

IRD Mechanalysis[®] Limited

ISO9001:2008

condition management solutions



CORPORATE BROCHURE



PREDICT



PROTECT



PROFIT



Engineering the Environment

*It is an established fact that rotating machines: fans, pumps, motors, generators etc will consume as much as 15% more energy if misaligned or out of balance. Worn or poorly lubricated bearings will contribute to such losses. The **Mechanical-Analysis Condition Management System** reduces energy consumption, enables greater machinery availability and improves plant productivity; everyone benefits.*

IRD **Mechanalysis**[®] Limited, widely referred as **The Vibration People**, is a provider of condition management solutions by vibration measurement of rotating machinery. Its heritage of 60 years continues to influence the design and manufacture of industrial instrumentation and sensors that offer system responsibility and long term support. IRD is [ISO9001:2008](#) certified

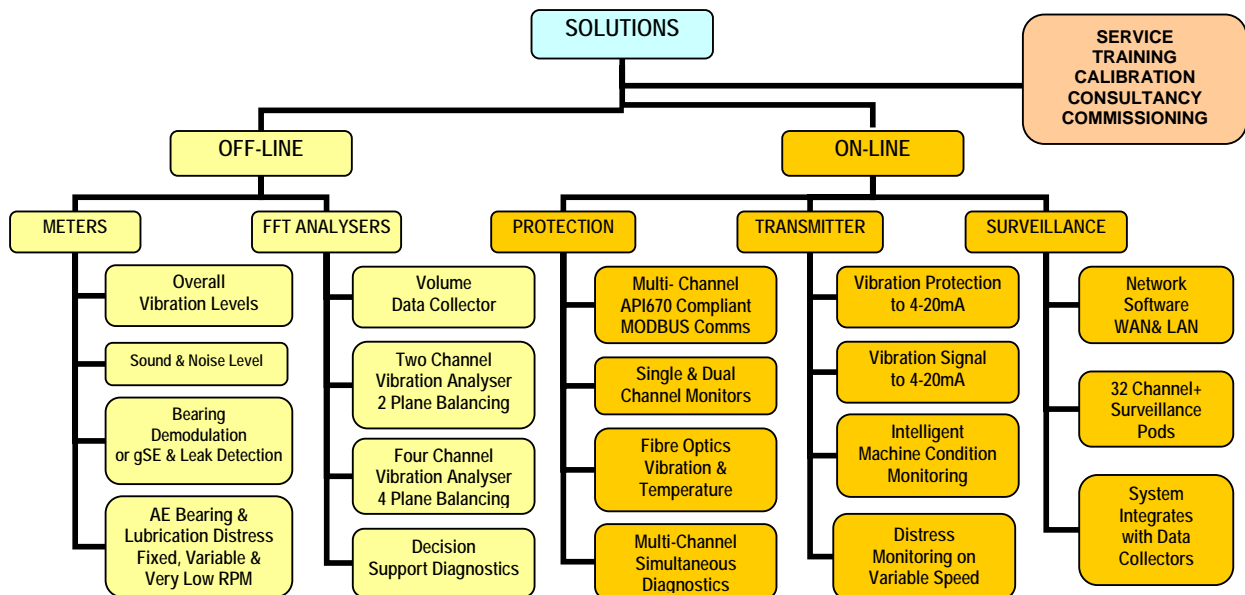
The company was registered in India in 1978 as a Joint Venture with IRD Mechanalysis Inc USA and UK. By year 2000 these two venerable operations closed after being acquired, but the Indian branch became an independent, registered as Mechanalysis (India) Ltd. It continued to support IRD's Customers where spares were available. By 2011, the company had expanded its product portfolio and decided to return to its universally respected and time-honoured name; **IRD Mechanalysis Ltd.**

IRD is credited with pioneering the concept of vibration based condition monitoring programmes globally thus 'Turning Maintenance Into a Profit Centre.' The IRD Mechanalysis brand is probably the most widely recognised and respected for rugged and easy to use instruments. It developed and patented the hand held route vibration data collector at the start of the PC revolution back in the early 1980s along with many other innovations. Famous for the model IRD544 series of inductive velocity sensors, they are credited with the foundation of the company and continue to be manufactured by IRD Mechanalysis Ltd and exported globally.

Customer Support has always been a respected feature of IRD and remains the main focus of all that we do through the process of **Getting you Started** (product supply, commissioning & training) **Keeping you Going** (calibration and product servicing) and **Taking you Further** (system upgrade, advanced technology and training).

To complement its own products, IRD also partners with world-class OEMs thereby providing the most comprehensive range of solutions to protect machinery, identify faults and thus extend plant up time and increase productivity.

IRD Condition Management Architecture



Mission Statement: IRD Mechanalysis Limited is a Manufacturing System Integrator that strives to provide reliable, easy to use and rugged instrumentation to enable customers to enhance their productivity and investment. We develop condition management solutions to meet industry's needs that 'Engineer the Environment' but maintain appropriate technologies to match local conditions and skills. We respect all Stakeholders namely Customers, Suppliers, Employees, Shareholders and the Community. We continue to develop our staff so that customers are sustained with the best available expertise.

Peter W. Hills
Managing Director & CEO



IRD Mechanalysis® -Off-Line

The IRD111 digital sound level meter, is suitable for accurately measuring industrial noise for health and safety with A and C Scale weighting. The compact lightweight meter is easy to use with digital level, bargraph and hold facility. It enables pin point accuracy of acoustic measurements in a noisy environment. It also has an output jack for use with an FFT vibration analyser for machinery diagnostics.



IRD111 - Digital Sound Level Meter

IRD models IRD306 / DI / DP, portable analog or digital vibration meters are proven for industrial applications with easy to read accurate displays. They measure machinery vibration in displacement (microns) and velocity (mm/sec). Standard or re-chargeable battery units are available. Globally used for over 45 years but continuously updated, the meters are ideal for technicians and machinery analysts.



IRD306DP – General Machinery Vibration Meter

The IRD449 SmartMeter that bridges the gap between the overall level vibration meter and the advanced FFT data collector / analyser. It is a complete machine condition diagnostic tool that produces results without the need for a computer. It caters to ISO 10816-3 with expert rules covering machine vibration levels that identify prime faults: Unbalance, Looseness, Alignment & bearings. See a selection of the many informative screens available:



IRD449 Vibration Diagnostic SmartMeter

The model IRD811 is a portable analog vibration and Spike Energy Detector used by serious vibration analysts. They recognise the advantages of the moving coil meter that responds to the variable vibration signals from a machine and its process. This advanced, instrument measures machinery vibration in displacement (microns), velocity (mm/sec), acceleration (g) and Spike Energy™ (gSE™) for bearing condition. The Advanced User has demanded this tool since the early 1980s that has been continuously updated since.



IRD811 – Vibration & Spike Energy Detector

The IRD813 portable calibrator system is intended for testing vibration sensors between 25 Hz and 10,000 Hz. It offers adjustable vibration level and frequency. Used on-site it provides a reference source for compliance with OSHA 1910, ISO 9000 or API 670 when verifying the accuracy of vibration transducers, connectors, cabling and panel instrumentation. IRD engineers use this tool when commissioning monitor systems on-site.



IRD813 – Portable Vibration Sensor Calibrator

The GE-Commtest vbX series of FFT vibration analysers & data collectors range from single to four channels. The vb7 has two channels with ergonomic design, 1GB flash memory & high definition display. It is ideal for field diagnostics and proactive maintenance programmes. The unit includes a powerful bearing analysis tool, dynamic balancing, cross channel phase, long time waveform etc. Associated with Ascent2 Software, vb7 is a powerful combination for site and lab use.



IRD's - vb7 - Advanced Two Channel Vibration Analyser

The IRD products displayed are a selection of a wider range available. The company also has the design capability to customise products to meet specific user needs

Represented by



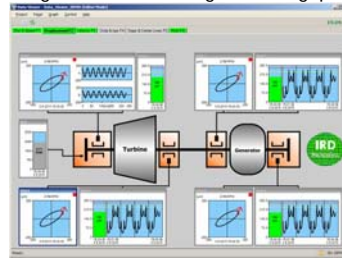
IRD Mechanalysis® -On-Line

IRD8800 API670 Machinery Protection Monitor is a high integrity system for turbine supervisory and balance of plant vibration monitoring. Microprocessor based and programmable, each dual channel module has analog and digital displays with individual power supplies. It interfaces directly with our range of online diagnostic systems and comes fully type tested with CE Mark.



IRD8800 – API670 Protection Monitor – VMS & TSI

IRD9900 Diagnostic On-Line System (DOLS) is supplied in 19" rack or portable options. Operating independently from any API670 Protection Monitor system it offers Simultaneous Multi-Channel 'Dual Redundancy Parallel Processing'. If any one system fails the other continues to operate. User friendly software is ideal for on-line diagnostics of strategic rotating plant, covering dynamic and static signals. Applications include high speed compressors, gas & steam turbines, generators, hydro power plants etc. Reporting and interrogation is available on LAN & WAN networks; ideal for corporate and remote plant monitoring strategies



IRD9900 Diagnostics On-Line System (DOLS)

IRD TRANSMITTERS

The IRD7000 series of Vibration, TSI and Environmental Noise Transmitter meets most plant needs. Protection Transmitters have warning and trip relays whereas Signal Transmitters provide only a 4-20mA output. The Loop Powered Transmitter can accept most accelerometer types and is powered from the DCS. This is preferable to the loop powered accelerometer that has several limitations in the long term. Single & Dual Channels are supplied in IP65 enclosures; DIN rail and 19" rack are options. Communications such as RS485 / MODBUS are available for selected units. A common feature is that the raw vibration or sound level signals can be accessed directly from BNC sockets.



IRD7100 Machinery Protection Transmitter
Single or dual channel, solid state or microprocessor based with warning and trip relays. Enclosures for locating near to machinery to reduce signal wiring or panel mounted options available.



IRD7111 Environmental Noise:
Sound pressure levels for personnel protection are transmitted as 4-20mA with Warning, Alarm Relays & Raw Signal.



IRD7200 Signal Transmitter & PSU
Illustrated with PSU, that supports up to 8 dual channel modules in a DIN rail configuration. Scaleable, it interfaces with PLCs where warning and alarms can be programmed as required.



IRD-RS485-16 Channel Converter
It handles up to 16 channels 0-5V and or 4-20mA signals. It saves the high cost of multiple long distance bulk cables to control rooms.



IRD7300 Multi-Channel Transmitter
Supplied in 19" rack with up to 14 channels. Operator alarms & reset are at the front.



IRD7400 DCS Loop Powered Transmitter
Dual channel, accepts most accelerometer types. Mounted in the field, it saves the cost of a junction box and meets most C&I system needs.

Sensors for Vibration, Turbine Supervisory & Stator End Winding Monitoring Systems



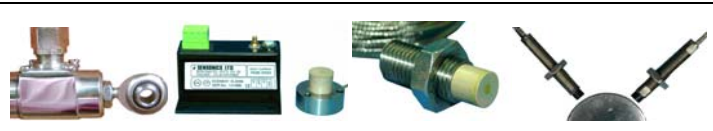
IRD544M/B
Velocity Sensor



IRD500 Series
Accelerometers



OPS Fibre Optics
Vibration & Temp.



LVDT Sensors, Senturion Series: Driver & Eddy Current Probes include:
Relative, Thrust, Diff Expansion, Eccentricity etc from Sensonics.



IRD Mechanalysis® Support Services

Getting you Started
Keeping you Going
Taking you Further

Consulting Services
National Service Centre
Calibration - National Traceable

Training Schools
Decision Support Software
Interactive CD or Web Training

IRD's Partial Customer List

<p>CEMENT ACC, Birla White, Century, Chettinad, Dalmia, Diamond, Dhar, , Grasim Industries, Gujarat Ambuja, Humboldt Wedag, India, Jaypee, J.K Lakshmi., JK White, Kesoram, Lafarge, Madras, Narmada, Orient, Panyam, Rajashree, Shree, Sanghi Rain, Ultra, Vasavadatta, Vikram, Zuari, etc.</p> <p>CHEMICAL Birla Deccan, Chemplast Sanmar, FACT, GNFC, Godavari Fertiliser & Chemicals, Hindustan Lever, Hindustan Organic, IFFCO, Kribhco, Mangalore, Narmada, NFL, Nirma, NOCIL, Orchid, Paradeep, Sudarshan, Tutticorin, Tata, Tuticorin Alkalies, SPIC, Thirumalai, 3M Manufacturing, etc.</p> <p>CONSULTANTS Avant Garde, Development Consultants Ltd., Desein, ERDA, EIL, FL Smidth, Hoffincons, MECOM, M. N. Dastur, Fitchner Consulting, MGP Associates, Tata Engineering Consultants UHDE, etc.</p> <p>ENGINEERING CONTRACTORS Bharat Heavy Electricals Ltd (BHEL): Delhi, Bangalore, Bhopal, Haridwar, Hyderabad, Kolkata, Noida, Ranipet, Trichy, etc.</p> <p>Alstom, ABB, Engineers India Ltd (EIL), Electronics Corp. India (ECIL), ILK, Elecon, Emerson, FFE, GEA, Honeywell, Industrial Systems, Invensys, Keltron Controls, Larsen & Toubro, McNally Bharat Engineering, Tata Robins Fraser, Siemens, TATA Projects, Tecpro Systems, TDPS, Electric, Engineering Experts, Yokogawa, etc.</p> <p>FERTILISER INDUSTRY Chambal, Coromandel, Gujarat Narmada Valley, GSFC, IFFCO, Indo-Gulf Fertilizers, Kribhco Shyam Nagarjuna, National, Madras, Mangalore, Paradeep, Rashtriya, Shriram, Zuari Agro, etc.</p> <p>FOOD Sugar Plants: Arunchalam, Arignar Anna, Bannari Amman, Cadbury, Dharani, Dhampur , Bajaj Hindusthan, Gem, Kallakurichi, Madurai, Tamilnadu, Tirupattur, Thiru Arooran, Ugar.</p> <p>Aavin Milk, Brooke Bond, Sunil Healthcare, Food Corp India, Maize Products, Mohan Breweries, Pondicherry Co-Op, Rampur Distillery, Sudha Agro, etc.</p>	<p>DEFENCE & MARINE Indian Navy, Coast Guard, Cochin Ship Yard, Goa Shipyard, ABG Shipyards, GRSE Calcutta, Mazagon Docks, NSTL, etc.</p> <p>MINING Kutch Lignite, Kudremukh, KMML, Neyvili Lignite, Northern & Western Coalfields, NMDC, SESA, West Bokaro Collieries, etc.</p> <p>Non Ferrous: Angul, Damanjodi, Bhubaneswar, Hindustan Zinc, Hindalco, Hindustan Copper, NALCO, Nalconagar, Philips Carbon, SWIL, Sterlite, Saint Gobain etc.</p> <p>MACHINERY OEMS Belliss, Cethar Vessels, Chola Turbo, Concast, Kessels, Kirloskars, Koshyama Fans, Fläkt, NICCO, Reitz, Triveni, TDPL etc.</p> <p>OIL, GAS, PETROLEUM AEGIS, Bharat Petroleum, Bongaigaon Refinery & Petrochemicals, GAIL, Hindustan Petroleum, IOCL, Indian Petrochemical, Mangalore Refinery, Madras Refinery, Reliance, Tamilnadu Petroproducts SPIC, ONGC, Cairn, etc.</p> <p>POWER SEBs: Andhra Pradesh, Bihar State, Chattisgarh, Gujarat, Haryana, Jharkhand, Kerala, Maharashtra, Madhya Pradesh, Punjab, Rajasthan, Tamilnadu, Uttar Pradesh, West Bengal, Delhi Vidyut etc.</p> <p>POWER Corps Calcutta Electricity Supply, Damodar Valley, Essar Gujarat, GVK, Jegurpadu, NHPC, NLC, Nuclear Power Corp. IPGCL, Jindal Tractabel, Karnataka Power, Reliance Energy, Tata Power, GMR Vasavi, etc</p> <p>NTPC Plants:- Angul, Anta, Auraiya, Badarpur, Balco, Dadri, Farakka, Faridabad, HQ Delhi, Kahalgaon, Kayamkulam, Korba, Ramagundam, Rihand, Singrauli, Simhadri, Talcher, Unchahar, Vindychal etc.</p> <p>STEEL INDUSTRY BMM, Ispat, Bellary Steels, Bhushan Steel, Essar Steel & Hygrade Pellet, IP Tata Sponge, Ispat Industries, JSW Steel, Mahindra UGINE Steel, Mukand Iron & Steel, Salem Steel, SISCOIL, SJK Steels, SAIL: Bokaro, Durgapur, Rourkella, Sunflag Iron & Steel, Tata Iron & Steel, Vikram Ispat, Visakhapatnam Steel Plant, etc.</p>
<p>International: BSG Texas, Energy Electric Illinois, Loren Cook, TECO Westinghouse USA, Ontario Hydro, Wabash Mines Canada, Benue Cement Nigeria, AAC South Africa, KCM Zambia, Kakira Sugar Uganda, BSRM Steel Bangladesh, Korea Hydro & Nuclear Corp, Jin Sung Engineering Co. Korea, Taiwan Power Corp. Pacific K&S Corp Taiwan, Argentina, Belgium, Kenya, Mexico, Pakistan, Russia, etc. Supplies through OEMs: Australia, Bahrain, Canada, Dubai, Iran, Egypt, Europe, Kuwait, Qatar, Saudi Arabia, Singapore, Syria, Yemen, UK.</p>	

IRD Mechanalysis is ISO9001:2008 Certified.



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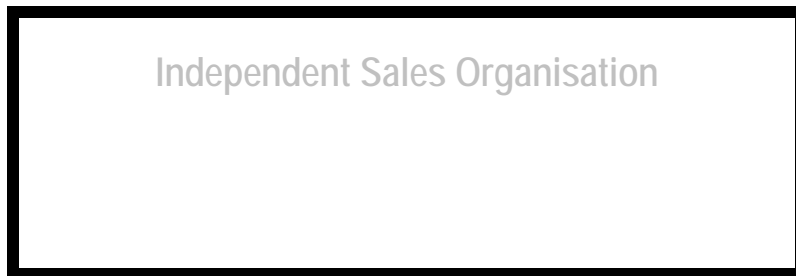
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IRD Mechanalysis® Limited is represented in your area by:



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