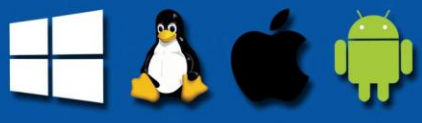
TEKHSOL

WEB BASED MONITORING SYSTEM

Any Time, Anywhere, Accumulate Data

Production, Energy, Humidity, Temperature, Air & Water Consumption Monitoring Solutions



Air Flow Module

Weighing Scale

Energy Meter

Multilayer Lamp

Water Flow Module

PLC

Temperature and Humidity Moudle

HMI

Fingerprint Scanner

VFD

RFID Reader

Motion Sensor

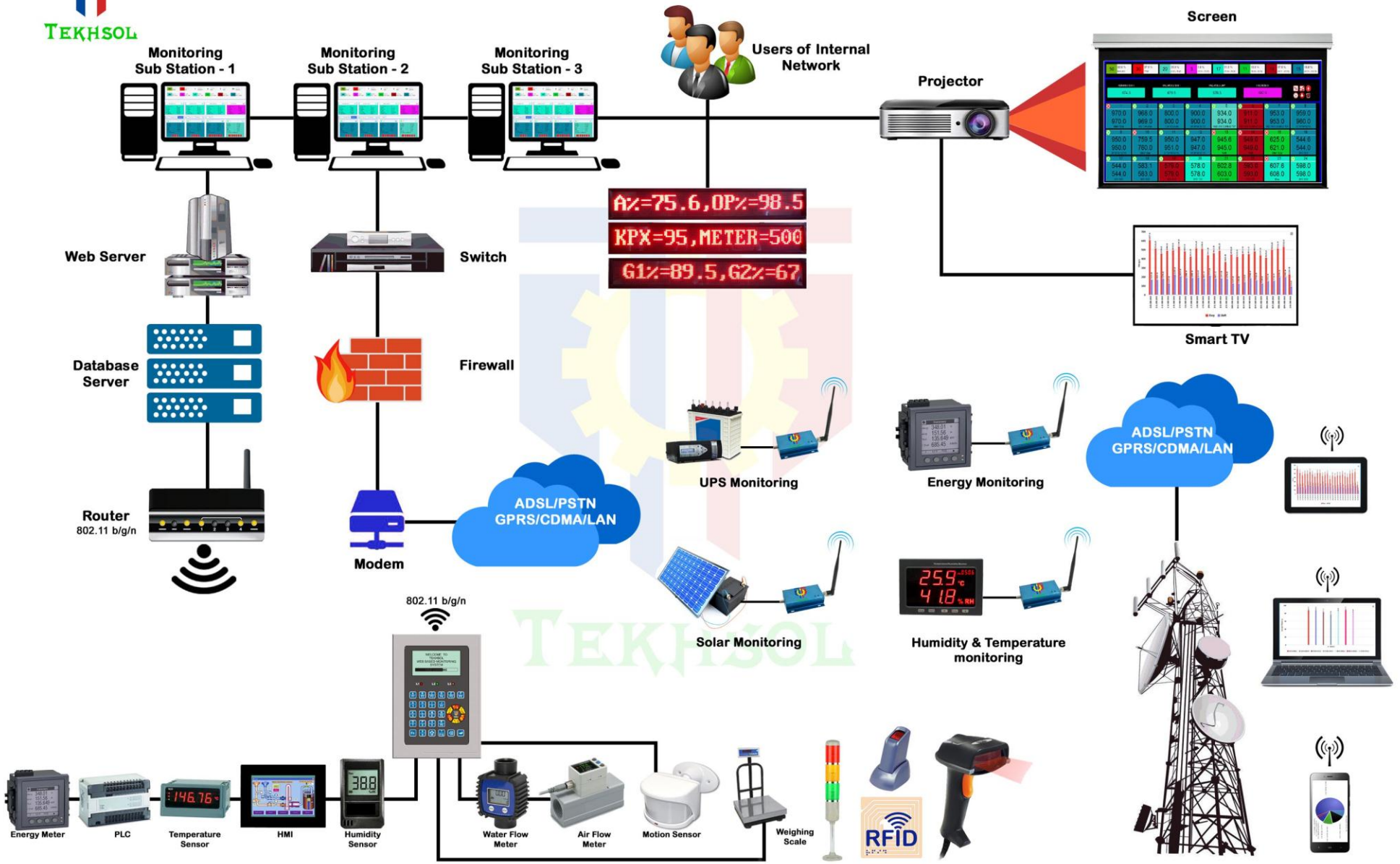
Photo Electric Sensor

Scrolling Display

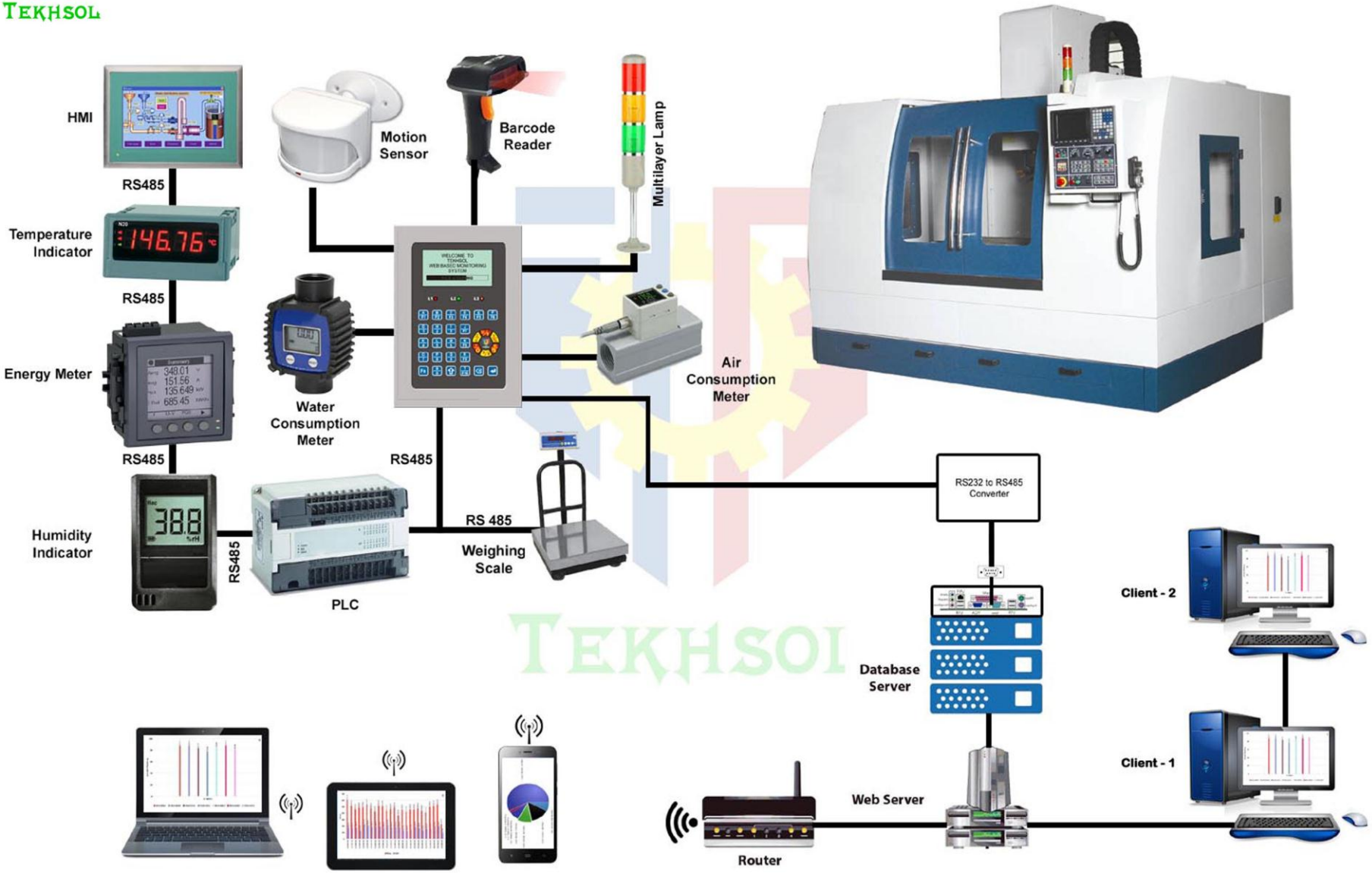
Proximity Sensor

Barcode Reader

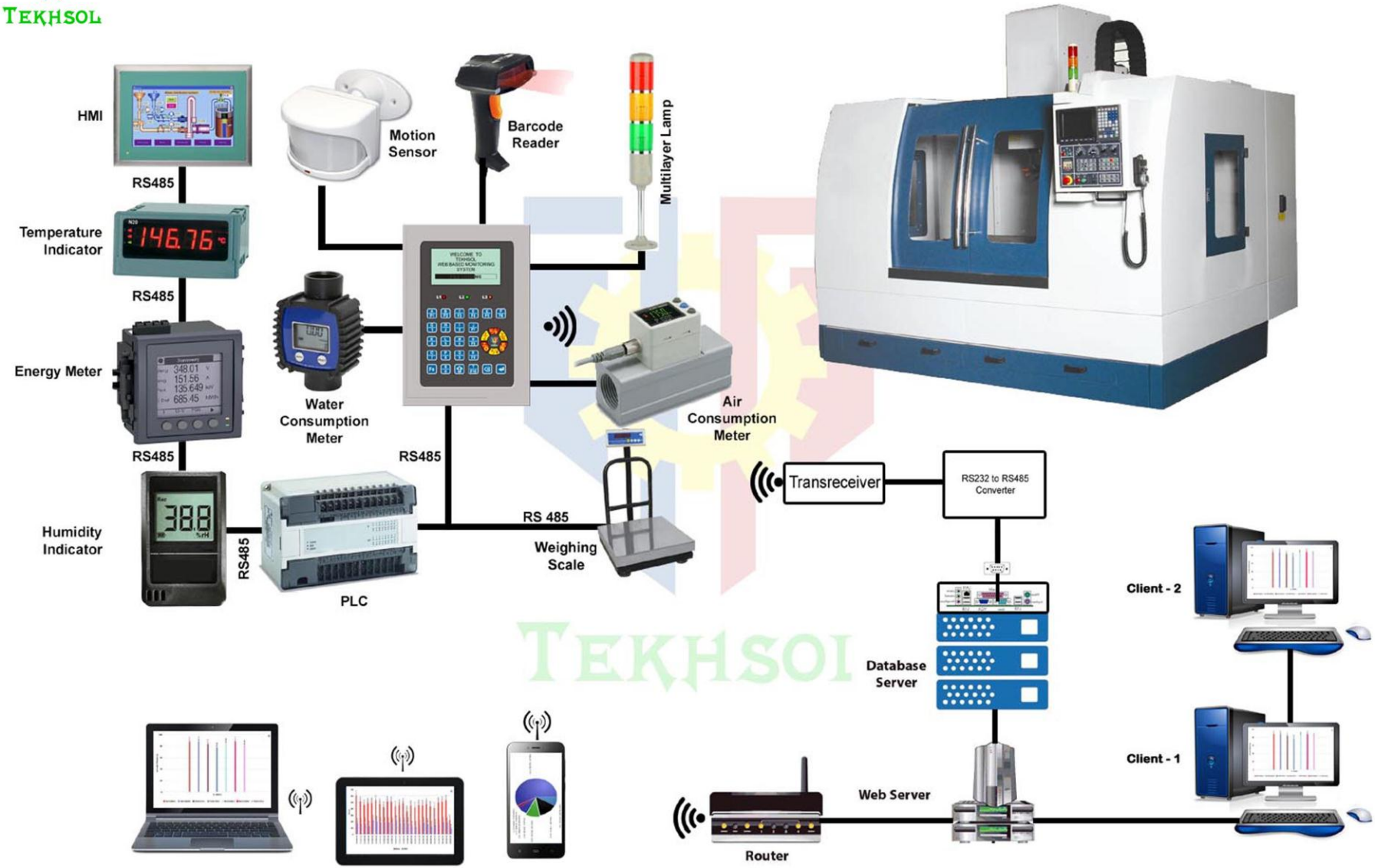
Block Diagram for Web Based Monitoring System



Block Diagram for Wired Communication



Block Diagram for Wireless Communication



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Hardware Features

Processor	
Processor	High-performance 8-bit Microcontroller
	32-bit Microcontroller
Program Memory	64 KB
	512 KB
Memory	
Internal Memory	2K bytes Of EEPROM
External Memory	4MB expendable upto 128MB
Operating System	
Operating Firmware	Embedded C
	RTOS
Display	
Character LCD	20x4 Alpha Numerical LCD
	16x4 Alpha Numerical LCD
	16x2 Alpha Numerical LCD
Graphical LCD	FSTN Monochrome LCD 128 X 64 with White LED Backlight.
TFT	TFT 3.5" QVGA 320 x 240 Resolutions with 16Bpp Transmissive, Landscape Mode, TFT and adjustable LED Backlight. 4 Wire Resistive Touch Screen Capability
Indicator	Multi Layer Lamp, Three Mono color signal status LEDs
Data Capture	
Keypad Details	6 x 5 Matrix Keypad
	6x6 or 4x4 Matrix Keypad
	USB – HID Class Keyboard
Signals	6 signals
Analog to Digital Conversion	Multi branded ADC input based Air flow sensors, Water flow Sensors and Load cells
RS 485	Multi branded RS 485 based PLC, HMI, Energy Meter, Humidity Meter and Temperature Meter
RS232	Multi branded RS 232 based Weighing Machines and Barcode Readers
TTL	Multi branded TTL based Energy Meter
Sensor	
Proximity sensor	3-Wire DC NPN/PNP Inductive Proximity Sensor
Motion Sensor	The PIR based Motion Detection Sensor
Photo Electric Sensor	Infrared based Object detection
Encoder	Incremental Encoder, Absolute Encoder and CNC Incremental Encoder
Modules Interfacing	
Barcode Reader	USB – HID Class Barcode Readers (Barcodes Code 39, Code 39 Full ASCII, Code 32, Code 128, UCC/EAN-128, Coda bar, Code11, Code 93, Standard 2 of 5, Industrial 2 of 5, Interleaved 2 of 5, UPC/EAN/JAN with Addendum, Telepen, MSI/Plessey, GS1DataBar (RSS) Linear, Linear-stacked)
RFID	RFID reader /writer 13.56Mhz - Compliance to ISO15693, ISO 14443A/B, ISO18000-2
Finger Print	Active Capacitive Fingerprint sensing with high resolution (508 dpi) with Algorithm for Matching 1:1 and 1:N. Active area 256 x 360 pixel (12.8 x 18.0 mm). Air ESD resistance up to (+ or -) 15kV. Thick coat.
GPS	High performance GPS receiver module featuring with weak signal acquisition technology
Data Communication	
Wired	Multi Branded RS485 Communication
	Multi Branded RS232 Communication
	Multi Branded TTL Communication
Ethernet	standard IEEE 802.3 @ 10/100 MB / Sec
Wireless	
XBee	IEEE 802.15.4, Frequency: 2.4 Ghz, with Internal / External Antenna.
Wi-Fi	802.11 b/g - Speed 11MB/54 MB per second, Internal / External Antenna, Frequency: 2.4 to 2.5Ghz, Output Power: 100mW US and International
GSM/GPRS	QUAD Band GSM for wide Coverage and global access with GPRS Multi slot Class 10, Class B with TCP/IP communication Protocol and With Internal/External Antenna
Bluetooth	IEEE Standard 802.15.1

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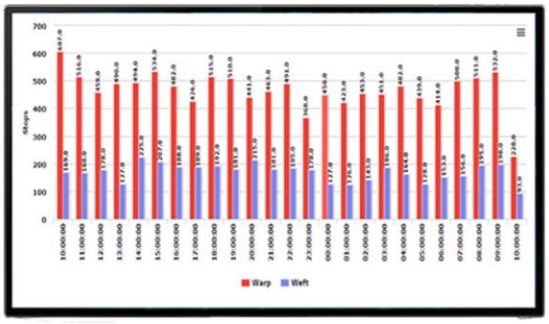
Software Features

- Web Based Monitoring System software is also allows direct input for production and other working details. Which are not censored by Web Based Monitoring System.
- This helps the management to have total production monitoring through computer. The management can realize the completeness in computerizing the production activity.
- User friendly - User can monitor the industry anywhere from the world through Internet. Integrated information of all Machines at one place.
- Web Based Monitoring System software is also allows direct input for production and other working details. Which are not censored by Web Based Monitoring System.
- The management can realize the completeness in computerizing the production activity.
- Dash board for cumulative display of collected data in a single page. Running and Stoppage machines with their percentage.
- Monitoring Screen to show current month, Previous Shift, Previous Day and current shift status with easily understandable user friendly GUI.
- Efficiency wise machines counting with percentage. Instantaneous and Running shift efficiency and production data in the dash board view.
- Various Reports on Production, Stoppage & Efficiency based on selected criteria. Machine Running Time and Various Stop Time like Electrical, Mechanical and etc.
- Performance of any Machine, Design, Beam, Employee or Group can be analyzed at any point of time for any chosen period of working.
- Real time and past data comparison on Machine, Design, Operator, Technician, Supervisor, Operator Group, Technician Group, Supervisor Group, Buyer, Order etc.,.
- Periodical Break analysis and Efficiency Graphs to improve Production and Quality.
- Production Planning and Order status Reports.
- Projected Production information to improve current shift Production & Efficiency.
- Total working performance of the Mills for a day would be immediately available after the end of the day to the Top Executives.
- Month end Production report and stoppages analysis reports are immediately available after the month end without any manual preparation.
- Graphical representation of data with respect to productivity and stoppage are also available for quick and easy understanding of the Mills performance.
- More than 200 different kinds of reports are available. Each of these reports are carefully designed and are very meaningful to control the production routines in all respects.

Add On Features



SMS-Alert

TEKHSOL as a company focused on providing the highly accurate and reliable industrial monitoring and control systems for all industries through innovated sensors and technologies. We apply the best possible technologies at very affordable cost and so the every customer can implement the monitoring and control systems.

We automating the Managements information Systems with Live and Practical data with very high accuracy towards helping the management peoples to take precious decision based and data science and verification of the decision by themselves.

Monitoring system helps the decision makers to choose the right operating point in production setting versus energy cost to optimize the profit and select profit efficient process setting, spare parts selection and spare parts life cycle determination.

We focused on factory automation through the automatic data collection and automatic data analyzing and implementing automatic control towards achieving the maximum cost control and improve profit efficiency to maximum possible level.

Human interfaces like touch screen. Reporting system with wider information sharing base like Clients support, Support on tablets.

Implemented with various alarms through SMS, Auto Email, Deviation Reports, Easy programmable Act on Alarm system helps the customer to avoid various losses and prevent accidents.

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