

ASSAABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience



Energy Efficient Access Management - Campus Safety & Security That is Sustainable

*National APPA Conference – August 3rd, 2018
Washington, D.C.*

The global leader in door opening solutions

ASSA ABLOY



What do you do?

Connect with me:



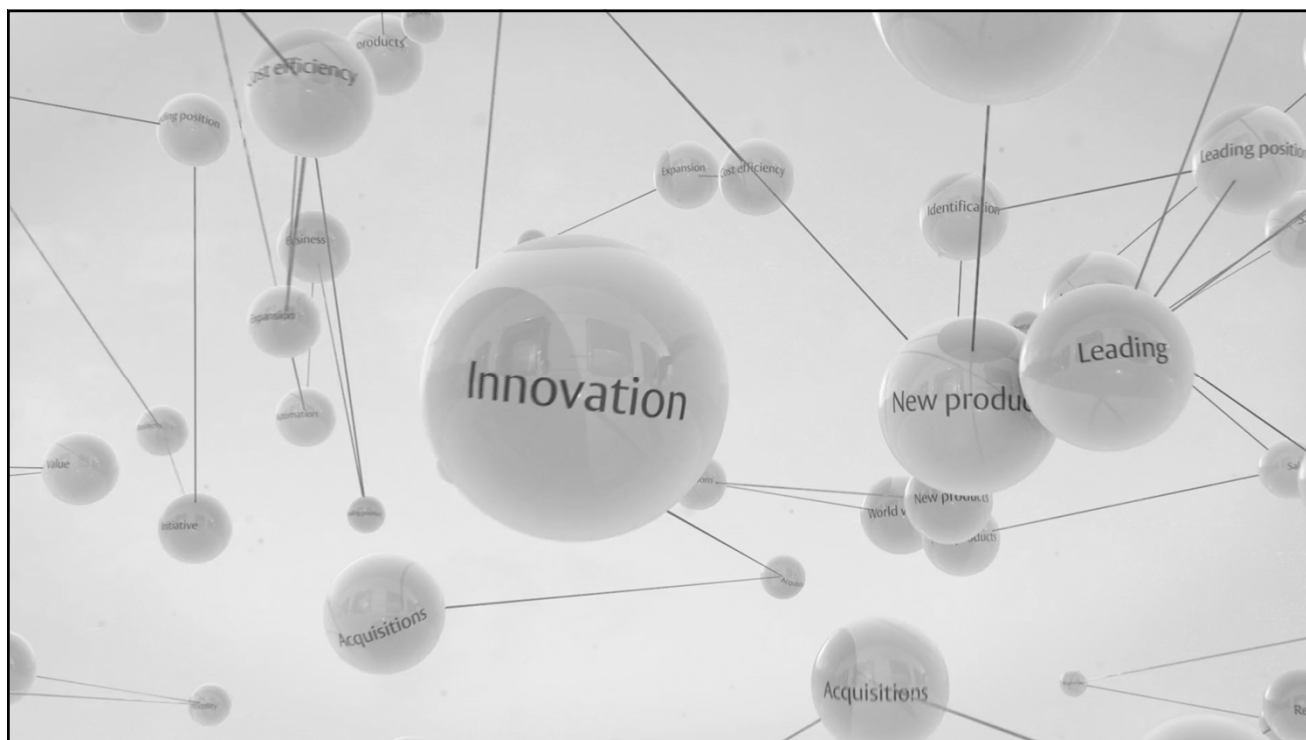
<https://www.linkedin.com/in/jeremy-saline>



@JeremySaline

The global leader in door opening solutions

ASSA ABLOY



Forbes
THE WORLD'S MOST INNOVATIVE COMPANIES
2018
Powered by THE INNOVATOR'S DNA

4 YEARS ON THE LIST

Forbes ranked **ASSA ABLOY** among the world's top 100 most innovative companies in 2013, 2014, 2016 and now 2018

78	ASSA ABLOY	Assa Abloy	Sweden	5.0	26.9	22.3
79		Apple	United States	13.8	23.8	22.3



Global divisions

The global divisions manufacture and sell electronic access control, identification products and entrance automation on the global market.

Global Technologies



Entrance Systems



The global leader in door opening solutions

ASSA ABLOY

We're here to discuss...

1. *Challenges with campus security, a better path forward with a layered integrated approach...*
2. *Campus security trends...*
3. *TCO analysis of access control infrastructure...*
4. *How to manage ADA access with challenging openings on campus...*
5. *Division 08/28 Contributions towards LEED v4*



The global leader in door opening solutions

5

ASSA ABLOY

Each campus has unique security requirements, but there are four key areas to consider:

1. Deter:

This may include physical barriers such as fencing, barricades/booths, and locked entryways; access control and security cameras throughout campus, as well as public policies and procedures for the campus security department and local law enforcement agency.

2. Detect:

Detection can be accomplished through electronic access control, video, intrusion systems, or alarm controls.

3. Delay:

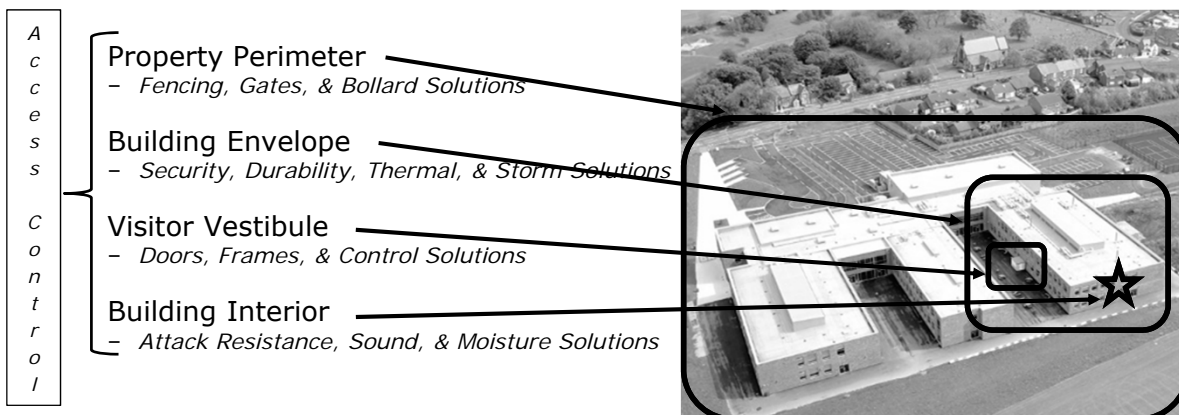
Physical delays, such as man trap areas or doors with appropriate locking hardware (mechanical and electromechanical), can provide time for evaluation or response such as lockdown or shelter-in-place.

4. Respond:

Known policies and procedures for students, staff, campus security, and local law enforcement allow for a prompt response to any incidents on campus.

What Does Security Look Like at Your College or University?

Layered Security Approach Curb to Core Building Analysis



The global leader in door opening solutions

ASSA ABLOY

Challenges you likely face every day



Security

Threats are evolving, and impossible to predict



Complexity

Overwhelming volume of data, sensors, systems, and credentials



Inefficiency

Unable to tap into productivity gains with siloed systems



Investment

You've invested in systems you feel you associated with all this can't walk away from



TCO

Rising costs associated with all this inefficiency

The global leader in door opening solutions

8

ASSA ABLOY

MARKET CHALLENGES

Legacy campus security solves traditional problems



Manage
access.



Record
video.



Capture
license plates.



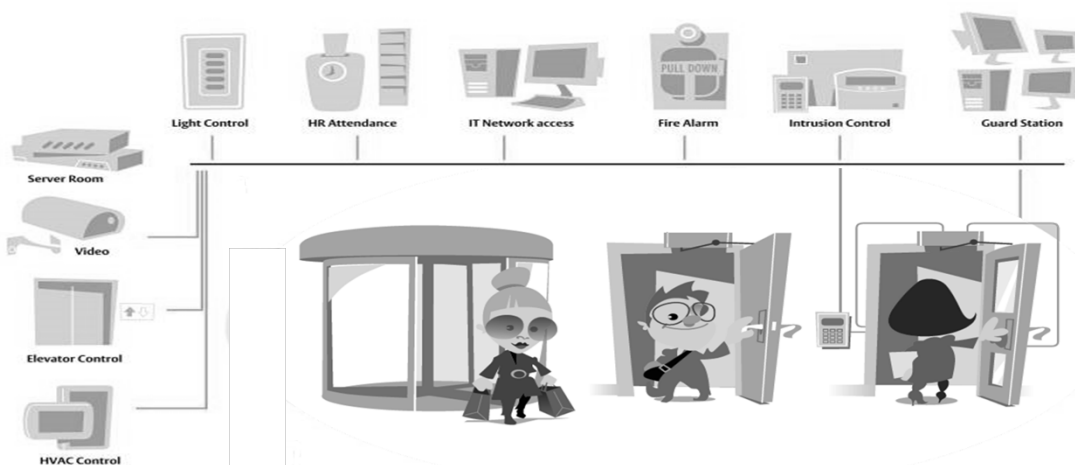
Monitor
events & alarms.

Disconnected. Standalone. Designed for one purpose.

The global leader in door opening solutions

ASSA ABLOY

TRUE Campus Safety & Security is building-connected total opening solutions...



The global leader in door opening solutions

ASSA ABLOY

Layered Security Approach Curb to Core Building Analysis

Layer 1 – Perimeter Security

Bollards, Arm Barriers,
Security Fences,
Security Gates, Tire
Killers, etc



Layer 2 – Checkpoint Security

Armored Guard Booths



Layer 3 – Building Perimeter

Security doors, security
windows, walls



Layer 4 – Building Monitoring

Integrated security
system (Access Control,
CCTV and alarm)



Layer 5 – Critical areas (Data Center, Vault)

Doors, walls, windows,
safes, access control,
CCTV, etc

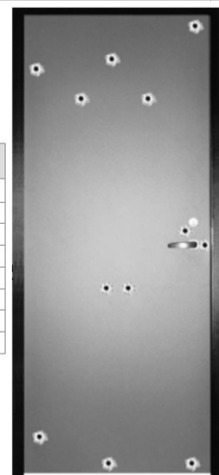


Bullet Protection Ratings

Level 1	9mm (3 shots)
Level 2	.357 Magnum (3 shots)
Level 3	.44 Magnum (3 shots)
Level 4	.30 Caliber Rifle (1 shot)
Level 5	7.62 mm Rifle (1 shot)
Level 6	9 mm (5 shots)
Level 7	5.56 mm Rifle (5 shots)
Level 8	7.62 mm Rifle (5 shots)



Certified Specialty Doors



The global leader in door opening solutions

13

ASSA ABLOY

Layered Security Approach Curb to Core Building Analysis

Layer 1 – Perimeter Security

Bollards, Arm Barriers,
Security Fences,
Security Gates, Tire
Killers, etc



Layer 2 – Checkpoint Security

Armored Guard Booths



Layer 3 – Building Perimeter

Security doors, security
windows, walls



Layer 4 – Building Monitoring

Integrated security
system (Access Control,
CCTV and alarm)



Layer 5 – Critical areas (Data Center, Vault)

Doors, walls, windows,
safes, access control,
CCTV, etc



"More than 50% of the security events get ignored due to complexity of data..."

30% of survey respondents claim that the data volume is overwhelming



Suffocating Volume of Security Alerts Challenge Incident Response

By Eduard Kovacs on March 15, 2016

Share 195 G+ 5 Tweet Recommend 22 RSS

Study Shows Many Companies Ignore Majority of Security Alerts

A new study shows that incident response (IR) has become more difficult over the past two years due to an increasing number of IT activities and security alerts, and the difficulty of extending existing IR processes to new technologies.

Building Monitoring

The global leader in door opening solutions

14

ASSA ABLOY

Layered Security Approach Curb to Core Building Analysis

Layer 1 – Perimeter Security

Bollards, Arm Barriers,
Security Fences,
Security Gates, Tire
Killers, etc



Layer 2 – Checkpoint Security

Armored Guard Booths



Layer 3 – Building Perimeter

Security doors, security
windows, walls



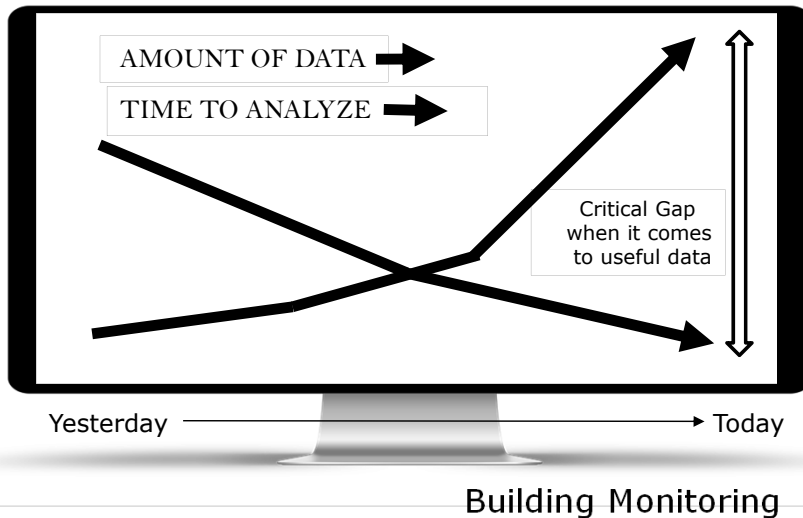
Layer 4 – Building Monitoring

Integrated security
system (Access Control,
CCTV and alarm)



Layer 5 – Critical areas (Data Center, Vault)

Doors, walls, windows,
safes, access control,
CCTV, etc



The global leader in door opening solutions

SAS (2012). White paper: Big Data meets big analytics:
http://www.sas.com/content/dam/SAS/en_us/data/whitepaper1/big-data-meets-big-data-analytics-105777.pdf

ASSA ABLOY

Layered Security Approach Curb to Core Building Analysis

Layer 1 – Perimeter Security

Bollards, Arm Barriers,
Security Fences,
Security Gates, Tire
Killers, etc



Layer 2 – Checkpoint Security

Armored Guard Booths



Layer 3 – Building Perimeter

Security doors, security
windows, walls



Layer 4 – Building Monitoring

Integrated security
system (Access Control,
CCTV and alarm)



Layer 5 – Critical areas (Data Center, Vault)

Doors, walls, windows,
safes, access control,
CCTV, etc



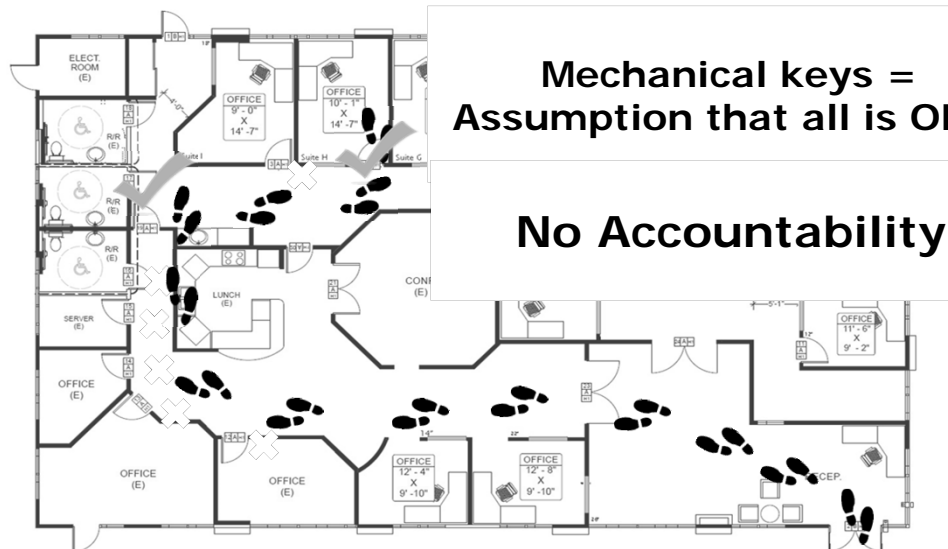
Access Control, Mechanical Keys 95% Openings

The global leader in door opening solutions

16

ASSA ABLOY

Access Control – 95% of Openings



The global leader in door opening solutions

ASSA ABLOY

Layered Security Approach Curb to Core Building Analysis

Layer 1 – Perimeter Security

Bollards, Arm Barriers,
Security Fences, Tire
Killers, etc



Layer 2 – Checkpoint Security

Armored Guard Booths



Layer 3 – Building Perimeter

Security doors, security
windows, walls



Layer 4 – Building Monitoring

Integrated security
system (Access Control,
CCTV and alarm)



Layer 5 – Critical areas (Data Center, Vault)

Doors, walls, windows,
safes, access control,
CCTV, etc



High-impact res



Taking security beyond doors, protecting data

The global leader in door opening solutions

18

ASSA ABLOY

We are adapting to new ways of life...



We are adapting to new technologies faster than ever before...

Time to reach 50 million users



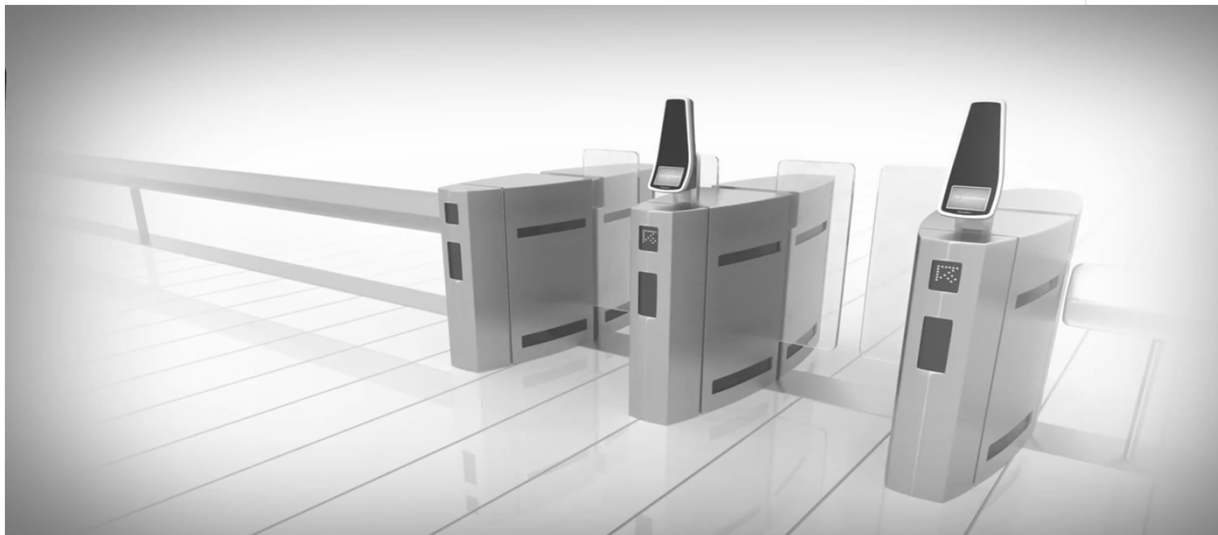
Campus Trends Safety & Security - Technology



The global leader in door opening solutions

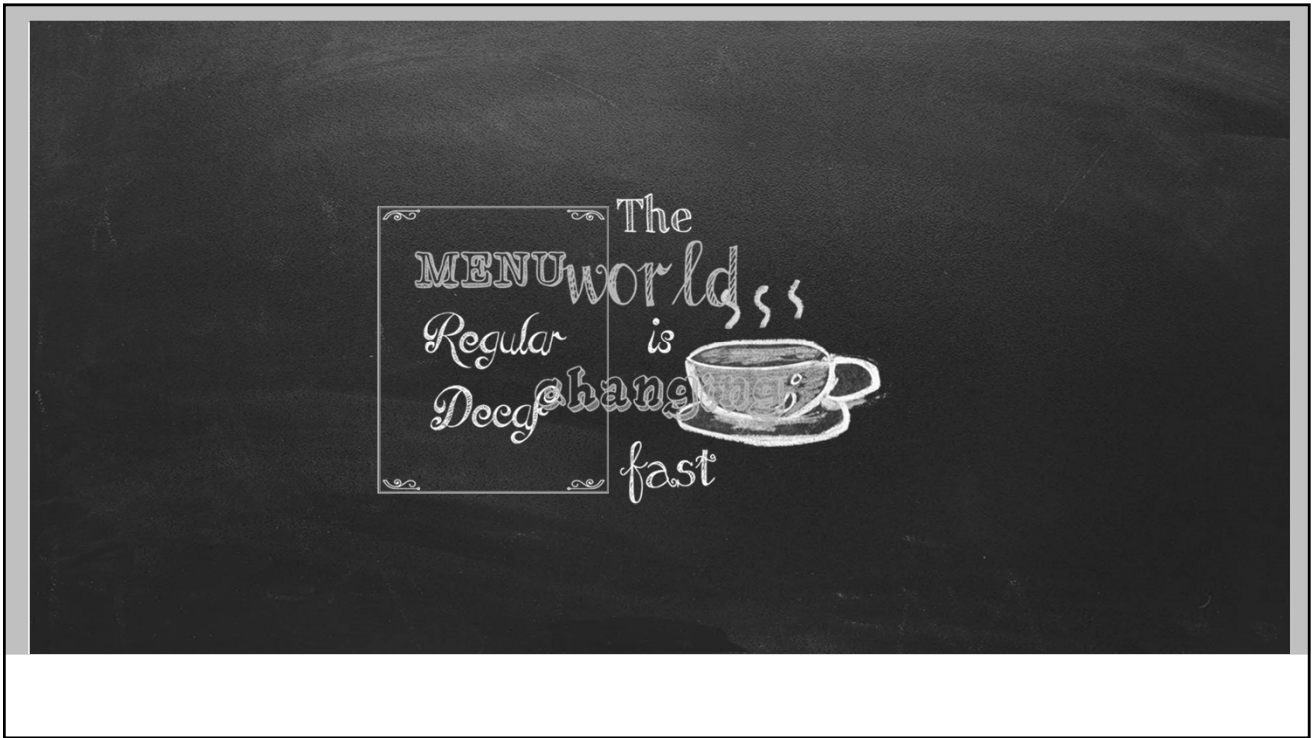
ASSA ABLOY

Campus Trends Safety & Security - Technology



The global leader in door opening solutions

ASSA ABLOY



APPA Leadership in Educational Facilities

Coffee Drinks

CAFE MACCHIATO Espresso	BREVE Half & Half Espresso	CAFE NOISETTE Espresso	ESPRESSO Espresso	ESPRESSO DOPPIO Espresso	RISTRETTO Espresso
CON HIELO Espresso	LUNGO Espresso	BLACK EYE Espresso	CAPPUCCINO Espresso	CAFE CREME Espresso	DRY CAPPUCCINO Espresso
MOCHA BREVE Espresso	CON PANNA Espresso	BLAT WHITE Espresso	AMERICANO Espresso	MOCHA Espresso	AFFOGATO Espresso
	LATTE Espresso	STEAMED MILK Espresso	VIENNOIS Espresso	CON LECHE Espresso	

The global leader in door opening solutions

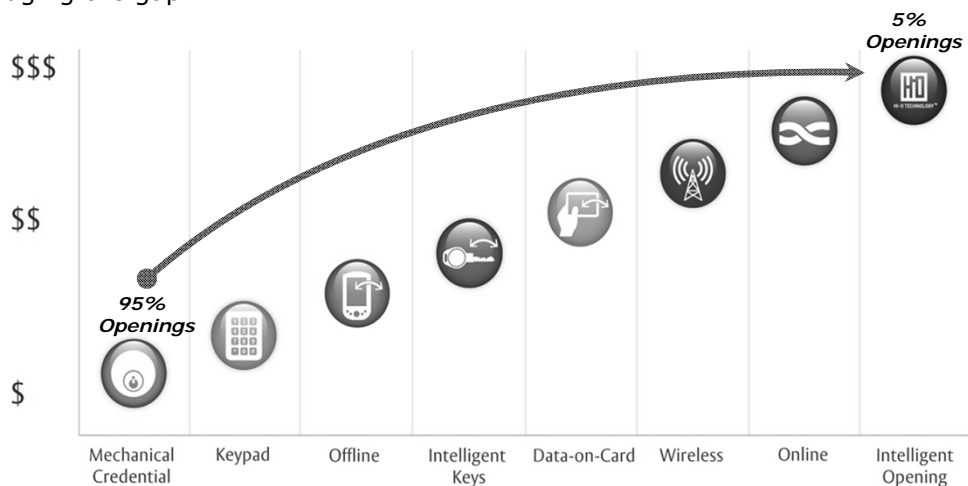
ASSA ABLOY

Access Control – A World of Choices



Access Management That is Sustainable

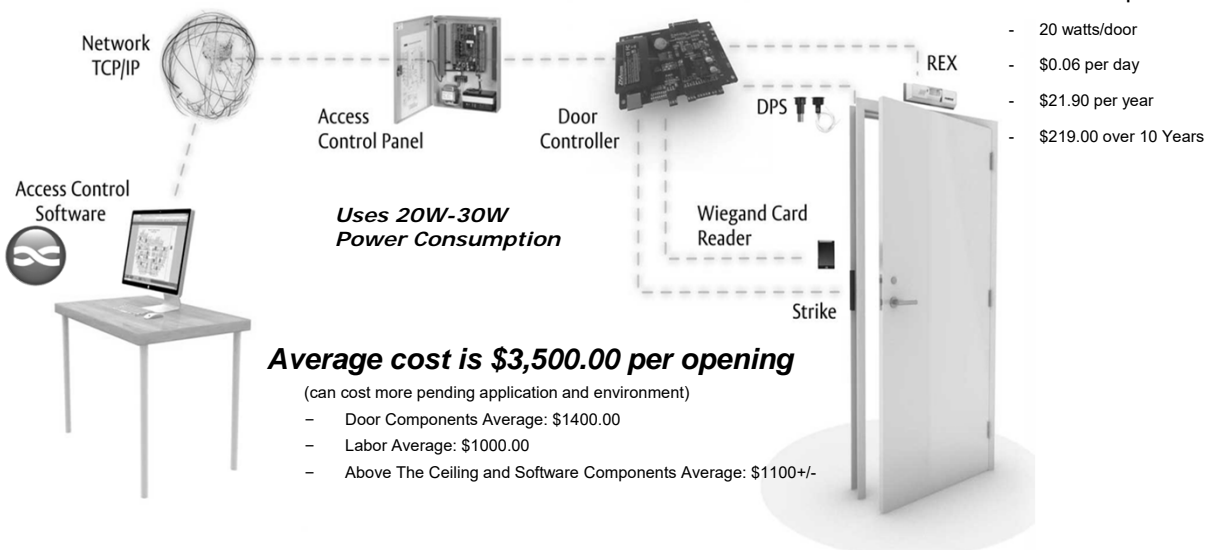
Bridging the gap...



The global leader in door opening solutions

ASSA ABLOY

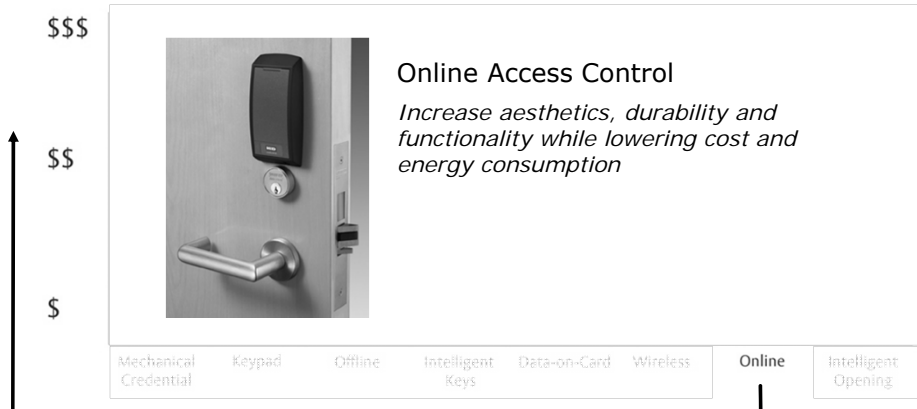
Traditional On-Line EAC Hardware Solutions



The global leader in door opening solutions

ASSA ABLOY

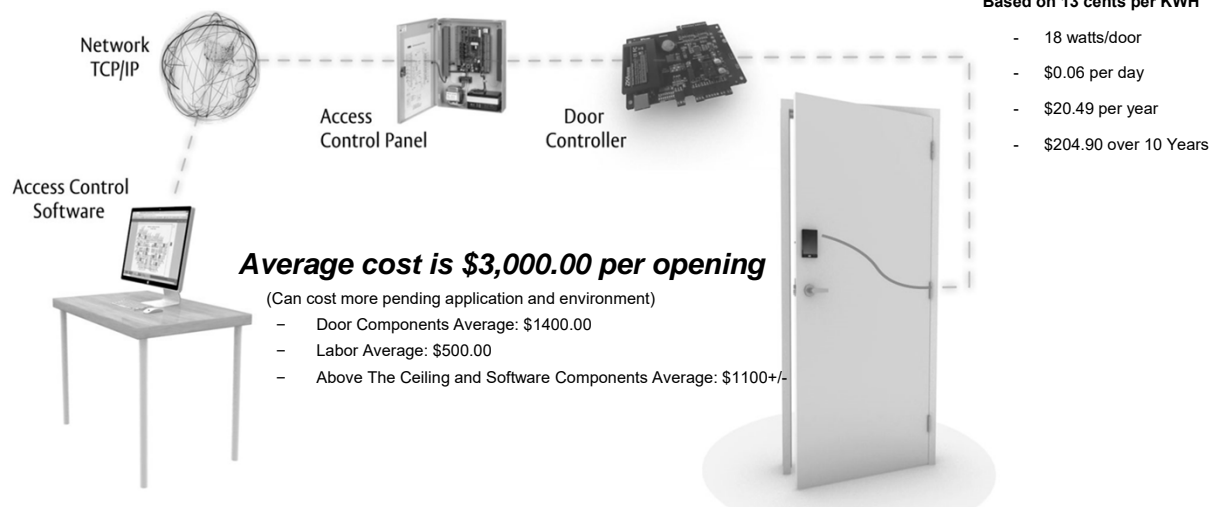
Online Openings continued...



The global leader in door opening solutions

ASSA ABLOY

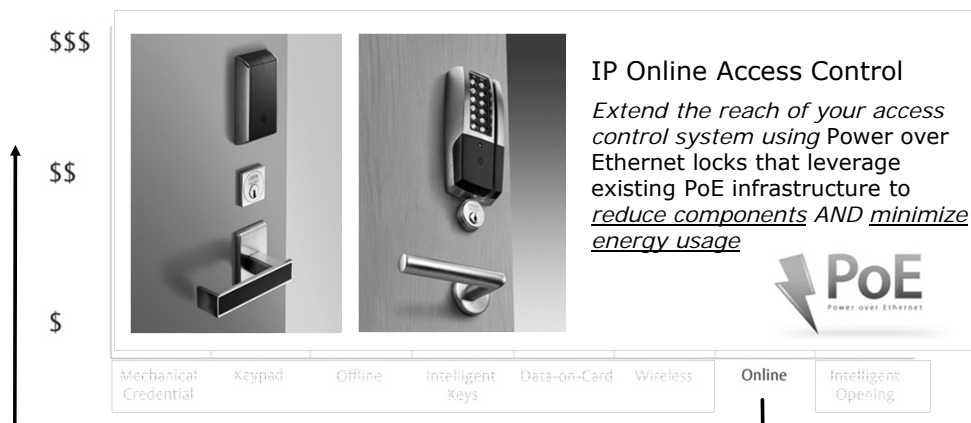
Integrated On-Line EAC Hardware Solutions



The global leader in door opening solutions

ASSA ABLOY

*Online Openings continued...
Utilizes existing IP Network*



The global leader in door opening solutions

ASSA ABLOY

IP Enabled PoE Access Control

Power over Ethernet locks leverage existing PoE infrastructure to reduce components and minimize energy usage

Average cost is \$2,300.00 per opening
 (Can cost more pending application and environment)

- Door Components Average: \$1600.00
- Labor Average: \$300.00
- Above The Ceiling and Software Components Average: \$300+/-

Power Consumption \$\$
Based on 13 cents per KWH

- 9 watts/door
- \$0.03 per day
- \$10.25 per year
- \$102.49 over 10 Years

The global leader in door opening solutions

ASSA ABLOY

Lets get started with Wireless Openings

Mechanical Credential	Keypad	Offline	Intelligent Keys	Data-on-Card	Wireless	Online	Intelligent Opening
\$	\$	\$	\$	\$	\$	\$	\$\$\$

The global leader in door opening solutions

ASSA ABLOY

Campus Wireless Options

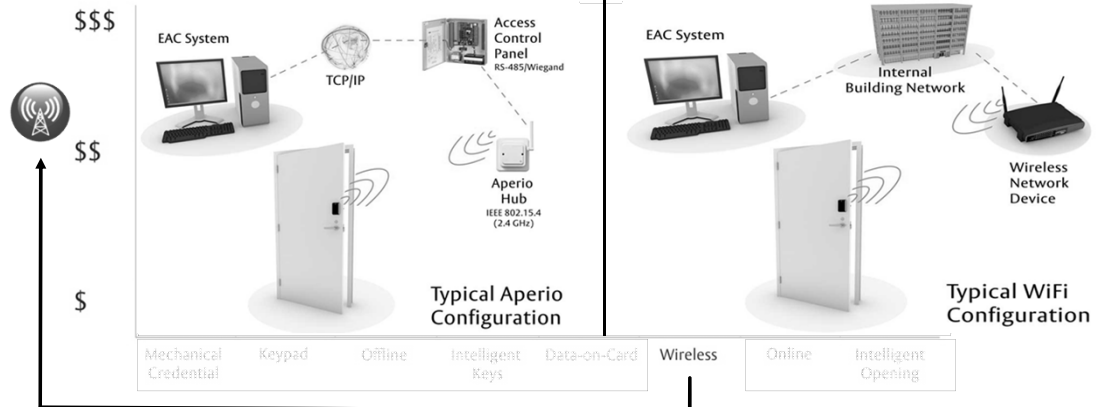
Aperio Wireless®

- Broadest Range of Locking Devices
- Global Solution



IP Enabled WiFi

- 802.11 Standard WiFi
- Lowest Total Architecture Cost

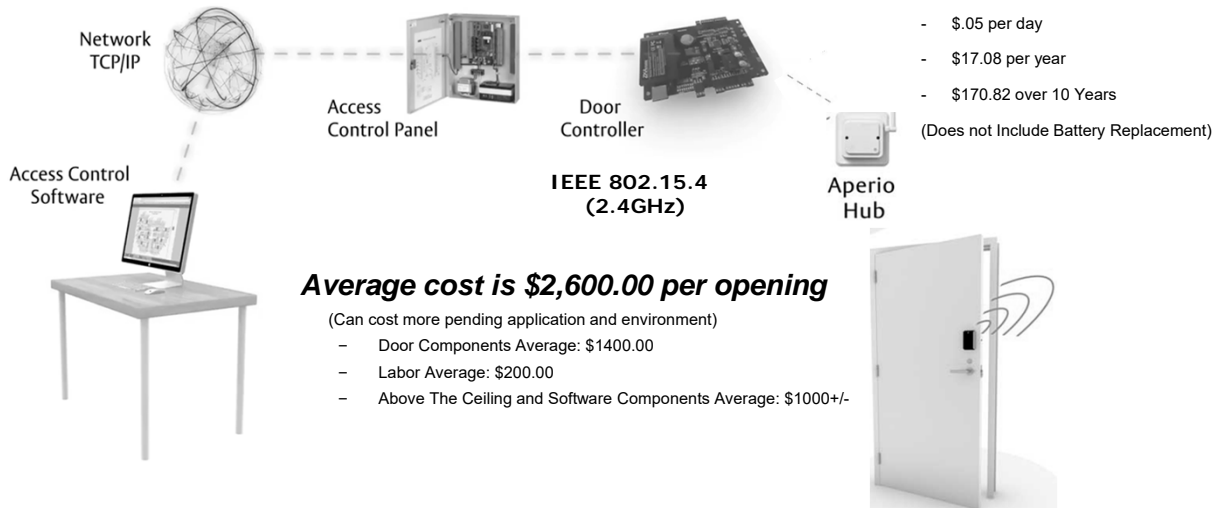


The global leader in door opening solutions

ASSA ABLOY

Wireless Enabled Access Control

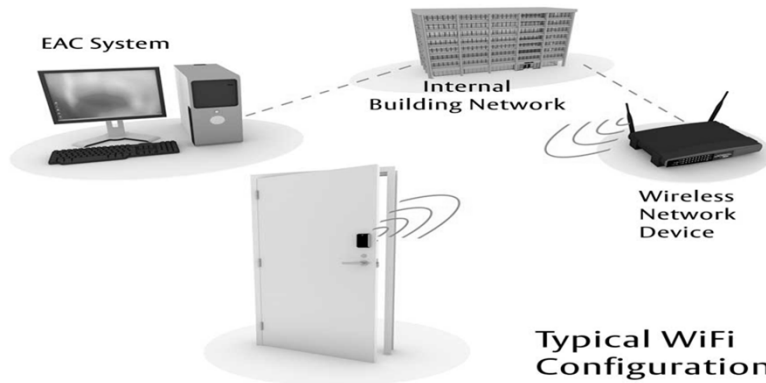
Traditional Online + Wireless Reader/Lock



The global leader in door opening solutions

ASSA ABLOY

IP Enabled WiFi Access Control



Power Consumption \$\$

Based on 13 cents per KWH

- 4 watts/door
 - \$0.01 per day
 - \$4.55 per year
 - \$45.55 over 10 Years
- (Does not Include Battery Replacement)

IP Enabled WiFi

- 802.11 Standard WiFi
- Lowest Total Architecture Cost

Average cost is \$1,800.00 per opening

(Can cost more pending application and environment)

- Door Components Average: \$1400.00
- Labor Average: \$200.00
- Above The Ceiling and Software Components Average: \$200+/-

The global leader in door opening solutions

ASSA ABLOY

Solar Technology – Energy Harvesting Option

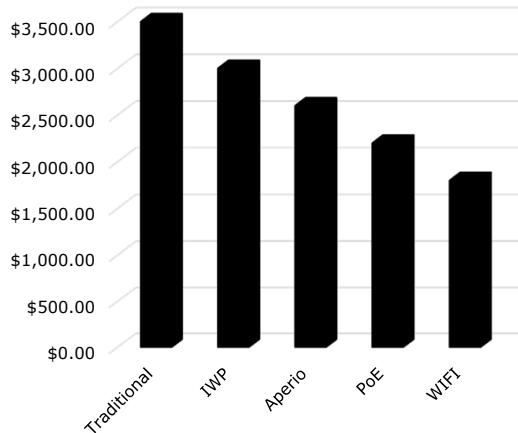
If capacitor drains
from high use or
otherwise...

Backup Batteries
Charges the capacitor

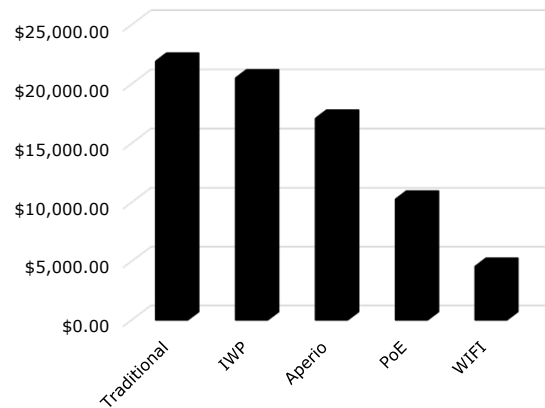


Cost Comparison

Average Total Cost Per Opening



Cost to Power 1000 Doors Per Year



The global leader in door opening solutions

37

ASSA ABLOY

Managing ADA Accessibility On Challenging Openings In Existing Building Infrastructure

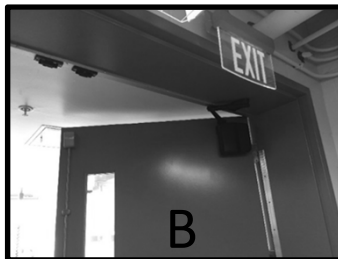


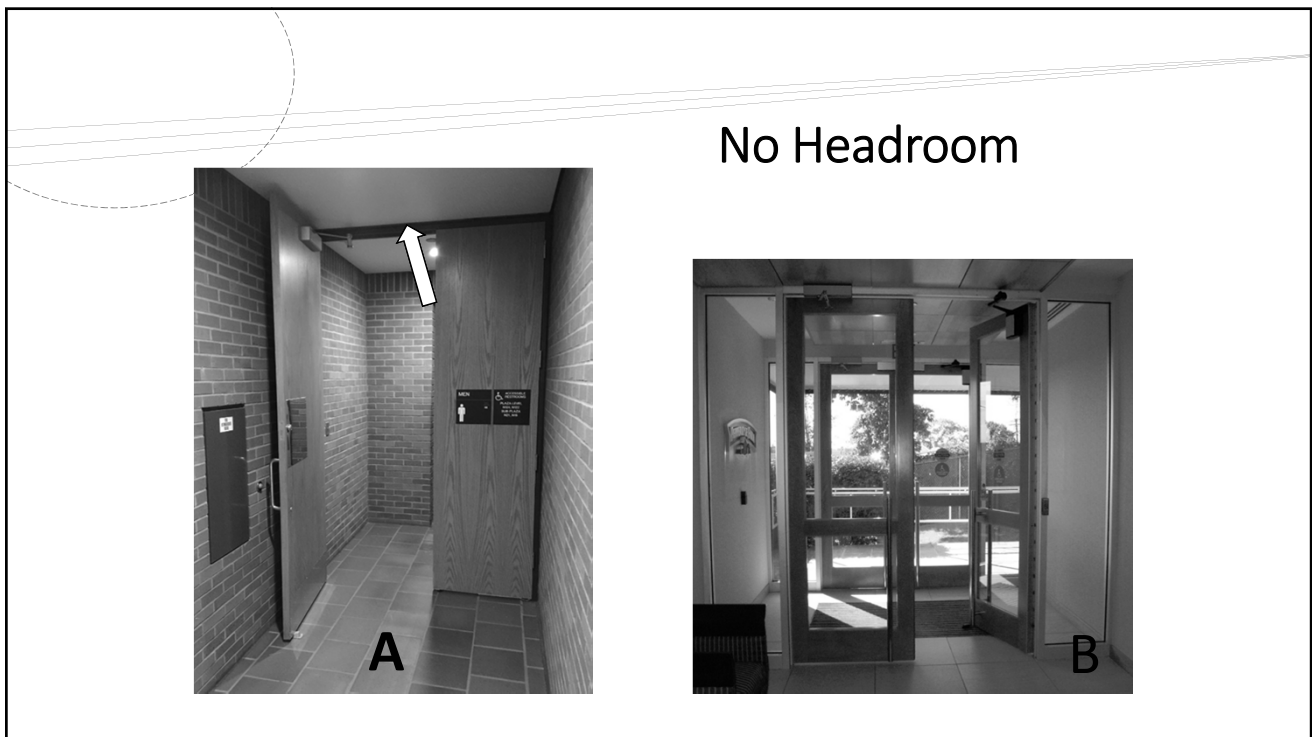
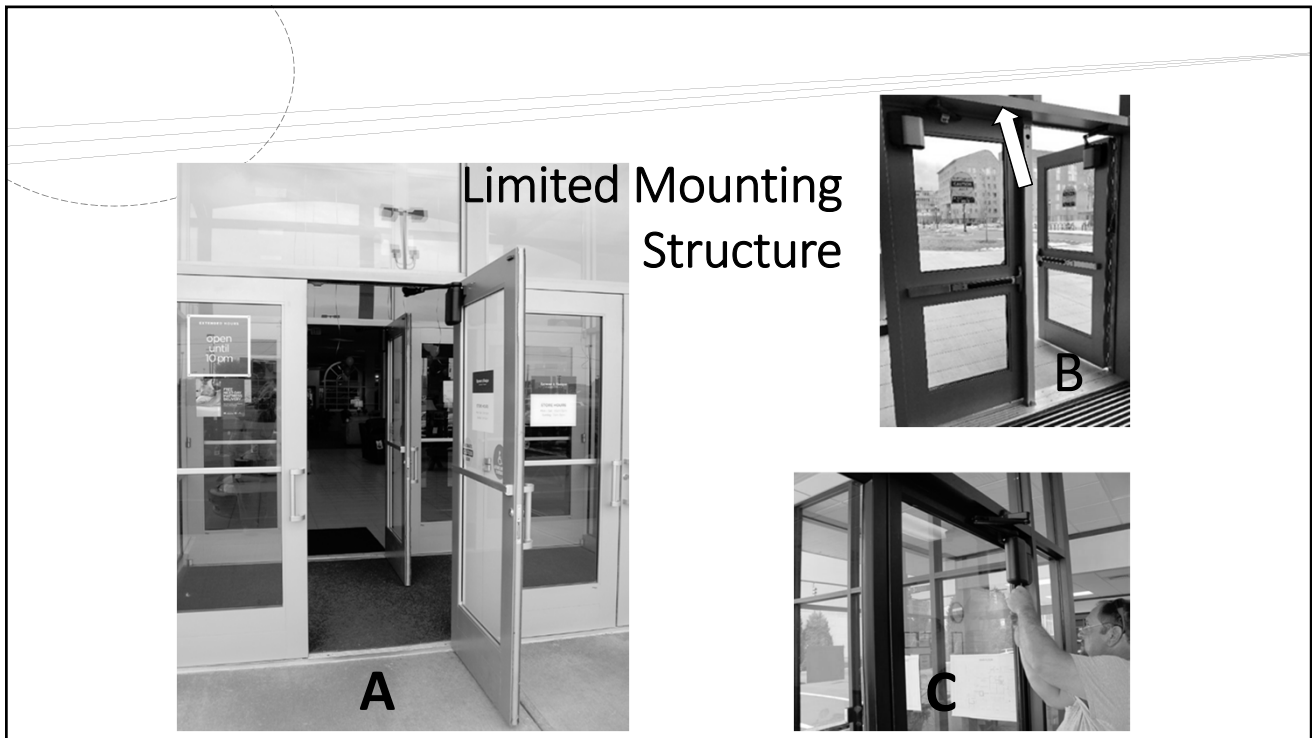
What do all these doors have in common?

Difficult to automate with overhead operators



Deep Reveal





Decorative Trim Obstructions



A

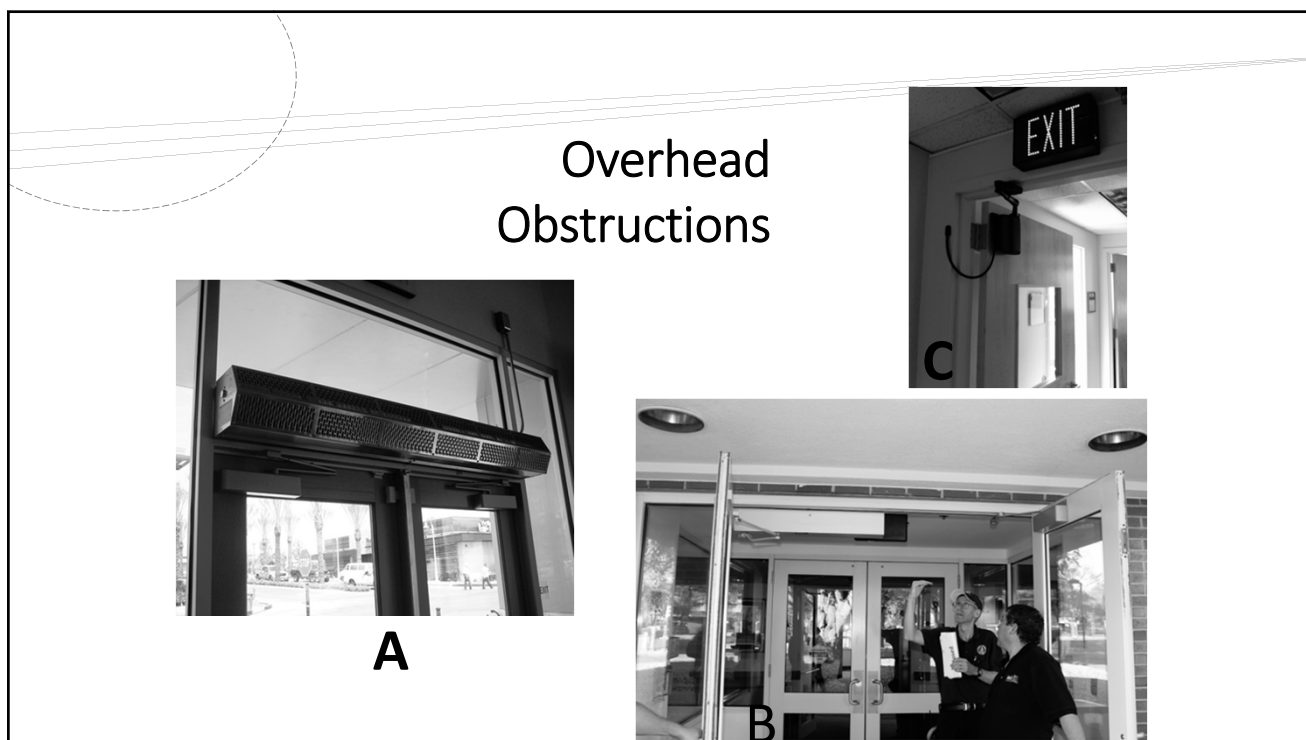
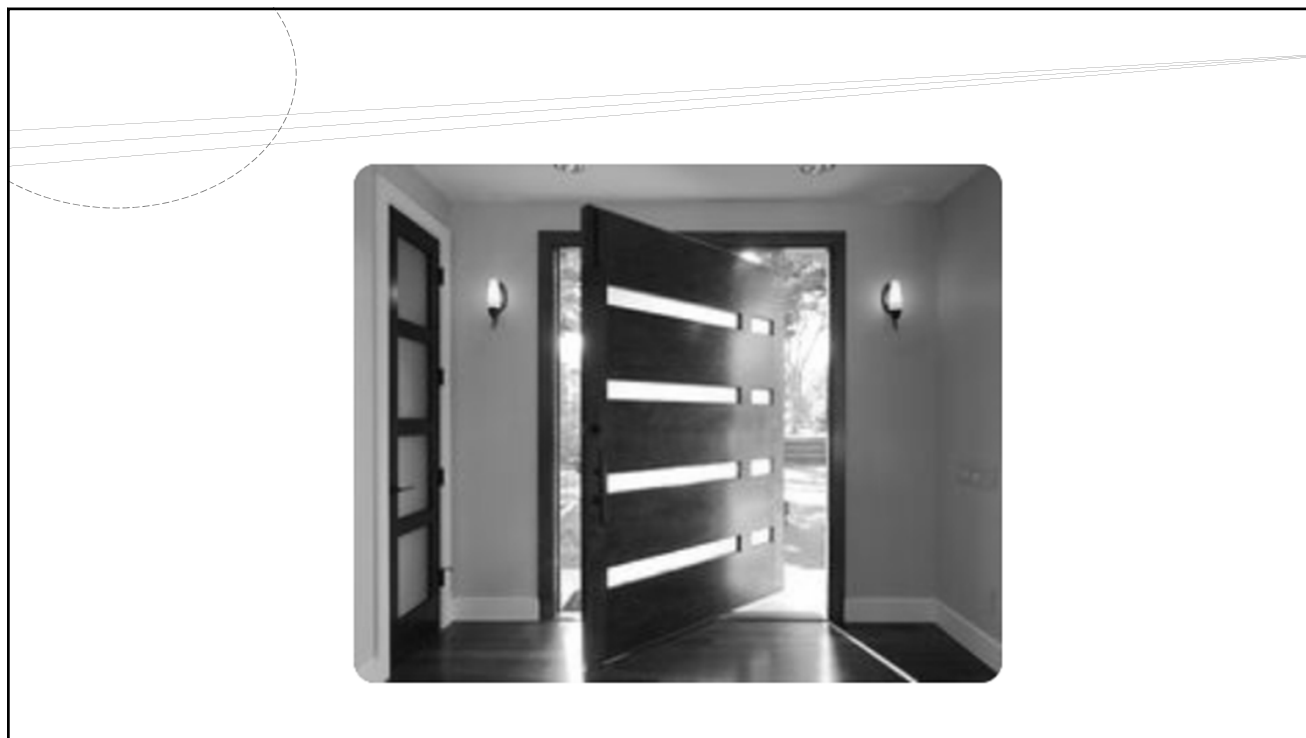


B



C



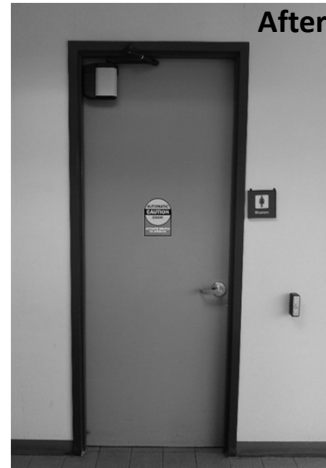




UNIVERSITY OF MINNESOTA
Driven to DiscoverSM



Before

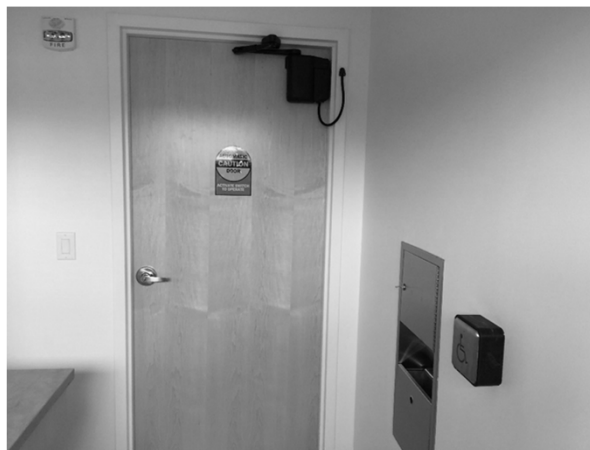


After



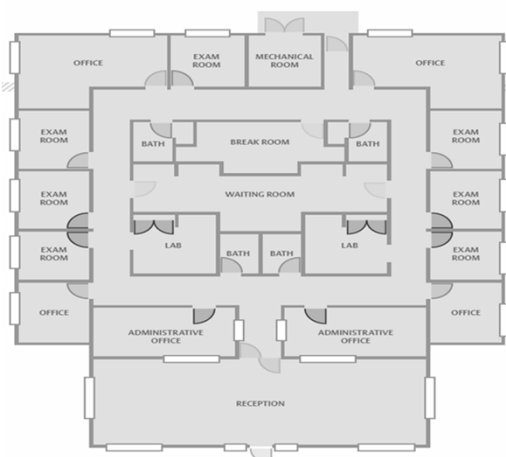
"I figure that if I sell just one, I can retire."

Yale



Questions?

Complete Solution Portfolio



A full portfolio of door control solutions for multiple applications

MEDICAL CENTER

Public Restroom	5600	
Exam Room (ADA Accessible)	5700	
Waiting Room & Break Room	5800	
Reception Room	6000	
Main Entrance (single door)	6300	
All Other Doors	Door Closer	

POTENTIAL APPLICATIONS

ASSA ABLOY, the global leader in door opening solutions

www.nortondoorcontrols.com



Sustainability

The global leader in door opening solutions

ASSA ABLOY

Green building will continue to expand...








LEED v4 Requirements

- Transparency is the new norm (EPDs, HPDs, Declare)
- Energy efficient products
(thermal performance, power reduction)
- Sustainable products & factory operations become a deciding factor

The global leader in door opening solutions

ASSA ABLOY

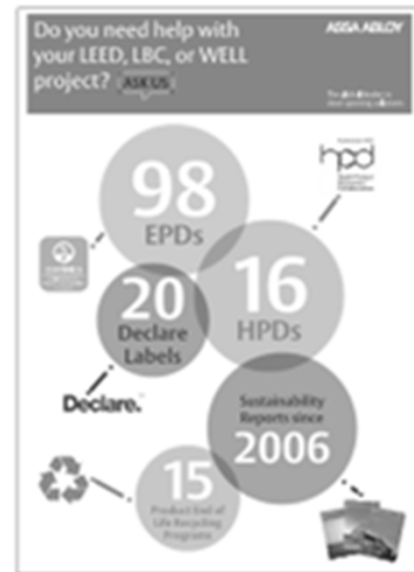
LEED v4 Credit Categories

-  Sustainable Sites (SS)
-  Water Efficiency (WE)
-  Energy & Atmosphere (EA)
-  Materials & Resources (MR)
-  Indoor Environmental Quality (IEQ)
-  Innovation
-  Regional Priority Credits

FOCUS



Source: <http://www.usgbc.org>



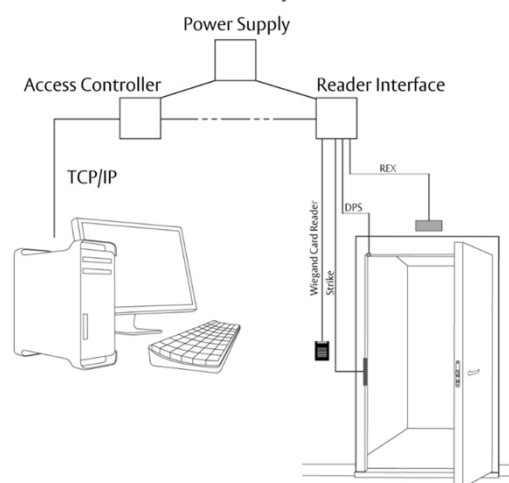
Traditional Access Control vs Sustainable Thinking

- Many discreet components create a larger environmental impact.
 - **Additional wiring, energy use, more processing and packaging.**

Sustainable Continuum Access Control Solutions

	Good	Better	Best
Solution	Integrated Wiegand	WiFi	Power over Ethernet
Components	Integrated lockset, connecting to an access control pane	Integrated lockset, connects to access control system using existing network infrastructure – absolutely no wiring required	Integrated lockset, connects to access control system using existing network infrastructure
Power Consumption	15.4W	6AA batteries	7W, uses existing PoE infrastructure for power

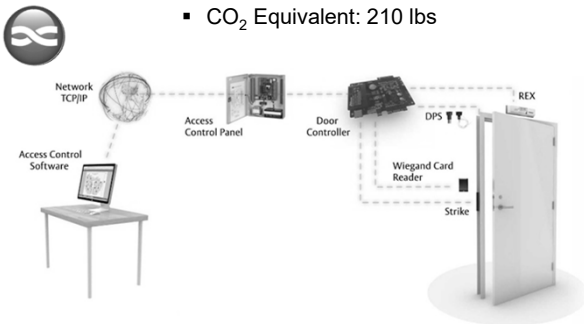
Electronic Access Control System



Life Cycle Assessment: Standby Power Consumption

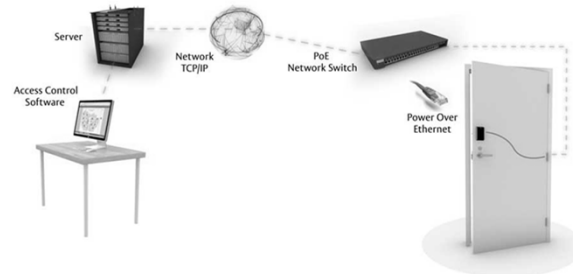
Traditional Access Control

- Current Power: 20-30W
- Cost on Average \$3,000 - \$5,000
- Cost: \$28+/year
- CO₂ Equivalent: 210 lbs



Power over Ethernet

- Current Power: 2W
- Cost: \$2/year
- CO₂ Equivalent: 20 lbs



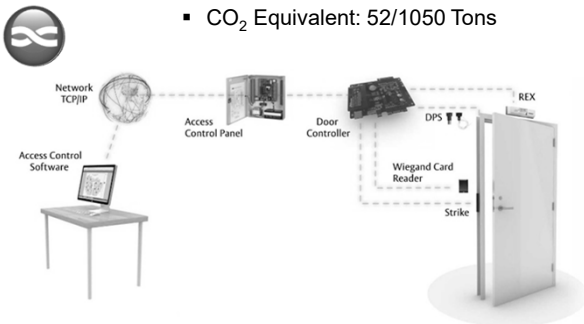
The global leader in door opening solutions

ASSA ABLOY

Life Cycle Assessment: Power Consumption Comparison over 500 Doors

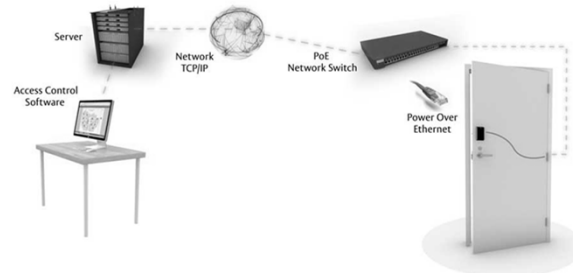
Traditional Access Control (500 Doors)

- Current Power: 20-30W
- Cost: \$14,000 +/-year
- Cost: \$280,000 +/-20 years
- CO₂ Equivalent: 52/1050 Tons



Power over Ethernet

- Current Power: 2W
- Cost: \$1,000 +/-year
- Cost: \$20,000 +/-20 year
- CO₂ Equivalent: 5/100 Tons

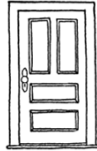


The global leader in door opening solutions

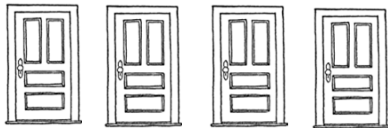
ASSA ABLOY

PoE IP-Enabled Access Control

1 PoE Lock - \$18 savings/door



Pitt has 1500+ openings with PoE locks



**PoE locks are saving the school
\$27,000/year just on power**



The global leader in door opening solutions

ASSA ABLOY

Higher Education Campus Energy Case Study



Reports finalized with Green Circle. Case study report will be available soon!



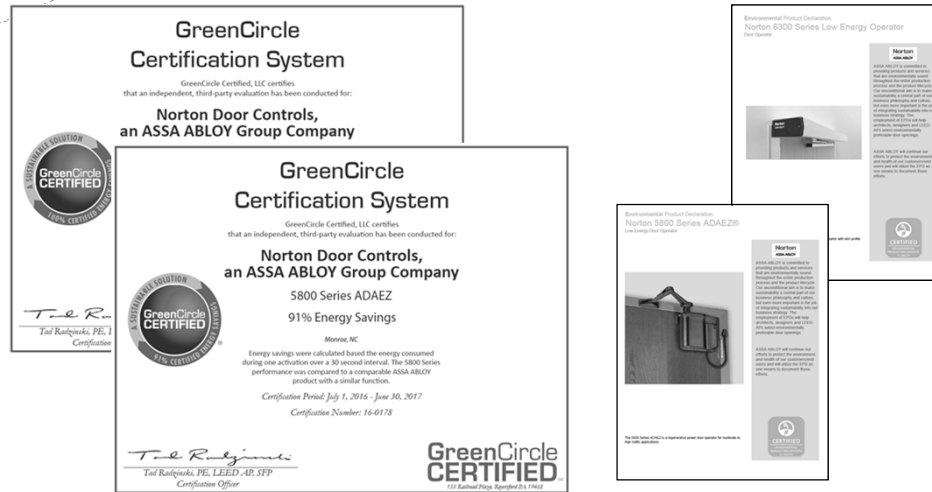
Table 1. Summary of Energy and Cost Savings

	Electricity Usage (kWh)	Electricity Cost (based on \$0.0809/ kWh)	Natural Gas Usage (therms)	Natural Gas Cost (based on \$1.87/ therm)	Total Energy Use (MBTU)	Total Cost (\$)
Existing Interior and Exterior Doors	133,948	\$10,836	4,948	\$9,252	951,815	\$20,088
Proposed ASSA ABLOY Doors	1,510	\$122	56	\$104	10,728	\$226
Savings	132,438	\$10,714	4,892	\$9,148	941,087	\$19,862

The global leader in door opening solutions

ASSA ABLOY

Certified Energy Savings



ASSA ABLOY, the global leader in door opening solutions

www.nortondoорcontrols.com

ASSAABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience



Thank You!

National APPA Conference – August 3rd, 2018
Washington, D.C.

The global leader in door opening solutions

ASSA ABLOY