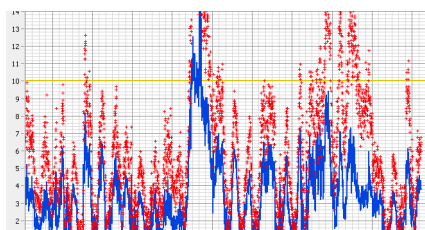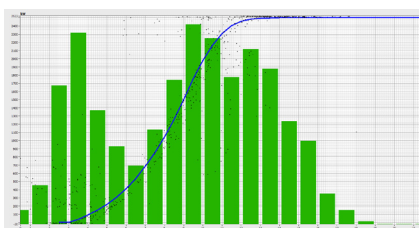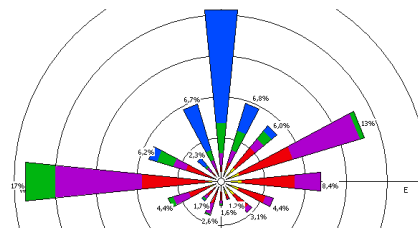# VISTA DATA VISION

DATA MANAGEMENT FOR WIND ENERGY DATA

Trend lines

Graph of Wind Speed distribution, Power Curve and production

Wind Rose

What is Vista Data Vision
VDV is a comprehensive data management system for long term measurements, storing data in a database, offering web access, alarm service, reports and application specific data handling toolkits for various disciplines

Why use VDV
Use the advanced and robust VDV data management system to analyze Turbine Performance over a period of time, web access to data and estimate Potential Power Output.

Who is using VDV
Our clients include consultants, researchers and educators in the fields of Wind resource Assessment, and Wind Farm performance.

TWENTY YEARS AND GOING STRONG

Since its beginning in 1984, Vista Engineering, the founder of Vista Data Vision, has been working with data monitoring systems. As soon as computers and programming became affordable we launched our first version of VDV in 1991. Ever since that day VDV has been in constant evolution adding new technologies to its core of functions. Now, with its advanced Visualization Interface and important features like Web Service, Summary Reports, Alarm Service, Trend Lines and Wind Rose, VDV is the most powerful Data Management service available for large and small projects.

Andres Thorarinsson CEO

WHAT DATA CAN BE IMPORTED?

One of Vista Data Vision core feature is to be able to import data from different source. If you are collecting data with a datalogger you can import the data into the VDV database.

Datalogger system supported
» Campbell Scientific
» NRG
» Second Wind
» Ammonit
» Athmospheric Systems Corporation
» and others

3 VERSIONS OF VDV

Vista Data Vision offers 3 versions to meet demands for different sizes of data services. All three versions run the same proven and speedy software engine.

Toolkits available for VDV:
» Wind Energy Toolkit
» Alarm Toolkit
» Validation Toolkit
» Report Toolkit
» Google Maps Toolkit
» VDV File Converter

Base Version
Entry level easy-to-use version, suitable for small datalogging systems and basic service.

Standard Version
For users utilizing small to average size data logging systems and do not need Access Control to the VDV web service. Includes features such as Virtual Variables & Intensity Plot.

Professional Version
For Professional Users who need all the tools to run Professional Data System for Field Measurements, including Web Access Control. VDV Pro is perfect for running a Data Hosting Service.
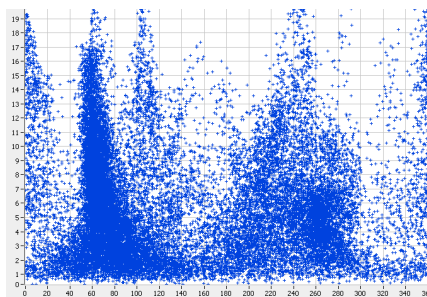
Visit **vistadatavision.com/version-comparison** for comparison of the three VDV versions.

VDV makes it easy to store data from different sources in a standard database and view it on a web page.
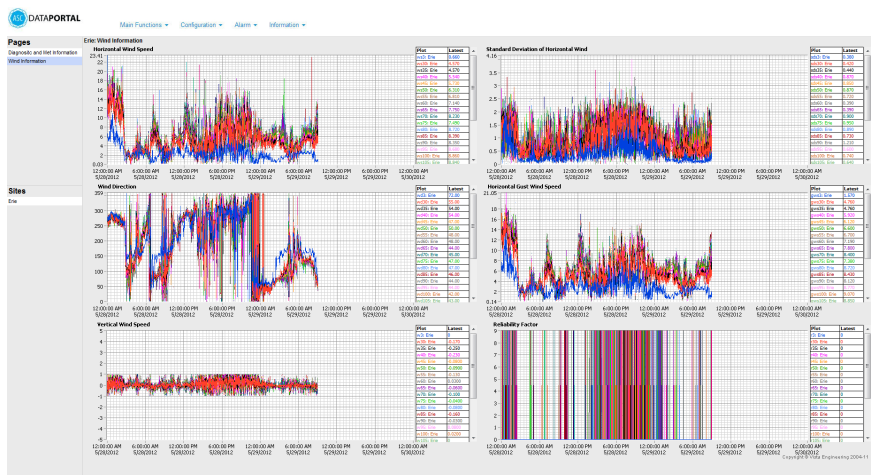
Vista Data Vision web page layout

THIS IS VISTA DATA VISION

XY-Plot showing Wind Speed vs. Wind Directoin

All Included
The Vista Data Vision (VDV) Data Management System contains powerful tools to store and organize data collected from a wide variety of data loggers. Using an intuitive interface, it only takes a few mouse-clicks to configure data storage, data visualization, alarm settings and web service.

Powerful
VDV operates on top of small and large datalogger networks containing tens and hundreds of dataloggers connected to thousands of sensors and serving a large number of users.

Visualization
A picture is worth a thousand words - This is the philosophy of VDV, with its graphical interface for all functions like Trend Lines, Alarm Notification, Real-Time Display and Google-Maps.

Quick Reports
Data is more than trend lines. VDV offers Quick Reports to help users to gain more information from time series. Quick Reports include XY graphs, Intensity Graphs, Overlay Graphs, Sort by Size, Histogram, Wind Rose and Download of Data.

Wind Energy Data Handling
VDV offers vital visualization of Wind Energy Data, like the filter Wind Rose, Overlay Graphs and time-series, all which are most useful for quick correlation of data and to help drawing conclusions about complex data sets.

Web Service
VDV has a built-in comprehensive Web Service serving any number of web-based users.

Hosting Service
VDV is the perfect choice for running a web based Data Hosting Service for your colleges and clients.
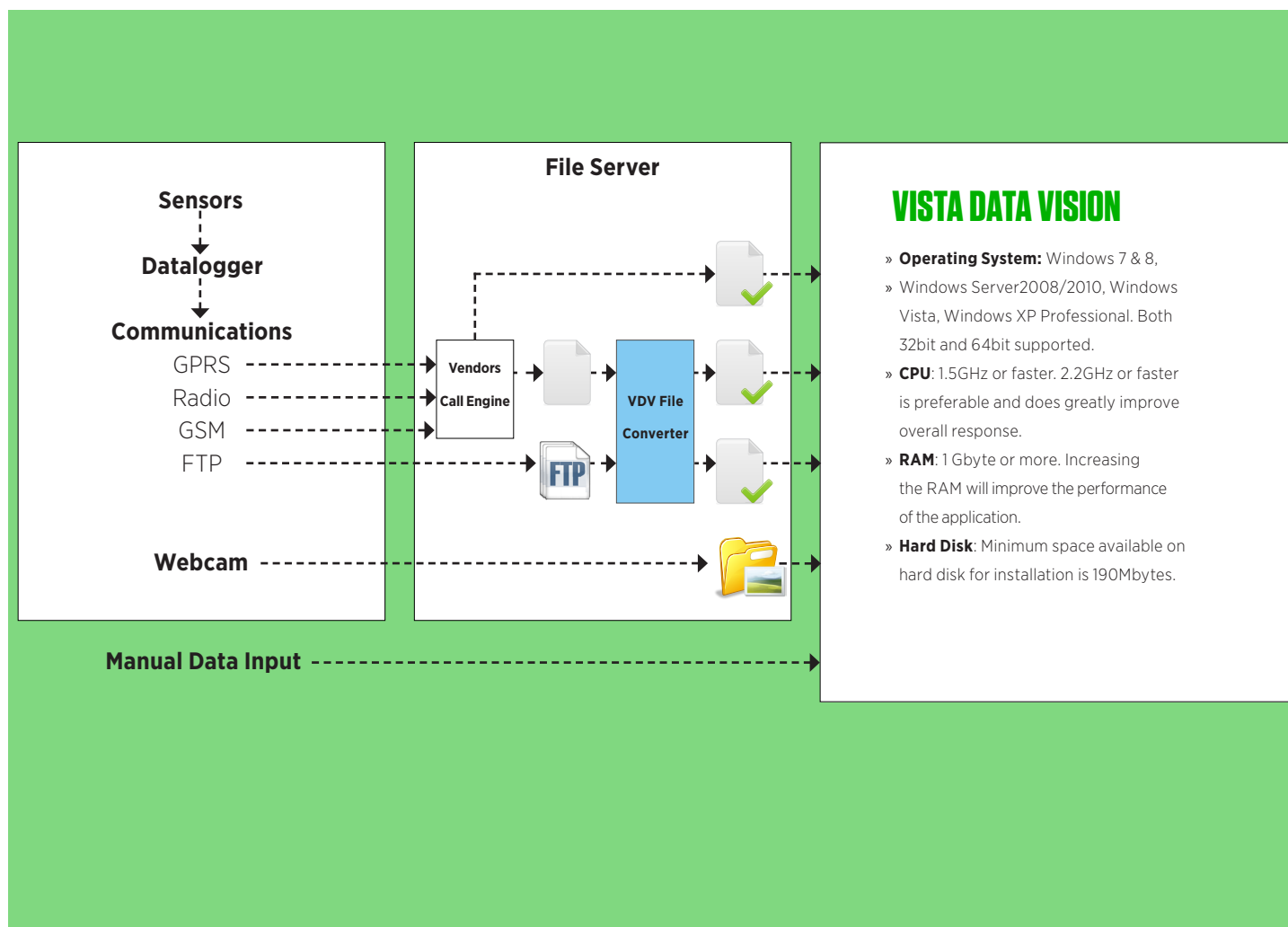
Operating System
Vista Data Vision can fully exploit latest technology for improved performance. VDV may be installed on Windows 7 & 8 and Windows Server 2008/2010. Full support is given for both 32bit and 64bit operating systems. VDV can run as a Service.

Web Browsers
VDV supports all major web browsers, such as Internet Explorer, Firefox, Chrome, Safari and Opera.

VISTA DATA VISION OVERVIEW

File Server

Sensors

Datalogger

Communications
GPRS
Radio
GSM
FTP

Webcam

Manual Data Input

Vendors
Call Engine

FTP

VDV File
Converter

VISTA DATA VISION

» **Operating System:** Windows 7 & 8,
» Windows Server2008/2010, Windows
  Vista, Windows XP Professional. Both
  32bit and 64bit supported.
» **CPU**: 1.5GHz or faster. 2.2GHz or faster
  is preferable and does greatly improve
  overall response.
» **RAM**: 1 Gbyte or more. Increasing
  the RAM will improve the performance
  of the application.
» **Hard Disk**: Minimum space available on
  hard disk for installation is 190Mbytes.

VDV in short
VDV offers data handling, storage, visualization, alarming, reporting and web access to data from any size of datalogger system. VDV is a complete solution covering fundamental needs as well as advanced features needed in professional Data Management System.

Datalogger systems supported
VDV can import data from almost any datalogger system, either directly or via the VDV File Converter.

Call Engine
Vendor´s Call Engine is used to collect data; thereafter VDV is pointed to import that data.

Manual Input of data
VDV offers Manual Input of data via web interface and via data files. New records may be added and edited online. This is useful for manual input of sensor readings.

Size of VDV
VDV supports small projects with just a few dataloggers as well as huge projects with hundreds of dataloggers and thousands of tags.

Keep Alive Monitor
VDV includes a Keep Alive Monitor to let Network Monitoring programs know if it is up and running. This is a must in 24/7/365 systems.

MySQL Database
VDV stores its data in the speedy and robust MySQL relational database. All operations are automatic and invisible to the user, so there is no need to be a database specialist. A MySQL commercial license is included with the purchase of VDV.

One system for all data
VDV is perfect for combining Wind Energy Project data and all other Environmental data into a single Data Handling system, offering an intuitive and very powerful graphical interface to data presentation and other data handling.
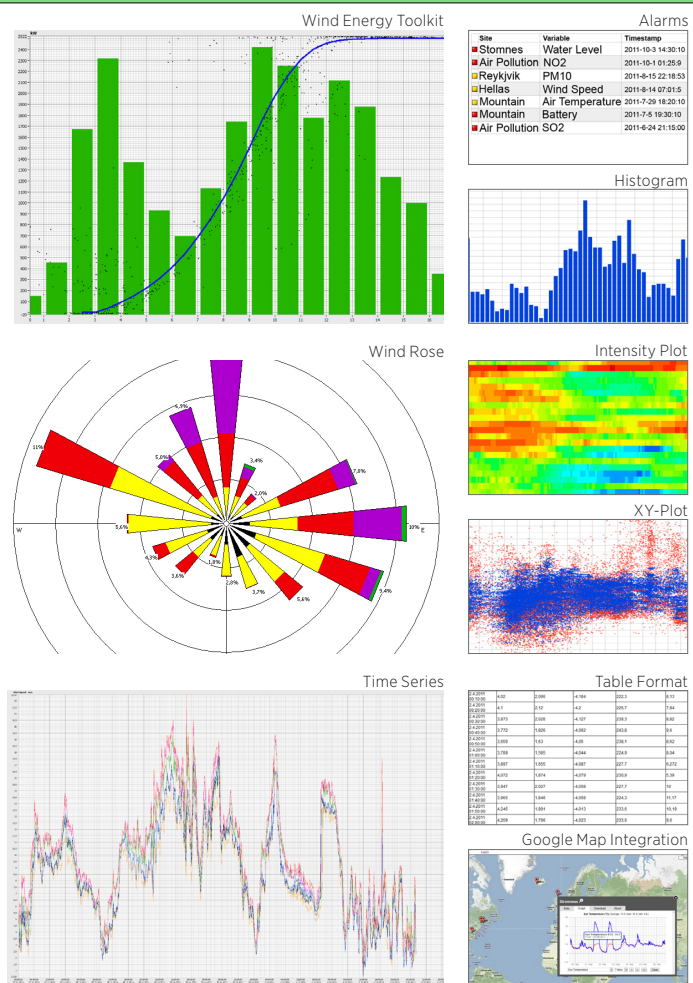
VISTA DATA VISION

» Display up to 300 trend lines simultaneously.
» Flexible configuration of graphs.
» Alarm settings and acknowledge online
» Comprehensive Report generator
   with automatic Reports
» Real-time Display with navigation buttons
» Support for Displacement Graphs
» Support for Total Stations

Local Users

Web Users

Contacts Alarms & Summary Reports

Wind Energy Toolkit

Alarms

Site	Variable	Timestamp
Stomnes	Water Level	2011-10-3 14:30:10
Air Pollution	NO2	2011-10-1 01:25:9
Reykjvik	PM10	2011-8-15 22:18:53
Hellas	Wind Speed	2011-8-14 07:01:5
Mountain	Air Temperature	2011-7-29 18:20:10
Mountain	Battery	2011-7-5 19:30:10
Air Pollution	SO2	2011-6-24 21:15:00

Histogram

Wind Rose

Intensity Plot

XY-Plot

Time Series

Table Format

Google Map Integration

VDV Web Service

The built-in VDV Web Service includes everything needed for publishing data to the Internet. Web based users have access to Graphs and Trends Lines, Quick Reports, Acknowledge of Alarms, some of the most needed configuration features, comprehensive Access Control, Real-Time display and Google-Map display.

New calculated values

VDV includes Virtual Variables for calculating new results based on sensor readings from one or more dataloggers across the network. This is useful for rescaling and to obtain results not calculated in the datalogger.

Alarms

VDV monitors all new sensor readings entered into its database for alarm conditions. Alarms are sent as email and/or SMS. Acknowledge of alarms is via the web interface.

Multi-Language

VDV has a built-in multi-language service for its web interface. English, German and Spanish are provided as default. A built-in Language Editor is used to add new languages.

Custom SQL Queries

VDV includes a wizard for building SQL queries to retrieve data from VDV's MySQL database. Results may be viewed in a table or a graph and saved to your computer.

Graphs and Trend Lines

VDV has a powerful and flexible control of all aspects of trend lines and graphs, including, color, thickness, Moving Average, single or dual Y-scales, automatic and fixed Y-scales and linear and logarithmic Y-scale and X-scale (time axis).

Useful Accessories

VDV includes useful features to associate sensor data with various information; Notes, Web Cam, Information Pages, links to sensor data sheets and links to information found on other web sites.
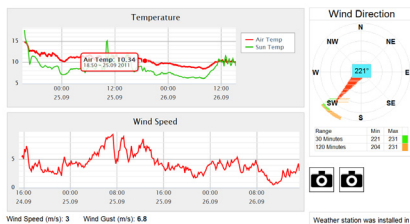
VDV ADVANCED FEATURES

VDV with its advanced features is capable of serving any size of datalogger network. VDV serves all three classes of data users, i.e. SCADA, Consultants and Researchers.
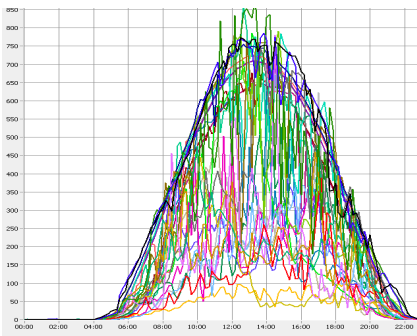
VDV Login Page

Real Time Display - Weather Dashboard

Overlay Graph comparing 28 days of data.

Access Control

The comprehensive Access Control to VDV's web service gives users secure access to their data. Any number of User Accesses may be created with any combination of Access Rights. It is easy to give full access to colleges and clients but limited access for less demanding users.

Alarms

Relax and let VDV inform you when sensor values are outside limits. Alarms are a powerful feature that will simplify the operation of datalogger networks and eases the workload of the operator. Alarm thresholds (LL, L, H, HH) are easily adjusted using the VDV web access.

Automatic Reports

Automatic reports may be issued daily, weekly, monthly, quarterly and yearly. Reports include Tables, Graphs, list of Alarms, Sensor Readings, Notes and more. An unlimited number of user defined report types are supported. Reports are written to a file and sent automatically by email to an user group.

Data Update Monitor

This is the process of monitoring data arrival and will greatly lower the workload of the Datalogger Network Manager. VDV monitors data update and sends Alarms if data is not updating, indicating loss of datalogger communications, loss of datalogger power or any other failure along the transmission route.

Real-Time Display

Real Time Display is used to give users a clear overview of all data on a single page or multilevel pages. Latest data can be viewed on numerical indicators and as trend lines on graphs. Furthemore, Alarm Status and Data Update Monitoring of each variable may be indicated by background color.

Validation

Validation is a method used to clean-up trend lines with out-of-range sensor readings. If sensors readings are affected by noise or spikes that are clearly outside the normal range of readings then the validation process will replace that value with the last known good value.

VDV File Converter

Do you have data from different sources?
Do not despair as the VDV File Converter was built to convert a wide variety of data formats into a standard VDV format ready to be automatically imported to VDV.

Wind Rose

The VDV's Wind Rose is an advanced reporting tool, not only capable of showing wind speed as function of wind direction, but also capable of plotting any sensor value as function of wind direction. If you want to know where from it rain, or if a certain air quality factor is really coming from a neraby factory then VDV's Wind Rose is priceless.

WIND ENERGY PERFORMANCE

Wind Energy Toolkit

We have been working hard to provide the Wind Energy Sector with a powerful toolkit for planning of wind power generation as well as for monitoring the results of wind turbines. The outcome is a versatile VDV Data Management and Handling System that includes all that is needed to run an automatic Wind Energy Performance Monitoring operation.

Our new Wind Energy Toolkit is powerful instrument for monitoring and reporting of Wind Energy performance.
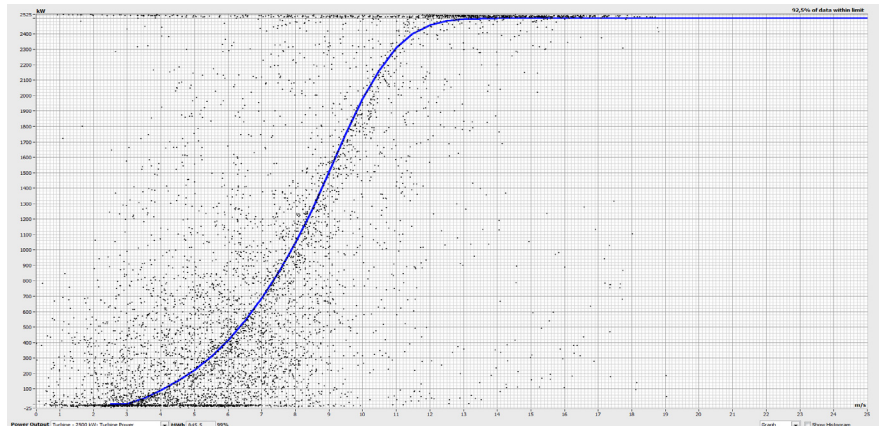
XY-Graph

Compare the Wind Turbine Power Output and Wind Speed with a selected Power Curve in the background and quickly see the Turbine efficiency. Apply Availability and Wind Direction Filters. See Wind Speed distribution as Histogram on the same Graph and in a table format.

**XY-Graph:** Plot a Wind Turbine Power Output versus Wind Speed

Time Series

Wind Energy Time Series allows you to see graphically the calculated Power Output of a Wind Turbine based on its Power Curve and a wind speed sensor.
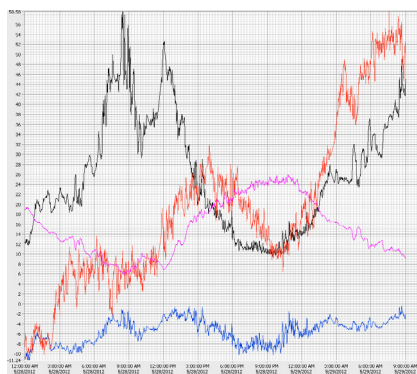
Also on display is the estimated average kW output of the Wind Turbine, the Max kW, the load factor and total electrical energy produced during the time period.
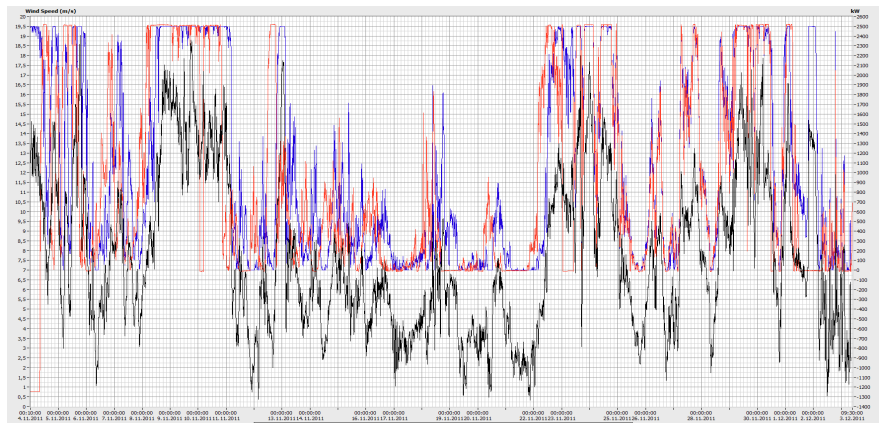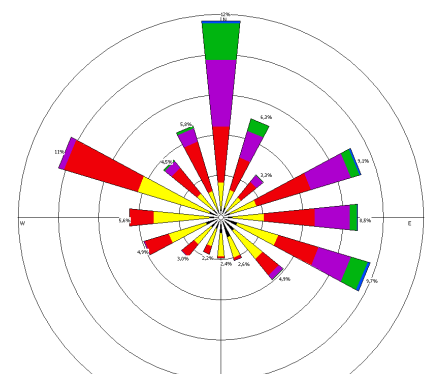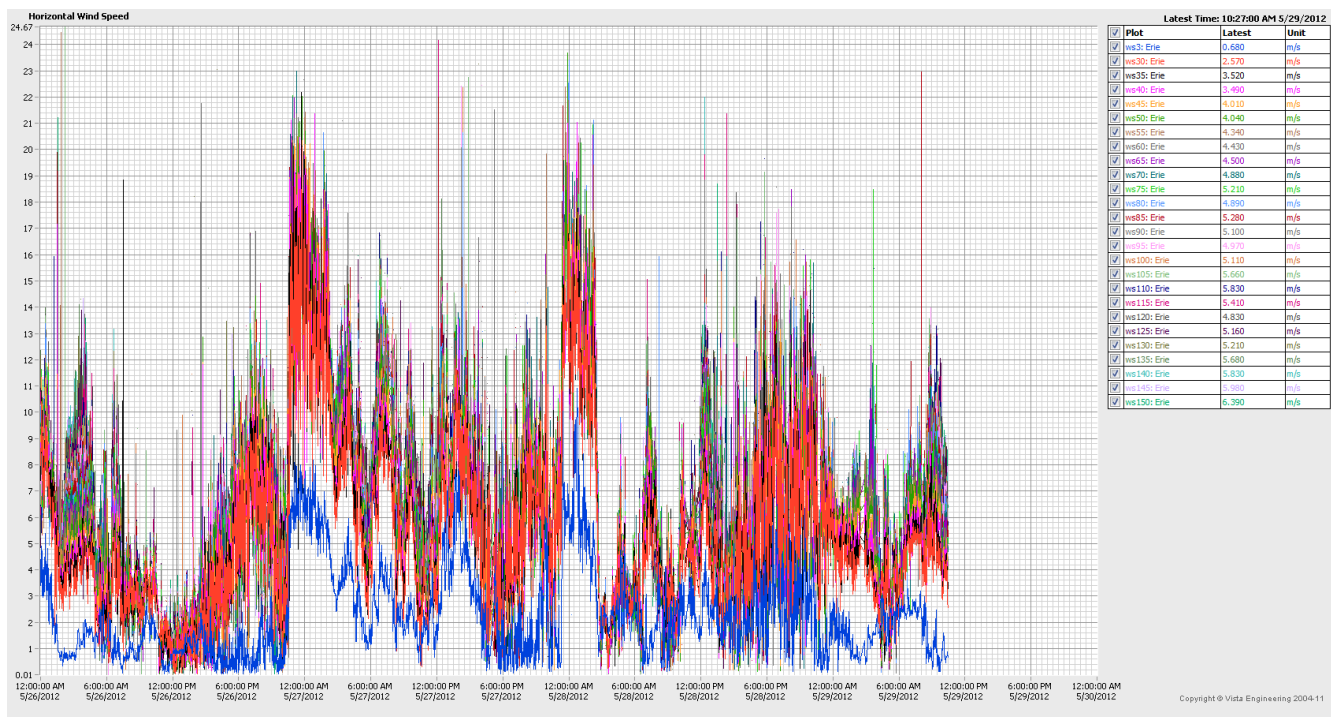

Time Series: Estimate power Output in kW
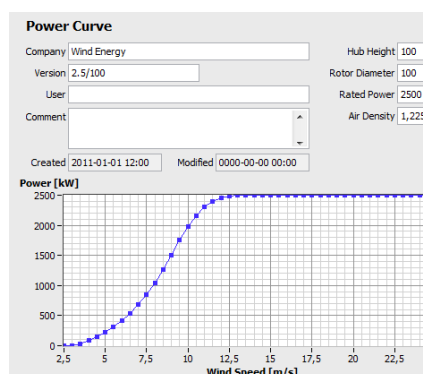
Create your Power Curve to be used in calculations

Graph showing Temperature, RH% and Air Pressure

Wind Rose of windpeed

Horizontal Wind Speed

Plot	Latest	Unit
ws3: Erie	0.680	m/s
ws30: Erie	2.570	m/s
ws35: Erie	3.520	m/s
ws40: Erie	3.490	m/s
ws45: Erie	4.010	m/s
ws50: Erie	4.040	m/s
ws55: Erie	4.340	m/s
ws60: Erie	4.430	m/s
ws65: Erie	4.500	m/s
ws70: Erie	4.880	m/s
ws75: Erie	5.210	m/s
ws80: Erie	4.890	m/s
ws85: Erie	5.280	m/s
ws90: Erie	5.100	m/s
ws95: Erie	4.970	m/s
ws100: Erie	5.110	m/s
ws105: Erie	5.660	m/s
ws110: Erie	5.830	m/s
ws115: Erie	5.410	m/s
ws120: Erie	4.830	m/s
ws125: Erie	5.160	m/s
ws130: Erie	5.210	m/s
ws135: Erie	5.680	m/s
ws140: Erie	5.830	m/s
ws145: Erie	5.980	m/s
ws150: Erie	6.390	m/s

Latest Time: 10:27:00 AM 5/29/2012

Data from a SoDAR station showing wind speed at different height, 3 - 150 m

SERVICES AND SUPPORT

Support Subscription
Vista Data Vision offers Support Subscription that allows users to pay a fixed yearly fee for dedicated support and all VDV updates.

Our Service
We assist our clients to successfully implement VDV.

We offer
» Onsite Installation and configuration in most parts of the world
» Configuration of VDV systems using internet access
» Creation of Custom Features
» Online VDV Courses for Staff and Users

Contact us for further information.

HOW TO START?

Download Vista Data Vision
Install VDV on your server and import your own data, We will assist you to successfully evaluate VDV.

Send us your data
We will analyze it and let you know if it can be imported into VDV.

demo.vistadatavision.com
Try our live demo web

CONTACT

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