

# THE REVOLUTION



commtest

In the field

## COMPANIES AND INDUSTRIES THAT USE THE vbSERIES

### COMPANIES

3M Company  
AES Corporation  
BHP Mining  
Comalco Alumina Refinery  
Energizer Battery  
Eveready Battery  
Ford Motor Co.  
General Electric  
General Motors

Hyundai  
Komatsu Equipment Co.  
Michelin Tires North America  
Ontario Power Generation  
Pirelli Cavi  
Pratt & Whitney  
Proctor & Gamble  
Siemens Building Tech  
Unicco Service Co.

### INDUSTRIES

Aluminum manufacturing  
Automotive manufacturing  
Chemical processing  
Facilities maintenance  
Food and beverage  
Glassware manufacturing  
Heavy machine repair  
Military  
Mining

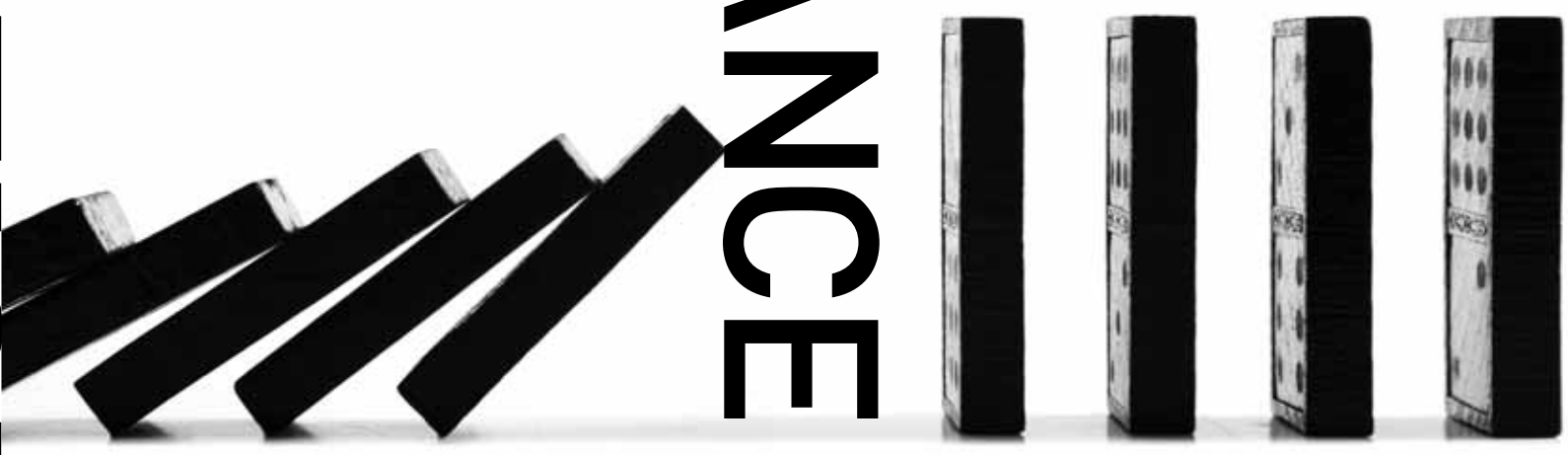
Oil refining  
Paper manufacturing  
Power generation and distribution  
Printing  
Rail transport  
Steel manufacturing  
Water/Waste management

# commte

# The Revolu

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tion

# REASSURANCE



# Predict

## imminent failures

### BEFORE THEY HAPPEN



**Ultimately, enhanced peace of mind is why people move away from 'preventive maintenance' and embrace 'predictive maintenance'. Commtest® provides you the peace of mind that comes from knowing your critical machines are operating in optimum condition. We help protect you from catastrophic surprises (machine failure) at a fraction of the cost of maintaining a massive inventory of spare parts, and paying overtime labor.**

Your productivity, and ultimately your company's financial success, depend upon the continuous and safe operation of your plant and machinery.

Time-based scheduled maintenance programs are no longer financially viable; the risk of an undetected fault becoming a major failure is one that no company can afford to take. Preventive maintenance also incurs unnecessary replacement costs and is accompanied by the risk of actually introducing faults where there were none. It is time for change.

Predictive maintenance is the only obvious solution - it has been incorporated within successful management systems all over the world to increase uptime and optimize manufacturing and production resources, all leading to increased profitability.

Portable vibration data collection is for many the first step towards enhanced peace of mind and enhanced profitability, both achieved through an intelligent approach to maintenance engineering.

Adopt the vbSeries® of vibration analysis equipment along with Ascent® software as part of your predictive maintenance program; it is the simplest and most effective means of obtaining the data to accurately identify, pinpoint and address potential problems and keep your machinery running safely, efficiently and reliably. The vbSeries products are easy to use and ideal for both the first-time user and the experienced analyst.





**Dependable**

# Keep the wheels turning

**“Man’s Best Friend” is a friend for life. Commtest is committed to being your reliability partner for life. We have made vibration analysis our total passion. Part of that passion means continual product improvements and an ongoing commitment to product development, including state of the art portable instruments. You will never outgrow your relationship with Commtest. We also offer round-the-world service and support in over 20 countries.**

Vibration analysis is the single most powerful technology tool in a comprehensive predictive maintenance program. This is why Commtest places vibration analysis at the very heart of our commitment to machinery diagnostic products. We are proud of the fact that we do one thing and we do it well. To prove the commitment to our customers we offer benefits unique to Commtest:

- “The Proven Method”
- 5 year limited warranty
- Free software maintenance updates
- Free lifetime helpdesk support
- Free introductory training
- 12 month upgrade path guarantee

Our products are designed to grow with your needs, as new features are easily programmed into the instrument via our Proflash™ procedure using the built-in communication port. Product update files are available for download from our website.

#### **Support and Training**

While implementing a vibration analysis program is made simple, using the vbSeries and the Ascent program, Commtest offers additional customer support in the form of free introductory training.\*

Topics include:

- Principles of predictive maintenance
- Vibration analysis tips and techniques
- How to take high quality measurements
- How to best run a successful predictive maintenance program
- Correcting imbalance
- Using real life case studies

*“This was one of the most informative and practical classes on the use of instrumentation and software for this services industry. I understand it now, and I can immediately start applying what I have learned from Commtest. Your tailored presentation to our special applications was extraordinary and allows our team to apply technologies to transformer on-line condition assessment untried in the electric industry. The unbelievable depth of the Ascent software enhances correct condition analysis as well as condition comparisons of like equipment. Without a doubt these tools will be invaluable in the decision making of reliability centered maintenance.”*

#### **DALE REINKING**

*Xcel Energy  
Colorado, USA*

*\*Classroom based free introductory training is available in North America only. CD/Interactive introductory training is provided elsewhere. Please consult your Commtest sales team to learn how Commtest can meet your training needs.*

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# Clear & straightforward

**Simple does not mean weak, or wimpy. Simple means a lean product, but with plenty of muscle for veteran analysts. We have removed the 'guess work' from vibration analysis; it's no longer a 'black art'. We have built in diagnostic tools that will assist novice users to make decisions like a pro. A PhD is no longer required to improve your 'uptime!'**

No complicated procedures to memorize, no lengthy manuals to read, the vbSeries of vibration analyzers are user-friendly and make it simple for anyone, including first time users, to monitor and assess the health of machinery while it is running. There is no need to interrupt production.

Coupled with Ascent software, the vbSeries vibration analyzer identifies the presence of a problem, pinpoints its source, and also determines its severity. This information enables you to address machine faults before they become costly failures.

#### **Diagnose common problems:**

- Imbalance
- Misalignment
- Bent shaft
- Bearing defects

Data can be collected and displayed in the time domain (waveform) to diagnose and detect:

- Electrical line frequency problems
- Gear imbalance vs broken tooth
- Beats
- Random noise

Commtest products give you the confidence that your plant and machinery are operating within ISO 2372 and ISO 10816 international standards.

#### **The most common complaint**

The majority of rotating machine failures can be traced back to imbalance – when a rotating object's center of mass lies outside the natural center of rotation. Left unchecked, the resulting vibration can severely shorten the running life of bearings and even cause structural weaknesses to develop within the machine.

#### **From diagnosis to correction**

The vbSeries with Ascent software is not just a diagnostic tool. A dynamic balancing package provides you with the ability to correct imbalance problems:

- Built-in balancing functions within the vbSeries instrument
- Highly accurate laser speed sensor (tachometer)
- Magnetic stand for attaching the speed sensor
- Extra-length cables for data collection



Simple



**Within reach**

# Access

## to answers

**Previously, only wealthy “Fortune 500” companies with seemingly bottomless pockets could afford vibration analysis products. Comtest now puts vibration analysis within reach of mainstream industry. We are committed to the lowest total cost of ownership measured over 5 years. How is this achieved? Products that are immediately affordable, scalable and modular, with NO recurring maintenance contracts, and above all, an easy to use product that delivers results – FAST!**

### **Ascent® SOFTWARE**

The unique Ascent software is a fully comprehensive and powerful vibration data analysis and archiving program, integral to the vbSeries.

Although highly developed with an impressive list of advanced features, the simplicity of the Ascent program makes it an invaluable tool ideal for those implementing a vibration analysis program for the first time.

- Access day-to-day functions with intuitive Windows-based drop-down menus and icons
- Employ flexible, interactive charting
- Create alarms
- Manage data transfer
- Select from a range of reporting options
- Transfer reports to Word®

### **How Does Ascent® Work?**

#### **“The Proven Method”**

The Ascent program compares collected data against a benchmark established by industry experts.

“The Proven Method” is a time-tested technique that specifies peak spectral alarm levels and frequency bands for measurements taken on healthy plant machinery.

When properly specified for the designated machine configuration these spectral alarm bands will identify a problem, pinpoint its source and determine its severity.

“The Proven Method” makes it easy for anyone to set up effective spectral alarm bands. The first-time user

who needs to establish fundamental baseline measurements and the veteran analyst evaluating the effectiveness of current alarm limits will both benefit from “The Proven Method”, now fully automated within Ascent Level 2.

“The Proven Method” was created by Technical Associates of Charlotte, North Carolina – one of the world’s most renowned vibration analysis teaching and consulting firms. Technical Associates specialize in machinery vibration diagnostics, setup and implementation of condition monitoring programs, modal analysis and stress analysis.

# Durable

## products that last

**We know the boss demands top performance from you, and you demand top performance from your tools. Commtest products are 'bullet proof' - backed up by the only 5-year warranty in the business. If accidentally damaged, we promise a quick return on repairs. And along with the longest standard warranty, you are also covered with free software updates for 5 years.**

*"Having been associated with condition monitoring for 15 years I am currently a vibration analyst in the service industry with Partington Electrix, Melbourne, Australia, which provides a complete reliability and predictive maintenance management service. Every day I take the Commtest equipment with me to the client's premises - a vb3000™ kit.*

*I have been in this game a long time and have used the majority of brands available. It's critical for me to have the best equipment and in my opinion Commtest is the best.*

*Speed and accuracy is the key for us. I also need to know that when I go out to a plant, the durability of the product of which I am using is excellent. The Commtest equipment allows me to locate a fault with an accurate analysis and a well presented report.*

*When I am able to tell my clients what the fault is by using the equipment, my client relationship is secure. As they understand, when I predict a*

*potential bearing failure that could shut the whole plant down, the potential savings for the client are huge. With the Commtest equipment, I'm able to provide up to 10 weeks' notice of an impending machine failure. This is very convenient for ordering replacement parts.*

*I regularly use the free upload website and the Ascent software has been very durable - I can't fault it. In the past we've had to pay a lot to upgrade material from other companies.*

*I'm under pressure with a lot of customers and if I have no confidence in the equipment then I'm wasting my time. I needed to be sure that Commtest was the right kit for me - and it was. Absolutely."*

**ANDREW HEGARTY**

Vibration Analyst  
Partington Electrix  
Melbourne, Australia

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**Heavy duty**



Security

# The new standard

**vbOnline™**

The decision to 'graduate' from a portable-based walk-around vibration analysis program to a program that includes both portables and online data collection is driven by many benefits. Foremost would be the added **SECURITY** that comes from non-stop 24/7 monitoring. Surprise breakdowns will truly become a thing of the past as the condition of your machine is monitored continuously.

#### **vbOnline™ - THE NEW STANDARD FOR ONLINE MACHINE SURVEILLANCE**

The vbOnline system allows you to collect data more cost effectively, more timely, and with improved accuracy than compared with walk-around portable routines alone. You can now safely monitor machines in dangerous and inaccessible environments.

The vbOnline system provides 24/7 round the clock surveillance of your critical assets. It is a flexible, modular system that is constantly and automatically evaluating machine operating condition, instantly notifying you when potential problems arise, thus avoiding costly downtime.

Continuous online surveillance is the most effective way to implement a vibration analysis program that will most dramatically minimize production losses and drive down the overall cost of maintenance.

#### **Increase your awareness**

Monitoring vibration alone won't give you the complete picture of

your machine operating condition. The Ascent program can measure and record many different process parameters, giving you the ability to trend and trigger alarms so that you can assess not only vibration related faults, but also how your machines are performing on a continual basis.

The vbOnline system is expandable so you can monitor small or large applications with ease. Connect straight into your plant's Ethernet or, for that difficult to monitor machine, simply integrate the vbOnline device into a wireless network (when used in conjunction with a commercially available wireless bridge).

*"It's like vibration analysis on steroids... it's that powerful. Commtest blows everything else away."*

#### **SAL DiFRANCIA**

*President Vibration Institute  
Southern California Chapter  
Vibration Consultant*

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# Instant

## cost savings

***"We installed the vbOnline Commtest vibration analysis system at the Christchurch Press in 2005. In the past, we employed an external contractor to do periodic vibration analysis. Our inspections were for four hours every couple of months - something we felt needed dramatic improvement. The previous reporting, supplied in booklet form, was hard to interpret and not user friendly.***

*The Christchurch Press was founded in 1861 and is the only daily newspaper for the Canterbury region. It currently employs 350 staff, including twenty print staff and five site engineers, ensuring that the press averages 270 run time hours and 7,750,000 copies per month.*

*We now have Commtest Vibration Analysis running 24/7 - we're covered at all times. I can be at home asleep and the system has the technology to send a text message, enabling me to react appropriately. The beauty of Commtest is that we don't need to be experts on vibration analysis. Commtest is as simple or complex as we want it to be.*

*Problems detected through Commtest vibration analysis have raised our awareness of the benefits they provide. Just recently, we had an event where we were able to quickly isolate a problem down to a very specific point and act on it immediately.*

*The flexibility of the system to make our own notations allows us to crosscheck past activity, months... even years down the line. Through the Commtest online software we observe trends, monitor vibration levels and record process pressures, temperatures and fluid flows. It's a one-stop-shop for remote monitoring. Commtest has allowed us to bring improved technology into a maintenance workshop situation in a very user friendly way.*

*We made a great decision selecting Commtest - their products, back up and service is terrific."*

**KIRK MARTIN**

*Maintenance Manager  
The Christchurch Press  
A division of Fairfax NZ Ltd*

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# Detailed analysis

Another key benefit is enhanced accuracy by removing human-induced data variation. Ascent software is configurable so that the moment a significant change in vibration occurs the vbOnline module will begin taking more frequent recordings, with higher resolution, so that the most accurate and detailed data is automatically collected. This is especially useful when reliability engineers are pursuing root cause failure analysis; that is to design-out any inherent design weakness that gives rise to recurring failures. The enhanced accuracy eliminates false-positive alarm triggers and provides for more effective fault diagnosis.

## **ASCENT® LEVEL 3 – OUR MOST ADVANCED SOFTWARE**

Automatically set up measurement parameters and alarm values using “The Proven Method”, or ISO standards, then fine-tune alarm limits with statistical analysis based on each machine’s historical data. Ascent Level 3 will also notify plant personnel by text message and/or e-mail when your machine develops a problem.

Time waveforms, FFT, overall vibration values, bearing demodulation, phase, speed and interactive charting are some of the Ascent software’s diagnostic capabilities, allowing you to investigate specific machine problems with ease.

**OnlineManager™** is the ‘brain’ of the vbOnline system. The OnlineManager is responsible for managing the collection of data as specified within the Ascent program, and writing the data to your network database. As is standard with all Commtest products, the simplicity and ease of

use is an important feature within the OnlineManager - configuring the online system is trouble free.

The vbOnline system can be configured to only collect data when specified operating conditions exist. For example, running speed is measured during data collection to ensure suitability of data.



**Accurate**



Time saver

# Distant

## and precise

**Being no longer reliant on human labor to collect vibration data, the time delay between fault appearance and fault identification is now essentially zero. There is no time wasted having personnel walking the plant floor collecting routine data over and over again, and no time wasted downloading data between a portable instrument and the PC - this means machine faults can be addressed in the quickest possible time, thereby minimizing sequential damage.**

The powerful Ascent vibration analysis software is the cornerstone of both our online and portable hand held systems. Configured either as a single user PC or as a network accessible application, Ascent Level 3 provides immediate notification of alarms and evaluation of problems. View the plant status at a glance - Ascent Level 3 provides instant visual notification of the current alarm levels.

LED indicators display the current status of the vbOnline module at

a glance. Additionally, each module provides 4 relay outputs, which are configurable upon alarm condition, providing you the fastest response time to problems on the plant floor. The four relays can be configured to activate audible alarms, warning lights and even machine shutdowns when a particular alarm state is triggered.

With Ascent Level 3 software you now have ready access to your machine condition information anytime, anywhere. We combine the advanced analytical power of the Ascent program with a suite of complementary applications that make this a 'long distance relationship' that really works.

**AscentView™** is a web browser-based application for managers who want an easy-to-use status reporting tool without the need to install extra software on individual work stations.

**AscentWatcher™** is a user configurable application that runs in the background automatically sending

email and text messages when vibration alarm levels change.

**AscentOPC™** makes our Ascent software suite OPC data acquisition compliant, which in turn, makes data integration with your existing plant DCS or SCADA system seamless.

### **Network Connectivity**

Simplicity is our constant goal. Each vbOnline data acquisition module connects directly into the LAN/WAN network within your plant. Single user PC, or network capable, our system can be as small as required or is easily expandable to monitor an entire plant. As your surveillance needs increase, simply plug in additional modules.

The vbOnline device offers remote data collection via a number of wireless options, such as GPRS over a digital cell phone network. (For optimum results, please discuss your data communication needs with your Commtest sales team).



Profitable

# Results

## where they count

**Intelligent maintenance is fast becoming recognized as an essential way to reduce operating costs and increase productivity. By adopting the vbSeries and tackling maintenance head on, your company's overall profitability will increase in several important ways.**

### **Eliminate surprise failures**

Catastrophic failures often have a domino effect on other machinery. These surprise failures can end up costing as much as ten times more to repair than a scheduled maintenance event on the same machine.

### **Improve labor costs**

Unscheduled maintenance often involves overtime labor paid at a premium rate. By identifying problems before they occur, the cost of expensive emergency labor can be avoided. Also, general labor costs become more effective, as production staff spend less idle time waiting for machines to be repaired.

### **Increase productivity**

When machines are performing at their best, productivity is maximized. The same energy and labor-hours result in a higher product output – leading to increased company profits. Conversely, machines that fail while in operation inevitably produce defective or destroyed product. This product will

need to be either reworked or scrapped – both at a cost to your company.

### **Reduce equipment costs**

Proactive maintenance allows equipment to run more efficiently. This reduces wear and tear, extending the lifespan of your machines and allowing you to defer the purchase of expensive new equipment.

*"We have been using a Commtest vb2000 instrument for the last three years in our production processes doing two-plane and single-plane balancing, and for field service vibration analysis. The instrument's reliability has been excellent, and we have been impressed with the features and value. We just purchased our second instrument to meet our increasing production schedule."*

### **MARTY MATHEWS**

*Air Pro Fan & Blower Company  
Wisconsin, USA*

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# Our commitment to you

We are a company dedicated to designing and producing outstanding data acquisition and analysis products, recognized world over for their innovation and value.

At Commtest, we have made a name for ourselves by bringing new and competitive products to market with remarkable speed and success. To date, our product range includes vibration data collectors, portable vibration analyzers and permanently installed 'online' machinery surveillance systems, all sharing an intelligent, user-friendly software interface.

Commtest is based in Christchurch, the engineering capital of New Zealand, and a city that is fast

becoming recognized as a hotspot for global electronics development. We also have a permanent North American operation based in Knoxville, Tennessee, which allows us to better serve our customers overseas.

#### **Innovation and Value**

Commtest prides itself on being an inventive company, always seeking fresh and sometimes daring approaches to common engineering problems. Our scientific and technological expertise, combined

with a flair for inventiveness and problem solving means our products offer new and smart solutions in a competitive marketplace.

Innovation is our business, which means we invest heavily in research and development. Our ongoing goal is to continually improve our existing products, as well as develop and introduce new products in additional markets, where even more customers can benefit from our expertise.

Value is another key component in our success. We respect our customers' business needs and strive to create mutually beneficial relationships. This means providing the best possible product at prices nothing short of revolutionary. It also means providing comprehensive service and creating products that last.

It is this combination of innovation and value that truly sets Commtest apart.

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**commtest**  
The Revolution

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