

CASE STUDY

PepsiCo Plant - Israel

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Intelligent adiabatic **Smart Cooling™** system reduces electricity consumption by 24% and boosts cooling capacity by 18% on average at PepsiCo's Plant in Israel.



SOLUTION

With a total cooling capacity of 563.7 kW, the facility is equipped with a Trane RTAF155 chiller, which provides most of the indoor climatization needs at the PepsiCo plant.

Smart Cooling™ was the natural choice to boost PepsiCo's cooling equipment efficiency, ensuring more cooling power and lower electric energy consumption.

Smart Cooling™ equips chillers around the world with the latest generation in adiabatic pre-cooling systems. **Smart Cooling's™** PRO 10 system boosts cooling performance while protecting the condensers from harm.

RESULTS

After the installation of the adiabatic **Smart Cooling™** system an increase of 18% in cooling capacity and a drop 24% in electricity consumption, on average, were recorded. The cooling equipment now operates under normal load, with shorter compressor operating cycles, even during extreme heat.

Smart Cooling™ has ensured safer, cheaper and more sustainable cooling operations at PepsiCo.

SHAKED, TESTED AND PROVEN.

Efficacy results were tested, analyzed and validated. Tests were performed using **BTU** liquid flow and temperature meter **RIF600** and energy monitoring equipment **Eniscope** analytics.

CUSTOMER

PepsiCo is a leading food and beverages Fortune 500 company, employing a quarter of a million staff and with the vision of leading sustainable production around the world, under the Winning with Purpose program. PepsiCo generated more than USD 67 billion in net revenue in 2019.

CHALLENGE

Israel – During Jericho's long sweltering summers ambient air temperature can reach upwards of 55°C.

Jericho experiences significant seasonal variation in humidity levels. With considerable temperature variations between day and night and both arid and muggy weather conditions.

At PepsiCo, the challenge was to improve chiller performance while ensuring safety and reliability of cooling operations during periods of extreme heat.



COOLING CAPACITY INCREASED BY

↑ 18%

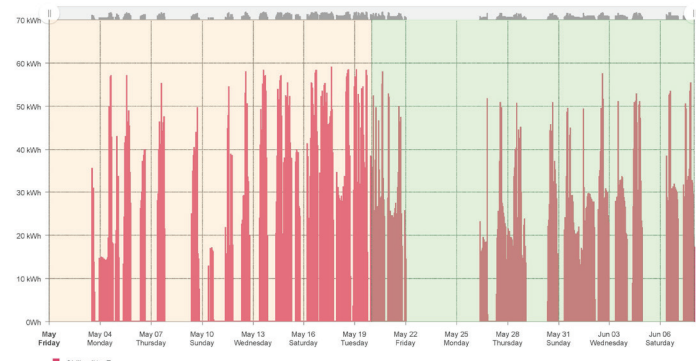


ELECTRICITY CONSUMPTION REDUCED BY

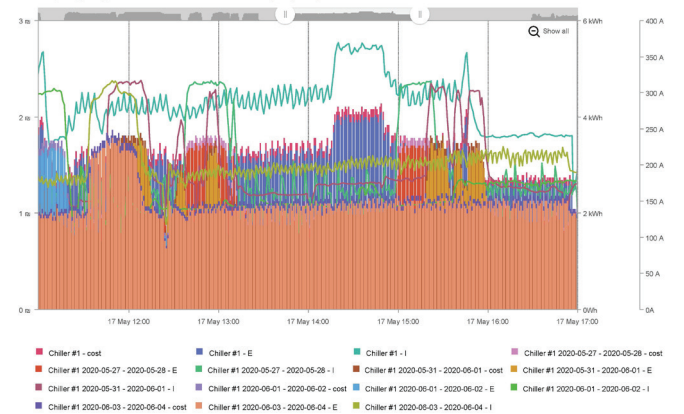
↓ 24%

ROI 18 MONTHS

Pepsi Co.
Chiller #1, 01 May 2020 - 07 Jun 2020 - 15 minutes, System



Pepsi Co. - 250 ML Production (11:00 am - 06:00 pm)
Chiller #1, 17 May 2020 - 17 May 2020 - 1 minute, System, comparing data from 05/27/2020 to 05/27/2020, comparing data from 05/31/2020 to 05/31/2020, comparing data from 06/01/2020 to 06/01/2020, comparing data from 06/03/2020 to 06/03/2020



Pepsi Co. - 1500 ML Production (8:35 am - 19:45 pm) - 11 hours & 10 minutes
Chiller #1, 13 May 2020 - 13 May 2020 - 1 minute, System, comparing data from 05/30/2020 to 05/30/2020

METER	SAVINGS	TOTAL	AVERAGE	MAX	MIN
Chiller #1 - cost	BASELINE	≈ 344.03	≈ 904.97	≈ 1.35	≈ 2.10
Chiller #1 2020-05-30 - 2020-05-31 - cost	26.97%	≈ 660.94	≈ 0.99	≈ 1.86	≈ 0.14
Chiller #1 - E	BASELINE	460 kWh	1.73 MWh	4.03 kWh	261.72 Wh
Chiller #1 2020-05-30 - 2020-05-31 - E	26.60%	1.27 MWh	1.89 kWh	3.56 kWh	261.72 Wh
Chiller #1 - I	BASELINE	242.03 A	370.48 A	25.34 A	25.88 A
Chiller #1 2020-05-30 - 2020-05-31 - I	27.98%	174.32 A	322.79 A	25.88 A	25.88 A

Note:

Production according to the data provided by Pepsi showed 27% energy saving despite the fact that production during 30 May 2020 (14,648) was much higher than the baseline on 13 May 2020 (10,292).

PepsiCo. - 250 ML Production (11:00 am - 06:00 pm) - 6 hours
Chiller #1, 17 May 2020 - 17 May 2020 - 1 minute, System, comparing data from 05/27/2020 to 05/27/2020, comparing data from 05/31/2020 to 05/31/2020, comparing data from 06/01/2020 to 06/01/2020, comparing data from 06/03/2020 to 06/03/2020

METER	SAVINGS	TOTAL	AVERAGE	MAX	MIN
Chiller #1 - cost	BASELINE	≈ 580.83	≈ 1.62	≈ 2.13	≈ 0.90
Chiller #1 2020-05-27 - 2020-05-28 - cost		≈ 362.86	≈ 1.01	≈ 1.83	≈ 0.11
Chiller #1 2020-05-31 - 2020-06-01 - cost	≈ 166 - ≈ 256 28.61% - 44.09%	≈ 396.23	≈ 1.10	≈ 1.83	≈ 0.63
Chiller #1 2020-06-01 - 2020-06-02 - cost		≈ 324.75	≈ 0.90	≈ 1.75	≈ 0.60
Chiller #1 2020-06-03 - 2020-06-04 - cost		≈ 414.64	≈ 1.15	≈ 1.86	≈ 0.66
Chiller #1 - E	BASELINE	1.11 MWh	3.10 kWh	4.08 kWh	1.73 kWh
Chiller #1 2020-05-27 - 2020-05-28 - E		695.14 kWh	1.94 kWh	3.51 kWh	209.38 Wh
Chiller #1 2020-05-31 - 2020-06-01 - E	315.67 - 487.88 kWh 28.44% - 43.95%	759.05 kWh	2.11 kWh	3.51 kWh	1.20 kWh
Chiller #1 2020-06-01 - 2020-06-02 - E		622.12 kWh	1.73 kWh	3.35 kWh	1.15 kWh
Chiller #1 2020-06-03 - 2020-06-04 - E		794.33 kWh	2.21 kWh	3.56 kWh	1.26 kWh
Chiller #1 - I	BASELINE	285.13 A	369.42 A	164.02 A	164.02 A
Chiller #1 2020-05-27 - 2020-05-28 - I		180.76 A	316.55 A	23.04 A	23.04 A
Chiller #1 2020-05-31 - 2020-06-01 - I		196.06 A	317.06 A	117.31 A	117.31 A
Chiller #1 2020-06-01 - 2020-06-02 - I	27.62% - 44%	159.66 A	306.02 A	106.13 A	106.13 A
Chiller #1 2020-06-03 - 2020-06-04 - I		206.39 A	316.63 A	117.76 A	117.76 A

Pepsi Co. - 1500 ML Production (8:35 am - 19:45 pm) - 11 hours & 10 minutes
Chiller #1, 13 May 2020 - 13 May 2020 - 1 minute, System, comparing data from 05/30/2020 to 05/30/2020



The intelligent adiabatic **Smart Cooling™** system is a proven, state-of-the-art cost-saving pre-cooling technology.

- Modular system
- Suitable for all types of dry coolers and chillers
- Easy and fast installation
- Certified system and approved by major cooling equipment manufactures
- Minimal maintenance

