

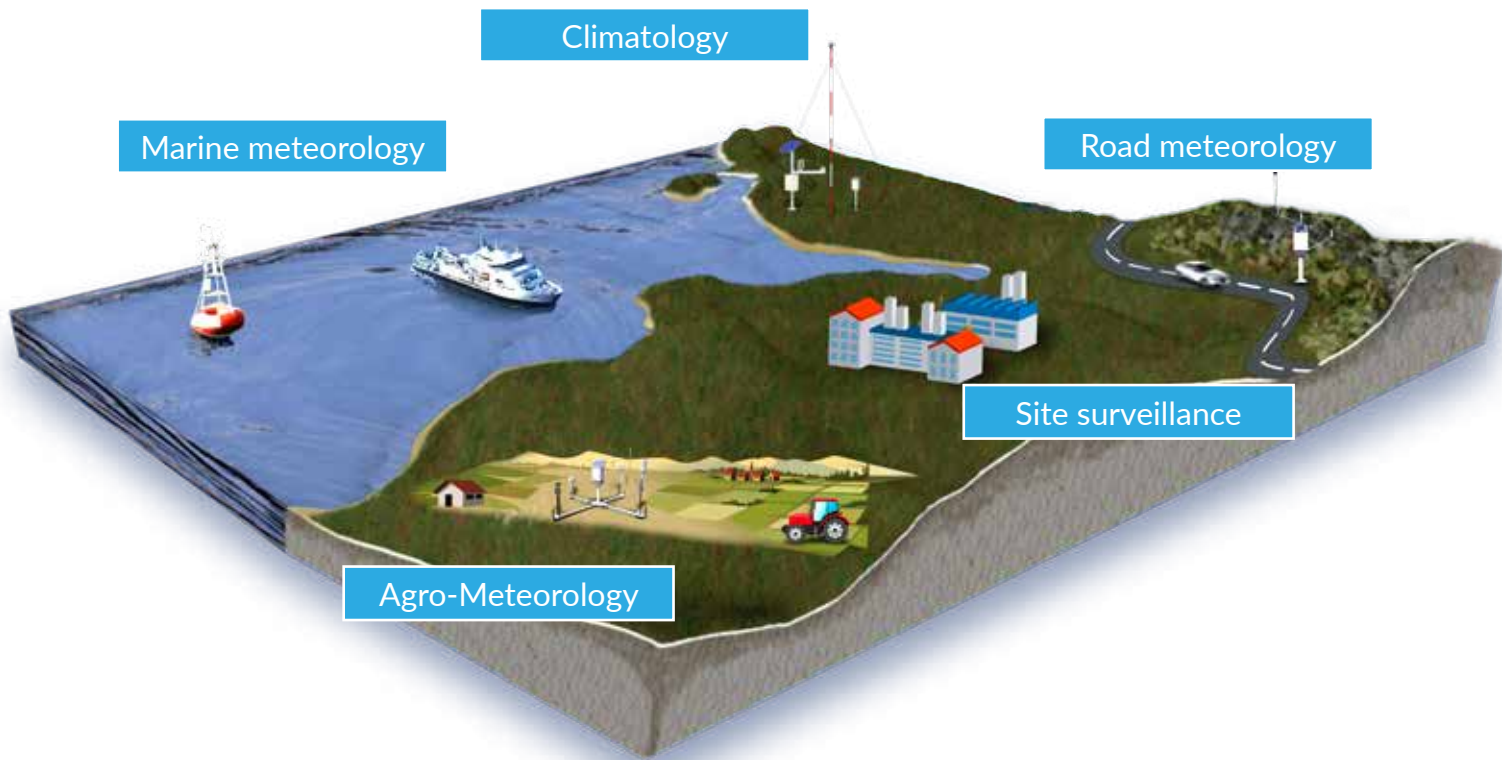
AUTOMATIC WEATHER STATIONS

Surface weather observation
MERCURY CATALOGUE



sterela 
METEO





mercury

- Meteorological observation station

neptune

- Marine meteorological observation station

STERELA meteo

Specialising in acquisition, communication and operating systems, STERELA has been designing and manufacturing weather stations for surface weather observation for more than 15 years.

Reliability and modularity

STERELA weather stations stand out first and foremost for their reliability and modularity. Many institutions have repeatedly placed their trust in us over recent years, making their projects reality with our 2 product lines

Automatic weather stations

Expertise, design and execution



Sterela helps you through every phase of your projects, from engineering to execution:

- Engineering
- Technical report
- Steering committee
- Management Plan
- Configuration and performance
- Obsolescence management
- Hot-Mail and Hot-Line
- Preventive and curative maintenance
- Technical support



At your side

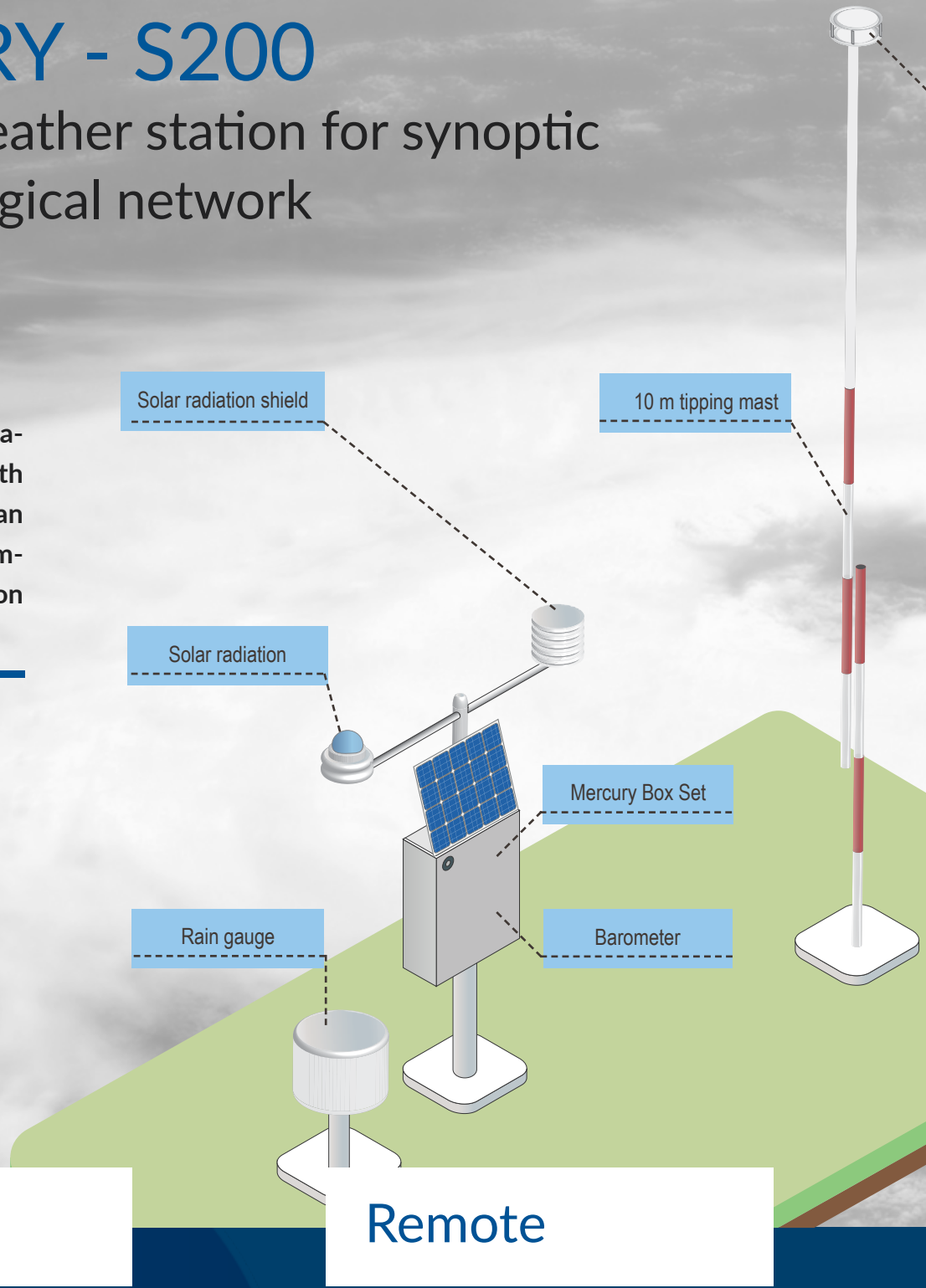
- Advice and professionalism
- Compliance with regulations
- Execution in line with the state of the art
- Continuing product improvement
- A single contact for your projects
- Technological watch



MERCURY - S200



Automatic weather station for synoptic and climatological network

The versatility of this station provides managers with a unique solution that can meet all the constraints imposed by large-scale station networks.




Local

Remote



Local maintenance


- Processing
- Data management


Local observer

- Real-time and archived visualisation
- Charts
- Weather messages
- Alerts
- Consistency check

Data management

- Supervision
- Saving and backup
- Remote maintenance



Wind sensor

AREAS OF APPLICATION

National weather station network

Isolated or difficult-to-access site

*Harsh environment
(tropical, high mountains)*

Strengths

- High-precision measurement acquisition
- Data quality controls for acquisition
- Reliability and robustness
- Wide range of means of communication available
- Smart sensor power management
- Fully customisable station
- Compliant with OMM standards
- Metadata
- Local output for observer position
- Modular and scalable

Services

- Installation and commissioning
- Training
- Preventive and corrective maintenance
- After-sales support

Services

- Hot-line
- Hot-mail
- Calibration



Software

Maintenance Supervision



Data collection

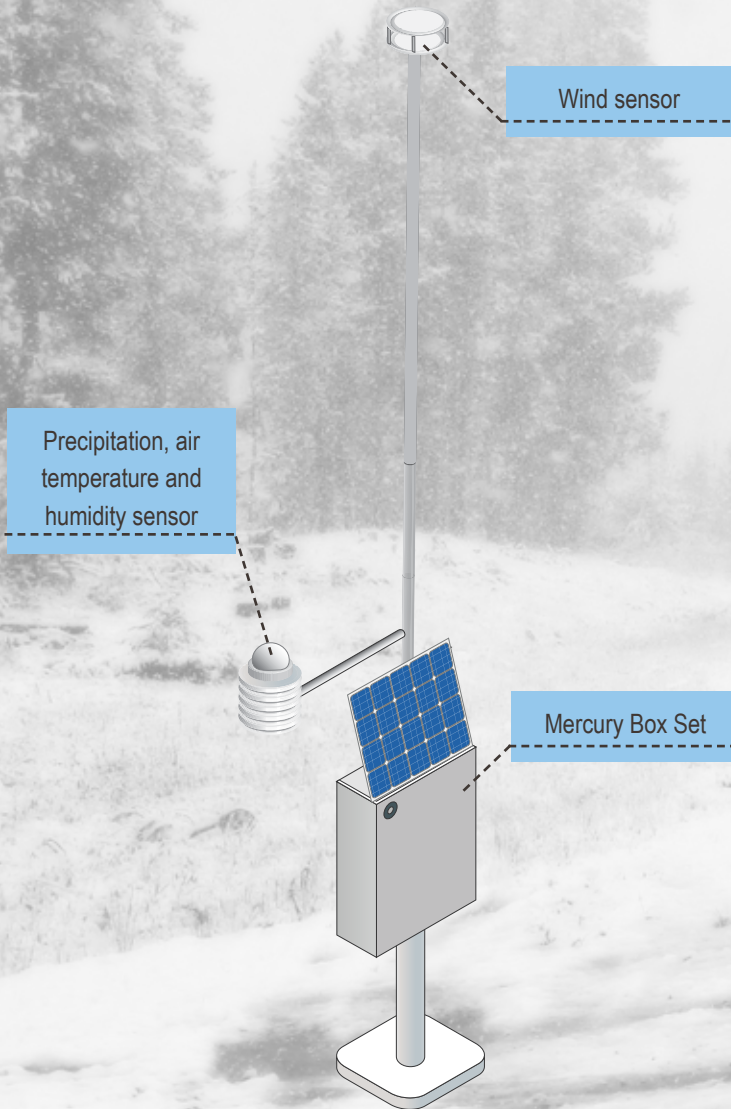


Data collection and processing



MERCURY - S110

Road automatic weather station



Sterela offers a comprehensive decision-making assistance solution for road professionals, with the aim of improving the analysis of winter phenomena, anticipating servicing and reducing operating costs.

Measurements

Full Web Access

- Precipitation
- Rain/snow distinction
- Temperature
- Humidity
- Temp & surface state
- Roadway profiler



- Real-time and archived visualisation
- 24/7 access
- Charts
- Email & SMS alerts
- Data transmission

Remote operators

- Data export
- Backup
- Multi-user



Measurements

AREAS OF APPLICATION

Road Managers

Private or public highways

Local authorities

Strengths

- High-precision measurement acquisition
- Data quality verification
- Reliability and robustness
- Wide range of means of communication available
- Smart sensor power management
- Fully configurable station
- Compliant EN/NF 15-538
- Metadata
- Open solution

Temperature and surface state sensor

Services

- Installation and commissioning
- Training
- Preventive and corrective maintenance
- After-sales support

Services

- Hot-line
- Hot-mail
- Calibration



Software

Secured web platform

Data collection and processing



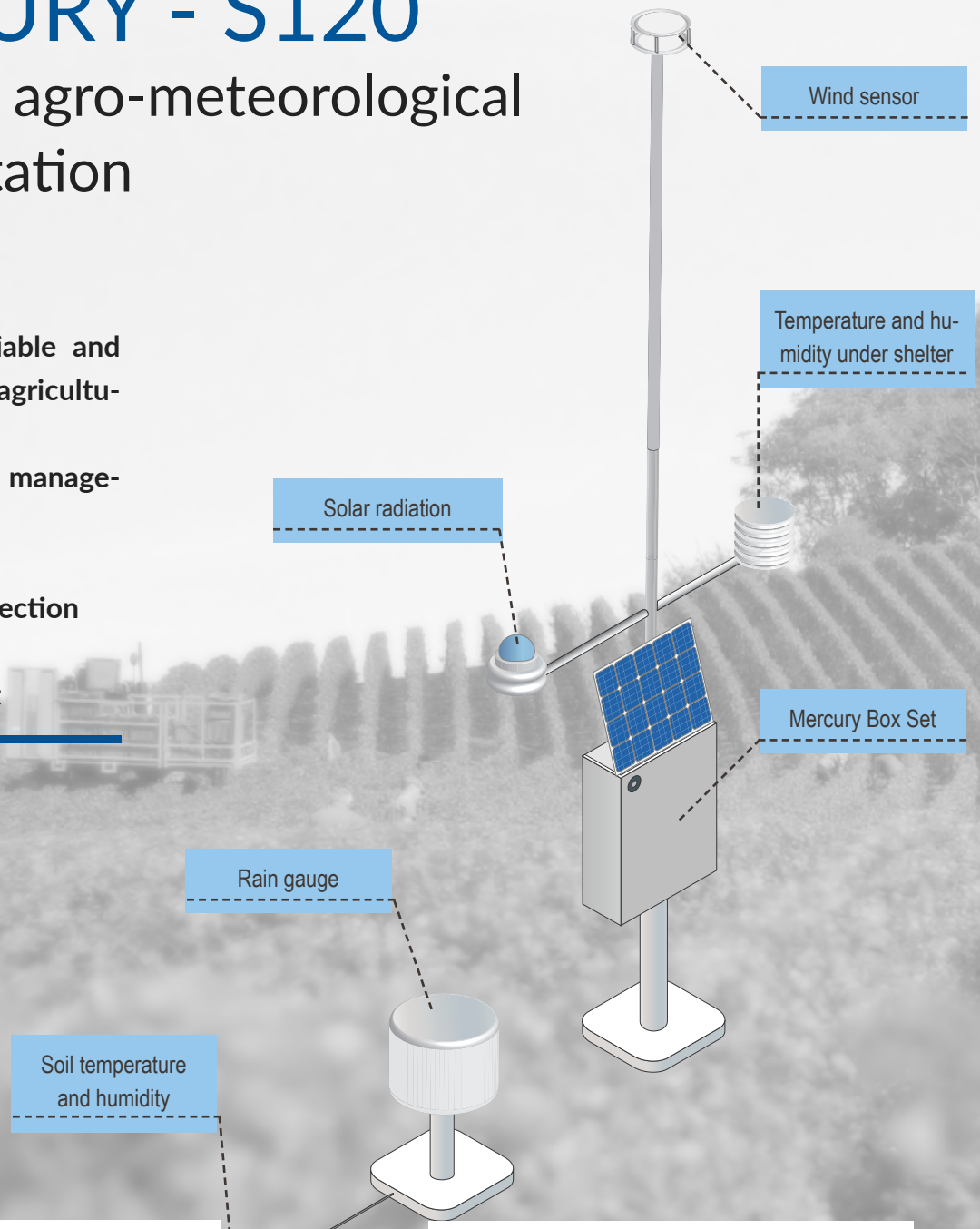
MERCURY - S120

Automatic agro-meteorological weather station

Sterela offers a reliable and robust solution for agricultural areas and farms.

Multiple control and management:

- Frost control
- Phytosanitary protection
- Irrigation
- Plant development



Measurements

Full Web Access

- Air temperature and humidity
- Radiation
- Wind speed and direction
- Precipitation (accumulation/intensity)
- Soil temperature and humidity



- Real-time and archived visualisation
- 24/7 access
- Charts
- Email & SMS alerts
- Data transmission

Web APP

- Remote maintenance
- Multi-user



Measurements

AREAS OF APPLICATION

Viticulture

Arboriculture

Cooperatives

Cereal growers...

Strengths

- High-capacity, high-precision measurement acquisitions
- Acquisition capacity
- Reliability and robustness
- Wide range of means of communication available
- Modular and scalable
- Fully configurable station
- Compliant with WMO standards
- Metadata
- Evapotranspiration, duration of insolation, daily data

Services

- Installation and commissioning
- Training
- Preventive and corrective maintenance
- After-sales support

Services

- Hot-line
- Hot-mail
- Calibration



Software

Secured web platform

Data collection and processing



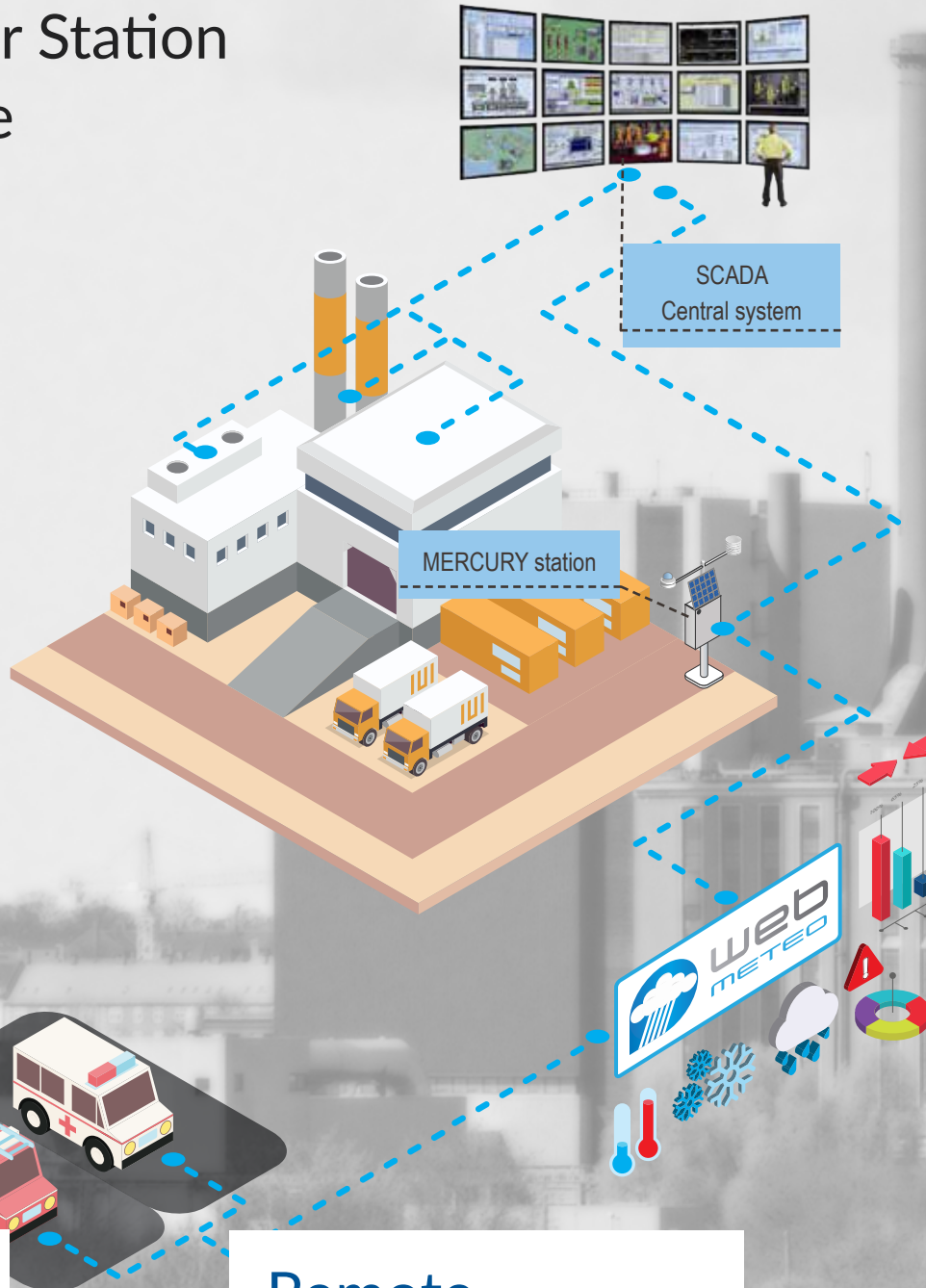
MERCURY - S140

Automatic Weather Station for site surveillance

Sterela offers a reliable and robust solution for monitoring sensitive areas.

The weather station interfaces with the site's central supervision system.

A second line of communication can be installed to provide access to real-time weather data to third-party services (e.g. backup)



Emergency service



Measurements

- Air temperature and humidity
- Pressure
- Wind speed and direction
- Precipitation (accumulation/intensity)



Measurements

Remote

- Real-time visualisation
- Alerts
- Backup
- Archive export
- Access to data 24/7

- Graphic reports
- Remote maintenance
- Multi-user

Web

AREAS OF APPLICATION

SEVESO site (Directive 96/82/EC)

Industrial site

Waste recovery site

Mining

Renewable energy

Nuclear power plants

Strengths

- High-capacity, high-precision measurement acquisitions
- Consistency check
- Reliability and robustness
- Wide range of means of communication available
- Weather and supervision data
- Local output to automaton
- Compliant with the NF, CE and international standard
- EMC (electromagnetic compatibility)

Services

- Installation and commissioning
- Training
- Preventive and corrective maintenance
- After-sales support

Services

- Hot-line
- Hot-mail
- Calibration



Software

Secured web platform

Data collection and processing



Main MERCURY sensors

Sterela AWS



Main MERCURY sensors

S200 S110 S120 S140



Ultrasonic Wind Sensor
 Speed: 0 to 60 m/s
 Resolution: 0.1m/s
 Management: 0 to 359
 Resolution: 1°



Ultrasonic Wind Sensor
 Speed: 0 to 75m/s
 Resolution: 0.1m/s
 Management: 0 to 359
 Resolution: 1°



Air temperature
 Platinum resistance PT100
 4-wire assembly
 Range from -40 to +60°C
 Accuracy: 0.1°C



Relative humidity of air
 Range from 0 to 100%
 Resolution 1%
 Accuracy: ±2% (0-90%) and
 ±3 (90-100%)



Solar radiation shield
 9 cups
 Anti-UV



Tipping bucket rain gauge
 Cone: 400cm²
 Resolution: 0.2mm
 Range: up to 500mm/h
 Accuracy <60mm/h: 3%



1st class Pyranometer
 Thermopile
 Range: 285 to 3000nm
 Sensitivity: 15µV/W/m²



Barometer
 Range: 500 to 1100hPa
 Resolution: 0.1hPa
 Accuracy: < 0.1hPa PE



Soil temperature
 Platinum resistance PT100
 4-wire assembly
 Range from -40 to +60°C
 Accuracy: 0.1°C



State of roadway
 Surface temperature
 State of roadway (dry, wet, etc.)
 Anti-freeze agent
 Ice



Combined Sensor
 Precipitation: total, intensity
 and rain-snow distinction
 Temperature, humidity and
 pressure

○ = standard

● = option

S200	S110	S120	S140
●	●	○	●
●			
●		●	
●		●	
○	●	○	○
○			
○		●	
○		●	●
○		○	
○		○	
	●		
	●		



Pacome Maintainer

Configuration and maintenance software

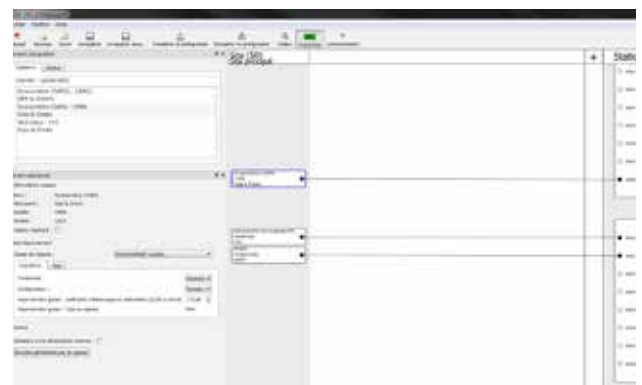
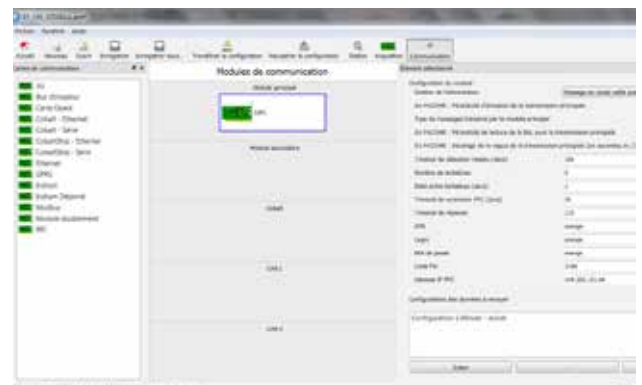
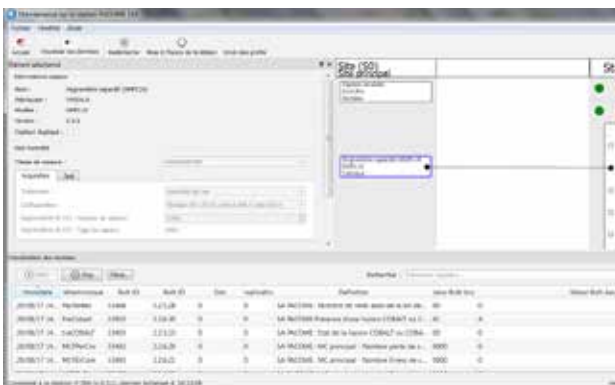
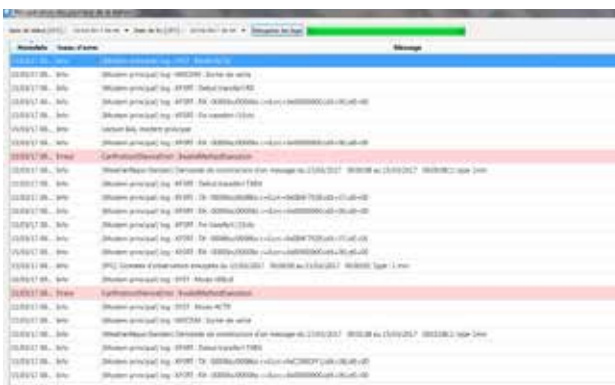
This software makes it possible to configure and maintain MERCURY stations. Its interface, both simple and intuitive, enables a fast learning of the software.



Pacome Maintainer Strengths

CONFIGURATION AND MAINTENANCE

- ▶ Configuration model creation/modification
- ▶ Model loading/unloading in station
- ▶ Real-time data viewing
- ▶ Software update
- ▶ Unloading of data and logs stored in a station
- ▶ Local or remote maintenance
- ▶ Connection to station via RS232 or Bluetooth
- ▶ Test and diagnostic mode

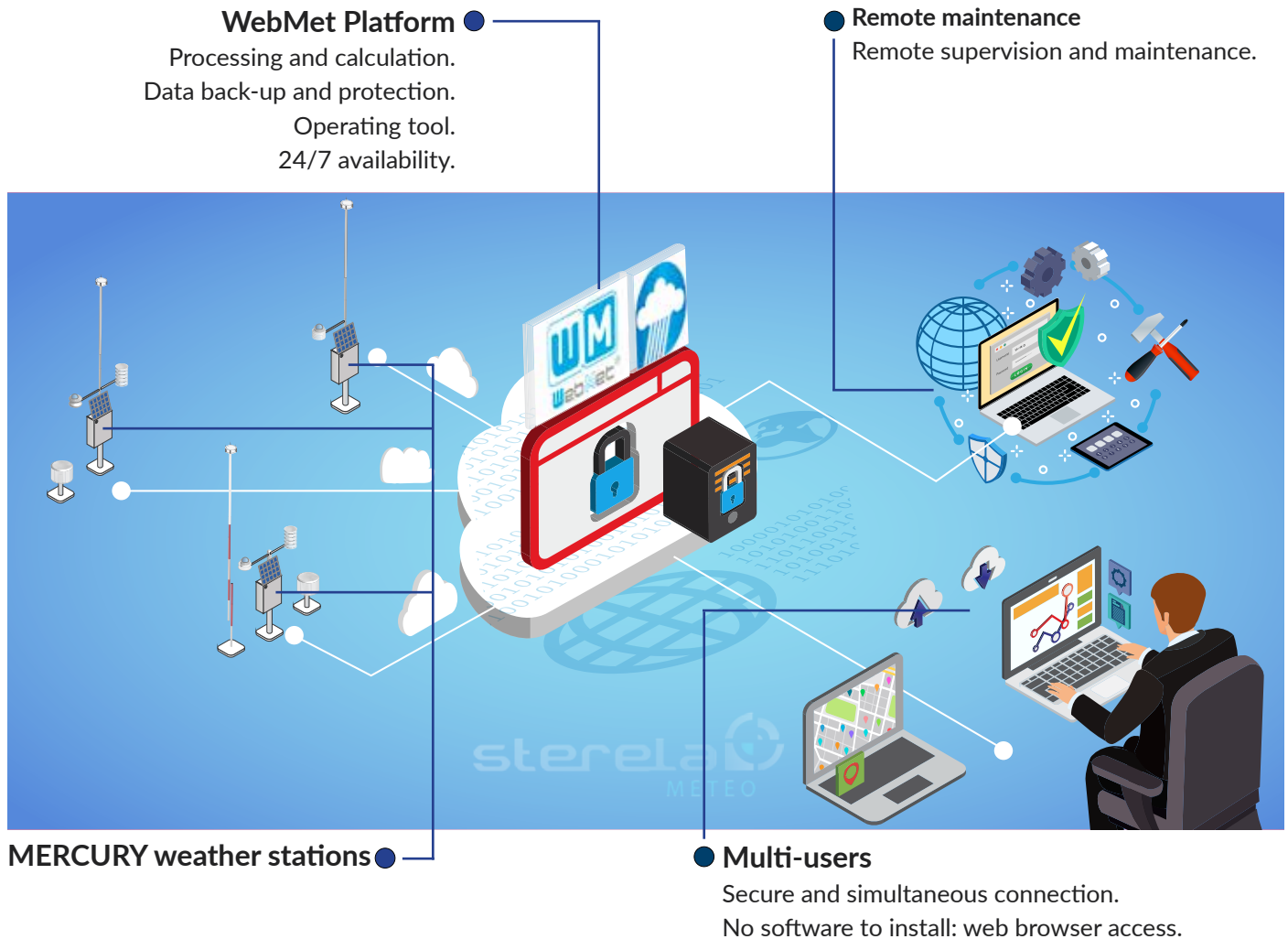




Sterela offers a professional and comprehensive web solution. With direct access to your data on an intuitive and user-friendly platform. Option for local hosting in your servers or those of STERELA.

WebMet

Data collection, processing and operating platform



Strengths

- Full Web access
- Secure platform
- Multi-users
- Tables and graphs
- Decision support
- Advanced Customization
- High availability service
- Supervision
- Data consistency checks
- Remote maintenance of weather stations

Functionalities

- Alerts
- Mapping
- Exporting data
- Graphic reports
- Weather messages
- Database management
- Account administration
- Configuration of functionalities
- Real-time visualisation by station/multi-stations

MERCURY lines of products

Functionalities	AUTOMATIC WEATHER STATION			
	S200	S110	S120	S140
Self-configuration at start-up (application and configuration)	o	o	o	o
Envelope				
Compact Box Set (IP66)	o	o	o	o
Extended Box Set (IP66)	/	/	/	/
Cabinet (IP54)	/	/	/	/
Communication				
Configurable transmission frequency	o	o	o	o
Automatic transmission after network outage (3 hrs)	o	o	o	o
Modem				
GPRS / 3G / PSTN / Ethernet (LAN)	o	o	o	o
Iridium Satellite Modem / Remote Iridium Satellite	/	/	/	/
Normal/standby mode	/	/	/	/
Local				
RS232 / RS485 / RS422	/	/	/	/
Optical fibre	/	/	/	/
UHF Radio (free band)	/	/	/	/
CAN	/	/	/	/
WIFI	/	/	/	/
Local Communications Protocol				
NMEA	/	/	/	/
ASCII	/	/	/	/
MODBUS	/	/	/	/
Local maintenance port				
RS232	o	o	o	o
Bluetooth	o	o	o	o
Interface sensors				
Sensor power voltage from 10 to 24V	o	o	o	o
Sensor offset >1km	/	/	/	/
Analog (unmarked input)				
Impulsive / contact / unipolar / bipolar	o	o	o	o
Voltage: -30mV / +30mV; 0/5V; -5V / +5V	o	o	o	o
PT100	o	o	o	o
A/D 24Bit converter	o	o	o	o
Digital				
RS232 / RS485 / RS422	o	o	o	o
FSK v23 / SDI12	/	/	/	/
CAN	/	/	/	/
Synchronization				
By GPS	o	o	o	o
By server	/	/	/	/
Internal clock drift < 5s per month	o	o	o	o
Set locally or remotely	o	o	o	o

o : basic equipment

/ : optional

x : unavailable

Functionalities	AUTOMATIC WEATHER STATION			
	S200	S110	S120	S140
Power supply				
Sector: 110V / 230V - 50/60Hz	/	/	/	/
Solar 20Wc + battery	o	o	o	o
Solar power (other power)	/	/	/	/
Battery protection against deep landfills	o	o	o	o
Memory card (non-volatile and extractable)				
4GB (extendable at 32GB)	o	o	o	o
Internal storage of weather and supervision data	o	o	o	o
Internal storage of event software and logs	o	o	o	o
Protection against overvoltage				
Individually and by detachable module (fuse type)	o	o	o	o
Remote maintenance				
Partial or total station configuration	o	o	o	o
Software update	o	o	o	o
Internal memory unloading (logs, weather data, supervision)	o	o	o	o
Environmental constraints				
Operating temperature -35°C/+65°C	o	o	o	o
Storage temperature -35°C/+70°C	o	o	o	o
Humidity 0-100%	o	o	o	o
Tropicalised board	o	o	o	o
Compliance				
EMC: IEC 61000-4-2/3/4/5/6	o	o	o	o
WMO standard	o	o	o	o
RoHS and WEEE	o	o	o	o
CE	o	o	o	o
Maintenance				
Supervision by LEDS	o	o	o	o
Test & maintenance mode	o	o	o	o
Standard exchange of sub-assemblies	o	o	o	o
Acquisition capacity (analogue or digital) and local communication output				
Compact H50xW50xD21 cm box Max acquisition path for local output				
		16		0
		8		1
Extended H70xW54xD25.5 cm box				
		32		0
		24		1
		16		2
Cabinet H145xW65xD36 cm				
		32		0
		32		1
		24		2

Our know-how

Research
Industrialisation and production
Installation and training
After-sales and maintenance



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