

NEW COOLING STRATEGY LEAD TO 32% TOTAL ENERGY SAVINGS

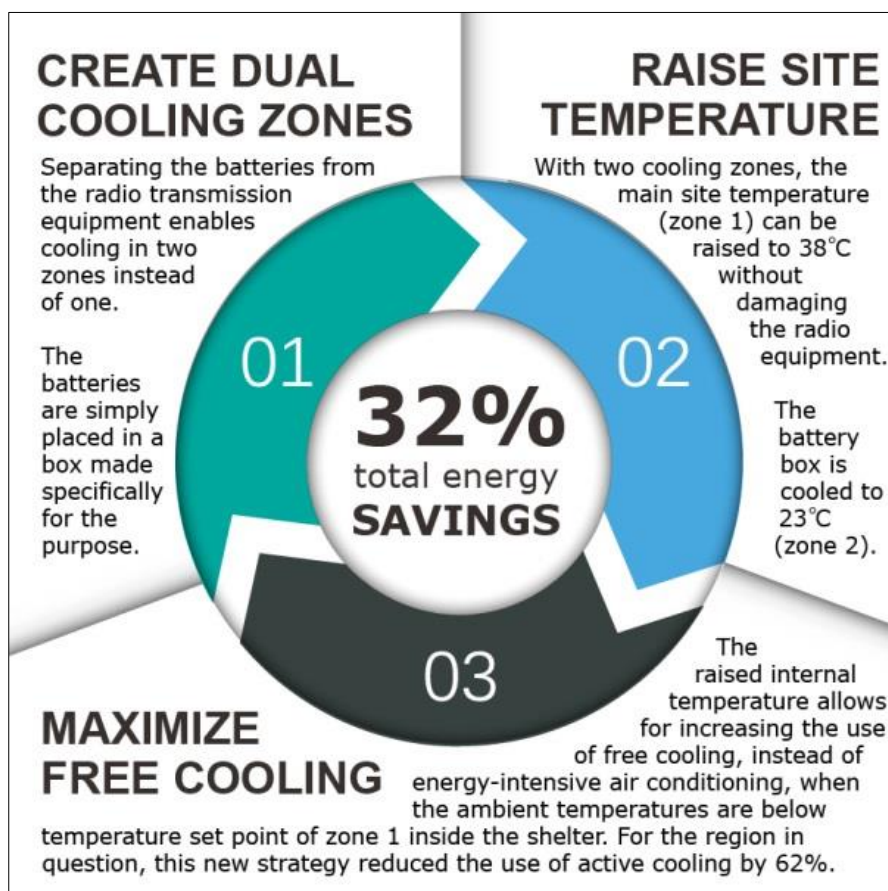
A Spanish broadband provider and telecommunications operator was looking for a way to reduce energy consumption by at least 20% in more than 100,000 shelters housing radio transmission equipment and battery racks.

In particular, they were interested in a solution which would optimally protect all enclosed electronics, in spite of different temperature sensitivities of radio transmission equipment and batteries.

The existing cooling setup consisted of traditional air conditioning as main cooling method, with free cooling backup and a constant overall site temperature of 23°C to protect the batteries.

Site analysis and recommendations

Via a technical consultant, the operator established contact with Dantherm. Following site visits, a specific cooling need analysis and specifications from the customer, Dantherm established a test site based on the following recommendations:

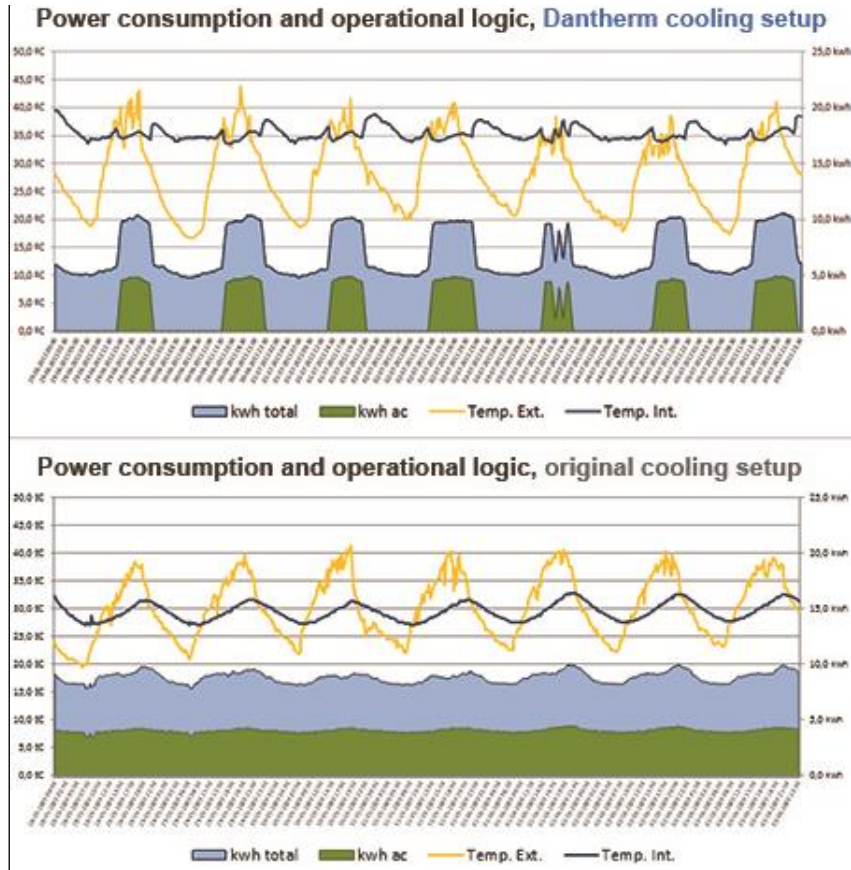


The solution: less active cooling - more durability

The test site was divided into two zones, with the batteries enclosed in an insulated battery box. The remaining shelter temperature was raised to 38°C, which enabled increased use of free cooling over active cooling.

Looking at the diagrams, it is evident that the combined (and redefined) use of free cooling and air conditioning creates significant energy savings on cooling.

By raising the internal temperature and using free cooling as the main cooling solution, the active cooling use was reduced by 62% - from 24 hours/day to 9 hours/day on average. In total the site energy consumption was reduced by 32% and the new setup even reduced wear of the air conditioner, thus prolonging the unit service life.



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