

With our flagship *DataInFormationSM* suite of solutions for Image Labeling, Data Annotation, NLP Calibration and Form Data Capture, Liberty Source is proud to serve a wide range of clients across many industry verticals. Our *Solution Briefs* provide a snapshot of the challenges clients bring to us, and the outcomes we achieve for them.

Consumer Electric Power Consumption Modification

Industry	Utilities	Data Type	Alphanumeric (.csv)
Project Duration	1 Month	Ongoing?	Yes

Challenge

A major electric utility company that provides power to over 750,000 customers in Oregon, Washington, and California was tasked by their regulator with helping customers use energy more efficiently.

In order to create a successful campaign, a large amount of data was needed from 100k customers – including billing, demographic and usage information. A year’s worth of usage data (meter readings every 15 minutes) for 100k customers equals about 3.5 billion data points.

Solution

To ensure the information was correctly ingested, a “Data Sanity” process was performed on all data provided by the utility to verify accuracy, completeness, consistency, and reliability.

The process involved collecting samples of 500 to 2000 customers and validating that the data conformed to the ingestion specifications provided.

During this validation, sample data was run through a series of SQL queries which checked for continuity, unwanted characters, and data completeness. This was an iterative process: feedback regarding data quality and any adjustments needed was provided to the client to ensure that the data was as pristine as possible.

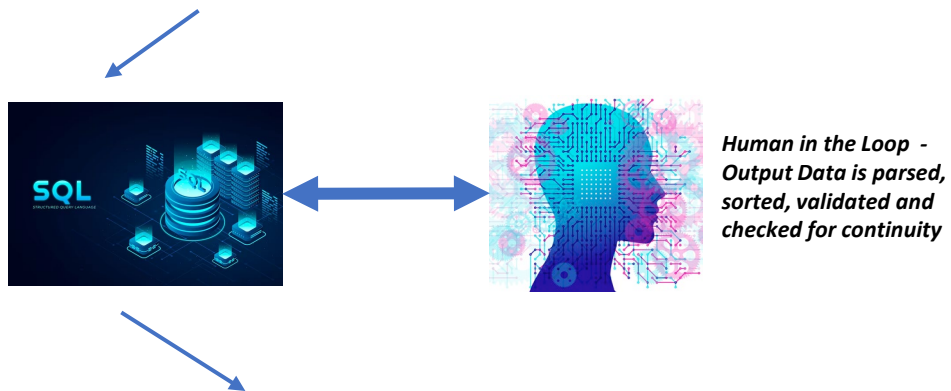
Outcome

Once the sample data was deemed “clean” enough, the complete data set was ingested and the energy saving campaign was created. This energy reduction campaigns resulted in an 8 – 15% reduction in usage, or 84 – 158 gigawatts of power saved over the course of one year.

Consumer Electric Power Consumption Modification

Source Data

customerName	customerAddress	meterID	dateUTC	value
Darth Vador	18 Biltmore Avenue, Asheville, Washington	3	9/17/2014 21:00	0.105
Darth Vador	18 Biltmore Avenue, Asheville, Washington	3	8/19/2014 18:30	0.114
Darth Vador	18 Biltmore Avenue, Asheville, Washington	3	1/23/2015 10:45	0.04
Chris Frankenstein	16 Biltmore Avenue, Asheville, Washington	1	8/20/2014 4:15	0.159
Arthur Fonzereli	17 Biltmore Avenue, Asheville, Washington	2	1/21/2015 1:45	5.706
Biff Malibu	15 Biltmore Avenue, Asheville, Washington	0	9/20/2014 5:45	0.245
Biff Malibu	15 Biltmore Avenue, Asheville, Washington	0	7/31/2014 12:30	2.76
Chris Frankenstein	16 Biltmore Avenue, Asheville, Washington	1	1/13/2014 17:15	0.075
Chris Frankenstein	16 Biltmore Avenue, Asheville, Washington	1	7/28/2014 13:45	0.296



Output

FirstName	LastName	StreetAddress	City	State	meterID	dateUTC	timeUTC	KwH
Arthur	Fonzereli	17 Biltmore Avenue	Asheville	Washington	2	1/1/2014	1:15	0.037
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/1/2014	3:00	0.081
Darth	Vador	18 Biltmore Avenue	Asheville	Washington	3	1/1/2014	5:00	1.489
Biff	Malibu	15 Biltmore Avenue	Asheville	Washington	0	1/1/2014	11:00	0.029
Biff	Malibu	15 Biltmore Avenue	Asheville	Washington	0	1/1/2014	13:45	0.277
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/1/2014	17:15	0.559
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/1/2014	19:15	0.375
Arthur	Fonzereli	17 Biltmore Avenue	Asheville	Washington	2	1/2/2014	0:30	0.358
Darth	Vador	18 Biltmore Avenue	Asheville	Washington	3	1/2/2014	1:30	0.139
Darth	Vador	18 Biltmore Avenue	Asheville	Washington	3	1/2/2014	2:45	0.055
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/2/2014	3:30	0.044
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/2/2014	5:30	0.044
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/2/2014	6:45	0.048
Chris	Frankenstein	16 Biltmore Avenue	Asheville	Washington	1	1/2/2014	10:15	0.082
Biff	Malibu	15 Biltmore Avenue	Asheville	Washington	0	1/2/2014	10:45	0.321
Biff	Malibu	15 Biltmore Avenue	Asheville	Washington	0	1/2/2014	11:15	0.305