



ENGINEERING FOR  
A SAFER WORLD

A photograph of two technicians, a man and a woman, wearing blue uniforms and yellow hard hats with the "VELOSI" logo. They are standing in front of a large, industrial electrical control panel. The man is pointing at a digital display on the panel, while the woman looks on. The scene is lit with a mix of blue and orange light, creating a professional and technical atmosphere.

# ELECTRICAL INSPECTION SERVICES

PRECISION-DRIVEN ELECTRICAL ASSESSMENTS  
FOR SAFER, MORE RELIABLE OPERATIONS

KARACHI

LAHORE

ISLAMABAD

MULTAN

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

# Welcome to **Velosi**

“



Velosi is a leading global consulting firm that provides Asset Integrity Management, HSE, Engineering Services and Software Solutions to clients in the energy industry around the world.

We offer a full range of specialist engineering consultancy services, incorporating our own proprietary software that is exclusively developed and tailor-made to match the needs of our increasingly diverse clients around the world in the energy sector.

Being a leading service provider, we are always proactive and keen to listen to the voice of our customers in order to fully understand their needs.

Within the Velosi Asset Integrity, HSE and Engineering Services, our greatest asset is our qualified and experienced employees who are experts in all engineering disciplines, multi-tasking, highly motivated and ready to serve our clients and the community we live in.

Our main business goal is to help our clients implement effective asset integrity strategies to manage the integrity of their assets by maximizing efficiency, significantly reducing operating costs, and providing the best total lifecycle cost of ownership.

**We look forward to working with you!** ”

**Mr. Ijaz Ul Karim Rao**  
Director

# About **Velosi**

Velosi Integrity & Safety Pakistan is a global leader in providing a broad spectrum of end-to-end Consultancy Services in the fields of Third-Party Inspection (TPI), Vendor Inspection, Statuary Inspection, Certification, Testing, Asset Integrity Management, HSE, Engineering Services, Manpower Services, and Software Solutions to clients in the FMCG, pharmaceutical, energy, mining, and oil and gas industries around the world.

With almost four decades of progressive experience, Velosi has gained a solid reputation as a pioneer in the Management Consulting arena. Founded in 1982 and headquartered in Abu Dhabi, the UAE, Velosi commenced operations in Karachi in 2009 under the name VISP (Velosi Integrity and Safety Pakistan) and later established offices in Islamabad, Lahore, and Multan.

## Our **Vision & Mission**

Our Vision is to create valuable strategies for our clients by providing tailored asset integrity engineering solutions to complex problems. We provide leading services with efficient yet productive outcomes.

## WE VALUE **OUR CLIENTS!**

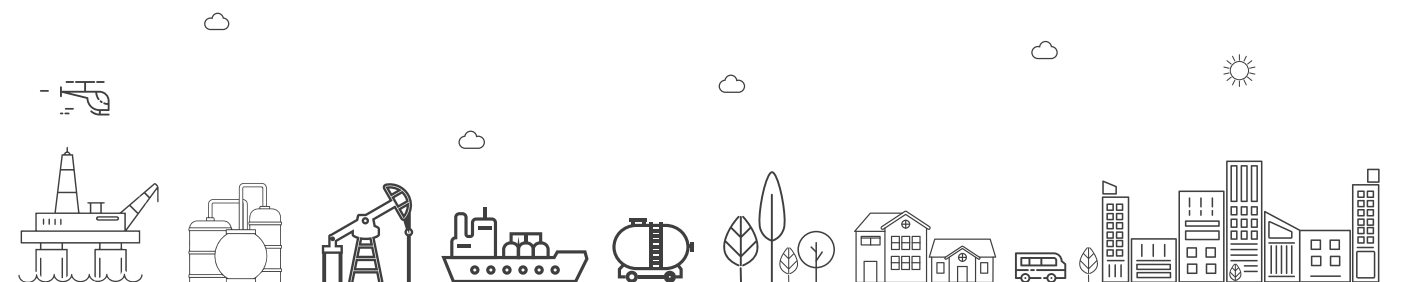
We aim to provide high-quality Inspections, Certifications, Testing, Asset Integrity, HSE, Engineering Services, and Software & AI solutions. With our high-quality equipment and inspection techniques, we provide several extensive strategies to serve our clients up to the mark.

**43+**  
YEARS OF  
EXPERIENCE

**86+**  
COUNTRIES  
WORLDWIDE

**500+**  
SATISFIED  
CLIENTS

**1350+**  
PROJECTS  
COMPLETED



# Velosi's Electrical Inspection Services

We offer highly experienced and qualified electrical, engineering, and instrumentation inspectors with the latest equipment inspection and testing facilities at Velosi.

Our team tests, measures, analyzes, and evaluates the built-in technical aspects of any electrical installation. Our goal is to identify any critical or serious problems and help owners, users, and maintenance staff mitigate their risks. Electrical testing and inspection are the most effective ways to demonstrate that you have efficiently carried out your responsibilities to ensure your client is satisfied.

In Pakistan and many other countries, Velosi provides accredited and highly experienced electrical and engineering inspectors for electrical inspections, quality control, and testing in compliance with national and international standards.

## Integrated Electrical Inspection & Diagnostic Solutions

### Velosi's Electrical Inspection Services Incorporate:

- Vibration Monitoring
- Ultrasound Monitoring
- Remote PD monitoring using CROCAM
- Thermographic Inspection
- Insulation Resistance (LV + HV + EHV)
- Ground Resistance Survey

### Our Advanced Testing Tools Include:

- SDT270 - Vibration Monitoring
- SDT270 - Ultrasound Monitoring
- CROCAMHD6 - Remote PD monitoring using CROCAM
- FLUKE Ti400P - Thermographic Inspection
- Megger 1525i - Insulation Resistance (LV + HV + EHV)
- FLUKE 1625 - Ground Resistance Surveys







## Overview of Velosi's Electrical Inspection Services



### Vibration Monitoring - SDT270

Vibration monitoring profoundly detects common problems using vibration. This visually illustrates the severity of vibration and tracks asset health by measuring temperature and vibration. SDT270 assists you in controlling energy costs, foreseeing failures, improving product quality, and increasing overall production uptime. Through this, future potential failures can be identified and prevented beforehand.

### Ultrasound Monitoring - SDT270

A dynamic ultrasound tool with a wide range of features. Constitutes onboard sensors for measuring ultrasound, temperature, and RPM, as well as two sensor inputs for external vibration and ultrasound sensors. They assist in applying ultrasonic condition monitoring to a motor bearing, giving us a lot of information about the bearing's health and its lubrication.

Incorporating an ultrasonic sensor efficiently detects the ultrasonic sound and converts the instrument into an audible sound, assisting in finding the cause of the problem to take appropriate actions to address the cause.



The Ultrasonic Sound Condition Monitoring provides the following solutions for industry applications:

- **Bearing Lubrication Monitoring**

An Ultrasound Device allows users to carefully monitor a bearing during a lubrication task.

- **Rotary Equipment Fault Detection**

Ultrasound detects bearing defects earlier than any other condition monitoring technology and Ultrasonic identifies faults in their early stages.





## Remote PD monitoring using CROCAM (CROCAMHD6)

This Ultra Violet Imaging is a non-destructive technique that measures partial discharge (PD). Efficiently inspects High Voltage infrastructure operating at 3.3 KV and above for corona discharges and arcing. The goal of UV measurement is to certify that no harmful corona effect or electrostatic discharge source exists within the system.

The following elements are recorded through this testing technique :

- Partial discharges
- Spectrum images.
- Electrostatic Discharge
- Corona Location
- UV and Visible spectrum

COROCAM 6HD Features :

- Viewfinder for high-brightness environments
- UV blob color selection & 50% translucency option
- UV blob overlay on 0.5x, 1x and 2x zoom levels
- UV Overlay shows the precise location of the discharge
- UV blob convolution filtering for noise reduction



Standard: IEEE C57 113,  
IEEE C57 124, IEEE 1434, &  
AEIC CS5-87





## Thermographic Inspection - FLUKE Ti400P

Heat detection often refers to equipment malfunction or damage being a key performance factor. Thermographic Inspection detects the temperature profiling of a surface or point. The amount and intensity of IR energy and radiation each object emits are functions of temperature. An IR scanning system, combined with thermographic inspection, can detect and quantify surface temperatures.

This inspection technique monitors and measures bearing temperatures in pumps, motors, and other rotating equipment. Proficiently identifies “hot spots” in switchgear and other electronic equipment and finds faulty terminations in high-power electrical circuits.

The following are the extensive features of Thermographic Inspection :

- **Locate overloaded circuit breakers in a power panel**
- **Identify fuses at or near their current rated capacity**
- **Identify problems in an electrical switchgear**



TI400 Proficient Features Include:

- **Sharper onscreen images**  
Delivers crisp thermal imaging to support accurate diagnostics across electrical panels, motors, bearings, and high-load equipment.
- **Five modes of image blending**  
Multiple imaging layers enhance visibility of problem zones, helping engineers pinpoint defects and evaluate asset health more accurately.
- **High/Low-temperature and isotherm temperature alarms**  
Built-in alarms provide immediate notification of temperature anomalies, improving safety and predictive maintenance planning.







Standard: IEEE 43-2000



## Insulation Resistance (LV+HV+EHV) Megger 1525i

It is performed to determine the current resistance of the insulation. It analyzes critical data about the winding insulation degradation of winding insulation over time and whether or not it is showing signs of wear. The testing technique is performed as per 43-2000 - IEEE Recommended Practice for Testing Insulation Resistance of Rotating Machinery.

IR Testing Can Collaboratively Identify :

- **Electrical Stresses**  
Mainly linked to over- and under-voltage
- **Mechanical Stresses**  
Frequent start-up and shutdown sequences can cause mechanical stresses
- **Stresses Linked to Temperature Variations**  
Operations at extreme temperatures lead to the aging of materials and the effect of expansion and contraction stresses
- **Environmental Contamination**  
The build-up of mold and particulate deposits in warm, moist environments also contributes to the deterioration of installations' insulation properties

Four Phases of Insulation Resistance :

- Charge
- Dwell
- Measure
- Discharge

Operational Modes of Megger MIT1525 :

- Spot Insulation Resistance Test
- Timed Insulation Resistance Test
- DAR Insulation Resistance Test
- PI Insulation Resistance Test
- Dielectric Discharge Test
- Step Voltage Test
- Ramp Voltage Test



## Ground Resistance Survey - FLUKE 1625

Fluke 1625 Testers offer up-to-the-mark testing of earth ground loop resistances, which requires only clamps. A ground rod can be left connected without using earth-ground stakes. Constitutes the safe and effective operation of electrical systems, performing continuous testing in regular intervals to check the integrity of grounding to remain effective.

The instrument measures resistance by passing an electrical current through the earth. Typical surveys would find high resistance in walls or structures. A ditch or large pit would produce low resistance



## WHY CHOOSE VELOSI?

- Industry Certified Experts
- Global Experience
- Advanced and Latest Electrical Equipment
- Competitive Market Price
- Periodical verification of electrical equipment installation and testing
- Advanced Inspection & Testing Methodologies



## Some of our Clients

 Pakistan State Oil			 PAKISTAN REFINERY LIMITED	
				
			 Est. 1969	
	 DP WORLD	 KIMH LEARN TO SERVE		 Shalimar®
				
	 SSGC	 Unilever	 Dawlace	 Otsuka

# VELOSI INTEGRITY & SAFETY PAKISTAN (PVT.) LTD.

GET IN TOUCH WITH US



## Karachi:

Suite 501, 5th Floor, Jason Trade Centre, Plot 39-A/1, Block-6, P.E.C.H.S, Shahrah-e-Faisal, Karachi, Pakistan

Tel : +92 21 3454 9503 - 4  
Fax : +92 21 3454 9505

## Lahore:

207-A, P-Block, Gulberg-III, Lahore, Pakistan

Tel : +92 42 35441451  
Fax : +92 42 35441454

## Islamabad:

Plot No. 193, Street No. 1, Sector I-10/3, Industrial Area, Islamabad, Pakistan

Tel : +92 51 443 1282 - 3  
Fax : +92 51 443 1284

## Multan:

Show Room # G-1, Ground Floor, Hafiz Trade Center, 1522 Railway Road, Multan, Pakistan

Tel : +92-61-458 7772 - 3  
Fax : +92-61-458 7774



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