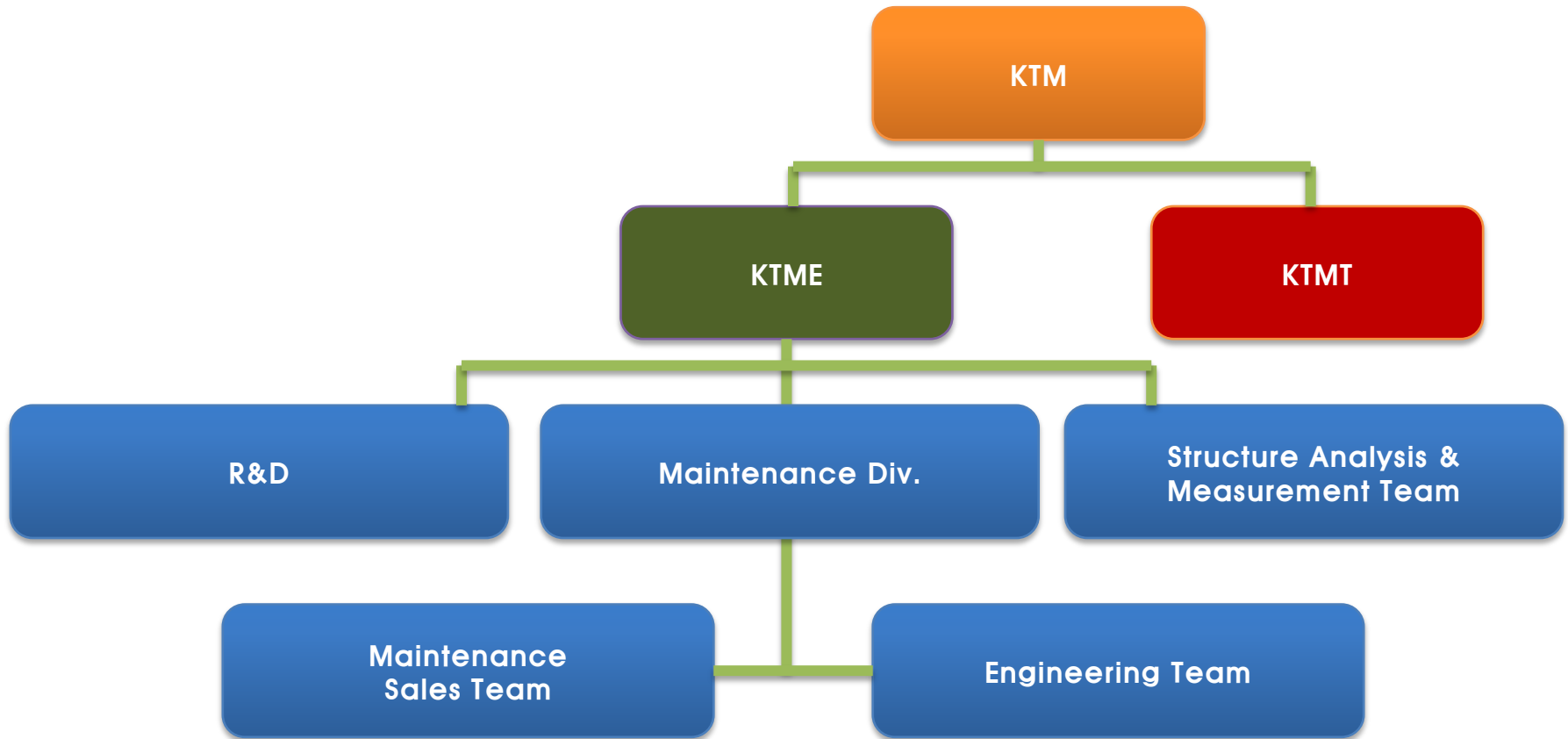


KTM Engineering

COMPANY

INTRODUCTION

Organization



KTM ENGINEERING BUSINESS

Engineering

- Vibrating, Noise, Stress
- Facility Diagnosis Engineering
- Measurement and Interpretation
- Assessment, Countermeasure and Construction

Training

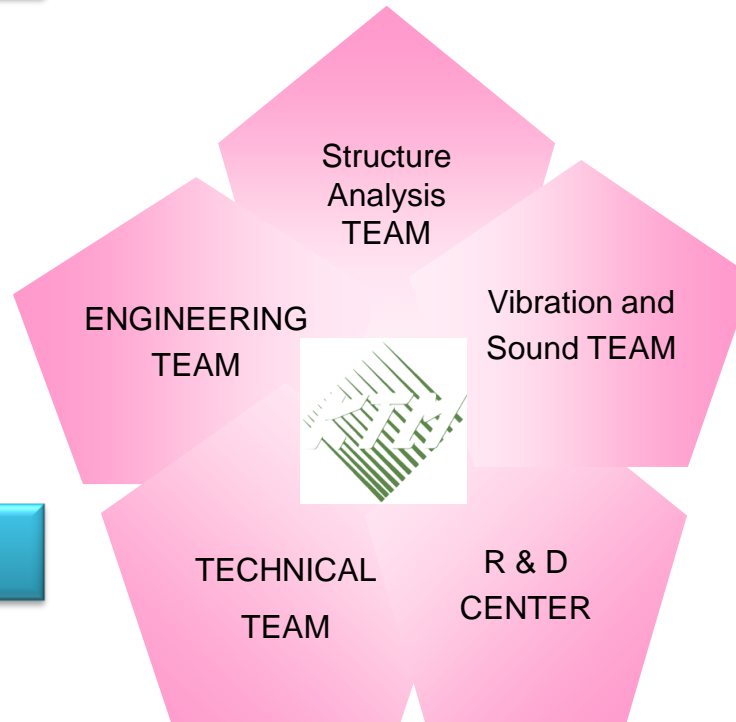
- Diagnostic Engineering
- Stress Analysis
- ISO 18436 Category 1, 2

Sales

- Vibration and Noise
- Online Monitoring System
- Facility Diagnosis

Research Institute

- National Policy and Commission Research
- Monitoring Task Research
- Diagnostic Technology Development



PCB / IMI Industrial Sensors



General Accelerometer



4-20mA Vibration Transmitter



Portable Calibration Units



Hazardous Area Approved Accelerometer



Multi-axis Accelerometer



High Temperature Accelerometer



Vibration Portable Analyzer

CSI 2140 Portable Analyzer



- Route vibration collection
- Advanced vibration analysis
- Cross-channel analysis
- Transient recording analysis
- Dynamic balancing
- ODS modal analysis
- Up to 4 Channel
- Memory – 1GB



CoCo-80X Portable Analyzer



- VDC vibration collection
- DSA vibration analysis
- Raw data recording analysis
- Rotor balancing
- Order tracking
- ODS modal analysis
- Up to 8 Channel
- Memory – 4GB



Online Monitoring System

CSI 6500 Monitoring System



- Waveform Monitoring
- FFT monitoring
- Overall monitoring
- Trend monitoring
- Waterfall monitoring
- Machine fault analysis
- Order analysis
- Raw data recording
- Alarm function
- MHM software



NI InsightCM Monitoring System



- Various sensor input
- Compact RIO Platform
- Track historical trends
- Easy CMMS and SCADA integration
- OPC UA protocol





National Policy and Research Projects

(Railroad, Electric Power, Transport, Construction, Gas)

Simulation Analysis and Resonance Analysis, Design

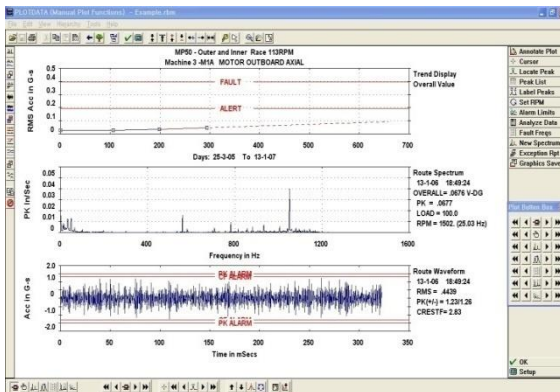
(Vibration, Stress, Resonance)

Custom Facility Monitoring System and Software Development

(Various Test System, Custom Online Monitoring Facility Management)

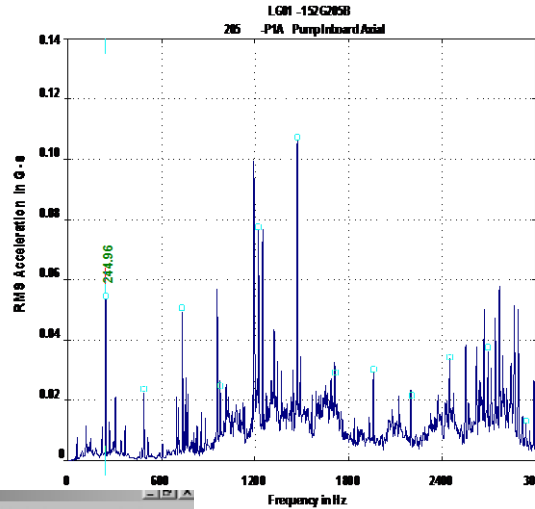
Special Purpose Dustproof, Soundproofing, Instrument Design

(Damper, Silencer, Wireless Measurement)

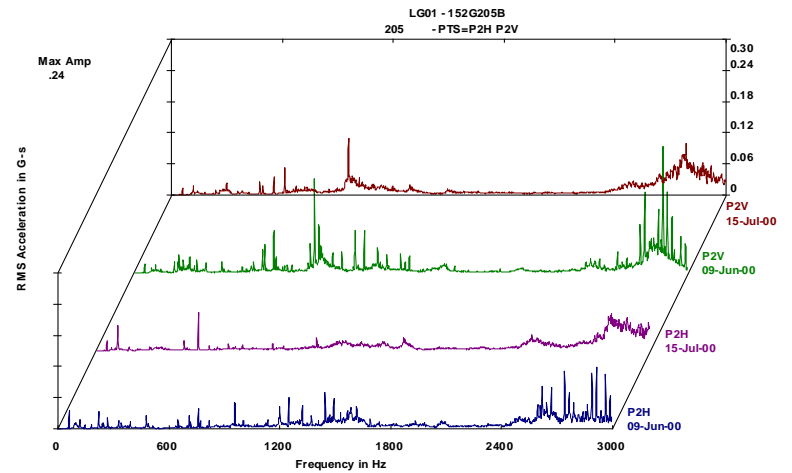
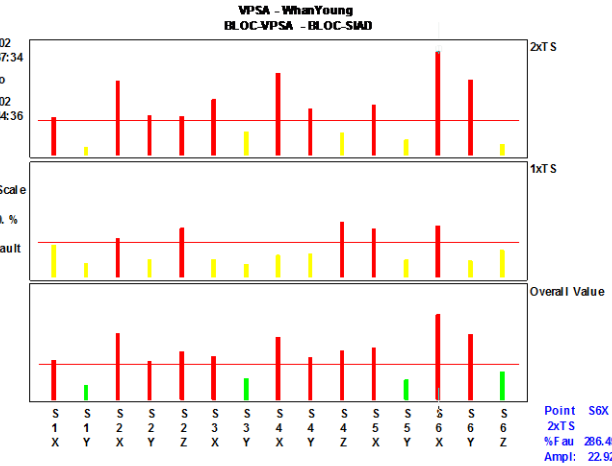


Machine Health Diagnostics

Precision Vibration Analysis



Freq: 245.63
 Ord: 4.106
 Spec: .05396



Machine Health Diagnostics

Vibration Assessment & Criteria

ISO 10816

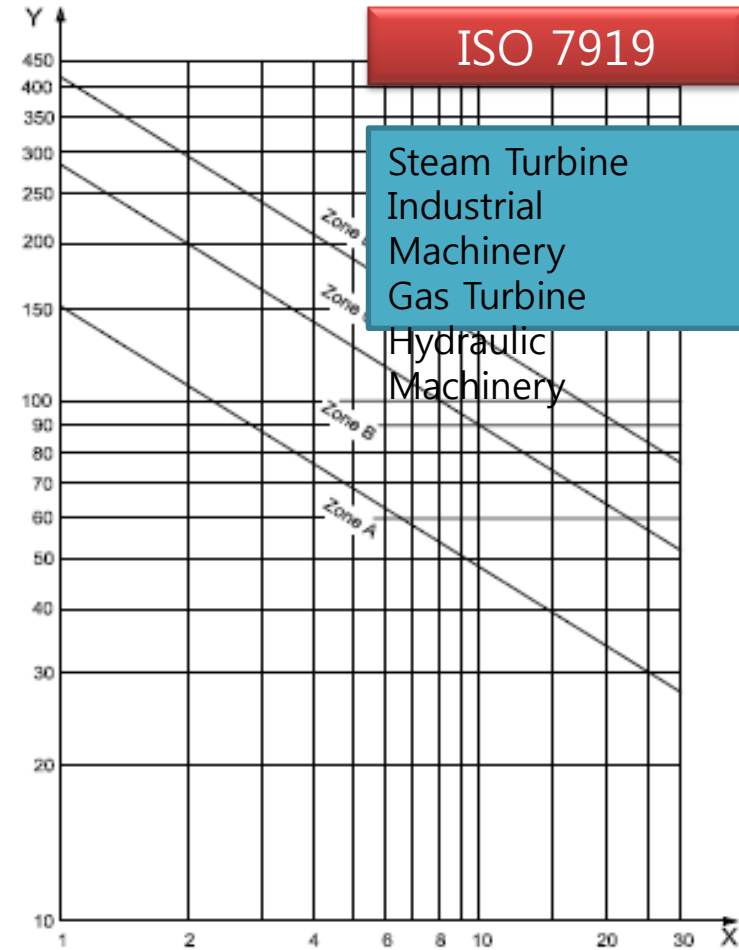
Steam Turbine
Industrial Machinery
Gas Turbine
Hydraulic Machinery
Reciprocating machine

Measurement of
Rotating Part or Non-
Rotating part

지지종류	경계	1군	2군	3군	4군
		mm/s (rms)			
강지지	A/B	2.3	1.4	2.3	1.4
	B/C	4.5	2.8	4.5	2.8
	C/D	7.1	4.5	7.1	4.5
유연지지	A/B	3.5	2.3	3.5	2.3
	B/C	7.1	4.5	7.1	4.5
	C/D	11.0	7.1	11.0	7.1

ISO 7919

Steam Turbine
Industrial Machinery
Gas Turbine
Hydraulic Machinery



Key

Y peak-to-peak shaft vibration displacement, relative to bearing (μm)
X maximum operating speed of the shaft × 1 000 (r/min)

Machine Health Diagnostics

Plant Equipment - Vibration Trouble Shooting

In order to secure competitiveness of companies, KTM Engineering is conducting assessment and trouble shooting of problem facilities along with transfer of diagnostic technology for companies that desire to have facilities diagnosis technology or special construction companies that construct and install plants overseas.

1. HYUNDAI Engineering Co. - Mesaid Refinery - Qatar
2. Lee & Man Paper Mfg. Co.- Changshu, China. (GSPT)
3. Daelim Industrial Co., Ltd. - Jubail Refinery - Saudi Arabia
4. GS E&C - Maptaphut HMC - Thailand
5. Daelim Industrial Co., Ltd. - Kayan- Saudi Arabia
6. HYUNDAI Motor-Saint Petersburg - Russia



Application Engineering

Inspection & Safety for Public facilities



광주 제1, 2 하수 중말 처리장

기계분야 진단 보고서

Vibration, Noise, Thickness Measurement, Ultrasonic Coupling, Thermal Burn

기기명	동력 (KW)	단계		설비	유압 검사	소음 (dB)	진동 (mm/sec)	초음파	두께 측정	종합 진단 결과	등급	보수 보강 방안
		1	2									
슬러지공급 펌프	15	5	A	누수	80	5.3	양호	-	보수	D	부분 보강	
			B	9월 27일 이기 공작기 임의 점검 결과 비정상	82	6.0	양호	-	보수	C	파손 부품 교체	
			C	양호	81	9.5	양호	-	점검	D	축정렬 & Balancing	
			D	양호	82	1.6	양호	-	양호	B	-	
			E	양호	85	2.0	양호	-	양호	B	-	
슬러지공급 펌프(구)	15	2	A	누수	-	-	-	-	보수	D	부분 보강	
			B	양호	-	-	-	-	양호	B	-	
탈수기	45	5	A	양호	94	21	양호	-	점검 소음디텍	D	소음 경고 표시, 축정렬 & Balancing	
			B	양호	93	16	양호	-	점검 소음디텍	D	소음 경고 표시, 축정렬 & Balancing	
			C	양호	95	17	양호	-	점검 소음디텍	D	소음 경고 표시, 축정렬 & Balancing	
			D	양호	92	25	양호	-	점검 소음디텍	D	소음 경고 표시, 축정렬 & Balancing	
			E	양호	92	8.6	양호	-	소음디텍	C	소음 경고 표시	
케임이송 장치	37	2	A1	제인	-	-	-	-	보수	C	파손 부품 교체	
	5.5		A2	필리파스	-	-	-	-	보수	C	파손 부품 교체	
	37		B1	양호	92	1.5	양호	-	소음디텍	C	소음 경고 표시	
	5.5		B2	양호	93	3.9	양호	-	소음디텍	C	소음 경고 표시	

THANK YOU!

**SUCCESS PARTNER
KTM Engineering Inc.**

