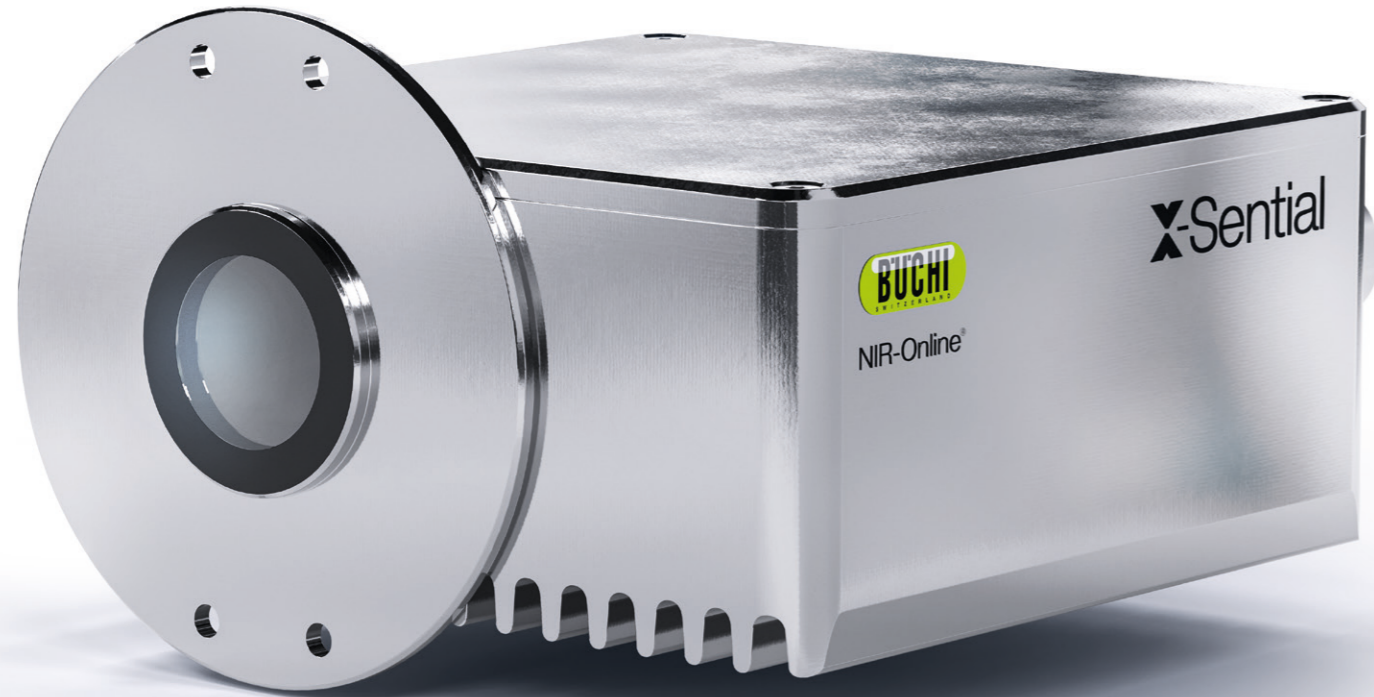**BUCHI**
SWITZERLAND

NIR-Online®

X-Sential™
All that is essential for process control

X-Sential™
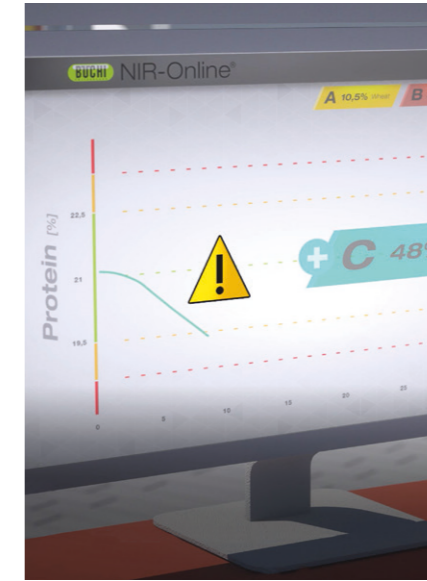## All that is essential for process control

Closely monitoring basic parameters such as moisture, fat, or protein is crucial to correct deviations in manufacturing processes. The X-Sential™ has been developed and designed to be a high-value, cost-efficient, and fit-for-purpose process sensor.

Ease of use
Operator friendly with unique AutoCal functionality

Cost efficiency
Average payback period less than one year

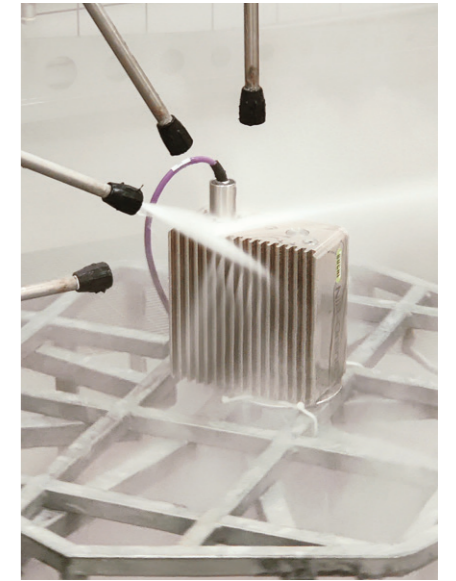### Extensive process expertise
Industry-proven design

With its unique AutoCal functionality, there is no need for expert knowledge to operate the X-Sential™. The process sensor can be easily implemented into your existing quality control routines. A wide range of process adapters allows for easy integration into production lines. NIR-Online offers the user optional HMI solutions.

The functional design of the NIR-Online X-Sential™ is fit-for-purpose and, therefore, very cost-effective. The average payback time is less than one year. There is no need for commercial calibration databases or extensive in-house calibration development. It is possible to determine basic quality parameters of raw materials and finished products in large quantities; this minimizes out-of-spec production and the need to rework and allows for correcting your processes in real-time.

The NIR-Online X-Sential™ has a dust and water jet-protected sensor enclosure (IP69/X9K). A wide range of ambient and product temperatures is possible using temperature-stabilized spectrometers. The sensor is a turnkey solution for fast, fluctuating, or discontinuous product flows. The integration into process control systems is straightforward.

Main Features

Technical Data

Specification

|	
Dimensions (W x D x H)	200 x 200 x 100 mm
NIR wavelength range	900 – 1700 nm
Visible light range (VIS)	350 – 900 nm
Ingress Protection Class	IP69/X9K
Ambient temperature	-10°C – 40°C
Product / flange temperature	-10°C – 70°C (130°C with X-Cell water cooling)

Technology

Why the X-Sential™ is the best cost-efficient choice for your manufacturing processes.
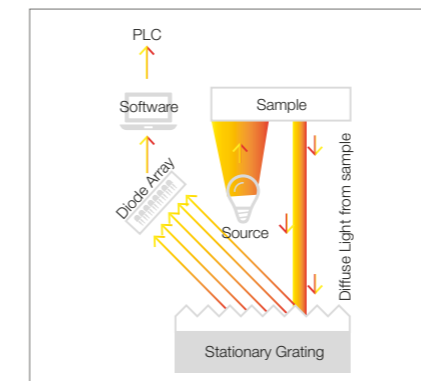

Diode array technology

Sensor spectrometers without moving parts are very fast and robust by design. They are perfectly suited for rough industrial conditions such as vibrations, extreme temperatures, or humidity. This technology allows detection of fast-moving products, e.g., in pipes or on conveyor belts.
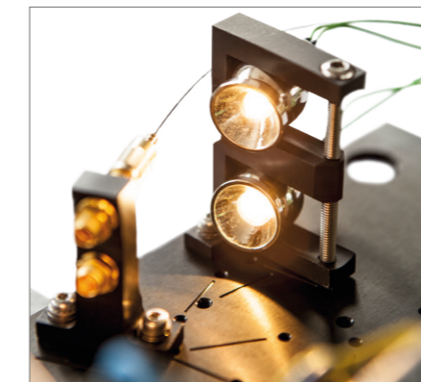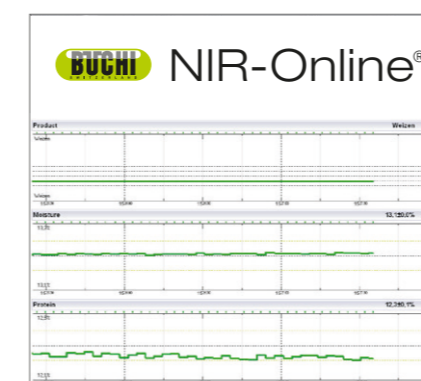

Dual lamp

Maximum system availability through automatic switching to a redundant light source.
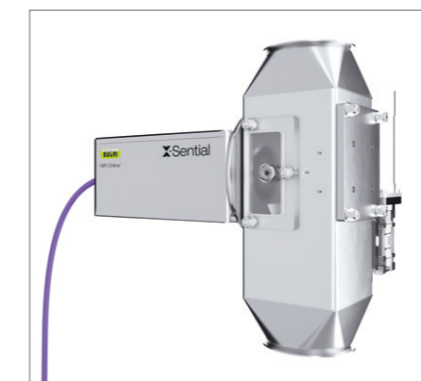


Hardware process integration

Our extensive portfolio of proven process adapters covers, e.g., solid, liquid, pasty, viscous, or corrosive samples at a broad range of pressure and temperature conditions.

Software process integration

Numerous interfaces for the convenient transfer of acquired data to process control systems, including TCP/IP, OPC DA, Modbus TCP, Profibus, and analog output. Benefit as well from optional device-independent HMI solutions.

Complete your portfolio

Incoming Goods

Production

Quality Control Lab
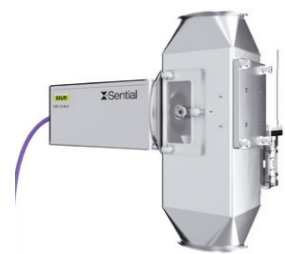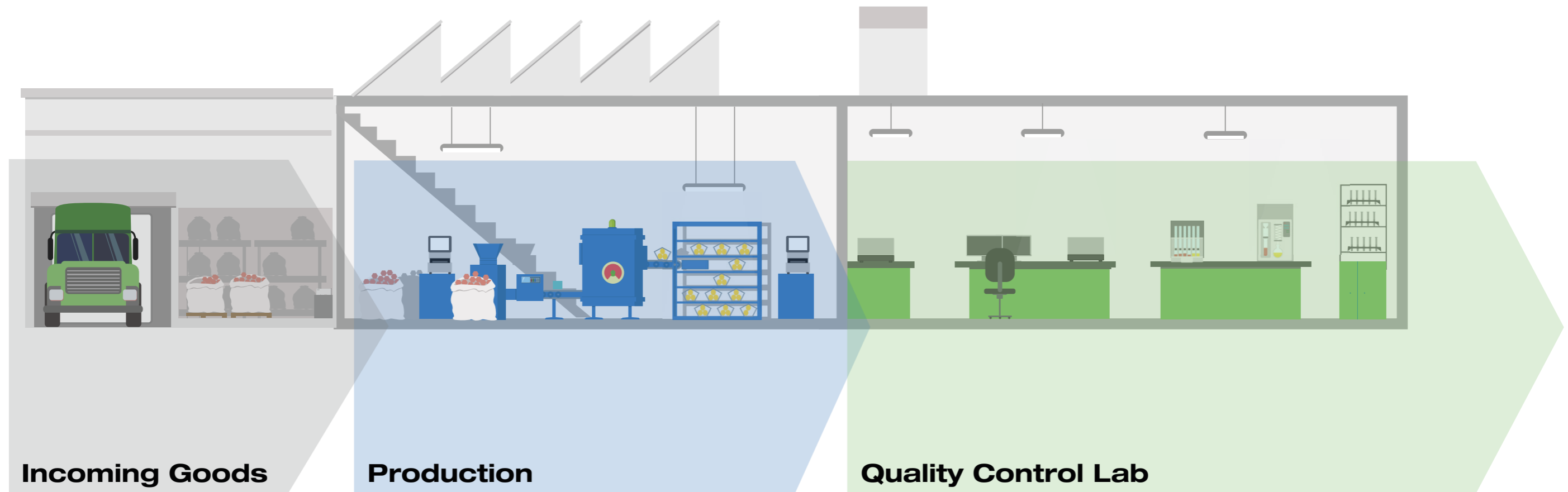
🟧 NIR-Online essential

Closely monitoring basic parameters such as moisture, fat, or protein is crucial to correct deviations in manufacturing processes. The X-Sential™ has been developed and designed to be the best value, cost-efficient, fit-for-purpose process sensor.

🟦 NIR-Online premium

Real-time process control for demanding process applications using premium process sensors according to your production needs. The NIR-Online X-One series provides continuous and accurate measurements within seconds to guarantee maximal production efficiency.

🟩 Kjeldahl

Measure Nitrogen and Protein efficiently and in an automated way. The KjelMaster K-375 provides sophisticated data management that meets the highest demands in usability, automation, and user administration. For both potentio-metric and colorimetric titration methods.

🟩 Extraction

Need to measure fat or residue and contaminants in different matrices? We cover the whole range of automated extraction methods, from Soxhlet to hot extraction and pressurized solvent extraction.

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.

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Quality in your hands