

IOWA STATE UNIVERSITY

FACILITIES PLANNING & MANAGEMENT



- 4,163,000 Gross square feet of space
- 75,000 Data points collected
- 41 Buildings and physical plants
- 1 Unified information system integrating an entire campus

EnergyWitness™
Data. Collect It. Use It.



Best Building



Iowa State University has deployed a facilities operations data warehouse and business information system that currently includes 41 campus buildings. The buildings integrate HVAC operational data with various combinations of smoke systems, electric meters and generator, domestic water and sewage, fire/emergency systems, lighting systems, and space planning data.

These systems are integrated at both an operational level, through Johnson Controls, and at the information level, using EnergyWitness from Interval Data Systems.

Iowa State collects data from approximately 75,000 points across campus. The system collects data every 15 minutes, 24x7, and is stored in the data warehouse providing a permanent historical record of operations. Although it is a technical accomplishment to collect complete operational data without interfering with control systems operation, the value to Iowa State is realized through the many ways the information is used.

There are over 100 users of the information just within Facilities Planning & Management. Different types of users have unique information views—engineers have a detailed, systems/equipment view, while area mechanics have a view that allows them to review all systems they are responsible for in a few minutes. Every user gains significant insights. They all see consistent information, and can share insights and communicate more effectively. This gives ISU a more knowledgeable workforce that results in major productivity and quality gains for the school.

On top of the raw data are calculations that provide ISU with additional levels of operational and business knowledge about the buildings. The system

calculates operating costs for every piece of mechanical equipment, which is summarized at the system and building levels. For each room (or space), the system also measures comfort, combining environmental readings into a single rating for that space. This gives ISU a historical record of cost versus comfort that is used to manage operations, communicate with customers, and inform university management.

The information available from the EnergyWitness system is a catalyst in facilities' continuing effort to better serve the business needs of its customers and reach its goal to be the best land grant institution in the country.

Building Name	Data Points Collected	Gross Square Feet	Year Built	Systems Connected				
				Fire/Smoke/HVAC	Emergency	Electric/Lighting	Alarms/Security	Water/Sewer
Administrative Services Bldg	3,515	47,861	1998	■	■	□	■	□
Agronomy Hall	436	262,568	1952	■	■	■	■	■
Alumni Hall	79	26,162	1907	■	■	□		□
Beardshear Hall	88	104,209	1906	■	■		■	
Bessey Hall	391	167,867	1967	■	■	□	■	
Black Engineering Building	495	117,941	1985	■	■	■	■	■
Roy J. Carver Co-Lab	3,589	53,220	2003	■	■	■	□	■
Catt Hall	79	29,432	1893	■	■	□		□
Communications Building	2,405	57,151	1964	■	□		□	
Coover Hall	260	72,275	1950	■	□	□		■
Design Center	295	163,030	1978	■	□		□	
Durham Center	305	108,200	1989	■	■		□	■
Extension 4-H Building	1,396	23,356	2003	■	■	■		■
Fisher Theater	24	22,267	1973	■	□	■		
Forker Building	483	141,442	1940	■	□		□	■
Gerdin Business Building	8,143	113,800	2003	■	□	■	□	□
Hilton Coliseum	549	228,805	1971	■	□	■	□	□
Hoover Hall	3,336	81,817	2004	■	□	■	□	□
Howe Hall	18,444	192,944	1999	■	■		□	■
Iowa Farm Bureau Pavilion	429	11,011	1918	■		□		
Kildee Hall	9,800	183,973	1965	■	■	■	□	□
Library Storage Facility	128	10,752	1940	■	■	□	■	
Lush Auditorium (part of Kildee)	100			■		□		
Meats Laboratory	361	53,859	1977	■	□		□	
Molecular Biology Building	2,487	203,553	1992	■	■	□	■	
Music Hall	207	62,005	1980	■	■	□		
North Chilled Water Plant	153			■	■	■		
Palmer Building	5,484	34,352	2000	■	□	□	□	■
Parks Library	450	325,488	1925	■	■	□	■	
Pearson Hall	219	79,848	1962	■	□		■	□
Power & Heating Plant	142	103,445	1909	■				
Ross Hall	233	85,079	1973	■	□	□	□	
Scheman Hall	225	123,517	1975	■	□	□	■	□
Science Hall	75	95,086	1916	■	□		□	
Snedecor Hall	100	39,137	1939	■	□			
Stephens Auditorium	357	128,224	1969	■	■	■	□	□
Student Service Building	7,064	34,311	1918	■	□		□	□
Sweeney Hall	404	19,540	1927	■	■	■		■
Town Engineering Building	183	110,452	1971	■	■		□	
Vet Med Power Plant	129			■				
Veterinary Medicine	1,545	444,778	1976	■	■			
Totals	74,587	4,162,757						