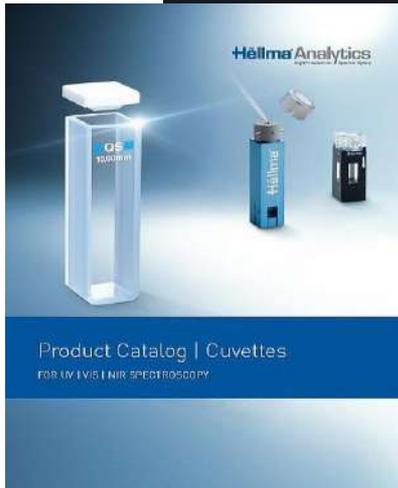


Hellma Italia

Soluzioni per il precision farming

Francesco Benozzo
NIR Application Specialist

Hellma Italia è dal 1970 parte del gruppo delle consociate Hellma. Hellma è leader mondiale nella fabbricazione di celle, componenti ottici, ottiche di campionamento e standard certificati per le più moderne tecniche analitiche



Sistemi Integrati innovativi per controllo di processo



Hellma Italia è inoltre accreditata alla promozione e distribuzione di alcuni tra i marchi più prestigiosi nell'ambito della strumentazione analitica per le Spettroscopie UV-VIS-NIR-IR.



WE CRAFT ASSURANCE

Con i propri partner Hellma Italia si prefigge
l'obiettivo di sviluppare
**SOLUZIONI ANALITICHE INTEGRATE
ALTAMENTE PRODUTTIVE E
TECNOLOGICAMENTE AVANZATE
IN SPETTROSCOPIA**





Zeiss Spectroscopy

Spettrometri UV-VIS-NIR per controllo dei processi più sfidanti

- Analisi in riflettanza a contatto
- Analisi in riflettanza a distanza compensata fino a 60 cm
- Analisi di matrici solide e liquide
- Acquisizioni del segnale in millisecondi
- Resistenza a vibrazioni e shock fino a 50 G



Hellma Italia

A broad spectrum of quality

ZEISS – over 140 years of experience in spectroscopy

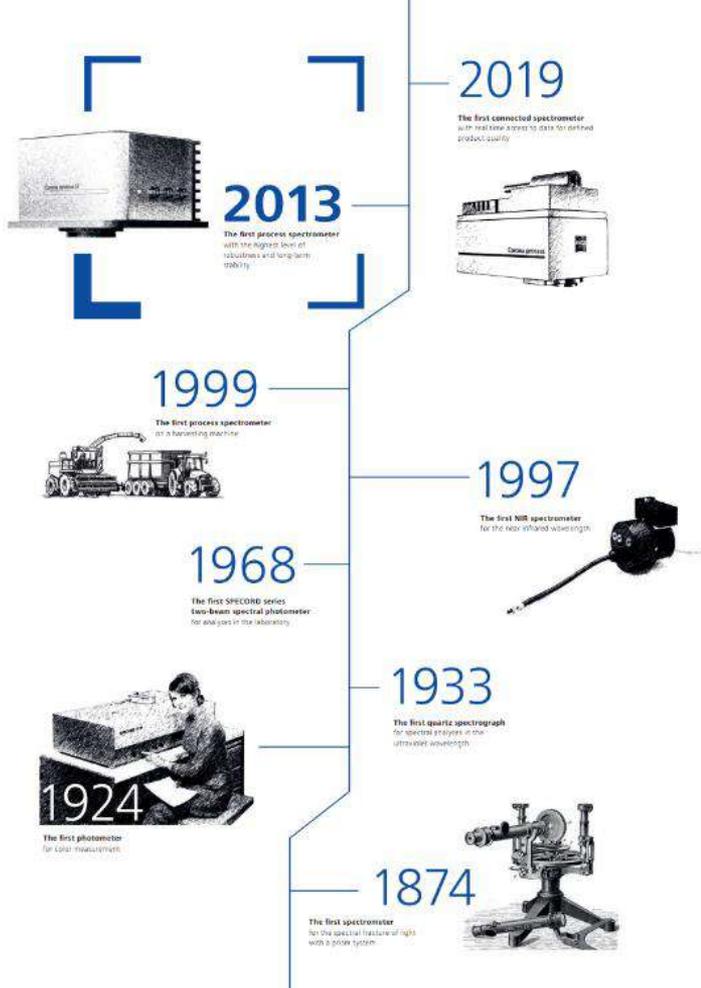


ZEISS Spectrometers

... did you know?

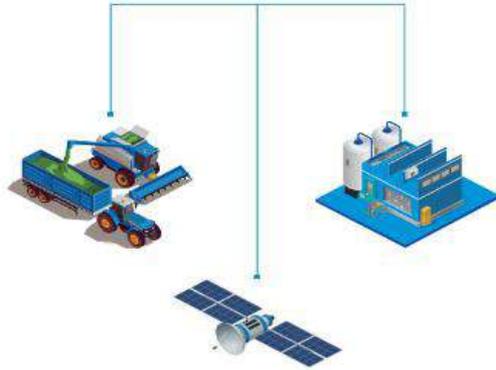
> 1 million

spectrometers have been manufactured by ZEISS Spectroscopy as a leading OEM supplier



Hellma®
Solutions
For Dedicated Spectroscopy Applications

Hellma Italia



The ZEISS Corona® extreme full-scale spectrometer:

exceedingly robust

ZEISS Corona® extreme is characterized by precise measurement results, AND well-established robustness that has been proven for decades.

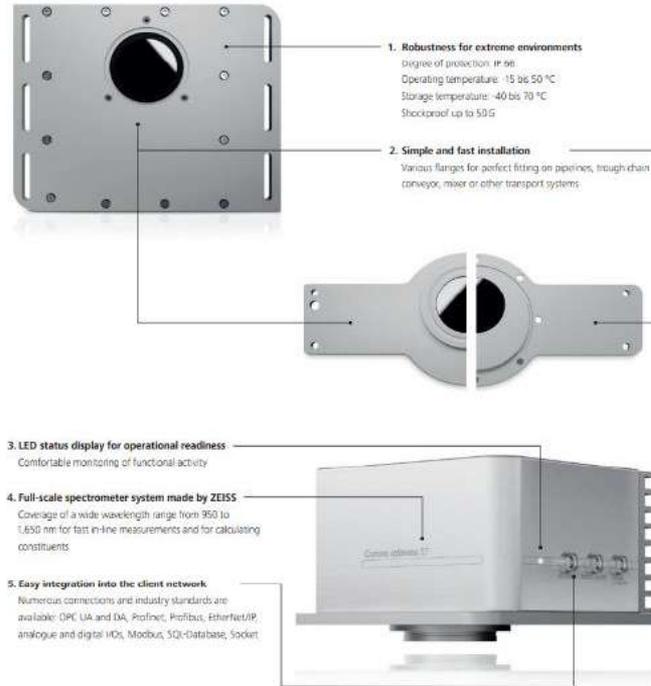
Therefore, it should come as no surprise that the core technology in our spectrometers is not just used in outer space, but also perfectly suited for harvesters on earth. Operating temperatures from -15 to 50 °C and shock resistance up to 50 G are no problem for Corona® extreme. As a full-scale spectrometer, it can measure various parameters such as fat, dry matter, and protein content in the 950 to 1.650 wavelength range at the same

inspection of all important quality

me. This optimizes production
saves energy.

The Hardware

Robust in any position





Analizzatori NIR per controlli on line, at line o portatili con PC e software integrati





Analizzatori NIR per controlli on line, at line o portatili con PC e software integrati



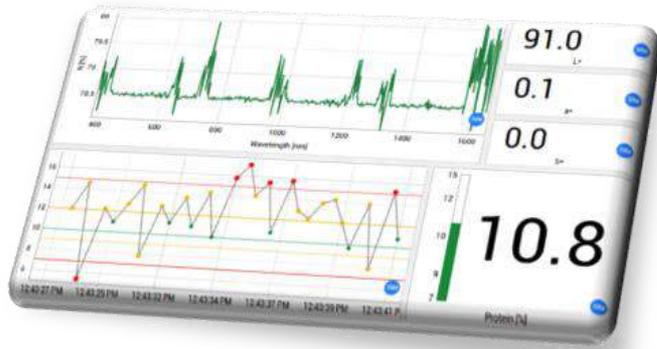


The software

Intuitive, arranged neatly,
user friendly

InProcess software enables an easy integration into production lines and intuitive usage. It can be configured according to the client-specific requirements.

- **Calibration:** support for common chemometrics software such as GRAMS IQ[™], Aspen Unscrambler[®], UCal[™] or SL Predictor
- **Control:** management of more than one spectrometer is possible – with just one piece of software
- **User management:** creation of dedicated user groups with different access levels
- **Measurement:** display as spectrum, value or trend, automatic warning when limit values are exceeded, automatic start of measurement and elimination of implausible spectra
- **Integration:** communication with all established field bus systems and industrial standards
- **History:** access to all past measurement and reference results as well as data export of spectra, measured values and sample information
- **Diagnosis:** monitoring of spectrometer functionality with self-testing, important service information at the push of a button





SISTEMI DI COMUNICAZIONE BIDIREZIONALE INTEGRATI

OPC

PROFIBAS MODBUS

ETHERNET IP

ANALOGICO



Precision farming I PRIMI PASSI...

LABORATORIO MOBILE



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ESEMPI APPLICATIVI



Trincia



Cisterna spandiliquami



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ESEMPI APPLICATIVI

Hellma[®]
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Mietitrebbia



Laboratorio fisso





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TRINCIA

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Solutions
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- Umidità
- Proteine
- NDF
- Amido



Precision farming CARRO MISCELATORE semovente



- Umidità
- Proteine
- NDF
- ADF
- Amido
- Omogeneità





Precision farming

CARRO MISCELATORE statico



- Umidità
- Grassi
- Proteine
- NDF 
- Correzione del carico



Precision farming UVA AL CONFERIMENTO

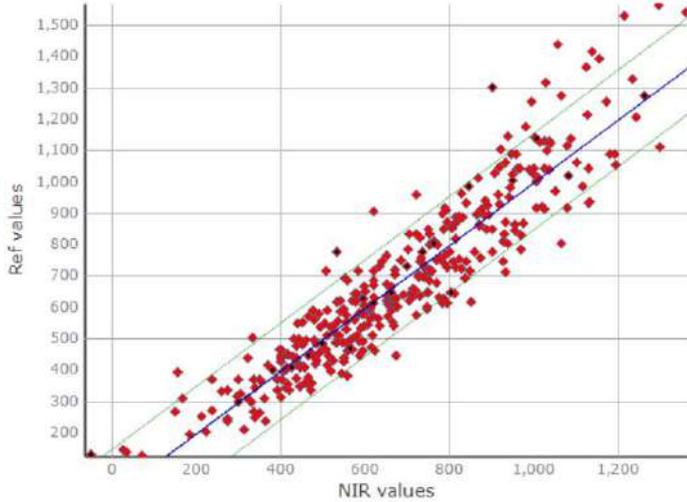
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Solutions
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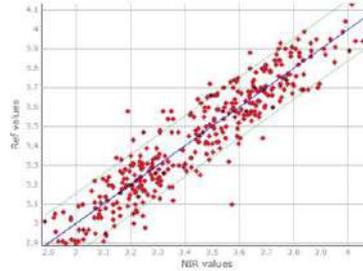
UVA al conferimento

Antociani



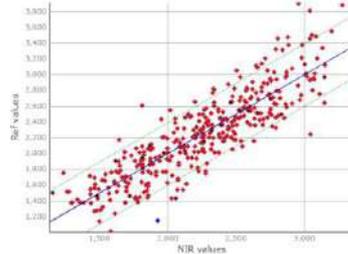
mples:	R2: 0.86	SEP(C): 102.72	Ref value:
dition:	Equation: $y = 1.01 * x - 4.09$	NIR value:	

pH



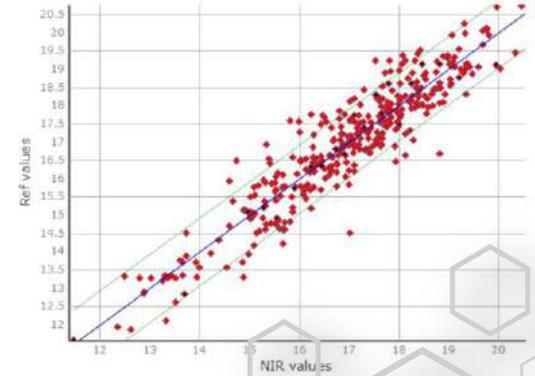
mples:	R2: 0.88	SEP(C): 0.12	Ref value:
dition:	Equation: $y = 0.98 * x + 0.02$	NIR value:	

Polifenoli

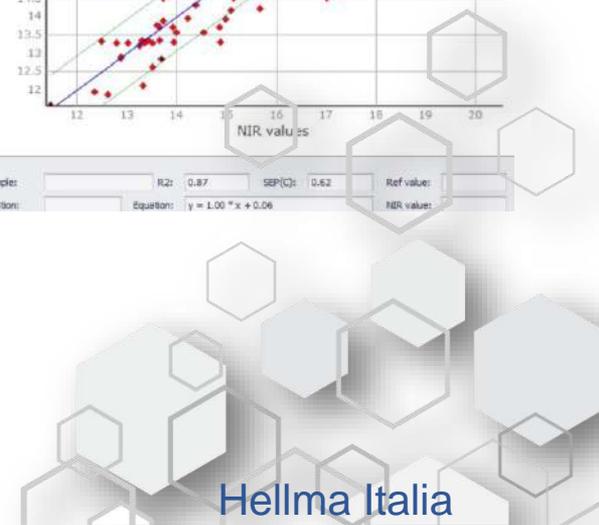


mples:	verimento colorati	R2: 0.78	SEP(C): 233.76	Ref value:	125.89
dition:	240	Equation: $y = 1.02 * x - 3.10$	NIR value:	105.56	

Grado zuccherino

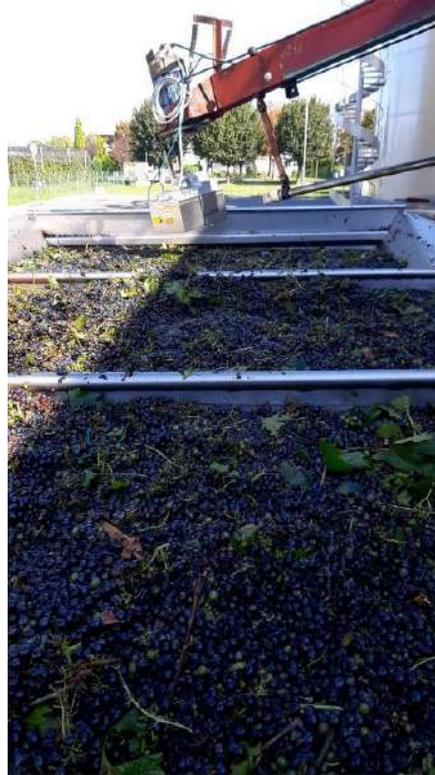


mples:	R2: 0.87	SEP(C): 0.62	Ref value:
dition:	Equation: $y = 1.00 * x + 0.06$	NIR value:	





FIELD TESTS



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For Dedicated Spectroscopy Applications



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HELLMA SOLUTIONS

INTEGRATED ANALYTICAL SOLUTIONS



INDIVIDUAL – PERFECTLY FITTING – FROM A SINGLE SOURCE

Hellma Italia

GRAZIE PER LA CORTESE ATTENZIONE

Hellma Italia Srl



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info@hellma.com



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