



Accurately Weighing Africa



# AUTOMATION<sup>+</sup>

HARDWARE AND SOFTWARE SOLUTIONS

Efficient Secure Operations

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## **SASCO** WEIGHING SYSTEMS

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**SASCO WEIGHBRIDGE AUTOMATION** comprises a range of hardware and software solutions, which offer range of options for the automation of weighbridges, from basic automation involving human involvement right through to unmanned operations and centrally controlled operations of multiple weighbridges.

All solution options deliver enhanced efficiencies and security, with varying options for human participation.

## Benefits of Automation

Weighbridge automation can result in either an automated manned system or a completely unmanned system:

- **The benefits of an automated manned system over a simple manned system** essential relate to the reduction in potential operator driver collusion. The effects of booms, cameras robots force drivers to correctly position the truck wheels on the weighbridge, thereby reducing the most common form of fraud, being that of wheels being part on or part off, depending on whether the truck is full or empty at the time of weighing. Other benefits include a camera audit trail of all weighing's.
- **The benefits of an unmanned automated system over a manned automated system** essentially relate to improved security, as no truck can enter the weighbridge unless authorized by the system to do so, weighing times are reduced due a lack of operator inputs being required, there is an improvement in data accuracy as no operator inputs occur and finally cost savings arise due to the elimination of personnel costs.

## Product Overview

Sasco Automation+ encompasses the following weighbridge automation solutions:

- **Manned Turn-Key Solution:** The functionality of Sasco ProWeigh+ software, offers turn-key manned weighbridge automation at an affordable price. The solution operates with most quality indicators. Hardware options include booms, cameras, and robots. Each site automation software operates on a stand-alone basis, and with post weighing data integration to the customer ERP system.

## ... Product Overview

- **Unmanned Turn-Key Solution:** The unmanned turn-key solution builds on the Manned Turn-Key Solution by eliminating the need for an operator, by automating the vehicle registration capture process. This is done through adding either RFID readers, QR code readers or APNR cameras into the hardware solution and requires the use of indicators in the Sasco DD range.



### Unmanned Sasco Site

- **Unmanned Bespoke Solution:** This is a semi bespoke solution developed in Sasco Multi Weigh, normally using existing Sasco sites as reference templates. The solution operates with Sasco's DD2050 indicators. Hardware options include booms, cameras, robots, RFID readers, QR code readers and APNR cameras. Each site's automation software operates on a stand-alone basis, but with full interactive data integration to the customer ERP system prior to, during and after the weighing process is complete.

  
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SascoWeighing Warehouse

## DD2050

Self Weighing Processor



Sasco is a dynamic weighing solutions focused company which procures and supports a leading range of globally sourced industrial weighing technologies. Sasco has the highest technological ranking of any Southern and Central African company, and as a result of our experience gained through 100 years of operation, we are uniquely positioned to specify and supply optimal weighing equipment, automation and weighing information data solutions to Southern and Central Africa's leading industrial companies. Sasco reputation has been built on innovation and choice underpinned by professionalism, modernity and experience.

**GENERAL**

The DD2050 Series processing terminal combine computer programming power and flexibility together with the measuring requirements of a weighing instrument. particular with the DD2050 model the user can carry out the weighing operations independently without the presence of an operator.

The user can be identified by many device types:

- Optic
- Magnetic
- Proximity



**THE FUTURE OF WEIGHBRIDGES**

#### SOFTWARE OPTIONS

DD2050 Series terminals are equipped with weight measuring software. It is also possible to use this instrument with software designed for a diverse number of applications.

VEHICLE WEIGHING packages are available that can be connected directly to a wide range of management systems for the export/import of data. In addition to calculating net weight, it is also possible to manage the additional data.

WASTE & RECYCLING MANAGEMENT software for waste processing sites, software for logistics, filling/emptying operations and for the Food Industry processing operators are also available.

#### TECHNICAL SPECIFICATIONS



1. Standard model includes: <ul style="list-style-type: none"><li>1. Power and control unit</li><li>2. 10" colour LCD screen</li><li>3. 10" touch screen keypad</li><li>4. 10" touch screen keypad</li><li>5. 10" touch screen keypad</li><li>6. 10" touch screen keypad</li><li>7. 10" touch screen keypad</li><li>8. 10" touch screen keypad</li><li>9. 10" touch screen keypad</li><li>10. 10" touch screen keypad</li></ul>	11. 10" touch screen keypad <ul style="list-style-type: none"><li>11. 10" touch screen keypad</li><li>12. 10" touch screen keypad</li><li>13. 10" touch screen keypad</li><li>14. 10" touch screen keypad</li><li>15. 10" touch screen keypad</li><li>16. 10" touch screen keypad</li><li>17. 10" touch screen keypad</li><li>18. 10" touch screen keypad</li><li>19. 10" touch screen keypad</li><li>20. 10" touch screen keypad</li></ul>
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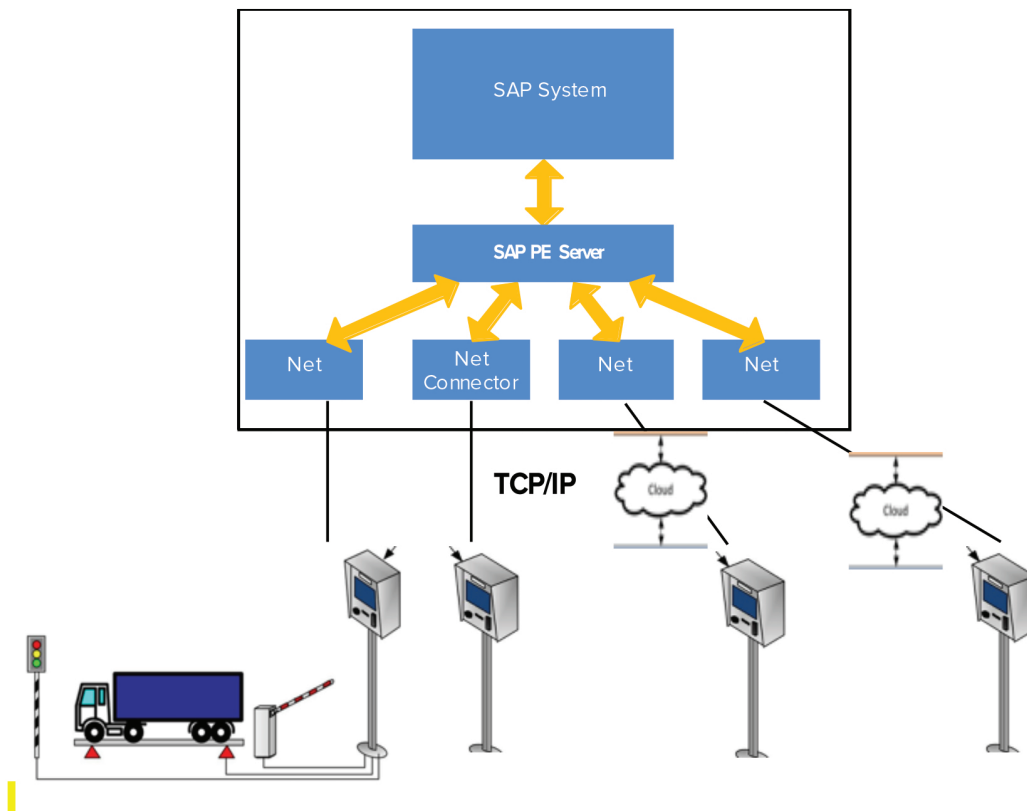
### DD2050 Indicator

## ... Product Overview

- **Multi-Site Central Control:** Multi-Site Central Control describes a solution whereby a number of unmanned weighbridges are monitored and controlled by a central ERP system. This is normally done in conjunction with a manned central control room which can communicate via audio with driver and has full visual control over the site through on-site cameras feeding to control room monitors.

Hardware options include booms, cameras, robots, RFID readers, QR code readers and APNR cameras. Two approaches exist to the development of the software for this solution:




- Sasco can either develop the software solution, which will be done using Sasco MultiWeigh; or
- The customer can have its own software developed which will then interface and control the DD2050 indicator and hardware via Diade Integrate. There is full interactive data integration to the customer ERP system prior to, during and after the weighing process is complete.



**Diagram of an Unmanned Multi-Site Configuration**

# Sasco Automation+ Software Platforms

Sasco's Automation+ solutions are based on either one or a combination of the following software platforms:

	<p><b>ProWeigh+</b> delivers enormous turn-key functionality including axle weighing, SOLAS weighing, Cloud interfacing, ERP system interfacing, has a full English or Portuguese language option and has the ability to manage and control a range of automation hardware.</p>
	<p><b>MultiWeigh</b> is a software package that contains embedded device drivers for most makes and types of hardware that is normally associated with a typical weighbridge environment.</p> <p>These include weighing device drivers, both serial and ethernet. I/O devices including Modbus devices, Video and snap-shot camera's, Embedded ANPR drivers, Web services and many other input/output options. Added to the above hardware features, MultiWeigh is built on a MS-SQL Database.</p> <p>It has powerful data exchange options and can be customised to meet the requirements of most ERP systems available today.</p>
	<p><b>Diade Integrate</b> is a software package that acts as the interface between 3rd party developed automation software and the DD2050.</p> <p>Diade Integrate includes all the drivers for the DD2050. 3rd party software, simply needs to send commands to Integrate and Diade Integrate does the rest.</p>



# Application Example

**Company A** is a large port with 1000 trucks a day bring in ore for export by sea. **Company A** operates 10 manned weighbridges in the port. All weighbridges are presently manned and are non-automated.

Due to the volume of trucks to be weighed, a rapid and accurate weighing process is vital. All weighing data is also vital to computing ship loading planning and therefore it must be instantly processed and then sent in an integrated electronic form to the ship loading planners so the arriving trucks and go to the correct berth.

**Company A** wants to automate all weighbridges and to make them unmanned. Company A also wants to link all these weighbridges to a central control room which can monitor operations. All data from the weighbridges must be seamlessly integrated into the ERP and ship loading system.

Company A operates in a country where Portuguese is the main language, all software must therefore be in Portuguese and the indicators and hardware must be set up to operate in Portuguese as well, including fault menus. Due to the specialized nature of the ship loading system, Company A wants to use a foreign company specializing in ship loading software to write the core software system.

## THE OPTIMAL SOLUTION IS:

- The installation of 10 new DD2050 indicators at all 10 weighbridges.
- The installation of booms, APNR cameras, site cameras and traffic lights at all weighbridges.
- The loading of Diade Integrate onto each DD2050.
- The set-up of the DD2050 language option to be “Portuguese”.
- The removal of the existing weighbridge cabins.
- The 3rd Party Software developer simply writes the operational and systems software and is then provided with the protocols to “talk to” the Diade Integrate loaded on each DD2050 indicator.

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