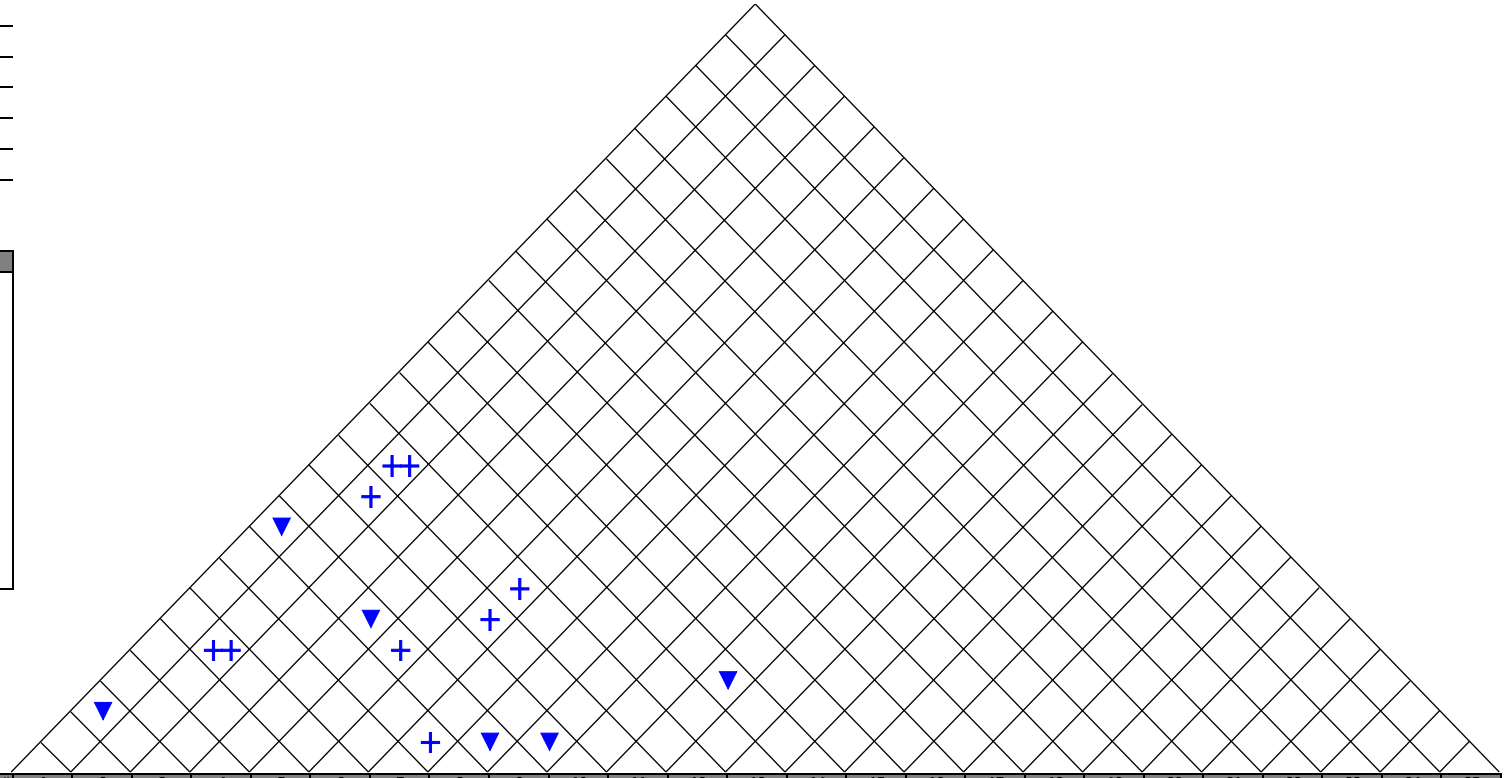
Title: P16315 House of Quality

Author: Thomas Klaben

Date: Rev 1 9/15/2015

Notes: Owner: Thomas Klaben

Legend		
Θ	Strong Relationship	9
O	Moderate Relationship	3
▲	Weak Relationship	1
++	Strong Positive Correlation	
+	Positive Correlation	
−	Negative Correlation	
▼	Strong Negative Correlation	
▼	Objective Is To Minimize	
▲	Objective Is To Maximize	
x	Objective Is To Hit Target	



Row #	Max Relationship Value in Row	Relative Weight	Weight / Importance	Column #	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
				Direction of Improvement: Minimize (▼), Maximize (▲), or Target (x)	▲	▲	▼	x	▲	▲	x	x	▼	▼	▲	x	▼												
				Quality Characteristics (a.k.a. "Functional Requirements" or "Hows") / **Demanded Quality** (a.k.a. "Customer Requirements" or "Whats")	Strain guage Measurable calibrated Range	Strain Guage Life Cycle	Straing Guage Physical Size	Strain Guage Waterproofing (NEMA IP67)	Telemetry System Frequenct Tolerable Range	Telemetry System Life Cycle	Telemtry System Transmission Strength/ Range	Telemetry Data Collection Rate	Total System Development cost	Transmission System Weight	Well Secured Wires	Waterproofed wire connections	Ease of use/instalation Time											

1	9	10.3	9.0	3-4 Strain Gauges Selected to handle problem parameters		Θ	O	Θ		O				O		O	O												
2	9	10.3	9.0	2-3 Telemetry Systems Evaluated Best Picked to Meet Customer Needs+						O		Θ				O	O												
3	9	10.3	9.0	Wireless Data Transmission From Telemetry System					Θ		Θ		O																
4	3	10.3	9.0	Calibration Procedure for Gauges To Confirm Strain Accuracy Prior To Testing	O							O	▲				▲												
5	9	10.3	9.0	System User Manual and Procedure for SPX Technicians	O								▲				Θ												
6	3	1.1	1.0	Universal To Many sized Blades Used by SPX			O																						
7	9	1.1	1.0	Installation Guide to Setp Up on Many Blades used By SPX			▲			O							Θ												
8	3	3.4	3.0	Live Data Interface Display for Process Monitoring By Customer						O																			
9	9	10.3	9.0	Exportable Data to MATLAB for Processing						Θ																			
10	9	3.4	3.0	Minimal Effect on Local Flow from Sensors and Wires		O				▲					Θ	O													
11	9	10.3	9.0	3-4 Strain Guages Collecting Data at a Time on a Blade	▲	▲		▲					▲	Θ		O													
12	3	3.4	3.0	Small Scale Prototype Tank with Data System by IMAGINE RIT									O	▲		▲													
13	3	3.4	3.0	New Data Acquisition System Data Can Sync with Old System Data						O			▲																
14	9	1.1	1.0	Minimal cost of Data acquisition System and Protoype									Θ		O														
15	9	10.3	9.0	Life Cycle of Test Rig Sensors and System Battery Life		Θ				Θ					Θ	Θ													
16																													
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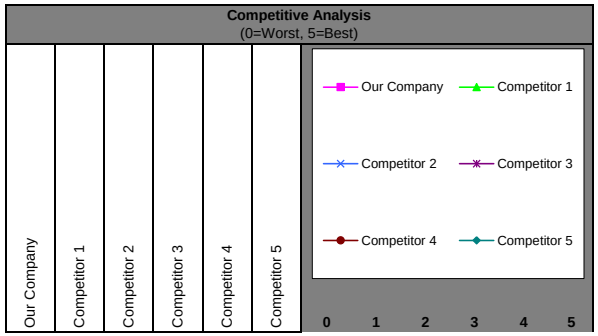
				Target or Limit Value	strain value TBD	3 months	6cm^2	IP67 or better	2.5GHz	12 Hours	50m	150Hz	$5,000	1.5 Kg	3 months	non-sealing nodes	15 minutes												
				Difficulty (0=Easy to Accomplish, 10=Extremely Difficult)	2	8	4	7	3	6	5	6	4	6	8	2	4												
				Max Relationship Value in Column	3	9	3	9	9	9	9	9	9	9	9	9	9												
				Weight / Importance	72.4	206.9	35.6	103.4	93.1	275.9	93.1	124.1	86.2	127.6	127.6	200.0	175.9												
				Relative Weight	4.2	12.0	2.1	6.0	5.4	16.0	5.4	7.2	5.0	7.4	7.4	11.6	10.2												


Competitive Analysis
(0=Worst, 5=Best)
Our Company
Competitor 1
Competitor 2
Competitor 3
Competitor 4
Competitor 5
0
1
2
3
4
5
Our Company
Competitor 1
Competitor 2
Competitor 3
Competitor 4
Competitor 5

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