

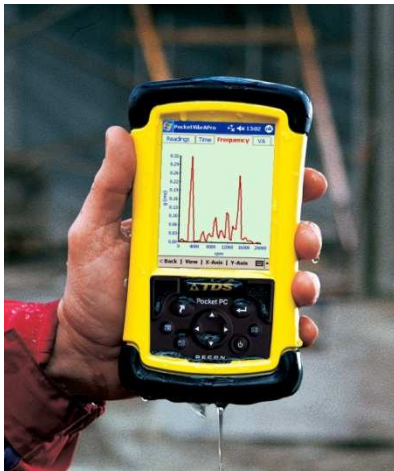
# Predictive Maintenance

(or how to stop things breaking down!)

John Atkinson

C-Cubed Ltd

*Engineering the maintenance revolution*



C-Cubed

[www.pocketvibra.com](http://www.pocketvibra.com)

## Plant maintenance techniques:

1. Breakdown Maintenance (€22/kW/year\*)
2. Routine Maintenance (€15/kW/year\*)
3. Predictive Maintenance (€11/kW/year\*)
4. Pro-active Maintenance (€6/kW/year\*)

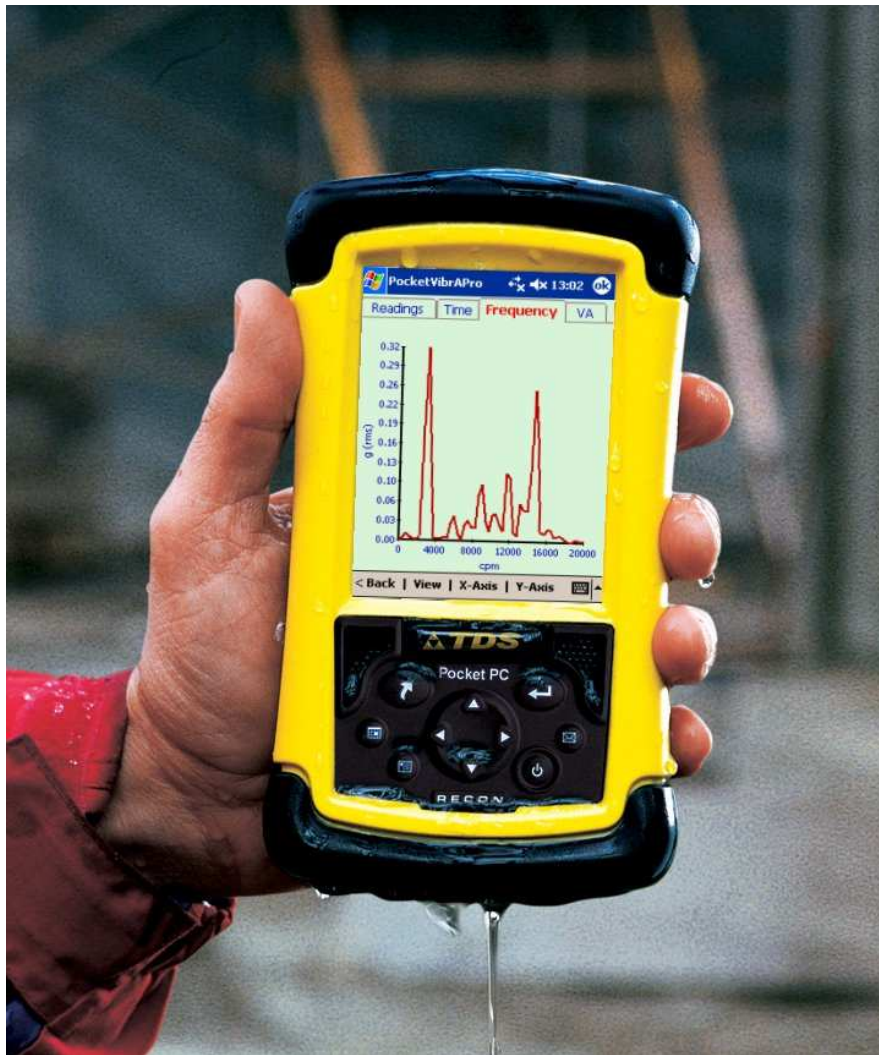
**Now - there's simply no excuse!**

# Proactive Maintenance Tool Kit

Vibration Analysis  
Thermal Analysis  
Lubrication Analysis  
Inspection!  
Laser Alignment  
Field Balancing



## Pocket VibrA - vibration analyser



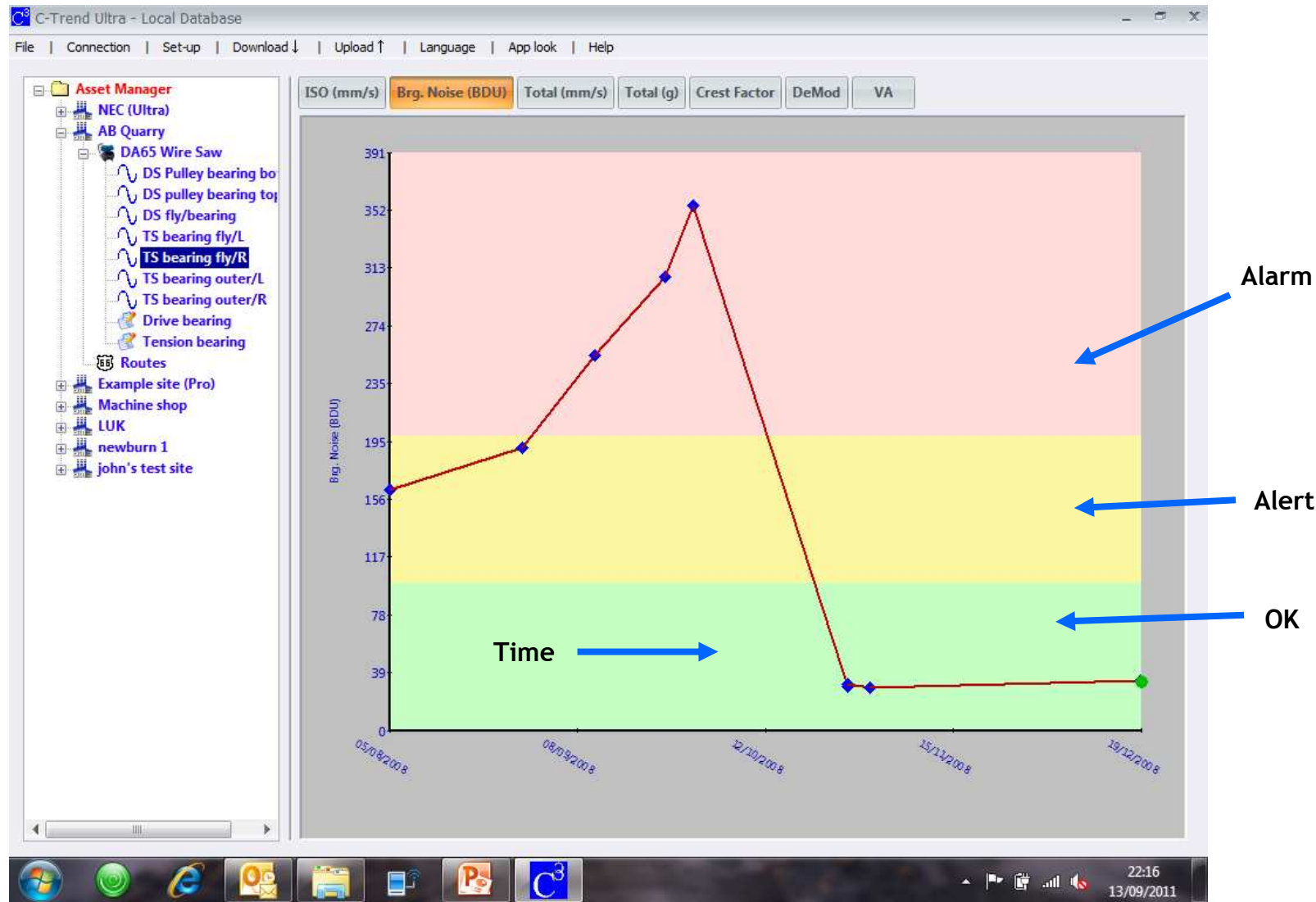
A portable rugged full function vibration analyser based on a rugged Pocket PC.

Collects and analyses vibration data to monitor asset condition.

Asset Wizard for motors, pumps, fans.

PocketVibrA will relate results to **ISO Standards**

# C-Trend – Easy, effective monitoring of asset condition!



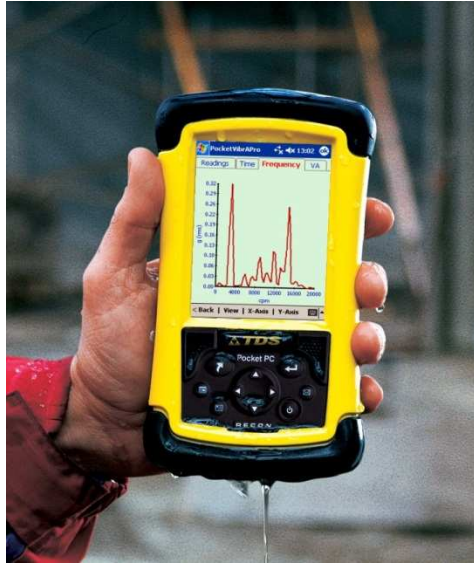
**My contribution to the debate?**

**Everything you wanted to know  
about vibration monitoring but  
didn't know what to ask!**

# Innovative Maintenance Products

- Very easy to use by **MAINTENANCE ENGINEERS**
- High level of **simple** and **intuitive** features
- User familiar **Windows** software – point and click
- Use very latest technology (e.g. **RFID**) to enhance user capability and efficiency
- Modular concept enables **easy upgrading**

# Proactive Maintenance Tool Kit



PocketVibrA will tell you (on day 1):

If you have bearing damage.

If your plant is out of balance, loose, misaligned or unstable.

If you use the **C-Trend** software included and take regular measurements over time, PocketVibrA will also:

Allow you to see trends, predict when faults will exceed ISO standards, schedule maintenance, email a full report.. and thus offer a

**Total Diagnostic Solution**

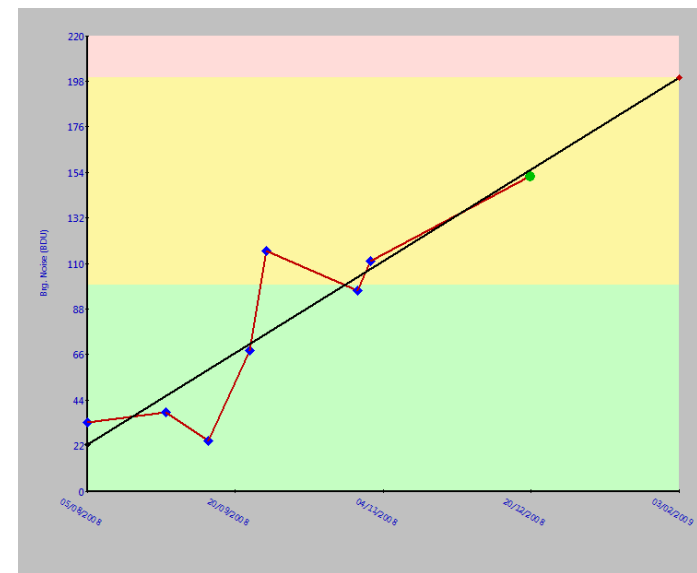
# Vibration Analysis – C-Trend

**C-Trend** powerful trending and asset management software supplied with Pocket VibrA

Use C-Trend to **View, Analyze & Report** on all your assets and **PREDICT** machine breakdown, saving downtime and money.

**Simple** Windows based software makes predictive maintenance possible for everyone.

**Trend** *any* data to give total understanding and control of your assets.



# Lubrication Analysis – Pocket Lube

**Pocket Lube** – gives the engineer complete control by measuring the bearing noise **BEFORE, DURING** and **AFTER** lubrication.

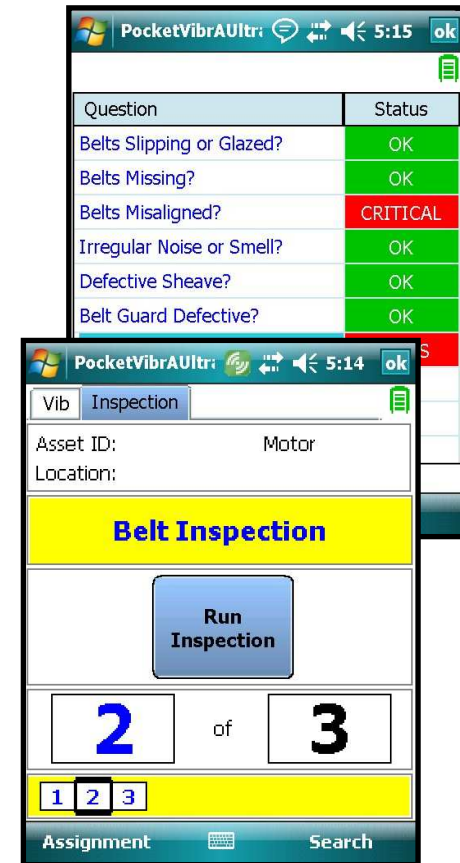
Both **Under** and **Over** lubrication can cause bearing damage. Pocket Lube helps you get it right.

**Control** lubrication costs by only lubeing when necessary and using the **correct** amount of lubricant.



# Inspections – Pocket Inspection

- **Pocket Inspection** guides the user through pre-defined inspections for guaranteed and repeatable results.
- **Define** your own inspections for complete control with different degrees of criticality
- **Email** critical inspection results instantly and automatically
- **RFID** tags can be used to guarantee inspection confirmation – you can see it's been done!



# Laser Alignment

- **Misalignment** is a major source of premature machine failure
- Simple to use **Laser Technology** enables instantaneous precision alignment of machinery



It is essential to align:

- Machine Trains (pumps, fans, compressors etc)
- Rollers
- Pulleys

# Pocket Balancer (Field Balancing)

- Out of balance is the number one cause of premature bearing failure. **Pocket Balancer** makes a difficult job easy!
- **Simple** to use step-by-step screens lead even a novice user effortlessly and effectively through single or two plane balancing jobs.
- **Innovative Technology** allows precise balancing in fewer runs, saving time and money.

