



Predictive Energy Optimization



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BuildingIQ Overview

BuildingIQ **optimizes energy use** in commercial buildings by **transforming** existing buildings into **smart buildings** with **minimal capex or upgrades**

- **Software to intelligently assess and control HVAC energy** for commercial building portfolios
- **Backed by leading industry vendors**; partnered with US and Australia's **national labs**
- **15M sq ft** of buildings under contract with top **REITs, government, utilities and enterprises**:
 - **A and B grade** buildings
 - **40K– 2.5M** sq ft
 - Office, retail, government, hospitality, etc
 - Integration with **all major BMS**
- **10-30% HVAC energy savings** and up to **30% peak load reduction** during DR events
- Subscription based service – **minimal capex**

Investors:



SIEMENS

Partners:

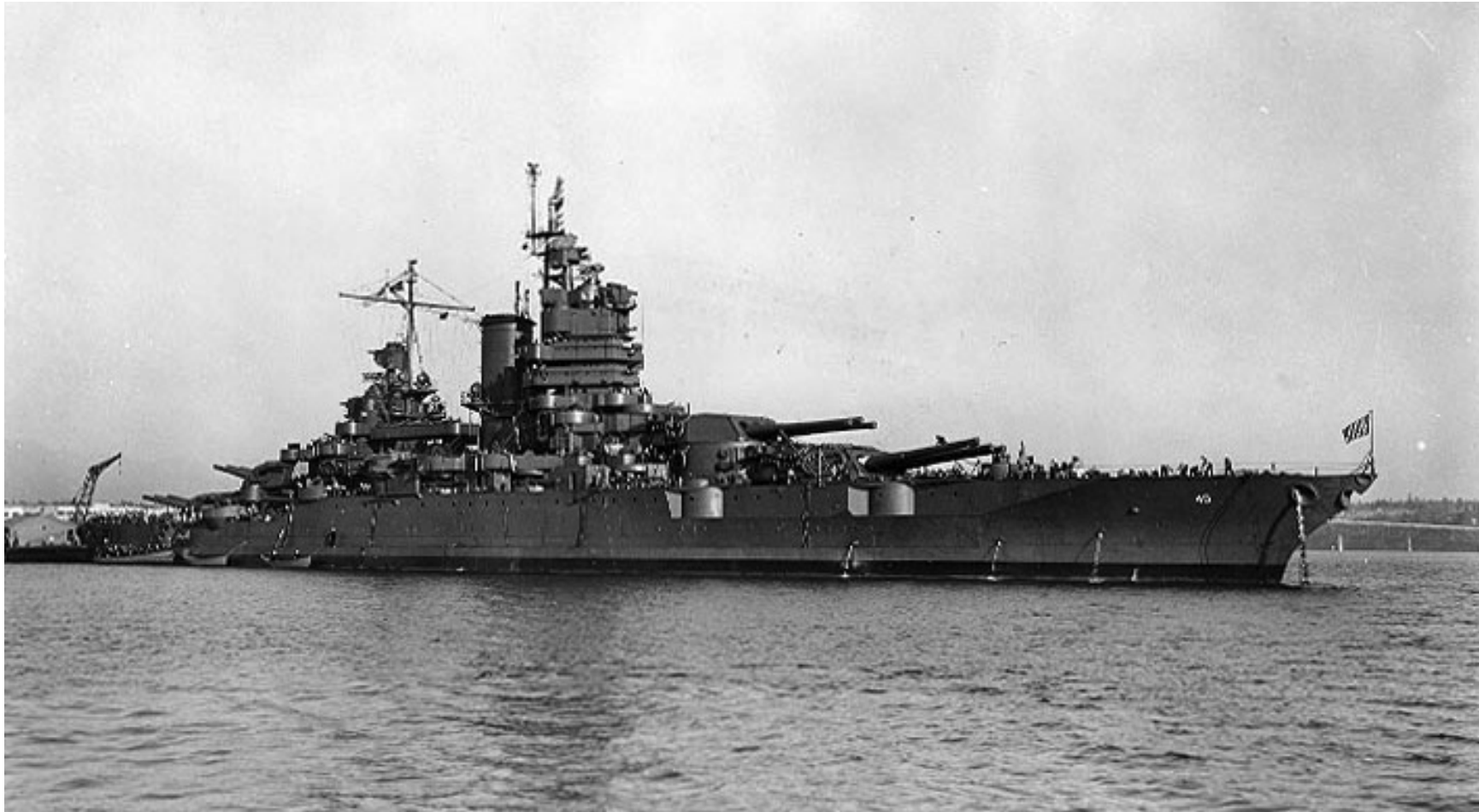


Recognition:





USS New Mexico





Industrial MPC





Building Constraints



Custom Comfort

CEO and Executives
71°-72°, Opt Out, no DR shed

Marketing and Finance
68°-74°, allow DR shed

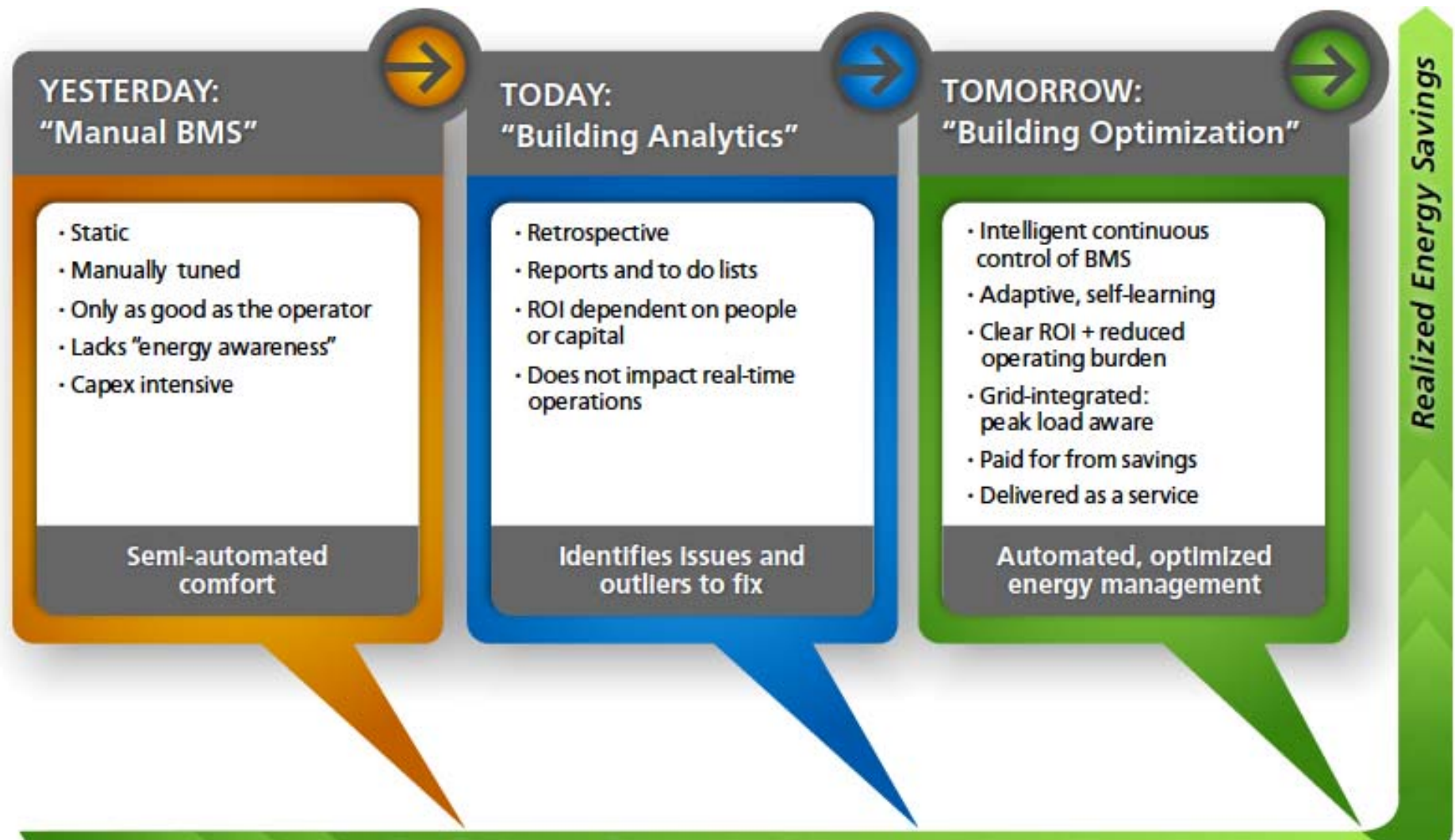
Vacant
68°-76°, allow DR shed

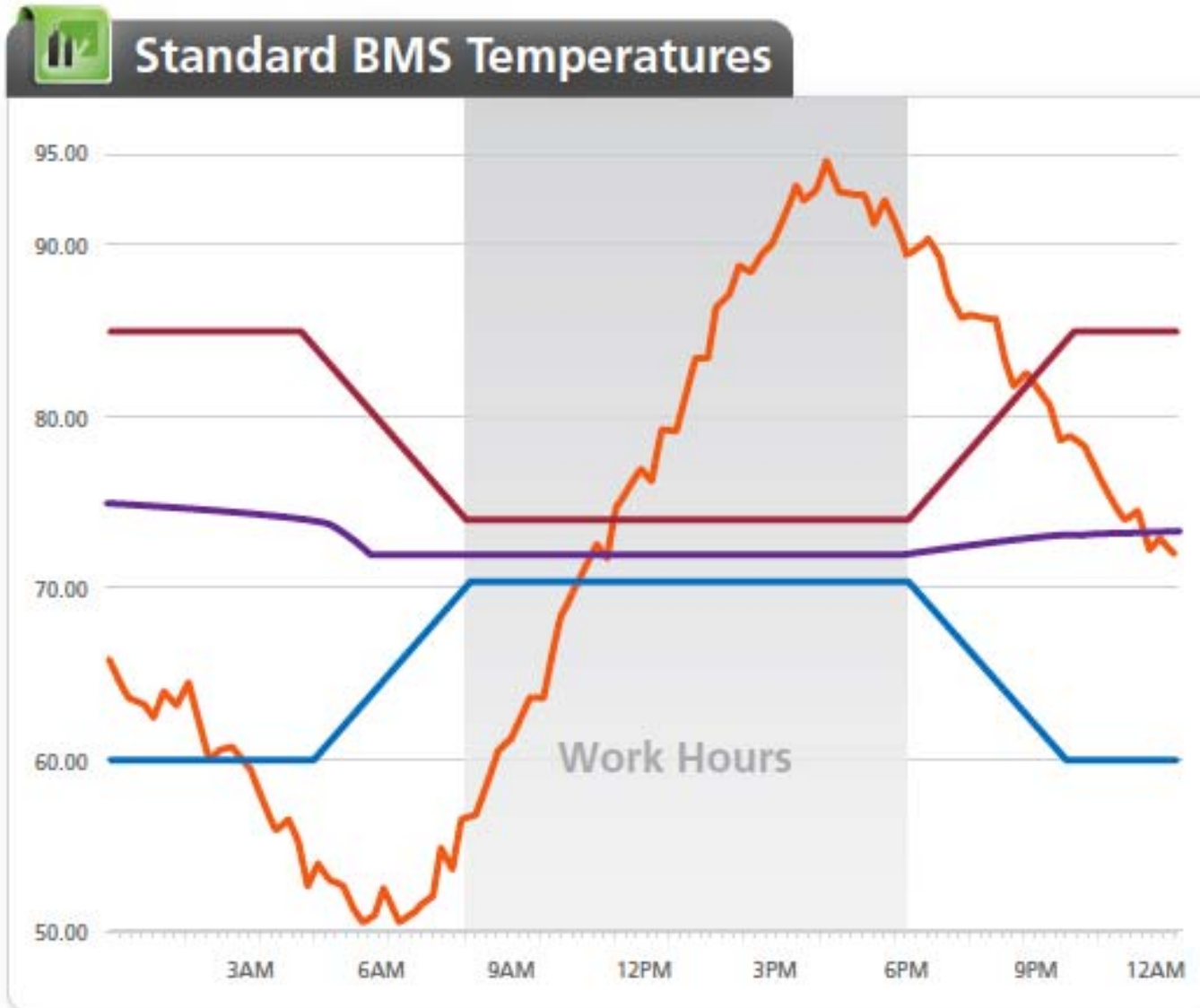
Meeting Rooms
70°-75°, allow DR shed

Retail Space
68°-74°, allow DR shed

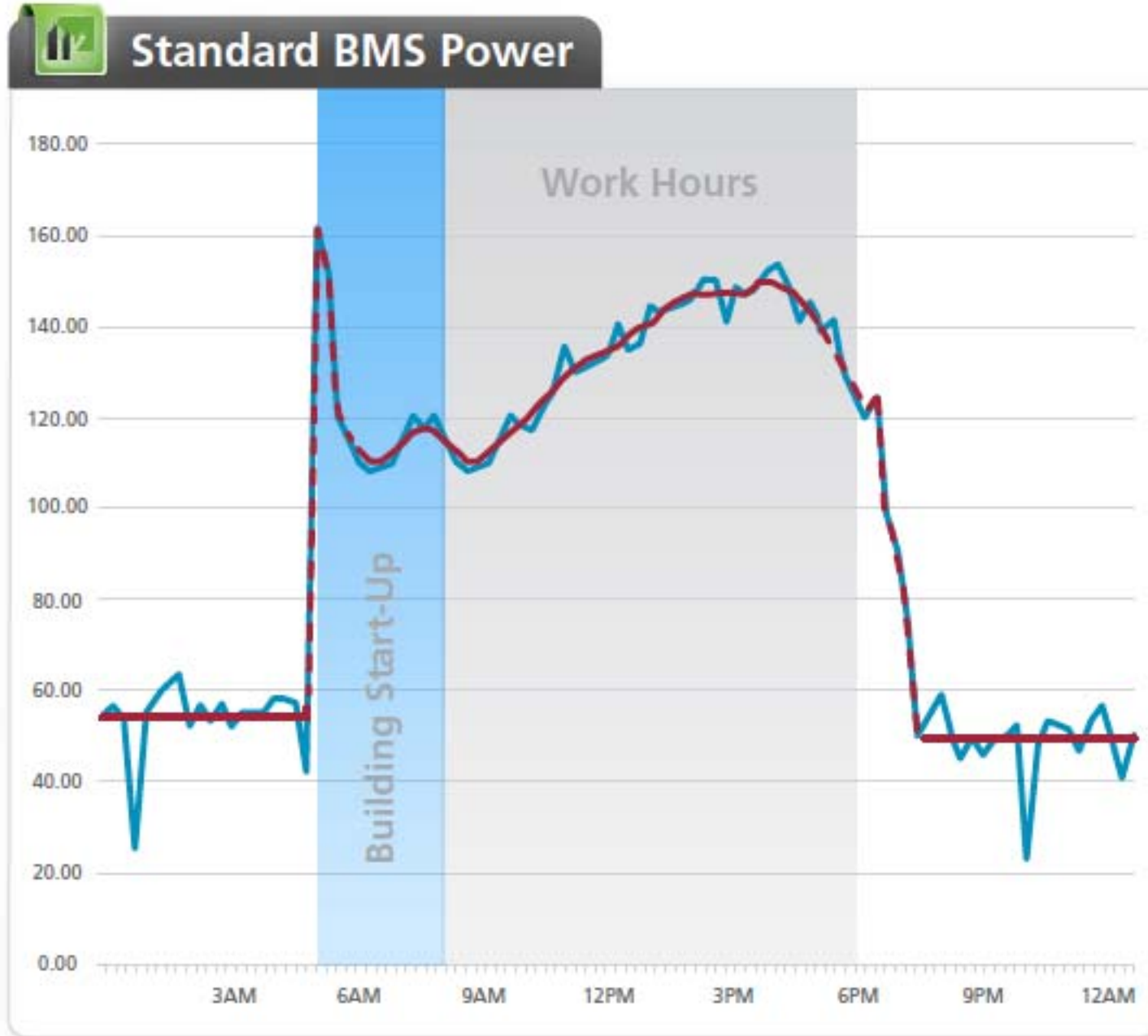


Industry Progress



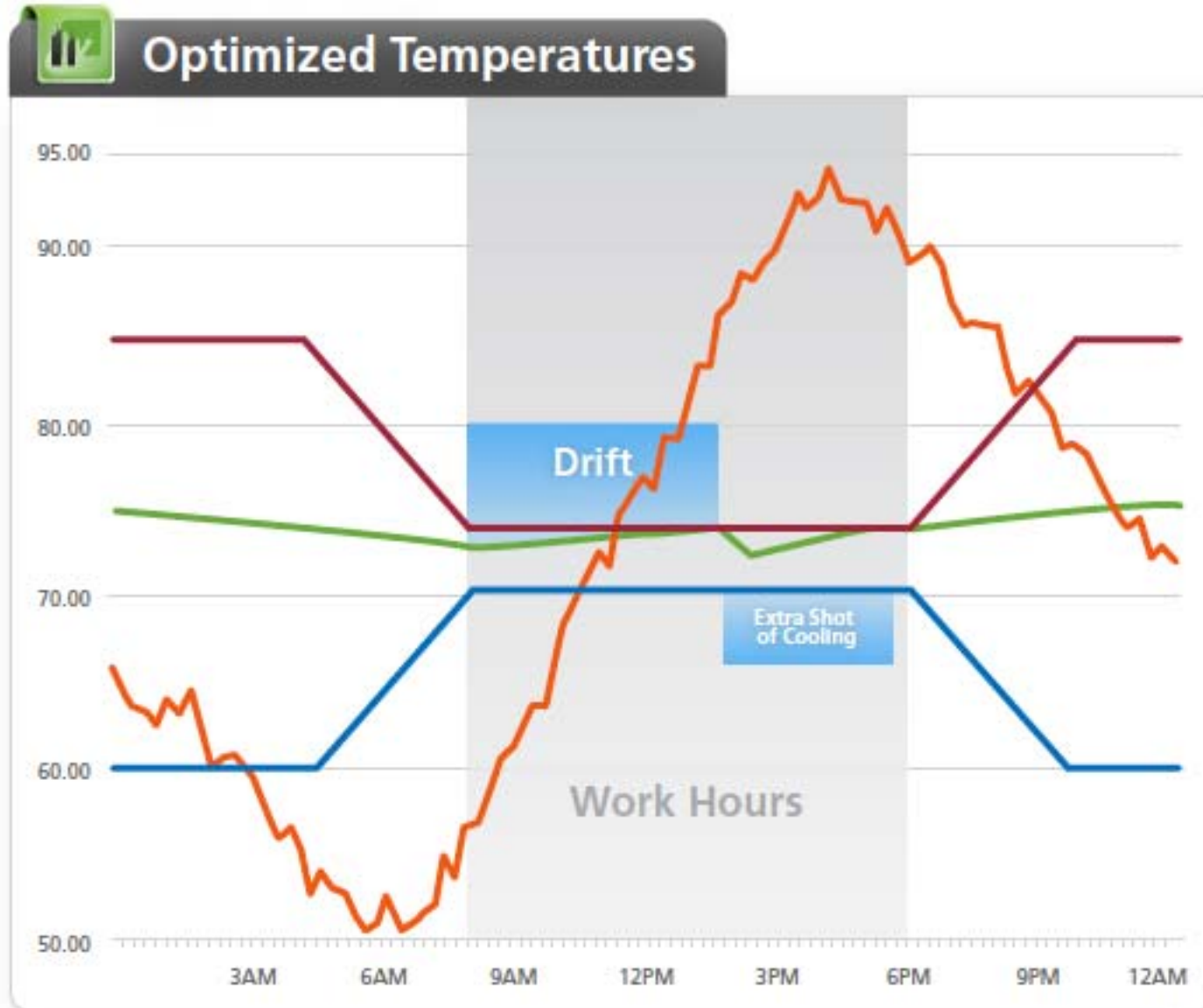


- Outside Temperature
- Traditional Setpoint
- Lower Limit
- Upper Limit



Baseline Model

Normal Load



- Outside Temperature
- Energy Optimization
- Lower Limit
- Upper Limit



Energy Optimization



- Baseline Model
- Energy Optimization

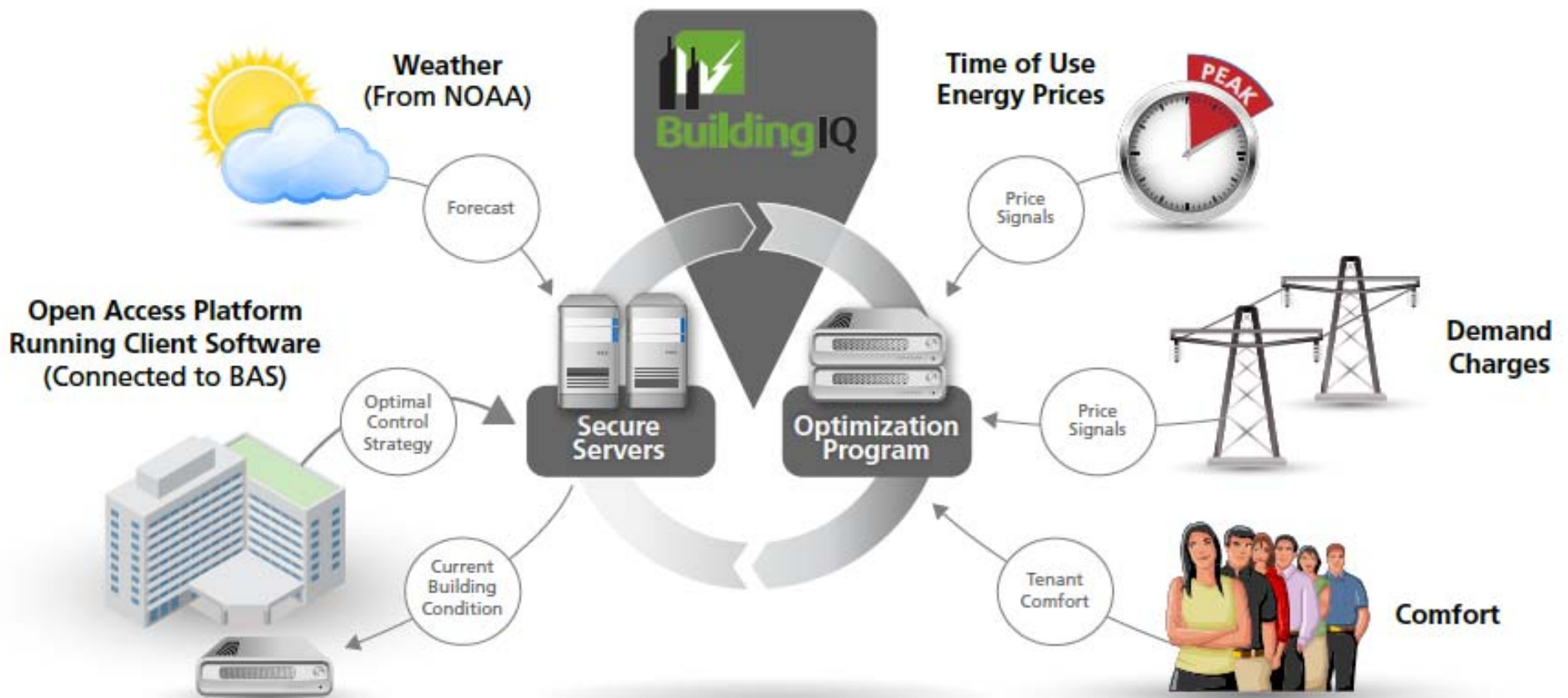


Buildings, Snowflakes and Physics



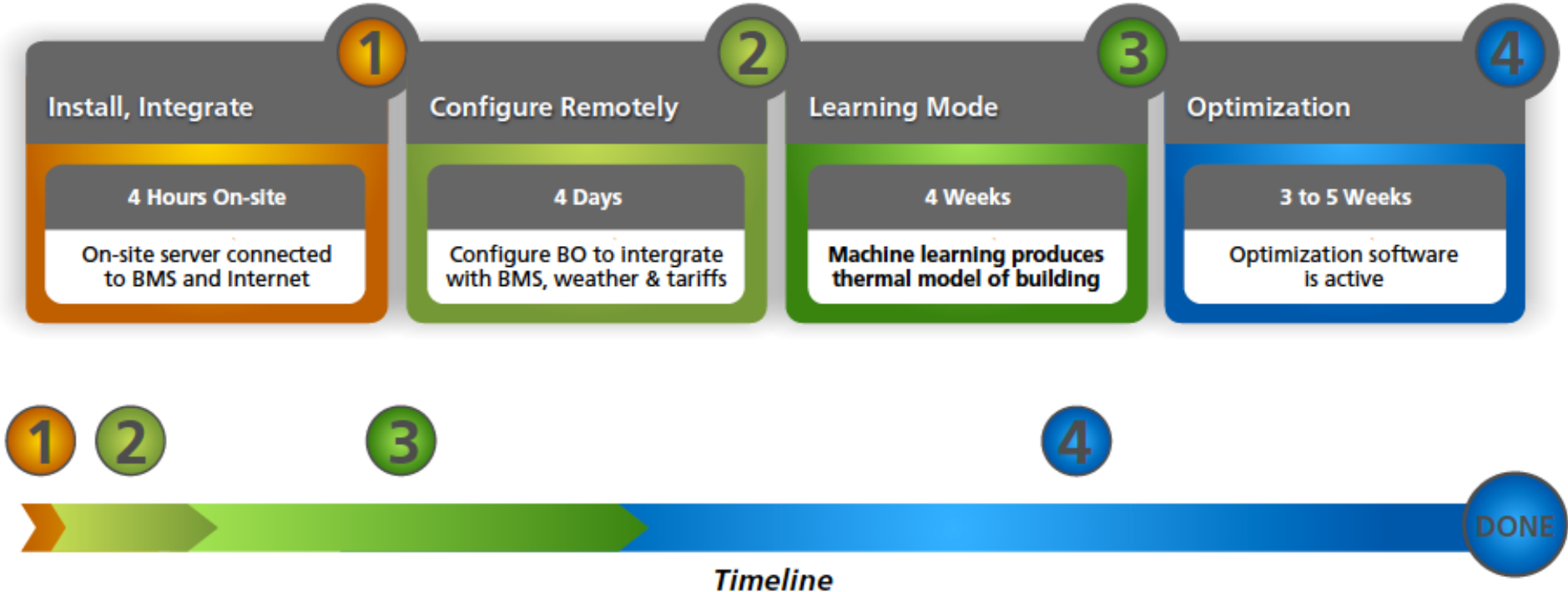


System Overview





Implementation Process

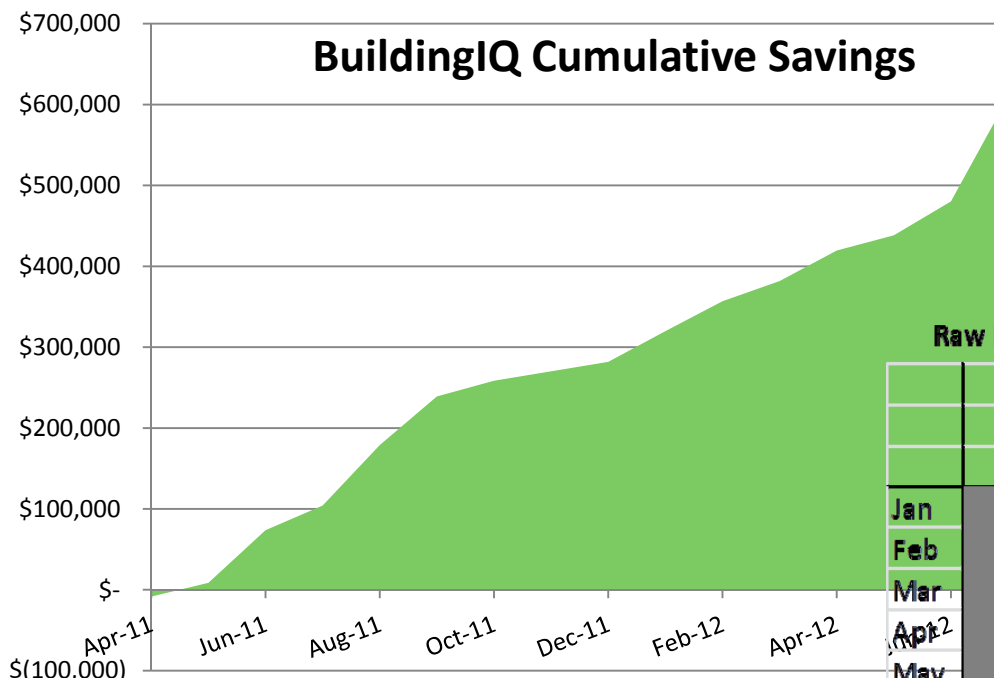




Case Study: NYC Office Tower

- Largest LEED-EB in NYC
- A-Grade 2.5m SF
- Schneider BMS
- 7 FT engineers

\$600k+ annualised savings
 13% HVAC reduction
 3x payback on typical BIQ Fees



	Raw bill energy consumption (electric + steam)			BIQ Off	Training	BIQ On	
	Consumption			Savings		Savings	
	2010	2011	2012	2011	2012	2011	2012
	(MBTU)			(MBTU)		(%)	
Jan	29,402	29,952	24,606	-550	5,345	-2%	18%
Feb	28,260	31,039	27,798	-2,779	3,241	-10%	10%
Mar	26,590	27,721	23,655	-1,131	4,065	-4%	15%
Apr	19,793	23,495	20,521	-3,702	2,974	-19%	13%
May	21,474	21,225	19,851	249	1,374	1%	6%
Jun	24,265	24,217	24,028	48	189	0%	1%
Jul	32,681	22,944	25,175	9,737	7,506	30%	23%



Thank you!

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