San-I-Pak World Health Systems

Record Collection and Regulatory Reporting

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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:

![Image of 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**

**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.

[Image of equipment with icons for waste streams and sustainability]
REGULATORY AGENCIES – OPPORTUNITY FOR IMPROVEMENT

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.

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
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.
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.
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.
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.
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)
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

### CHAMBER 1

<table>
<thead>
<tr>
<th>Cycle Number</th>
<th>Operator</th>
<th>Source Area</th>
<th>Cycle Date</th>
<th>Start Time</th>
<th>End Time</th>
<th>Duration</th>
<th>Cycle Weight</th>
<th>Means Phase Duration</th>
<th>Vacuum Phase Duration</th>
<th>Vent Down Duration</th>
<th>Vacuum Phase Level</th>
<th>Martr Piece Mill Start Temp</th>
<th>Martr Piece Mill End Temp</th>
<th>Martr Piece Mill End Straps</th>
<th>Martr Piece P/U</th>
<th>Martr Piece Mill Time Min</th>
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<td></td>
<td>02/22/2023</td>
<td>14:38:12</td>
<td>16:42:30</td>
<td>1:44:18</td>
<td>92</td>
<td></td>
<td></td>
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<td>14:38:12</td>
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<td>92</td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### CHAMBER 2

- Similar table format as Chamber 1 with data for each cycle.

### CHAMBER 3

- Similar table format as Chamber 1 with data for each cycle.

### CHAMBER 4

- Similar table format as Chamber 1 with data for each cycle.

### CHAMBER 5

- Similar table format as Chamber 1 with data for each cycle.

### CHAMBER 6

- Similar table format as Chamber 1 with data for each cycle.

### SUMMARY

- Total Cycles: 19, Total Weight: 2329
- Operator 1: 1 Cycle, Total Weight: 92
- Source Area: 0
- Chamber Number: 1, Total Cycles: 6, Total Weight: 783
- Chamber Number: 2, Total Cycles: 6, Total Weight: 820
- Chamber Number: 3, Total Cycles: 6, Total Weight: 90
- Chamber Number: 4, Total Cycles: 6, Total Weight: 636
# CYCLE RECORD REPORT

## Medical Center: Los Angeles, CA

<table>
<thead>
<tr>
<th>CYCLE NUMBER</th>
<th>DATE</th>
<th>START TIME</th>
<th>END TIME</th>
<th>DURATION</th>
<th>CYCLE WEIGHT</th>
<th>STEAM PHASE</th>
<th>VACUUM PHASE</th>
<th>VENT DOWN</th>
<th>VACUUM PHASE</th>
<th>STERIL PHASE</th>
<th>STERIL PHASE</th>
<th>STERIL PHASE</th>
<th>STERIL TIME</th>
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<td>279</td>
<td>287</td>
<td>286</td>
<td>37</td>
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# CYCLE SUMMARY REPORT

## Medical Center: Los Angeles, CA

<table>
<thead>
<tr>
<th>SITE NAME</th>
<th>MACHINE</th>
<th>START DATE</th>
<th>END DATE</th>
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<tbody>
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<table>
<thead>
<tr>
<th>BY MACHINE</th>
<th>OPERATOR</th>
<th>SOURCE AREA</th>
<th>CHAMBER</th>
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<td>Total Weight</td>
<td>Total Cycles</td>
<td>Total Weight</td>
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<tr>
<td>Total Cycles</td>
<td>Total Weight</td>
<td>Total Cycles</td>
<td>Total Weight</td>
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<td>1</td>
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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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