in Chicago*, modern recovery processes ensure over 95% of a lithium-ion battery’s materials can be made available for reuse.

Recap and key data

The sustainability benefits of Aperio® over-wired access control during use include:

- Significant cost savings:
  - Installing Aperio® in a 1,000 door student accommodation block saves between €12,000 and €13,000 per annum

- Future Cost Avoidance:
  - Unrelenting energy cost increases, often as high as 9% per year, will result in rising annual costs of using a standard wired lock and RFID reader
  - Due to low energy consumption design, Aperio® is not subjected to these risks

“Wireless locking revolution for online and offline door control”

Aperio®™ is a new technology developed to complement new and existing electronic access control systems, providing end users with a simple, intelligent way to upgrade the controllability and security level of their premises.

About Aperio®

Aperio® from ASSA ABLOY is manufacturer-independent and allows the use of wireless technology to be combined with mechanical security technology.

Available on the global market place, ASSA ABLOY’s Aperio® Technology now enables a wide range of access control providers to cost-effectively integrate non-wired doors with mechanical locks into access control systems.

Sustainable batteries?

“Wireless battery powered locks – such as Aperio® – are significantly more energy efficient solutions compared to traditional electronic access control, resulting in much lower running costs and overall carbon footprint.”

Charles Robinson, Operations & Sustainability Analyst at ASSA ABLOY EMEA

*Gaines, Sullivan, Burnham and Belharouak, "Life-cycle Analysis for Lithium-ion Battery Production and Recycling", 2010

About ASSA ABLOY

As the world’s leading lock group, ASSA ABLOY offers a more complete range of door opening solutions than any other company on the market. In the fast-growing electromechanical security segment, the Group has a leading position in areas such as access control, identification technology, entrance automation and hotel security. Since its formation in 1994, ASSA ABLOY has grown from a regional company into an international group with around 43,000 employees and sales of more than SEK 48 billion.
### Lower energy use means cost savings with Aperio® – read the study calculation

Choosing which type of lock to install has cost implications. Costing from a real project — in just 1,000 doors in a large student accommodation block — tells the story.

<table>
<thead>
<tr>
<th>Maintenance costs *</th>
<th>Total costs **</th>
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<tbody>
<tr>
<td>Example project calculation – student accommodation with 1,000 doors</td>
<td></td>
</tr>
<tr>
<td>Energy costs per year</td>
<td>12,250 €</td>
</tr>
<tr>
<td>Maintenance costs per year</td>
<td>3,900 €</td>
</tr>
<tr>
<td>Total costs per door</td>
<td>16.14 €</td>
</tr>
<tr>
<td>Overall cost estimate for preventative maintenance</td>
<td>3,900 €</td>
</tr>
<tr>
<td>Total cost of 1,000 doors</td>
<td>16,140,000 €</td>
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### How does ASSA ABLOY Aperio® perform?

As shown in the table, the total running cost of securing the 1,000-door student accommodation for one year using standard wired locks is €17,000, or €47 per door.

Fuel prices have been on an upward trajectory for a decade, and are projected to continue rising. So, it is likely that the cost differential between wired and wireless locks will increase over time. It will soon become more expensive to control access to a building or secure area using wired magnetic locks.

### Energy Matters - Save money with wireless battery powered access control

Cabled access control doors are expensive: installation requires extensive wiring, and powering the locks needs a permanent connection to the mains. As a result, only doors with very high security requirements are the target into most access control systems — other mechanical doors with keys are often neither monitored nor controlled.

Security managers upgrading to electronic access control are faced with a choice between two kinds of device. The first type incorporates a magnetic lock paired with an RFID reader. This locks and readers are powered by electricity, via a connection to the mains. A second type of lock — a type that includes the ASSA ABLOY Aperio® range — is powered by a lithium ion battery. This means the locks are incorporated into most access control systems — other mechanical doors with keys are often neither monitored nor controlled.

Wireless locks with RFID readers “wake up” only when prompted by a user boarding. They are not connected to the mains, and do not remain permanently under power when inactive.

New ASSA ABLOY’s Aperio® Technology provides cost effective access control integration for non-wired doors with mechanical locks. It gives security and facility managers greater control. They can easily monitor and respond to organisational changes and only need to monitor a single security system. Users only carry a single RFID access control card.

Now ASSA ABLOY’s Aperio® Technology is partnered with the ASSA ABLOY Aperio® range — powered by a lithium ion battery — and is a high security solution.

Wireless locks with RFID readers “wake up” only when prompted by a user boarding. They are not connected to the mains, and do not remain permanently under power when inactive.

“ASSA ABLOY is committed to providing energy efficient door opening solutions that are environmentally sound throughout the entire product lifecycle.”

Charles Robinson, Sustainability Analyst at Operations & Sustainability at ASSA ABLOY.”

Upgrading mechanical doors to wireless, battery-powered Aperio® and gives security and facility managers greater control. They can easily monitor and respond to organisational changes and only need to monitor a single access control systems. Users only carry a single RFID access control card.

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