The Volttron Dashboard

An Extensible Platform for Volttron Enabled Visualizations, Analytics, Data and Program Management

maalka

DISCOVER A SUSTAINABLE WORLD

Dr. Rimas Gulbinas – CEO Maalka
www.maalka.com 16 May 2017

Maalka | The Insights

Agents

Notifications

Extensible

Workflows

Experimentation

Buildings

Metered Data

Sub-Systems

Analytics

Report Generation

Portfolio/Campus

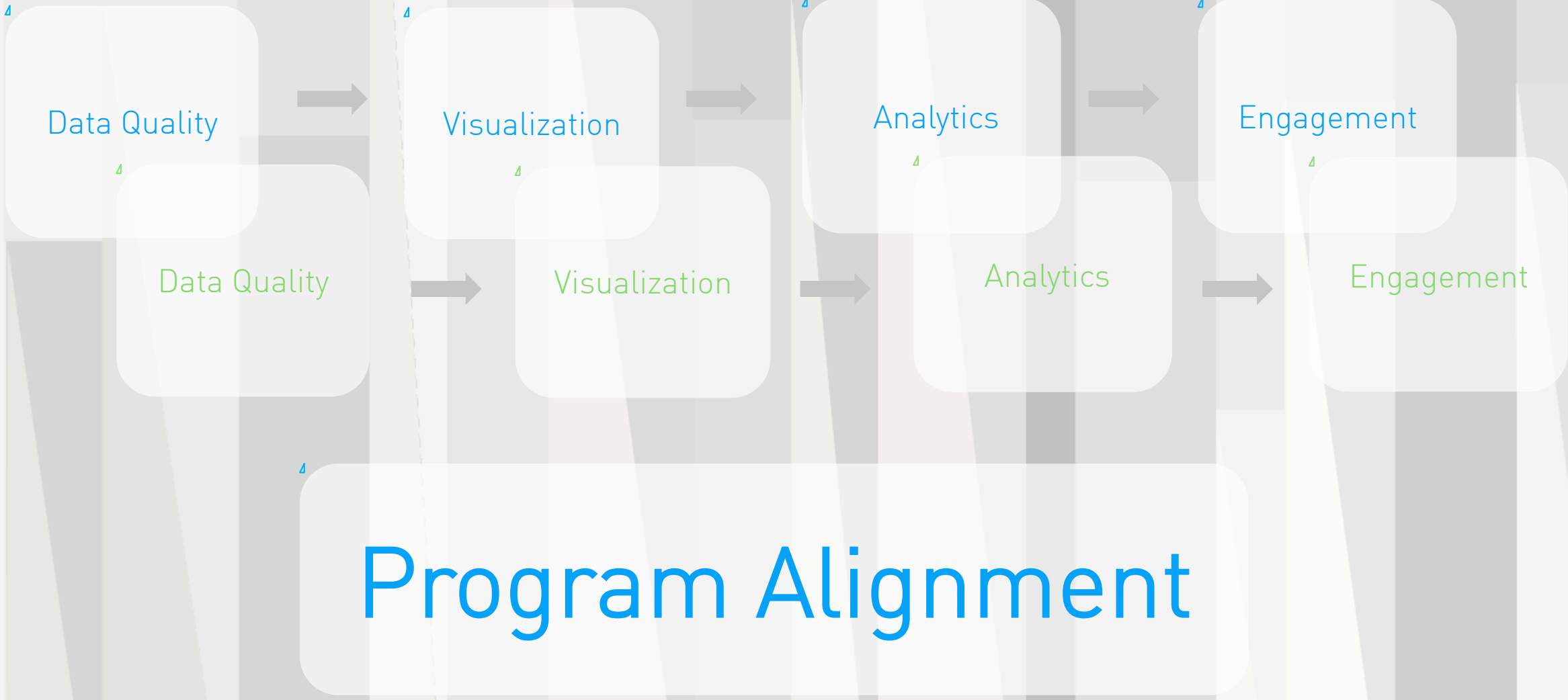
Aggregated Views

System Status

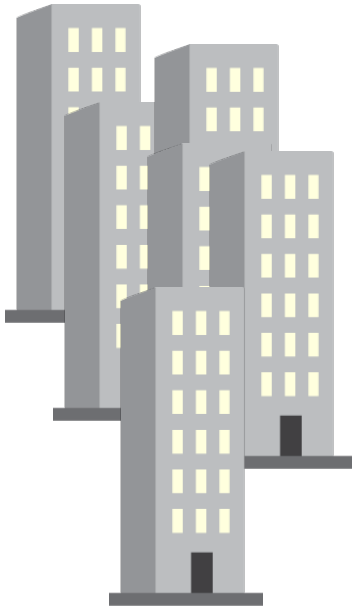
Analytics

Coordination

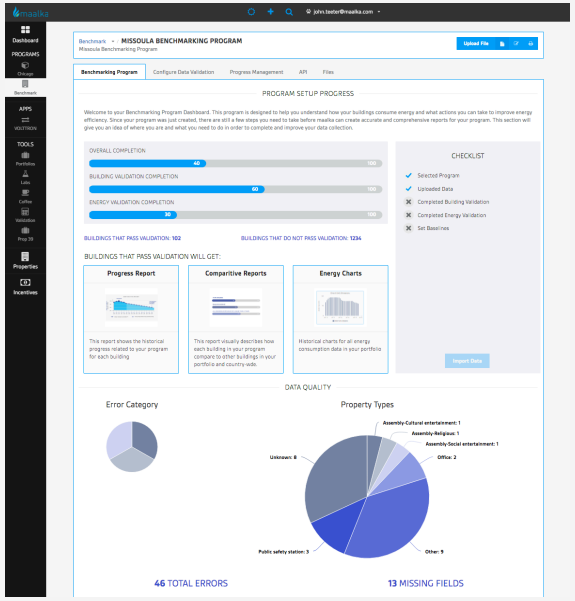
Maalka | Making Volttron Agents and Data Useful

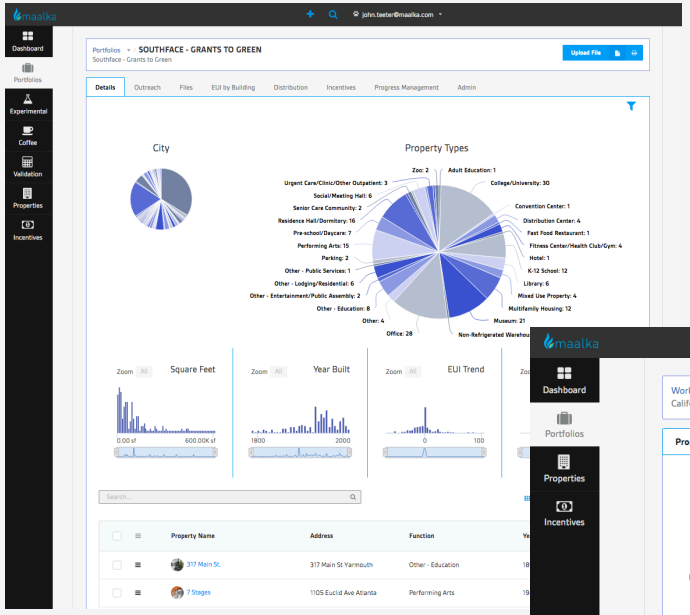


Maalka | Campus/District Level Data Aggregation

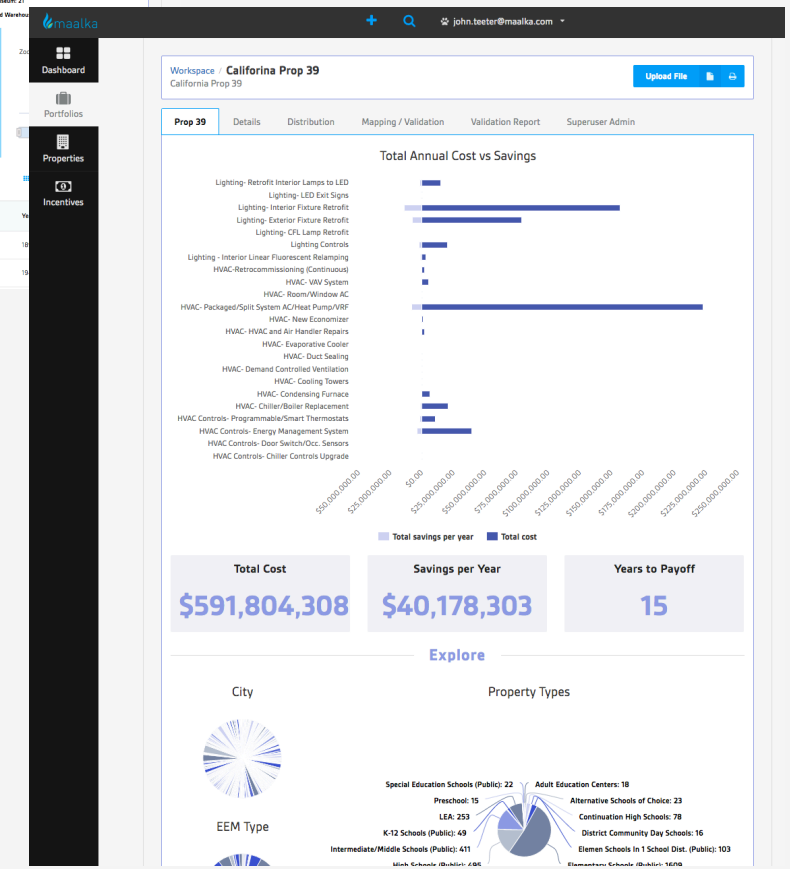


Program Management and Tracking

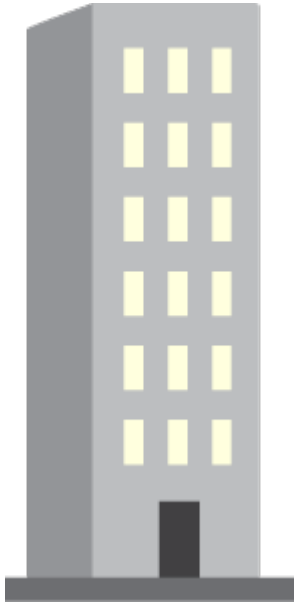




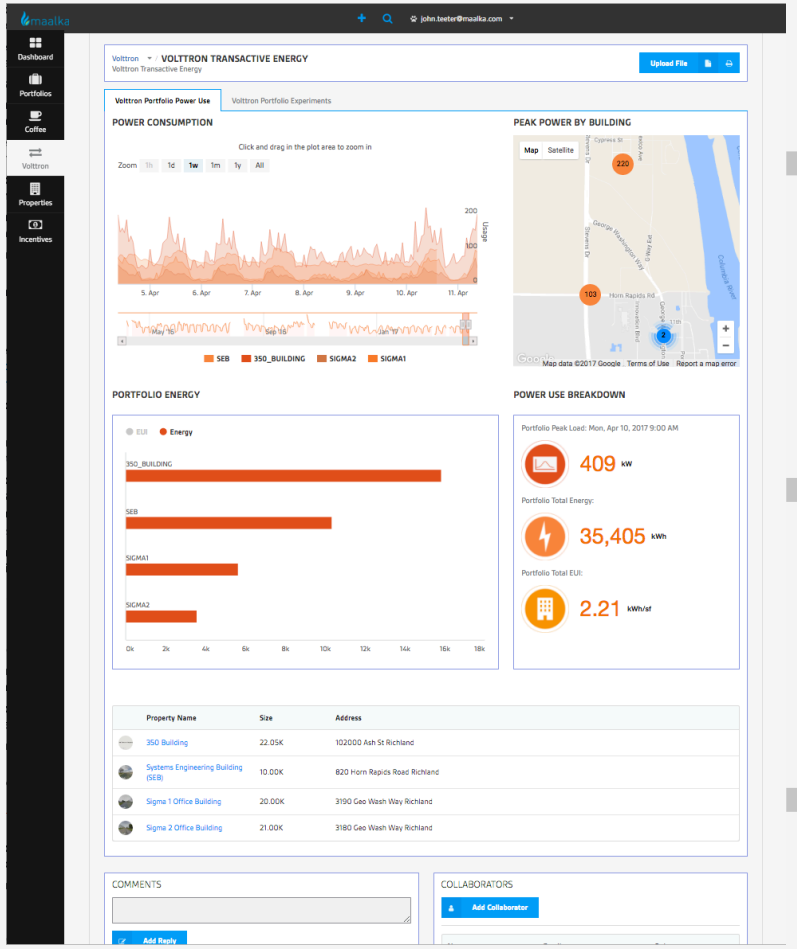
Yearly & Year-2-Date Reports



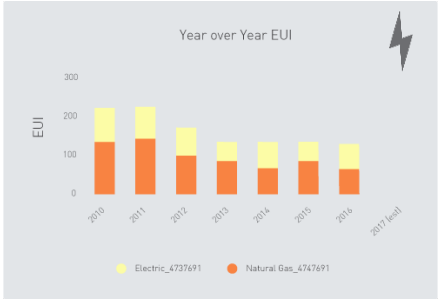
Maalka | DoE VOLTTRON - TEMPORAL INTEGRATION

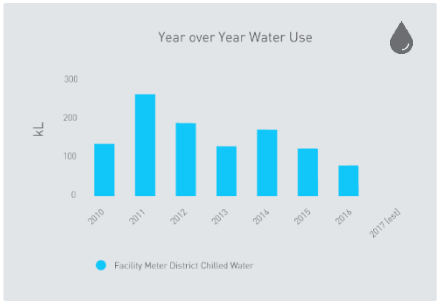


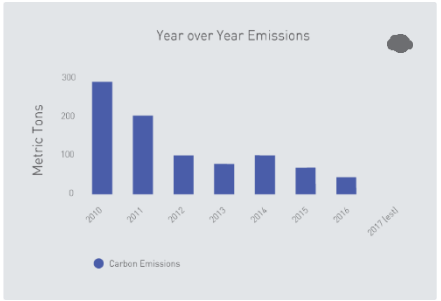
REAL-TIME



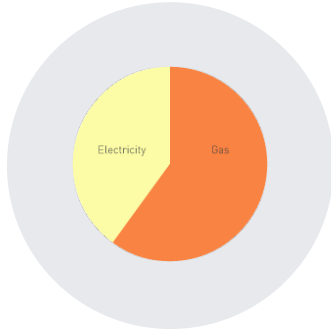
Weekly/Monthly

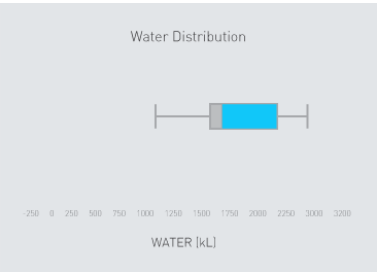






YEARLY





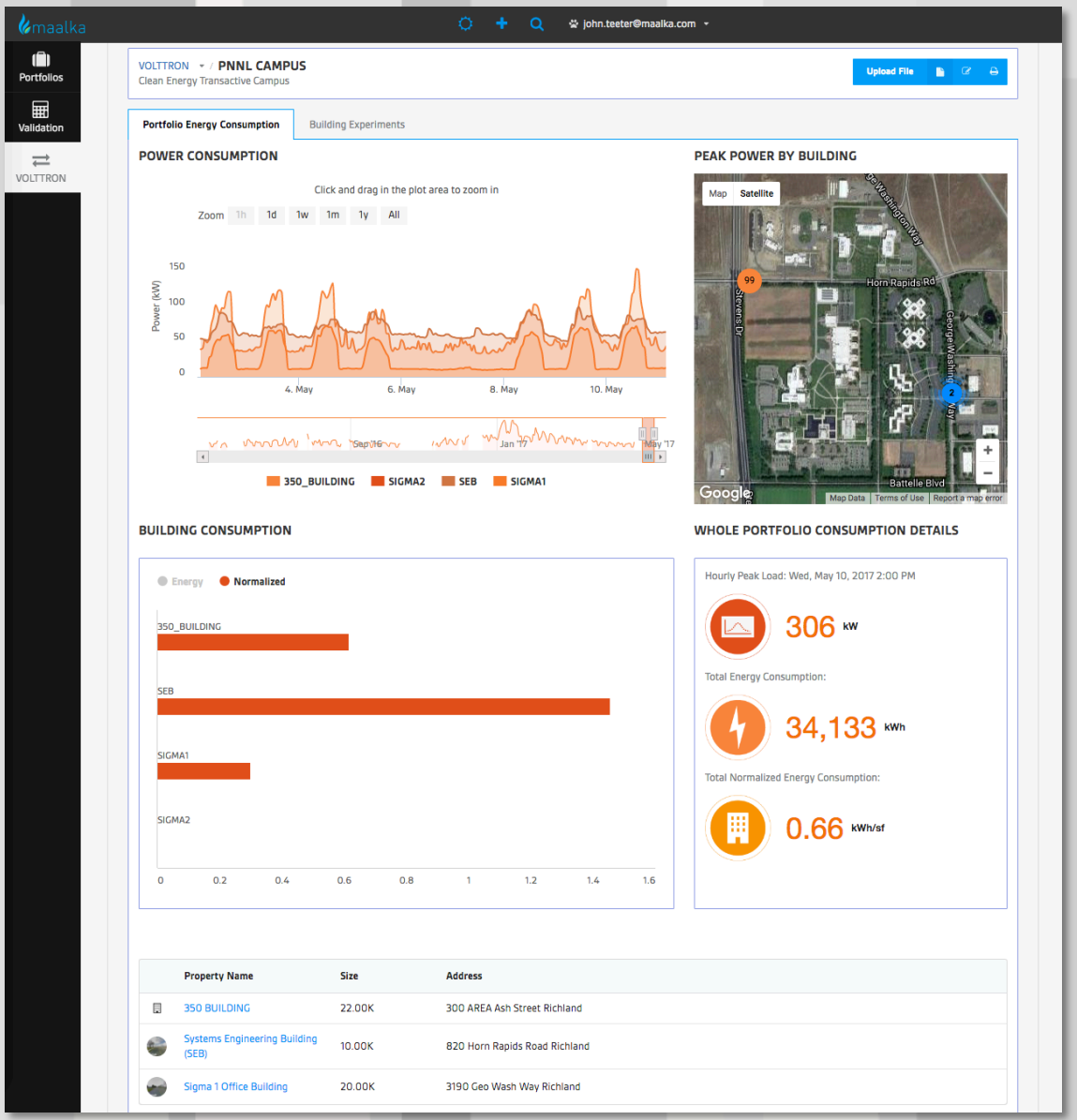
Total GHG Emissions:

1,956 METRIC TONS C02e

Maalka | Constantly Updated Insights - Time Series

Campus Level

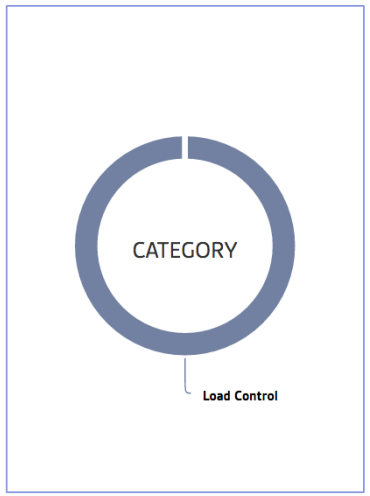
1. How much energy are my buildings using now?
2. How much energy did my buildings use yesterday?
3. What are my peak loads?
4. How much total energy is my portfolio using?

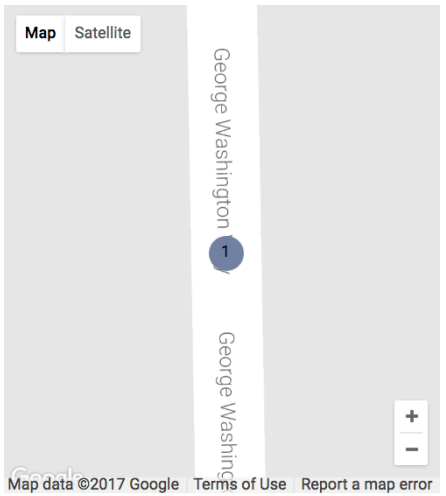


Maalka | EXPERIMENTS

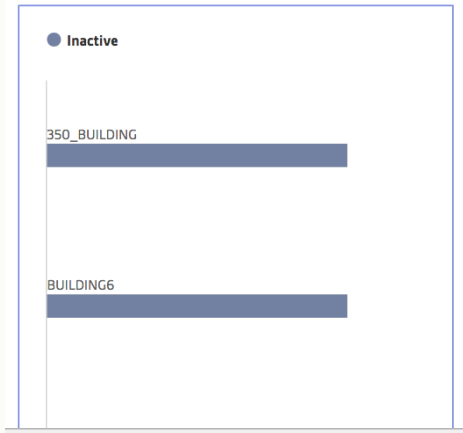
Campus Level

What are my current Experiments?





EXPERIMENT SUMMARY



EXPERIMENT RESULTS

Search...

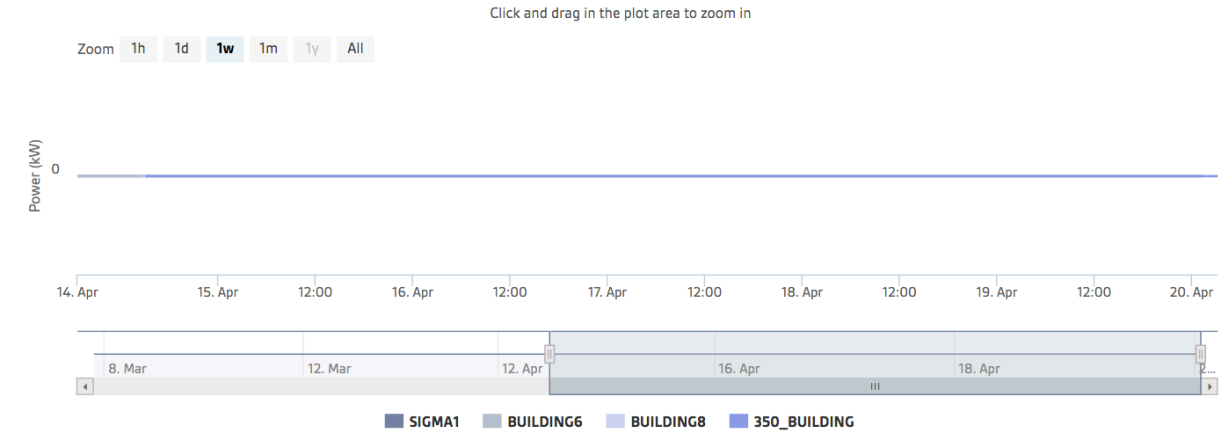
Current load of (47.0823770614) kW is below demand limit of 500.0 kW.
350_BUILDING ILC
Thu, Apr 20, 2017 3:13 AM
Intelligent Load Control | Load Control

Current load of (47.3040614641) kW is below demand limit of 500.0 kW.
350_BUILDING ILC
Thu, Apr 20, 2017 3:12 AM
Intelligent Load Control | Load Control

Current load of (47.5262064838) kW is below demand limit of 500.0 kW.
350_BUILDING ILC
Thu, Apr 20, 2017 3:11 AM
Intelligent Load Control | Load Control

What Experiments have been run?

EXPERIMENT ACTIVITY

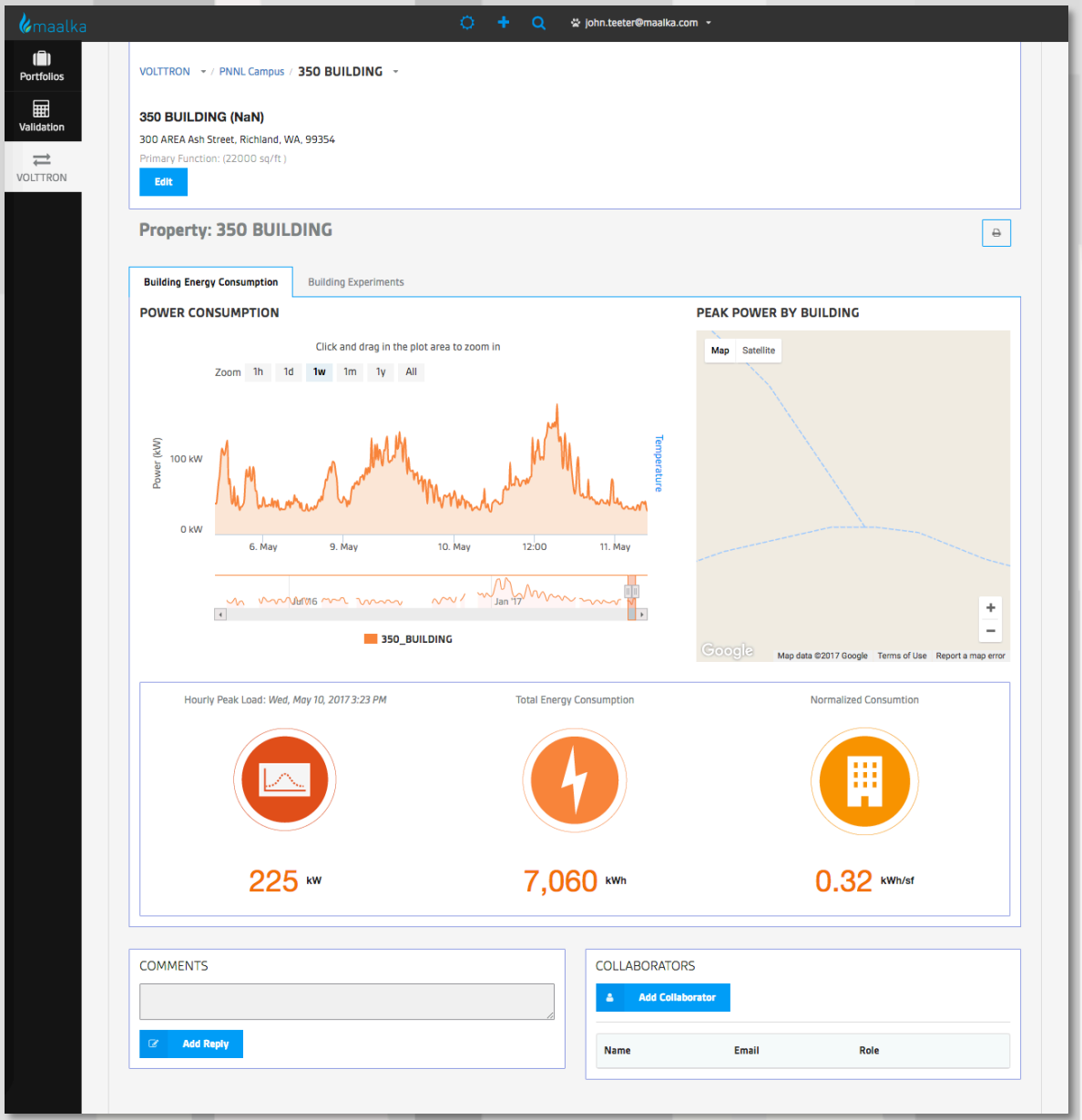


	Property Name	Size	Address
	350 BUILDING	22.00K	300 AREA Ash Street Richland
	BUILDING6		
	BUILDING8		
	Sigma 1 Office Building	20.00K	3190 Geo Wash Way Richland

Maalka | Constantly Updated Insights

Building Level

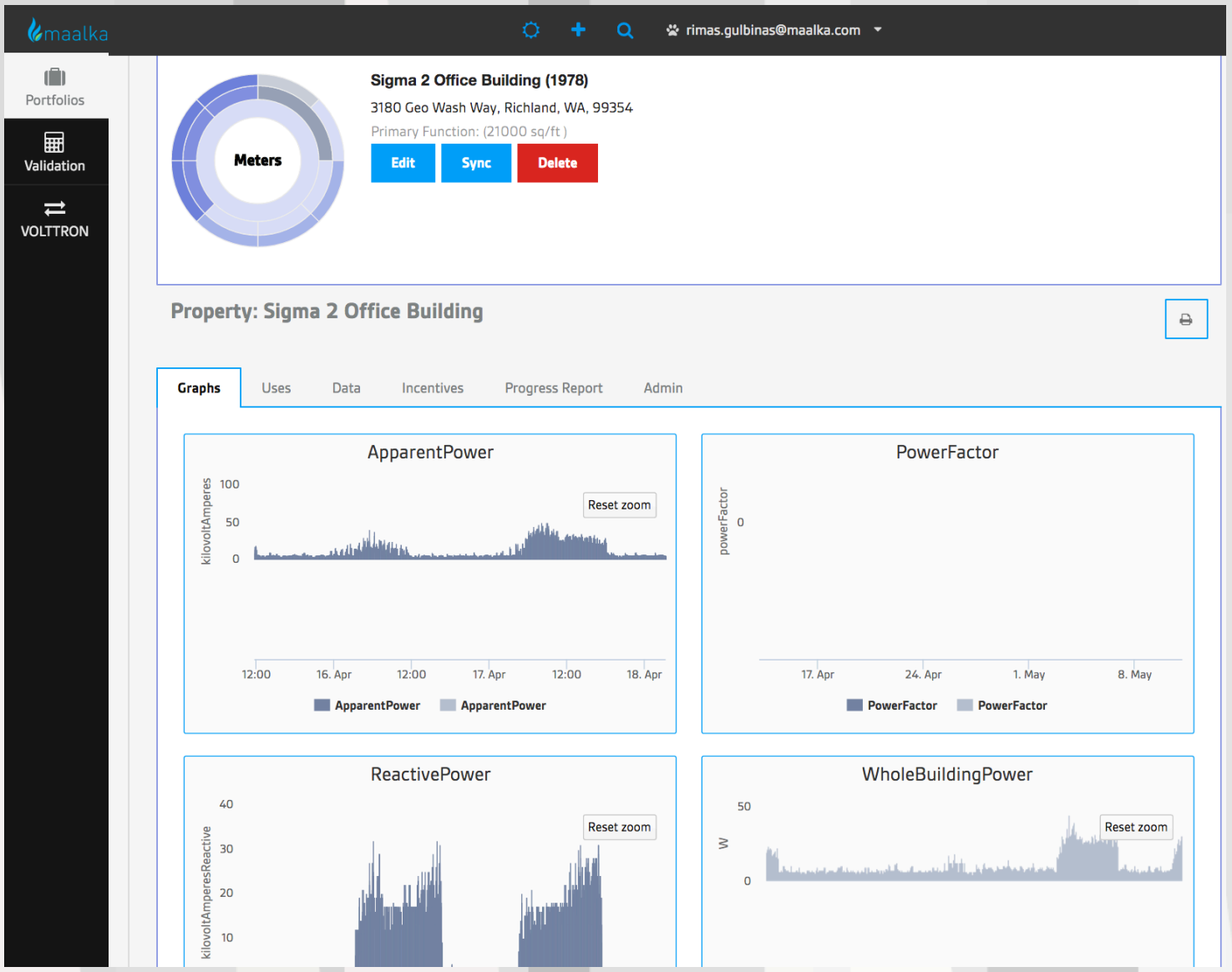
1. Current Resource Consumption
2. Asset Tracking
3. Rollups and Reports
4. Engagement/Outreach



Maalka | Constantly Updated Insights

Building Level

1. Weather
2. Troubleshooting Data
3. Additional Applications
4. Trending Points



Maalka | Reportable Insights

Building Level

Graphs | Data | Incentives | Files | **Progress Report** | Goals | Retrofit Report | SuperUser Adm

DC REDUCTION PROGRESS UPDATE

4 DC VILLAGE

YEAR JOINED: 2012

BASELINE YEAR: 2012

TARGET YEAR FOR 20% REDUCTION: 2017

PROPERTY TYPE: Other

PROGRESS TO-DATE:

23% ON TRACK

4 DC Village has reduced its Weather Normalized Source EUI by 23% from your 2012 baseline year through 2015. Your building has committed to 20% energy efficiency improvement by 2017.

For more information, visit www.dc.com.

COMPARISON CHART

HOW YOUR BUILDING COMPARES TO OTHER DC REDUCTION PARTICIPANTS

YOUR DC REDUCTION PROGRESS

23%

AVERAGE PROGRESS FOR OTHER "OTHER" PARTICIPANTS

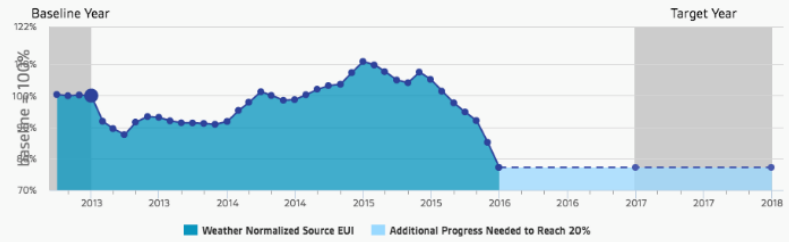
0% 20%

AVERAGE PROGRESS FOR ALL PARTICIPANTS THAT JOINED IN 2012

0% 20%

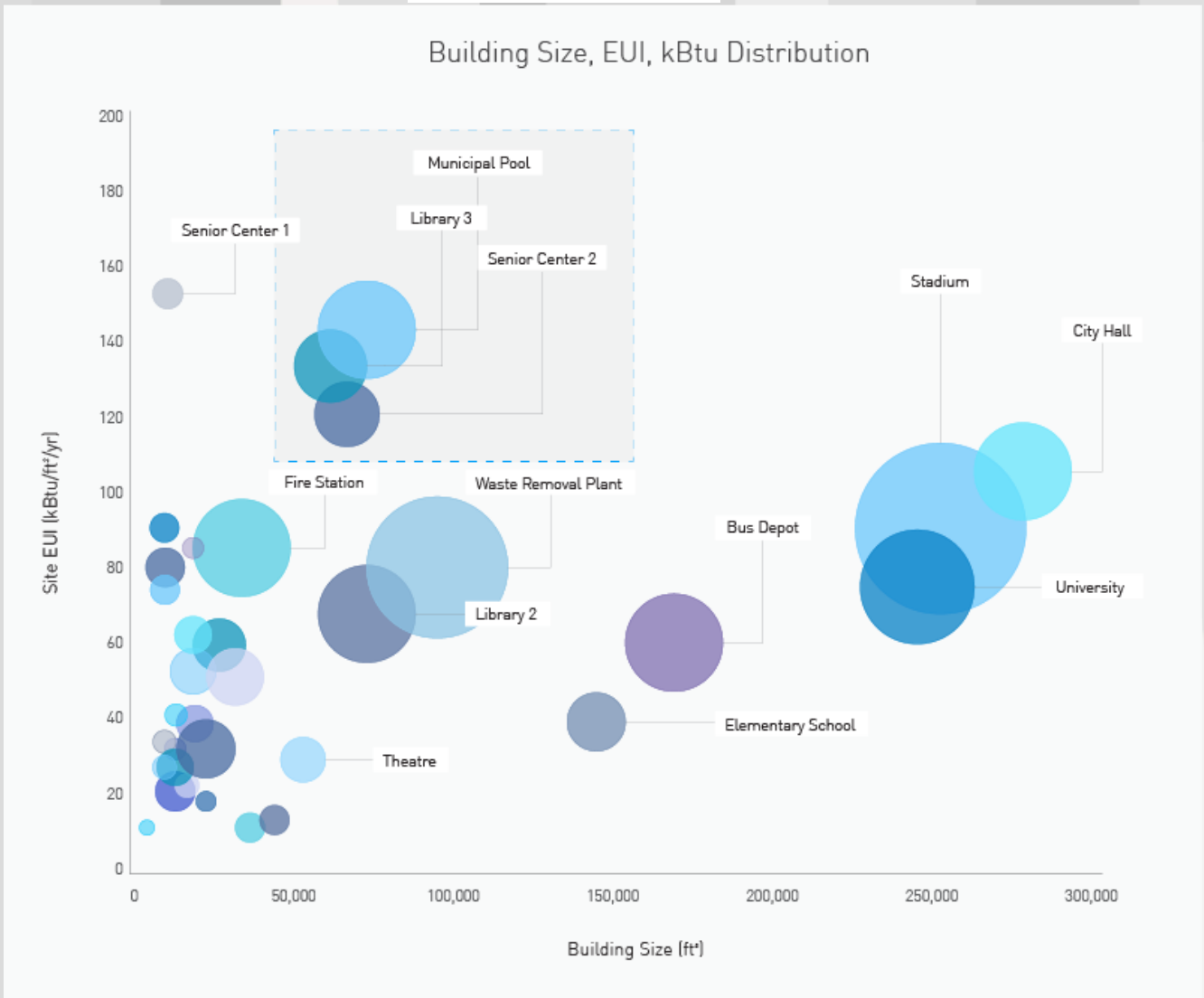
Together, Better Building Challenge participants have reduced weather-normalized energy use by nearly 12%, representing savings of more than $6MM per year and greenhouse gas emission reductions equivalent to removing more than 14,000 vehicles from the road.

ENERGY EFFICIENCY PROGRESS



This chart shows your energy efficiency progress to-date, based on Weather Normalized Source EUI. In order to reach your 20% DC Reduction commitment by 2017, your building must reduce energy use intensity by a simple

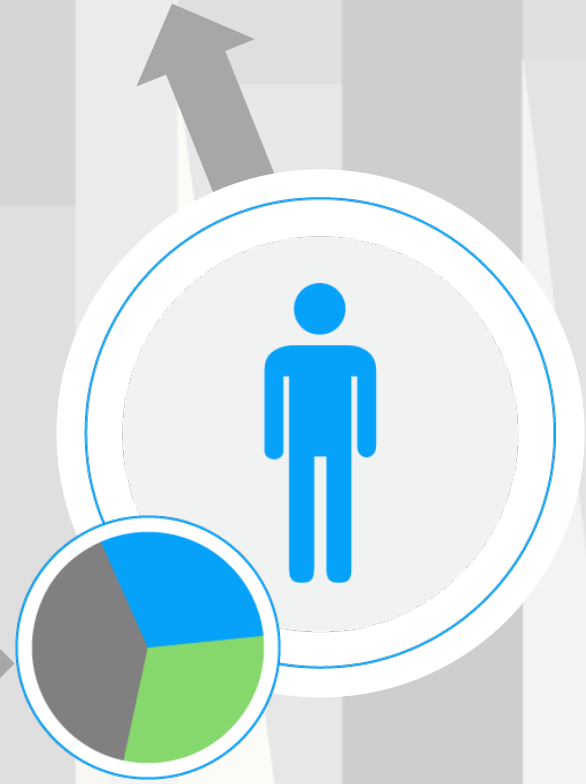
Portfolio Level



Maalka | Reporting and Engagement

1. Are we on track to reach program goals?
2. How did our buildings perform last month?
3. How did our facilities managers perform?
4. What Next Steps and Issues?

Daily/Monthly/Annual Reporting to Program Boards!



Maalka | Outbound Reporting

COMPLIANCE REPORTING

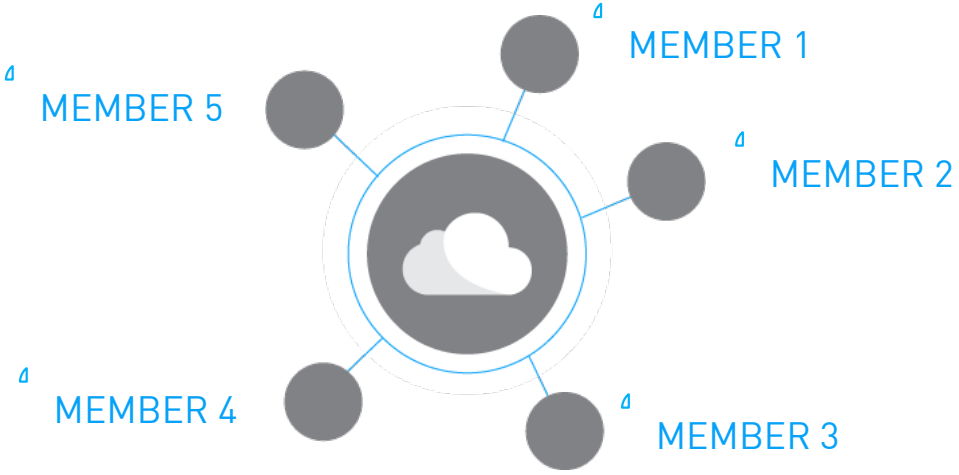
ASSET MANAGEMENT

EMISSIONS ACCOUNTING

MANAGE PROGRAMS ON SECURE DATA PLATFORMS

Maalka has varying levels of data separation and security.

For typical use-cases, private portfolios can lie on the same maalka instance – separated but accessible depending on permissions.



- Each member has a separate, secure portfolio
- On-platform comparisons between members
- Analytics of similar building across members
- Outreach and analytics for all cities

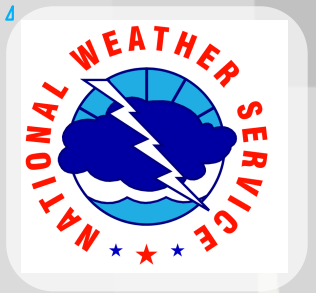
For mission critical cases, portfolio can lie on a private maalka instance.

GOVERNMENT PORTFOLIO

CORPORATE PORTFOLIO

- Comparisons can only be made with private access through the API for each instance

Maalka | Interoperable Data Standards



Maalka | SUPPORTED INITIATIVES

Better Buildings CHALLENGE
U.S. DEPARTMENT OF ENERGY

CITY ENERGY
A JOINT PROJECT of NRDC + IMT

2030 DISTRICT®

PROP 39

RETROFIT CHICAGO
SAVING GREEN BY GOING GREEN

GLOBAL CITY TEAMS CHALLENGE

Community Building Renewal

SUSTAINABLE CHICAGO

BUILD SMART DC
Transparency. Efficiency. Community.

Maalka | TESTIMONIALS

"Maalka is directly supporting Retrofit Chicago Energy Challenge's efforts to track, quantify, visualize, and communicate participants' efforts to improve energy performance by at least 20% within five years. Maalka's team quickly grasped the analytical needs and opportunities facing our program, and we've been impressed by Maalka's collaborative and effective approach to platform design and rapid iteration to help buildings save energy and reduce operating costs." Jamie Ponce, Chicago City Director, C40 Cities Climate Leadership Group

"Maalka's platform allows us to not only maintain our Portfolio Manager/Energy Star data, but, more importantly, focus on continuous improvement and evaluate why our energy has changed and what we're going to do about it.

Their platform presents an opportunity to streamline our workflow by combining simplified data reporting with more sophisticated data visualizations for analysis and management reporting as well as some basic project management tools for our facility team. We've found the platform easy to use and look forward to continue exploring new integrations and tools that simply were not available to us before at a reasonable time and price level." Jason Page, Director, Alliance for Sustainable Colorado

The Volttron Dashboard

Thank You!

https://volttron.maalka.com

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