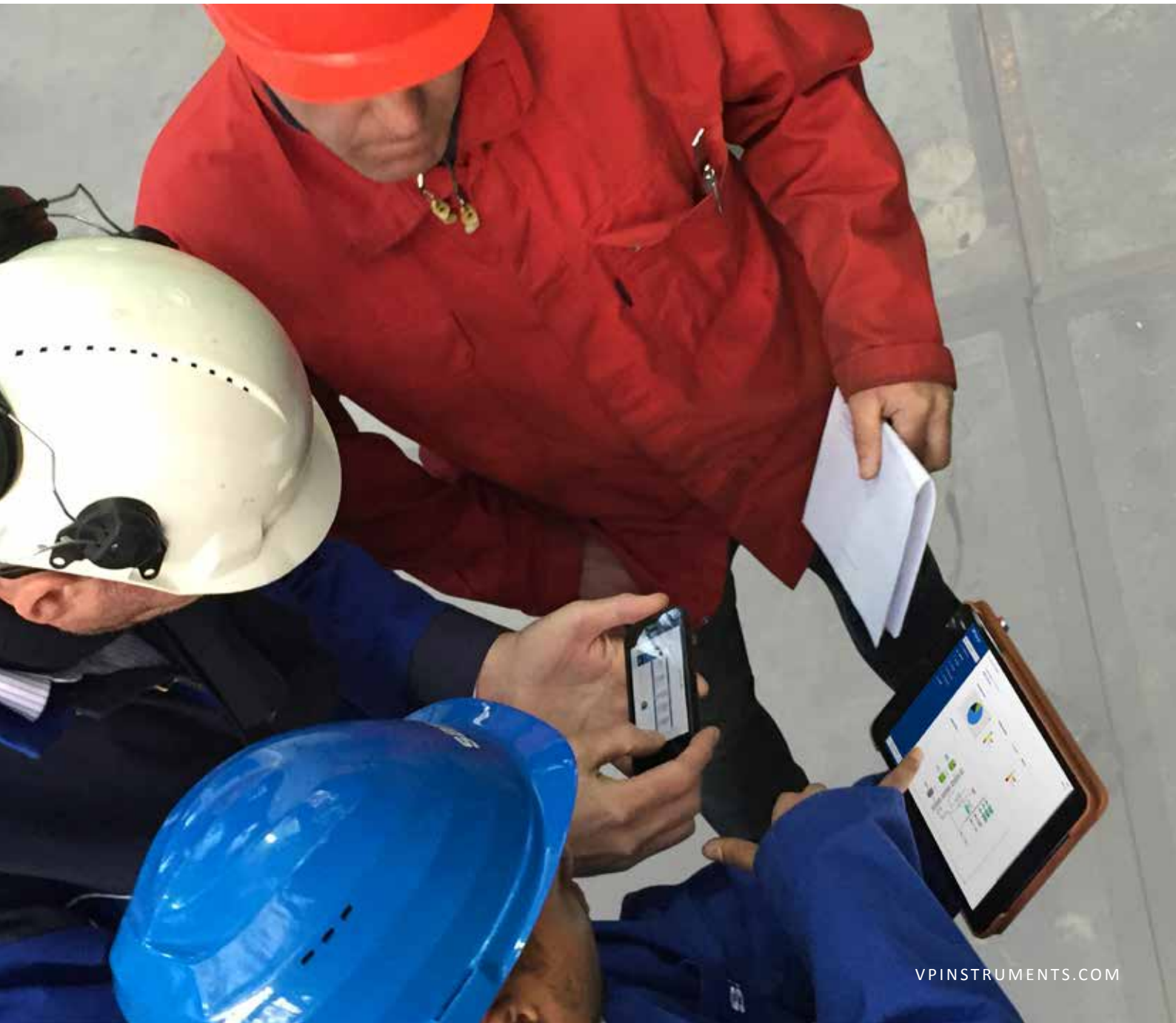


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# VPVISION

Real time energy monitoring





'The VPVision system is easy to understand and we have been able to customize it to meet our monitoring needs.'

- California Steel Industries



CALIFORNIA STEEL INDUSTRIES, INC.



'The VPVision system helps us to keep our compressed air system running at optimum efficiency.'

- Bolletje's Bakery



# VPVISION

- > Complete energy monitoring
- > Fast return on investment
- > Easy to use
- > Web based
- > Cloud ready, VPN
- > Flexible, Scalable
- > Supports your ISO 50001 Energy Management System

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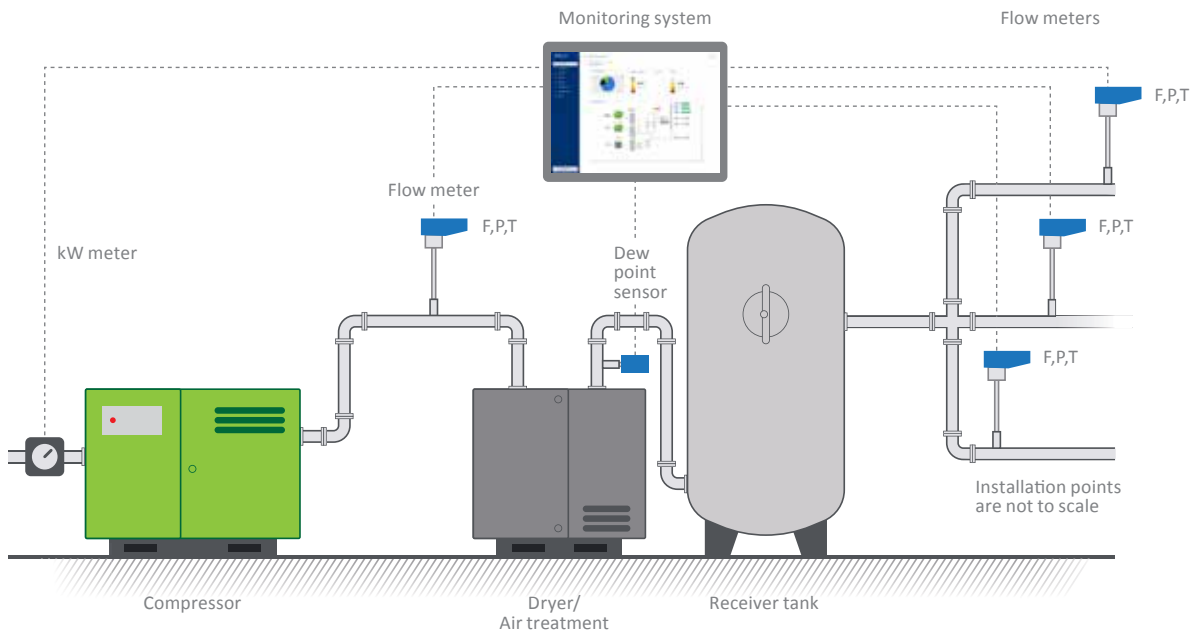
## Your factory deserves real time energy monitoring

VPVision is the complete real time energy monitoring solution for all utilities within your company. By monitoring your consumption, you can manage your supply and demand side. Take factual and well-founded decisions on your costs and investments. Reveal the true costs of all your utilities, including compressed air, technical gases, steam, vacuum, natural gas, electricity, wastewater, heating fuels etc.



# For energy monitoring and more

VPVision offers you the complete monitoring solution for energy flows and environmental registrations. VPVision is extremely flexible and adaptable, it fits small, large and growing companies. You can customize VPVision yourself: add channels, change dashboards, and create reports yourself.



1+2/3

## Highlights

- > Complete energy monitoring for all your utilities
- > On-premise data storage, safe and secure on the industrial rugged VPVision Edge device
- > Complete web-based Energy Management software with customizable screens
- > Accessible via Ethernet and/or 3G/4G via the built-in VPN router
- > Visualize your measurement data in easy dashboards, including KPI's, charts, graphs, consumption overviews, P&IDs, and more
- > Automated PDF reports with e-mail function and alarm messages: no need to look at the system itself anymore
- > Easy to use interface
- > Flexible & Scalable: Start small and extend over time, limitless in sensors
- > Supports your ISO 50001 Energy Management System

Virtual channels enable you to combine sensor signals and create another virtual sensor. For example, you can combine two flow meters to calculate the sum of or the difference between them, to allocate costs to specific areas inside your plant.

## Applications

- > Performance and efficiency measurements of utilities and capital machinery
- > Optimize maintenance schedules by immediately detecting issues or misuse
- > Costs allocation towards machines/production lines/departments
- > Benchmark between machines/production lines/departments
- > Establish your energy base line and set critical energy performance indicators (KPI's)
- > Quantify energy savings activities
- > Monitor and optimize your control systems
- > Correct sizing of equipment

## Dashboard examples

Define and monitor your own KPI's.  
With clear color indication the current status is immediately visible.

Understand your main consumers to give direction where to start with your energy savings initiatives.

Combine sensor data in one graph for a more granular analysis to debottleneck problems or to discover savings potentials.

VPVision provides the necessary data to get approval for your improvement projects and/or for energy rebate programs. And even better, with the data before and after your project, you register the actual changes.



*"VPVision is very easy to use. It provides us a real time view via a web interface, without the need to install any software. It provides us a lot of information in a simple way."*

*Samsung Poland*

## Total peace of mind with automated Reports & Alarms

Create your own reports and have it in your mailbox weekly or monthly. The reports are fully customizable, and different types of reports can be made for different roles. Track your KPI's, consumption overviews, load/onload hours of your compressors, performance trends compared to the last report and much more.

Furthermore, on any measurement channel you can program an alarm and decide how you are notified in case of an event: in the VPVision software, in the reports and/or by email.

The image displays three screenshots of the VPVision REPORT software interface, each showing a different section of a report. The reports are titled 'VPVision REPORT' and include various data tables and charts.

**Report 1: Overview Air Usage**

PARAMETER	CURRENT PERIOD	LAST PERIOD	DELTA	YTD	UNIT
Production 1 (Standard)	10770	10786	16	10781	m³/h
Production 2 (Standard)	10815	10817	2	10816	m³/h
Production 3 (Standard)	10815	10815	0	10815	m³/h
Production 4 (Standard)	10815	10815	0	10815	m³/h
Production 5 (Standard)	10815	10815	0	10815	m³/h
Production 6 (Standard)	10815	10815	0	10815	m³/h
Total	10800	10800	0	10800	m³/h

**AIR DISTRIBUTION**

Production 1: 10770 m³/h  
 Production 2: 10815 m³/h  
 Production 3: 10815 m³/h  
 Production 4: 10815 m³/h  
 Production 5: 10815 m³/h  
 Production 6: 10815 m³/h  
 Total: 10800 m³/h

**ELECTRICITY USAGE**

PARAMETER	CURRENT PERIOD	LAST PERIOD	DELTA	YTD	UNIT
Compressor 1 (Standard)	10000	10000	0	10000	kWh
Compressor 2 (Standard)	10000	10000	0	10000	kWh
Compressor 3 (Standard)	10000	10000	0	10000	kWh
Production 1 (Standard)	10000	10000	0	10000	kWh
Production 2 (Standard)	10000	10000	0	10000	kWh
Production 3 (Standard)	10000	10000	0	10000	kWh
Production 4 (Standard)	10000	10000	0	10000	kWh
Production 5 (Standard)	10000	10000	0	10000	kWh
Production 6 (Standard)	10000	10000	0	10000	kWh
Total	10000	10000	0	10000	kWh

**KPI'S**

PARAMETER	CURRENT PERIOD	LAST PERIOD	DELTA	UNIT	STATUS
Compressor 1 (Standard)	10000	10000	0	kWh	OK
Compressor 2 (Standard)	10000	10000	0	kWh	OK
Compressor 3 (Standard)	10000	10000	0	kWh	OK
Production 1 (Standard)	10000	10000	0	kWh	OK
Production 2 (Standard)	10000	10000	0	kWh	OK
Production 3 (Standard)	10000	10000	0	kWh	OK
Production 4 (Standard)	10000	10000	0	kWh	OK
Production 5 (Standard)	10000	10000	0	kWh	OK
Production 6 (Standard)	10000	10000	0	kWh	OK
Total	10000	10000	0	kWh	OK

**Report 2: Dryer Temperature**

PARAMETER	MIN	MAX	AVERAGE	
Drying Temperature (Standard)	5.26	52.36	5.39	°C
Drying Temperature (Standard)	56.31	56.31	56.31	°C

**WATER USAGE**

PARAMETER	CURRENT PERIOD	LAST PERIOD	DELTA	YTD	UNIT
Water 1 (Standard)	10000	10000	0	10000	m³
Water 2 (Standard)	10000	10000	0	10000	m³
Water 3 (Standard)	10000	10000	0	10000	m³
Water 4 (Standard)	10000	10000	0	10000	m³
Water 5 (Standard)	10000	10000	0	10000	m³
Water 6 (Standard)	10000	10000	0	10000	m³
Water 7 (Standard)	10000	10000	0	10000	m³
Water 8 (Standard)	10000	10000	0	10000	m³
Water 9 (Standard)	10000	10000	0	10000	m³
Water 10 (Standard)	10000	10000	0	10000	m³
Water 11 (Standard)	10000	10000	0	10000	m³
Water 12 (Standard)	10000	10000	0	10000	m³
Water 13 (Standard)	10000	10000	0	10000	m³
Water 14 (Standard)	10000	10000	0	10000	m³
Water 15 (Standard)	10000	10000	0	10000	m³
Water 16 (Standard)	10000	10000	0	10000	m³
Water 17 (Standard)	10000	10000	0	10000	m³
Water 18 (Standard)	10000	10000	0	10000	m³
Water 19 (Standard)	10000	10000	0	10000	m³
Water 20 (Standard)	10000	10000	0	10000	m³
Water 21 (Standard)	10000	10000	0	10000	m³
Water 22 (Standard)	10000	10000	0	10000	m³
Water 23 (Standard)	10000	10000	0	10000	m³
Water 24 (Standard)	10000	10000	0	10000	m³
Water 25 (Standard)	10000	10000	0	10000	m³
Water 26 (Standard)	10000	10000	0	10000	m³
Water 27 (Standard)	10000	10000	0	10000	m³
Water 28 (Standard)	10000	10000	0	10000	m³
Water 29 (Standard)	10000	10000	0	10000	m³
Water 30 (Standard)	10000	10000	0	10000	m³
Water 31 (Standard)	10000	10000	0	10000	m³
Water 32 (Standard)	10000	10000	0	10000	m³
Water 33 (Standard)	10000	10000	0	10000	m³
Water 34 (Standard)	10000	10000	0	10000	m³
Water 35 (Standard)	10000	10000	0	10000	m³
Water 36 (Standard)	10000	10000	0	10000	m³
Water 37 (Standard)	10000	10000	0	10000	m³
Water 38 (Standard)	10000	10000	0	10000	m³
Water 39 (Standard)	10000	10000	0	10000	m³
Water 40 (Standard)	10000	10000	0	10000	m³
Water 41 (Standard)	10000	10000	0	10000	m³
Water 42 (Standard)	10000	10000	0	10000	m³
Water 43 (Standard)	10000	10000	0	10000	m³
Water 44 (Standard)	10000	10000	0	10000	m³
Water 45 (Standard)	10000	10000	0	10000	m³
Water 46 (Standard)	10000	10000	0	10000	m³
Water 47 (Standard)	10000	10000	0	10000	m³
Water 48 (Standard)	10000	10000	0	10000	m³
Water 49 (Standard)	10000	10000	0	10000	m³
Water 50 (Standard)	10000	10000	0	10000	m³
Water 51 (Standard)	10000	10000	0	10000	m³
Water 52 (Standard)	10000	10000	0	10000	m³
Water 53 (Standard)	10000	10000	0	10000	m³
Water 54 (Standard)	10000	10000	0	10000	m³
Water 55 (Standard)	10000	10000	0	10000	m³
Water 56 (Standard)	10000	10000	0	10000	m³
Water 57 (Standard)	10000	10000	0	10000	m³
Water 58 (Standard)	10000	10000	0	10000	m³
Water 59 (Standard)	10000	10000	0	10000	m³
Water 60 (Standard)	10000	10000	0	10000	m³
Water 61 (Standard)	10000	10000	0	10000	m³
Water 62 (Standard)	10000	10000	0	10000	m³
Water 63 (Standard)	10000	10000	0	10000	m³
Water 64 (Standard)	10000	10000	0	10000	m³
Water 65 (Standard)	10000	10000	0	10000	m³
Water 66 (Standard)	10000	10000	0	10000	m³
Water 67 (Standard)	10000	10000	0	10000	m³
Water 68 (Standard)	10000	10000	0	10000	m³
Water 69 (Standard)	10000	10000	0	10000	m³
Water 70 (Standard)	10000	10000	0	10000	m³
Water 71 (Standard)	10000	10000	0	10000	m³
Water 72 (Standard)	10000	10000	0	10000	m³
Water 73 (Standard)	10000	10000	0	10000	m³
Water 74 (Standard)	10000	10000	0	10000	m³
Water 75 (Standard)	10000	10000	0	10000	m³
Water 76 (Standard)	10000	10000	0	10000	m³
Water 77 (Standard)	10000	10000	0	10000	m³
Water 78 (Standard)	10000	10000	0	10000	m³
Water 79 (Standard)	10000	10000	0	10000	m³
Water 80 (Standard)	10000	10000	0	10000	m³
Water 81 (Standard)	10000	10000	0	10000	m³
Water 82 (Standard)	10000	10000	0	10000	m³
Water 83 (Standard)	10000	10000	0	10000	m³
Water 84 (Standard)	10000	10000	0	10000	m³
Water 85 (Standard)	10000	10000	0	10000	m³
Water 86 (Standard)	10000	10000	0	10000	m³
Water 87 (Standard)	10000	10000	0	10000	m³
Water 88 (Standard)	10000	10000	0	10000	m³
Water 89 (Standard)	10000	10000	0	10000	m³
Water 90 (Standard)	10000	10000	0	10000	m³
Water 91 (Standard)	10000	10000	0	10000	m³
Water 92 (Standard)	10000	10000	0	10000	m³
Water 93 (Standard)	10000	10000	0	10000	m³
Water 94 (Standard)	10000	10000	0	10000	m³
Water 95 (Standard)	10000	10000	0	10000	m³
Water 96 (Standard)	10000	10000	0	10000	m³
Water 97 (Standard)	10000	10000	0	10000	m³
Water 98 (Standard)	10000	10000	0	10000	m³
Water 99 (Standard)	10000	10000	0	10000	m³
Water 100 (Standard)	10000	10000	0	10000	m³

**Report 3: Compressor 1**

PARAMETER	MIN	MAX	AVERAGE	
Compressor 1 (Standard)	1.0	1.0	1.0	°C
Compressor 1 (Standard)	1.0	1.0	1.0	°C

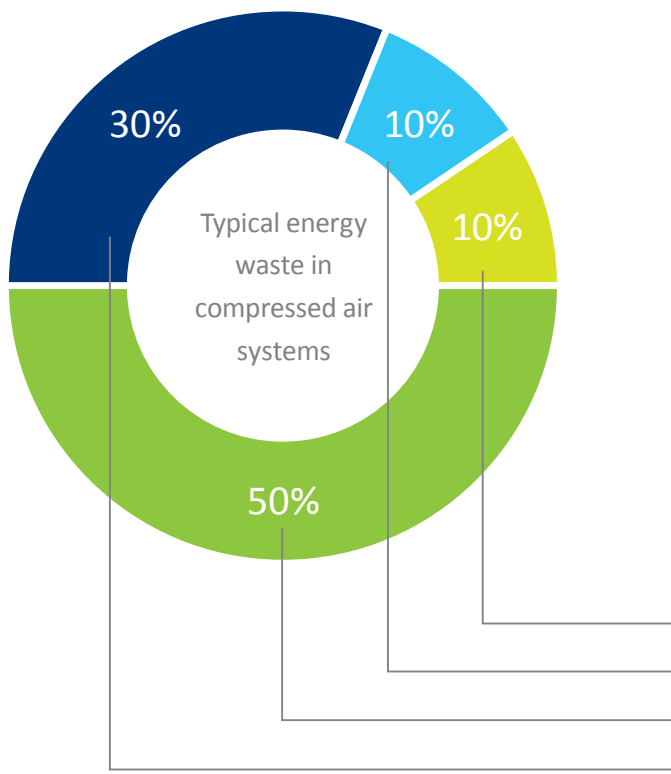
**COMPRESSOR 1**

- Standard: 1.0 °C, 2.00 Euro
- Running: 1.0 °C, 1.75 Euro
- Total consumption: 1.00 Euro, 1.00 Euro
- Total costs: 1.00 Euro

*"VPVision is a really powerful tool to keep our compressed air flow consumption at the lowest possible level. It helps us to prevent leakage and to optimize our compressed air supply."* Kikkoman Europe

# Unleash your savings potential

Energy is expensive. Electricity, gas and water are often a company's biggest bills. They are commonly used and often wasted. Compressed air is a notoriously expensive utility, as it is nearly 10 times more expensive than electricity. Peak loads on your electricity consumption can result in high penalties. Other necessities, such as wastewater, are becoming heavily taxed. These are all good reasons to monitor your energy consumption and look for potential savings.



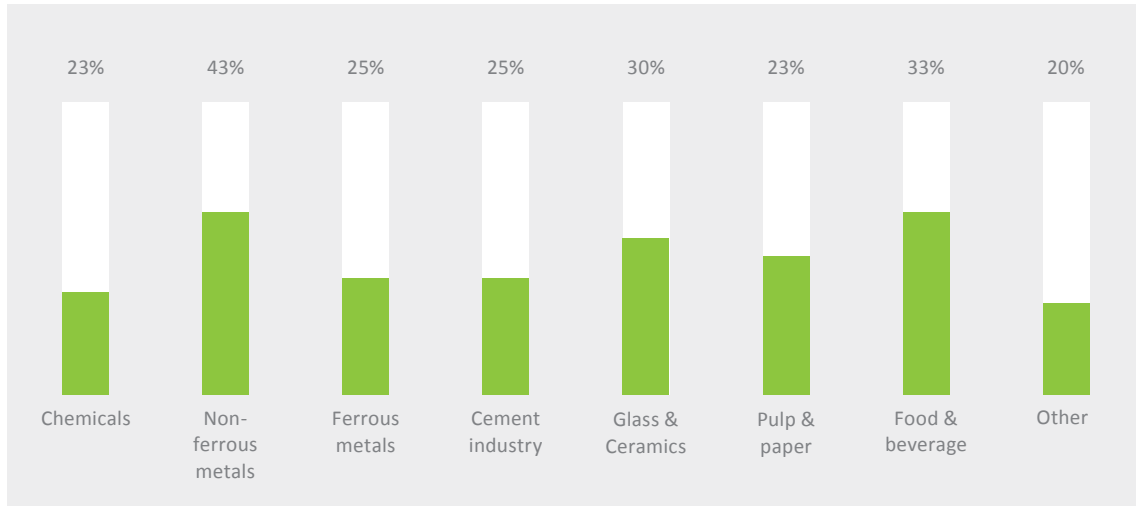
As an example, let's take a closer look at one of your utilities: compressed air. Only 50% of the generated compressed air is effectively used. The other 50% is often wasted. A monitoring system will help reduce this waste of energy and money, and maintain your consumption at the lowest possible level.

- Artificial demand
- Inappropriate use
- Production
- Leaks



## Average savings potential per industry

Energy savings potentials are enormous. Most companies have not yet gotten serious about energy savings. Even in industrialized countries the savings potential is between 10% and 40%. In developing countries the potential could be as high as 50%.





# Complete the cycle



## Energy management is a continuous process

Create awareness through permanent monitoring. VPVision is the perfect tool.

### Step 1

Prepare yourself and your team. Involve your management and set the goals you want to achieve.

### Step 2

Define the current state of energy flows and systems. Gather data and identify opportunities.

### Step 3

Analyze the results and plan the actions to improve efficiency.

### Step 4

Implement the actions. Execute the plan; drive towards the goal.

## Why permanent monitoring?

A one off energy audit will render a one-time only reduction of energy costs. After a certain period of time, your costs will increase. Whereas 24/7 monitoring enables you to track any changes in your system, to take action immediately, and thereby to keep energy costs at a minimum.



# Technology

VPVision is a subscription based energy monitoring solution, which is pre-installed on a dedicated industrial hardware platform. VPVision collects all data, once per second, and stores it securely in an SQL database. The data is made available real-time via a built-in web server, which can be accessed from any pc, tablet or smartphone.

## Brand Neutral

VPVision is brand neutral and connects with any 4..20 mA sensor and Modbus RTU and TCP devices. It seamlessly integrates with VPInstruments' products as they are pre-configured in VPVision for your convenience; including our VPFlowScope flow meters, dew points sensors and power meters.

## Default hardware connections

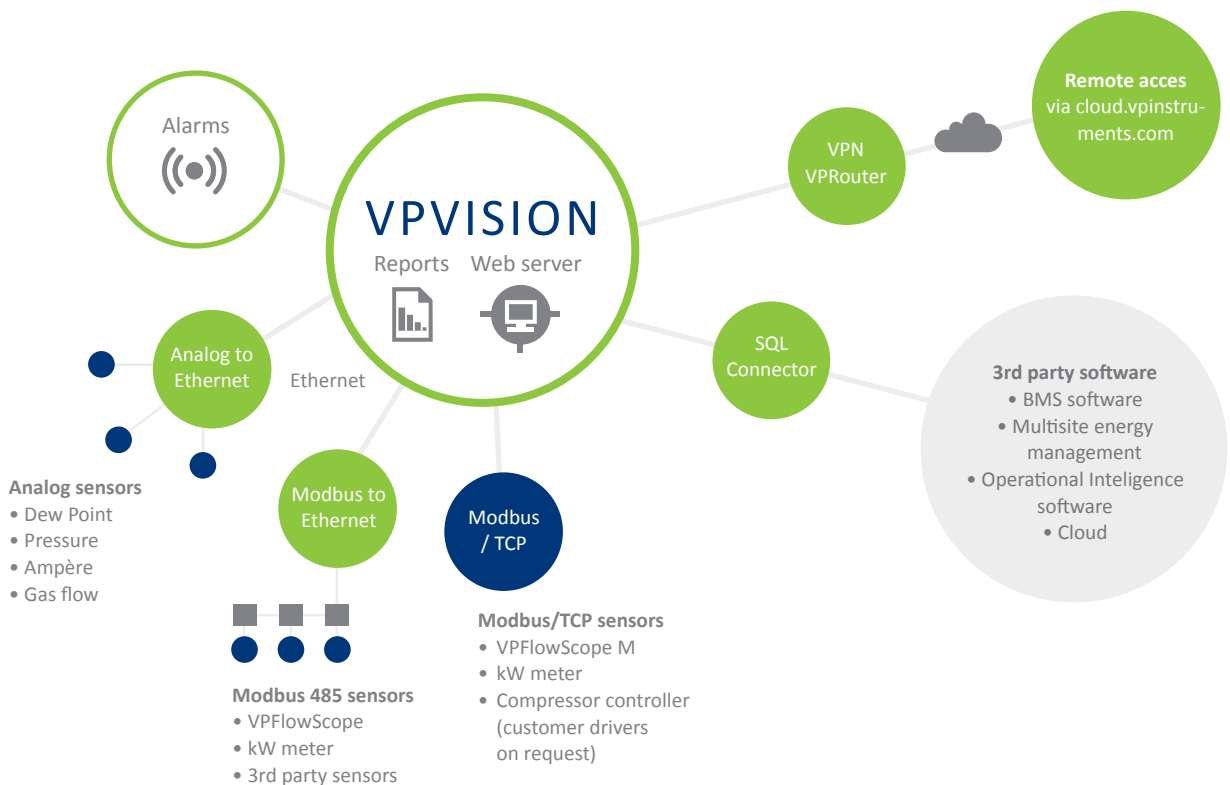
The VPVision hardware has 8 analog and 8 Modbus inputs built-in for direct connection and can power 8 sensors. You can extend VPVision with additional I/O modules or just

simply connect a multitude of sensors through Ethernet.

## Cloud ready

VPVision is cloud enabled, via a built-in VP(n) Router. Prevent costly on-site visits and perform remote audits and system checks. With a valid subscription, the system is updated automatically and you continuously benefit from the latest features.

The SQL connector module can be used to link VPVision data to third party software, for example a building management system.

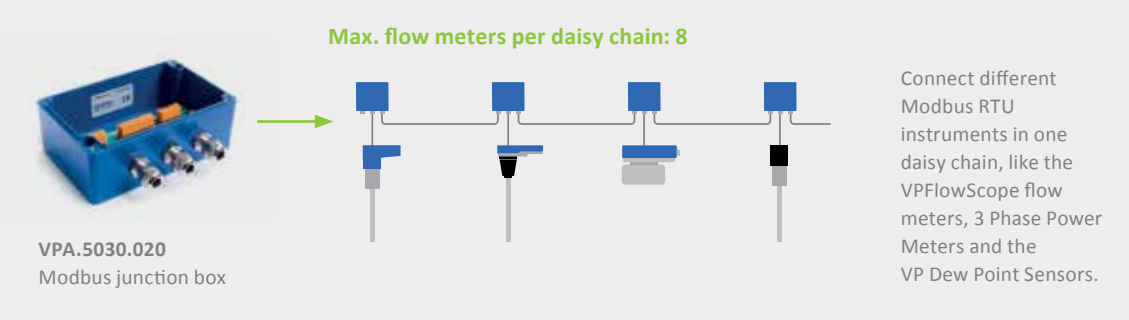


# Complete your monitoring project

## Start up and commissioning

VPIstruments offers both distributors and end users a start-up and commissioning service. After all electric installation work has been completed, we can send one of our engineers to configure the entire system.

## Easy daisy chain connection with the Modbus junction boxes

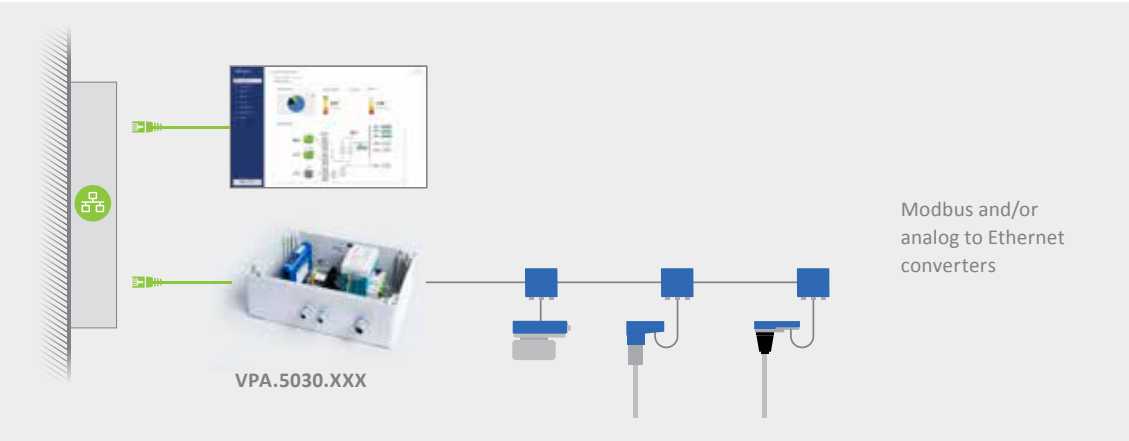


**Max. flow meters per daisy chain: 8**

VPA.5030.020  
Modbus junction box

Connect different Modbus RTU instruments in one daisy chain, like the VPFlowScope flow meters, 3 Phase Power Meters and the VP Dew Point Sensors.

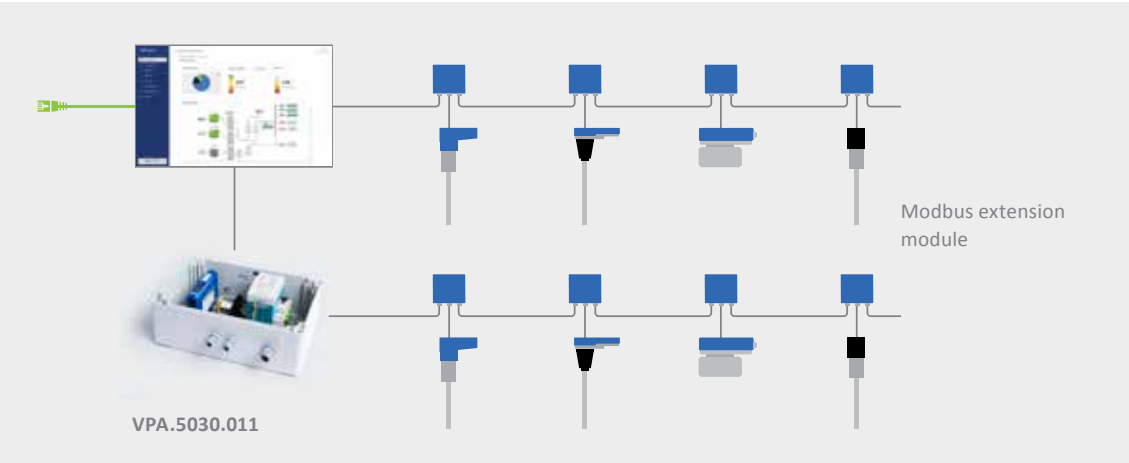
## Bridge large distances with Ethernet converters (analog and/or Modbus)



VPA.5030.XXX

Modbus and/or analog to Ethernet converters

## Extend direct hardwired connection of up to 8 Modbus devices



VPA.5030.011

Modbus extension module



easy insight into energy flows™

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