

NIR & OPTIC TECHNOLOGY



NIR

dinamicagenerale.com

TABLE OF CONTENTS

Introduction	3
EVONIR	4
AGRINIR	6
X-NIR	8
NIR trace	10
FIELD trace	11
NIR evolution	12
1. OEM	14
2. Contractor	15
3. Forage Harvester	16
4. Combine	18
5. Slurry Tankers	20
6. Forage Wagon	22
7. Baler & Compactor	23
8. Feed Mixer	24
9. Dairy & Feedlot Farmers	26
10. Feeding Companies	28
11. Growers	30
12. Alfalfa product chain.	32
13. Seeding Companies - cereal elevator	34
14. Sugar Cane Industry.	36
15. Olive oil production	38
Laboratories	40
NIR Calibration	42

Harness the power of NIR technology by Dinamica Generale for instant cost-effective Real time analysis

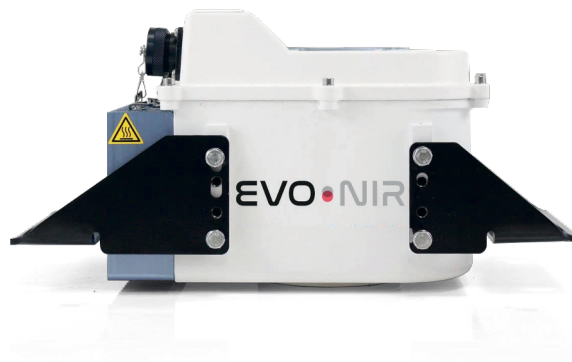
Dinamica Generale has developed NIR technology systems since the year 2000. Thousands of installations worldwide, vast on-site, real time analysis experience and internal calibration curves generation capabilities are the foundation of our success. Farm managers, nutritionists, biogas plant owners, growers and contractors, to name a few, are using Dinamica Generale NIR analyzers worldwide to make intelligent decisions and take immediate, effective actions to optimize profits and traceability from field to farm to fork.



EVO•NIR

Installed on agricultural machinery or in line in productions plants, EVONIR is capable of measuring dry matter, protein, starch, fiber, acid detergent fiber, ash, sugar, N, P, K and many other nutrients in real time with outstanding accuracy.

EVONIR is the most versatile NIR analyzer in the market as it can be mounted on forage harvesters, combines, balers, forage wagons, slurry tankers, compactors, feed mixers and portable in a carrying case (AGRINIR). EVONIR is already DLG certified for slurry (pig, cow and mixed) and digestate analysis.



Sensor	Sensor InGaAs, 256 pixels, with Peltier cooling
Spectral Range	950-1800 nm
Optic resolution	FHWM 6nm
Type of measurements	Diffuse Reflectance
Grade protection	IP69K
Communication	Wifi, 4G, Isobus, CanJ1939, Modbus
Software	Field Trace, DTM, NIR Evolution
Dimension	17 x 23 x 17h cm - 4 kg
Material	Anodised Aluminium - Military standard
Working Temperature	-10 / +50 °C (14 / +122 °F)
Power	12-32 v



**Full wireless
connectivity**



**Remote software
updates**



**Standard
communication
protocols**

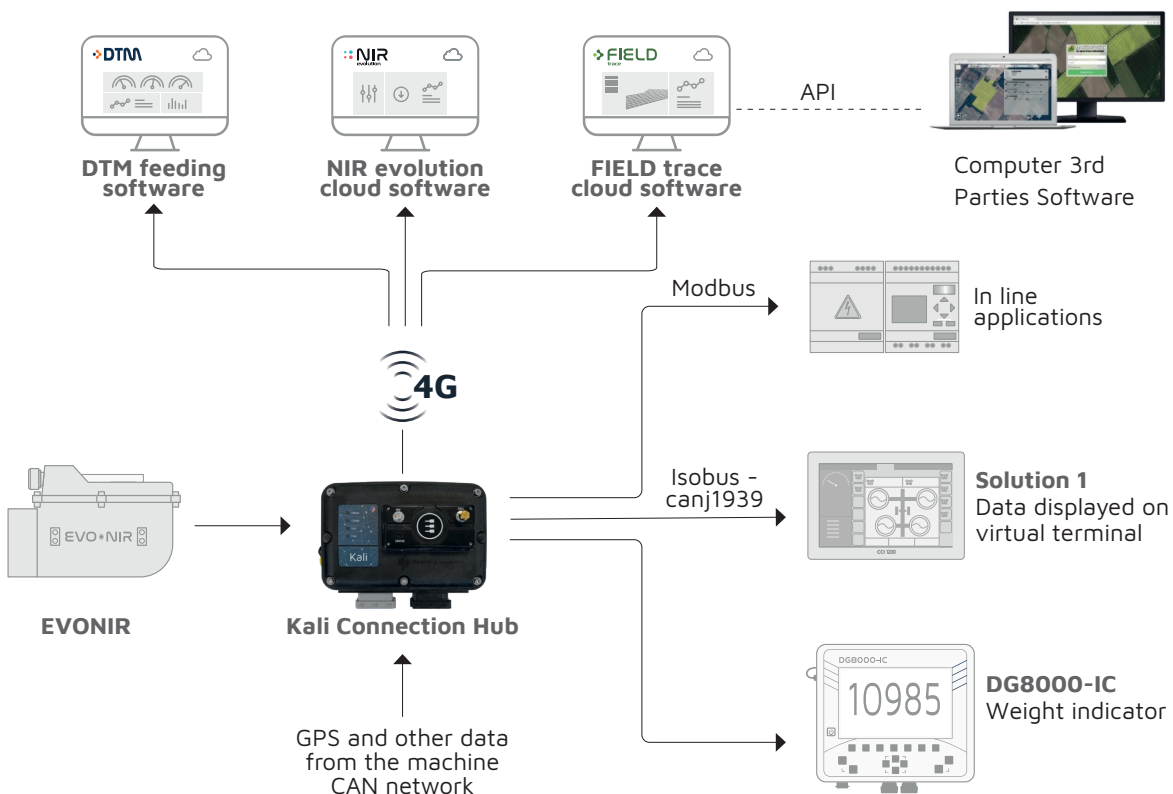


**Remote
serviceability**



EVONIR architecture

EVONIR has with built-in predictive engine based on machine learning technology boosts real-time predictions accuracy. This also enables the analyzer to collect large amount of data for remote monitoring and serviceability; Dinamica Generale IoT platform can detect performance of every analyzer thus delivering prompt alerts to customers worldwide. These new improvements are aiming to make life easier to customers reducing manual operations through the automatic transferring of application data and spectra, as well as automatic updates of firmware and calibrations curves.



AGRINIR

Your own lab on-the-go

AGRINIR is a NIR Analyzer for forages and slurry; a cutting-edge device designed to provide accurate and rapid on-site analysis of nutrients composition. This portable analyzer leverages Near-Infrared (NIR) spectroscopy technology to deliver real-time data, enabling farmers, nutritionists, and researchers to make informed decisions regarding livestock feeding and soil management.



Sensor	Sensor InGaAs, 256 pixels, with Peltier cooling
Spectral Range	950-1800 nm
Optic resolution	FHWM 6nm
Type of measurements	Diffuse Reflectance
Grade protection	IP33 - Sensor IP69K
Communication	Wifi, 4G, Serial
Software	NIR Trace, NIR Evolution
Dimension	50 x 31 x 46 cm - 20kg
Material	Case: ABS - Sensor Anodised Alluminium
Working Temperature	-10 / +50 °C (14 / +122 °F)
Power	110 - 220 Vdc, 12 - 18 Vdc lighter plug included



silages



hays



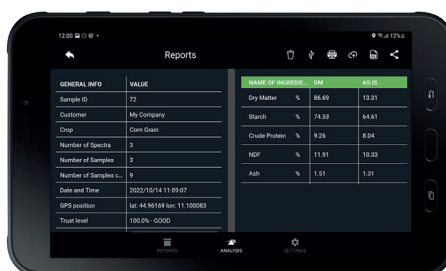
grains



slurry - digestate



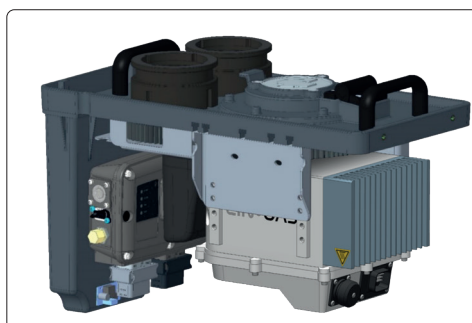
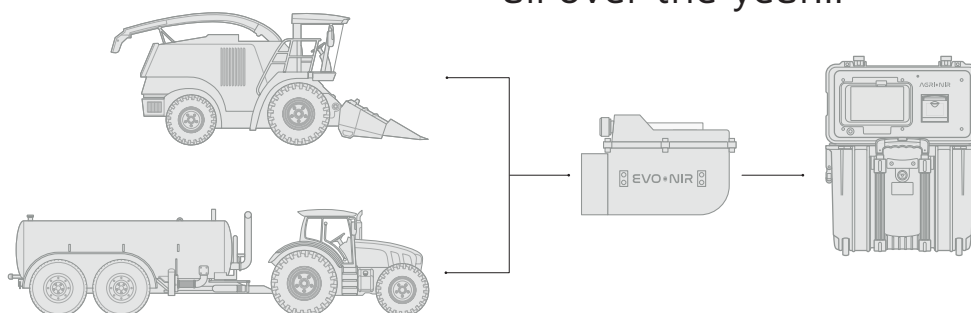
- App based for an improved UX
- Analyze forages, grains, slurry and digestate
- Automatic rotation of the samples
- EVONIR is DLG certified for pig, cow, mixed slurry and digestate
- Real time outlier identification
- Remote serviceability and calibration update
- Reports available directly on the APP: to be share via mail, whatsapp, etc
- 4G Modem integrated to exchange data with NIR trace and NIR evolution
- GPS antenna integrated to localize your sample
- More Powerful predictive engine based on last maths models



NIRreverse

NIRreverse is the one-stop solution to exploit the potential of NIR analyzers all year-round. When the harvesting-spreading season ends, harness the power of your NIR sensor for monitoring feed quality on-the go. Take off the sensor from the machine, put it on the trolley case and gain outstanding feed management with superior flexibility. Dinamica Generale introduced the concept of Reverse Engineering to the NIR sensor applied on agricultural machines.

all over the year...





Handheld NIR analyzer

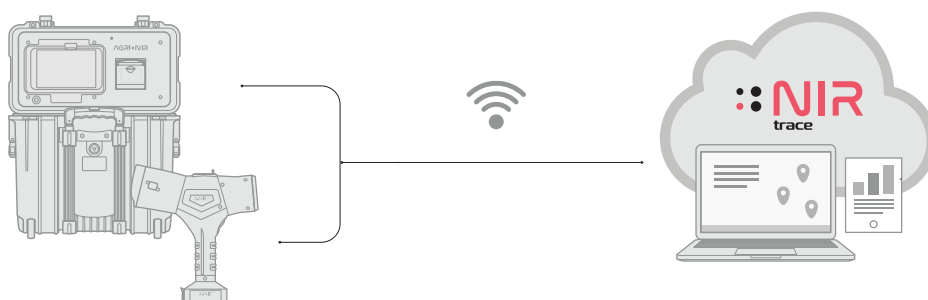
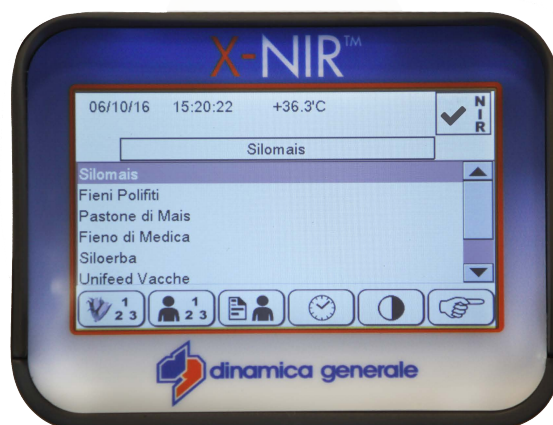
X-NIR Portable NIR Analyzer for Anywhere, Anytime grains and forages analysis. By taking NIR technology in field in the form of a portable, handheld NIR analyzer unit, such as the X-NIR, growers and contractors can obtain real-time results while reducing costs from third-party testing.

X-NIR takes lab-proven technology off the bench and makes it usable by non-scientists. Results are available within seconds, on-site, enabling nutritionists and farm managers to take actions and decisions to increase efficiency and IOFC.



Sensor	Sensor InGaAs, 256 pixels, temperature compensated
Spectral Range	950-1800 nm
Optic resolution	FHWM 6nm
Type of measurements	Diffuse Reflectance
Grade protection	IP 33
Communication	USB
Software	NIR Trace, NIR Evolution
Dimension	Case: 50 x 20 x 18 cm – 7,5 kg Analyzer: 30 x 26 x 12 cm – 1,6 kg
Material	PC- ABS
Working Temperature	0°C ÷ 40°C
Power	2x rechargeable Li-ion battery 3Ah 15V

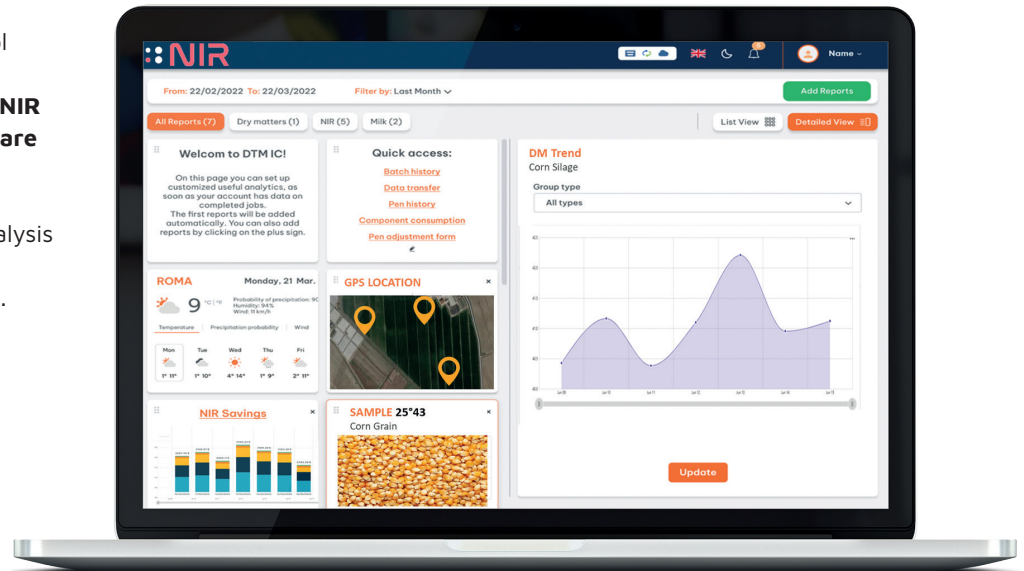




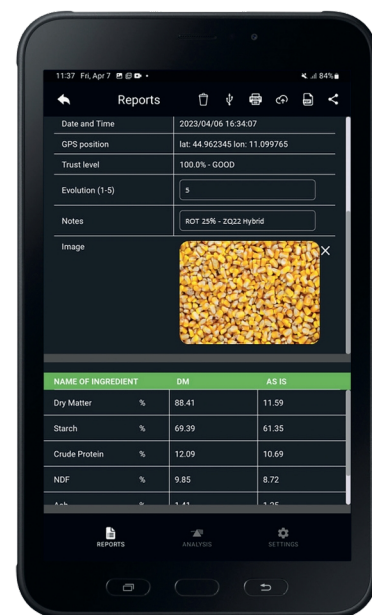
NIR Data processing



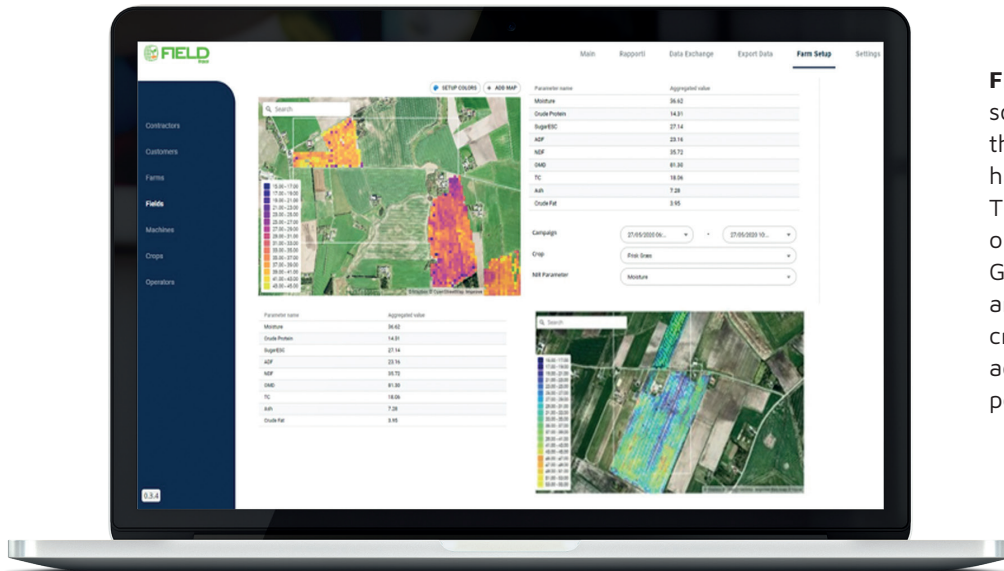
Keep under control changes in forage quality over time. **NIR trace cloud software** allows recording, organizing and presenting NIR analysis data coming from portable analyzers.



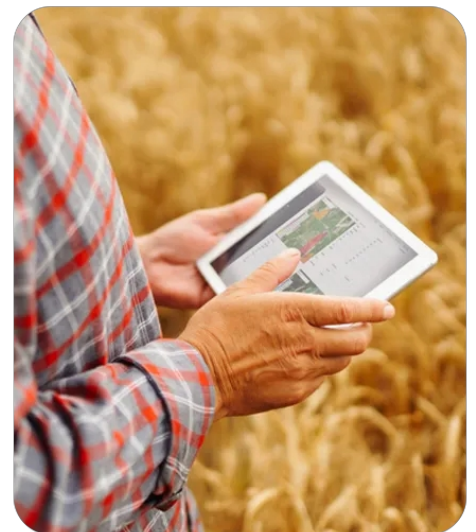
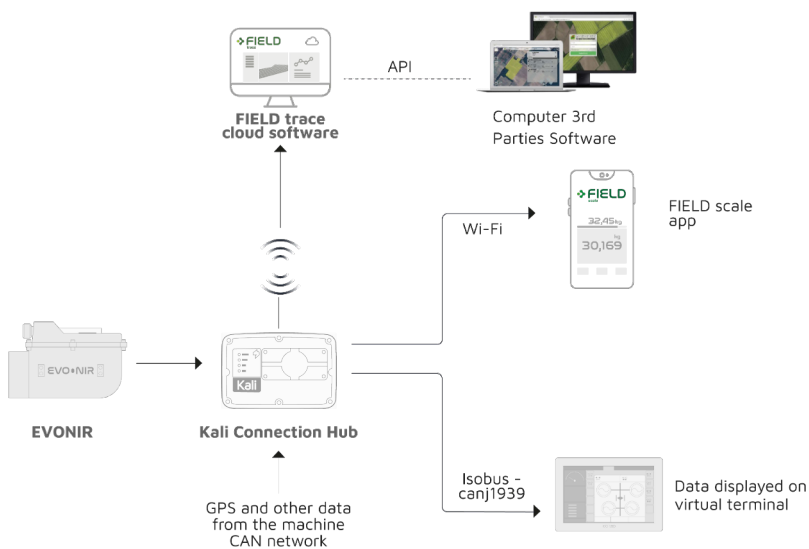
- Data exchange between portable NIR analyzers and NIR trace cloud software via 4G, Wi-Fi or USB
- NIR analysis history
- Real time Excel and PDF data analysis report
- Control multiple NIR analyzers with one NIR trace software
- Create and display multiple graphs
- Make every ration balanced and consistent by importing NIR analysis into the DTM IC feeding management software
- Keep control of your customer's data anytime anywhere



- +  Connectivity
- +  Traceability
- +  Analysis history



FIELD trace is the cloud-based software developed to digitalize the traceability of harvesting, handling, and transport operations. The platform collects and organizes data such as weight, GPS position, date, time, origin, and destination of each load, creating a complete and easily accessible history of all activities performed.



Through maps, reports, and information linked to each operation, FIELD trace makes it possible to accurately document the product journey from the field to its final destination, reducing manual data entry and improving process control. Integrated with Dinamica Generale weighing systems and FIELD scale, it connects the harvested quantity with its area of origin and destination, providing farmers, contractors, and operators with a clear and structured overview of the work carried out.



Mapping data



Yield data



Cloud based



Managing your NIR device with the NIR evolution cloud software makes your work more efficient and sustainable.

- **Quick and safe access to new calibrations update**

NIR evolution ensures that your instruments are using the latest calibration updates. This means better prediction accuracy and greater effectiveness from your time on-farm/in field. New calibration curves can be downloaded in your NIR analyzer wireless at any time.

- **Reliable predictions**

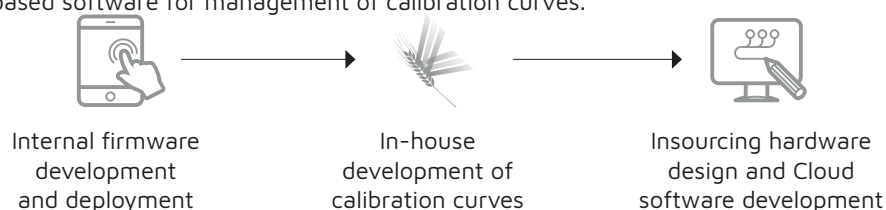
NIR evolution enables you to improve prediction performance of your NIR device. This remote monitoring and prediction improvement increases the performance of your daily analysis.

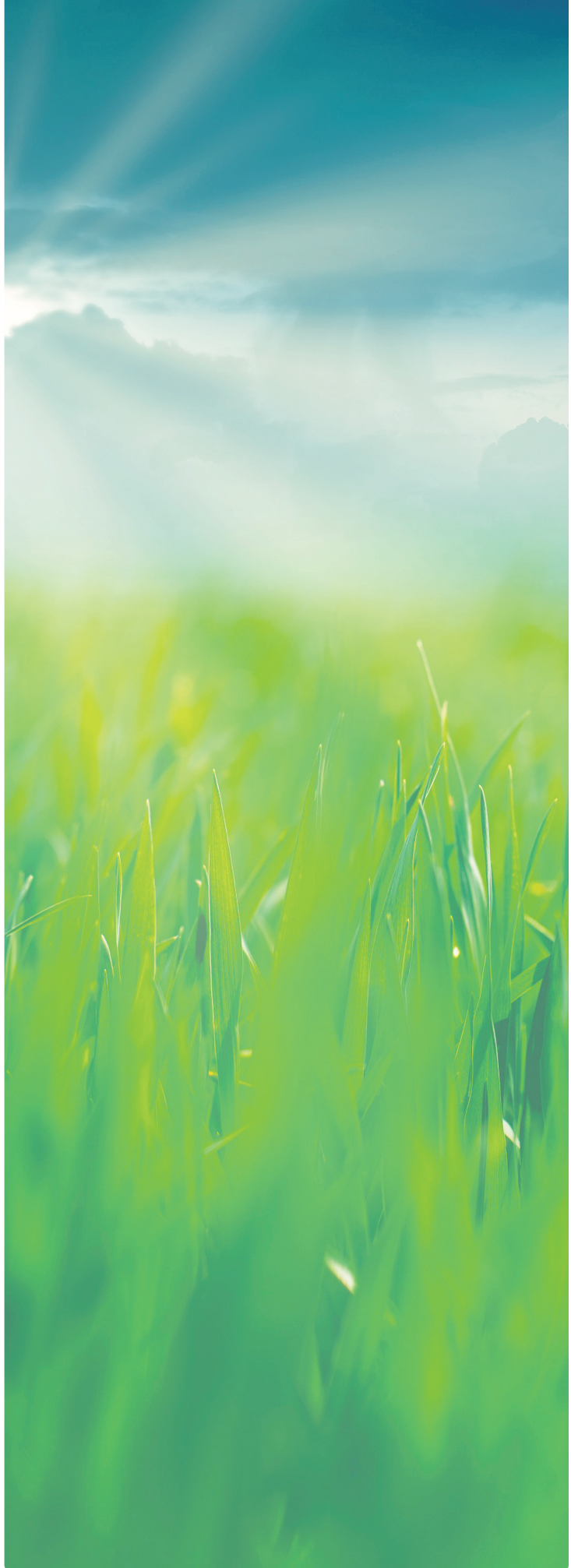
- **Save time and money**

By gaining control over sampling and predictions, feeding analysis becomes more efficient. This means no more time-consuming for lab analysis, no more lost documents.



- A team of world-class talented engineers and mathematicians focused on NIR research and development.
- Thousands of samples collected worldwide and partnerships with the main laboratories in 5 countries for the management of calibration curves.
- Exclusive patents on different applications: automatic adjustment of the target weight for feedstuffs and water on feed mixers, NIR and Imaging analysis on harvesting machines.
- In-house lab for extensive calibration curve creation capabilities.
- Cloud based software for management of calibration curves.



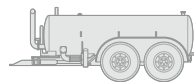
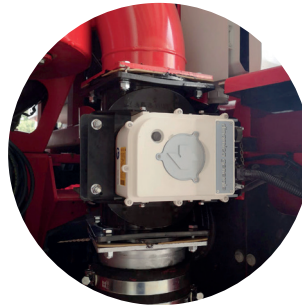


The way farmers, growers and contractors run their operations is changing. The installation of NIR sensors on OEM agricultural machines represents a **significant leap forward in enhancing agricultural efficiency**. From precise crop monitoring to optimal harvesting conditions, quality control, and data-driven decision making, **NIR sensors unlock a realm of possibilities for farmers.**



Connected machines, real time data-driven decisions are playing a key role in **enhancing productivity, profitability and sustainability**. Dinamica Generale precision agriculture solutions are designed to boost productivity, yields and quality.

- Precise Crop Monitoring
- Optimal Harvesting Conditions
- Quality Control and Sorting
- Data-Driven Decision Making



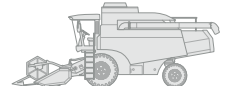
Slurry tanker

Slurry Tanker
Application Pack



Forage harvester

Combine
Application Pack



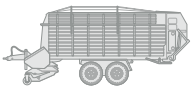
Combine

Forage Harvester
Application Pack



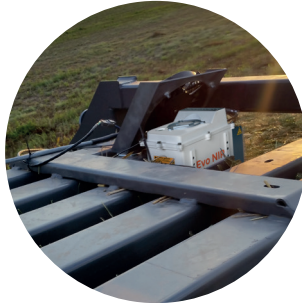


The use of NIR sensors on has the potential to **transform the way contractors operate in the agricultural sector**. By harnessing the power of NIR technology, contractors can achieve unrivaled precision, efficiency, and quality assurance. From enhancing decision-making processes to accurately estimating crop yield and ensuring optimal client satisfaction, **NIR sensors are a game-changer for contractors**.



Forage wagon

Forage Wagon
Application Pack

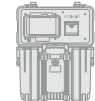


Baler

Baler
Application Pack



Feed mixer

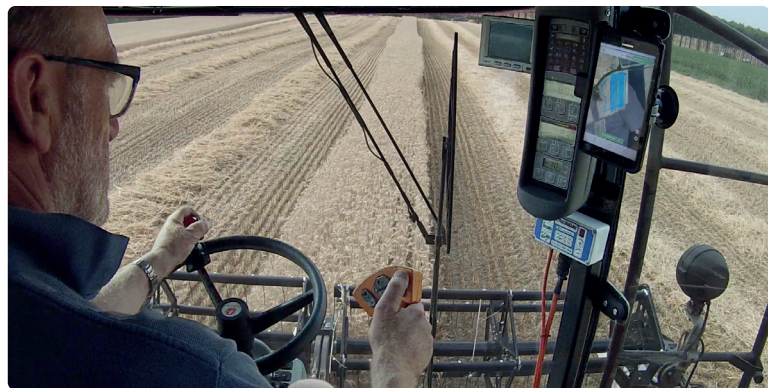


NIR Reverse

Feed Mixer
Application Pack



With the introduction of technology, the contractor is no longer just a provider of mechanical services but a **professional figure** capable of **bringing technology and knowledge into his work**. Contractors can now measure the value of their crop according to **precise real-time constituent's analysis**.



Discover our solutions

Quick and accurate measure right in the field for: green maize, green alfalfa, green grass, green triticale and earlage, for each ingredient, in addition to dry matter content, EVONIR predicts crude protein, starch, ash and fiber ADF/NDF, which are important nutrient factors in livestock feed.



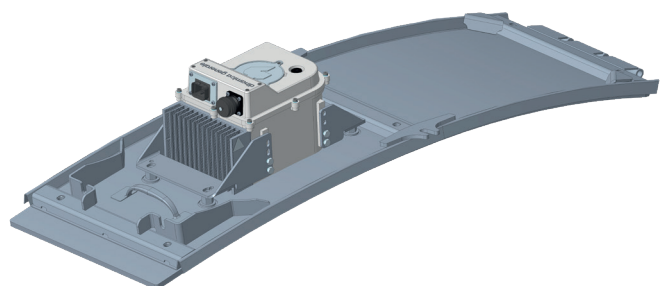
EVONIR, by analyzing the unique light absorption and reflection patterns of different forage components, provides contractors with a comprehensive understanding of the **nutritional content and moisture levels of the harvested crops**.

NIR sensors by Dinamica Generale **harnesses the power of near-infrared spectroscopy, enabling to gain valuable insights** into the composition and quality of forage in **real-time**.

- Fit all brands of forage harvesters
- Analyze the quality of the forage during the harvesting and create maps in real time
- Data visualisation on VT
- Transform the way farmers can manage their feed stock



EVONIR is installed on the spout of the forage harvester to detect valuable information in real-time during the work in the field.

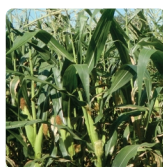


Integrate NIR and Yield data to generate heatmaps

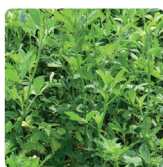


EVONIR sensors offers a range of benefits that enhance efficiency, quality assessment, and overall productivity in the field of forage production. Integrated into forage harvesters, it enables real-time assessment of forage quality parameters such as dry matter content, protein content, fiber content, and mineral composition. This instant analysis allows farmers to make informed decisions on feed formulation, ration planning, and livestock nutrition management.

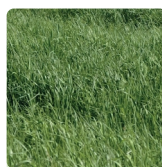
Some of the main crops that can be measured quickly and accurately right in the field with our calibrations:



Green maize



Green alfa alfa



Green grass



Green triticale



Earlage

Thanks to the **ISOBUS** and **CANJ-1939** communication protocols built into the EVONIR analyzer, **data can be viewed on a virtual terminal** which communicates wirelessly with the **FIELD trace cloud software**. The system was entirely developed by Dinamica Generale to **provide contractors with the best cutting-edge technology**.



NIR sensor applied to combine harvester **unleash its full power**. Designed to revolutionize the way contractors harvest, Dinamica Generale advanced sensors **offer unparalleled accuracy, efficiency, and productivity**.

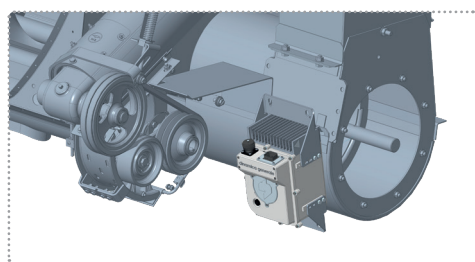


NIR sensor provided by Dinamica Generale offers **unparalleled efficiency, improved crop monitoring and enhanced harvesting operations**, enabling contractors and agriculture professionals to elevate precision farming practices to **new levels of success and profitability**.



Integrate EVONIR sensor technology into combines and **revolutionises the way to harvest and manage crops**.

- Real-time crop analysis
- Yield mapping and quality assessment
- Data visualisation on VT
- Data driven decision, take the guesswork out



EVONIR is installed on the grain elevator to analyse the material properties at the point of maximum flow

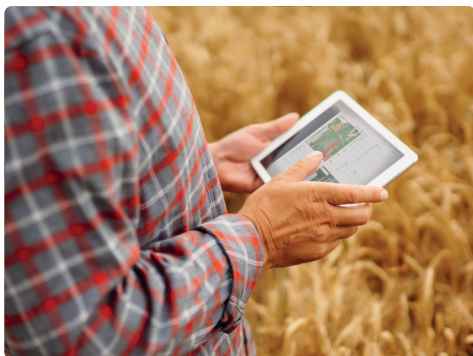
Plot harvester

With the vision to **revolutionize precision agriculture**, NIR sensors provided by Dinamica Generale offers a **revolutionary approach to optimize agricultural processes**, enabling farmers and researchers to achieve unprecedented levels of efficiency, accuracy, and productivity.



EVONIR, thanks to its compact design and the handling of different I/O protocols, can be installed on any make of plot harvester and grazing system, making it the **best NIR analyzer available today for research agriculture**, capable of allocating NIR analysis information to the respective plot and storing the data.

With EVONIR sensors seamlessly integrated into the machine, revolutionize the way to harvest and monitor crops, improving harvesting efficiency, and enhance overall productivity. Display data analysis on virtual terminal thanks to **ISOBUS** and **CANJ-1939** built in communication protocols, **on tablet with FIELD track app**, which communicates wirelessly with the **FIELD trace cloud software**.

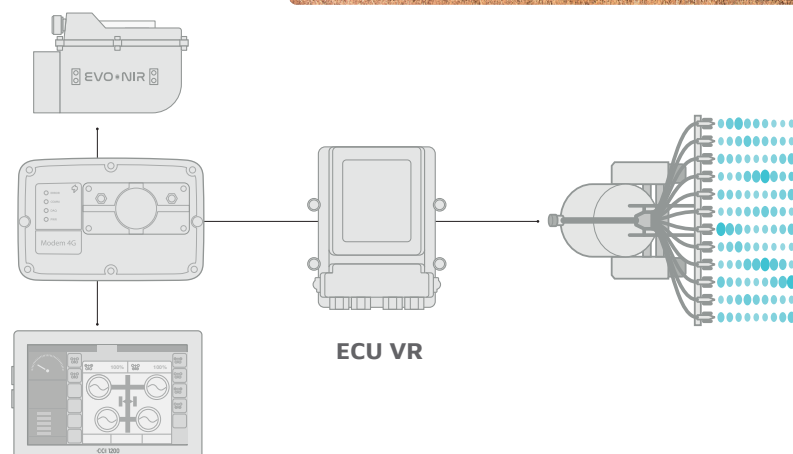


- +  Accurate crop analysis
- +  Non-Destructive Testing
- +  Rapid Data Collection
- +  Remote Sensing Capabilities
- +  User-Friendly Interface
- +  Compatibility and Connectivity

5. | Slurry Tanker

Real time N, P, K analysis for cow slurry, pig slurry, mixed slurry and digestate

With the aim of achieving a **circular economy** and a sustainable agriculture, livestock manure must be considered as a valuable nutrient to maximize the yield and reduce emissions. Thanks to real time **NIR analysis** and **variable rate application** systems is now possible to easily define the target value of a specific fertilizer element and automatically control the flow to reach the target spread factor.



Thanks to real time NIR analysis and **variable rate application systems** is now easy to define the target value and automatically control the flow or the speed to reach the target spread factor

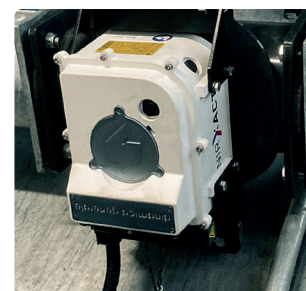
Fit all models of slurry tanker



Drag-hose



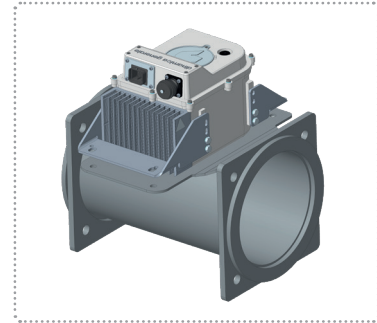
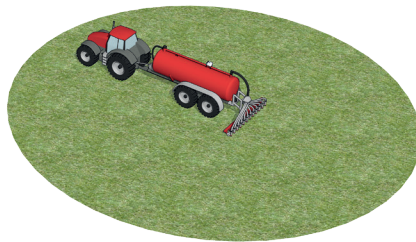
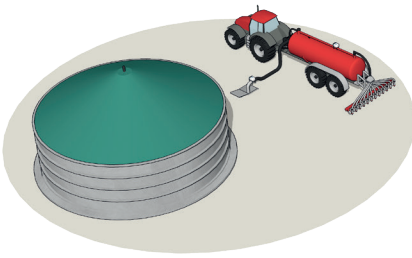
Self-Propelled



Trailed

Considering the increase in prices of chemical fertilizers, slurry and digestate are more and more an important resource in the fertilization process. Contractors, Growers and farmers can now rely on EVONIR analyzer for smooth, reliable operations and precise applications of slurry according to pre-determined crop nutrient requirements and regulations

EVONIR can be used both in stationary mode during the filling of the slurry tanker's or during the spreading in field.



Biogas plant

NIR analyzers offer a valuable toolset for biogas plants, enabling efficient and effective monitoring, analysis, and optimization of the biogas production process. By identifying variations or deviations in feedstock quality, operators can quickly adjust the process parameters to maintain optimal conditions. This leads to improved efficiency, increased biogas production, and enhanced overall plant performance

1. Digestate analysis before filling the slurry tanker
2. Incoming material analysis to pay provider based on DM values and not just on KGs

- +  Variable rate spreading
- +  Quality Maps
- +  Precise fertilizing



EVONIR sensor installed on a forage wagon allows to **monitor and analyze the quality of forage materials**, such as hay, silage, or other animal feed. Forage wagon can be equipped with NIR sensor only, weighing systems **or both NIR sensors and weighing systems**.



The system equipped with NIR sensor measures the **exact amount per cargo and per lot** and data collected on site, can be read right in the field with the terminal **in the cab of the tractor**.



NIR sensors provide **real time analysis of the chemical composition and nutritional value of forage materials**, those helpful data can be stored in cloud and used as **useful insight for a precise fertilize process**.

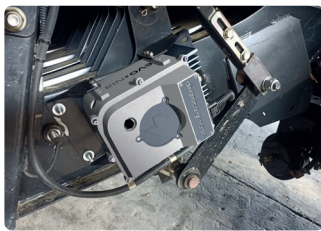
To convert the dry matter and nutrients measured by the NIR sensor into kilograms of dry matter to determine the gross yield, **the forage wagon can be equipped with load cells**.



7. | Baler & Compactor



Analysing the moisture and nutrients in bales is more and more becoming of paramount importance. Through detailed analysis, **farmers can know the moisture content of each individual bale** and with this information they can optimise the baling process and **ensure bale quality**.



The system provides **information about each individual bale**: weight, nutrients, location, being able to make an assessment of the bale based **on its quality**. This translates into **complete traceability, food safety** and **animal health**, because knowing the fodder means **better nutrition and increased production**.



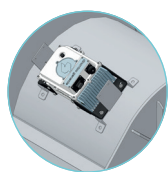
- + Measure right in the field
- + Integrated system
- + Crop health monitoring
- + Process optimization
- + Feedstock valorisation



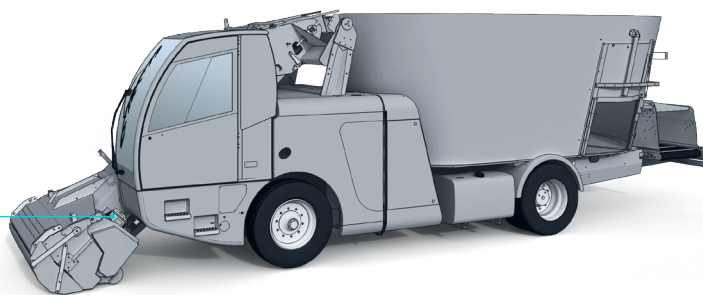
- EVONIR can be installed in **square-round balers** and in **compactors**
- Forage quality under control
- Improve future treatments



OEM manufactures can add a great value to their customers providing not «just» a mixer but a « precision feeding solution »



NIR FOR SELFPROPELLED

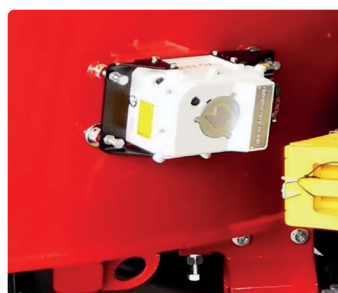


EVONIR measures **in real time** dry matter and key nutrients (protein, ADF, NDF, ash, crude fat, starch, etc). The system recalculates in real time the weight to be loaded based on the real dry matter measured, to ensure a **consistent ration**. All data are stored in the DTM cloud feeding software.

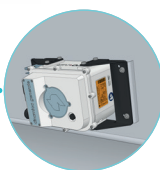


Find out more
on DG precision
feeding solution

- Increasing milk production thanks to a correct management of feeding process
- Management of forages variability (weather conditions)
- Management of the refused level
- Improvement of cows health behaviour



NIR ON TANK



Find out more
on NIR on tank

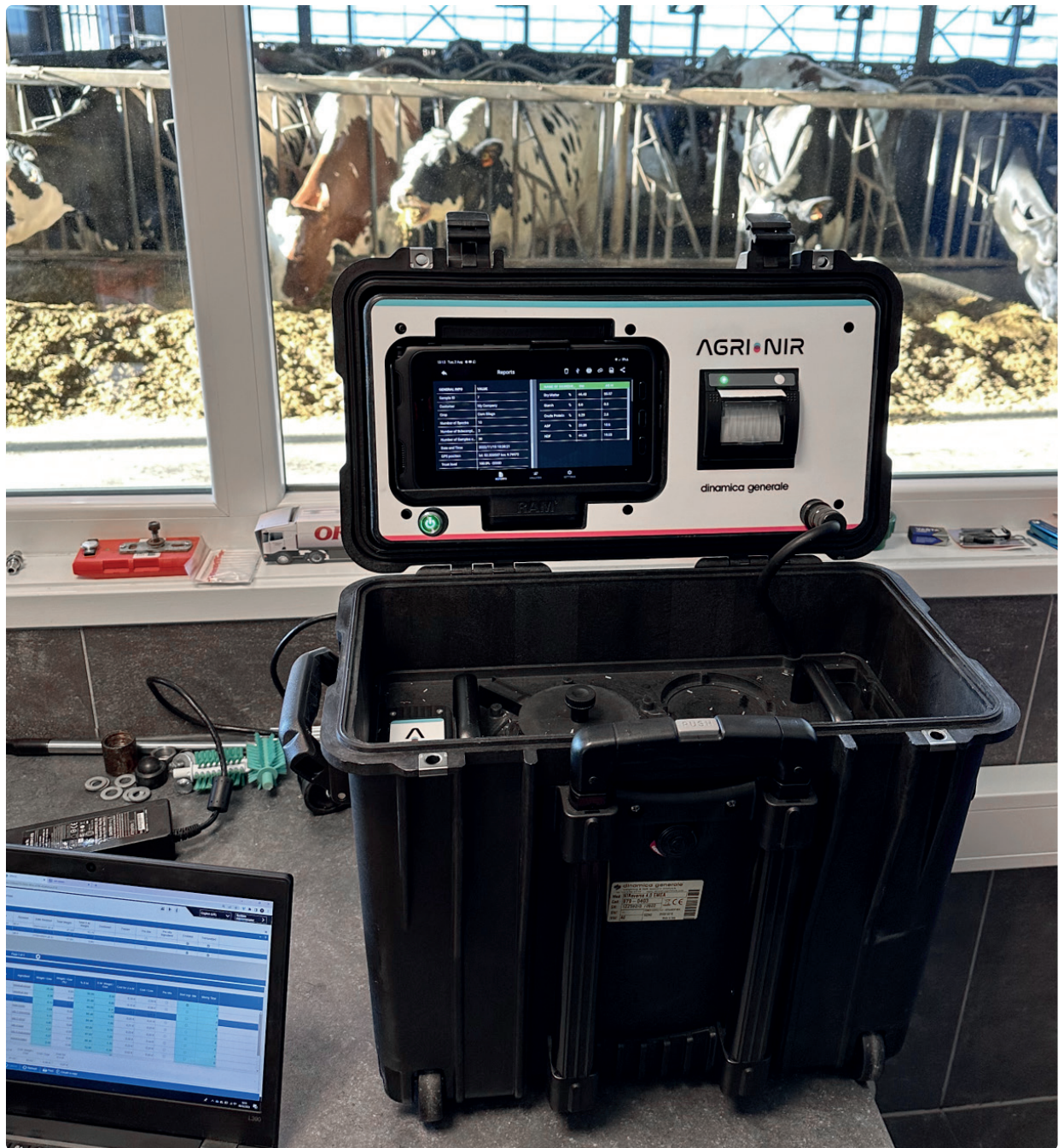
EVONIR installed on the tub of the feed mixer can continuously monitor the quality of the mixture. Real time analysis with adjustment guarantees an homogenous and constant TMR in line with consultants formulation.

- Homogeneity index
- Define the correct time to stop mixing
- TMR Analysis
- H2O adjustment

+  Real time
analysis

+  Control forage
variability

Consistent and predictable feed quality is top of mind for today's dairy and beef farmers. Dinamica Generale's technologies are developed to provide farmers with the most advanced technology for monitoring, measuring and ensuring the quality of feed within each phase of animal nutrition process.





Feed optimization: Portable NIR analyzers can analyze the nutrient composition of feed and forages. Farmers can determine the nutritional value of various feed ingredients, enabling them to formulate balanced diets for their livestock. This optimization can lead to improved milk production and cost savings

On the spot analysis: X-NIR and AGRINIR allow farmers to make a real time analysis. This eliminates the need to send samples to a lab and wait for results, enabling farmers to make timely decisions and take immediate actions based on the NIR analysis.

Management decision making: data driven approach helps optimize overall farm operations, improve animal health, and increase profitability.

- +  Component analysis when purchasing
- +  Ration analysis
- +  Constant control of ration components

10. | Feeding companies

The use of NIR can offer **several advantages for nutritionists and feeding companies which work with dairy cattle**. NIR analyzers provide fast results, allowing nutritionists to obtain **real-time information** about the nutritional composition of feed and forage samples.

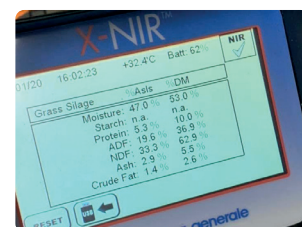


Dinamica Generale **provide the perfect toolbox for nutritionist** for feed sampling, testing and ration adjustment in real-time.

Through the use of NIR technology applied to handheld instruments, **it is possible to perform analyses on forage direct in the barn**. Thanks to this system, sampling and analysis in the laboratory are not necessary. X-NIR and AGRINIR sensors provides **reliable results in real time**, thus **reducing analysis and response times**.



- Real time Multi-component analysis
- No laboratory tests needed
- Delete sampling process
- On site analysis
- Accurate analysis



Grass Silage		Asile		DM	
Moisture:	47.0 %	n.a			
Starch:	n.a	10.0			
Protein:	5.3	36.9			
ADF:	19.5	62.9			
NDP:	33.3	5.5			
Ash:	2.9	2.6			
Crude Fat:	1.4				

With NIR analyzers provided by Dinamica Generale, sample collection to be sent to multiple laboratories for subsequent analysis **is not needed**. Instead, **it is possible to use the tool on the feed ingredients**, assessing their quality at various points and acquiring reliable, instant, and **on-site** data at the farm.



NIR analyzers can simultaneously measure multiple components in feed and forage samples, including **moisture content, starch, protein, fiber and fat**.

Portable NIR analyzer provided by Dinamica Generale **are made for direct use also at the feed trough**, as it possesses the capability to assess the accurate implementation of the feed portions and their uniformity. Consequently, this ensures the **company's operational efficacy** and **eliminates significant disparities among animals of the same herd**.



- +  Forage and silage analysis
- +  Tmr analysis
- +  Feces analysis



11. Growers

NIR analyzers enable real-time monitoring of forage quality during harvesting and storage. By assessing the nutrient content, growers can determine **the ideal time to harvest** and the appropriate storage conditions.

This information helps to preserve the nutritional value of the forage and reduce losses due to spoilage or deterioration. It also helps in planning forage inventory, ensuring an adequate supply throughout the year.



- EVONIR installed on harvesting machines allows a georeferenced real-time analysis; by combining NIR data with yield data it is possible to create prescription maps to optimize fertilization process based on variable rate applications.
- Check the quality of grains and forages allows to certify the quality of the production chain

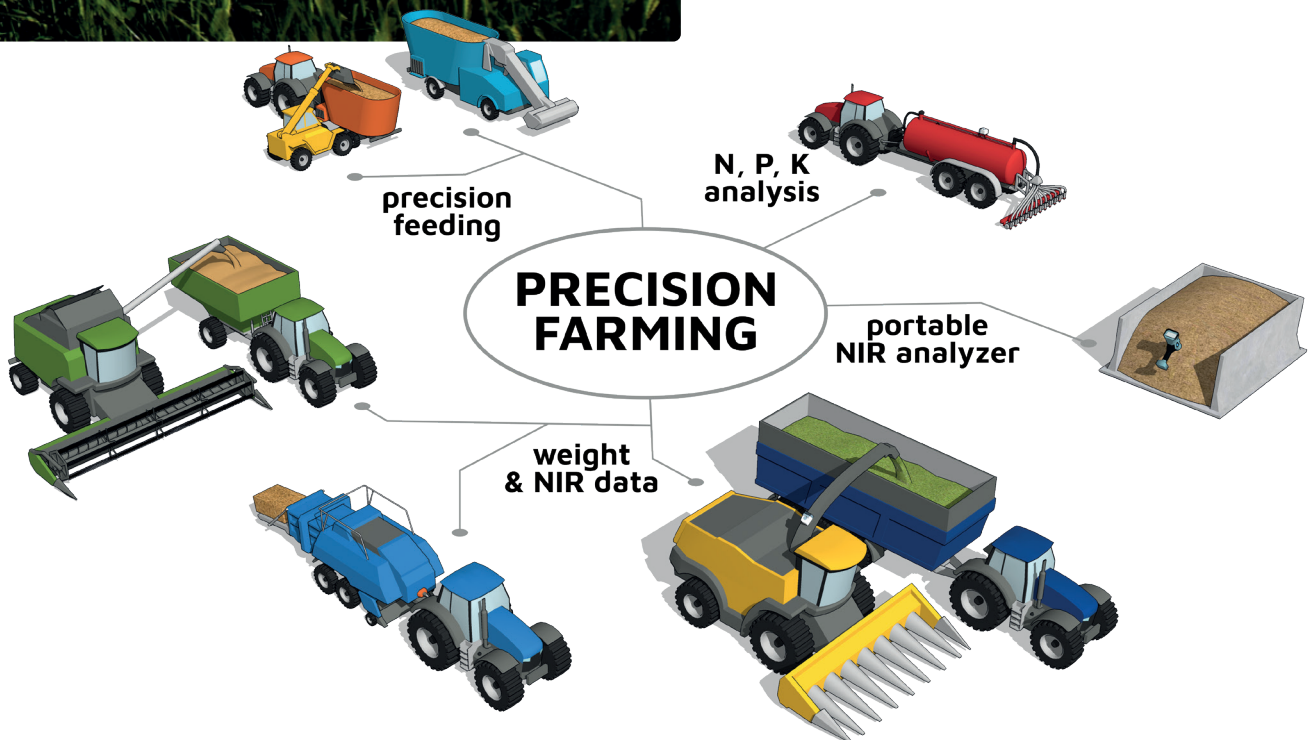
+  crop quality always under control

+  control variability to reduce waste





Increasing agricultural productivity:
Revolutionise agricultural growth and yields with NIR analysers for growers



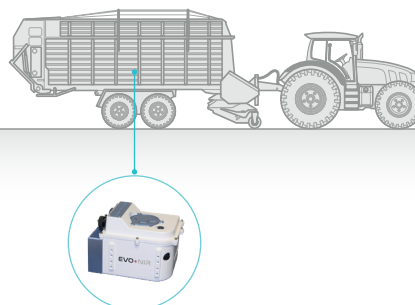
12. Alfalfa production chain

NIR technology in alfalfa production chain can help to optimize decision-making, enhance efficiency, and improve overall product quality, ultimately benefiting both farmers and livestock producers involved in the industry.



Thanks to EVONIR real time analysis connected via modbus to the plant's PLC is possible to automatically control the temperature of the rotary drum; reducing the fuel consumption while improving Alfalfa dehydration process control. As well is possible to check and tag the quality of each single bale. With Portable analyzers is possible to:

- Classify incoming alfalfa and store it according to its quality
- Fast and reliable analysis on the key nutrients (proteins, fibers, etc) on bales/pellets



Real time analysis during harvesting



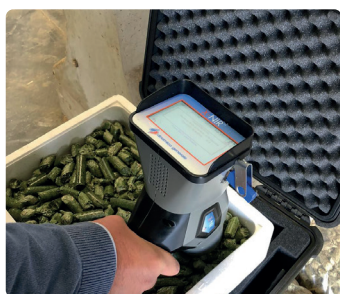
Find out more
on DG precision
feeding solution



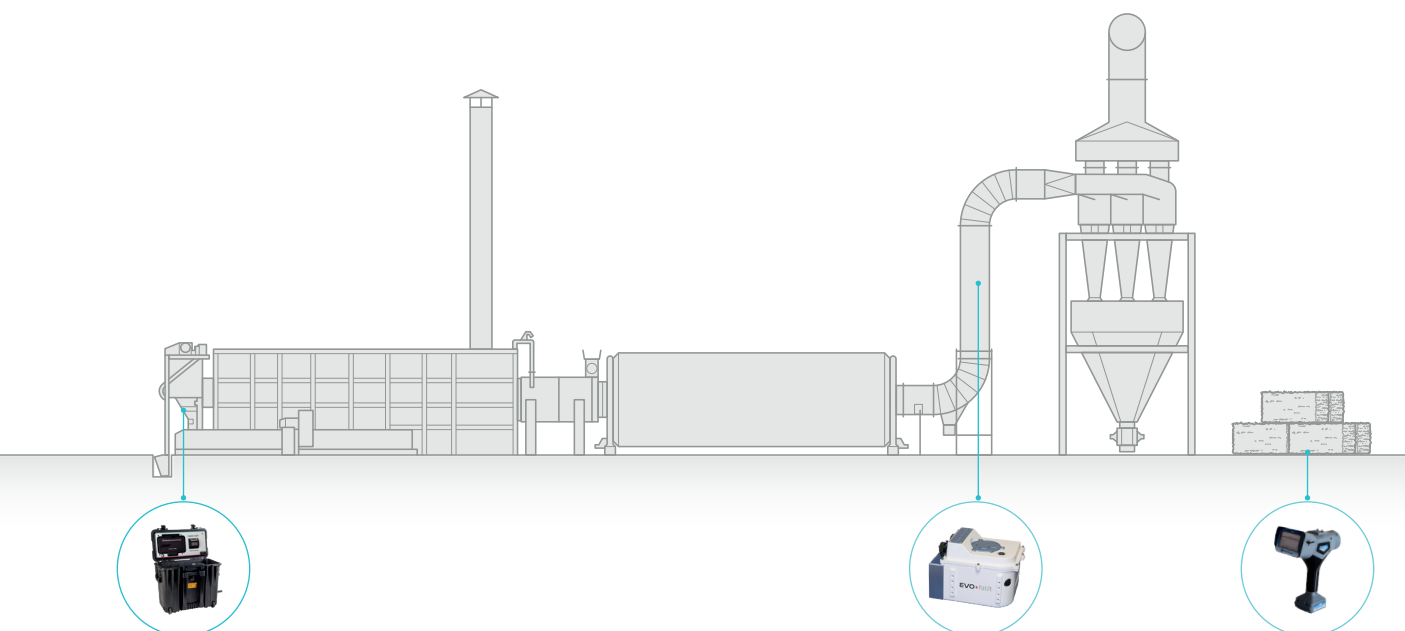
X-NIR



EVONIR



NIR Analyzers: Transforming the Alfalfa Production Chain with Enhanced Efficiency and Quality



Incoming material analysis

Analysis during drying process

Bales/pellet analysis

13. Seeding companies - cereal elevator

Portable NIR analyzers can be used to assess the quality of incoming grains. Thanks to real time and no destructive analysis is possible to quickly determine parameters like moisture, protein, fat, fiber, and other key nutritional components.



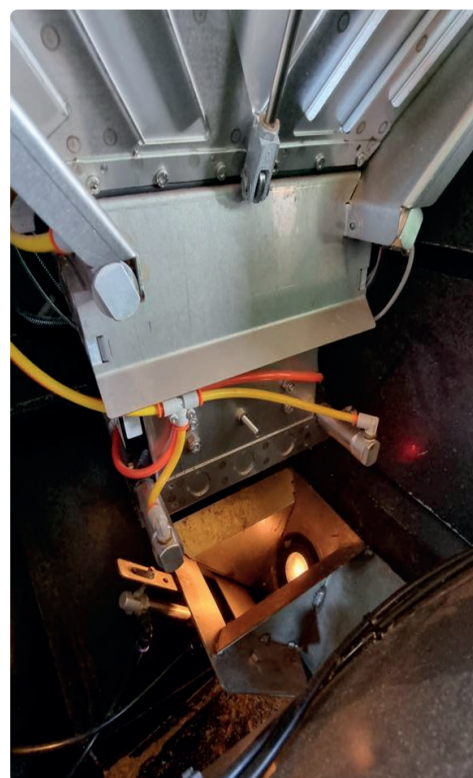
- **Stock** grains based on quality
- Use the NIR data for payment purposes
- Guarantee the **traceability** of the product throughout the food chain



EVONIR can be integrated into the production line via Modbus protocol to continuously monitor key parameters and optimize the drying process



Find out more on
DG solutions for
cereal elevator





Enhancing Efficiency and Quality in Cereal Production: Harnessing the Benefits of Dinamica Generale NIR Technology



All analysis can be stored NIR trace cloud sw to keep track of all data and generate detailed reports to be shared with providers or customers

Seeding companies can benefit of AGRINIR and X-NIR for:

- Test different hybrids
- Define the right moment to harvest
- Provide an additional service to their customers by also analyzing the silage

NIR analysis in the sugar cane industry offers rapid and cost-effective analysis, reducing the need for time-consuming and expensive laboratory tests. It helps in achieving better process control, optimizing yield and quality, and ultimately enhancing the profitability of sugar cane processing operations.

Raw material control

X-NIR used directly in field can ensure the quality of incoming material by analyzing the stem of the cane. Results for multiple parameters of sugar cane such as pol, brix etc are delivered within seconds. Data can be used to pay growers based on sugar cane quality.

Process Control

Process monitoring and control: NIR analysis can be integrated into online systems for real-time monitoring of sugar cane quality during different stages of production. This allows for prompt adjustments and optimization of process parameters, leading to improved efficiency and product consistency.



	Total solid content (Brix)	Sucrose content (Pol)	Fiber content (F)	Purity (Q)	ARC
SUGAR CANE	•	•	•	•	•
Defibrated cane	•	•	•	•	•



Dinamica Generale portable and online analyzers can be used to estimate the sucrose content in sugar cane. Thanks to dedicated calibration curves, sugar mills can rapidly assess the sucrose levels in cane samples, enabling better control of extraction and processing parameters.



Maximizing profitability in sugar cane processing: with rapid and on-site NIR analysis

15. Olive oil production

Dinamica Generale provides innovative analytical solutions for the **traceability from field to the olive mill**. Is possible to analyze the the quality of whole olives for oil and moisture without sample preparation and as well the paste and pomace for oil depletion to get the most from the production process with the least amount of valuable resources. The analysis is done using portable or in-line equipments providing real time data to act in the production processes.



Analysis of incoming olives

Thanks to EVONIR installed on the loading hopper or to the AGRINIR portable analyzer, it is possible to know the potential yield of your olives.

- Define the purchase price not only on quantity but also on quality
- Real-time data for proactive decisions
- The data can be consulted in the NIR trace sw to monitor the quality of the products of the different suppliers thanks to intuitive reports and KPIs



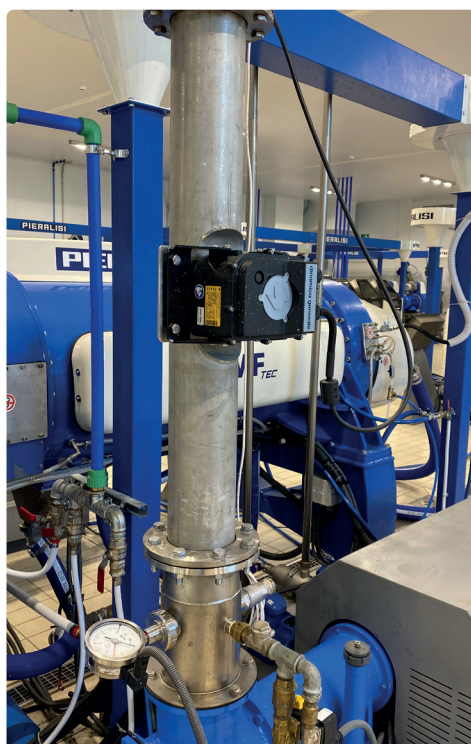
	Moisture	Fat	Acidity
Pomace	●	●	
Paste	●	●	
Patè	●	●	
Olives	●	●	●



In Field analysis

EVONIR installed directly on harvesting machines allows to analyze olives in real time and therefore to know the yield of each olive grove.

- Define where to allocate the harvest of each plot
- NIR results can be displayed on the VT
- The analysis data and yield maps can be consulted in the cloud mapping software: FIELD trace



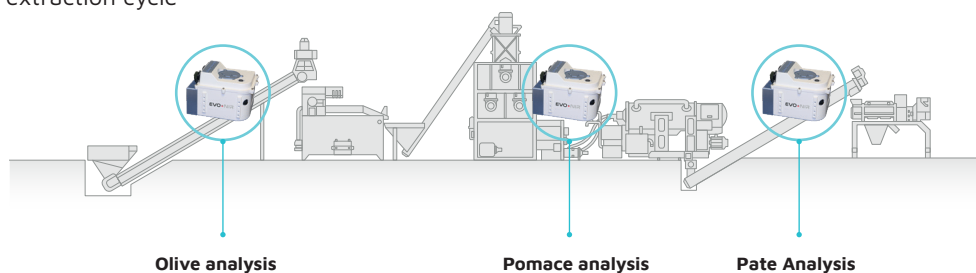
Analysis of olive husk and pomace

Determine residual oil in pomace without wasting valuable oil content.

- Real time results results on residual oil % in olive's pomace/paste
- EVONIR thanks to modbus protocol built in can be integrated with the PLC of the plant to act in real time in the production processes

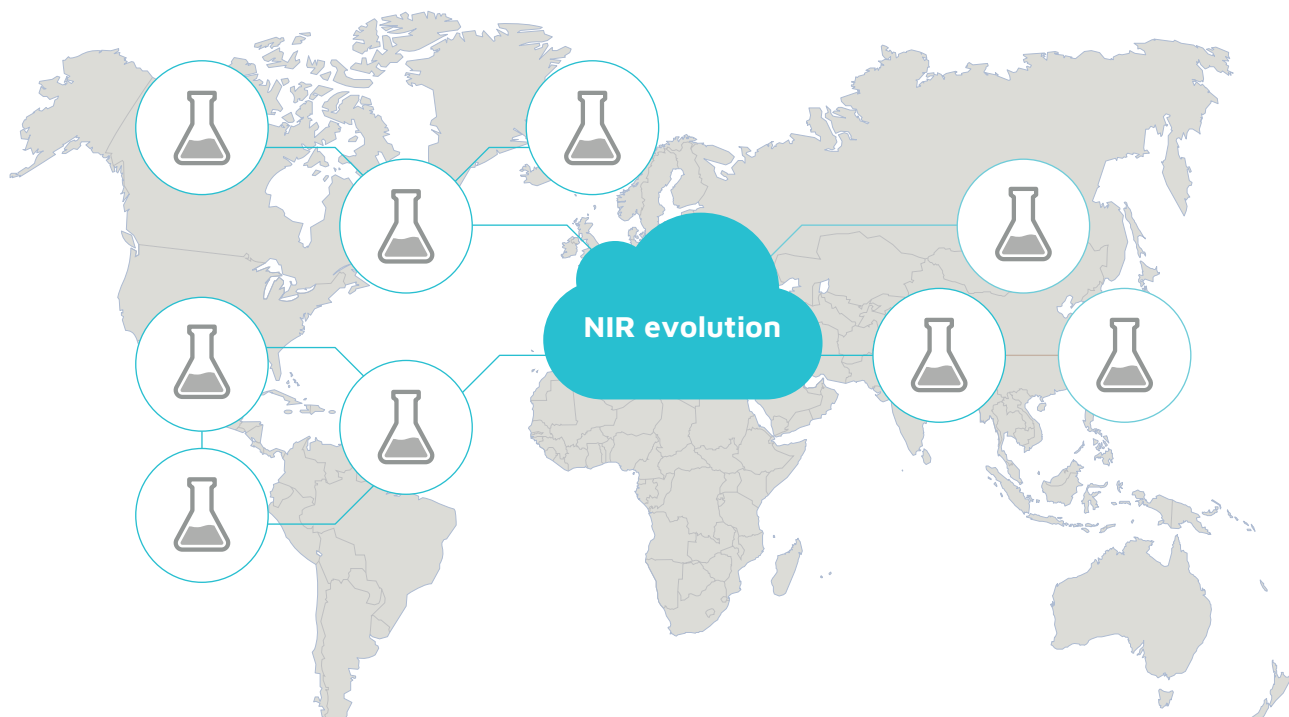
DATI DI LAVORO			
ID campione:	2	Nome	Val
Comp.:	IRM-Pate	SS	38.69 [%]
ID NIR:	13	RG	63.40 [%]

End to end solution for the olive oil supply chain: from the incoming olives up to the oil extraction cycle



Laboratories

In Dinamica Generale, we can count on a laboratory with thousands of reference samples and with the most advanced technologies for testing, analysis and development of predictive models



with the aim of keeping our NIR analyzers at maximum performances, we have established partnership with world wide network of certified labs



Certified analysis by leveraging chemical lab.
Network for Dinamica Generale NIR
analyzer calibration



NIR CALIBRATION

TRUSTWORTHY NIR CALIBRATIONS. GET BETTER RESULTS.
SIMPLY.

Decades of experience and know-how in NIR technology gives worldwide users the opportunity to choose GLOBAL Calibrations, usable everywhere and a comprehensive database of LOCAL country specific calibrations that enable to customize even further each NIR analyzer developed by Dinamica Generale.

HAY & SILAGES

NIR Family	Moisture	Starch	Crude Protein	Fiber ADF	Fiber NDF	Ash	Crude Fat
Corn Silage	●	●	●	●	●	●	●
Dry Grass Hay	●	×	●	●	●	●	●
High Moisture Corn	●	●	●	●	●	●	●
Dry Alfalfa Hay	●	×	●	●	●	●	●
Grass Silage	●	×	●	●	●	●	●
Dairy Cows TMR	●	●	●	●	●	●	●
Alfalfa Haylage	●	×	●	●	●	●	●
Sorghum Silage	●	×	●	●	●	●	●
Triticale Silage	●	●	●	●	●	●	●
Rye Silage	●	×	●	●	●	●	●
Oat Hay	●	×	●	●	●	●	●
Barley Silage	●	×	●	●	●	●	●
Wheat Silage	●	×	●	●	●	●	●
Wheat Hay	●	×	●	●	●	●	●

GREEN FORAGES

NIR Family	Moisture	Starch	Crude Protein	Fiber ADF	Fiber NDF	Ash	Crude Fat
Wheat Green Forage	●	×	●	●	●	●	●
Green Maize	●	●	●	●	●	●	●
Green Grass	●	×	●	●	●	●	●
Green Alfalfa	●	×	●	●	●	●	●
Green Triticale	●	●	●	●	●	●	●
Green Rye	●	×	●	●	●	●	●
Green Barley	●	●	●	●	●	●	●
Green Sorghum	●	×	●	●	●	●	●
Zero Grazing	●	×	●	●	●	●	●

GRAINS

NIR Family	Moisture	Starch	Crude Protein	Fiber ADF	Fiber NDF	Ash	Crude Fat
Corn Grain	●	●	●	×	●	●	●
Wheat Grain	●	●	●	×	●	●	●
Barley Grain	●	●	●	×	●	●	●
Whole Cotton Seed	●	×	●	●	●	×	●
Soybean Grain	●	×	●	●	●	●	●
Oat Grain	●	●	●	×	●	●	●
Rapeseed Grain	●	×	●	●	●	●	●

SLURRY - DIGESTATE

NIR Family	Moisture	N	P205	K20	NH4
Cow Slurry	●	●	●	●	●
Pig Slurry	●	●	●	●	●
Digestate	●	●	●	●	●
Pig&Cow Mix. Slurry	●	●	●	●	●



discover the
complete list of
available calibration



DINAMICA GENERALE S.p.A.

Via Mondadori, 15 - 46025 Poggio Rusco MN - ITALY

dinamicagenerale.com



Rev. 5