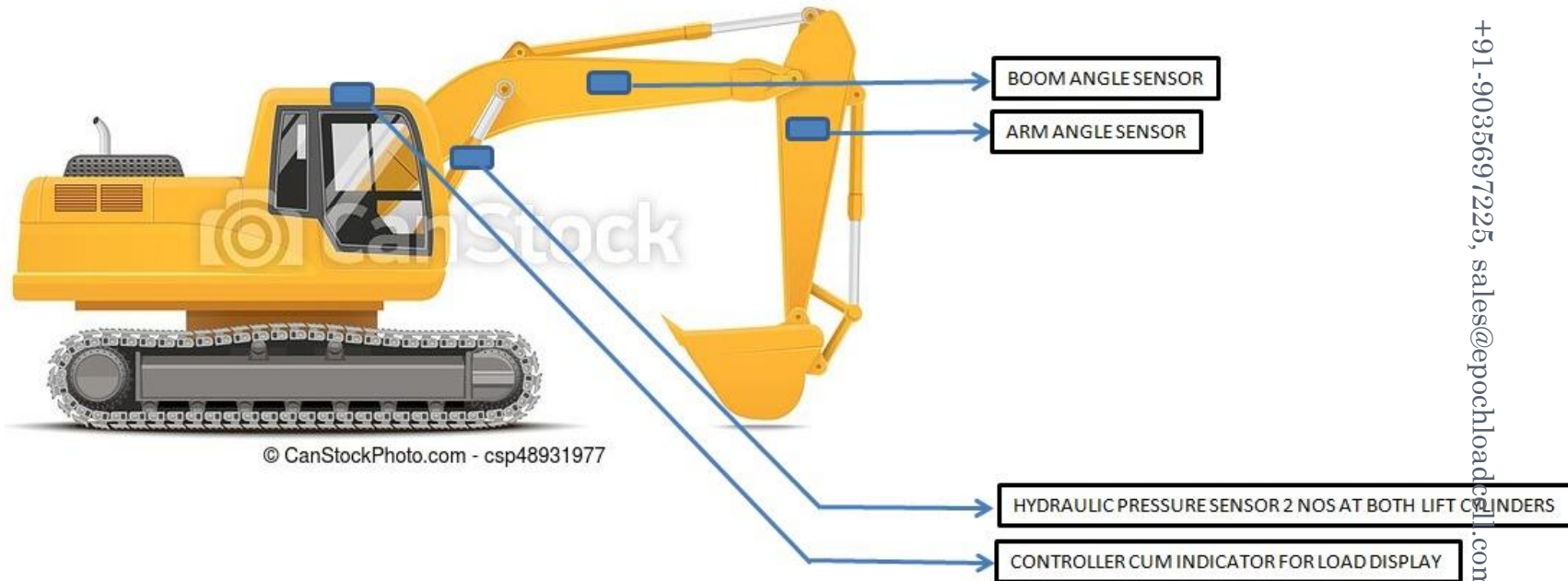


EXCAVATOR LOAD MONITORING SYSTEM



INTRODUCTION

- PAYLOAD-WL is an onboard weighing device to measure the weight of material that is lifted by the wheel loader / Excavator
- The system captures the weight during lifting of the bucket.
- The system operates through hydraulics of the lifting cylinder.
- An advance algorithm is used to measure the weight accurately.



LIMITATIONS WITHOUT THE SYSTEM

- Weigh bridge is must to check the weight
- Chance of overloading
- Low productivity due to high cycle time
- Due to overloading , maintenance cost is high
- Inventory management difficult
- Difficult to install weigh bridge in off road workplace

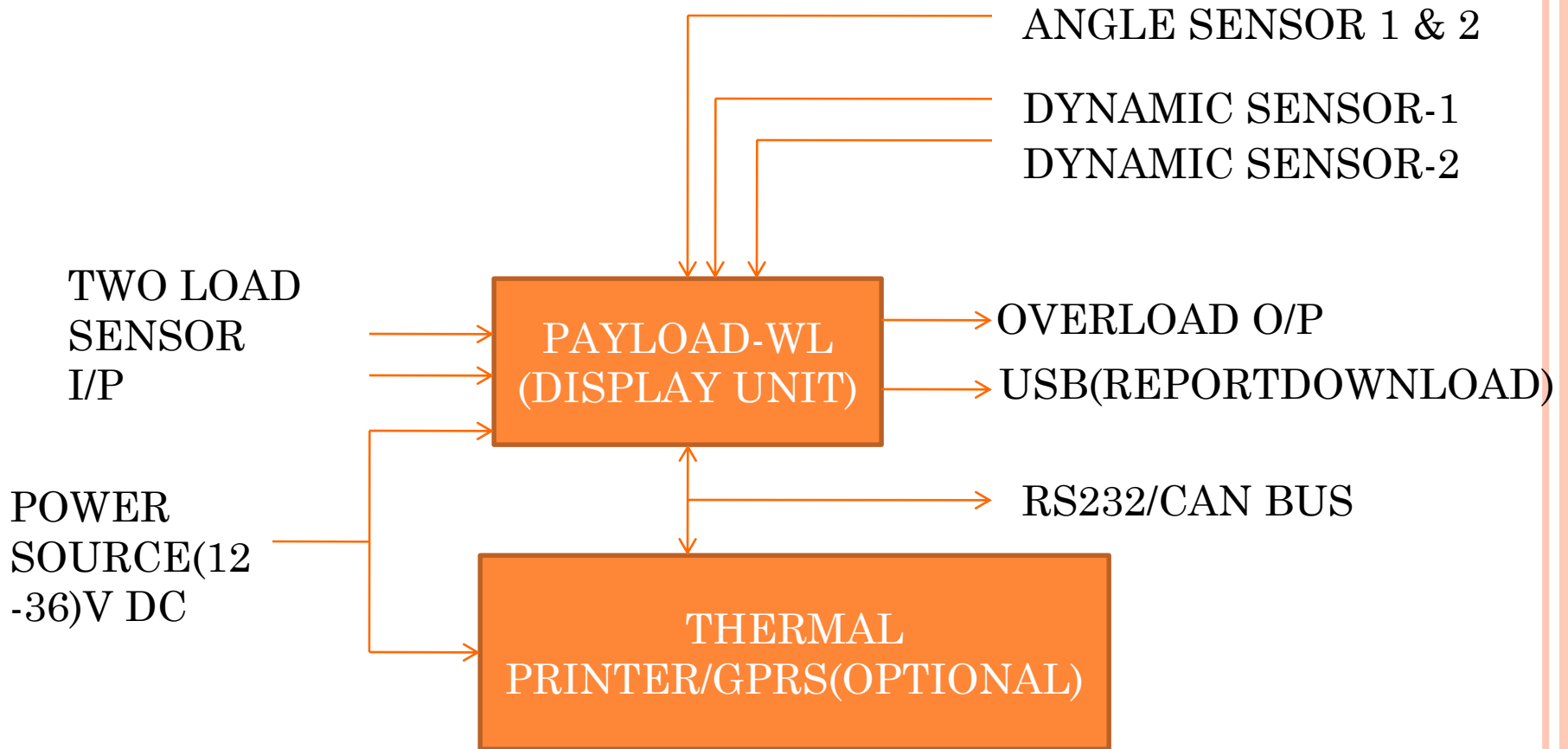


BENEFITS OF THE SYSTEM











- Improves productivity
- Easy to install
- Increased load safety
- Save time going back and forth to load trucks
- Avoid overloading fines
- Improve lifetime of parts by optimum loading
- Reduce maintenance cost
- Cost efficient



PAYLOAD WL SYSTEM

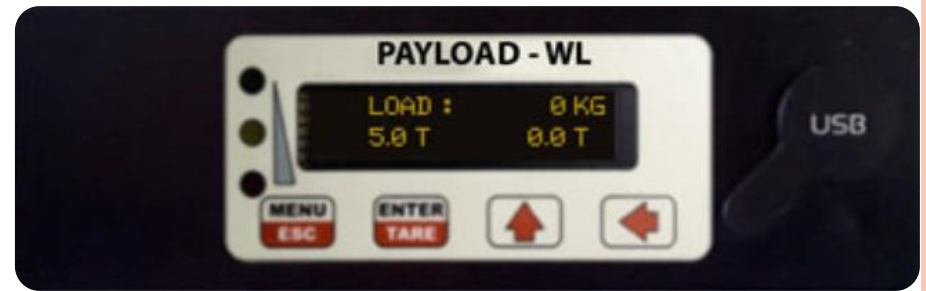


COMPARISON

MEASURABLES	BEFORE PAYLOAD WL	AFTER PAYLOAD WL
Time taken to load a truck	25 min	10 min
No. of trucks load in a day	57	144
Increase in loading efficiency	0	250%
Number of overloads		
No. of truck loads		
Individual bucket load		
Truck loads in a day		
Overall report of the day		



SPECIFICATION



- Model : PAYLOAD -WL
- CPU : High Speed 16 bit CPU
- Memory : 50 bucket x 100 trucks data storage
- Report : USB Port for thumb drive
- Display : 2x16 character LCD alphanumeric display
- Load Sensor : Two sensor I/P 4-20 mA, two wire system
- Dynamic sensor : Two digital input sensor
- Digital output : One digital error output (overload, sensor error, improper lift)
- Communication : RS232,CAN Bus
- Keypad : User friendly 4 keys provided
- Operating voltage : 24V DC/0.5 A(12-36 V DC)

TECHNICAL FEATURES

- Accuracy : $\pm 3-5\%$ FS
- Resolution : 10 kg
- Target load : Set limit to load in the truck
- Weighing modes : Static & dynamic mode to accurately measure the load
- Operating temperature : -20°C to $+70^{\circ}\text{C}$
- Storage temperature : -40°C to $+70^{\circ}\text{C}$
- Mounting type : DIN Mount/Table top



ADD-ON FEATURES

- Printer : Provides receipt for truck load with individual bucket load
- Monitoring platform : Live data uploading in server or SMS service to mobile after truck load using GPRS



REPORTS OF THE SYSTEM

Individual report

WHEEL LOADER - 0001

S.NO : 4 Truck No : 0001

Date:28/06/2020 Time:22:42:54

BNO	DATE	TIME	B.Wt(Kg)
1	16/06/2020	14:38	3200*^
2	17/06/2020	11:13	1400 ^
3	17/06/2020	11:43	1100 ^
4	17/06/2020	12:17	1540
5	17/06/2020	12:23	1550
6	17/06/2020	12:33	1540

TOTAL WEIGHT : 10330

* - OverLoaded

#/^/@ - ImpProperLift

Summary report

WHEEL LOADER - 0001

Date:28/06/2020 Time:22:44:49

S.NO : 13 Truck No : 0001

BNO	DATE	TIME	B.Wt(Kg)
1	17/06/2020	16:27	1980 #
2	17/06/2020	16:28	1310 ^
3	17/06/2020	16:44	1630 #

TOTAL WEIGHT : 4920

S.NO : 12 Truck No : 0001

BNO	DATE	TIME	B.Wt(Kg)
1	17/06/2020	16:23	4390*#
2	17/06/2020	16:23	950 #

TOTAL WEIGHT : 5340

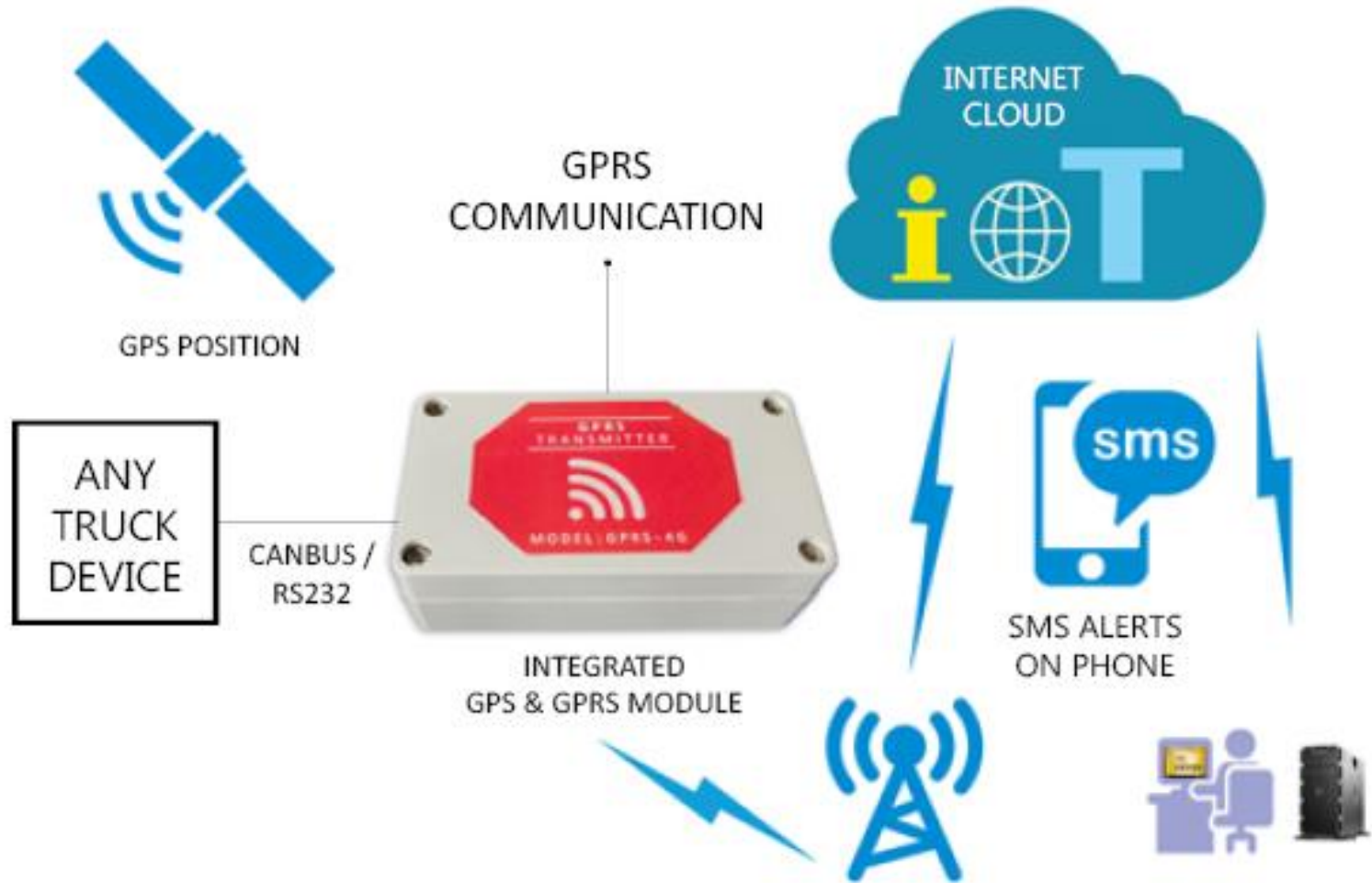
S.NO : 11 Truck No : 0001

BNO	DATE	TIME	B.Wt(Kg)
1	17/06/2020	16:08	4370*#
2	17/06/2020	16:22	800 #

TOTAL WEIGHT : 5170



INTERNET OF THINGS (IoT)



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