

by



Operator based condition monitoring



Operator system

**Engineer desktop
Analyst toolbox**

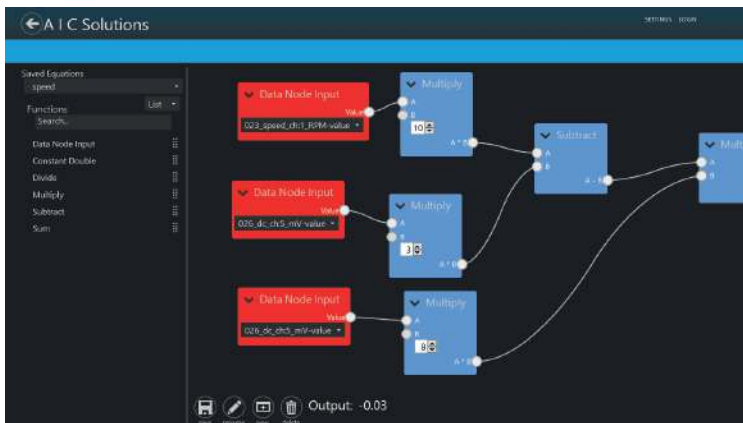
fetch is an innovative online condition monitoring system that combines several predictive machinery measurements.

This simple early warning system is capable of identifying multiple impending failure modes in rotating and process equipment.

fetch was created as a generic reliability based tool. fetch embraces three fundamentals of equipment reliability:

1. ConditionNet ®

Periodic monitoring of machinery condition (vibration and temperature)
Process efficiency parameters



2. LubriNet ®

Continuous lubrication monitoring (grease, oil flow and quality)



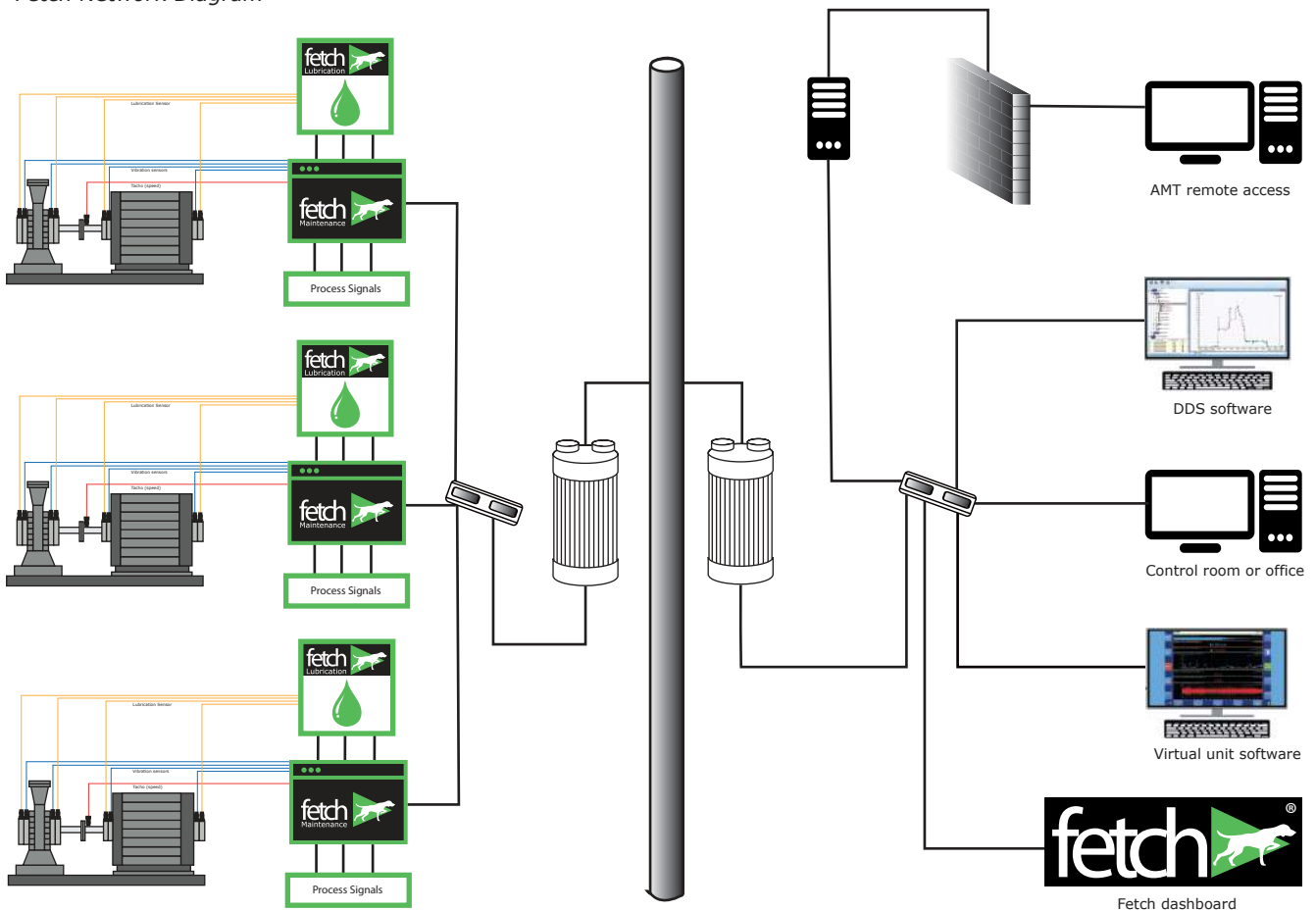
3. Overall vibration and FASIT

Fault And Severity Identification Tool presented for the non-professional user (velocity, acceleration, displacement)



fetch is network connectable and can cover multi machines, multiple areas and multiple sites.

Fetch Network Diagram



fetch assists in **breakdown reduction** and reduces the need for time-based preventative maintenance.

With its **automated data collection**, fetch obtains consistent, repetitive data and removes the need for user intervention.

Through **remote monitoring of data**, fetch reduces the need for on-site expertise.

fetch has the flexibility to use multiple measurements on a singular piece of equipment to capture all the necessary data with minimal plant disruption - ensuring production rates and quality standards are maintained. This direct comparison of several machine conditions also supports more informed decisions for any action needed.

Using FASIT, fetch offers a user friendly touch screen interface or dashboard, displaying trend and alarm information as well as an automated assessment of the equipment's current condition. The configurable dashboard links all monitored machines to a common point through its network connectivity.



fetch is also designed with experienced engineers and analysts in mind with its comprehensive condition monitoring software database that can be accessed remotely at any time.

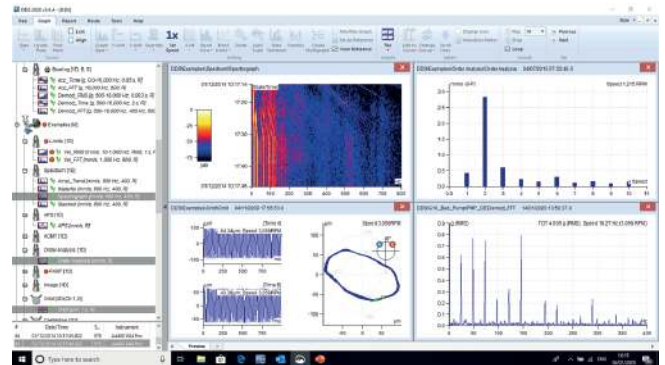
Its application is suitable for:

- . Highly critical assets
- . Hard to access equipment
- . Equipment enclosed by fixed or interlocked guards
- . Trouble shooting of problem equipment

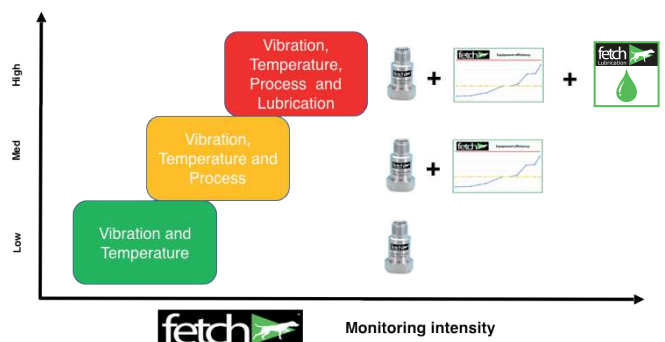
Technology:

fetch is powered by scalable Adash technology – a global monitoring solution concentrating solely on developing user led hardware and software and featuring unrivalled functionality. This includes:

- . A3800 online monitor handling majority of data acquisition and processing
- . DDS2019 database as data repository
- . Virtual software to transform the fetch online monitor into a power 16 channel data collection device
- . Secondary data repository ensuring data security machine by machine
- . Advanced vibration diagnostics for professional use available via DDS2019 database



A scalable solution, fetch is designed to be purchased in building blocks to match user needs. Users can start small and grow the system over time, limiting any initial capital expenditure. As the need to monitor more equipment grows, so can the fetch solution.





System Specification

Measurement (fetch Standard)

Measurement parameter	Detail
Velocity RMS Overall (mm/s)	2-1200 Hz (ISO)
Acceleration RMS Overall (G's)	2-25,000 Hz
Demodulated acceleration Overall (G's)	5000 Hz – 10 KHz
Fault And Severity Investigation Tool	Machine condition Bearing condition Unbalance Misalignment Mechanical looseness Other
Temperature	0 – 100 Deg C (10 mV/Deg C)
Grease flow	0 – 2500cc /min, Accuracy (+/- 3%)
Oil flow	0-(tbd) L/min, Accuracy (+/- n%)
Process variables	0-10 v / 4-20mA
Oil contamination/wear particles	% (1-100)
Oil temperature	0-100 Deg C
Machine efficiency	User selectable calculated value

Physical (Standard enclosure)

Parameter	Detail
Enclosure	
Dimensions (length/height/depth) mm	600/400/200
Mounting	Wall/Frame
Rating	IP 65
Material of construction	316 Stainless steel
Weight (Inclusive of battery)	10 kg
Touch screen	
Dimensions (length/height/depth) mm	300/250/150
Grade	Industrial Grade 12VDC 15.6" diagonal
Type	Active matrix TFT LCD (LED)
Response time-total (typical)	10 msec
Contrast ratio	500:1
Operating temperature	0°C to 40°C
Humidity	20% to 80%
Mini PC	
Processor	Intel i7
RAM	8 GB
Hard disk	500 GB SSD
Operating system	Windows 10
Connectivity	Dual ethernet port (RJ45)
Alarms and indication	
Visual	LED multicolour with test mode
Audible	

Electrical

Parameter	Detail
Power supply (Mains)	
Volts	240 V SP+N
Amps	13
Frequency	50 Hz
Power supply (Internal)	
Volts	12 / 5
Amps	4.6 / 5
Connections	
Mains power	Screwed terminal (2.5mmsq) 10A isolator
Ethernet	RJ45
Sensors	Screwed terminal (1.5mmsq)



System Specification Sensors

Vibration / temperature sensor

Technical Performance	
Measurement	Detail
Mounted base resonance	22 kHz (nominal)
Sensitivity	10 mV/g +/- 10% Nominal 80 Hz at 22 ° C
Frequency response	2 Hz to 10 kHz +/- 5%
	0.8 Hz to 15 kHz +/- 3dB
Isolation	Base isolated
Measurement range	+/- 80 g
Temperature	10mV/°C with 500mV Offset
Transverse sensitivity	Less than 5%
Electrical	
Electrical noise	0.1 mg max
Current range	0.5 – 8 mA
Bias voltage	2.5 Volts Nom
Settling time	2 seconds
Output impedance	200 Ohms max
Case Isolation	>10 ⁸ Ohms at 500V
Environmental	
Operating temperature range	-55 to 90 °C
Ingress protection	IP67
Maximum shock	5000g
Emissions	EN6001-6-4:2001
Immunity	EN6001-6-2:1999
Mechanical	
Case material	Stainless Steel
Sensing element/construction	PZT/Compression
Mounting torque	8Nm
Weight	100 gms(Nom)
Maximum cable length	100 metres
Mating connector/cable assembly	M12- Straight or right angled
	Screened cable assembly

Grease flow sensor

Measurement	Detail
Flow	0-2500 cc/min
Max pressure	10153 psi (700 bar)
Accuracy	+/- 3%
Vibrations	20 g (10-20000 Hz)
Life time	10 ⁹ pulses
Temperature	-20 - +70 °C
Connections	1/8" NPT
Material	Aluminium
Weight	0.186 kg
Lubricant	ISO VG 32 to NL Grade 2
IP rating	IP-67

Oil Condition sensor

Measurement	Detail
Ferrous wear and wear particle	Fine
Ferrous wear and wear particle	Coarse
Contamination	Water in oil
Presence	Oil presence
Temperature	Temperature indication
Humidity	95% RH + 55 Deg C
Oil sensor	
Size (overall)	57mm x 24.5mm
Immersion depth	29.1 mm
Process connection	M20 8 1.5 threaded connection
IP rating	IP 66/IP68/IP69K to EN60529
Material	Aluminium alloy, FEP, PEI
Operating temperature	-40 - +150 Deg C
Junction box	
Size	105.5*105.5*66mm
Material	Aluminium alloy, St.St, polyester
Weight	0.70 kg
Operating temperature	-40 - +85 Deg C
IP rating	IP 65

**For further information or to arrange an equipment assessment please call
Graham Simpson of Applied Maintenance Technology on +44 (0)7525 714526**