



The University of Vermont

# UVM 2017 Summer

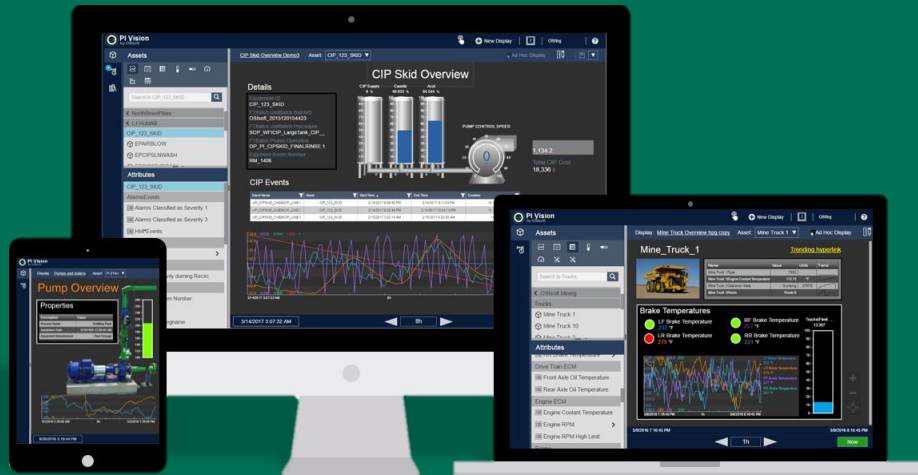


Zach Hurwitz



# OSI Pi Project

- Goal of creating real time displays
- All data organization to easily create these displays



Intro

PI ProcessBook

Pi AF

Excel Add ons

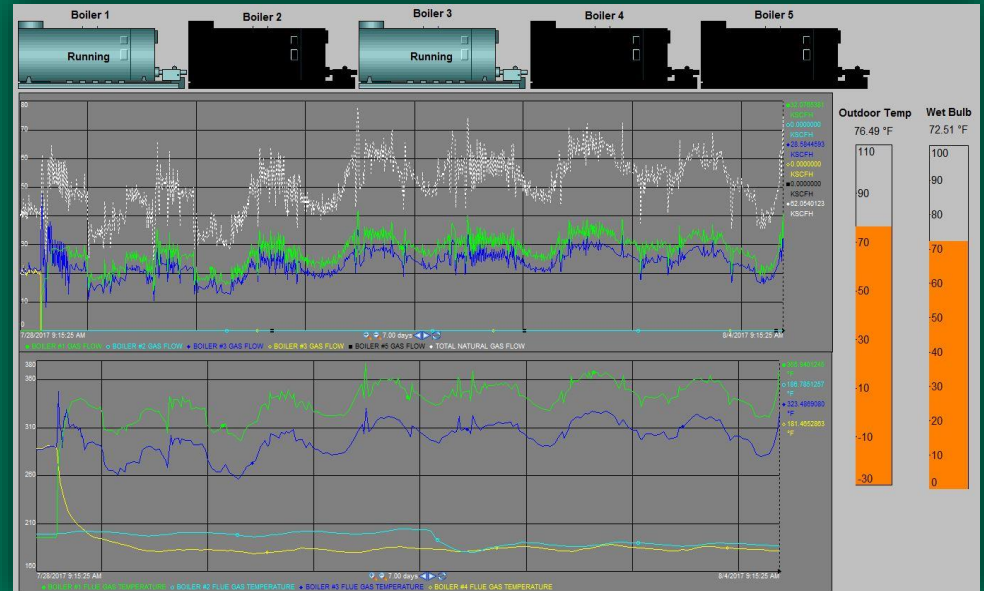
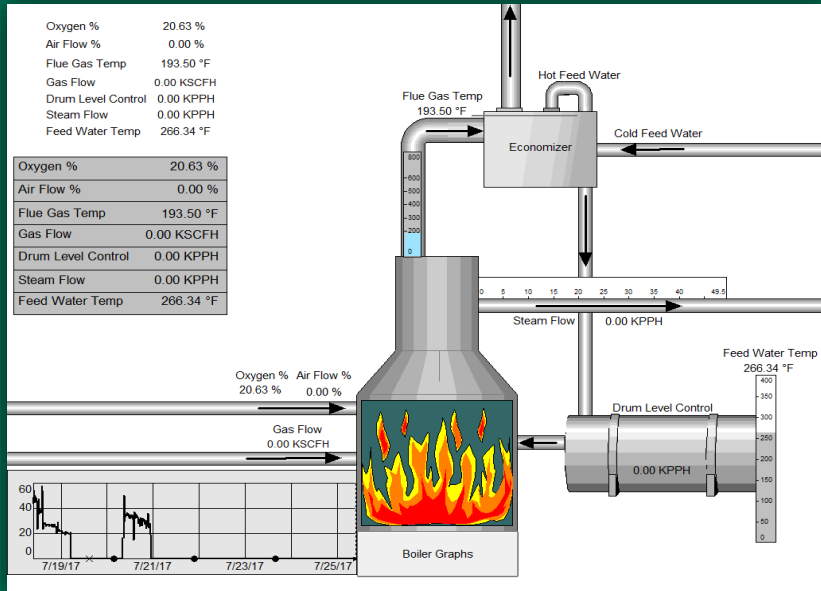
Pi Vision

Refrigerant



# PI ProcessBook

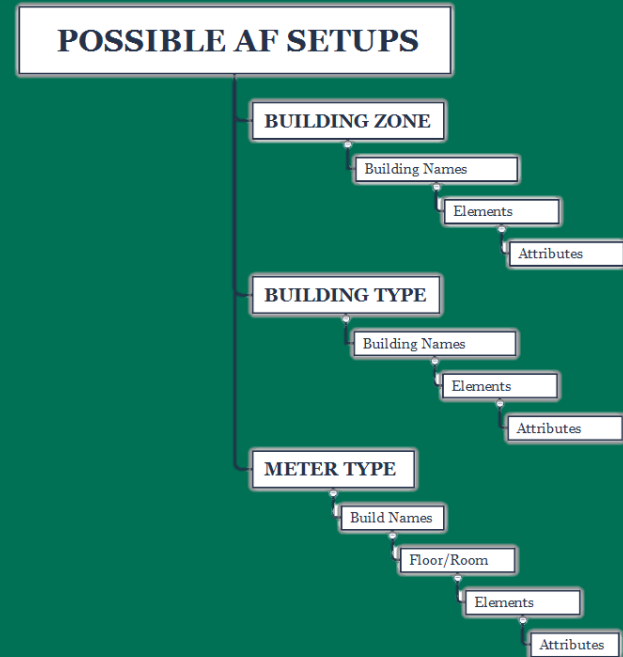
- Allows for the creation of workbooks and displays





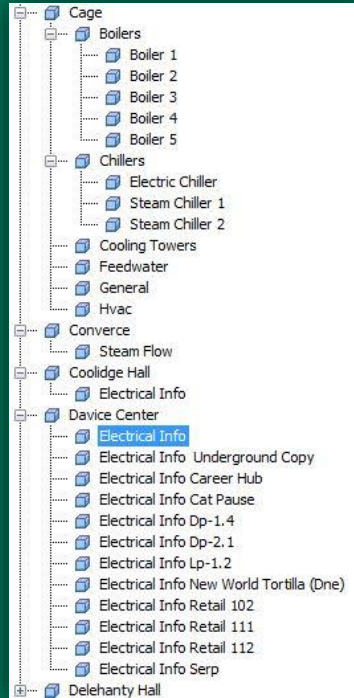
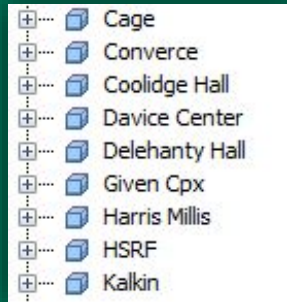
# Pi Asset Framework (AF)

- Grouping of Pi Points based on elements
- Tree structure to easily find points
- Ability of searching for elements





# Pi Asset Framework (AF)



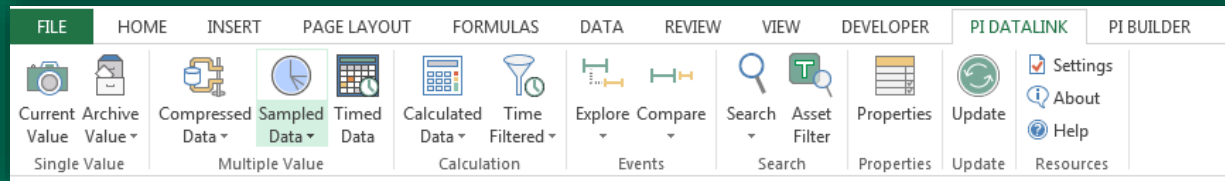
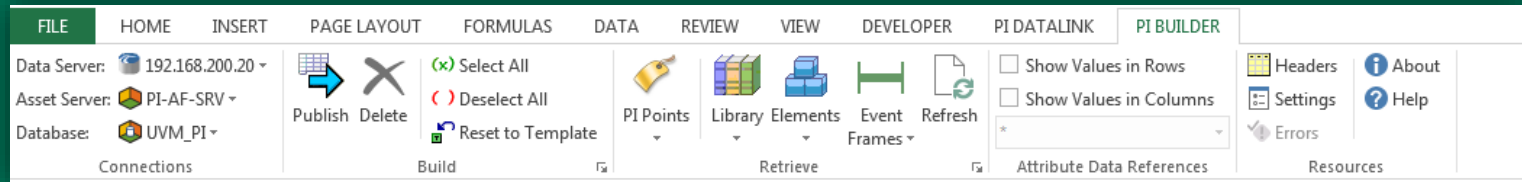
Name	Value
Demand Total	19.7176876068115 kW
Power Factor Total	0.985110640525818 %
Real Energy Total	1079741.875 kWh
Real Power Total	21.0112018585205 kW
Volts A-N	283.121246337891 V
Volts B-N	282.790496826172 V
Volts C-N	283.739990234375 V



# Pi Builder

# Pi Data Link

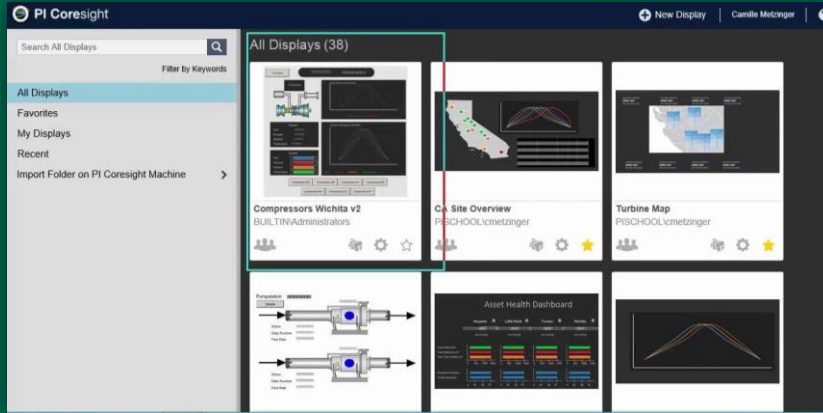
- Manipulation of Pi Points and AF elements using Excel tools
- Name, Location, and Propertie changes
- Allows for Pi Point data to be imported to an Excel spreadsheet





# Pi Vision

- Pi Vision allows for the creation of displays
- Displays are easily able to be shared
- Set security on displays as well as favorites



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# Pi Vision

- Dashboards with real time or archived data
- Additional symbols, images and graph types for better visualization
- Access to certain displays can be set
  - This applies to both who can edit and who can view them.



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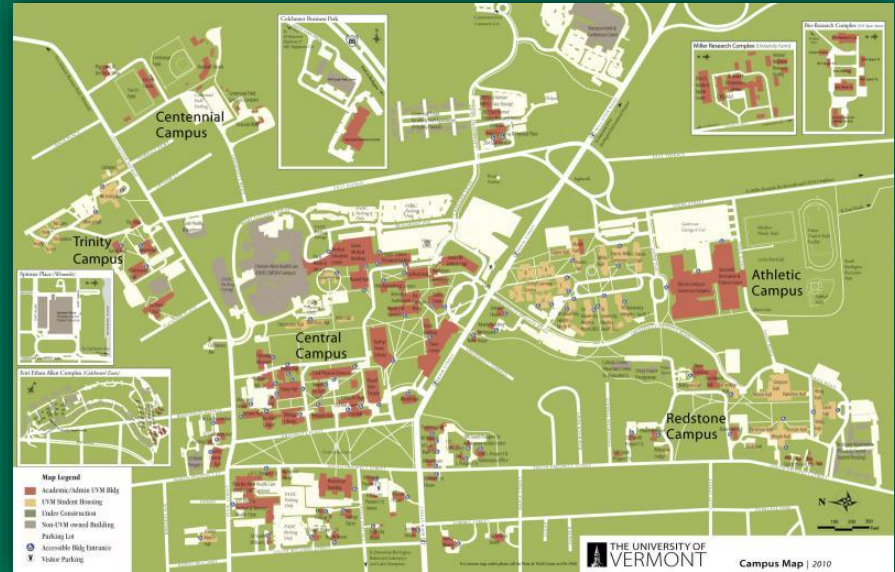
Refrigerant





# UVM Refrigerant Inventory

- EPA's new rule requires more stringent record keeping
- This meant finding all active units around campus



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# UVM Refrigerant

- End list of all active units

	C	D	E	F	G	H	I	J	K	L	M
	Location	Room	Tag #	Maint. Zone	Capacity	Refrigerant name	Charge (pounds of refrigerant)	Manufacturer	Model	Serial	Year
293	Roof	5		MEDPLEX	60000	HCFC 22	7.4375	Trane	2TTA0060A3000AA	2395PB63F	2002
294	MAIL ROOM	MAIL ROOM		TRINITY	60000	R22	7.4375	Trane	2TTA0060DA4000AA	7135PX53F	2007
295	ROOF			TRINITY		R22	7.4	Carrier	38HDC048521	3300X331700	
296	Roof	5		MEDPLEX		R22	7.375	York	AC060X1021A	WMJM025409	
297	Roof	Dinning Hall		TRINITY		R22	7.3	Carrier	48GX-048090501	2601G11175	
298	Outside	East Side		TRINITY		R22	7.3	Carrier	38HDC030331	4100086890	
299	Roof	5		MEDPLEX		R22	7.0625	Mitsubishi Electric	PUL-24GS US	09021-?	
300	OUTSIDE	-	HVU	Davis Zone	-	R410 A	7	Energy Star	4TVB0436G1000BA	13311LRF2F	41456
301	MLK	MLK		Davis Zone		R410 A	7	Trane		4FWB4036G1000BA 13311LRF2F	
302	3rd ROOF			TRINITY	36000	R410A	7	Trane	4TTB4030E1000CA	13042URL5F	2013
303	OUTSIDE	HILLS GARDEN		MEDPLEX		R22	6.9	Sanyo	CL2422	0027644	
304	OUTSIDE	HILLS GARDEN		MEDPLEX		R22	6.9	Sanyo	CL2422	0025244	
305	OUTSIDE	LOADING ZONE		MEDPLEX		R410A	6.625	Mitsubishi Electric	PUYA30NH44	1XU01673A	
306	240	2		MEDPLEX		R12	6.5	Icor	AHA751TAXFWW	04C115252330	
307	102 Elevator System	Ground		Davis Zone	36000	HCFC22	6.3125	Trane	XU13234302A3000AA	44559-03F	
308	Rink South Side	rnk	Dehumids	SOUTH	1200000	R22	6.25	Dumont	DH 2400	DH24BC20E050 8994	
309	-	OUTSIDE	Split unit	Davis Zone	-	R22	6	Ari	2TT133036A1000AA	81446673F	39539
310	Kitchen	1		MEDPLEX		R404 A	6	Copeland	WJWM-0100-TAC-001	14GL0073U	
311	Roof			SOUTH	24000	R410A	6	Trane	TA073D400AA	13253L5EYA	2013
312	Roof			SOUTH	24000	R22	6	Trane	TTA090A400FA	8261Y1PAD	
313	North end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
314	North end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
315	South end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
316	South end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
317	South end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
318	South end of roof	Roof		Davis Zone		R22	5.8	Carrier		38HDC036610	
319	Roof	Outside Unit		MEDPLEX		R410 A	5.7	Sanyo	C3072R	00-32082	
320	Outside Unit	Outside Unit	Munters	SOUTH	360000	134 A	5.625	Mueller	AM30S303G	99A-AM 1520	1999
321	Main Office	Main Office				410A	5.625	Trane	XB13 4TTB3024A1000AA	833541N3F	
322	Main Office	Main Office			30000	410A	5.625	Trane	XB13 4TTB3024A1000AA	833541N3F	
323	Roof			SOUTH		R22	5.5	Carrier	50HU-004--S31HQ	2403G03074	
324	Roof			SOUTH		R22	5.5	Carrier	50HU-004--S31HV	2403G03075	
325	Roof	5		MEDPLEX		R22	5.5	Mitsubishi Electric	PUG18BKB	0-1304550	
326	Roof	Roof		MEDPLEX		R22	5.5	Mitsubishi Electric	PUL18EK	25000133B	
327	Outside	East Side		TRINITY		R22	5.4	Carrier	38HDC036521	500Y37233	
328	184 South Prospect Street	OUTSIDE		SOUTH		R22	5.375	Energy Star	2TTA04265F3000AB	4351Y562F	2004
329	OUTSIDE	OUTSIDE		SOUTH	60000	R22	5.357233	Gibson	JSS50-069KA	JSP080706876	
330	Outside	West Side	AIR CONDIT	TRINITY		R22	5.3	Carrier	38HDC024331	3500X37180	
331	Outside	West Side		TRINITY		R22	5.3	Carrier	38HDC024331	3600Y97000	



# Thanks to all who Helped



Good luck with Pi Mike...