SIP+ IF Data Acquisition

Smart data from buildings saves energy and money

Big data analytics, used for everything from deep analysis of financial transactions to retail buying habits, is now being used to optimise the energy usage of commercial buildings from retail stores to data centres.

This detailed analysis of smart data from buildings can identify patterns and trends in energy consumption, unlocking a future of energy savings for optimised buildings.

The smart data available from buildings systems and plant can be used in a variety of ways. From simple alarm notification and condition monitoring of plant, through to researchers using the data for building usage modelling. Many different people are now requiring smart data from buildings for a varied range of applications and reasons.

The scope for energy savings and preventative maintenance can be vast, saving both time and money. Through analysing smart building data anomalies and potential savings can be found and addressed, for example:

- Identifying energy intensive plant such as boilers running for extended periods of time when not required to do so. A new control strategy can be implemented, energy usage and costs will fall.

Smart data acquisition made simple

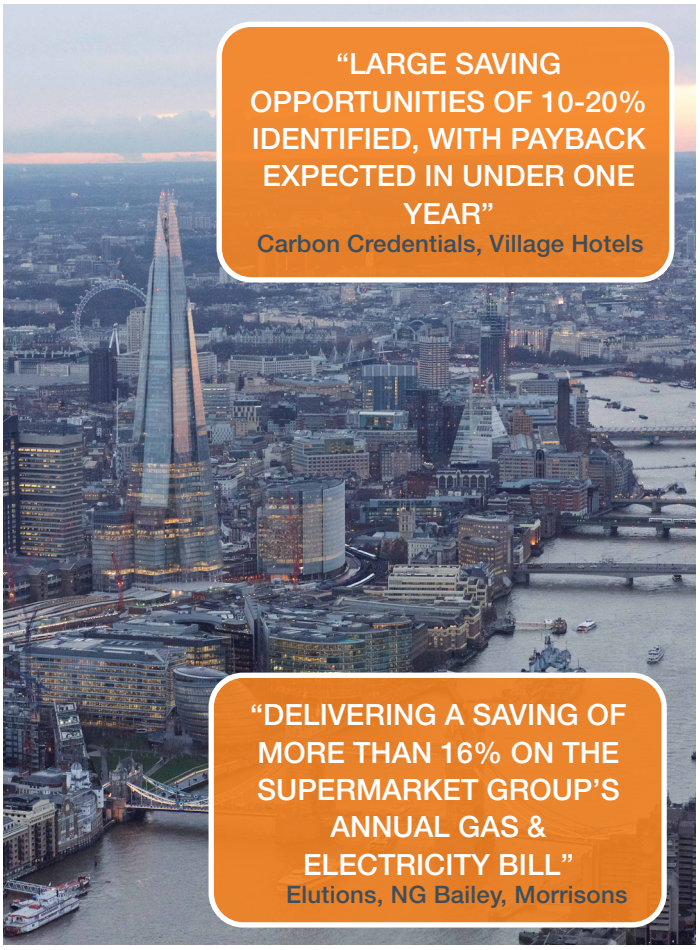
Data acquisition has been made simple with our new multi-protocol SIP+ Data IF Acquisition hardware. The hardware extracts data from Building Management Systems, plant, sensors, meters, etc. for analysis and/or integration with other systems and platforms such as our own iNSIGHT EBIS/Billing and/or third parties. This analysis can then pinpoint areas and support strategies for reducing energy consumption and lowering running costs of a building or estate.

The innovative SIP+ Data IF Acquisition product gathers high volumes of real-time data from a wide variety of plant, sensors, meters and systems such as gas, electricity, temperature, biomass, humidity, power usage meters etc. at regular intervals. Reports can then be generated and sent via e-mail, FTP, securely by SFTP, FTPS or queried directly via MySQL to many third party system such as a data analytics or billing provider and can be interfaced to a Trend, BACnet or Modbus BMS.

SIP+ Data IF is a flexible and cost-effective solution which has been designed for receiving and transmitting data via multiple protocols such as Modbus, M-Bus, BACnet, Trend and IoT (MQTT and REST)

The quantity and quality of the smart data gathered gives plenty of scope for meaningful analysis, allowing the smallest fluctuations in building efficiency to be monitored, identified and adjusted. At sufficient scale, these small improvements in building performance can result in substantial reductions in running costs.

SIP+ Data IF is a simple solution for a complex process, helping organisations harness the potential of the smart building performance data at their fingertips.



Smart data can be collected from

- Building Management and Energy Management systems
- IOT Sensors
- Presence detection
- EDGE / REST / MQTT
- Occupancy
- Metrics
- Variable speed drives HVAC systems
- Gas / Electricity / Water and Biomas meters
- Humidity / Temperature sensors
- Power usage meters
- Output drives for fans
- HVAC systems
- Heating and cooling parameters
- And many more sensors, systems and plant

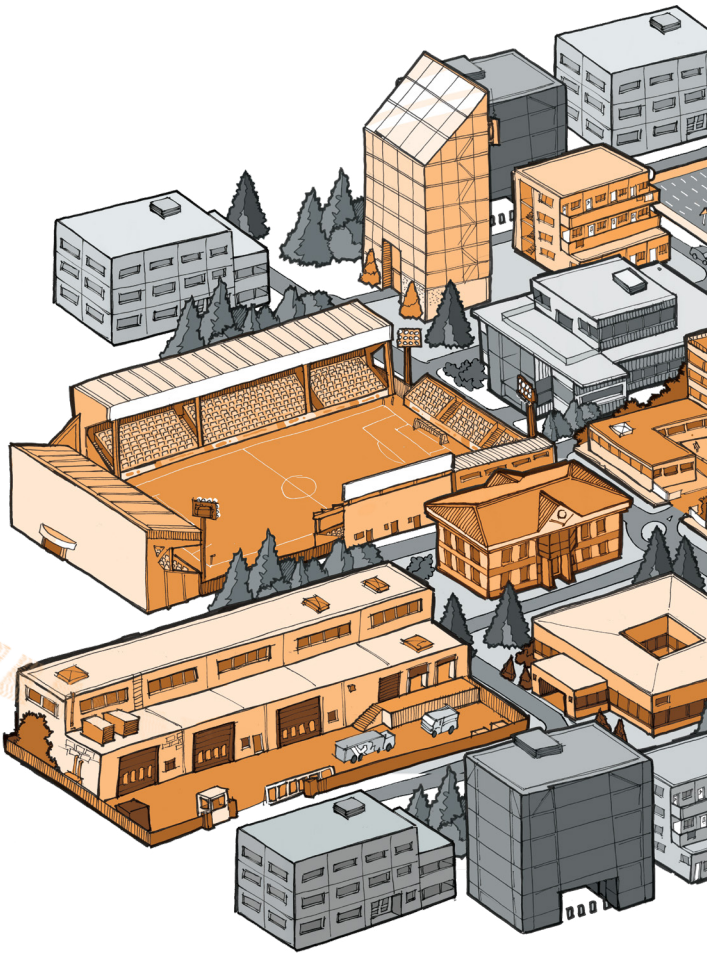
Access the smart data from your buildings and estates

Analytics

Smart data supplied from a SIP+ Data IF onsite can be used for high level analytics to gain real time insights and performance information to better improve the operation of the systems within a building or estate.

Energy efficiency strategies

Using the Smart data from the building, energy efficient strategies and recommendations can be constructed and fed back to the building owner, SI, FM company or person responsible for the BMS control of the building. Changes can then be made to the BMS which will improve the energy efficiency of the building systems and therefore save money.



The SIP+ Data IF continually polls each of the configured building systems, according to that devices/points and network constraints. This provides a constant stream of Smart Data for analysis and identification of fluctuations in building and plant efficiency.

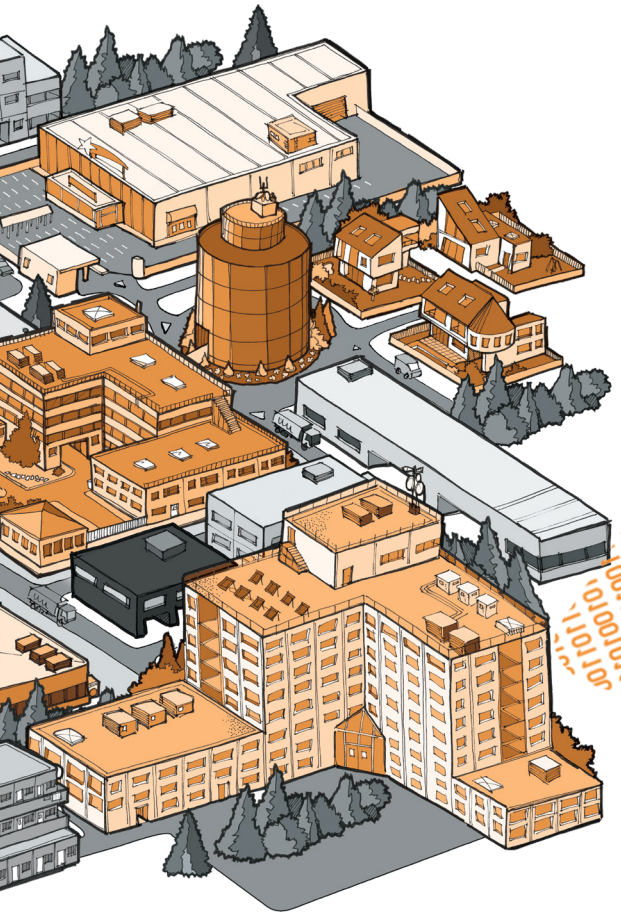
Fault finding / Identification / Integration

Smart Data can also highlight plant or systems which have failed or identify plant or systems likely to fail meaning steps can be put in place before a major problem occurs.

Continuous / Real-time saving and improvement

SIP+ Data IF provides a constant stream of Smart data for analysis which is used to make continuous improvements to the building systems as seasonal conditions or use of the building change.

Real-time data from SIP+ Data IF provides scope for energy purchase optimisation - the purchase of energy against historic use and the current demand.



Optimised control strategies and changes are fed back into the buildings or estates BMS system manually or automatically depending on customer requirements.

SIP+ Data IF variants and reporting features

Available in 500 / 1000 / 2000 / 4000 / 6000 input point variants and are fully compatible with our SIPslice M-Bus and SIPslice Serial products making it even easier to integrate your building plant and systems.

Reporting from the device is to a maximum of 20 recipients, via Email or FTP (inc. secure FTP). Various reporting formats available from the device include

- Standard (1 file per point)
- Single file (1 file all points horizontally)
- Billing/Half Hourly Log file (1 file per point, Synapsys Solutions SaaS compatible)
- Single file Vertical (1 file all points vertically, 50 Datapoints per Recipient)
- Single file Grouped (1 file all points according to defined group requirements)

SIP+ Data IF additional features

The device also provides a Trend BMS network diagnostic (metadata) report via a specially created profile. This functionality can prove to be very useful where the building or estates BMS network may not be reliable and therefore faults can be pinpointed and rectified. The data collected can also be interfaced to a Trend, BACnet or Modbus BMS.

Keeping data secure

In today's environment the security of systems and data has become one of the main topics for discussion, especially when looking at building management systems and the data held within them.

The Synapsys SIP+ Data IF range of products ensures your building data is held, accessed and transferred securely when required.

The SIP+ Data IF device can support the two mainstream protocols available for Secure FTP transfers named SFTP (FTP over SSH) and FTPS (FTP over SSL).

Both SFTP and FTPS offer a high level of protection as they implement strong algorithms to encrypt any data transferred. The most notable differences between SFTP and FTPS is how connections are authenticated and managed.

The ability to enable this secure file transfer coupled with the password requirements for accessing the SIP+ Data IF device ensures our solution meets the requirements set out by our customers.

SIP+ Data IF product at a glance

- Cost-effective on-site data acquisition and transfer solution
- Easy to install and commission, hardware based system
- Straightforward to retrofit, no downtime
- No ongoing licenses or maintenance fees
- High volume, real time smart data exchange
- Data export via CSV, mySQL
- GSM connectivity
- Extensive customisation tools
- Simple to use
- Comprehensive technical and software support
- Cost effective solution

Commissioning made simple

Commissioning of the device is simple, with support documentation available from our SIP Integrator web portal. We also have a technical support team on hand for any questions or queries you may have while commissioning our products.

For more information about Synapsys and our product range please visit www.synapsys-solutions.com.

Alternatively to speak with one of our team in more detail or to arrange a demonstration of our products and solutions, please contact us on 01444 246 128 and we will be happy to discuss your requirements.

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