



◀◀ **F2F2F LogiQ**  
Farm 2 Field 2 Food

Food safety, quality control and complete traceability is of paramount importance to fulfil consumers' requirements. Dinamica Generale is constantly improving precision farming and precision feeding solutions that generates effective results along the entire value chain. The intelligence of the system is a cloud database that integrates farm specific data sources, while the big data analytics delivers recipes and prescription maps to improve animal health and soil treatment effectiveness to increase consumers' confidence in what they eat.



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SOLUTIONS

**ON-FARM**

# VALUE-ADDED SOLUTIONS FOR DAIRY AND BEEF FARMS THAT MAXIMISE PRODUCTION AND REVENUE

# EFFECTIVE



Comprehensive technologies:



- Weighing and Automation (weight indicators – load cells and sensors – accessories)



- On-Farm Analysis (NIR, optical & imaging technologies)

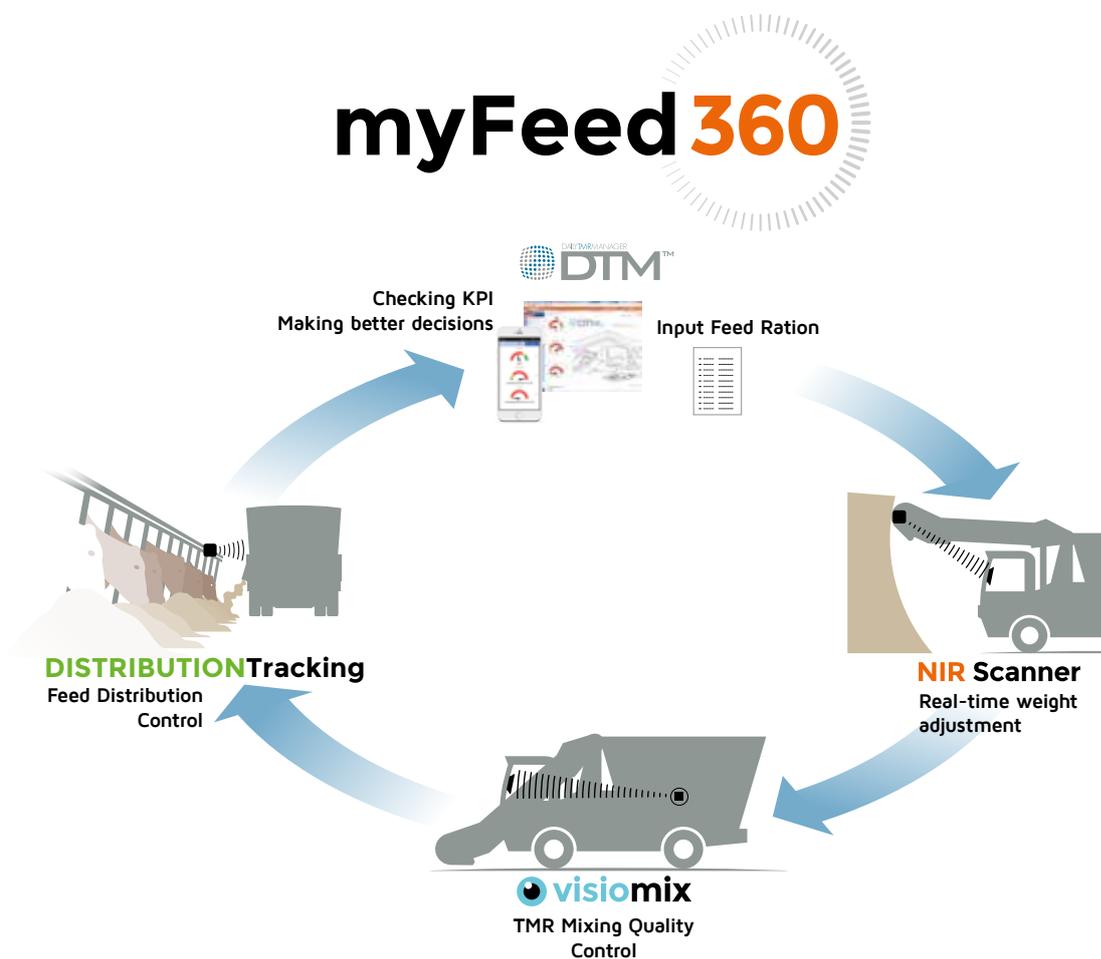


- Data Management (Software and data exchange tools)

# IMPROVE FEEDING PROCESS. MAKE BETTER DECISIONS. DO WHAT WORKS.

Consistent and predictable feed quality is top of mind for today's dairy and beef farmers. The project we called myfeed360 is aimed at providing farmers with the most advanced technology for monitoring, measuring and ensuring the quality of feed within each phase of animal nutrition process. Here is what we manage:

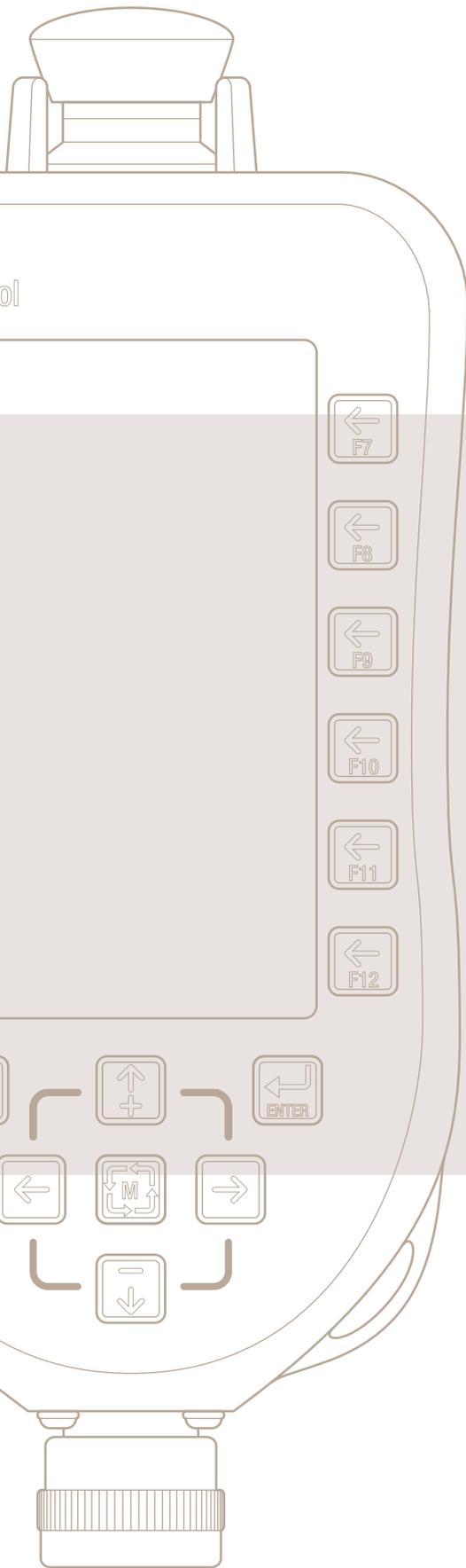
- 1 Input feed ration into the Feed Management Software and track feed costs
- 2 Apply real time adjustment of each loaded ingredient based on dry matter and nutrients
- 3 Control TMR homogeneity and fiber lengths during mixing process in the TMR mixer
- 4 Measure the real quantity of feed distributed to each pen
- 5 Track milk production based on real dry matter intake
- 6 Control farm performance in real time from any location
- 7 Share feeding information online with nutritionists to improve the process efficiency





Make better decision  
to enhance animal wellness,  
productivity and maximize  
profitability





# 1. Weighing and Automation

- 1.1 Weight Indicators for feed mixers
- 1.2 Load Cells and Sensors
- 1.3 Accessories
  - 1.3.1 Typical Configurations
- 1.4 Systems

# TOTALLY INTEGRATED SOLUTIONS



# 1.1

## Weight indicators for feed mixers

The right indicator for any requirement



The wide range of weight indicators offers integrated functionality and different options based on performance required.



What can you benefit?

- Scalable, flexible range designed for any feeding applications requirement (trailed or self-propelled feed mixer, stationary feed mixer, automatic feeding system etc...)
- Balanced price-performance ratio
- Minimization of downtimes thanks to integrated monitoring and diagnostics
- Multi-language user interface (all EU languages, Chinese, Russian, etc...)
- IP 68 protection for all weight indicators



Model	<b>DG400</b>
Description	Digital weight indicator
Features	<ul style="list-style-type: none"> <li>• Overload control for improved operator security</li> <li>• Working mode: total/partial and net/gross weight</li> <li>• WiNET™ port for plug &amp; play connection of ALL accessories</li> <li>• All models of load cells can be connected</li> </ul>



Model	<b>DG500</b>
Description	Programmable weight indicator for small and medium farms
Features	<ul style="list-style-type: none"> <li>• 24 Recipes, 18 components each (from a list of 48 components)</li> <li>• 24 Distribution programs with 18 distribution points for each program (from a list of 48 distribution points)</li> <li>• Service function with overload recorder and working time counter</li> <li>• Compatible with the DTM Daily TMR Manger Software Light version</li> <li>• Component consumption counter</li> </ul>



Model	<b>DG600</b>
Description	Programmable weight indicator for medium and large farms
Features	<ul style="list-style-type: none"> <li>• 99 Recipes, 24 Components each (from a list of 99 components)</li> <li>• 48 Distribution programs with 48 distribution points for each program (from a list of 64 distribution points)</li> <li>• Mixing time control</li> <li>• Compatible with the DTM Daily TMR Manger Software Advanced version</li> <li>• Wireless data exchange between indicator and DTM software via the 3G modem</li> </ul>



Model	<b>DG8000</b>
Description	Programmable weight indicator for large farms and contractors
Features	<ul style="list-style-type: none"> <li>• Mixing time control with automatic start at the end of loading procedure</li> <li>• Distribution programs linked to specific recipe with automatic start right after mixing time</li> <li>• Managing components/unloading points (Pens) even by %</li> <li>• Recipe modification directly at the weight indicator</li> <li>• Wireless data exchange between indicator and DTM software via the 3G or WiFi modem</li> <li>• Compatible with the DTM Daily TMR Manger Software Professional version</li> </ul>



Model	<b>DG8000-IC</b>
Description	Programmable weight indicator for structured and demanding farms
Features	<ul style="list-style-type: none"> <li>• Recipe formulation based on daily dry matter intake for each pen</li> <li>• Premix management</li> <li>• Refusal management by pen</li> <li>• Specifically designed for integrating NIR Analyzers</li> <li>• Monitoring operators' labor effectiveness</li> <li>• Suitable for automatic feeding plants</li> <li>• Compatible with the DTM Daily TMR Manger Software IC version</li> </ul>

# 1.2

## Load Cells & Sensors

Load cells and sensors that convert a force into an electric signal, are used in a wide variety of force and weight monitoring applications.

Dinamica Generale offers many load cell types, such as mobile, spindle, pin, flat, compression, strain sensors, pressure transducers, shear beam units. Choose from multiple configurations and sizes, but never compromise on precision and reliability, which are standard in each load cell manufactured by Dinamica Generale.

We have been producing load cells since the nineties to meet customer requirements over time. Even though we have an extensive product offering, if you cannot find just what you are looking for, we will work with you to develop a new product to suit your needs. Choose Dinamica Generale load cells for all your force-sensing needs.

- Mobile
- Spindle
- Pin
- Flat
- Compression



Model **Mobile**

- Features
- High-quality alloy steel: dinamica generale special thermal treatment makes it stable for years
  - PTE cables: maximum protection against moisture, flame and temperature (operating temperature -50° C ~ 70° C)
  - High resistant coating (480h salt spray testing)
  - Aluminum protection: strain gauge protected against impact (mobile models)
  - Sealed strain gauges: sealing agent and industrial grade potting compound protect against harsh use in agricultural field
  - Temperature compensation as option
  - Custom mechanical design available on request
  - IP68 Protection rate



- Benefits
- Full traceability of each sensor
  - Factory standard pre-calibration and testing procedure
  - Highly Accuracy
  - Wide range available

Measures		from	to
diameter	mm (in)	25 (0.98)	95 (3.74)
capacity	Kg (lb)	3.000 (6,614)	15.000 (33,069)

Type

Features

**Spindle**



Measures		from	to
diameter	mm (in)	63,5 (2.5)	114 (4.5)
capacity	Kg (lb)	5.000 (11,023)	13.000 (28,660)

**Pin**



Measures		from	to
diameter	mm (in)	35 (1.38)	60 (2.36)
capacity	Kg (lb)	3.000 (6,614)	10.000 (22,046)

**Compression**



Measures		from	to
length	mm (in)	108 (4.25)	
diameter	mm (in)	73 (2.87)	
capacity	Kg (lb)	13.608 (30,000)	22.680 (50,000)

**Flat**



Measures		from	to
length	mm (in)	350 (13.78)	450 (17.72)
capacity	Kg (lb)	5.000 (11,023)	10.000 (22,046)

**Pressure Transducers**



Measures		from	to
length	mm (in)	68 (2.68)	
diameter	mm (in)	25,4 (1)	
capacity	bar	50	1,000

**Strain sensor**



Measurement range  $\pm 500 \mu\text{m/m}$

**Strain Gauge (custom)**

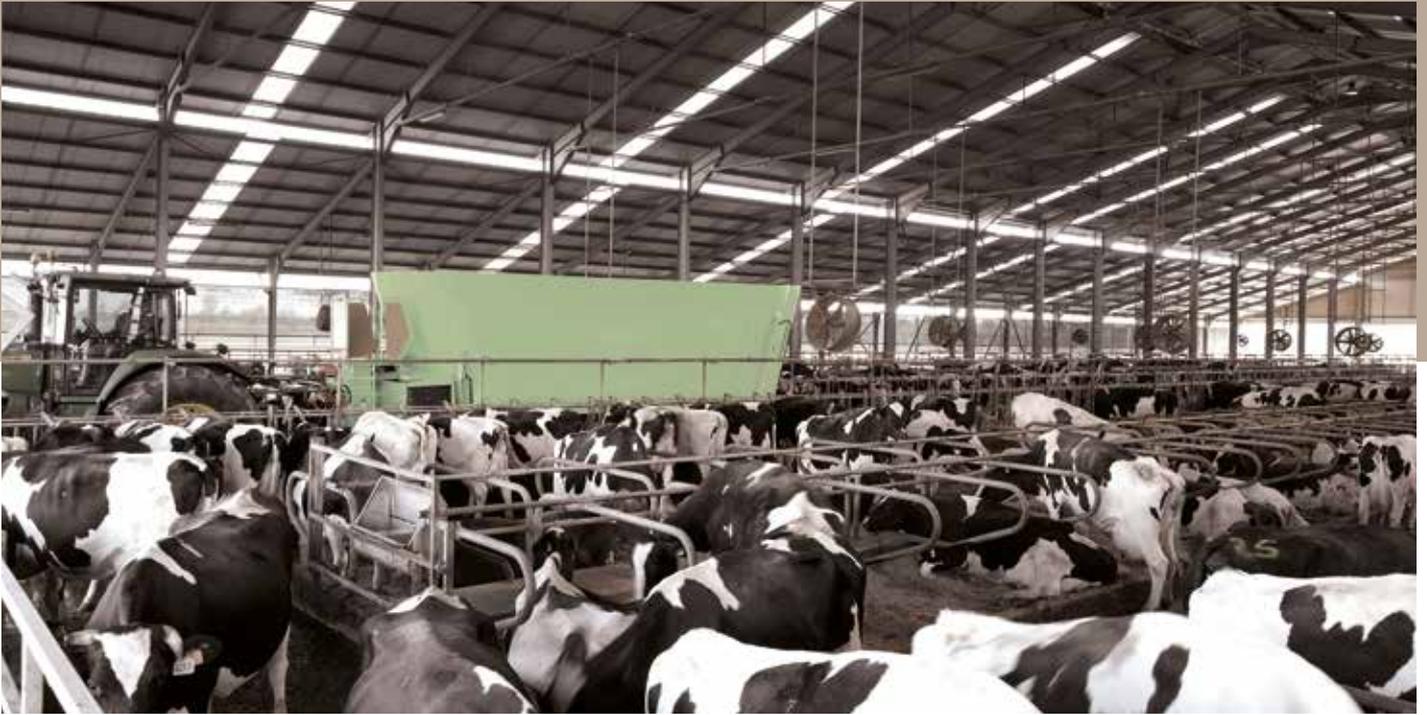


For more details please ask your Dinamica  
Generale Country Sales Manager

# 1.3

## Accessories

We offer a variety of weighing accessories to meet your needs. From remote displays to remote control and automation devices.



### Remote Displays

Indicators' Compatibility

DG400

DG500

DG600

DG8000

DG8000-IC

**Display:**  
5 digits  
25 mm  
(1 inches)



160 mm

### Cab Display

Small size display, to be preferably used in the cabin of the tractor or WIRELESS connected on each loading machine.

**Display:**  
LED Matrix panel  
60 mm  
(2.4 inches)



275 mm

### Extra Display

LED Display to control weight and ingredients even from long distance (over 30 m - 100 feet). High performance display even in direct sunlight.

**Display:**  
Red "diodes LED"  
display 60 mm  
(2.4 inches)



275 mm

### Weight Repeater

High efficiency LED display to be visible in any lighting conditions. Clear and comfortable viewing of weight information from any position. Lower energy consumption. Shorter set-up time and easy connection to the weight indicator.

## Remote control



### EASY CONTROL 2 WiNET™

Remote control to manage the indicator from up to 25 m (82 feet). With the WiNET™ Modem Interface, the remote control can be used with all Dinamica Generale wireless accessories without any interference: all devices communicate within the same network.

Indicators' Compatibility	DG400	DG500	DG600
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### Dina TEL 3

Dina TEL 3 is a wireless remote control with a large display that shows information regarding all feed operations. Dina TEL 3 is equipped with an intuitive keyboard to manage the weight indicator directly from the tractor/loader cab.

Indicators' Compatibility	DG500	DG600	DG8000	DG8000-IC
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### Dina TEL 3 APP

The Dina TEL 3 App is the ultimate technology developed by Dinamica Generale that brings the control of the weight indicator to your smartphone or tablet. By simply installing the Modem App, you can turn your smartphone into a weight indicator and make loading process more efficient. Experience a new way of work, download the DinaTEL3 App on Google Play and App Store and start using your mobile during daily operations to enjoy its ease of use.



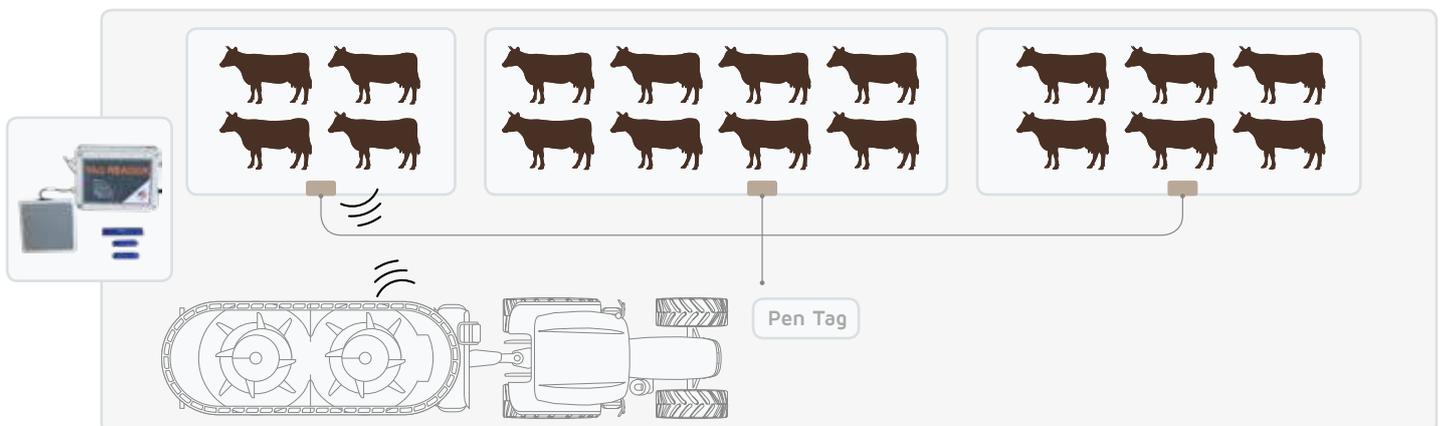
Indicators' Compatibility	DG500	DG600	DG8000	DG8000-IC
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## Automation

### Distribution Tracking

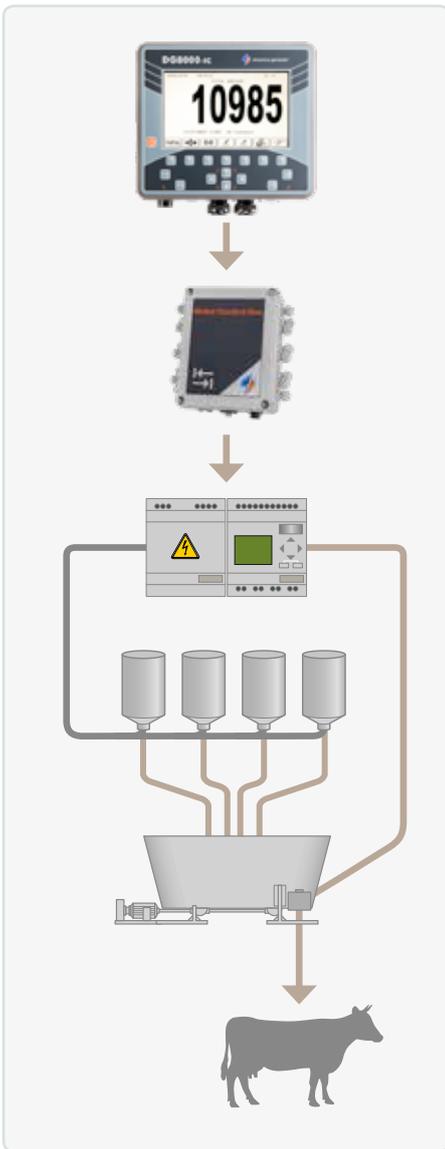
With the aim of improving the efficiency and control of animal feed rations, Dinamica Generale is promoting an electronic device which marks out the material to be discharged in front of each pen through tag system technology that tracks the feed distributed. (Distribution tracking is available only for DG8000-IC weight indicator)

myFeed360



Indicators' Compatibility	DG8000-IC
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- Benefits**
- Track delivered TMR for each pen and keep distribution under control
  - Operator accuracy monitoring for continuous process improvement
  - Delivering the right quantity of TMR means decreasing feed refusal thus reducing feeding costs.



## Motor Control box

The Motor Control Box is the one-stop solution to control animal feed automation plants.

With the Motor Control Box, driving functions like open the doors, start belts and control material discharge from silos to name but a few, become easier and quicker.

### 1) AUTOMATIC LOADING PROCESS

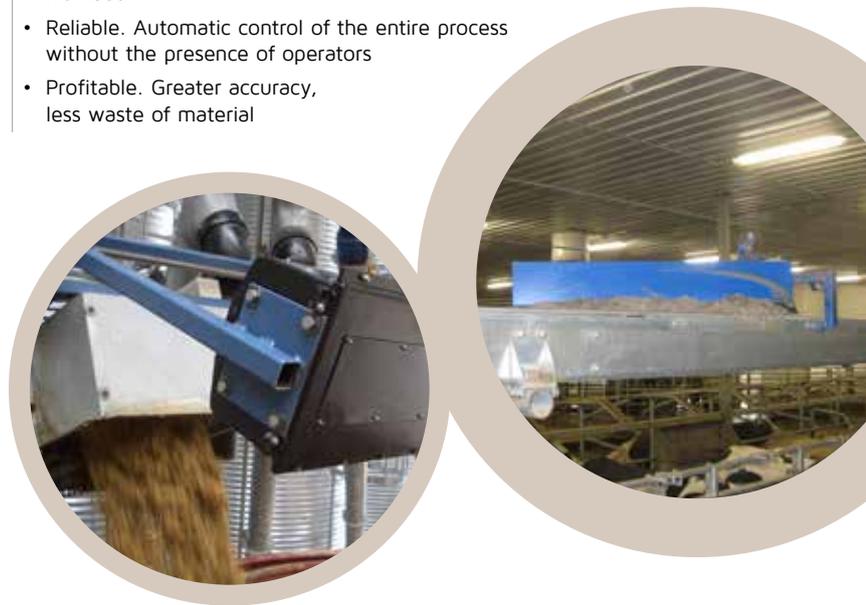
The system is designed to control and automatically manage ingredients stocked in silos to get the best possible TMR quality

### 2) AUTOMATIC DISTRIBUTION PROCESS

The Motor Control Box sets the control of the TMR distribution from the feed mixer right in front of cows. Thanks to the DTM Feeding Management Software, programs can be set directly from the office.

Indicators' Compatibility	DG8000	DG8000-IC
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- |          |                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Benefits | <ul style="list-style-type: none"> <li>• Efficient automation control during loading and distribution of feeding material within stationary mixing systems</li> <li>• Flexible. The system can be set by the customer on the basis of his need</li> <li>• Reliable. Automatic control of the entire process without the presence of operators</li> <li>• Profitable. Greater accuracy, less waste of material</li> </ul> |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



## Weight Transmitter DG-WT

The Weight Transmitter DG-WT is a digital-analog weight transmitter specifically designed for Dinamica Generale weight indicators. Particularly suited for biogas applications, DG-WT can be used in different applications from simple weighing to mixing and filling stations, in conjunction with PLCs, computers or other supervisory systems.

Indicators' Compatibility	DG400	DG500	DG600	DG8000	DG8000-IC
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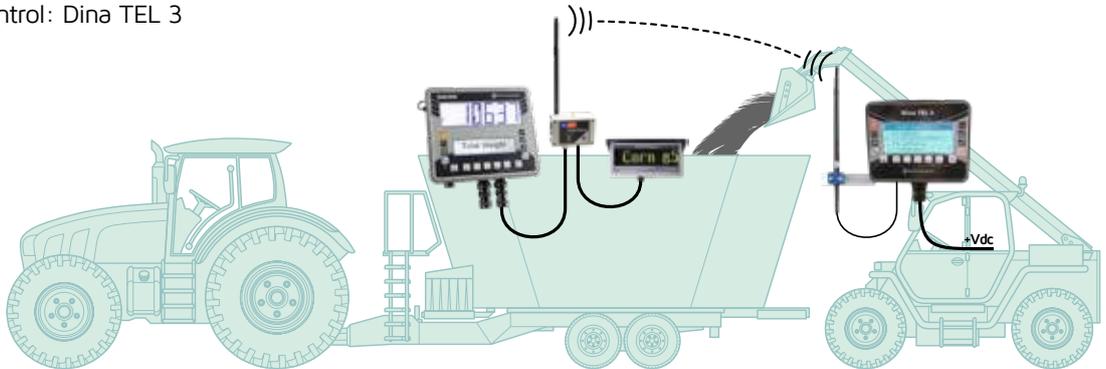
- |          |                                                                                                                                                                                                                                                       |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features | <ul style="list-style-type: none"> <li>• Transmit weight signal from each Dinamica Generale indicator (4-20 mA or 0-10 V, RS232)</li> <li>• 3 digital outputs (PWR1,PWR2,PWR3) - 4 analogical outputs</li> <li>• Profibus module as option</li> </ul> |
|----------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- |          |                                                                                                                                   |
|----------|-----------------------------------------------------------------------------------------------------------------------------------|
| Benefits | <ul style="list-style-type: none"> <li>• Easy to calibrate</li> <li>• High precision</li> <li>• Durable compact design</li> </ul> |
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# 1.3.1 Typical Configurations

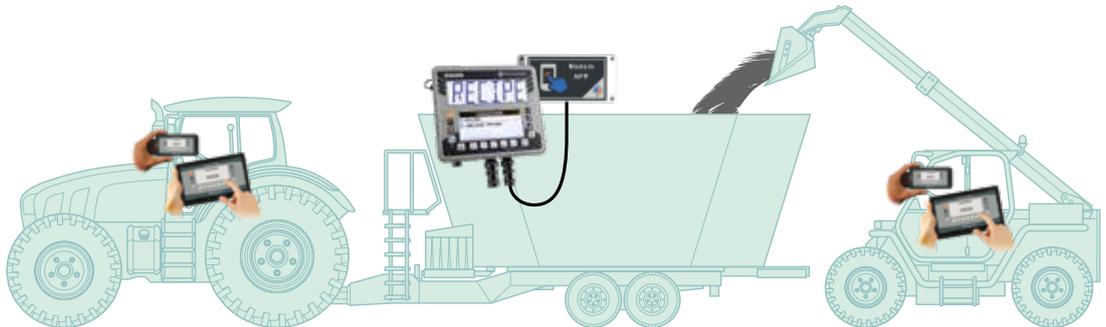
## System 1

- Weight Indicator: DG500
- Remote Display: EXTRA Display + WiNET Modem
- Remote Control: Dina TEL 3



## System 2

- Weight Indicator: DG600
- Remote Control: Dina TEL 3 App



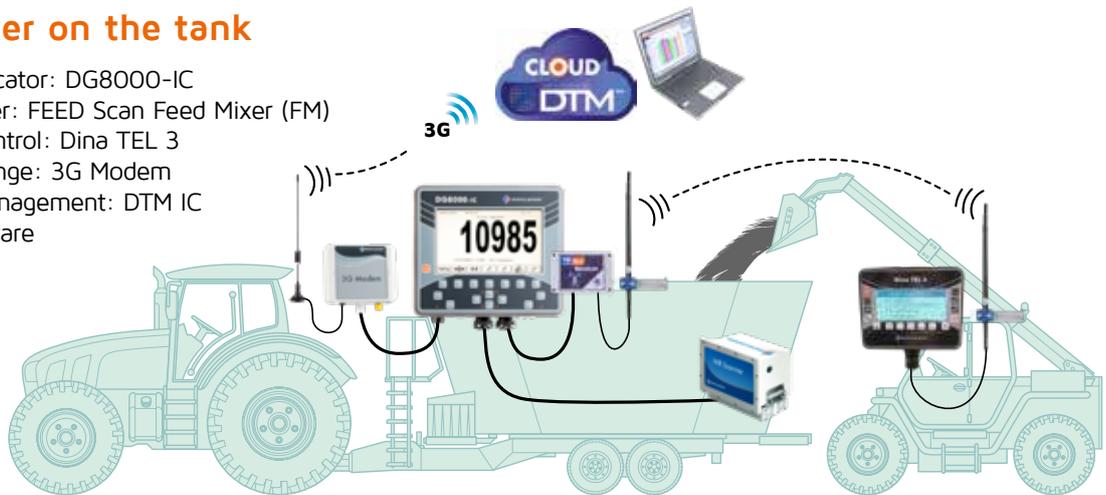
## System 3

- Weight Indicator: DG8000-IC
- Data Exchange: 3G Modem
- Feeding Management: DTM IC Cloud Software



### NIR analyzer on the tank

- Weight Indicator: DG8000-IC
- NIR Analyzer: FEED Scan Feed Mixer (FM)
- Remote Control: Dina TEL 3
- Data Exchange: 3G Modem
- Feeding Management: DTM IC Cloud Software



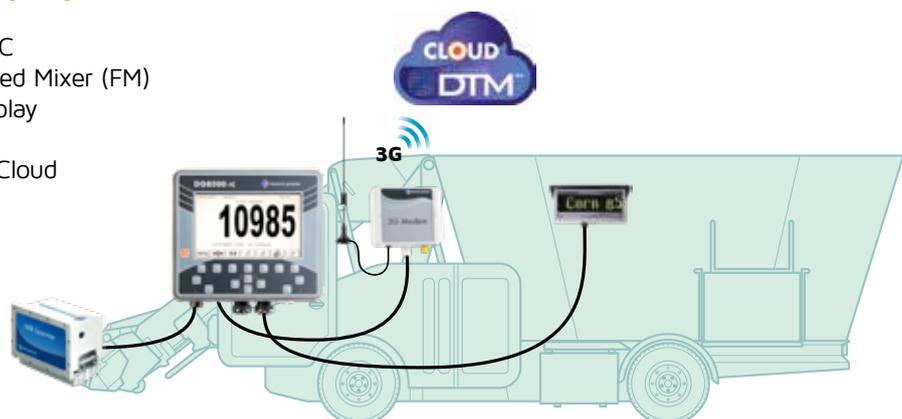
### NIR analyzer for front loader

- Weight Indicator: DG8000-IC
- NIR Analyzer: FEED Scan Front Loader (FL)
- Remote Control: Dina TEL 3
- Data Exchange: 3G Modem
- Feeding Management: DTM IC Cloud Software

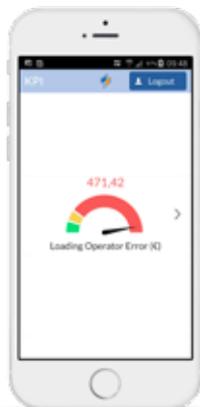


### NIR analyzer for self-propelled feed mixer

- Weight Indicator: DG8000-IC
- NIR Analyzer: FEED Scan Feed Mixer (FM)
- Remote Display: EXTRA Display
- Data Exchange: 3G Modem
- Data Management: DTM IC Cloud Software



# 1.4 Systems



## FEDELIO 500 Light CLOUD

Description	Entry level precision feeding system
Kit composition	<ul style="list-style-type: none"> <li>• DG500 indicator</li> <li>• DTM Daily TMR Manager Software (Cloud Light Version)</li> <li>• USB stick for data transfer</li> </ul>
Benefits	<ul style="list-style-type: none"> <li>• Intuitive, easy to use</li> <li>• Ration and distribution programs set from the pc and transferred to the scale with USB stick</li> <li>• Control of the accuracy of loading and feeding costs</li> </ul>

**FEDELIO 500**   **FEDELIO 600**   **FEDELIO 8000**   **FEDELIO IC**

## Turn feed costs into revenue with feedelio systems

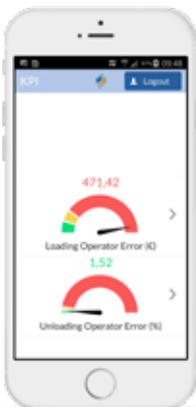
Feedelio is the precision feeding system designed for farmers to control all stages of animal nutrition process from recipe preparation, data transmission up to distribution of feed rations.

The Feedelio System manages all data collected daily within the feed process and turns them into useful information to increase efficiency and farm performance.

Feedelio consists of DTM – Daily TMR Manager, the comprehensive feed management software in the Cloud designed to optimize daily feed process, a programmable weight indicator, a 3G modem for data exchange and the DTM app to monitor the key performance of your farm. The system can be equipped with the NIR scanner (for both self-propelled and trailed feed mixer) which enables to enhance even further the quality control of animal nutrition.

The Feedelio system enables:

- planning precise ration per head
- creating batches with high flexibility
- complete operations traceability
- reducing feed refusal
- providing real-time information on dry matter intake
- interfacing with main third party herd management software.



### FEDELIO 600 Advanced CLOUD

Description	Precision feeding system developed to manage medium farms
Kit composition	<ul style="list-style-type: none"> <li>• DG600 indicator</li> <li>• DTM Daily TMR Manager Software (Cloud Advanced Version)</li> <li>• GPRS modem for reliable data transfer</li> <li>• DTM App</li> </ul>
Benefits	<ul style="list-style-type: none"> <li>• Full automatic control of working time and costs from recipe preparation to material feedout of each group of animals</li> <li>• Control of the labour times</li> <li>• Control and management of the inventory</li> <li>• Control of dry matter for each ingredient</li> </ul>



### FEDELIO 8000 Professional CLOUD

Description	Precision feeding system developed to manage large farms
Kit composition	<ul style="list-style-type: none"> <li>• DG8000 indicator</li> <li>• DTM Daily TMR Manager Software (Cloud Professional Version)</li> <li>• GPRS modem for reliable data transfer</li> <li>• DTM App</li> </ul>
Benefits	<ul style="list-style-type: none"> <li>• Management of refusals</li> <li>• Specific features for contractor applications</li> <li>• Operator's control through specific login</li> <li>• Fully integrated with NIR analysis systems</li> </ul>



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### FEDELIO IC CLOUD

Description	The most efficient and innovative precision feeding system developed for structured and demanding farms
Kit composition	<ul style="list-style-type: none"> <li>• DG8000-IC indicator</li> <li>• DTM Daily TMR Manager Software (Cloud IC Version)</li> <li>• GPRS modem for reliable data transfer</li> <li>• DTM App</li> </ul>
Benefits	<ul style="list-style-type: none"> <li>• Management of refusals</li> <li>• Fully integrated with NIR analysis systems</li> <li>• Premix management and traceability</li> <li>• Optimum feeding control for maximum beef and dairy production</li> </ul>

## Wireless Scale Indicator

### SMART Control

Completely Portable Scale - in the tractor - in the field - on the farm

More than a Portable Scale. Smart Control is the one-stop portable wireless solution for hydraulic and weighing functions. The device can be customized as weighing device only, hydraulic or integrating weighing and hydraulic functions together.

The hydraulic functions are highly customizable managing up to 24 solenoid valves with internal sound alarm and color display for high visibility. Open/Close discharge doors, activation of belt conveyors are just a few functions that Smart Control is capable of controlling.

Furthermore, all functions controlled by the Smart Control can be easily programmed thanks to the Smart i-Con software, a specific cloud tool designed for configuring your device to suit your needs.



### Smart i-CON Cloud Tool



- | Benefits |                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|          | <ul style="list-style-type: none"> <li>• Save time and fuel during loading and unloading by controlling the hydraulic functions</li> <li>• Highly customizable solution in terms of functions and graphic design to fit every customer's needs</li> <li>• All scale weighing functionality - in the palm of your hand</li> <li>• All hydraulic functionality - at the touch of your fingertips</li> </ul> |

## 2. On-Farm Analysis

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### **2.1 NIR Technology**

2.1.1 Portable NIR Analyzers

2.1.2 On Board NIR Analyzers for Feed Mixers

### **2.2 Imaging Technology**

2.2.1 TMR Mixing quality Control

# ACCURATE



# 2.1 NIR Technology

## Improving Feed Management to the next level

Feed cost is one of the largest expenses on dairy farms. In addition to being a major cost, an improperly balanced diet can affect cow health, decrease milk production, and result in negative environmental impacts. Regular dry matter (DM) testing of feeds and rebalancing the ration to compensate for DM changes ensures that dairy producers are feeding the ration formulated by their nutritionist.

### Near Infrared (NIR) Analysis

NIR measures the light (in the near-infrared spectrum) reflected off from a sample when analyzed. NIR is faster and lower cost than using traditional wet chemistry methods to determine the nutritional composition and DM of feeds.

Dinamica Generale developed NIR technology systems for feed mixers and portable devices since year 2000. Farm managers and nutritionists using Dinamica Generale NIR tools can now make management decisions regarding the feed in real time.

## Why use NIR Technology?

- Decrease waste and save money
- Decrease variability (day-to-day) in total ration via traditional sampling protocols
- Minimize errors for increasing precision  
(maximum sampling = minimum errors)

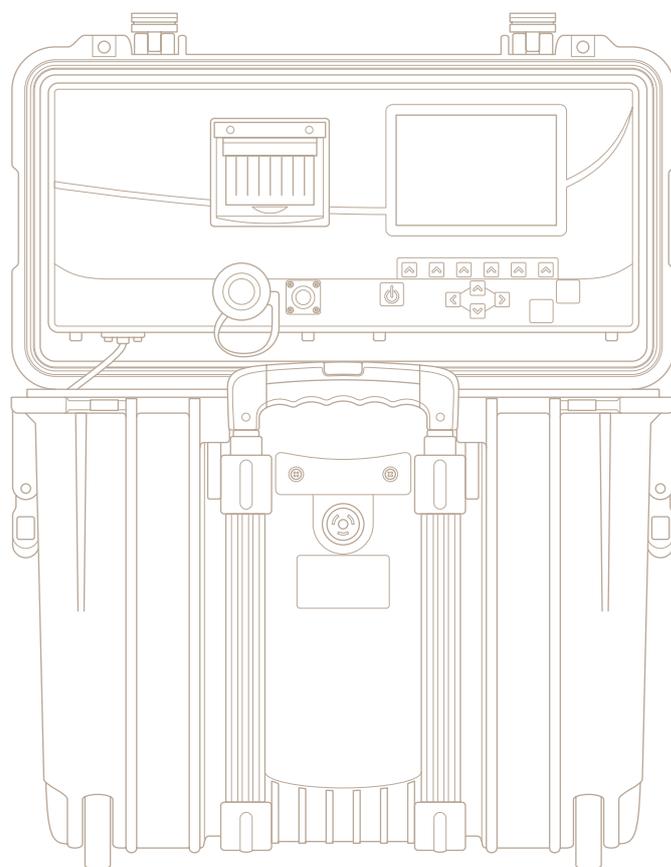
### NIR on-farm advantages

- Fast – can conduct a reading in :30 to :60 seconds
- Works on ground or un-ground feedstuffs
- No chemical waste
- Can analyze main components in one reading
- No changes in samples
- Low per-analysis cost
- Mobility of NIR analyzer

### The bottom line

Real-time NIR measurement of feed samples while formulating the ration means getting closer to the recommended diet, maximizing production efficiency and reducing costs.

## 2.1.1 Portable NIR Analyzers



### AgrinIR

Your own lab on-the-go

#### Portable NIR Analyzer for Forages and Grains

Dinamica Generale introduced the AgrinIR back in 2008. AgrinIR is the nutritionist's toolbox for feed sampling, testing and ration adjustment in real time.

Dairy farmers need quick and accurate recommendations. The more time it takes for a response, the more impact it can have on milk production and the bottom line.

AgrinIR is a tried and tested portable NIR analyzer for forages and grains that measures the percentage of moisture (dry matter), crude protein, starch, ADF, NDF and ash in seconds.

- 7 ingredients as standard on each analyzer
- Connects to computer via USB port and wi-fi
- Print out reports right after the analysis thanks to the built-in printer.

Feed is the most important and expensive input in any dairy operation. Minimizing variability and delivering the optimal ration to maximize production has great impact on profitability. Bring AgrinIR into the equation and help your clients get the most out of their feed every day.

Benefits	<ul style="list-style-type: none"> <li>• <b>Reliable.</b> The highest possible accuracy on-site.</li> <li>• <b>Robust.</b> Sturdy case, full-portability, minimum maintenance</li> <li>• <b>Versatile.</b> Determine the right time to harvest. Check quality of feed purchased. Control feed inventory.</li> <li>• <b>Profitable.</b> Value for money</li> <li>• <b>Quick and easy to use.</b> NIR analysis in seconds!</li> </ul>
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## X-NIR

### Daily handheld analysis for everyone

X-NIR Portable NIR Analyzer for Anywhere, Anytime Feed Analysis. By taking NIR technology into the production facility in the form of a portable, handheld unit, feed manufacturers and farmers can obtain real-time results while reducing costs from third-party testing.

X-NIR can increase these capabilities by taking lab-proven technology off the bench and making it usable by non-scientists. Results that are available within minutes in the manufacturing facility are more actionable, enabling decisions that can increase the profitability of the farm.

- 3 ingredients as standard on each analyzer to pick from more than 60 ingredients available
- Connects to computer via USB port and wi-fi
- 4"3 Touch screen interface let you access all functions with a simple fingertip.

Feed is the most important and expensive input in any dairy operation. Minimizing variability and delivering the optimal ration to maximize production has great impact on profitability.

Benefits	<ul style="list-style-type: none"> <li>• Real time control of animal feed rations minimizes feed refusal and reduces daily feed cost</li> <li>• Fully customisable product (more than 60 NIR families available by area)</li> <li>• Lower management costs due to:             <ol style="list-style-type: none"> <li>1. Quick and easy setup</li> <li>2. Real time results</li> <li>3. No need of consumables to perform analysis</li> <li>4. Reliability</li> </ol> </li> <li>• Intuitive. Easy to use</li> <li>• Lower operating and maintenance costs thanks to few long life components (i.e. rechargeable battery)</li> <li>• Touch screen interface allows access to all functions with just a few taps</li> </ul>
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# 2.1.2 On Board NIR Analyzers for feed Mixers

## FEED Scan

**NIR analyzer for feed mixers and front loader**

The Next Generation in Feeding Management



Using patented NIR (near-infrared) technology and defined calibration curves based on your feedstuffs, the system measures the dry matter content, crude protein, NDF, ADF, ash, fat, and starch and other nutrients in every ration. Combined with the power of DTM (Daily TMR Manager) feeding software, producers across the dairy belt using the FEEDScan are experiencing new levels of precision feeding, commodity management, cow performance and profitability.

There simply is no other feed management system on the market like it!

The system gives farmers complete control over their ration components.

Utilizing NIR technology, farmers can automatically adjust every TMR batch for Dry Matter in real time and easily modify nutrient variations to match nutritionist recommendations.

Other feed management and weighing systems help farmers keep track of their ration formulas, refusals and costs over time – but they do not allow them to make adjustments in real time with every mixer load. The FEEDScan combined with Dinamica Generale precision feeding systems gives farmers the total package of tools they need to feed a precise ration on every feedout. This helps farmers become more proactive, more consistent and better managers.

Benefits	<ul style="list-style-type: none"> <li>• Never wait for moisture tests or lab results.</li> <li>• Never second -guess over- or under-feeding your animals.</li> <li>• Have greater control over weather events.</li> </ul>
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### **By measuring Dry Matter and other nutrient content in real time, farmers can:**

- Decrease expensive ingredients in the ration
- Improve feed efficiency with stable feeding and minimized refusals
- Improved herd health
- Be financially rewarded by cutting costs and boosting production of milk, butterfat and protein and weight gains

### **Precision Feeding system with NIR analyzer Payback**

On average, farmers have seen payback from their system in as little as six months.



NIR analyzer for self-propelled feed mixer



NIR analyzer for front loader



NIR analyzer for feed mixers' tank

# 2.2 Imaging technology

The application of computer vision systems in the sector of precision farming have becoming widely implemented, particularly in the stage of inspection of product quality as a means of replacing manual inspections. The VISIOMIX System is the first system on the market that automatically replicates the results of the "Penn State Particle Separator" real time during TMR mixing with high accuracy.

## 2.2.1 TMR Mixing quality Control

### VISIOMIX

VISIOMIX is an innovative system based on computer vision technology that is capable of measuring the homogeneity and length of fibers in the feed mixer during TMR mixing.

#### How it works

The VISIOMIX system is equipped with a digital camera that automatically analyzes and compares the acquired frames.

The farmer defines the right degree of TMR mixing quality on a specific app, when the VISIOMIX system recognizes that the TMR quality target is achieved, the farmer receives a notification on his smartphone. In addition, acoustic and visual signals on the feed mixer advise the operator.

#### Benefits

- The VISIOMIX system can be mounted on every feed mixer on the market.
- Controlling homogeneity and length of fibers is of paramount importance to improve rumination, sorting activity, production yield and animal health.
- VISIOMIX in association with Precision Feeding systems provided by Dinamica Generale offers the opportunity to extend the control of feeding up to the TMR with positive effects on productivity of the herd, and finally for the improvement of farming income.





## 3. Data Management

**3.1 Feeding Management Software**

**3.2 NIR Analysis Management**

# SIMPLE



# 3.1

## Feeding Management Software

myFeed360



### DTM™ DAILY TMR Manager

A step ahead in Feed Management

The DTM is a professional feeding management software that drives your precision feeding system. The comprehensive program helps farmers monitor and control feed costs, inventory, ration adjustments and other critical on-farm processes like feeder performance.

- Develops and executes target Dry Matter and nutrient values based on the feeding ratio defined by your nutritionist
- Produces detailed daily/weekly/monthly/quarterly reports on ingredient quantity, costs, nutrients, labor time and more
- DTM Software will interface with other herd management programs
- It's Wireless! – transfers ration data from the computer to the weight indicator mounted on the tractor/TMR mixer set up
- Better productivity, less waste, better herd health, quick economic benefits

#### Access your ration data from anywhere with the DTM™ Cloud

- All farm records are accessible by computer, tablet or smart phone from anywhere with an internet connection
- Allows nutritionist to make suggestions or adjustments to the feeding ratio without needing to be on the farm.

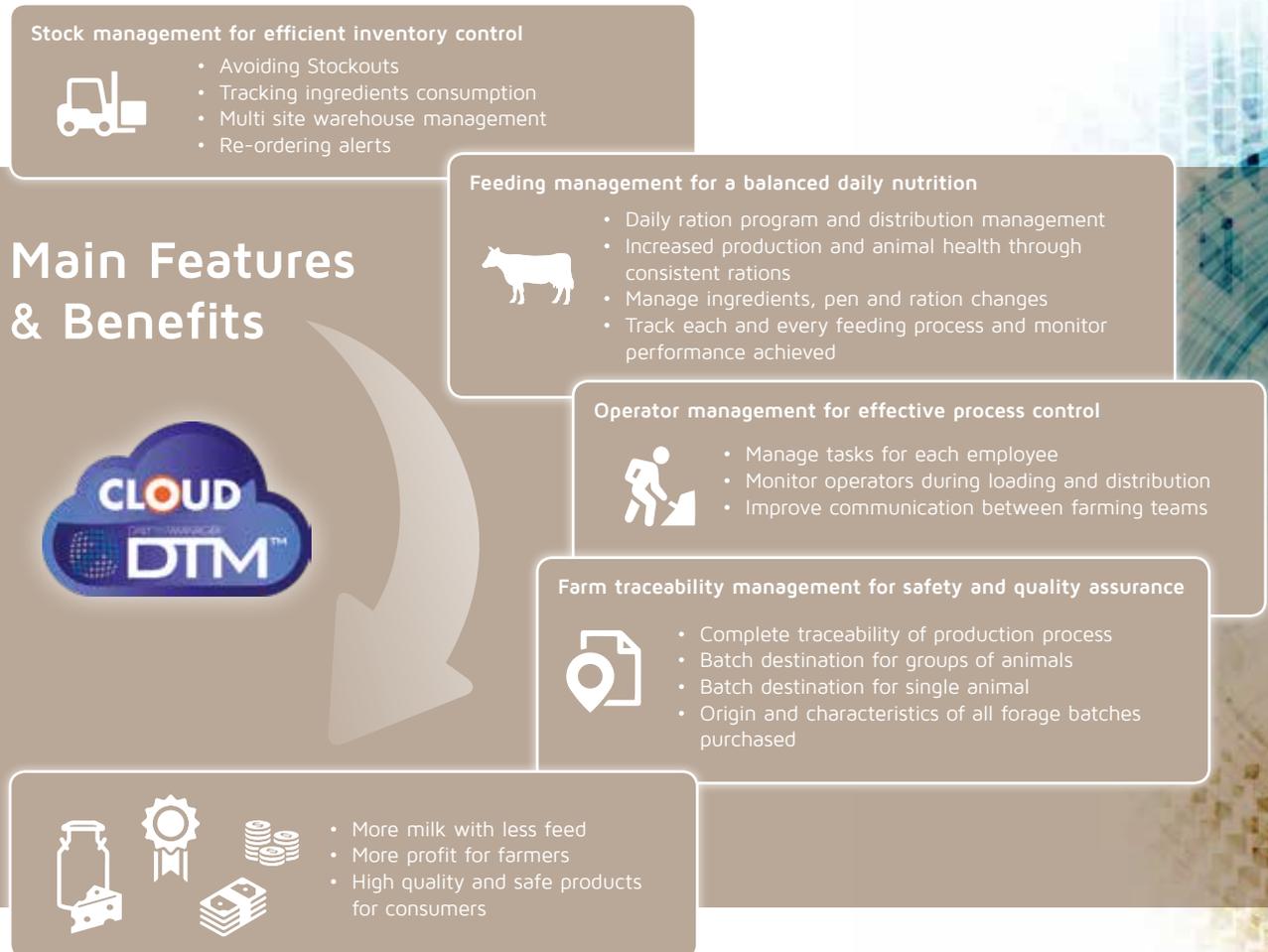
DTM helps farm owners, managers and operators find what matters in the vast amount of data produced by today's farms and taking decision quickly.

#### How do we make busy farm managers and operators aware that using DTM feed management software is fundamental for their daily sustainability?

Managing farms the old fashioned way using paper and spreadsheets is a waste of time, money and sanity. The results are not always accurate.

With DTM – Daily TMR Manager farmers can automatically generate reports and graphs, plan and manage feeding programs, inventory, and operators' activity.

Everyone within the farm is guaranteed to do the right work at the right time always following the best dairy farming practices.



The DTM software in Cloud can be viewed on the phone, tablet or desktop computer to keep farm managers up-to-date on the farm and in the office. The farm manager can also monitor IOFC and operator work in real time thanks to key performance indicators and determine the most profitable dairy farming practices.

### DTM Fulfils your needs



#### **CLOUD BASED SOFTWARE**

You can use DTM in the cloud if you like. Data available where you need it, when you need it. No hardware, no administration, low implementation costs.



#### **PREMISE BASED, LOCAL INSTALLATION**

A locally installed solution can be provided to ensure maximum reliability in locations where the internet can be unreliable.



#### **TRAINING & SUPPORT**

Managed training services from experienced team delivers rapid deployment. 24/7 Remote support options available. Dedicated support services for all DTM customers.



#### **YOUR OWN TAILORED TOOL**

We can tailor the DTM to match your businesses requirements (i.e. interface with main herd management software to import milk data, online access for your trusted nutritionist to specific reports etc...) No two farms have the same goals and operating processes. We understand this, and have a team of talented young engineers to deliver an outstanding solution with 100% fit.

Software type	DTM Light	DTM Advanced	DTM Professional	DTM IC
Versions available	Local - Cloud			
Target	Small farms	Medium farms	Large farms Contractors	Structured and demanding farms
Function	Designed for feeding management of the farm, the software allows the traceability of processes starting from raw material storage up to control of distribution providing a clear overview of all farm activities.			
Main advantages for farmers	Strengthen farmers' decision-making process Enhance feed process control Improve operation efficiency day-to-day and make farm more profitable			
<b>Intuitive work interface</b>	•	•	•	•
Edit Ingredients, Diet/Recipe & Distribution Programs	•	•	•	
Track changes of «animal number» and «total weight» made on indicator	•	•	•	•
Lists, detailed reports & graphs	Lists and limited reports	Lists & reports	Lists & detailed reports	Lists, detailed reports & graphs
Local and Cloud version available	•	•	•	•
Multi-language interface	•	•	•	•
Help online	•	•	•	•
USB/Memory card data exchange	•	•	•	•
Compatible with mobile devices	•	•	•	•
Feed Cost Traceability	•	•	•	•
Program by cow number, total weight, percentage	Limited*	Limited*	•	•
Control accuracy in TMR preparation & distribution	Limited* <sup>1</sup>	•	•	•
Multi-user management (Admin + Users)	Limited	•	•	•
Control of Operator performance	Limited*	•	•	•
Dry Matter Management		•	•	• (automatic)
Dry matter intake & Refused Management			•	•
Stock & reorder point control		•	•	•
WiFi/GPRS data exchange		•	•	•
App with Key Performance Indicators (Cloud version only)		•		•
Operator management		Limited	•	•
Integration with all NIR analyzers by Dinamica Generale (x-NIR, AgriNIR, FEEDScan)			Limited* <sup>2</sup>	•
Schedule process for automatic feed systems			Limited	•
Edit Diet/Recipe by cow, pens & batch				•
Control of real quantity distributed into each pen in combination with Distribution Tracking				•
Customization of software interface & reports				•
Milk production module for input milking data/ interface with third-party softwares				•
Interface with third-party herd management software				•
Interface with third party ERP software				•
Integration with the TAURUS livestock weighing systems				•
Premix function				•

\*no % \*<sup>1</sup> For TMR preparation phase only \*<sup>2</sup> Feed Scan managing only

# 3.2 NIR Analysis Management

NIR EVOLUTION is a cloud software provided with the purchase of each and every NIR analyzer manufactured by Dinamica Generale.

The use of NIR EVOLUTION enables:

- initial verification of your NIR device.
- keeping your analyzer always up-to-date (update of calibrations and firmware).
- alignment between NIR analyzer and test lab to always perform accurate analysis.



# Livestock Weight Monitoring



Model	<b>TAURUS 10</b>
Description	Entry-level device for any type of farm
Benefits	<ul style="list-style-type: none"><li>• Excellent price-quality ratio</li><li>• Intuitive and easy to use</li></ul>



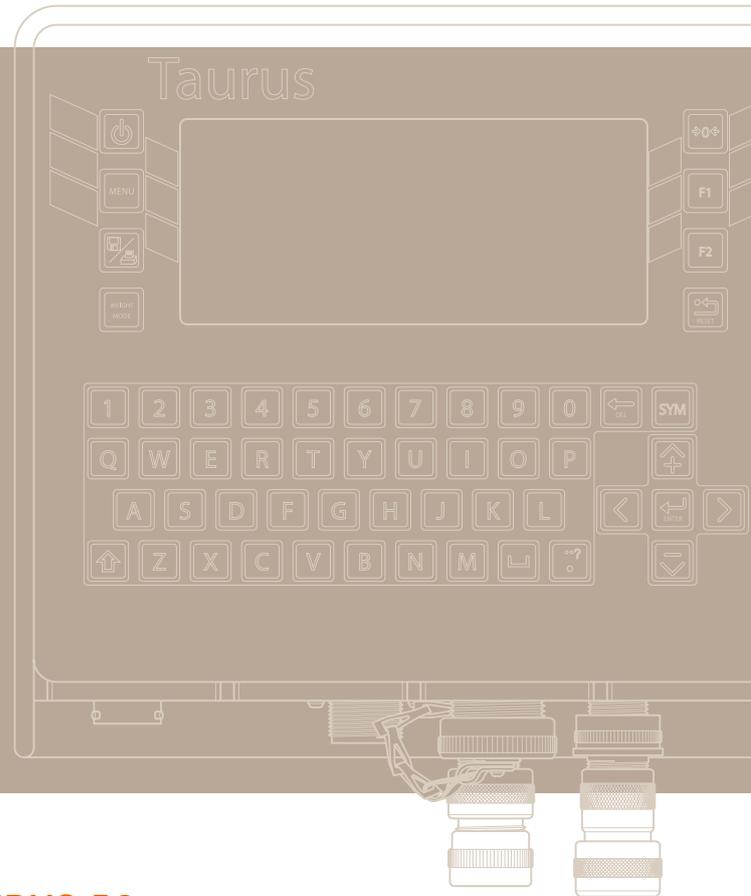
Model	<b>TAURUS 30</b>
Description	The device features 4 different weighing modes and accumulation of weights
Benefits	<ul style="list-style-type: none"><li>• Flexible and suitable for all type of animals</li><li>• Hystorical data collection and retrieval</li></ul>



Stop carrying your notebook to the scale and still get the weight information you need for performance assessments and management decisions.

Taurus Trace tracks weights at different life stages, such as calf, heifer, dry cow, lactating cow etc...providing average gain, even for beef farms!  
Having all your animal's weight events in a single software gives you the information needed to adjust feeding and other management strategies to ensure optimal body condition scores, and know which animals are reaching their goal weights – and which are lagging behind.

- |          |                                                                                                                                                                                                                                            |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Features | <ul style="list-style-type: none"> <li>• Weight history</li> <li>• Monitor livestock health</li> <li>• Quick, easy and accurate weight monitoring thanks to EID/VID management</li> <li>• Full data collection and traceability</li> </ul> |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



Model	<b>TAURUS 50</b>
Description	Advanced weighing system for all kind of animals that enables data traceability, ID-code management and control for cages automation.
Benefits	<ul style="list-style-type: none"> <li>• Monitor livestock health</li> <li>• Evaluate breeding performance for genetic selection</li> <li>• Quick, easy and accurate weight monitoring thanks to EID/VID management</li> <li>• Full data collection and traceability</li> </ul>

Model	<b>TAURUS 70</b>
Description	The most advanced weighing system for producers looking to increase farm effectiveness and profits.
Benefits	<ul style="list-style-type: none"> <li>• Optimized working time and less stress for animal thanks to Walk-Through Weighing System (Dynamic Mode)</li> <li>• Monitor livestock health</li> <li>• Evaluate breeding performance for genetic selection</li> <li>• Quick, easy and accurate weight monitoring thanks to EID/VID management</li> <li>• Full data collection and traceability</li> </ul>

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**For the Proactive Dairy Producer**

"With the precision feeding system mounted on the self-propelled feed mixer we recorded an average gain of 3.8 € cents per kg of milk produced. Before purchasing the system, silage analyzes were carried out at the opening of a new bunker. Nowadays analyzes are performed in real time at each silage load with remarkable precision gain."

After rainy events, we don't have to guess how to adjust the ration. The system does it and keeps the ration consistent. One of the most notable benefits of the precisionFEEDING system by Dinamica Generale is its ability to help maintain stable refusals. We consistently see between 2-5% refusals depending on the pens we are feeding".

Alessio Luppi is the Farm Manager of the Azienda Agricola Luppi, a 280-cow dairy farm located in Italy



**An Aid to the Nutritionist**

"I'm an independent nutritionist and feed advisor since 18 years, I regularly use X-NIR portable NIR Analyzer out in the field to instantly analyze forage and give the farmers decision-making capability straight away."

With DTM – Daily TMR Manager Software in Cloud I remotely log on to see exactly what is happening at the farm without having to be there. I'm able to keep an eye on what is going on in the bunkers and make changes according to the analyses taken by the NIR analyzer. I'm also able to keep track of the amount of dry matter intake per pound of milk produced. With feed costs where they are now, it is as important now as ever to get the most out of every pound of feed."

Nick Ridge is an independent Dairy & Beef Nutritionist in the UK



**Efficiency and productivity are decisive success factors for dairy farmers**

Says Chris Peck of Marks Farms: "Precision feeding assists us in making consistent rations - it takes the variability out and our milk production has increased"

"Adjusting DM on a real-time basis has resulted in using less forage while maintaining the target nutrient ratios, helping lower feed cost"

Rumen efficiency is improved, manure is more consistent and herd health is good"

"Refusals are easier to manage and we keep refusals in a 1-3% range"

On Marks Farms, the precisionFEEDING System had less than a three month payback

At Marks Farms, a 4,200-cow dairy near Lowville, New York, the precisionFEEDING™ system from dinamica generale® was utilized to determine its variability in adjusting forages for Dry Matter (DM) consistency on the fly.

