



## **ProxiMate™ NIR**

Optimized Analysis for the Food & Feed Industry



»ROI«  
Extravergine Allinmest

CRUGACCI  
OLIO EXTRA VERGINE DI OLIVA DOP  
DOP EXTRA VIRGIN OLIVE OIL  
RIVIERA LIGURE

# ProxiMate™ – NIR Instrument

## Improving your process and quality control

ProxiMate is a robust, compact and easy to use at-line NIR instrument for the food and feed industry. It reduces downtime in production and provides fast quality control of batch samples. The intuitive user interface allows operation by everybody and a wide selection of precalibration packages make it suitable for all applications.



### **Applicative fit**

thanks to many ready-to-use precalibrations

### **Extreme Robustness**

waterproof, stainless steel housing

### **Simple Operation**

with the intuitive touch-screen user interface

Our applications chemists have developed many ready-to-use precalibrations for the main food and feed industries. Whether you are analyzing cheese, milk powder or minced meat: Setting ProxiMate up to get accurate results requires minimal effort and can be done by everybody.

ProxiMate is designed to work effectively in the most adverse conditions. Measurements are unaffected by temperature or humidity fluctuations. The instrument can be placed where results matter: right next to the production line. With IP69 ingress protection ProxiMate can be pressure-hosed down to meet even the most stringent hygiene standards.

Thanks to the intuitive, modern touchscreen interface, ProxiMate operation has been optimized to make it logical, easy and straightforward. The touchscreen follows the proven interface logic of other BUCHI products, making it easy for everybody to setup applications, test samples or set preferences.

# Applicative fit for your Food and Feed

Thanks to many ready-to-use precalibrations

## Dairy



## Meat



Common Sample Types

Yogurt, Cheese, Butter and Milk Powders

Typical products include Beef, Pork, Chicken, Fish and Sausage

Typical Parameters

Moisture, Dry Matter, Fat, Protein and Lactose

Moisture, Protein, fat and connective tissue.

Benefit

- Measure finished products and intermediates.
- Optimize your process
- Control the quality of your finished product

- Rapid decisions in the slaughterhouse.
- Optimize formulation during production
- Inspect goods at the packaging stage.

## Grain



Typical products include whole cereals such as wheat, barley and maize (corn), ground cereals, wheat flour and semolina.

Moisture, Protein, fat, Ash, starch and gluten.

- Decide which flours should be blended
- Control relevant ingredients in finished product.

## Edible Oil



Crude and refined palm and olive oil. Press cake and meals plus other vegetable oils and animal fats.

Moisture, Peroxide value, Free fatty acids (FFA) and residual fat.

- Check oil seeds before crushing
- Monitor your production process
- Check relevant parameters in final product.

## Feed



Mixed and finished feed (ruminant, swine, poultry plus concentrates) plus ingredients such as oil seed meals, cereals and hulls & bran.

Moisture, Total Fat, Protein, Fiber and ash.

- Check your raw materials to get the finished mix right.
- Conveniently, ProxiMate can be placed right at the incoming goods weighbridge.



SOAK

# Extreme Robustness

Due to its waterproof, stainless steel housing

ProxiMate is the most robust NIR instrument on the market. The instrument can be placed where results matter: right next to the production line.

## Dust and Waterproof (IP69)

ProxiMate can be pressure-hosed down using the same procedures as other at-line equipment or machinery. The instrument is completely dust and water proof. You can place it next to mixers, conveyors, blenders or homogenizers so that production operatives can take frequent measurements, thus giving you better control over your process.

## Hygiene Design

Made from food grade stainless steel, ProxiMate has been designed with smooth surfaces that have no sharp edges or voids. This design naturally reduces the risk of material accumulation that could encourage bacteria growth and has been assessed and endorsed by the food hygiene agency HALAG.

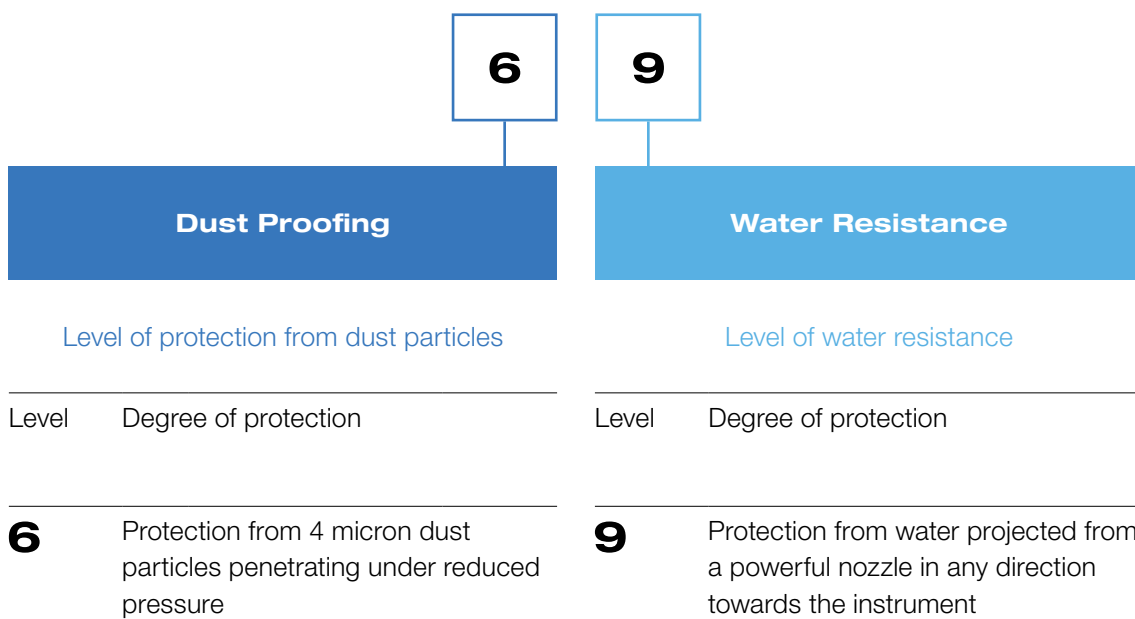
## Mechanical and Chemical Resistance

The stainless steel body of the ProxiMate can resist all detergents commonly used for sanitation in food production areas, even if they contain acidic, alkaline or chlorine based ingredients. This includes high pressure application at elevated temperatures making the instrument suitable to undergo the harsh cleaning necessary for perfect food safety.

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## What is IP?

This denotes the degree of dust proofing and water resistance. IP is an abbreviation of the international standard Ingress Protection.





## Simple Operation

With the intuitive touch-screen user interface

ProxiMate is designed for everyone to use. Operation of the touch-screen user interface has been optimized to facilitate rapid measurement execution, uncomplicated application development and straightforward preference setting. All BUCHI touch-screen interfaces are similar, reducing operator training requirements.

### Results with one Click

Everybody can use ProxiMate! Simply select the correct application (product) and enter a sample ID. At the touch of a button, the analysis starts and results are calculated. The operator is guided toward taking the appropriate action as results are evaluated against preset criteria. The angle of the display can be adjusted so that it always remains perfectly legible, irrespective of light conditions, bench height or operator.

### Hands free or with Gloves

Fast throughput is vital in the production environment. ProxiMate can be operated when wearing hygiene gloves and even offers the facility to automatically start analysis without operator interaction. As soon as the sample is present on the tray, measurement starts, considerably speeding up measurement acquisition, freeing up operator time to complete additional tasks.

### AutoCal

AutoCal makes calibrations development and calibration maintenance easy. Highlight the required calibration samples then press the AutoCal button. The system does the rest and optimizes the calibration.



### Magnetic drive

Samples are rotated using a magnetically coupled drive unit. When the analysis is complete, this is removed to facilitate easy cleaning.



# Easy System Integration and Networking

## Standardized, compatible, connectible

Factory standardization, legacy data integration and networking options make ProxiMate the ideal instrument for comprehensive process control.

### Data Library Transfer

Existing calibration data collected on legacy instruments is valuable. During installation, NIR spectra can be transferred to ProxiMate helping to speed up the commissioning process.

### Connect to your Production System

Real time control of your production process is possible by connecting ProxiMate to your production control system via standard RJ-45 network cables, Wi-Fi or blue tooth. Rapid information access allows operators to adjust a blending process, the speed of a conveyor belt or the feed of a raw material in real time to yield the desired result.

### Factory Standardized

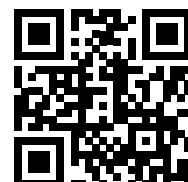
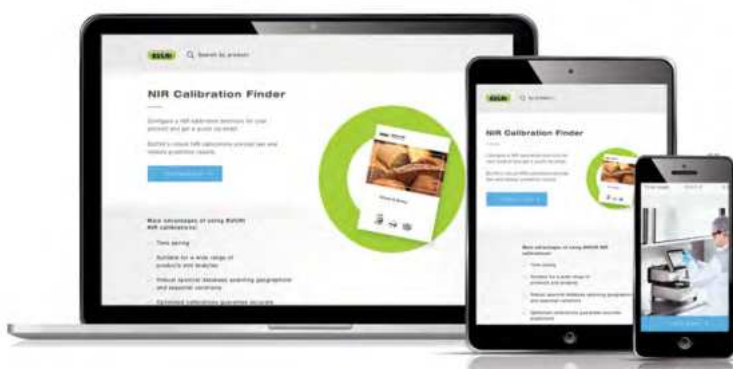
All ProxiMates are factory standardized. Calibrations copied between instruments work in exactly the same way. No further standardization is required. This is particularly important if multiple instruments are used in the same facility or in different factories producing the same product. Instrument standardization leads to improved product consistency irrespective of the location of manufacture.

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## Calibration Finder

Quickly find relevant precalibration details and expected performance for your application using the online calibration finder. Continuously updated by our experts to ensure that the most recent information is at your fingertips, instantly.

More information about our calibration finder:  
[www.nircalibration.buchi.com](http://www.nircalibration.buchi.com)





# Perfect Adaption to Every Sample

## To get the best result in every case

ProxiMate offers a range of sample presentation options, allowing you to select the most suitable for your product type and analysis.

### Down and Up View

Sample type variety can require different analytical approaches for optimum performance or practicality. ProxiMate allows you to capitalize on the best approach by allowing measurement from the top (down view) or from the bottom (up view).

### Glass free Environment

Many production environments prohibit the use of glass. ProxiMate offers the option of using plastic petri-dishes in down-view mode. Using this mode the type of plastic of the sample container will not affect the measurement.

### Sample type flexibility

Getting the sample presentation right is key for accurate measurements. To reduce sampling error, larger sample volumes are needed when samples are inhomogeneous. Smaller samples are preferred when sample are valuable. ProxiMate offers options to cover all preferences.

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### Down View



### Up View





# Put Color on Your Agenda

## And measure appearance as well

Augment NIR measurements with an optional visible detector as many food products require careful control of color and appearance as part of quality control.

### Visible Detector Option

ProxiMate allows users to maximize their measurement performance by capitalizing on NIR only, visible only or by combining both visible and NIR signals to improve measurement performance and evaluate samples fully.

### Improve Accuracy

An integrated visible light detector enables measurement of the color of the sample. This signal can be used individually to provide, for example, a measurement of sample color (such as degree of brownness,  $L^*$ ,  $a^*$  and  $b^*$  color measurement) or the VIS signal can be combined mathematically with NIR signals to improve the performance of some parameter measurements, such as ash in flour.



### Color Determination

Fast and simple color measurements enable quick assessment of an additional quality parameter. No further preparation is required as color data is captured at the same time as NIR.

## Main Features



### Magnetic Drive

Samples are rotated using a magnetically coupled drive unit. When analysis is complete this is removed to facilitate easy cleaning.

### IP Module and Connectivity

A range of connectivity options are available. Choose from a range of options from Wi-Fi through blue tooth all whilst retaining IP69 protection.



# Technical Data

## Specification

Weight	23 kg
Protection rating	IP69
Power consumption	60 W
Frequency	50 / 60 Hz
Dimensions (W × D × H)	260 × 435 x 500 mm
Wavelength range NIR	900 – 1700 nm
Resolution NIR	7.0 nm
Wavelength range VIS	400 – 900 nm
Resolution VIS	10 nm
Measurement time	15 seconds (user configurable)

## Ambient Conditions

Max. altitude above sea level	2000 m
Ambient temperature	5 – 40 °C (25 °C)
Maximum relative humidity	80 % for temperatures up to 31 °C
Storage temperature	max. 45 °C

Configuration	NIR “Standard”	NIR+Vis “Pro”
Down & Up View Combined	●	●
Down View	●	●
Up View	●	●



## Software

### Automatic Results Storage

NIRWise™ software is based on a Microsoft SQL database. All results are automatically stored in the database and can easily be backed up and transferred to other instruments. Never lose your precious results!

### Customized Reporting

Report generation is easy with NIRWise™. Sample and batch reports are easily customized to end-user requirements using the report configuration tool. Comply easily with your documentation standards thanks to ProxiMate's customizable reports.

### AutoCal

Develop new and extend existing calibrations easily. Select the samples you want to include, then AutoCal advance algorithms do the rest. No expertise required.

## Accessories



### Large Sample Cups

Enables reduction in sampling error with inhomogeneous samples.



### Standard Sample Cups

Choose from a range of cups, best suited for your application. Options include toughened glass, plastic and high performance.



### Transflectance Cover

Use with a petri-dish to make transflectance measurements of liquids. Path-length is 0.3 mm.



### Connectivity Module Upgrade

Upgrade to multiple USB ports for maximum flexibility. Available with waterproof covers to maintain IP protection during operation.



### NIRWise™+ Software

Develop and review quantitative calibrations. NIRWise™+ offers a full suite of chemometric tools



# Service & Training

## Customized for your needs

### Worldwide Presence

Our worldwide network of 18 subsidiaries and support centers as well as over 70 qualified distribution partners ensure proximity where ever you are. Factory trained service engineers and application specialists make sure your ProxiMate remains up and running at all times.

[www.buchi.com/worldwide](http://www.buchi.com/worldwide)

### Remote Support

The remote session tool is pre-installed to make it as easy as possible to get support. No additional installation or special skills are required. Just connect ProxiMate to the internet and the BUCHI Service Network will be able to support you and diagnose issues from afar minimizing downtime and service costs.

[www.buchi.com/remote-support](http://www.buchi.com/remote-support)

### Preventive Maintenance Package

To ensure many years of reliable operation, BUCHI recommends that ProxiMate is serviced and maintained regularly. Maintenance package contracts are available ensuring the your instrument continues to offer optimum performance and which also includes the following benefits.

- Reduced service part cost
- Regular maintenance visits and checks
- Regular updates
- Reduced down time
- Regular contact with your local BUCHI Service Engineer

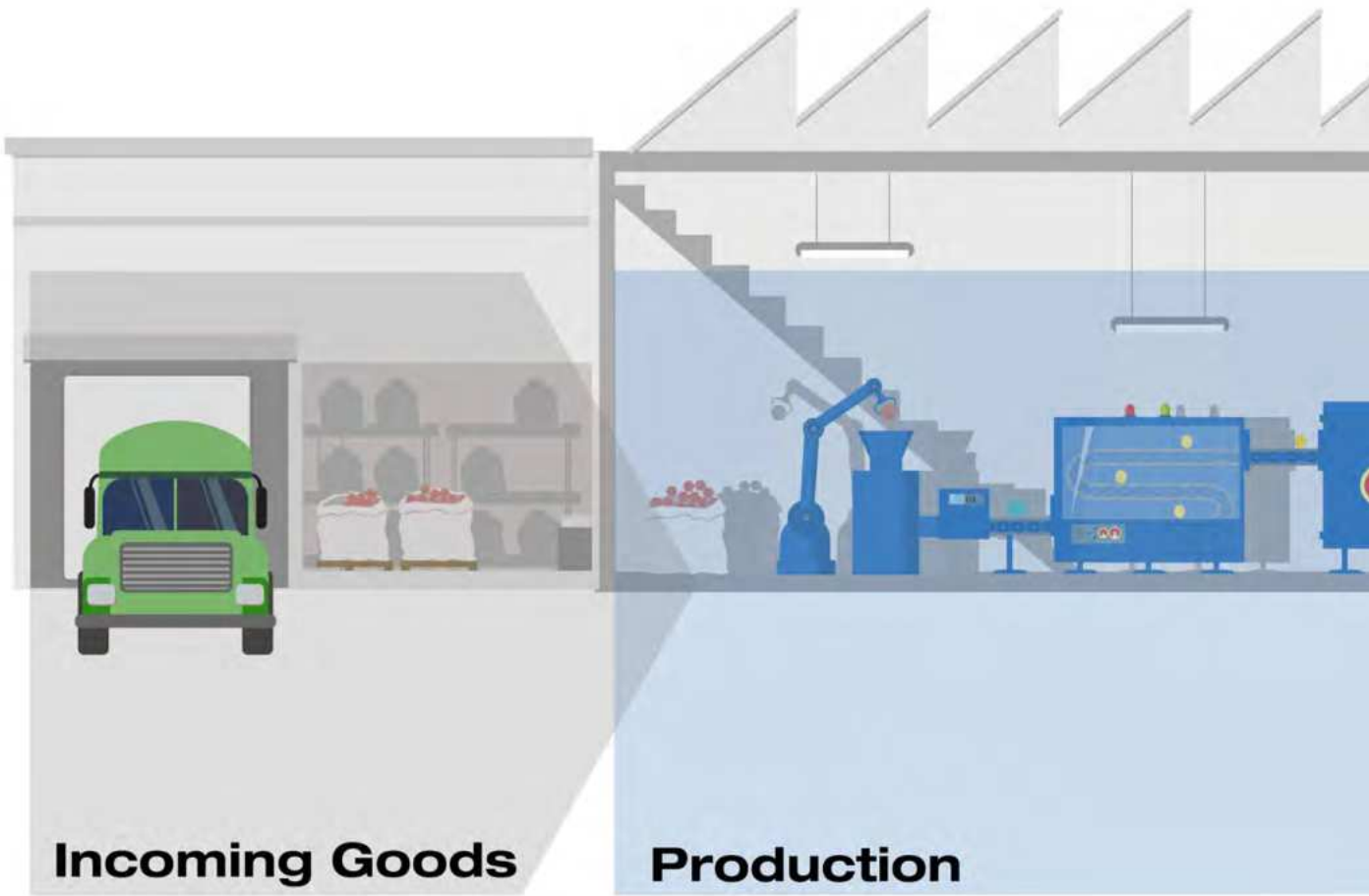
### Training on request

Customer training courses either on-site, at the local BUCHI subsidiary or at the global headquarter in Flawil (Switzerland) are available to train operators and people responsible for instrumentation to learn all there is to know about generating great analytical results with ProxiMate.

BUCHI training center, located in Flawil (Switzerland), supports customer success by offering a wide range of courses. All trainings cover basic theory, hands on, trouble shooting and process optimization.

Do you have a specific questions related to any training topics or are you interested in attending training in your country? Address your requests and inquiries to [training@buchi.com](mailto:training@buchi.com)

# Complete your portfolio



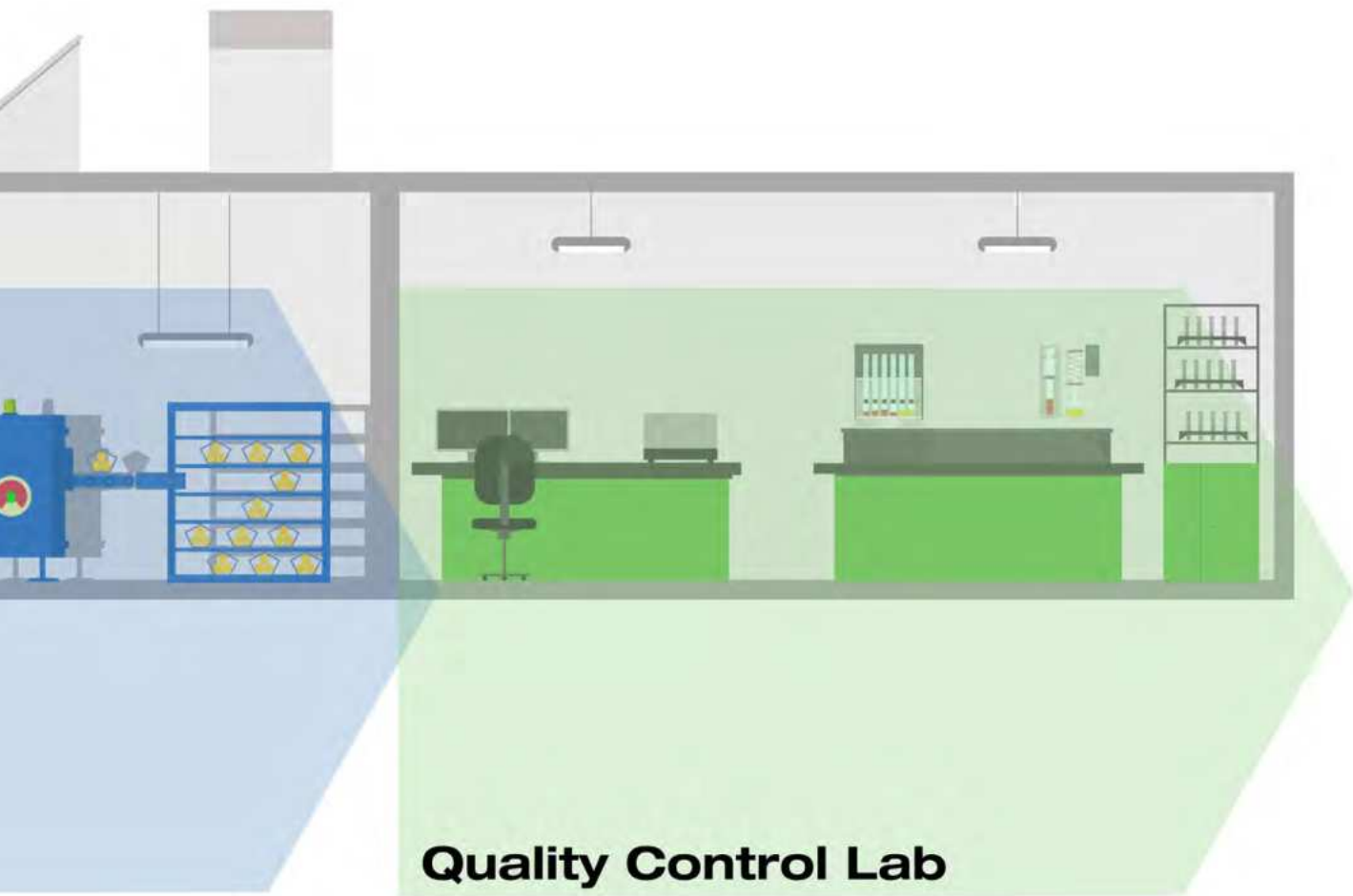
■ NIR-Online

Closely monitoring key parameters such as moisture, fat or protein is crucial to correct deviations occurring in any manufacturing process. BUCHI NIR-Online® analyzers continuously provide accurate measurements within seconds to guarantee maximum production efficiency.



■ NIR

The N-500 FT-NIR spectrometer provides reliable analysis results for quality control as well as research and development in the pharmaceutical, chemical, food, beverage and feed industry. The NIRFlex N-500 offers a wide range of measuring cells and accessories for highest performance.



**Kjeldahl**

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



**Extraction**

You need to measure fat or residue and contaminants in different matrix? 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



Safe



Reliable



Global



Cost-effective



Sustainable

## Quality in your hands

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