



BUCHI NIR Portfolio

Quality Control Solutions from Field to Distribution

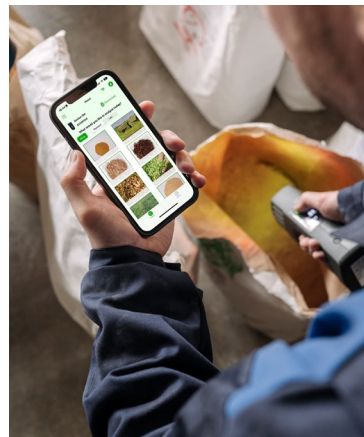




Rapid Insights into Your Value Chain

Instant, reliable analysis anywhere you need it

Imagine being able to see the quality of your raw materials, mixes, or finished products instantly, without sending samples to the lab. That's the advantage of Near Infrared (NIR) spectroscopy. It delivers fast, precise, and cost-efficient analysis with only minimal preparation. In just seconds, you have access to key parameters that help you make smarter decisions, ensure product consistency, and improve efficiency throughout production.



Seamless quality control

From farm to distribution

Comprehensive quality control is possible throughout the entire process, from the initial inspection of raw materials to the final quality checks of finished products. BUCHI NIRsolutions™ meet specific needs across the food, feed, and ingredient industries, ensuring smooth integration into everyday workflows.



Insight-driven decisions

Increased speed and efficiency

BUCHI NIRsolutions™ deliver instant, reliable insights into key quality parameters. With this knowledge at your fingertips, you can decide on the spot whether to accept raw materials, adjust a process, or release a batch. These smarter, faster decisions improve consistency, reduce waste, and strengthen your value chain.



Data centralization

Enhance visibility and collaboration

Manage your entire value chain with full traceability across all sites and teams. The NeoSpectra® platform brings all data into one place in real time, turning it into clear, actionable insights. With a secure cloud portal, you can share models and results seamlessly between units and factories, enabling system-wide monitoring and smarter collaboration.

Why BUCHI NIR?

Because confidence starts with clarity



Tests are required at various locations across the organization

Quality control is no longer confined to the lab. When decisions are delayed or data is inconsistent due to disconnected workflows, the entire process feels the impact—lost time, wasted materials, and missed opportunities. That's the reality across today's complex value chains.

BUCHI's NIR ecosystem solves these challenges by delivering precise devices tailored to every point in the value chain and by providing a centralized platform that connects teams, data, and decisions.

Whether you're aiming to:

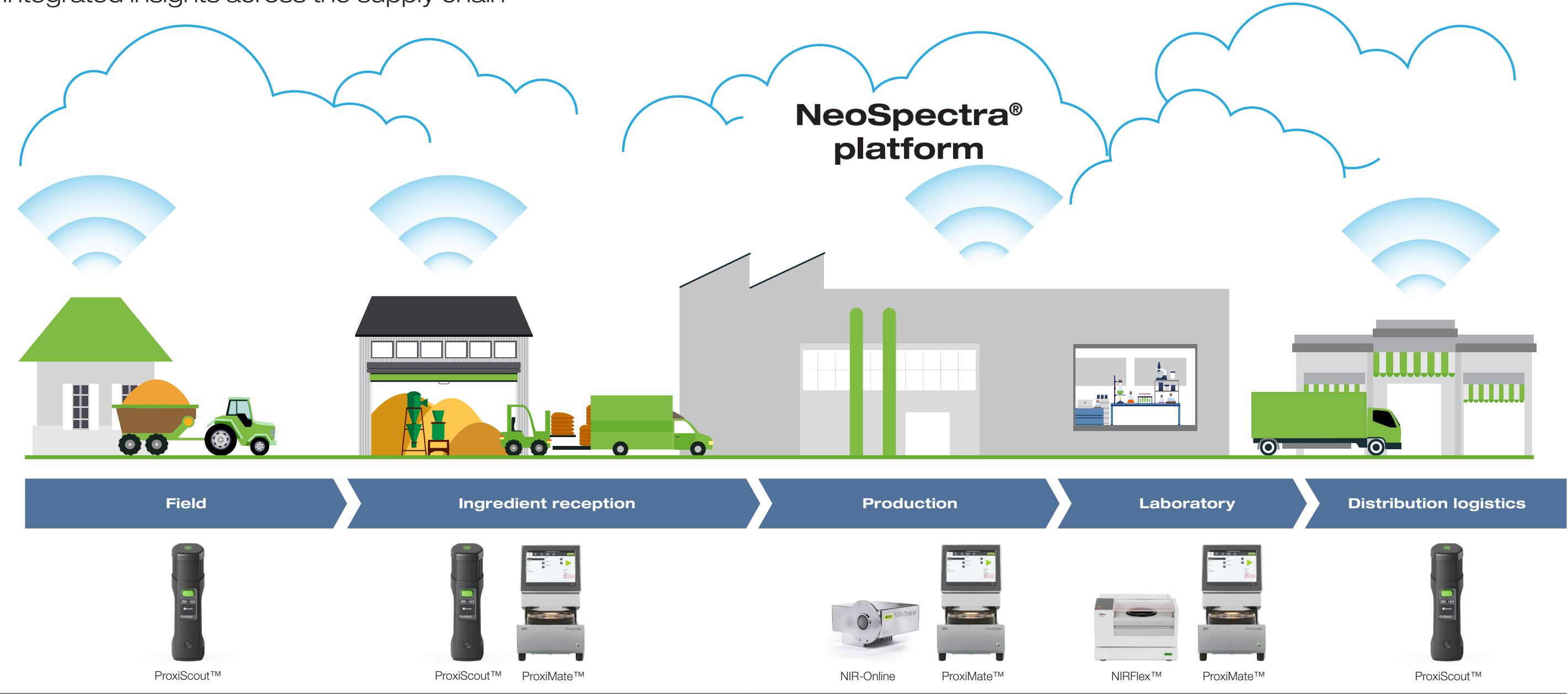
- Catch issues before they enter production.
- Empower field teams with instant analysis.
- Maintain consistency across production sites.
- Seamlessly integrate into digital systems.

BUCHI NIRsolutions™ are built to support you today and into the future. From in-field assessments to in-process monitoring and final product validation, you gain speed, consistency, and visibility to take action when it matters most.

One partner. One platform. Total confidence in every measurement.

End-to-End Quality Control

Integrated insights across the supply chain



Versatile Food and Feed Applications

Enabled by ready-to-use calibration models

	Grains & flours	Oilseeds & oils	Dairy	Meat & meat products	Herbs & spices	Coffee & tea	Fruits & vegetables	Feed
								
Parameters	Moisture, protein, ash, starch, and gluten.	Moisture, fat, free fatty acids, fiber, ash, phosphorus, iodine value, and peroxide value.	Fat, protein, lactose, moisture/dry matter, adulteration, total nitrogen, total solids, pH, and color.	Moisture, protein, BEFFE/CTP, salt, ash, pH, color.	Moisture, adulteration, blend composition, oil content.	Caffeine, sensory attributes, roasting degree and type.	Dry matter, acidity, ethylene, ripening, and maturity index.	Moisture, protein, fat/oil, fiber, ash, color.

Why It Matters

Benefits for the food industry

- Improve production consistency for better profitability.
- Perform instant quality checks on raw materials.
- Optimize recipes to reduce costs without compromising quality.
- Adapt production processes to maximize output and efficiency.
- Validate product quality during production stages.

Benefits for the feed industry

- Ensure incoming ingredients meet contract specifications.
- Achieve nutritional targets in feed formulation.
- Balance nutritional value and cost-efficiency.
- Minimize waste and re-work.
- Streamline formulation processes.



ProxiScout™

Instant NIR analysis, anytime, anywhere

ProxiScout™ enables field operators to make fast, data-driven decisions exactly where needed. It combines lab-grade performance with a robust, portable design and intuitive mobile apps. A range of optional accessories is available to expand capabilities for any sample type without compromising accuracy.



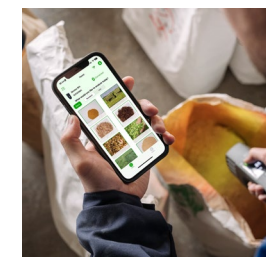
Portable and easy to use

Handheld, lightweight, and ergonomic. Built for one-handed field operation with minimal training. Intuitive mobile apps guide users through every step, even offline.



Lab-grade performance

Despite its size, ProxiScout™ delivers validated accuracy across a wide spectral range (1350–2550 nm) for multi-parameter results on par with benchtop devices.



Instant analysis & validation checks

Get real-time readings of material composition or on-the-go pass/fail conformity checks where materials are sourced, received, or shipped.

Use case examples

- **Pre- and post-harvest quality checks:**

Check moisture, starch, and protein in the field.

- **Reception & dispatch:**

Test ingredients and finished goods for composition and conformity without lab delays.

- **Feed nutrition:**

Ensure on-site nutritional specs align with formulation targets.

- **Logistics:**

Confirm product quality at loading or delivery to reduce returns.



ProxiMate™

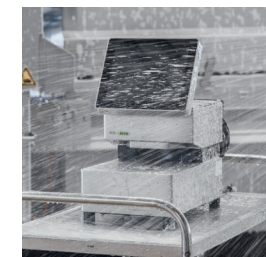
All-in-one quality checks

ProxiMate™ is a robust, compact at-line NIR instrument designed for effortless use in production. It features a glove-friendly touchscreen and a Down-View configuration for use with glass-free sample cups. The AutoCal feature for autonomous calibration development ensures reliable results regardless of operator expertise.



Built for hygienic environments

With a waterproof design, IP69 ingress protection, and materials that meet strict industry and FDA standards, ProxiMate™ delivers reliable results right at the production line, even after intensive cleaning.



Versatile configuration for diverse analyses

Whether you're using glass-free metal or plastic sample cups, measuring heterogeneous or liquid samples, or extending into the visible range for color analysis and improved calibrations, ProxiMate™ offers the right configuration to meet your analytical needs.

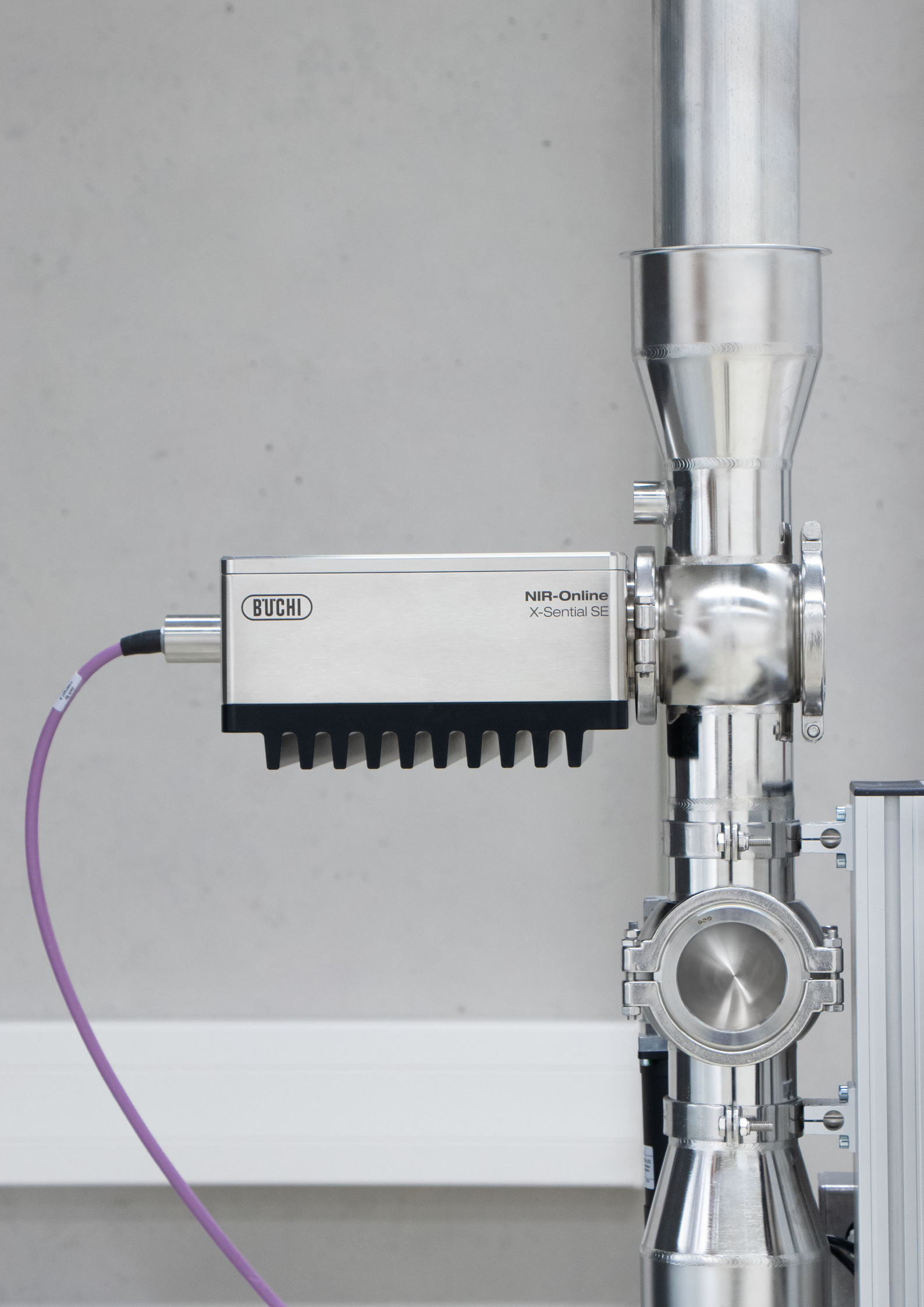


Ready-to-use solution

With an integrated PC and touchscreen, ProxiMate™ requires minimal setup. Simply place it in the desired location, and it is available immediately—no additional equipment or waiting time necessary.

Use case examples

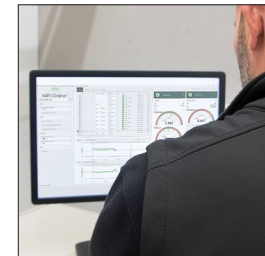
- **Raw material and processed food analysis:**
Simplified analysis and calibration with a library of pre-calibrated applications and the AutoCal feature.
- **Simultaneous quality and color checks:**
Efficient simultaneous analysis (for example, assessing consistency and redness levels in meat).
- **Pet food production:**
The IP69-rated ProxiMate™ is perfectly suited for pet food manufacturing facilities. AutoCal facilitates easy calibration across production steps and recipe variations.



NIR-Online Sensors

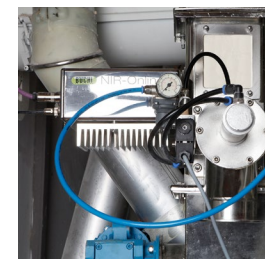
Real-time insights for maximum process efficiency

Maintain peak production efficiency with robust NIR-Online sensors that integrate seamlessly into your Process Control System (PCS). Benefit from expert support during commissioning and achieve safe operation with ATEX-certified options. The AutoCal feature for autonomous calibration development ensures long-term calibration stability.



Real-time in-line insights

Measure moisture, protein, fat, and other essential components continuously and directly on the production line, enabling real-time insights for immediate decisions.



Proactive process control

Optimize processes such as drying, mixing, and separation before issues arise to reduce waste, avoid costly rework, and consistently meet quality standards.



Built for every line

Choose from various sensor types, process interfaces, and accessories designed specifically for food and feed production, including applications in mixers, grinders, mills, extruders, or dryers, and over conveyors.

Use case examples

- **Raw material sorting:**
Automatically separate ingredients based on composition—for example, moisture or protein levels.
- **Blending optimization:**
Precisely control ingredient ratios in real time in compound feeds or bakery mixes.
- **Drying process control:**
Accurately track moisture during drying processes for pet foods, cereals, or pellets, reducing energy costs and preventing over-drying.
- **Reduce reworks and material losses:**
Quickly detect products that fall outside specifications early in the production process.



NIRFlex™ N-500

Reliable precision and compliance for NIR analysis

Enhance your quality control, R&D, or contract laboratory operations with rapid, reliable, and fully compliant data. The versatile NIRFlex™ N-500 adapts to diverse sample types and workflows through dedicated measurement cells and flexible accessories, while meeting stringent regulatory standards.



Robust FT-NIR performance

Achieve highly precise, accurate measurements across the full NIR range (900–2500 nm) using advanced FT-NIR technology. Its polarization interferometer technology ensures vibration-resistant, stable, repeatable results.



Simplified regulatory compliance

Ensure effortless compliance with GMP guidelines and FDA 21 CFR Part 11 using NIRWare software. Automated performance verification with built-in reference standards, together with installation and operational qualification (IQ/OQ) documentation, further simplifies regulatory adherence.



Powerful, flexible software

Build robust prediction models and achieve superior data quality with powerful chemometrics software. Effortlessly transfer calibrations across your network to maintain flexibility tailored to your analytical requirements.

Use case examples

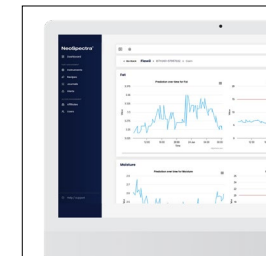
- **Primary calibration hub:**
Develop robust calibrations and easily transfer them to other instruments across your network.
- **Final product release and labeling:**
Rely on the instrument's precision, accuracy, and regulatory compliance to validate and label finished products with confidence.
- **Formulation screening:**
Efficiently screen and analyze new product formulations, accelerating R&D processes and ensuring consistent quality standards.



NeoSpectra® Platform

Streamlining cross-functional collaboration

The NeoSpectra® Platform is BUCHI's central cloud hub, connecting your NIR devices, data, and calibration models in one place. It empowers your entire organization with synchronized, transparent access across workplaces, locations, and even continents, creating a truly unified ecosystem for quality control and decision-making.



Centralized data workflows

Centralized data management gives you immediate visibility, advanced analytics, and dashboards to make swift, data-driven decisions. Seamless data integration and a user-friendly interface simplify accessibility and reporting. In the field, operators can analyze trends and set pass/fail criteria to make conclusive decisions on the spot.



Unified calibration model management

Seamlessly integrate calibration data at every stage to support cross-platform workflows across devices, teams, departments, and locations within your NIR ecosystem. Our tools simplify model deployment, version tracking, and real-time file sharing, helping teams collaborate efficiently across a range of NIR devices.



Data security and connectivity

End-to-end data and application security complies with ISO/IEC 27001:2022. Efficient data exchange with external systems is configurable via optional API connectivity, so you stay secure while connecting to the tools you already use.



From Field to Distribution

How a global feed producer unified quality with NIR

A global feed manufacturer sourcing high volumes of corn from multiple suppliers faces challenges with inconsistent raw material quality, delayed lab results, and fragmented data across field, production, and QC teams.

With BUCHI's full NIR ecosystem in place:

- In the field: farmers use ProxiScout™ to scan moisture and protein pre-harvest, enabling early lot segregation and optimized harvest timing.
- At intake: warehouse staff use ProxiMate™ for rapid at-line checks of incoming corn, rejecting out-of-spec deliveries before production.
- During processing: plant operators rely on NIR-Online sensors to monitor formulation and moisture in real time, keeping product specs consistent and reducing waste.
- In the lab: quality specialists use NIRFlex™ N-500 for high-precision analysis and ongoing calibration refinement.
- At distribution: logistics teams use ProxiScout™ to verify product quality at outbound loading, confirming compliance before shipping.

All field and process data is synchronized through the NeoSpectra® Cloud Platform, giving quality, procurement, and production teams shared access to real-time results, model updates, and centralized insights.

The result

- Faster lot qualification reduces truck idle time and bottlenecks.
- Fewer rejected batches through real-time mixing adjustments.
- Streamlined data sharing across global teams.
- Significant cost savings by minimizing rework and lab overload.

With BUCHI NIR, decisions become proactive, and quality becomes a shared, competitive advantage across the business.

Product Overview

Choose the right solution for your needs



ProxiScout™



ProxiMate™

Workplaces	Field, Incoming Inspection, Production, Logistics	Incoming Inspection, Laboratory, At-Line
Application	In-Field/Harvest Analysis, Raw Material Analysis, Batch Analysis, Final Quality Control, Spot Checks	Raw Material Analysis, Batch Analysis, Final Quality Control
Configuration and Accessory Options	Rotator Kit, Liquid Analysis Kit, Powder Analysis Kit	Up-View, Down-View (for glass-free environments, FlowCell for liquid samples
IP Class	IP65	IP69
ATEX	-	-
NIR Wavelength Range (nm)	1350–2550	900–1700
Optional Visible Wavelength Range (nm)	-	400–900
Spectrometer Technology	FT-NIR	Diode Array
Pre-Calibrated Applications/Models	Yes	Yes
AutoCal	-	Yes
Measurement Time	10–60 s	15 s
Liquid Measurements	Transflectance	Transflectance
GMP Compliance	-	-



NIRFlex™ N-500



X-Sential™ SE
X-One/X-Three

Incoming Inspection, Laboratory	Automated Incoming Inspection, In-Line/On-Line
Identification and Qualification of Raw Materials, Final Quality Control, Labeling	Raw Material Analysis, Segregation, Process Control, Final Product Control
Solids Cell, Liquids Cell (temperature-stabilized, transmission), Fibre Optics Solids Cell	Flange (for Hoppers, Chutes, Mixers, etc.), Pipe Adapters, Overbelt, Bypass, XL-Feeder, X-Square.
-	IP69 (X-Sential™ SE), IP67 (X-One/X-Three)
-	Dust Ex, Gas Ex (X-One/X-Three only)
900–2500	900–1700
-	400–900
FT-NIR	Diode Array
Yes	Starter Data Sets
-	Yes
30–60 s	Continuous (X-Sential™ SE: 20 spectra/s; X-One/X-Three: 50 or 100 spectra/s)
Transflectance/Transmittance	Transflectance
Yes	-

Core messages to our customers

BUCHI creates added value

“Quality in your hands” is the guiding principle that shapes our philosophy and our actions. It challenges us to provide outstanding services that are precisely tailored to your needs. This means that we must stay in close contact with our customers. That is why we keep in touch and continue to work very hard to understand you and your business even better.

We help you by providing high-quality products, systems, solutions, applications and services that offer you added value. This allows you to focus entirely on your processes and your work.



Competent

We have the technological expertise and decades of experience needed to provide competent support and work with you to continually improve our services.



Reliable

We guarantee the quality and functionality of our equipment and will continue to help you quickly and efficiently whenever something does not operate to your satisfaction.



Safe

By collaborating closely with you, we do everything in our power to make our products, systems, solutions, applications and services as safe as possible for people and the environment.



Cost-effective

We strive to create a high level of economic benefit and maximum added value for you.



Global

As an international family-owned business with own subsidiaries and qualified distributors, we have a presence wherever you are located.



Easy

We support you by providing carefully designed solutions as well as instruments and systems that are easy to operate.



Sustainable

We support environmentally friendly processes and manufacture products that have a long service life. We utilize advanced technologies to leave the smallest environmental footprint possible.

We are represented by more than 100 distribution partners worldwide.
Find your local representative at:

www.buchi.com

Quality in your hands

