

THE ENERGY & PROCESS MANAGEMENT SYSTEM



(ELUCIDATED USING THE TEXTILE INDUSTRY)

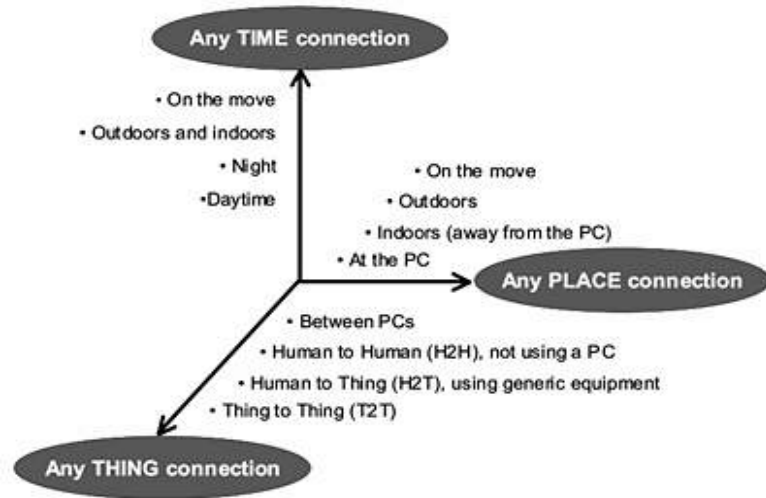
WHAT IS THE INTERNET OF THINGS

From anytime ,anywhere connectivity for anyone, we will now have connectivity for anything!

Why Internet of Things?

- Dynamic control of industry and daily life
- Improve the resource utilization ratio
- Better relationship between human and nature Forming an intellectual entity by integrating human society and physical systems

Figure 1 – A new dimension



Source: ITU adapted from Nomura Research Institute

PROCESS CONTROL

Our solution helps you to optimize the entire production process processes, after an initial power quality audit, the system team work on integrated systems design, engineering, installation, and commissioning innew and existing textile mills.

• OPEN END



• 2 FOLDED YARN

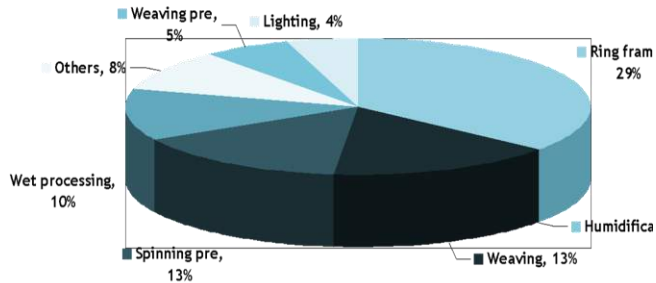
• COMBINED

CONTINUOUS

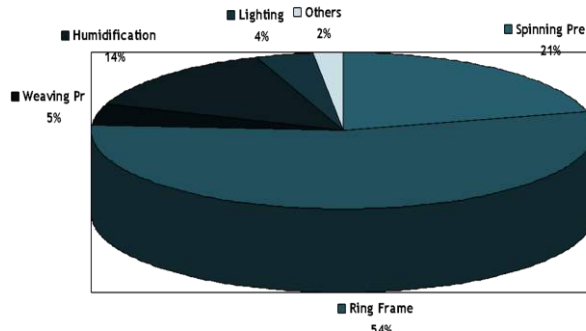


ENERGY CONSUMPTION PATTERN

Composite Mills



Spinning Mills

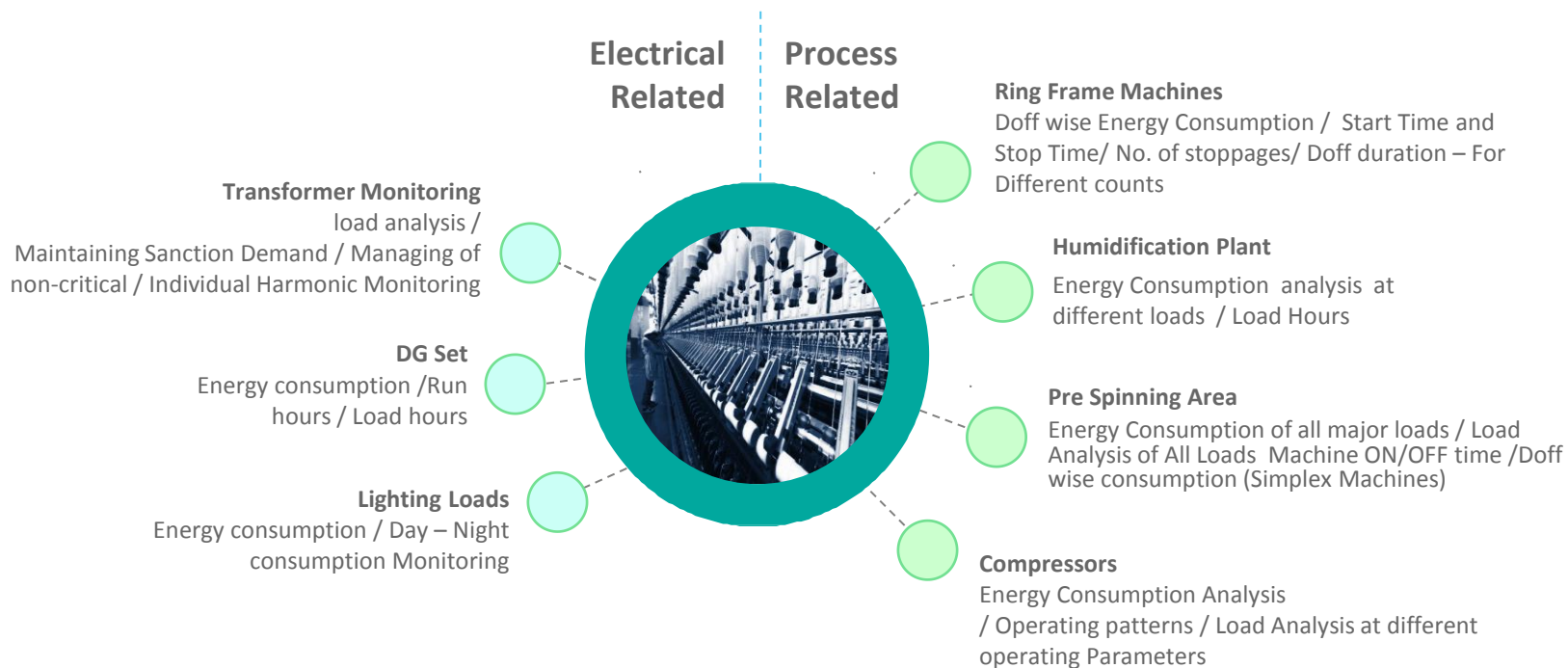


(Source: TEDDY -04/05)

ELMEASURE DICTUM

- Most companies waste up to 15% of energy. The problem is knowing which 15%.
- Elmeasure offer solutions for conserving quantity and improving quality of power
- To manage energy efficiently, you need to start by asking the right questions, which is often half the answer.
- Elmeasure 3–Step Energy Efficiency Plan of Measure, Detect and Control helps not just to ask the right questions but to find the answers to them.
- Our menu of products and solutions can increase your profitability and make your plant energy efficient. And in a matter of a few months you can recover your investment.

ELMEASURE SOLUTION

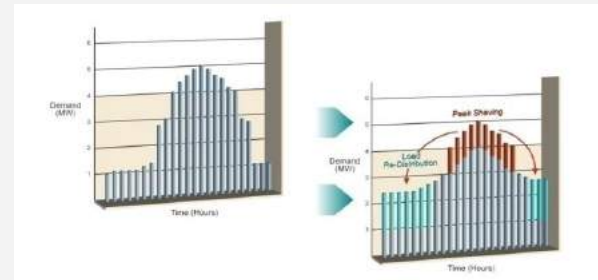


S/W ELMEASURE SOLUTION - ELECTRICAL SIDE

1. **Power factor Management Load Management reports**
 - a. Idle running of machines
 - b. Oversized motors
 - c. T&D reports
2. **DG Set Report**
 - a. Performance Analysis
 - b. Maintenance tracking
 - c. Load Hours
3. **Power interruption report**
4. **Performance Analysis Reports of all major loads**



1. **Demand management**
 - a. Overshooting of demand due to parallel running of machines
 - b. Maintaining the demand close to the sanctioned demand
 - c. Managing of non-critical loads to optimize the Demand
2. **Transformer level**
 - a. Individual Harmonic Monitoring
 - b. Transformer load analysis



S/W ELMEASURE SOLUTION - PROCESS SIDE

- **Dashboards:**
 - Over all plant summary
 - Selection of different department (Like, Spinning Machines, Carding Machines, Combing Machines etc..)
 - Alerts and provision for acknowledgment
- **Identify the performances and load variations of each machines**
 - Advance Alerts to avoid the losses and break down of machines
- **Alert when Spinning frame deviates from scheduled operation**
- **Ring Frame Analysis :** Doff Counting, Doff wise energy, Doff Time, No. of Stoppage, Ideal Time, UKG, Production, Doff Duration, Doffing Time, Spindle Speed, Weight, Length, Energy.
- **Calculate the cycle time of the doffing operation during power failures, number of interruptions**
- **Calculation of SEC in every stage of operation (ring frames, Carding, Combing etc.)**
 - With large number of ring frames
 - With different yarn counts
- **Identify the yarn counts loaded in different ring frames**
- **Status Screen of Machines On / Off status**
- **Real time status and power parameters of different ring frames**
- **Calculate the ideal cycle time of Ring frames/Machines during normal operation**

ALERTS

Events	Benchmark	Alerts
Compressors		
Pressure	Upper limit (Real-time pressure)	Local as well Mobile
	Lower Limit	Local as well Mobile
Flow	Upper limit (Real-time flow)	Local as well Mobile
	Lower Limit	Local as well Mobile
Equipments (Spinning and Pre Spinning)		
Delivery Speed	Meter/Minutes	Local
Front roller Speed	RPM (Set RPM, Should send an Alert if there any variation)	Local
TPI	Count	Local
Hank	Production In length	Local

ANALYTICS

- **Dash Boards for Directors/GM**
 - % of Plant running
 - Production Vs Consumption
 - Electricity Cost/Hr (Demand and Energy in One Graph)
 - Energy Generated by Wind Mill (If Available)
- **Dash Boards for Maintenance Engineer**
 - Equipment Status (With Counts) - Ring frames
 - Energy Trend (Hourly)
 - Demand Trend (Hourly)
 - % of Plant Loading (Zone wise)
- **Comparison of Ring frames/ Equipments of same counts (Should be in a position to select the parameters)**
 - UKG
 - Hank
 - Speed (rpm) – Front roller Speed
 - Speed (Length) – Tin Roller speed
 - Doff duration
 - Doff Time

- **Status Changes as per the set Parameters**
- **Performance Analysis of Equipments**
 - Current , W and Wh (Daily)
 - Equipments deterioration Analysis
- **Indications on Periodic Maintenance**

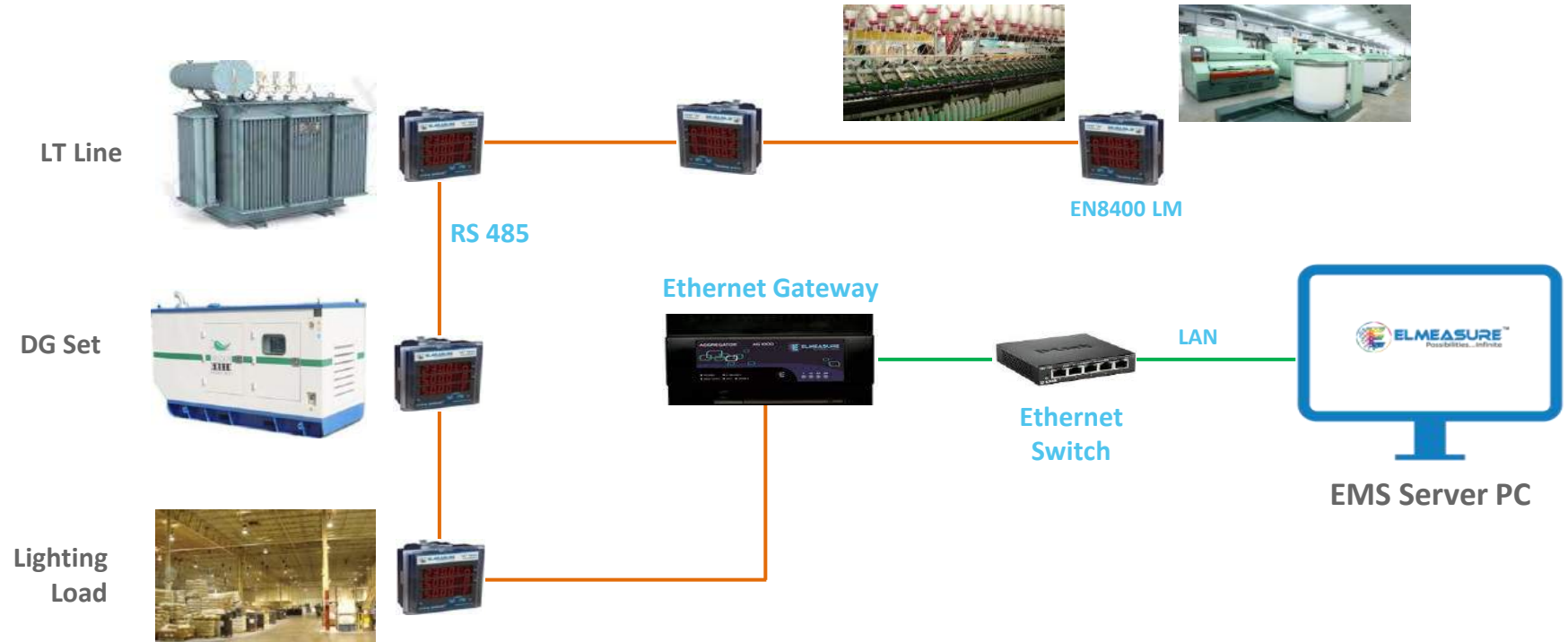
REPORTS

- Machine Wise, Operator Wise, Supervisor Wise, Department Wise
- Production Reports, Stoppage Reports, Doff Report, Doff Prediction Report, Efficiency Reports
- Performance Reports, Efficiency Trend Graphs, Comparison Reports, Assignment Reports
- Power consumption, Power factor, Units consumed, KVA, etc., reports related to power.
- Power consumed vs Production comparison for each DOFF, Shift etc.,
- Air Consumption Reports

NETWORK ARCHITECTURE

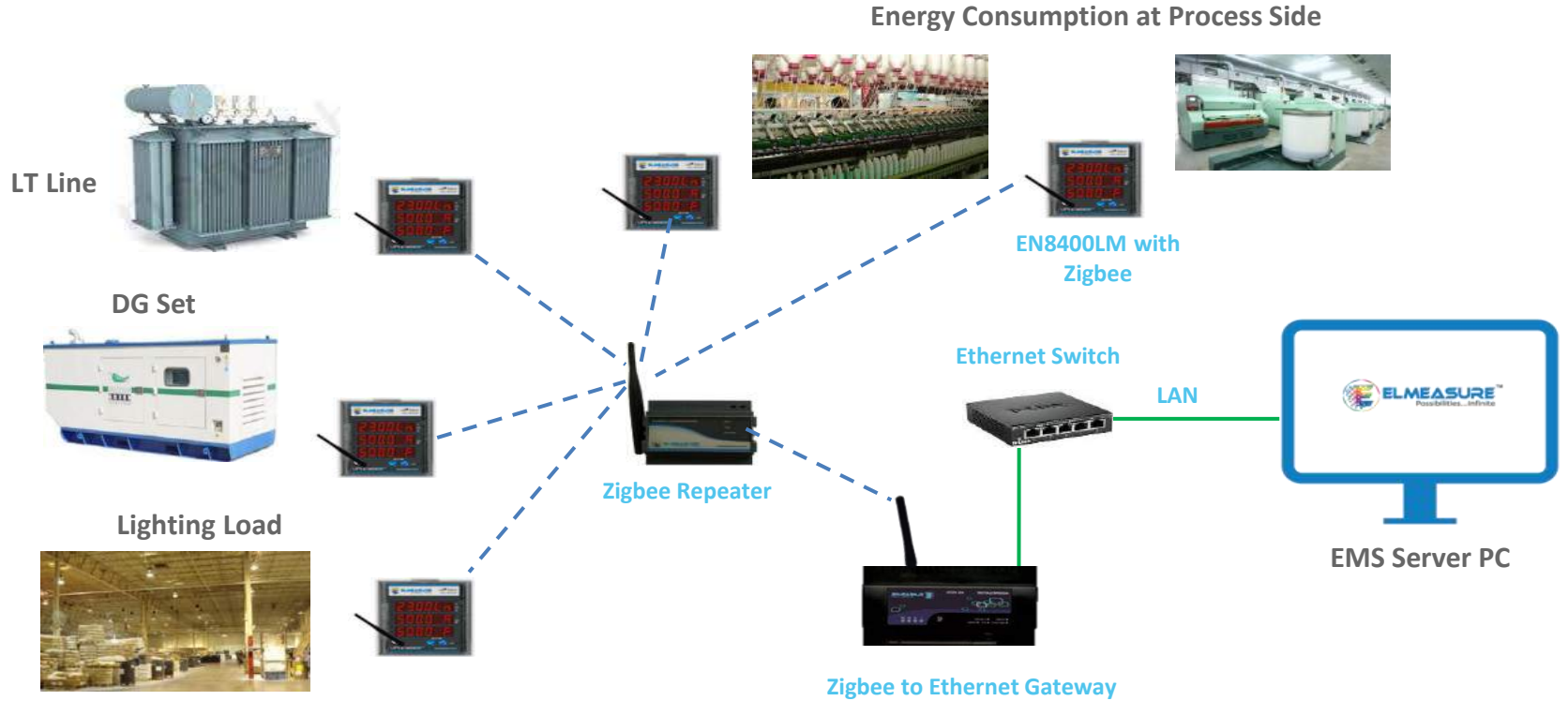
ELECTRICAL SIDE

Energy Consumption at Process Side

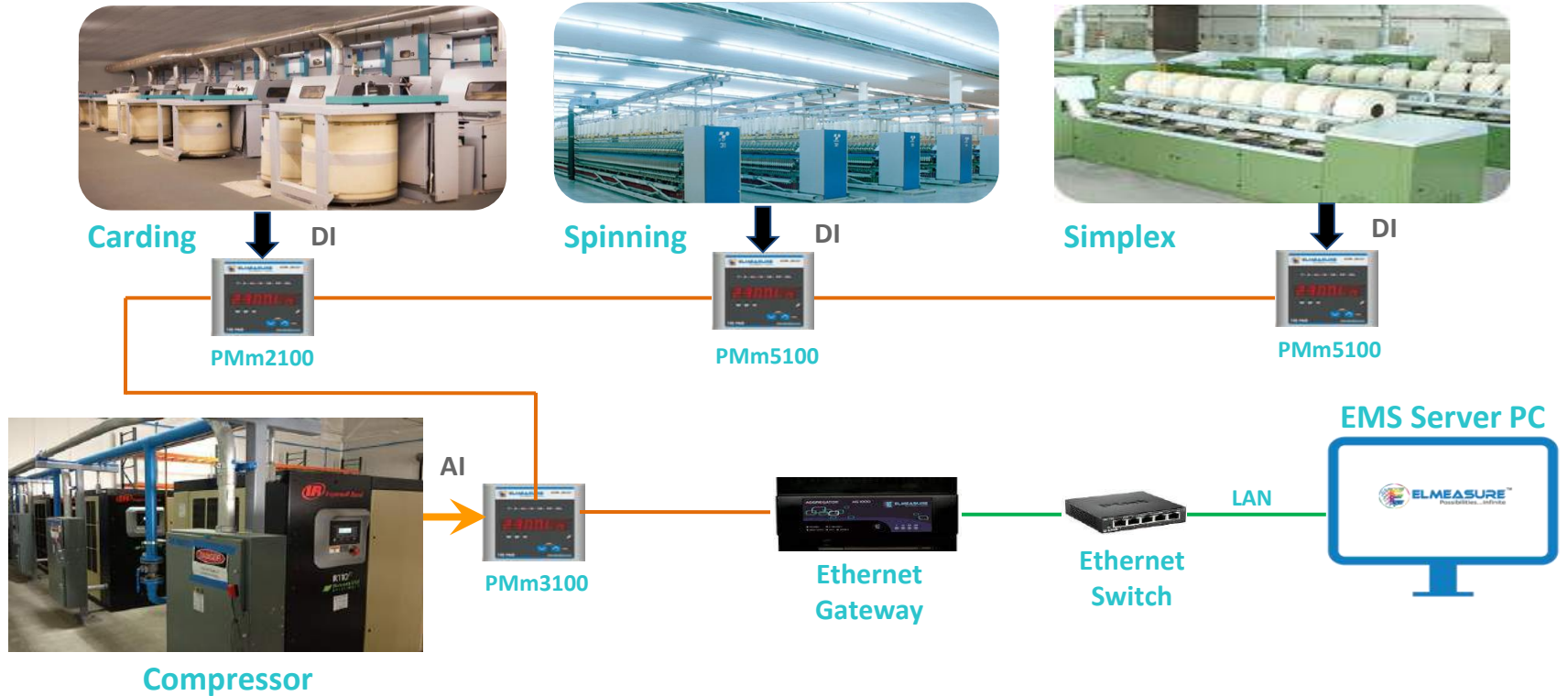


NETWORK ARCHITECTURE

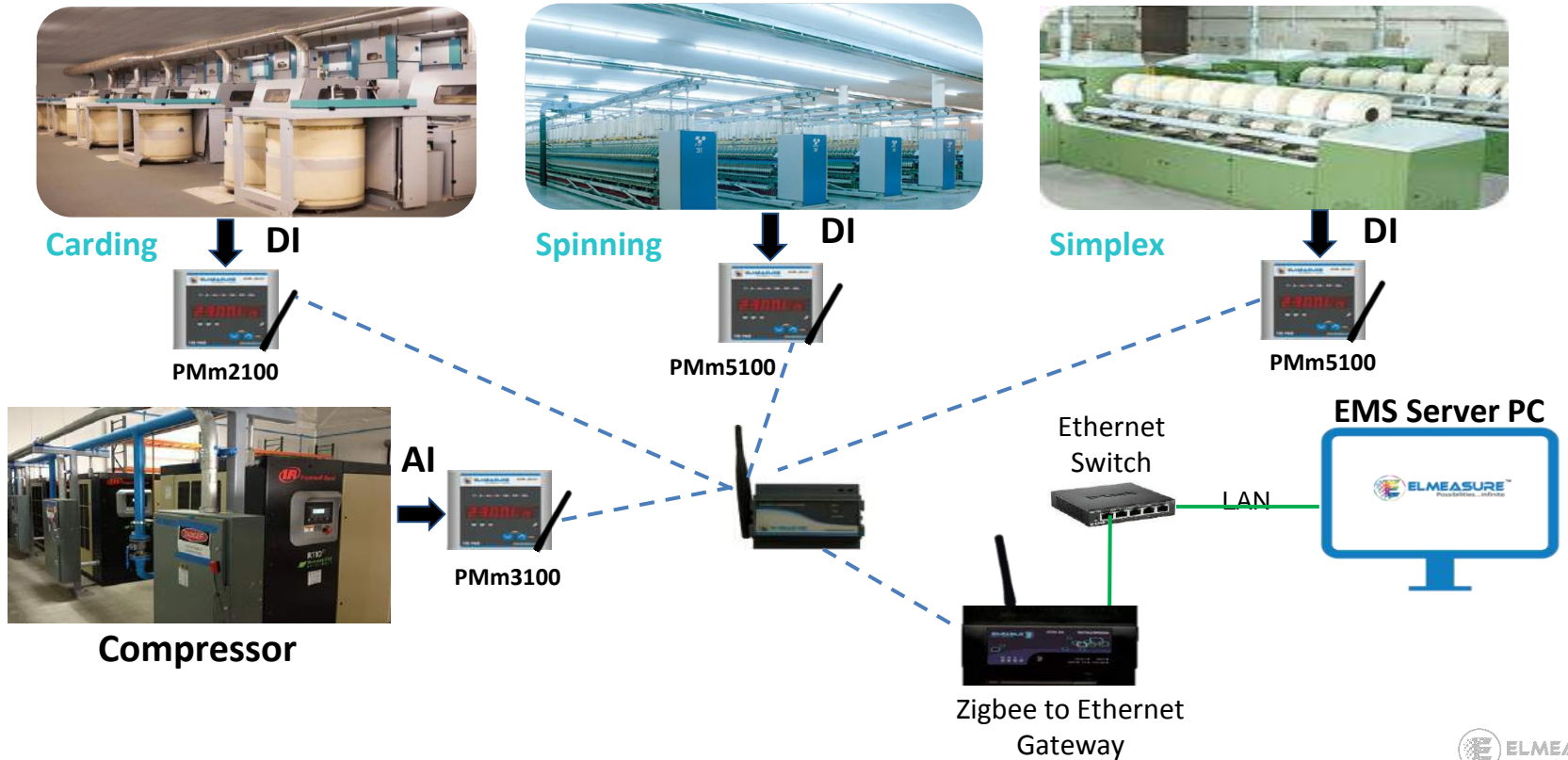
ELECTRICAL SIDE



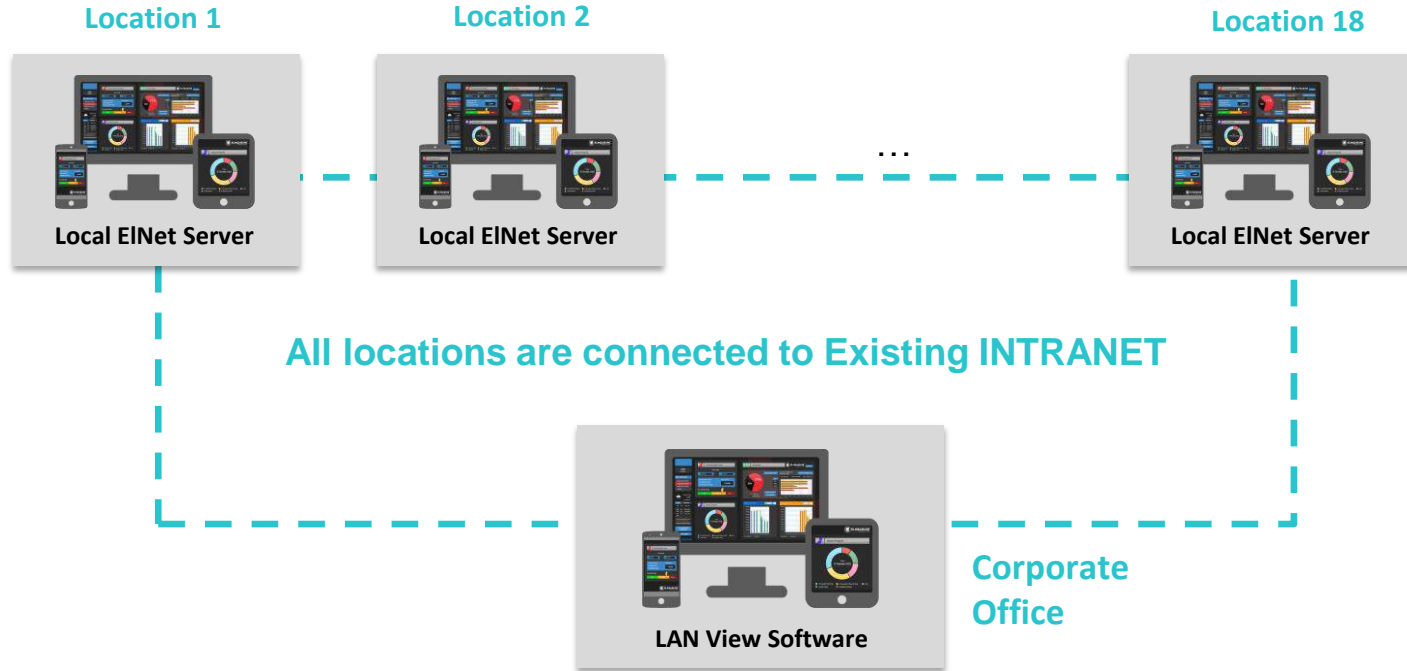
NETWORK ARCHITECTURE - PROCESS SIDE



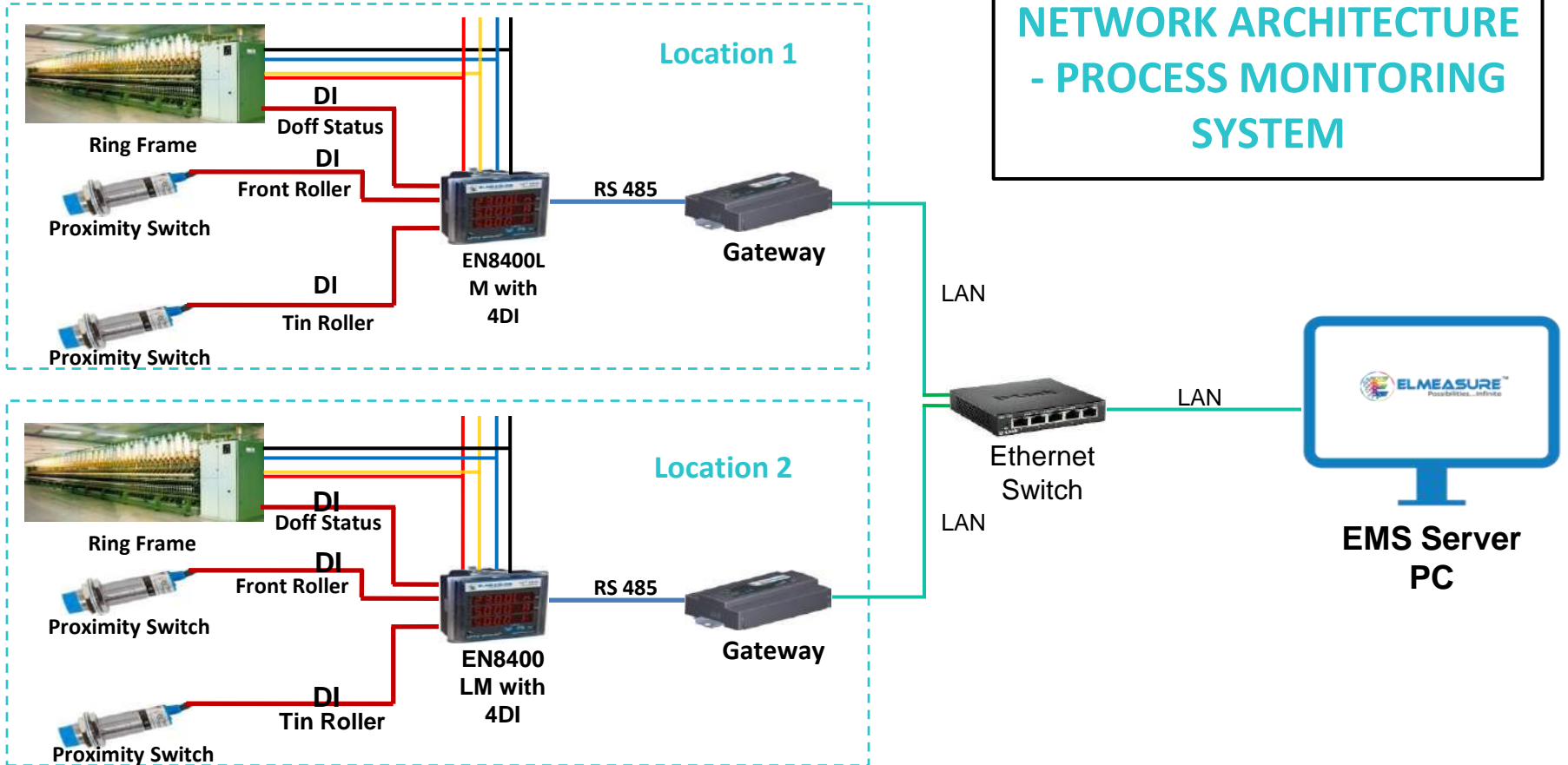
NETWORK ARCHITECTURE - PROCESS SIDE



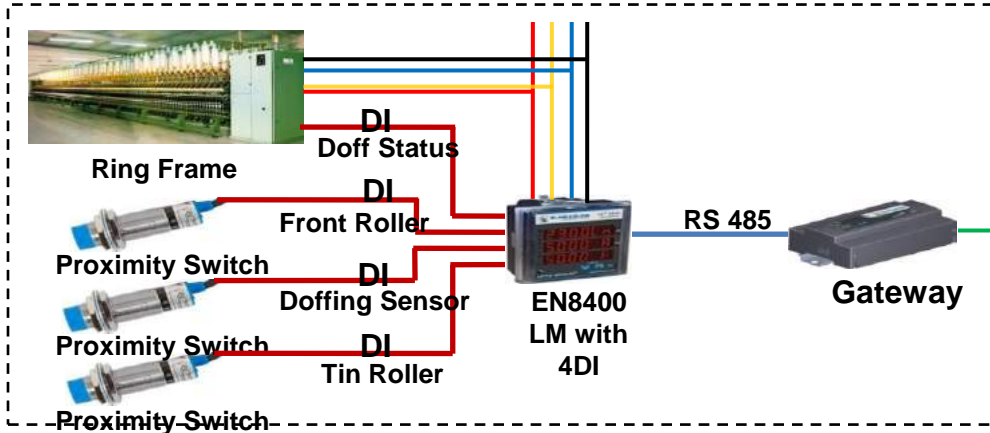
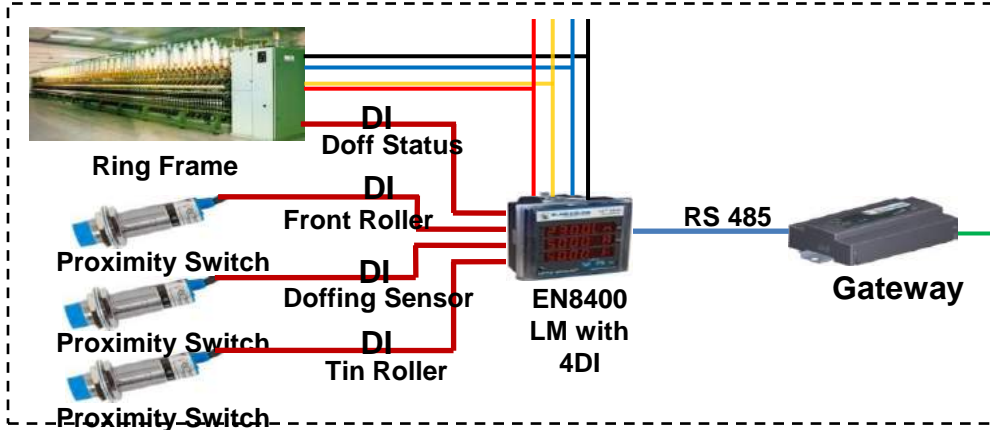
LOCAL SERVER & DATA VIEWING FROM CORPORATE OFFICE



NETWORK ARCHITECTURE - PROCESS MONITORING SYSTEM

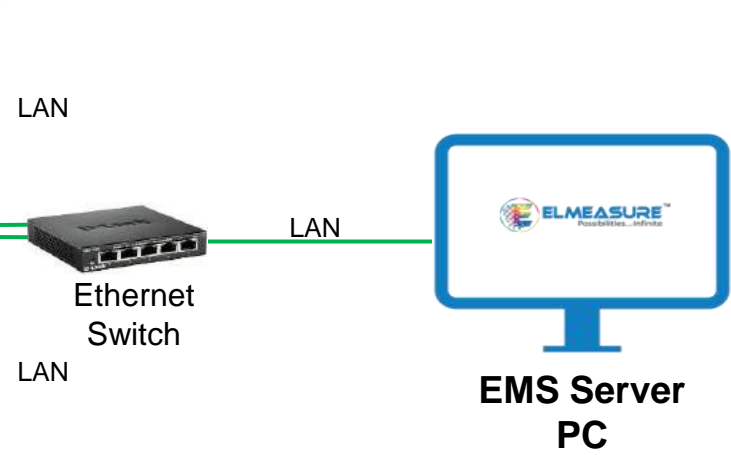


Location 1



Location 2

NETWORK ARCHITECTURE - PROCESS MONITORING SYSTEM



DASHBOARD

Duration

● Y ● M ● W ● D

Production (Total)

06 Tonnes

Power Consumed

1600 kWh

Downtime (Avg)

300 Secs

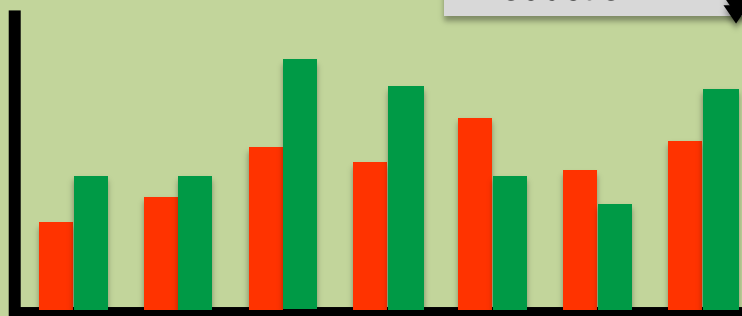
Reaction Time (Avg)

260 Secs

Man Power(Avg)

400 People

Production



● Target ● Achieved

Unit Insight

Production Unit 01 ●

Production Unit 02 ●

Production Unit 03 ●

Production Unit 04 ●



Dashboard

Alerts

Matrix

Reports

Analytics

Settings

SOLUTION SCREENS



Alerts

UNIT	Mn Change	Description	Time Stamp	ACK	Severity
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●

Navigation: Dashboard, Alerts, Matrix, Reports, Analytics, Settings

Matrix

Device	W Total	W R	Var Y	Var R	F.F	Value LL	Value UR	Value YR
Machine 01	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 02	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 03	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 04	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 05	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 06	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 07	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 08	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 09	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 10	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 11	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 12	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 13	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 14	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 15	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 16	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 17	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 18	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 19	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888
Machine 20	1472.3887	1466.178	1.46	-0.019	0.006	222.8388	22.888	22.888

Navigation: Dashboard, Alerts, Matrix, Reports, Analytics, Settings

Alerts

UNIT	Mn Change	Description	Time Stamp	ACK	Severity
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●
Machine 01	User 01	Maintenance due	20 11:20:01 12/05/15	No	●

Navigation: Dashboard, Alerts, Matrix, Reports, Analytics, Settings

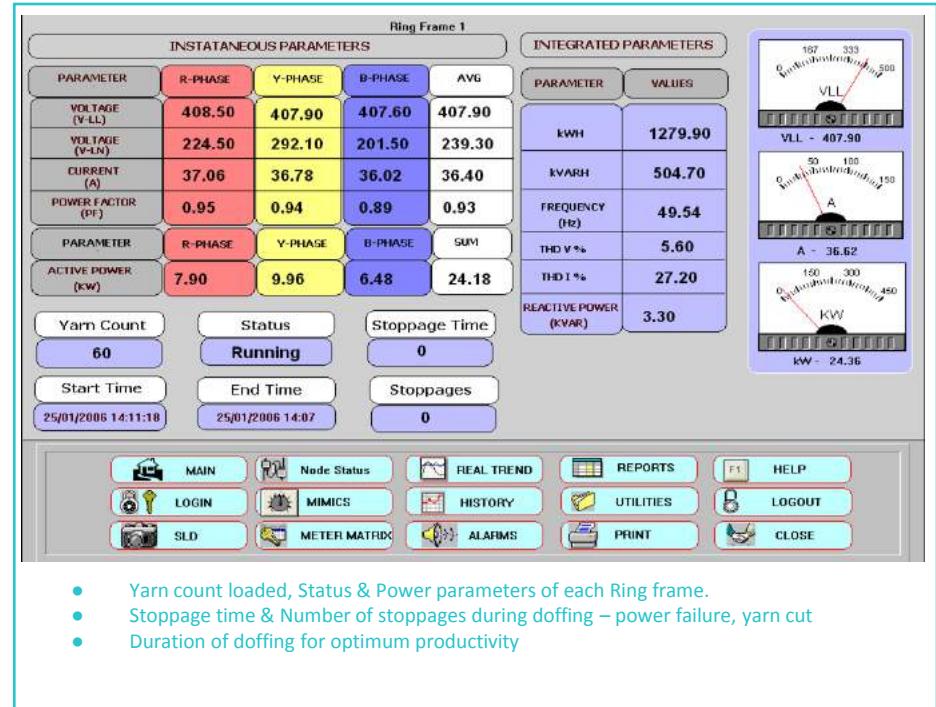
Ring frame status comparison with type of Yarn Count loaded

METER MATRIX 1							Next
NODE	Ring Frame 1	Ring Frame 2	Ring Frame 3	Ring Frame 4	Ring Frame 5	Ring Frame 6	
Yarn Count	60						
Status	Running						
KW	24.6						
KVA	26.7						
KVAR	3.2						
Volts	407.2						
Amps	37.2						
PF	0.92						
HZ	49.50						
KWh	1280.6						

MAIN	Node Status	REAL TREND	REPORTS	HELP
LOGIN	MIMICS	HISTORY	UTILITIES	LOGOUT
SLD	METER MATRIX	ALARMS	PRINT	CLOSE

- Quick review of status of ring frames
- Yarn count in ring frames on real time basis

Ring frame machine analysis



Report menu for Textile application

From: 02/01/2006 9 Hrs To: 11/01/2006 20 Hrs

Manual Entry | Create Reports | View Reports

Ring frame UKG and Production report

Sl. No	Machine	Yarn Count	Mixing	Duff no	kWh	Duff Duration (hrs)	Duff Interval (mins)	Idle Time	Stoppage Time	No. of stoppage	Production	Specific energy (GRC)
1	RF 1	60			10	0	0	0	0	0	30	3.253
2	RF 2	60		2	107	04:36	4	0	0	0	30	3.567

Run Hours Report

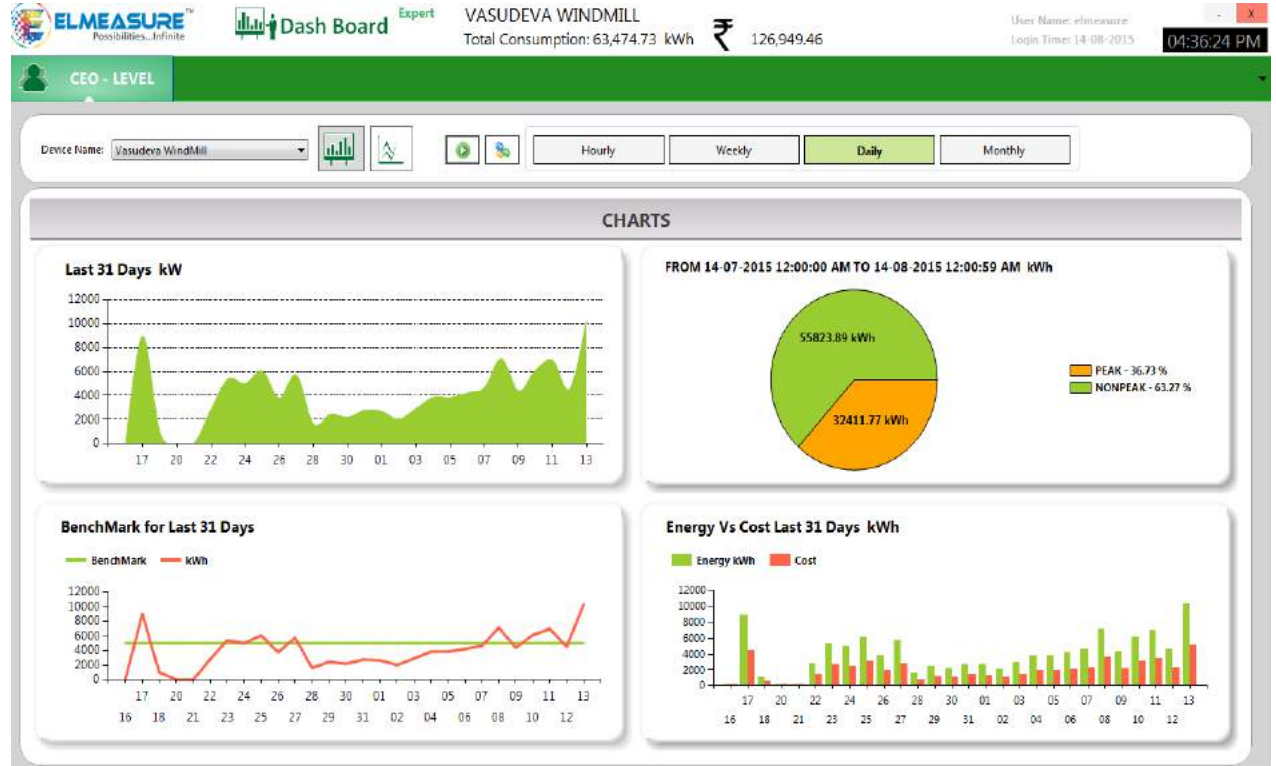
Date : 2015-07-11

S.No	Machine Name	1stShift		2ndShift		3rdShift		Total						
		Run Hours	Off Hours	Run Hours	Off Hours	Run Hours	Off Hours	Run Hours	Off Hours	No Of Stoppage				
1	Sga 1	40	00:46:00	1	07:45:00	00:13:00	4	07:49:00	00:11:00	4	29:17:00	00:43:00	13	
2	Sga 2	40	00:24:00	6	07:47:00	00:13:00	4	07:49:00	00:11:00	4	29:14:00	01:50:00	14	
3	Sga 3	40	00:46:00	3	07:46:00	00:14:00	4	07:49:00	00:12:00	4	29:19:00	00:44:00	12	
4	Sga 4	40	00:47:00	00:13:00	3	07:40:00	00:20:00	7	07:50:00	00:10:00	4	29:17:00	00:43:00	14
5	Sga 5	40	00:47:00	00:13:00	3	07:49:00	00:12:00	4	07:49:00	00:11:00	4	29:24:00	00:36:00	11
6	Sga 6	40	00:50:00	00:10:00	4	07:49:00	00:12:00	4	07:52:00	00:09:00	3	29:30:00	00:39:00	11
7	Sga 7	40	00:47:00	00:13:00	3	07:42:00	00:18:00	7	07:54:00	00:06:00	3	29:23:00	00:37:00	13
8	Sga 8	40	00:49:00	00:11:00	4	07:43:00	00:17:00	5	07:49:00	00:06:00	3	29:24:00	00:36:00	12
9	Sga 9	40	00:50:00	00:10:00	3	07:49:00	00:11:00	5	07:52:00	00:08:00	3	29:31:00	00:28:00	11
10	Sga 10	40	00:47:00	00:11:00	4	07:49:00	00:11:00	4	07:50:00	00:10:00	3	29:29:00	00:32:00	11
11	Sga 11	40	00:49:00	00:11:00	3	07:49:00	00:11:00	4	07:51:00	00:11:00	4	29:23:00	00:30:00	10
12	Sga 12	40	00:49:00	00:12:00	4	07:51:00	00:08:00	4	07:52:00	00:09:00	3	29:31:00	00:29:00	11
13	Sga 13	40	00:46:00	00:20:00	4	07:49:00	00:14:00	5	07:49:00	00:11:00	3	29:17:00	00:43:00	12
14	Sga 14	40	00:47:00	00:16:00	4	07:50:00	00:10:00	5	07:50:00	00:10:00	3	29:21:00	00:39:00	12
15	Sga 15	40	00:47:00	00:11:00	4	07:46:00	00:14:00	5	07:49:00	00:11:00	4	29:24:00	00:36:00	14
16	Sga 16	40	00:51:00	00:09:00	4	07:49:00	00:11:00	5	07:49:00	00:11:00	3	29:23:00	00:31:00	12
17	Sga 17	34's Garded	07:43:00	00:17:00	5	07:46:00	00:14:00	5	07:46:00	00:12:00	4	29:17:00	00:43:00	14
18	Sga 18	34's Garded	07:43:00	00:17:00	5	07:49:00	00:12:00	5	07:49:00	00:12:00	4	29:19:00	00:41:00	14
19	Sga 19	34's Garded	07:36:00	00:24:00	5	07:46:00	00:14:00	5	07:46:00	00:14:00	4	29:08:00	00:52:00	14
20	Sga 20	34's Garded	07:40:43	00:24:00	7	06:31:00	01:29:00	6	07:46:00	00:14:00	4	21:57:43	2:02:17	17
21	Sga 21	34's Garded	07:52:00	00:10:00	3	07:49:00	00:14:00	5	07:49:00	00:10:00	4	29:27:00	00:32:00	12
22	Sga 22	30's Cot	07:46:00	00:18:00	6	07:46:00	00:14:00	4	07:46:00	00:14:00	4	29:22:00	00:43:00	15
23	Sga 23	30's Cot	07:37:00	00:23:00	5	07:42:00	00:16:00	5	07:40:00	00:20:00	5	29:59:00	01:51:00	16
24	Sga 24	30's Cot	07:46:00	00:16:00	5	07:46:00	00:16:00	4	07:49:00	00:17:00	5	29:12:00	00:46:00	16
25	Sga 25	30's Cot	07:22:00	00:38:00	7	07:36:00	00:22:00	7	07:46:00	00:16:00	4	29:46:00	01:16:00	18
26	Sga 26	40's PV	07:45:00	00:16:00	4	07:46:00	00:14:00	5	07:46:00	00:14:00	4	29:17:00	00:43:00	13
27	Sga 27	40's PV	07:26:00	00:24:00	5	07:46:00	00:16:00	5	07:46:00	00:14:00	4	29:69:00	01:51:00	14
28	Sga 28	40's PV	07:46:00	00:14:00	3	07:45:00	00:16:00	3	07:49:00	00:12:00	4	29:19:00	00:41:00	12
29	Sga 29	40's PV	07:44:00	00:16:00	5	07:24:00	00:36:00	7	07:47:00	00:12:00	4	29:66:00	01:58:00	16
30	Sga 30	40's PV	07:32:00	00:28:00	6	07:47:00	00:13:00	5	07:46:00	00:12:00	4	29:07:00	00:53:00	15
31	Sga 31	40's PV	07:34:00	00:26:00	5	07:26:00	00:14:00	5	07:49:00	00:12:00	4	29:06:00	00:52:00	14
32	Sga 32	40's PV	07:47:00	00:13:00	4	07:49:43	00:14:00	6	07:47:00	00:13:00	4	29:22:43	00:41:00	14
Total			246:06:43	33:53:17	140	246:56:43	33:04:17	164	249:41:00	08:19:00	120	742:43:26	73:16:34	424

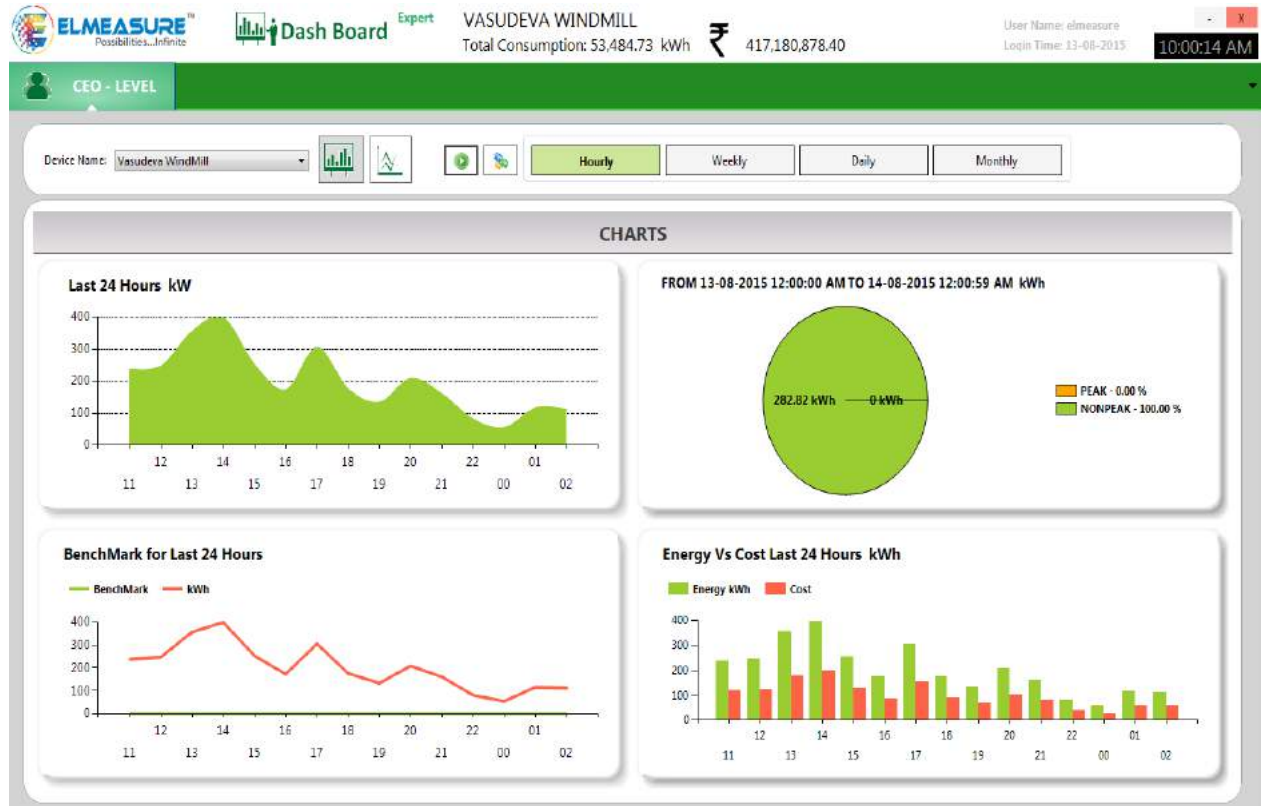
Complete Textile Performance report

S.No	Machine Name	Yarn Count	Mixing	Duff no	kWh	Duff Duration (hrs)	Duff Interval (mins)	Idle Time	Stoppage Time	No. of stoppage	Production	Specific energy (GRC)	NEED 1			NEED 2			NEED 3					
													Run Hours	Off Hours	Run Hours	Off Hours	Run Hours	Off Hours	Run Hours	Off Hours	Run Hours	Off Hours	No Of Stoppage	
1	RF 1	60			10	0	0	0	0	0	30	3.253	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	RF 2	60		2	107	04:36	4	0	0	0	30	3.567	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

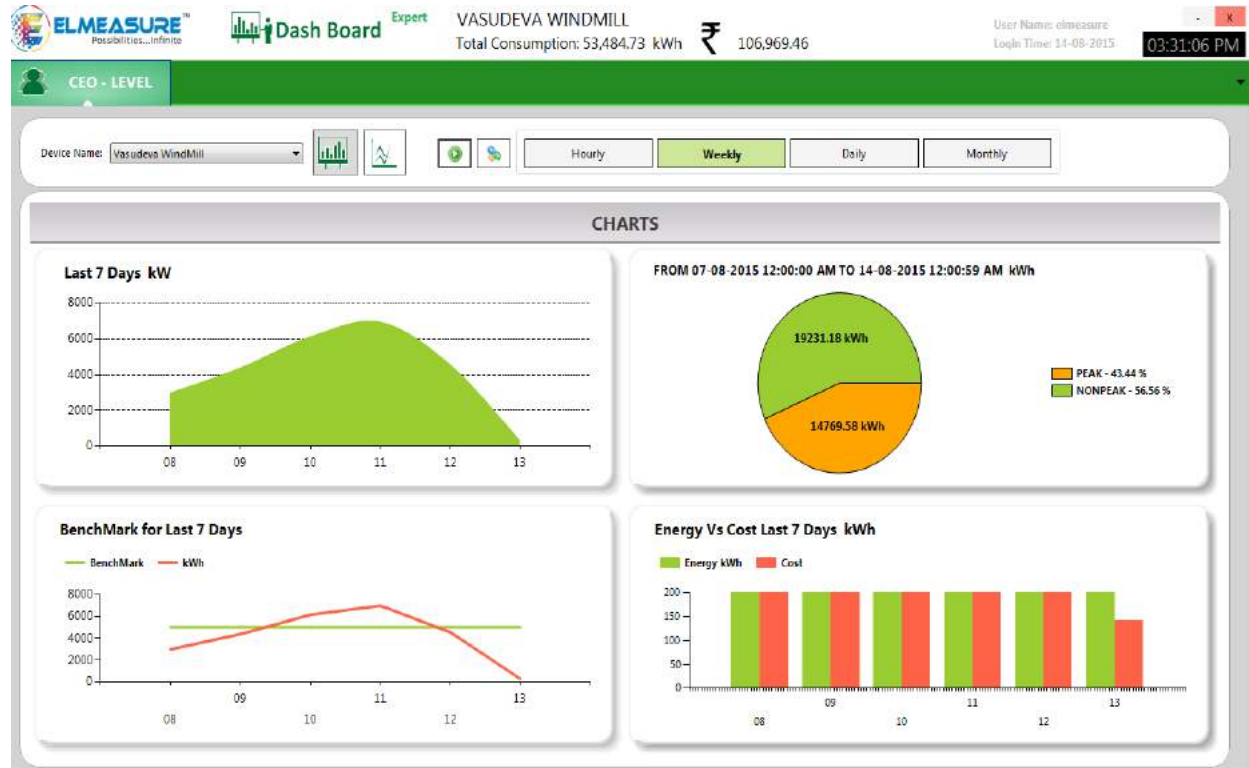
DASHBOARD DAILY




DASHBOARD HOURLY




DASHBOARD WEEKLY



DASHBOARD GAIN/LOSS



ELMEASURE
Possibilities... Infinite




Dashboard Expert

COMMON LOAD 1
Total Consumption: 128,742.46 kWh ₹ 257,484.91

User Name: elmeasure
Login Time: 14-08-2015
06:41:32 PM

CEO - LEVEL

Device Name: Common Load 1 

GAIN / LOSS

Months	Energy kWh			Cost in Rs.			Production Units		
	Previous Year	Current Year	% Variation	Previous Year	Current Year	% Variation	Previous Year	Current Year	% Variation
Jan	3,194.18	4,020.60	-25.87 %	15,970.88	16,082.38	-0.70 %	17,860.00	279.00	98.44 %
Feb	3,068.46	3,628.70	-18.26 %	21,479.25	25,400.93	-18.26 %	858,670.00	224.00	99.97 %
Mar	29,539.09	4,598.15	84.43 %	6,720,207.00	121,645.19	98.19 %	205.00	660.00	-221.95 %
Apr	29,539.09	4,598.15	84.43 %	118,156.37	21,990.76	80.54 %	597,440.00	68,596.00	88.52 %
May	1,344,041.40	24,329.04	98.19 %	6,720,207.00	121,645.19	98.19 %	67,971.00	16,256.00	76.08 %
Jun	29,539.09	4,598.15	84.43 %	6,720,207.00	121,645.19	98.19 %	1,458,886.00	46,409.00	96.82 %
Jul	0.00	41,044.53	0.00 %	0.00	164,178.12	0.00 %	597,231.00	199,436.00	66.61 %
Aug	0.00	128,742.46	0.00 %	0.00	257,484.91	0.00 %	589,170.00	4,476.00	99.24 %
Sep	130,016.62	0.00	100.00 %	966,116.31	0.00	100.00 %	94,154.00	0.00	100.00 %
Oct	4,790.47	0.00	100.00 %	14,371.42	0.00	100.00 %	5,701.00	0.00	100.00 %
Nov	4,141.54	0.00	100.00 %	16,566.16	0.00	100.00 %	2,853,723.00	0.00	100.00 %
Dec	4,090.11	0.00	100.00 %	12,270.32	0.00	100.00 %	9,193.00	0.00	0.00 %

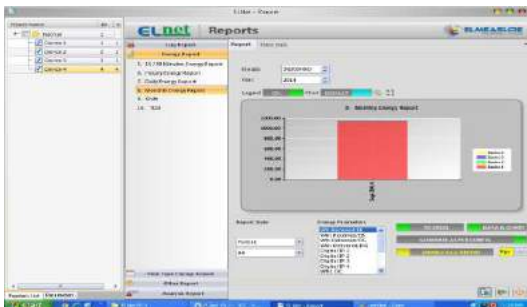
	Yesterday kWh	Today kWh	Proj kWh
	0.00	0.00	0.00
EB Target / Cost		This Month	Last Month
1000		128,742.46	41,044.53
Energy Cost @ 2 / 4		257,484.92	164,178.12
Gain / Loss			87,697.93
93806.8			
DG Consump / Cost		This Month	Last Month
Total Consump.		0.00	490.00
Gain / Loss			-490.00
Discl Consump in Ltrs		0.00	0.00
Energy Cost @ 2 / 5		0.00	1,470.00
Gain / Loss			-490.00
Total Run Hours		18761.201	6003.0434
Gain / Loss			12758.0727
Total (EB + DG) Units		128,742.46	41,534.53
Gain / Loss			88,187.93
Total (EB + DG) Cost		257,484.92	165,648.12
Gain / Loss			423,133.04
Avg P.F for the Month	0.80		
Maximum Demand	22,059.24	20,458.97	1,600.27

EL-NET REPORTS

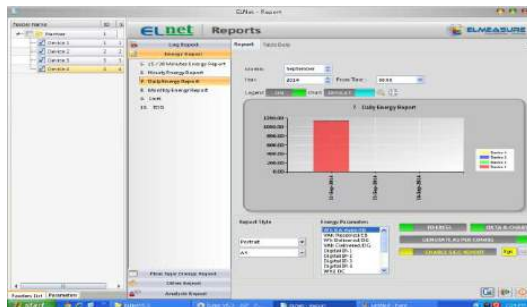
5 LISTS OF REPORTS...

- All the reports are generated in excel format with the chart
- All the reports can be generated for Single device or multiple selectable devices.
- Reports can be generated with a device in different group.

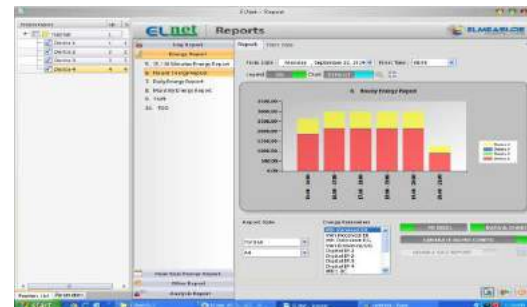
LOG REPORTS



ENERGY REPORTS



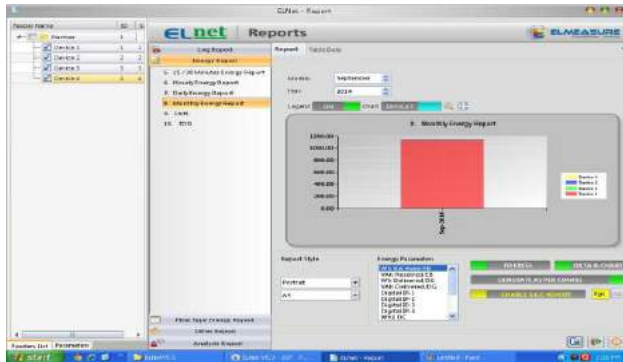
FLEXI ENERGY REPORTS



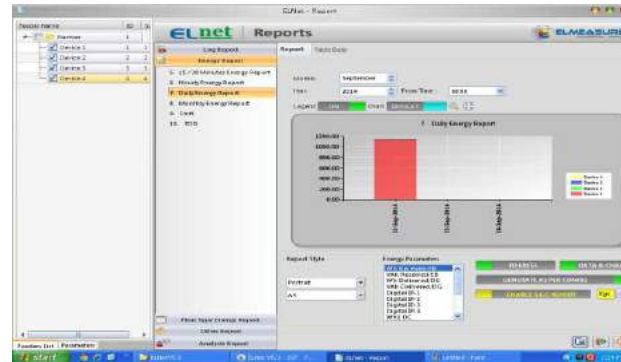
REPORTS

CONT...

OTHER REPORTS



ANALYSIS REPORTS



REPORTS

OTHER REPORTS

ANALYSIS REPORTS

OUR MANUFACTURING CAPACITY

- Four manufacturing plants across India
- Around 10000 Sq.ft production area
- One Plant In Dehradun offers faster delivery for North customer
- Having Manufacturing Capacity of 25000 Meters per month
- 80000 Sq.ft state-of-the-art manufacturing unit is coming near to Bangalore Airport



WASTAGE REDUCTION

- **Yarn Wastage:**

Estimating the expected yarn realization for the existing working conditions and compare the actual yarn realization with the expected value and actual wastes with norms.

- **Benchmarking Energy Consumption:**

Identifying unit consumption of each machine with the other running at same configuration by plotting energy vs. production and also by finding over speed of machine.

BENEFITS

- Specific energy consumption of heavy loads
 - Calculation of section wise energy consumption against product output
- Performance check and periodic maintenance
 - Verification of equipment data with respect to rated specs
- Monitoring of cyclic operation of spinning unit (Ring frame)
 - Number of Stoppages with durations during doffing
 - Energy comparison of various ring frames vis-à-vis product outputs (Ring UKG)
 - Different Yarns count and specific energy consumption (UKG) per Ring frame
- Identifying idle running of machine

ESSENTIAL PARAMETERS TO BE CALCULATED / REPORTED

Inputs from Proximity Sensors



- RPM of Tin Roller Shaft
- RPM of Front Roller

Machine Parameters (Manual Entry)



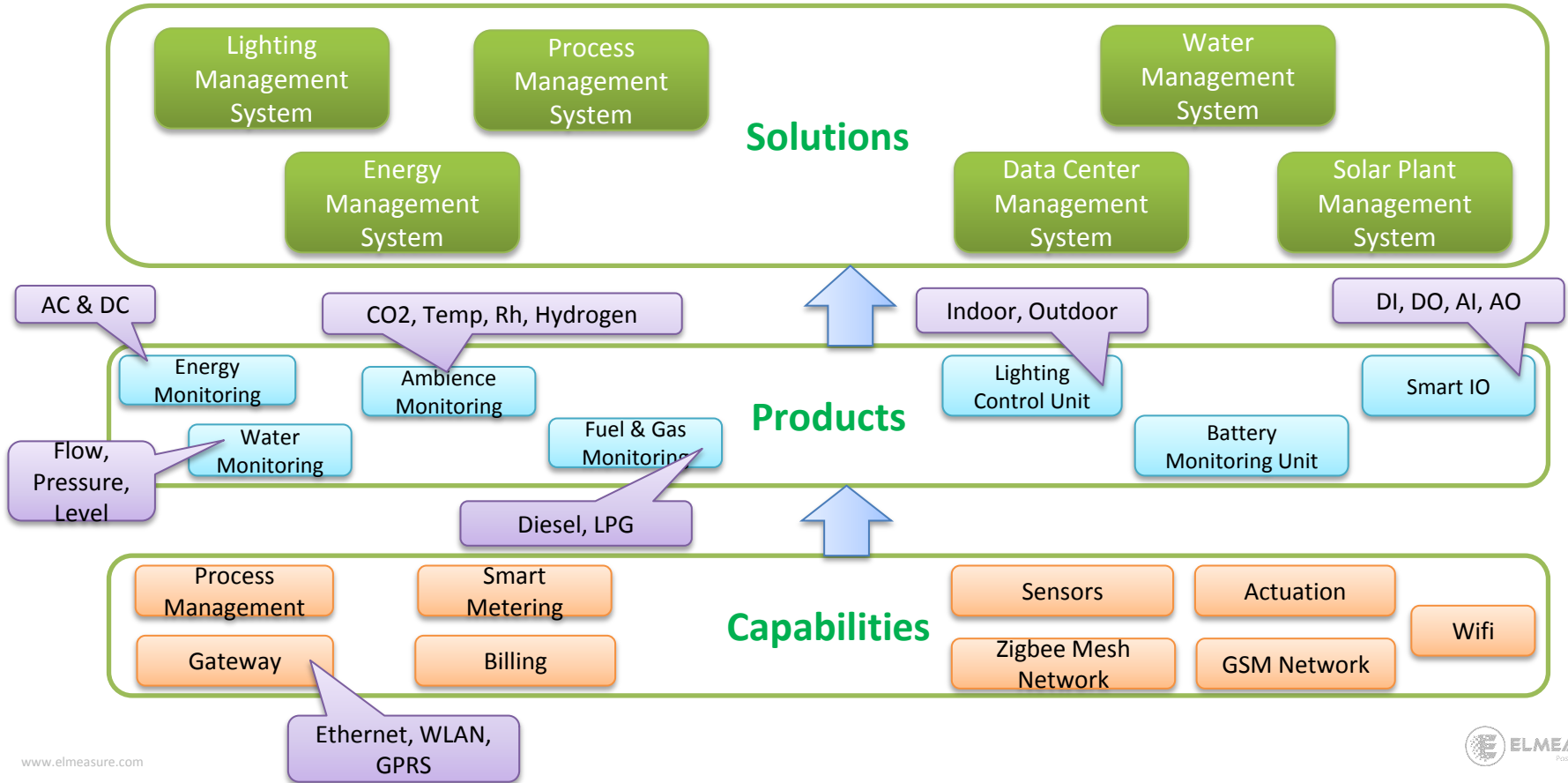
- Tin pulley diameter in mm
- Front roller diameter in mm
- Yarn count
- Number of Spindles in machine
- Machine Efficiency

- **Spindle Speed** = Tin Roller Speed in RPM X (Dia. of tin pulley / Dia. of spindle Wharve)
- **Delivery Rate in Mtrs / min (Y)** = Front Roller RPM X π X Front Roller Diameter
- **Twist Per Inch** = Spindle Speed / (Delivery rate in inch / min)
- **Run Hours** = Based on the Front Roller Rotation
- **Production per Doff** = Kilogram of yarn produced in a single doff
 - * doff can be sensed through proximity fixed at the spindle beam

OUR USP (UNIQUE SELLING PROPOSITION)

- All products Elmeasure uses in this Solution are Indigenous
 - Designed, Manufactured and integrated in our Manufacturing Units
 - Using all high quality and reliable components (Importing from US, Singapore etc..)
- All quality standards are Traceable
 - Using Highly accurate Reference equipments for Calibration of Meters
- Elmeasure solutions are Tailor - Made
 - Both H/W and S/W can be customized based on customer requirement
- Elmeasure ensures that we deliver the value proposition to customer
 - Will not just dump product to the customer
 - Quality product with latest technology
- Wired and wireless meters
 - Zigbee based meters
 - Ease the installation Process
- Strong Dealers and after sales support N/W
 - Strong Dealers and Sales force representation across the country
- Interoperability
 - Flawlessly work with third party devices
 - Easy integration with Non Electrical Parameters
 - OPC Connectivity

Technology Stack & Interoperability



Take the **ElMeasure™ Site Survey** today.

Learn more about the ElMeasure™ range of
Energy Management Solutions and Services.
Visit <http://www.elmeasure.com>

A global presence in over
36 countries with
10000+ clients, sales
offices in 6 countries and
2 Million products
live on field.



*we're a preferred OEM manufacturer for some of the leading international brands .