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# San-I-Pak World Health Systems

## Record Collection and Regulatory Reporting

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**AVEVA**



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# ABOUT US

- In 1978, San-I-Pak started in Tracy, California as **the first clean and green alternative** to incineration
- Our systems allow hospitals to help treat and dispose of several waste streams:



- Our technology also produces **aggressive cost savings** while reducing the hospital's carbon footprint as part of our mission to help hospitals gain **environmental and operational sustainability**

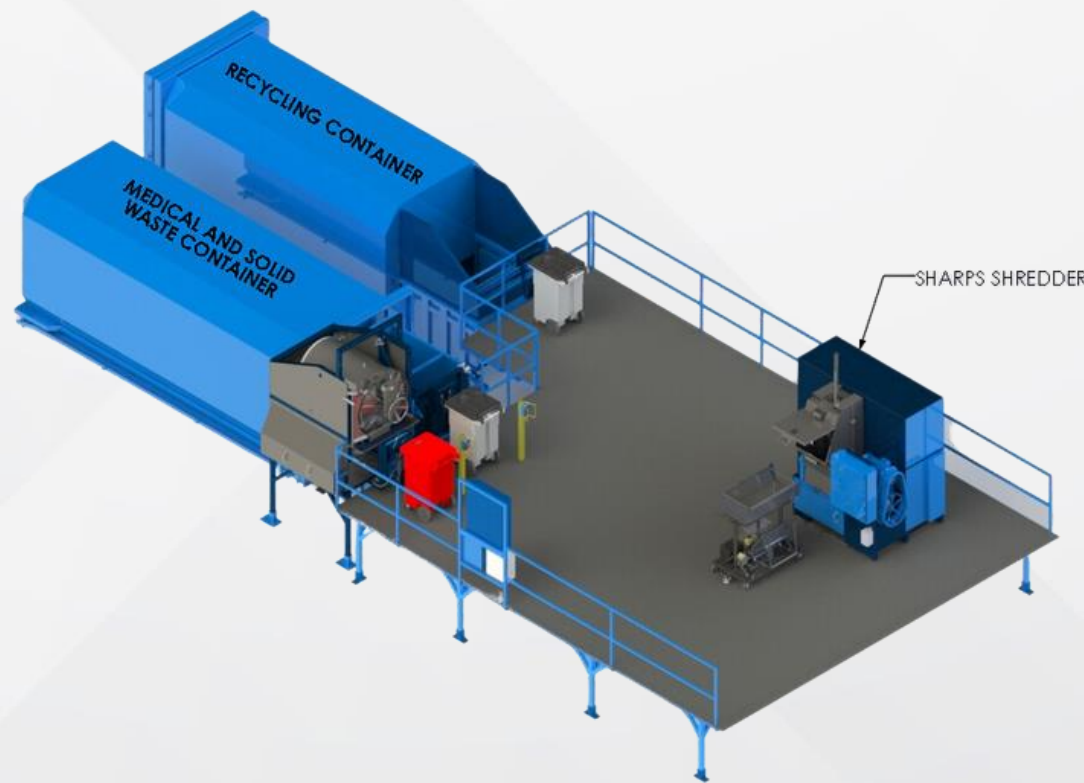




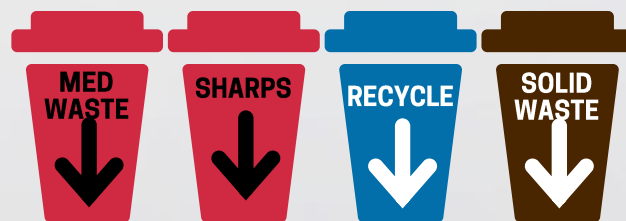
# BENEFITS OF OUR EQUIPMENT



## Environmental & Operational Sustainability



4 WASTE STREAMS, 1 FOOTPRINT



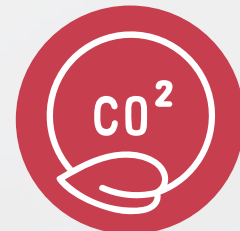
Your **ALL-IN-ONE** Treatment Solution



## Financial Savings



- Most systems have a 5-year payback



## Carbon Footprint Reduction

- **500 Bed Hospital in Washington State**
  - Reduced carbon footprint by 25 metric tons per year
- **Hospital in Southern California**
  - Reduce carbon footprint by 360.1 metric tons per year



## Sustainability

- “Aside from tremendous cost savings, year over year...having a reliable and safe system that is environmentally responsible... helps us contribute to the reduction of traffic congestion, and reduction of carbon emissions by eliminating over 1000 truck pick ups a year from all of our locations.”

**Isaac Garcia**, *Director of Patient Services at Boston Children's Hospital.*



**Boston Children's Hospital**

# REGULATORY AGENCIES – OPPORTUNITY FOR IMPROVEMENT



**Regulatory agencies require that all equipment for onsite medical waste treatment include the following in a report:**

- ✓ Cycle Time
- ✓ Start Time
- ✓ End Time
- ✓ Duration of Cycle
- ✓ Vacuum Phase Duration
- ✓ Sterilization Phase Duration
- ✓ Temperature
- ✓ Pressure

The system at the time included dial-up modem to access records stored in the PLC, and to be able to troubleshoot our units. Some facilities allowed us on their network, and we began using a VPN to connect via a router.

- Records were stored in the PLC, and a thermal printer was used as redundancy.
- The access to the hospital's network lasted only a few months.
- We spent over a year trying to gain approval to access a government hospital's network, with no success.
- Vision of creating a system that we could keep away from the hospital's network and allow us to access cycle records for regulatory agencies, while simultaneously gaining access to the autoclave for troubleshooting.

# CREATING SAN-I-PAK NET™

- Met Michael Hilligas in 2018 and explained to him our vision and what we wanted to accomplish.
- Michael to built a mockup of what the system would look like and how it would work before we made any commitments.
- After a couple of weeks, the skeleton of San-I-Pak Net was born.
- After Michael's presentation, I made the commitment and asked Michael to go ahead and build the system for us.
- In 2019, all of our new equipment came with San-I-Pak Net.



# VALUE OF SAN-I-PAK NET™ 5 YEARS LATER

01

The system Michael built allowed us to push the cycle records into the cloud for our customers to access the data from any internet enabled device.

- Eliminated dial-up modems, or the need to connect to a hospital's network, and printers.
- Allowed us to give access to regulatory agencies, with a hospital's permission so that the regulatory agencies could download the cycle records data themselves.





# VALUE OF SAN-I-PAK NET™ 5 YEARS LATER

## 02

The system also allowed us to connect to our units remotely, practically from anywhere in the world for troubleshooting purposes.

- Allowed us to help our customers diagnose and troubleshoot most problems remotely.
- Reduced our operational costs significantly because there was no longer a need to send a service technician to diagnose and troubleshoot the problem.
- Some hospitals can spend up to \$10,000 a day shipping their medical waste offsite; having their equipment up and running within minutes is very critical.





# VALUE OF SAN-I-PAK NET™ 5 YEARS LATER

## 03

Some regulatory agencies wanted minute by minute, cycle data.

- Michael worked with the base we had with San-I-Pak Net and created our first minute by minute cycle data report; only California and Ohio have requested these reports.



# VALUE OF SAN-I-PAK NET™ 5 YEARS LATER

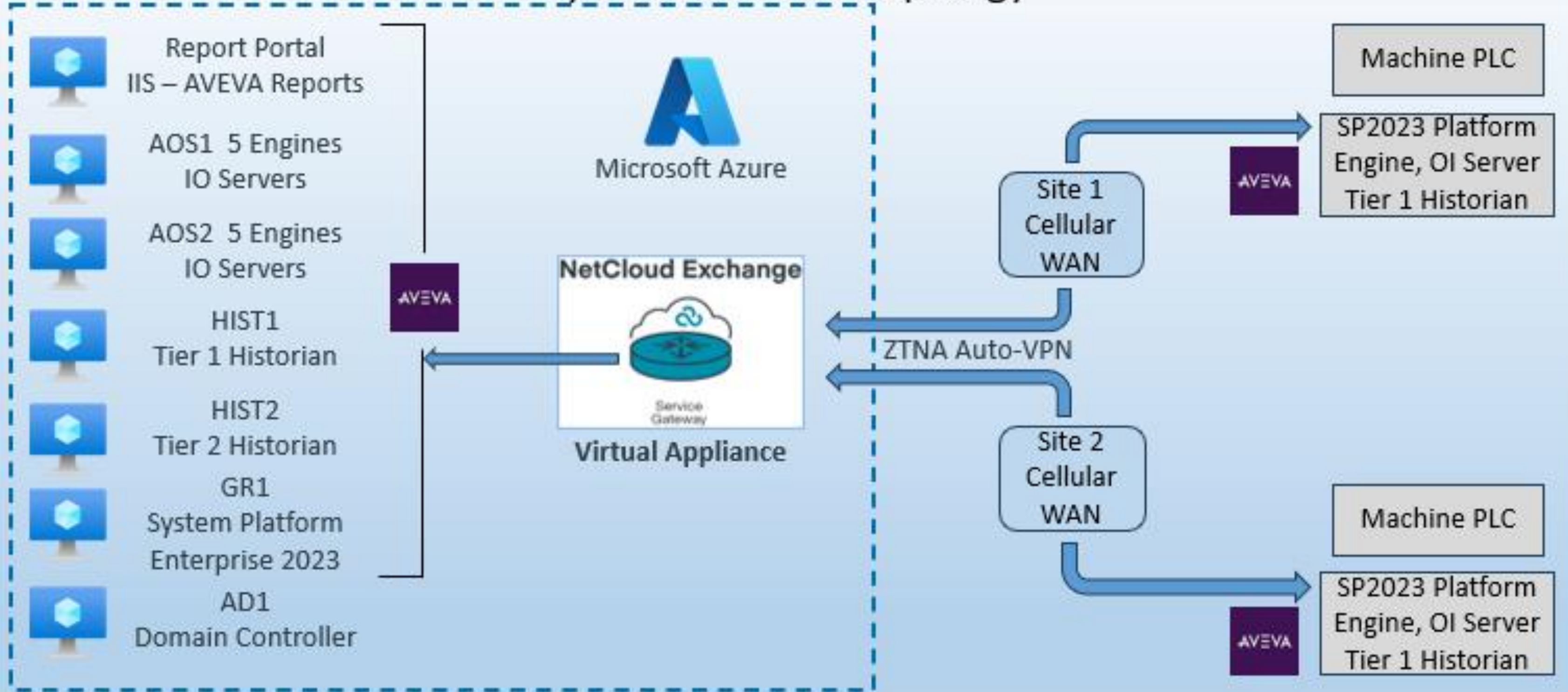
## 04

The Customer Portal is now being created and will go live in 2024. It will include all the following information:

- Cycle Records Information
- Accounting Information
- Service Maintenance Records
- Validation Testing Records
- All Project Related Information (Drawings, Approvals)



# System Network Topology



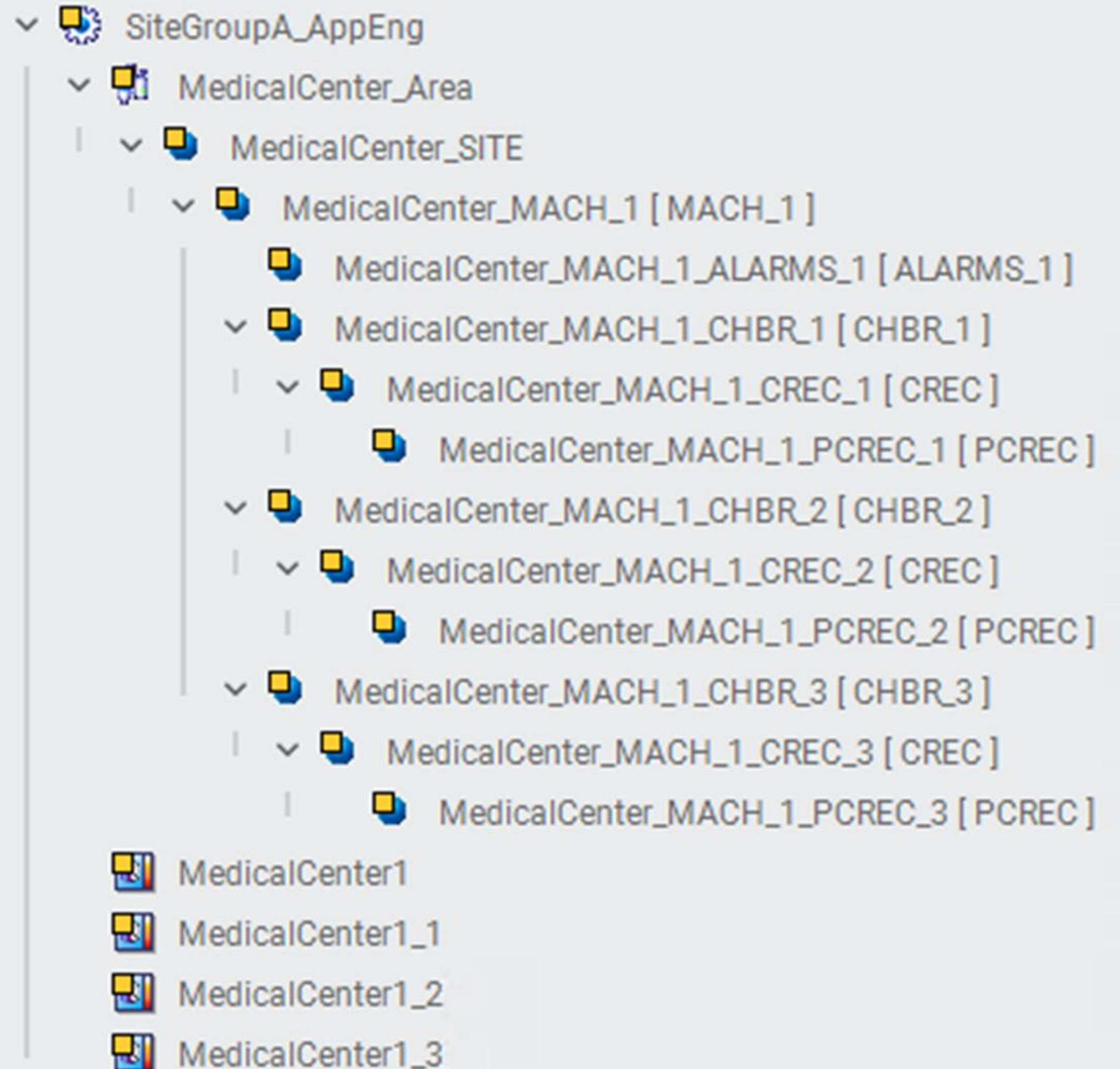


# TYPICAL MACHINE OBJECT STRUCTURE

- **SITE:** Name, Location and Business Info
- **MACH:** Machine Level IO, Status & Machine Type
- **ALARMS:** All Alarms for the Site
- **CHBR:** Chamber Level IO and Status
- **CREC:** Reads raw data from PCREC, structures the data and inserts it into the Tier 1 Historian
- **PCREC:** Triggers a read from the PLC, Signal the CREC object that new data has arrived for analysis

## NOTE:

All IO is scripted and is defined by the object structure. This allows for the calculation of memory offsets and the rapid creation of new sites.





# TYPICAL CYCLE RECORD REPORT

## sanipak CYCLE RECORD REPORT

ACC NUM   
 MODEL NUM   
 SITE NAME  MACHINE  CHAMBER  START DATE  END DATE   
 Exec Report Gen PDF Gen Excel

### CHAMBER 1

Cycle Number	Operator	Source Area	Cycle Date	Start Time	End Time	Duration	Cycle Weight	Steam Phase Duration	Vacuum Phase Duration	Vent Down Duration	Vacuum Phase Level	Steril Phase Start TEMP	Steril Phase Mid TEMP	Steril Phase End TEMP	Steril Phase P #	Steril Time MIN
9511	1	0	2023-09-03	16:34:11	17:29:24	00:55:13	90	00:42:06	00:07:56	00:03:08	21	282	287	287	37	35
9512	1	0	2023-09-04	01:00:35	02:03:38	01:03:03	109	00:45:17	00:09:00	00:03:25	21	281	287	286	37	35
9513	1	0	2023-09-04	05:01:27	06:02:34	01:01:07	192	00:45:58	00:08:18	00:04:10	21	280	287	286	37	35
9514	1	0	2023-09-04	13:19:37	14:24:06	01:04:29	138	00:46:29	00:09:11	00:04:10	21	280	287	286	37	35
9515	0	0	2023-09-04	14:48:19	15:42:51	00:54:32	92	00:42:27	00:07:30	00:02:51	21	281	286	286	37	35
9516	1	0	2023-09-04	16:56:39	17:59:20	01:02:41	162	00:45:37	00:08:20	00:04:27	21	279	287	286	37	35

### CHAMBER 2

Cycle Number	Operator	Source Area	Cycle Date	Start Time	End Time	Duration	Cycle Weight	Steam Phase Duration	Vacuum Phase Duration	Vent Down Duration	Vacuum Phase Level	Steril Phase Start TEMP	Steril Phase Mid TEMP	Steril Phase End TEMP	Steril Phase P #	Steril Time MIN
8815	1	0	2023-09-03	15:12:22	16:15:31	01:03:09	171	00:47:29	00:08:38	00:03:54	22	280	287	287	37	35
8816	1	0	2023-09-04	01:01:00	02:01:17	01:00:17	140	00:45:12	00:08:47	00:01:52	22	280	287	286	37	35
8817	1	0	2023-09-04	05:01:44	05:58:47	00:55:03	94	00:42:58	00:08:30	00:01:29	22	281	287	287	37	35
8818	1	0	2023-09-04	13:19:46	14:23:29	01:03:39	156	00:47:36	00:09:04	00:02:28	22	279	286	286	37	35
8819	1	0	2023-09-04	14:51:58	15:47:52	00:55:54	146	00:44:55	00:08:37	00:02:40	23	280	287	286	37	35
8820	1	0	2023-09-04	17:07:20	18:04:59	00:57:39	113	00:44:16	00:08:45	00:02:06	22	281	286	287	37	35

### CHAMBER 3

Cycle Number	Operator	Source Area	Cycle Date	Start Time	End Time	Duration	Cycle Weight	Steam Phase Duration	Vacuum Phase Duration	Vent Down Duration	Vacuum Phase Level	Steril Phase Start TEMP	Steril Phase Mid TEMP	Steril Phase End TEMP	Steril Phase P #	Steril Time MIN
8012	1	0	2023-09-03	12:53:21	13:53:44	01:00:23	90	00:45:59	00:08:03	00:02:50	21	281	287	287	37	35

### CHAMBER 4

Cycle Number	Operator	Source Area	Cycle Date	Start Time	End Time	Duration	Cycle Weight	Steam Phase Duration	Vacuum Phase Duration	Vent Down Duration	Vacuum Phase Level	Steril Phase Start TEMP	Steril Phase Mid TEMP	Steril Phase End TEMP	Steril Phase P #	Steril Time MIN
8875	1	0	2023-09-03	15:13:07	16:12:33	00:59:26	138	00:46:17	00:07:20	00:03:26	23	280	287	287	37	35
8876	1	0	2023-09-04	01:01:12	02:03:00	01:01:48	133	00:46:24	00:08:11	00:02:15	23	280	287	286	37	35
8877	1	0	2023-09-04	05:32:09	06:45:48	01:13:39	138	00:49:34	00:16:19	00:02:02	21	283	287	287	37	35
8878	1	0	2023-09-04	13:20:01	14:17:40	00:57:44	128	00:44:58	00:07:49	00:01:47	23	281	286	285	37	35
8879	1	0	2023-09-04	14:24:51	15:47:52	01:23:01	6	00:53:12	00:17:46	00:02:49	20	281	287	287	37	35
8880	1	0	2023-09-04	17:16:10	18:12:31	00:56:21	95	00:44:46	00:07:15	00:02:12	23	281	287	286	37	35

### CHAMBER 5

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

### CHAMBER 6

*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

### SUMMARY

TotalCycles	TotalWeight	Operator	TotalCycles	TotalWeight	SourceArea	TotalCycles	TotalWeight	ChamberNUM	TotalCycles	TotalWeight
19	2329	0	1	92	0	19	2329	1	6	783
		1	18	2237				2	6	820
								3	1	90
								4	6	636





# DETAIL VIEW – CYCLE RECORD REPORT

## **CYCLE RECORD REPORT**

Medical Center				Los Angeles, CA				MODEL NUM:				ACC NUM:				
SITE NAME		MACHINE	CHAMBER	START DATE		END DATE										
		1	1	9/4/2023 12:00:00 AM		9/5/2023 12:00:00 AM										
Cycle Number	Operator	Source Area	Cycle Date	Start Time	End Time	Duration	Cycle Weight	Steam Phase Duration	Vacuum Phase Duration	Vent Down Duration	Vacuum Phase Level	Steril Phase Start Temp	Steril Phase Mid TEMP	Steril Phase End TEMP	Steril Phase PSI	Steril Time MIN
9511	1	0	2023-09-03	16:34:11	17:29:24	00:55:13	90	00:42:06	00:07:56	00:03:08	21	282	287	287	37	35
9512	1	0	2023-09-04	01:00:35	02:03:38	01:03:03	109	00:45:17	00:09:00	00:03:25	21	281	287	286	37	35
9513	1	0	2023-09-04	05:01:27	06:02:34	01:01:07	192	00:45:58	00:08:18	00:04:10	21	280	287	286	37	35
9514	1	0	2023-09-04	13:19:37	14:24:06	01:04:29	138	00:46:29	00:09:11	00:04:10	21	280	287	286	37	35
9515	0	0	2023-09-04	14:48:19	15:42:51	00:54:32	92	00:42:27	00:07:30	00:02:51	21	281	288	286	37	35
9516	1	0	2023-09-04	16:58:39	17:59:20	01:00:41	162	00:45:37	00:08:20	00:04:27	21	279	287	286	37	35

## **CYCLE SUMMARY REPORT**

Medical Center				Los Angeles, CA				ACC NUM:				
SITE NAME		MACHINE	START DATE		END DATE							
		1	9/4/2023 12:00:00 AM		9/5/2023 12:00:00 AM							
BY MACHINE		BY OPERATOR				BY SOURCE AREA				BY CHAMBER		
Total Cycles	Total Weight	Operator	Total Cycles	Total Weight	Source Area	Total Cycles	Total Weight	Chamber	Total Cycles	Total Weight		
19	2329	0	1	92	0	19	2329	1	6	783		
		1	18	2237				2	6	820		
								3	1	90		
								4	6	636		



# Questions?

Please wait for the microphone.  
State your name and company.



# Please remember to...

Navigate to this session in the mobile app to complete the survey.



# Thank you!



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