



# Powering the Future of Building Operations

Solution Brief: Intel

# Global Environmental Impact Through the Digital Transformation of Real Estate



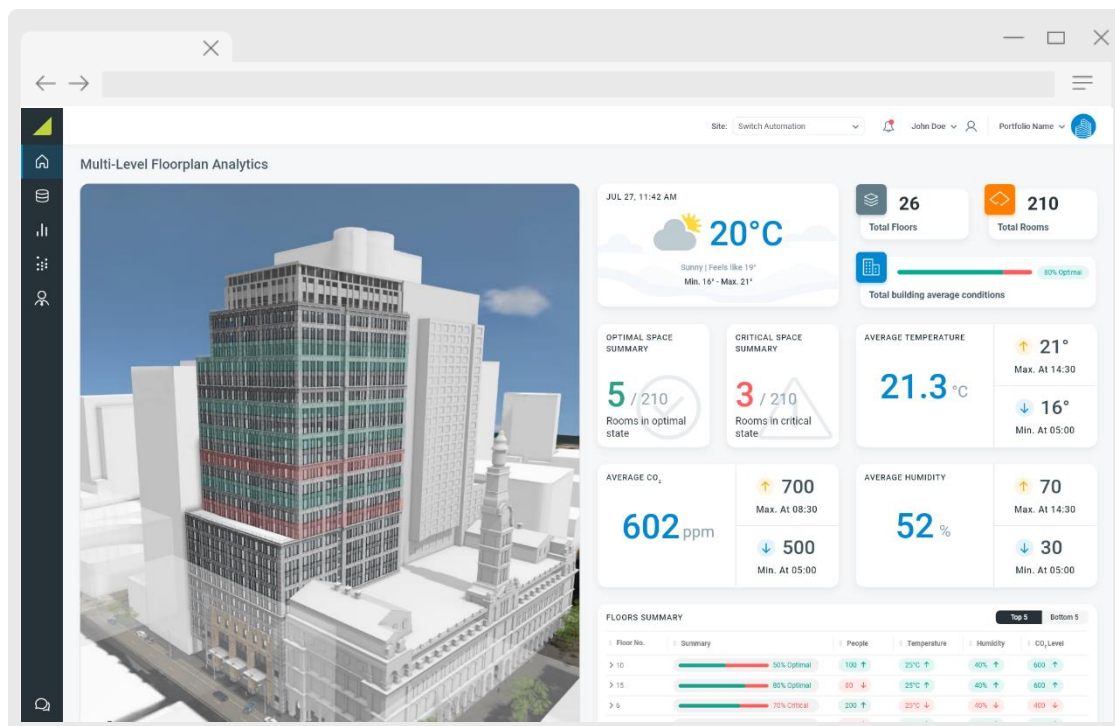
**6,300+**  
Number of Buildings

**200M+**  
Total Floor Area (ft<sup>2</sup>)

**185B+**  
No. of Data Points

**2.5x** ↑  
Optimization Opportunities

Switch Automation simplifies building and portfolio management by collecting and analyzing operational data from existing building assets, systems and sensors using a cloud-based solution. This helps organizations manage costs and overcome challenges in integrating new technology, comparing performance across properties, and tracking company-wide initiatives. Operators can optimize resources, track performance, identify and implement strategies for efficiency and sustainability from a single pane of glass.



# Who benefits from Switch?

## Owners / Portfolio Managers

- Measurement & Verification of capital projects
- Digital products and services including a digital building logbook.
- Real-time comparison of portfolio assets
- Satisfy investor criteria – KPIs around net-zero and ESG, attract capital investment

## Tenants / Occupants

- Assurance of health, comfort, and environmental priorities
- Tracking and reporting of utilization metrics (e.g., EUI)
- Incentivize back-to-office initiatives.
- Access to data for Scope 3 emissions reporting

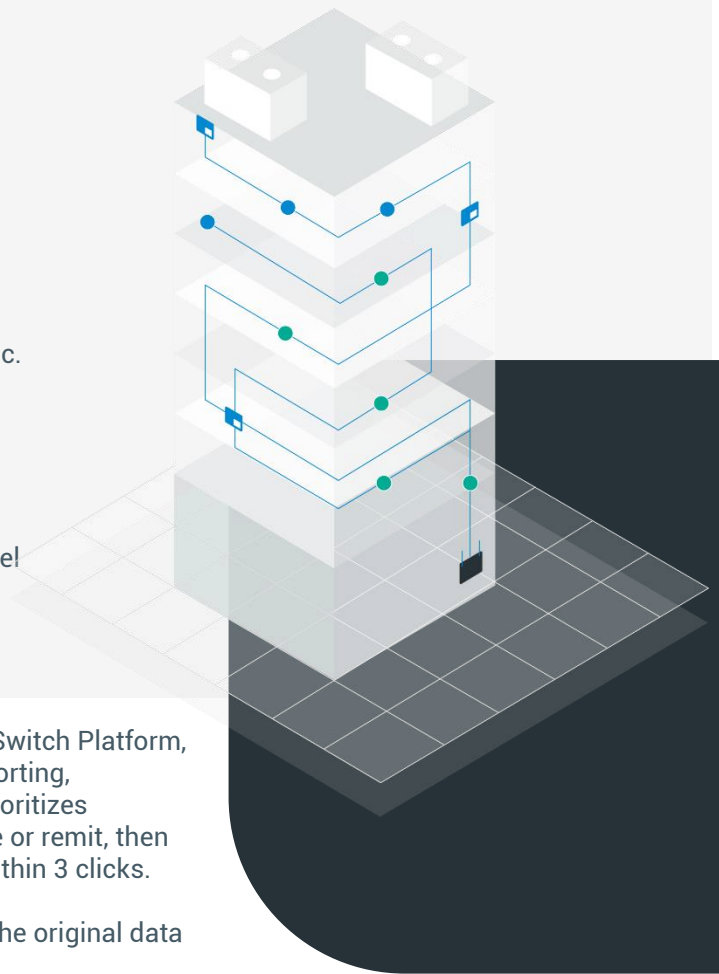
## Sustainability Managers / Regional Managers

- ESG metrics for reporting
- Reliable Measurement and Verification
- Standardized benchmarking
- Real-time energy management
- Reported cost avoidance
- Repeatable processes from site to site

## Facility Managers / Engineers

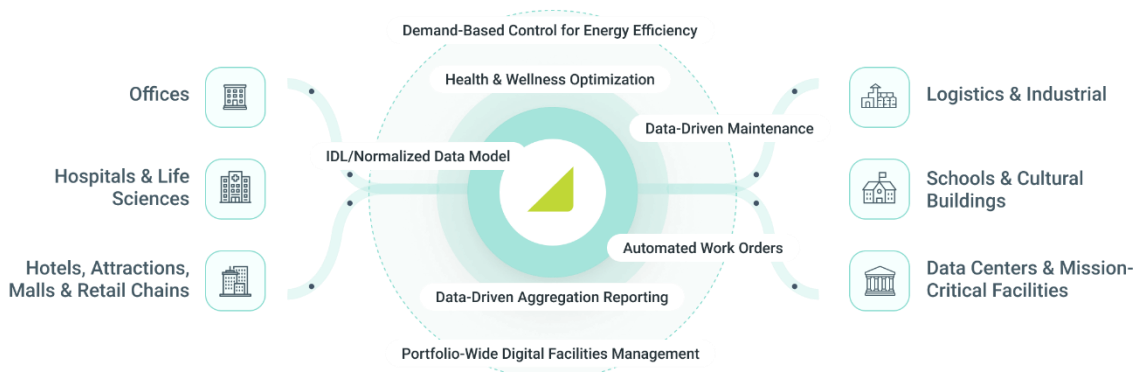
- Full data integration between IoT, BMS, EMS, etc.
- Fault detection and equipment performance tracking
- Reduce maintenance costs
- Automated visibility into site performance

Managed access to the same data layer at each level of management, operations, and ownership for increased trust and repeatable processes.



Stakeholders across the enterprise engage with the Switch Platform, be it for Operations, Maintenance, Sustainability Reporting, Utilization/Experience or Capital Planning. Switch prioritizes delivering important data to users based on their role or remit, then empowers them to investigate and act on insights within 3 clicks.

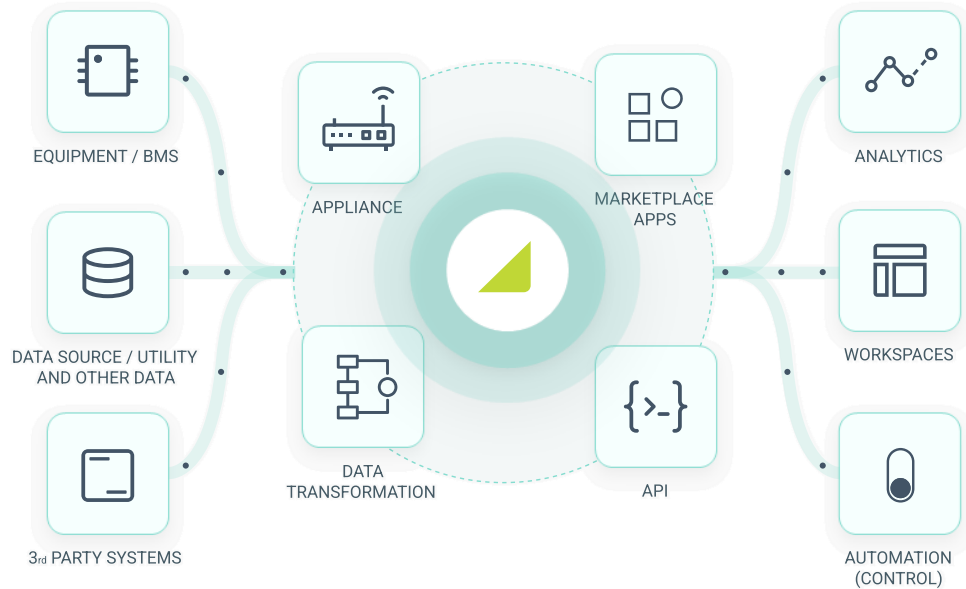
And best of all? This all happens without disrupting the original data sources.



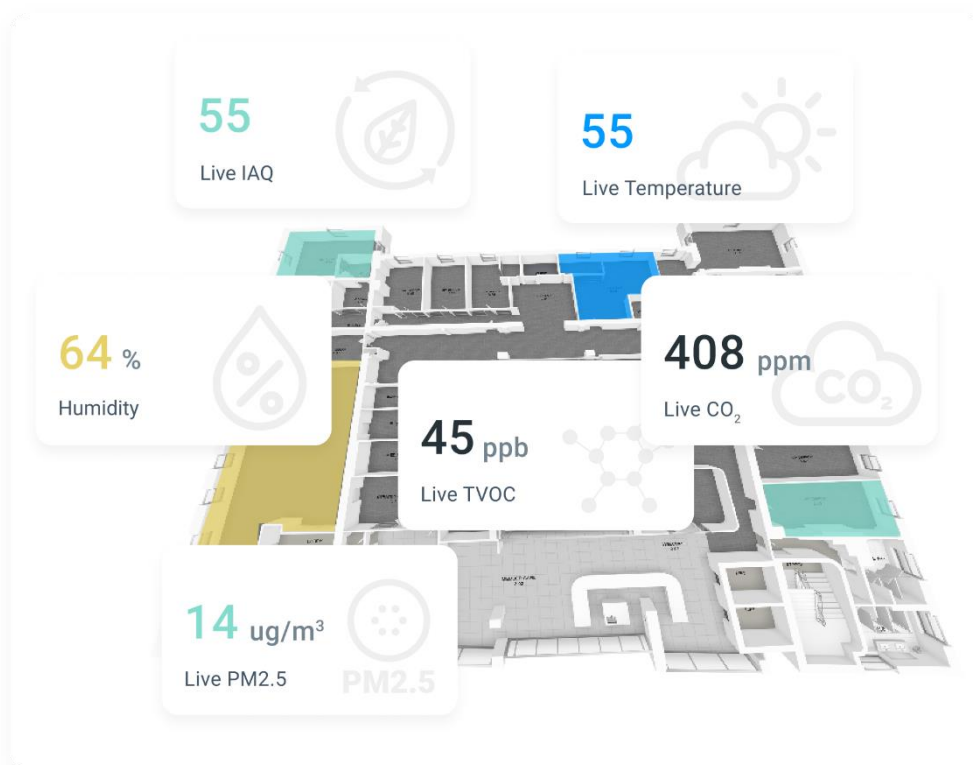
# The challenge

## Staggering Amounts of Scattered & Siloed Data

Many organizations struggle with accessing and managing the vast amounts of data generated by their buildings.



Switch Automation's platform addresses this by cleaning, organizing, and standardizing data, providing visibility and control over building operations and portfolio decisions.



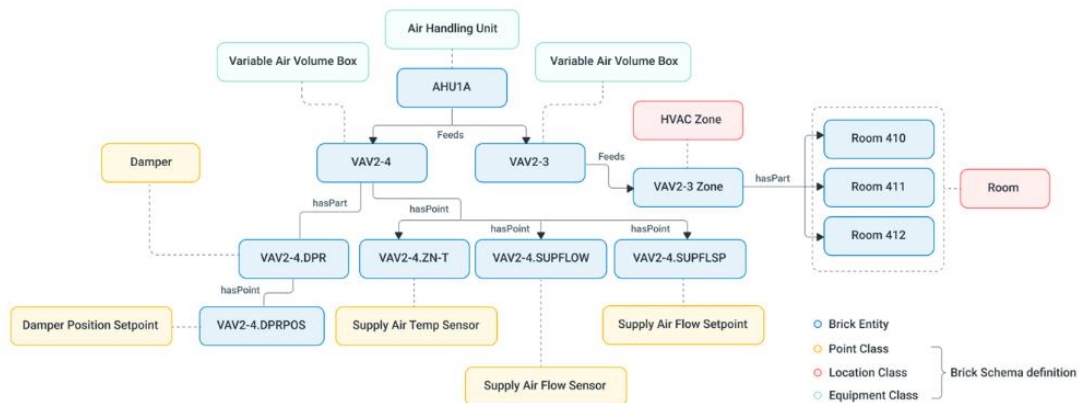
# A Cloud-Based Solution Enabling Data-Driven Insights and Workflows

Switch Automation offers a cloud-based platform for enterprise operations, building management, and sustainability reporting. Building information is collected and sent to the Switch cloud from a wide variety of systems already in place. Other sustainability information, such as transportation, energy use, paper consumption, waste generation, and more can also be integrated.

## Four ways Switch puts data to work for you:

### 1. Normalization

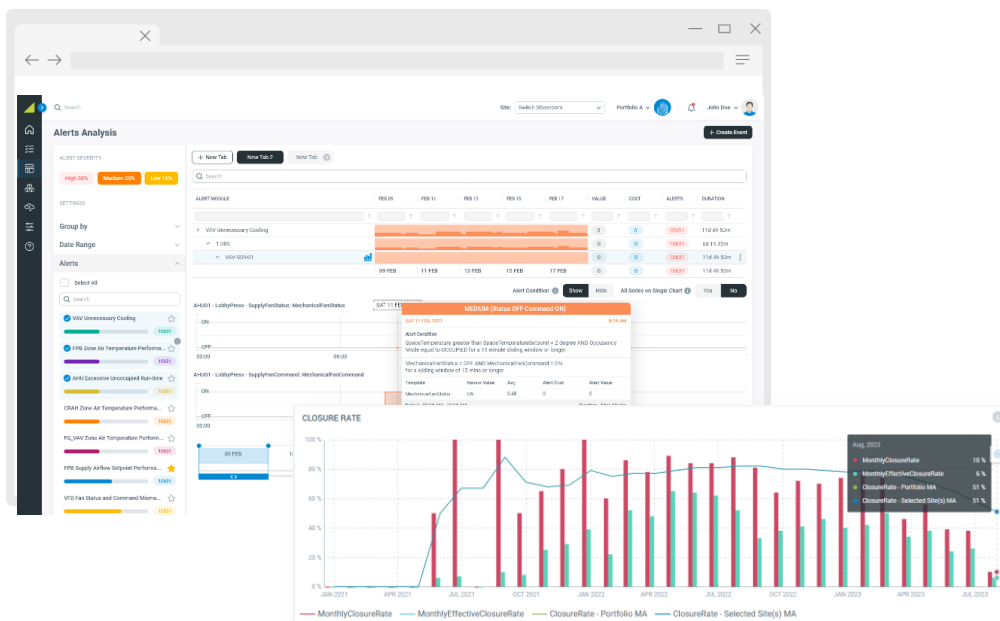
We begin by aggregating and standardizing operational data. Applying a standard schema, tagging & naming to data enables analysis across sites and fleets a critical step for organizations wanting to introduce/use Artificial Intelligence (AI) with their buildings' data.



Analysis across systems within a building and across the fleet are enabled by this normalized schema. Establishing relationships between equipment, space, and occupants enables performance optimization, and experience-based outcomes.

### 2. Analytics-Based Monitoring

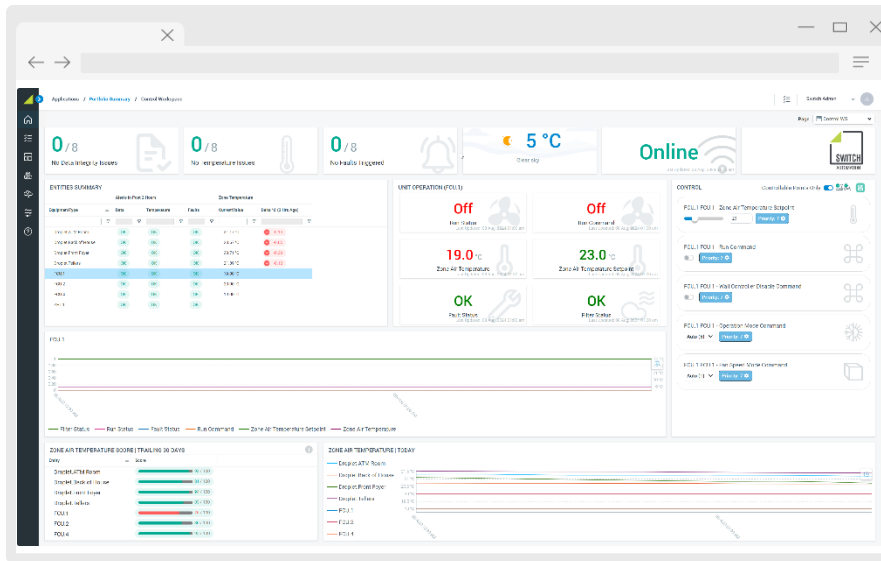
The Platform offers deep insights into site and fleet performance using standards-based diagnostics, including real-time analysis and alerts + notifications.



These analytics uncover opportunities to save time, money and improve efficiency.

### 3. Asset Control

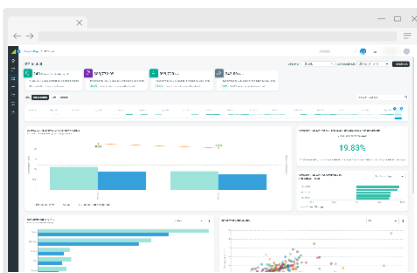
Switch offers bi-directional integration enabling data + analytics-based control of building equipment to optimize efficiency, manage dynamic conditions and mitigate user or occupant experience issues.



The power of data-driven insights increases exponentially when those insights are made actionable. Switch's Control module enables operators to make changes from wherever they are and supports automated + demand-based control using multifactorial data to changes operating conditions automatically.

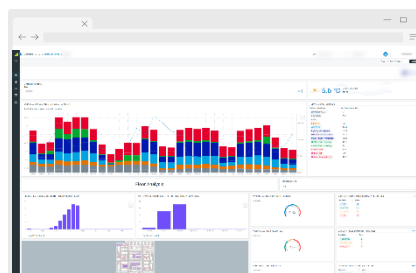
### 4. Digital Logbooks

Switch enables the foundations for a digital asset log. From our in-built digital twin and IDL capability to measurement and verification reporting for maintenance, operations, performance, sustainability, project tracking, impact reporting and more. Asset or asset class analysis is improved and simplified.



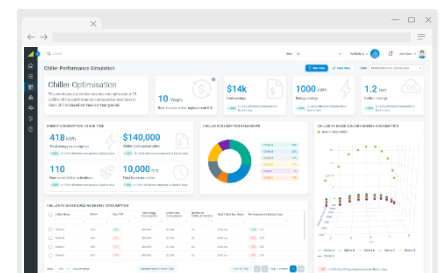
#### Project Tracking + Impact Reporting

Track progress, performance and impact on capital projects or other initiatives across inventory.



#### ESG Reporting

Simple, tuneable reports for internal or external reporting.



#### Performance Monitoring

Equipment, site, asset or portfolio performance monitoring and reporting.

Asset valuation, disposition, and management benefits from access to and interpretation of large amounts of information. A digital asset brings efficiency to collation of this information while combining real-time updates with historical analysis enabling integration of key data such as compliance and reporting. Taken one step into the future, a digital asset logbook underpins asset diligence and adds value to the asset for transfer or sale.



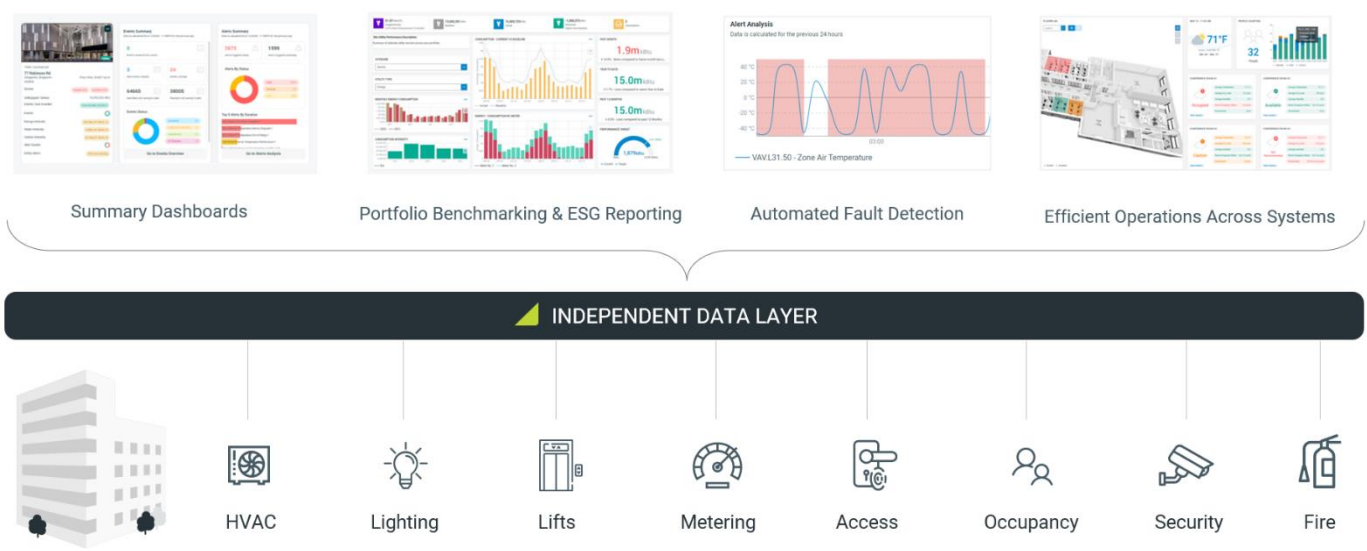
# How it works

Switch Automation's end-to-end software solution is both industry and hardware agnostic, and delivers cost-effective, quickly deployed solutions for corporate and commercial real-estate owners, healthcare, education, financial, government, manufacturing, and hospitality enterprises. Our vast library of out-of-the-box integrations and workspaces underpin rapid time-to-value, and adoption.

We take the hassle out of collecting and understanding data, shifting the focus to the top priorities: Reducing carbon footprint, improving efficiency, and enhancing user experience.

## Configurable Enterprise Operational Software

Connect to disparate systems and form the independent data layer to enable a holistic approach to asset management.



Identify and aggregate data from across your assets leveraging the Switch + Intel powered IoT Appliance, unlocking our expansive library of integrations and B2B connectors, and out-of-the-box use cases.



# Solution Overview

## Switch IoT Appliance

The Switch OS running on an **Intel** appliance enables seamless and secure data flow between building devices and the cloud, making it an ideal monitoring and control system.

Providing pre-integrated, pre-validated hardware and software building blocks from **Intel**, the appliance is a key ingredient for enabling the connectivity of legacy devices and other systems to the rapidly proliferating IoT layer driving data and intelligence in the built space. It integrates technologies and protocols for networking, embedded control, enterprise-grade security, and manageability on which application-specific software can run.



UNO 420



UNO 2271G Series  
(for large sites)

## Architecture:



Switch Automation's architecture connects building devices, OEM systems, IoT, utility or other data sources to the Switch Cloud.

Facilitating these connections are Switch + **Intel** IoT Appliances, PyPI import tasks (where custom file "mappings" can be used to automate transfers), and a Switch API all of which enables existing and new sources of data to be rapidly collected, normalized, and analyzed.

All data integrated to the Switch Platform is available for call (via Switch API) or export using file export (.csv, .xlsx, .ttl)/FTP tools. This is the foundation of the IDL and means that Switch creates a data management and sharing venue for enterprises to coordinate and orchestrate data sharing both internally and with authorized third parties.

## Questions?

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