**INNOVATION - WE ALWAYS FIND A BETTER WAY** 

# INNOVATION MONTHLY RECOGNITION

June 2022



"What can we change to make things / processes / products better?"

# **PROJECT: Hyve Environmental**

**Monitoring System** 

- Dennis Pham
- Steve Wei
- Jay Shenoy
- Myles Jiao

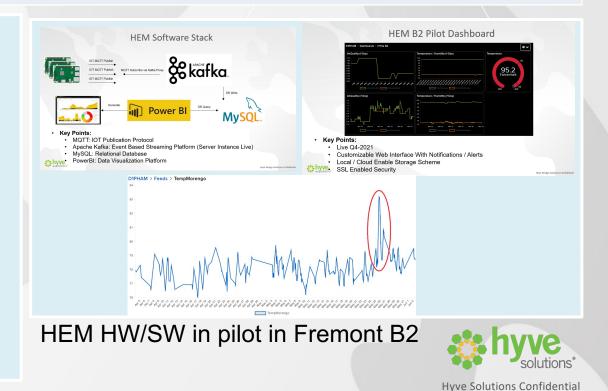




Hyve Environmental Monitoring (HEM) system was designed for logging environmental parameters in our factories, labs & warehouses. Frequently we encounter questions or speculation on if we are testing our products at suitable temperatures, storing them in low humidity, etc. and have not had a way of answering this. Turns out this home-grown system is a great fit for addressing those

	Teamwork	Company Impact	Customer Delight	Comments					
	L	М	М	Prototype & Pilot done, roll out for meeting Eve requirements					
Team Members	Dennis Pham, Steve Wei, Jay Shenoy, Myles Jiao								

- HEM is a HW/SW stack that allows configuration of both the HW and SW components of monitoring
- Data goes into same databases as our shopfloor automation, visualized with same type of PowerBI dashboards
- Temperature, Humidity, Particulate contaminations (PM 0.5, 1, 2.5, 10) and sound levels are the sensors in the first generation
- Uses Raspberry Pi and Kafka/MQTT/MySQL
- Pilot running since Jan 2022
- BOM \$200/node allows a dozen+ nodes/factory for coverage
- Project started prior to Eve, but is able to meet Eve's requirement to monitor environment
- HEM node form factor allows rack mount to track RDT racks through entire test



"What can we change to make things / processes / products better?"

#### **PROJECT:**

Product Design of Hyve Building Block Systems

- Jammy Liu
- Joe Hsiao
- Howard Tseng
- Nico Chen
- Alex Lee



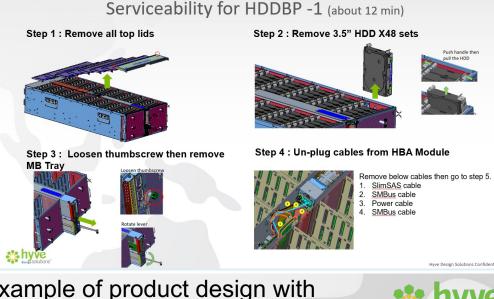


#### Product Design of Hyve Building Block Systems

This nomination is for the ME product design team that does an exceptional job for each project that it is involved in. This allows us to create design concepts quickly and go over multiple what-if scenarios. Hercules is a very complex design, and this team has done an outstanding job on it, but deserves recognition for their entire impressive portfolio.

	Teamwork	Company Impact	Customer Delight	Comments				
	Н	М	Н	Prototype & Pilot done, roll out for meeting Eve requirements				
Team Members	Jammy Liu, Joe Hsiao, Howard Tseng, Nico Chen, Alex Lee							

- Some projects in past 12 months
  - Hercules Storage Server besides being a complex design, team enhanced the serviceability of this system.
  - Atta Snapdragon-in-rack cluster (was very useful in getting Hyve in a good position for this program)
  - Catalina3219 GPU system derived from Catalina2, this is designed to be either PSU or ORv3 powered
  - $\circ$  Pyxis Edge computing server
  - Modified ORv3 system portfolio of 1U 1S/2S/4S/JBOx
- Rapid response: new design concepts usually are done in 1 day (discussion in morning, finished by evening)
- Team also is active in design re-use



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Example of product design with attention to serviceability

"What can we change to make things / processes / products better?"

**PROJECT:** Rapid Financial Modeling for RFx Responses

- Anthony Sciortino
- Peter Pay
- Tom Philips

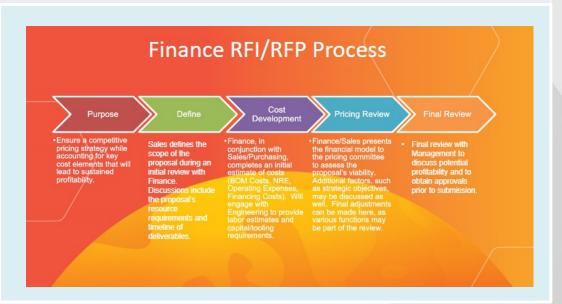




Hyve has for a while sought to ensure that every RFx response we submit goes through a financial viability analysis so that we meet our profitability goals. This has been easier said than done until this recent iteration of financial modeling which is detailed, flexible and rapidly executed. This is one of the contributors to Hyve's recently improving profitability.

	Teamwork	Company Impact	Customer Delight	Comments					
	М	Н	Н	Modeling used for RFx for products, manufacturing and other services. Customer for this is					
Team Members	Anthony Scio	Anthony Sciortino, Peter Pay, Tom Philips							

- Anthony has developed a detailed financial model that ensures consistency (lacking previously) and rigor
- This model is now structured to be very flexible to use in different types of RFI & RFPs
- Anthony incorporates new information in real time during finance review, so the "but this situation is different" factor is not an impediment to rapid analysis
- Peter uses his long Hyve experience to add appropriate guidelines to the model during review
- Very key to the smooth functioning of this process, the finance team responds promptly and ensures this modeling doesn't add more than a day or two to the RFx submission process (this includes managing Tom's crowded calendar)



Financial modeling flow



"What can we change to make things / processes / products better?"

### **PROJECT:** Pure Ramses SLT & RLT Monitoring

- Alex Matias
- Ford Wang
- Billy Santos
- Joe Austin
- Ben Fernando





Phase 1: Customer request to know the status of each testing slots with real time visual monitoring system Phase 2: Add alert every step when it close to designed testing time or over testing time

	Teamwork	Company Impact	Customer Delight	Comments						
	н	Н	Н	The request was come from customer, and we provided the solution also made the improvement on the monitor						
Team Members	Alex Matias,	Alex Matias, Ford Wang, Billy Santos, Joe Austin, Ben Fernando								

- Went thru the detailed requirement of customer RP team
- Alex developed the whole monitoring system to show the real time testing status of each testing slot
- The monitoring system matches the physical locations at B4 testing area, making it easier for testing operators to locate the servers or racks
- Added physical monitors for each area and SLT rack for easy checking
- Added color coding for different status and to show how long the testing step already took

U .oc	RP-TEST-001	RP-TEST-002	RP-TEST-003	RP-TEST-004	RP-TEST-006	RP-TEST-006	RP-TEST-007	RP-TEST-008	RP-TEST-009	RP-TEST-010	RP-TEST-011	RP-TEST-012	RP-TEST-013	RP-TEST-014	RP-TEST-015	RP-TEST-016	RP-TEST-017
45	blank	QBA16N062235029 - SLT 1 - 00:52	QBA16N062235036 - SLT 2 - 05:45	blank	QB16CN062202987 - SLT 2 - 07:20	QB16CN062202506 - SLT 1 - 00:20	TREK5N062270143 - IST - 00:01	blank	blank	QB16CN062202990 - SLT 1 - 00:20	blank	blank	blank	blank	TREK5N062270426 - SLT 2 - 00:27	TREK5N062270428 - SLT 2 - 07.07	blank
44	TRK13N062205616 - SLT 2 - 07:09	QBA16N062235028 - SLT 2 - 05:39	TREK5N062270158 - SLT 1 - 02:29	QBA16N062235035 - SLT 2 - 05:36	QB16CN062202986 - SLT 2 - 07:21	QBA16N062234808 - SLT 1 - 00:15	blank	blank	QB16CN062202561 - IST - 02:03	TREK5N062270287 - SLT 2 - 07:37	TRK13N062205611 - SLT 2 - 07:00	QB16CN062202942 - SLT 2 - 07:59	blank	blank		blank	blank
43	blank	blank	blank	QBA16N062235033 - SLT 2 - 05:52	blank	TREK5N062270084 - IST - 00:51	blank	blank	blank	QB16CN062202981 - SLT 2 - 07:26	TREK5N062270459 - IST - 00:30	blank	blank	blank	blank	blank	blank
42	QB16CN062202694 - SLT 2 - 07:40	TRKB2N062200316 - IST - 01:34	blank	QBA16N062235032 - SLT 2 - 05:49	blank	blank	blank	blank	blank	blank	GB16CN062202985 - SLT 2 - 07:12	TRK13N062205612 - SLT 2 - 07:00	blank	blank	blank	blank	blank
41	blank	TREK5N062270450 - SLT 1 - 00:59	blank		blank	blank	QBA16N062235045 - SLT 2 - 04:35	blank	QBA16N062235097 - SLT 1 - 00.05	blank							
40	blank	QBA16N062235027 - SLT 2 - 05:37	blank	blank	blank	blank	QBA16N062234690 - SLT 1 - 00:31	blank	GB16CN062200370 - SLT 1 - 00:17	TREK5N062270480 - SLT 1 - 00:21	CIBA16N062235090 - IST - 09:56	QBA16N062234975 - SLT 2 - 05:13	blank	QBA16N062235046 - SLT 2 - 04:44	blank	blank	TREK5N062270474 - IST - 01:49
39	QBA16N062234900 - SLT 1 - 01:03	QBA16N062235026 - SLT 2 - 05:39	blank	blank	blank	QB16CN062202756 - IST - 02:00	QB16CN062202445 - IST - 02:19	GB16CN062202953 - SLT 1 - 01:52	blank	blank		TRK13N062205613 - SLT 2 - 06:59	blank	QBA16N062235047 - SLT 2 - 04:42	blank	blank	TREK5N06227047 - SLT 1 - 00:01
34	TREK5N062270443 - SLT 2 - 00:20	GBA16N062234970 - SLT 1 - 00:41	GBA16N062235204 - SLT 1 - 00.05	blank	blank	blank	QB16CN062202219 - SLT 1 - 00:41	GB16CN062202979 - SLT 2 - 07:24	blank	blank	QBA16N062234987 - SLT 2 - 05:07	TREK5N062270495 - SLT 1 - 11:49	blank	QBA16N062235048 - SLT 2 - 04:45	blank	blank	blank
33	QBA16N062235183 - IST - 00:57	GBA16N062234993 - SLT 1 - 00:41	QBA16N062235202 - IPU - 02:04	QBA16N062235031 - SLT 2 - 05:36		blank	QB16CN062200986 - SLT 1 - 00:41	blank	GBA16N062234638 - SLT 1 - 00:58	TREK5N062270471 - IST - 00:30	GB16CN062201296 - IST - 00:30	QBA16N062234976 - SLT 2 - 05:16	QBA16N062235095 - IST - 01:42	blank	TREK5N062270408 - SLT 2 - 07:09	QBA16N062233909 - SLT 1 - 00.03	TREK5N06227047 - SLT 2 - 00.22
32	QBA16N062234962 - SLT 1 - 01:03	GBA16N062234979 - SLT 1 - 00:35	GBA16N062235201 - SLT 1 - 00:05	QBA16N062235002 - SLT 2 - 05:13	blank	blank	GB16CN062202752 - SLT 1 - 00:43	blank	GBA16N062234868 - SLT 1 - 00:59	GB16CN062202956 - SLT 1 - 02:01	QBA16N062234644 - IST - 00:30	GB16CN062202144 - SLT 2 - 02:34	QBA16N062235102 - IST - 01:42	QBA16N062235043 - SLT 2 - 04:50		QBA16N052230329 - SLT 1 - 02:48	TREKSN062270477 - IPU - 03:32
31			TRK13N062205600 - SLT 1 - 00:08	blank	blank	blank	blank	GB16CN062202978 - SLT 2 - 07:23	blank	GB16CN062202957 - SLT 1 - 02:02	GBA16N062234986 - SLT 2 - 05:08	QBA16N062234977 - IST - 10:28	QBA16N062235185 - IST - 00:28	GB16CN062202969 - SLT 2 - 07:22	blank	QB16CN062202163 - SLT 2 - 04:41	blank
30	TREK5N062270455 - SLT 2 - 00:18	QBA16N062234981 - SLT 2 - 05:21		QBA16N062235010 - SLT 2 - 05:13	blank	blank	blank	blank	QB16CN062202705 - SLT 2 - 02:34	QBA16N052234830 - SLT 2 - 07:43	GB16CN062202191 - SLT 1 - 00:42	QBA16N062234732 - IST - 00:06	QBA16N062235186 - IST - 00:28	blank	blank	QBA16N062235098 - IPU - 02:01	TREK5N06227047 - SLT 2 - 00:31
29	QBA16N062234978 - SLT 1 - 01:02	GBA16N062234968 - SLT 1 - 00:34	blank	QBA16N062235195 - IST - 01:40	blank	blank	QB16CN062201775 - SLT 1 - 00:41	GB16CN062202952 - SLT 1 - 01:57	blank	TREK5N062270481 - SLT 1 - 00:21	blank	GB16CN062202541 - SLT 1 - 02:44		QBA16N062235044 - SLT 2 - 04:42	TREK5N062270405 - SLT 2 - 07:09	blank	TREK5N062270468 - SLT 2 - 00:31
28	QB16CN062202040 - IST - 01:21	GBA16N062233585 - SLT 2 - 02:35	GBA16N062235203 - IST - 01:58	QBA16N062235194 - IST - 01:40	blank	blank	QBA16N062234541 - SLT 1 - 00:35	blank	GB16CN062202993 - SLT 1 - 01:58	blank	GBA16N062232188 - SLT 1 - 00.46	QBA16N062235116 - IST - 00:29	blank	QBA16N062235088 - IST - 00:27	blank	QB16CN062202962 - SLT 2 - 06:51	TREK5N062270472 - IPU - 02:04
27	QBA16N062234964 - SLT 1 - 01:02	QBA16N062234992 - IST - 10:56	blank	QBA16N062235193 - IST - 01:39	blank	blank	GBA16N062234460 - SLT 1 - 00:34	GB16CN062202937 - IST - 00:20	GB16CN062202992 - SLT 1 - 01:59	QBA16N052230701 - SLT 2 - 06:41	GBA16N062234997 - SLT 2 - 05:08	QBA16N062234799 - SLT 1 - 00.55	QBA16N062235184 - IST - 00:29	QBA16N062235087 - IST - 00:26	QBA16N062235021 - SLT 1 - 00 29	blank	TREK5N062270473 - SLT 1 - 00:04
26	QB16CN062201318 - IST - 01:15		blank	QBA16N062235092 - IPU - 09:54	blank	QBA16N062234965 - SLT 1 - 00:32	QB16CN062202757 - SLT 1 - 00:42	blank	GB16CN062202988 - SLT 1 - 01:58	GB16CN062202989 - SLT 1 - 02:02	blank	blank	blank	QBA16N052229750 - SLT 2 - 07:38		QBA16N062235099 - SLT 1 - 00.01	blank
25	QBA16N062235111 - IST - 00:58	QBA16N062235191 - IST - 00:26	GBA16N062235005 - SLT 2 - 05:15	blank	blank		QBA16N062234666 - SLT 1 - 00:36	QB16CN062202938 - IPU - 03:50	blank	blank	blank	blank	QBA16N062234998 - IST - 10:26	QBA16N062235089 - IST - 00:26	QBA16N062235023 - SLT 1 - 00.28	QBA16N062235025 - IST - 01:54	TREK5N06227046 - SLT 1 - 00:07
24	QBA16N062235110 - IST - 00:58	GBA16N062234969 - SLT 1 - 00:32	GBA16N062235187 - IST - 00:48	QBA16N062235196 - IST - 01:39	blank	blank	blank	TREK5N062270483 - SLT 2 - 00:47	GB16CN062202995 - SLT 1 - 01:59	GB16CN062202960 - IST - 00:20	QBA16N062235113 - IST - 00:21	TRK13N062205623 - SLT 2 - 07:11		QB16CN062202970 - SLT 2 - 07:07	QBA16N062235024 - SLT 1 - 00:21	TREK5N062270358 - SLT 2 - 03:22	TREK5N06227046 - SLT 1 - 00:06
23	QBA16N062235109 - IST - 00:58	TRK16N062207079 - SLT 2 - 02:34	QB16CN062202436 - SLT 1 - 00:15	blank	blank	QB16CN062202991 - IST - 02:25	blank	blank	blank	blank	blank	blank	QBA16N062234999 - SLT 2 - 05:13	QBA16N062235206 - SLT 1 - 00:20	QBA16N062235020 - SLT 1 - 00:18	QB16CN062202314 - SLT 2 - 04:48	QB16CN06220290 - SLT 1 - 01:11
22	QBA16N062234960	QBA16N062234995 - SLT 2 - 05:21	GBA16N062234859 - SLT 1 - 00.09	QBA16N062235066 - IST - 00:43	blank	blank	blank	QB16CN062202951 - SLT 1 - 01:55	blank	GB16CN062201702 - SLT 2 - 05:38	QBA16N062234996 - SLT 2 - 05:10	TREK5N062270282 - SLT 2 - 02 35	GB16CN062202955 - SLT 2 - 07:04	QBA16N062235205 - SLT 1 - 00:17	QBA16N062235011 - IPU - 02:29	blank	QB16CN062202680 - SLT 2 - 05:41



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## **PROJECT:** Manufacturing Data

**Collector Site** 

**INNOVATION** 

- Alex Matias
- Steve Wei



#### Manufacturing Data Collector Site

Web (PHP) based portal for MFG reporting, data logging and quick queries of relevant manufacturing data for all sites. This site was created back in **2014** and has been maintained by Alexander Matias since.

	Teamwork	Company Impact	Customer Delight	Comments
	Μ	Н	Н	This site is used daily by many cross-functional teams to pull relevant manufacturing data for internal and external use.
Team Members	Alex Matias,	Steve Wei		
<ul> <li>Production Re</li> <li>Pure Ration Re</li> <li>Rack Cyclosed</li> <li>MAC Re</li> <li>Asset Fillion</li> <li>Host Date</li> <li>Custom Report</li> <li>Lost Cortion</li> <li>GI Chect</li> </ul>	/ RLT / IST st Time Dashb porting mses SLT / RLT cle Time port e Reporting ta Reporting rts nnection Metr	Γ		ID       Started (UTC)       Finished (UTC)       Status       Note         102:05:05:00       022:06:28 11:15:26       025       025