



Environnement s.a

Corporate Presentation & Air Quality Monitoring Systems



The Environnement-SA Group



Environnement s.a.
instrumentation for the environment



The Company in few words.....

- Founded in **1978** by its current Chairman
- A **European leader** in the instrumentation sector, with its headquarter based in Poissy, France (Great Paris Region)
- More than **600 employees** worldwide, including 220 in 3 facilities in France
- A **2016 turnover of 76,6M€**, with **78% in Export Market**
- An **average growth of 10 to 15% per year**
- A **public company** listed on the Alternext stock exchange market since January 2006





Foreseeing the future with the e-series

A state of the art Range of Product and Services

Ambient Environmental Monitoring



Industrial Monitoring (Environmental / Process & Engines)



Environmental Data Processing





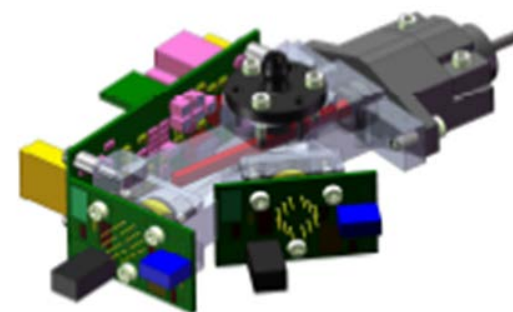
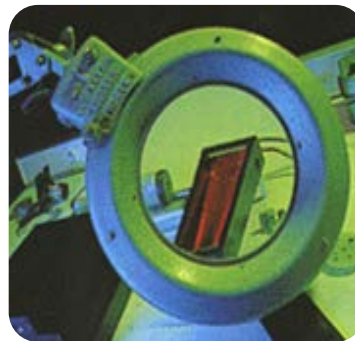
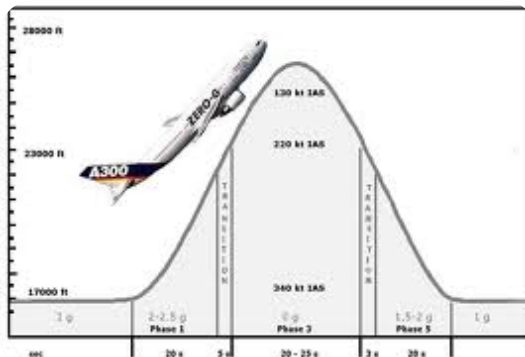
Innovation by constant R&D investments

- 8 to 10% of annual revenue invested in R&D
- 3D conception tools and internal Labs
- Scientific & Technical partnerships
- Member of International working groups



Technical Research
Centre of Finland

Internal R&D Center





A large workshop

- 10.000 m2 of surface for manufacturing, integration & QC
- Production capacity > 2000 analysers per year
- 4 Quality Control platforms
- 1 Dedicated area for integration

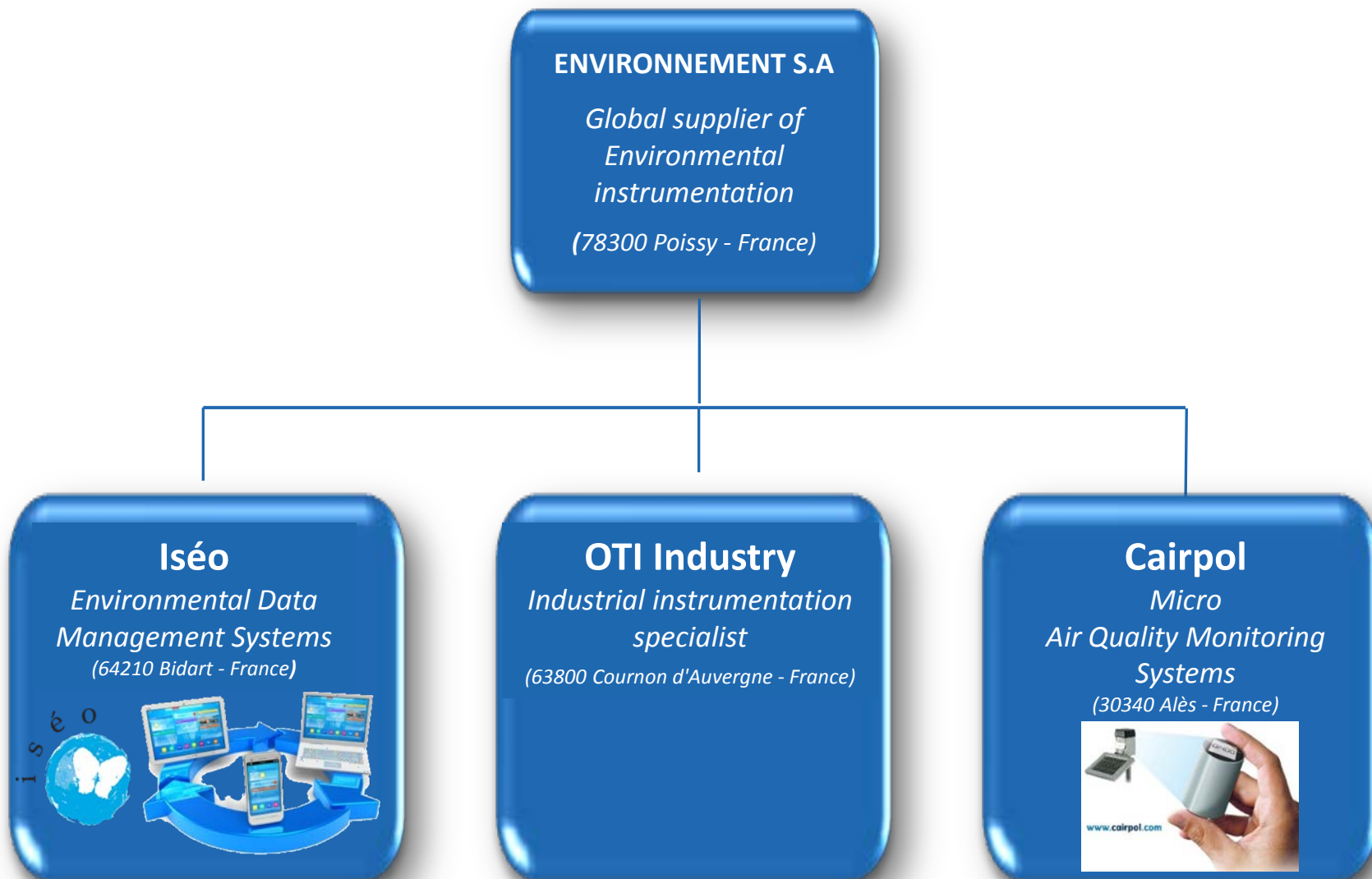




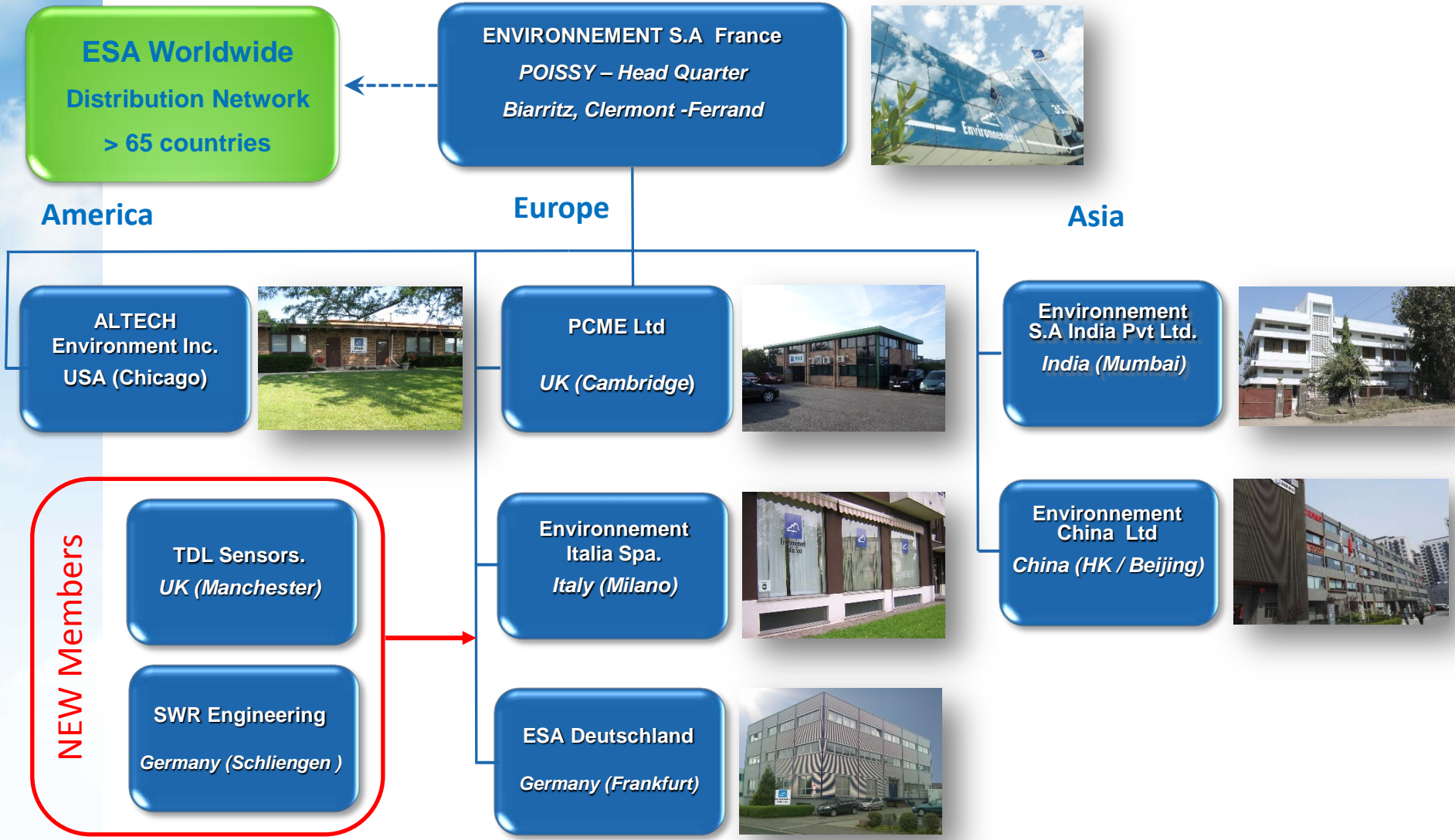
Foreseeing the future with the e-series



Environnement S.A Group in France



Environnement S.A Group worldwide





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Solutions for Ambient Air Monitoring





A complete range of approved analyzers :

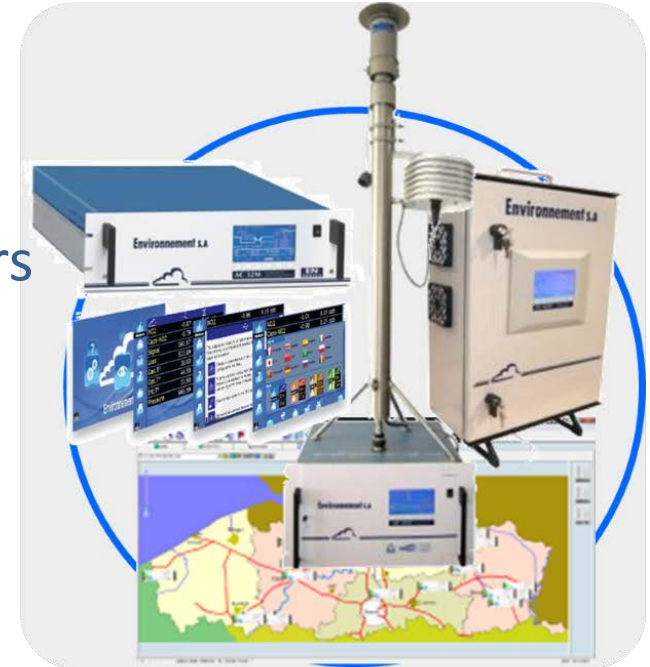


Suitability Tested
EN 15267
QAL1 Certified
Regular
Surveillance

www.tuv.com
ID 0000035017

- Our main monitors and parameters
 - ✓ NO_x / NH₃ Measurement = AC32M (CLD)
 - ✓ NO₂ Measurement = AS32M (CAPS)
 - ✓ SO₂ / H₂S Measurement = AF22M (UV Fluo)
 - ✓ CO / CO₂ Measurement = CO12M (NDIR)
 - ✓ O₃ Measurement = O342M (UV Absorption)
 - ✓ THC Measurement = HC51M (FID)
 - ✓ BTEX Measurement = VOC72M (GC - PID)
 - ✓ PM₁₀ – PM_{2.5} Measurement = MP101M / CPM (BETA Abs / Optical)
 - ✓ Sampling = PM162M (LVS – 22 or 70 samples)

- Our Special AQM and sensors
 - ✓ MMS = Micro Monitoring Station – using 2M modules (NO_x/ O₃/ CO / SO₂)
 - ✓ CAIRPOL Micro Sensors





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The “2M” Series

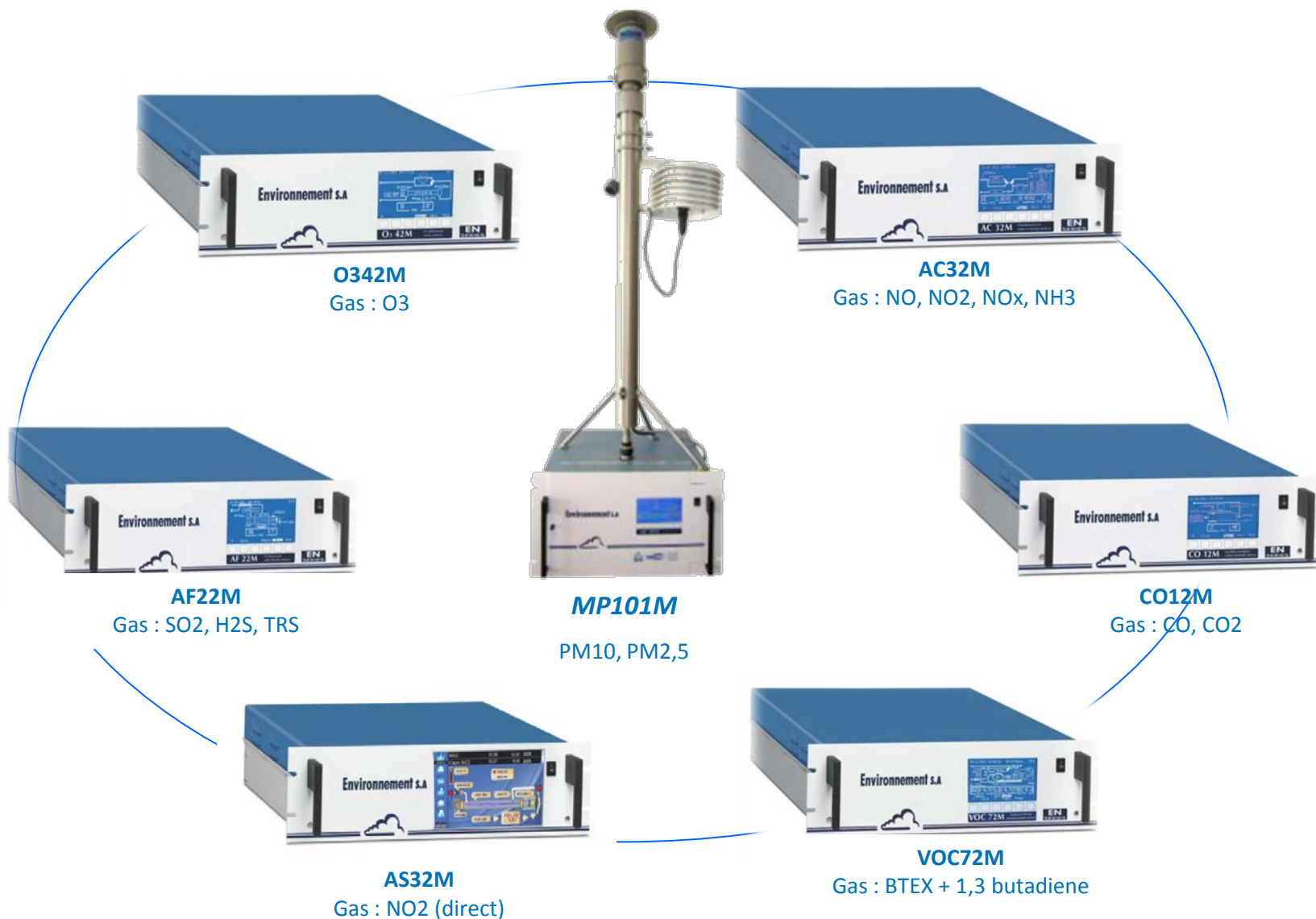
Ambient Air Quality Analyzers for Criteria Pollutants





The "2M" Series

Foreseeing the future with the e-series





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The new “e” Series

Ambient Air Quality Analyzers for Criteria Pollutants





 Design foundations of the “e” Series, beyond reaching the **best technical monitoring performances**, are the customers’ concerns:

- Their **Environmental Responsibility** when purchasing goods through their design, their operation and their "end of life" cycle, therefore their request for **Sustainable Ecologic Design** products
- Easy operation and service through **Service Assistant** functionalities **inside** the analyzer and through **connected products**
- Their demand for **Operational Cost Reduction** thus allowing them to save money on their **operation budget**



Weight reduction

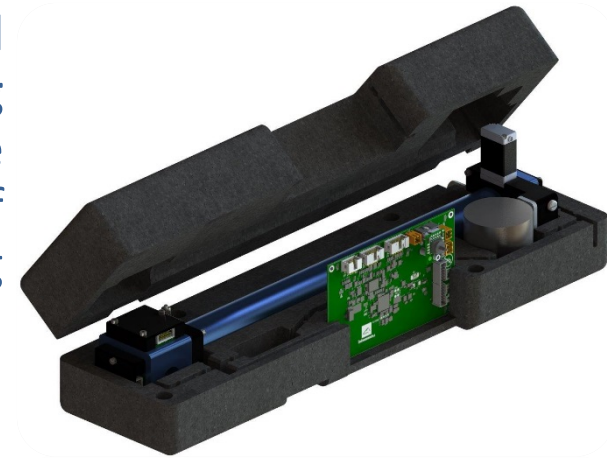
- The average weight of e-series monitors is the lowest on the market, a significant difference while transporting equipments

Electrical consumption reduction

- Save up to **20.000 KWh over 10 years** per e-series analyzer
- **Battery capacity** requirements (UPS) **can be reduced by 80 %**.
- **Allow Solar panels** use to power your station!

The foam protection concept :

- using a long-lasting **non corrosive recycled material** while **absorbing shock, isolating electrical connections**, increasing the **thermic insulation** and thus reducing if not replacing the use of Air Conditioning (and saving an additional 180.000 KWh over 10 years / station!)





The display can now be removed from the analyzer

- Environmental friendly by saving the heavily polluting equipment and the recycling of thousands of displays and boards. (switched off more than **99,9%** during analyzer lifetime)

Replacement of heavy polluted components

- Example, removal of the Hg lamp on O3 monitor
- **Full ROHS compliance**

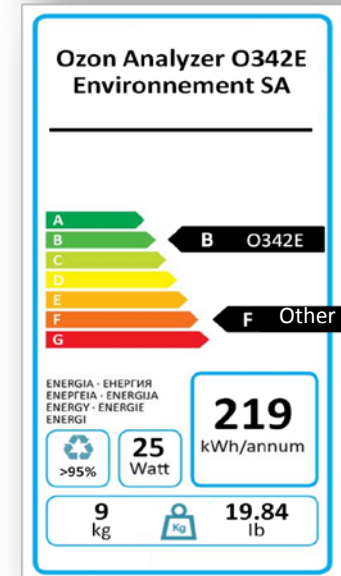


95% recycled analyzers (in mass)

- Recycling deconstruction integrated into design

The lower carbon footprint

- Up to 82% less than other analyzers on the market





Service Assistant Inside (1/2)

Foreseeing the future with the e-series

☁ **Display of the monitor status** through the interactive front panel LED display (Power On, Alarm, Maintenance required, Zero, Span,...)



☁ **Recording the uptime** of the main components to ease the routine maintenance



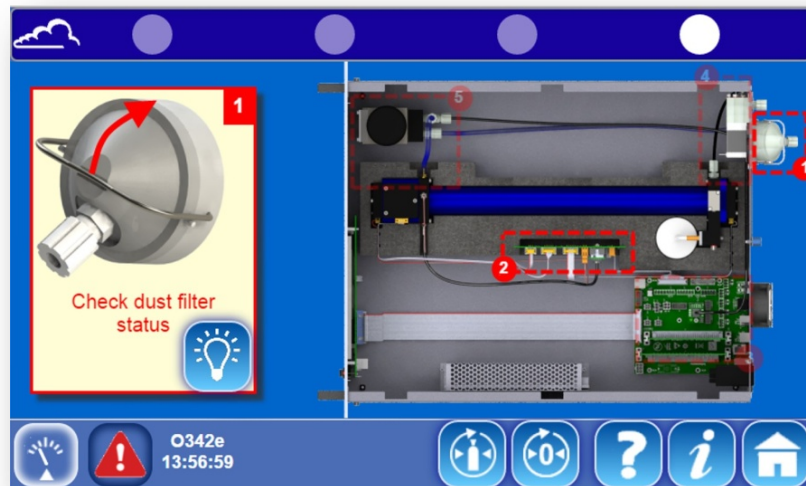
☁ **USB plug in principle** Automatic recognition of plugged electronic board or optional devices, including automatic download of updated drivers

After insertion, boards are automatically recognized and configured by the analyzer

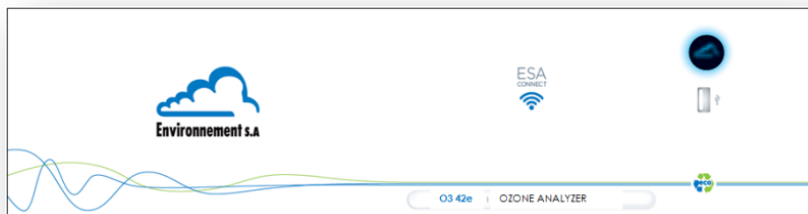
O3 42e	CO 12e
AF 22e	AC 32e



Identify and guide !



- Possibility to guide the service operations
- Possibility to record the **States Of Health (SOH)** parameters list for immediate expert advice on site or remotely
- Possibility to send to the central server the analyzer **set-up configuration & SOH**
- Possibility to use Wireless secured and very fast **WIFI connectivity** directly from analyzer to any PC, Smartphone, tablet, allowing the **easiest access** to the full operation of the analyzer: without cables, without facing the instrument (in your car, on the roof of the shelter,...), using your GSM capability to forward information, etc



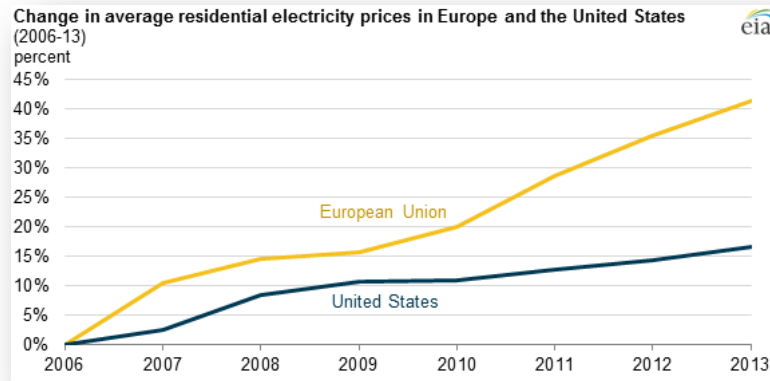


Operational Cost Reduction (1/2)

Foreseeing the future with the e-series

☁ Reduction of Power consumption, with a direct impact on operation cost

- Save 20.000 KWh over 10 years for one single monitor
- Cost cutting estimation = 4K€/analyzer/10 years (average energy price in EU)
- Even more with the **increase of electricity cost**



☁ Spare parts optimization:

- 40% of the electronic boards are **fully commutable** between the analyzers

☁ Minimization of on-site expensive expertise (if not even anymore required)

☁ Minimization of training (Maintenance Assistance Inside)

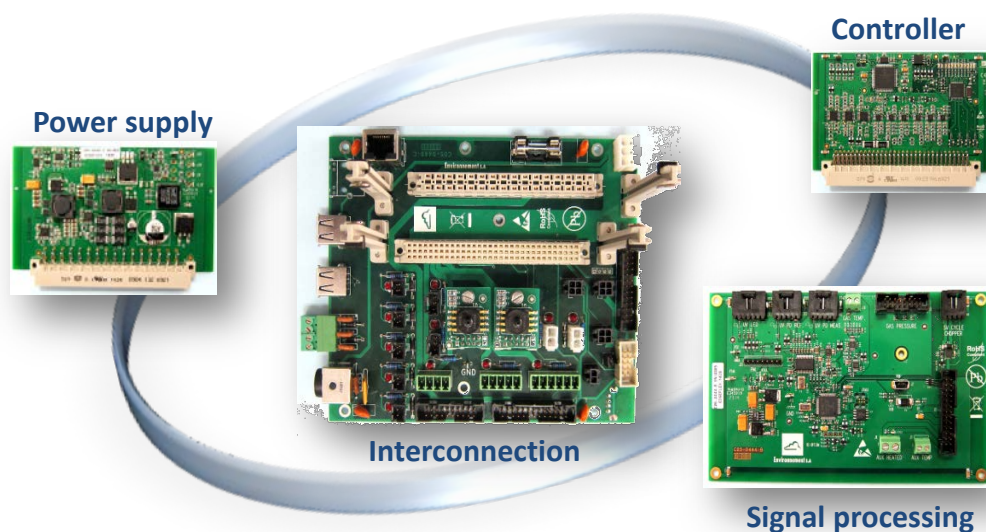
☁ Reduction of documentation management & handling, **Manuals are inside the analyzer**



☁ Reliability excellence program

“Our expectations with e-Series is to get the **highest rate of operation**”

- Many innovations to **improve** the most sensitive monitoring components
- Significant **strengthening** to ambient operating conditions
- Specific **focus on the electronic architecture** with separation of main functionalities, with “plug & play” components (recognition + automatic configuration)



- **Robust industrial connectors** (internal & external)
- **Insulation** of the heated devices



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Photometry O₃ Analyzer the **O342e**

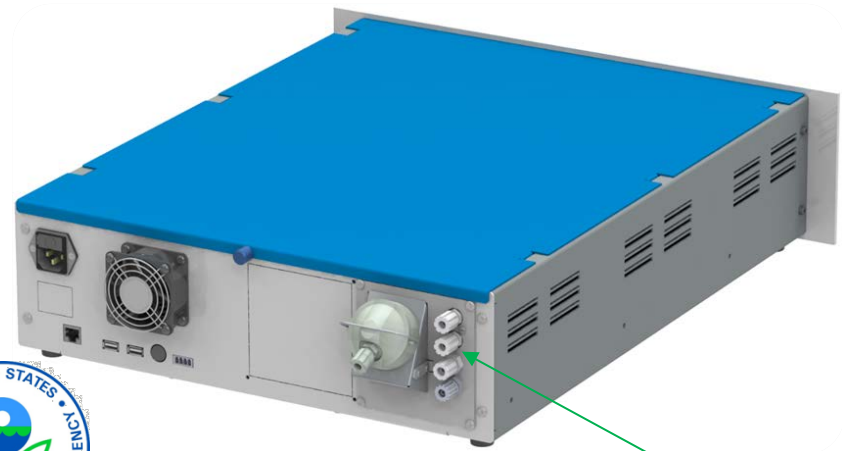




O342e - Main specifications

Foreseeing the future with the e-series

- ☁ Range: 0-10 ppm
- ☁ Noise: 0.1 ppb (for 50s response time)
- ☁ Detection limit: 0.2 ppb
- ☁ Zero drift: <1ppb/7days
- ☁ Span drift: <1%/7days
- ☁ Flow: 1L/min
- ☁ Power Consumption: 30W (70W on O342M)
- ☁ Memory Capacity: 12 Months (15 min average)
- ☁ Operating Temperature: 0 - 40°C
- ☁ Weight: 9 Kg
- ☁ Dim: 483 mm × 545 mm × 133 mm
- ☁ 3 USB ports
- ☁ 1 Ethernet port
- ☁ Wi-Fi on USB



Solenoid Valves Block + Dust Filter

QAL1 Certified



NF EN 14625
2013 version

Design. Number :
EQQA-0515-225



40 CFR Part 53
SUB B & SUB C



O342e – Options

Foreseeing the future with the e-series

☁ LCD Touch Screen - 7" - 800 (RGB) x 480

➤ Wi-Fi USB Key as option



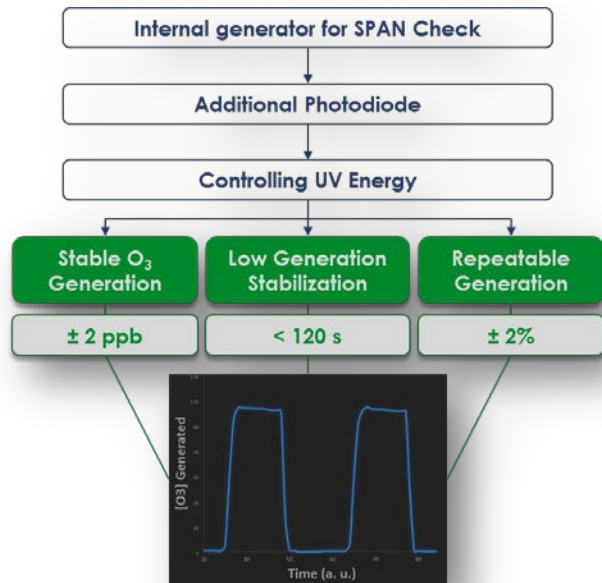
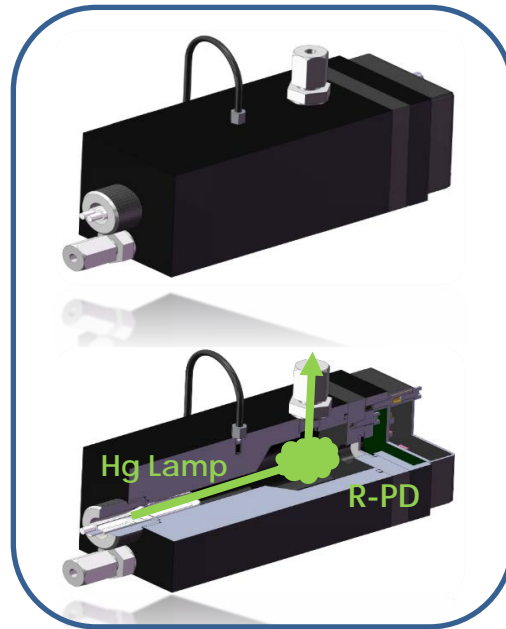
☁ Serial interface (RS 232 / RS 485) via USB port

☁ 24V DC power supply for on-board applications

☁ External ESTEL Electronic Board

➤ 4+4 Analog I/O; 4 Remote Control Inputs; 6 Dry Contacts Outputs

☁ Innovated Built-in Ozone Generator & LED source





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Non Dispersive IR CO Analyzer the **CO12e**

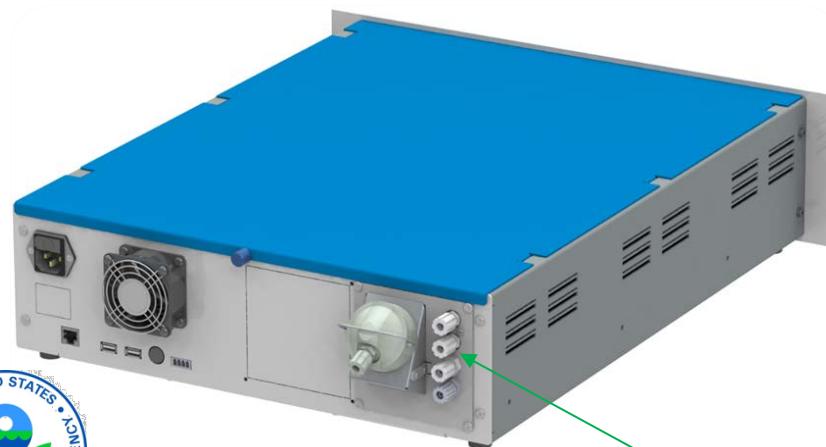




CO12e - Main specifications

Foreseeing the future with the e-series

- ☁ Range: 0-300 ppm
- ☁ Noise: 0.015 ppm
- ☁ Detection Limit: 0.035 ppm
- ☁ Zero drift: < 0,3 ppm/ 24 h
- ☁ Span drift: <1%/7days
- ☁ Flow: 1L/min
- ☁ Power Consumption: 50W
- ☁ Memory Capacity: 12 Months (15 min average)
- ☁ Operating Temperature: 0 - 40°C
- ☁ Weight: 7 Kg
- ☁ Dim: 483 mm × 545 mm × 133 mm
- ☁ 3 USB ports
- ☁ 1 Ethernet port
- ☁ Wi-Fi on USB



Solenoid Valves Block
+
Dust Filter



NF EN 14626
2013 version

Design. Number :
RFCA-0915-228



40 CFR Part 53
SUB B & SUB C



☁ LCD Touch Screen - 7" - 800 (RGB) x 480

- Wi-Fi USB Key becomes an option



☁ Serial interface (RS 232 / RS 485) via USB port

☁ External ESTEL Electronic Board

- 4+4 Analog I/O; 4 Remote Control Inputs; 6 Dry Contacts Outputs

☁ Module for CO2 Measurement

- Max 3000 ppm
- Requires N2 source for ZERO



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UV Fluorescent SO₂ Analyzer the **AF22e**

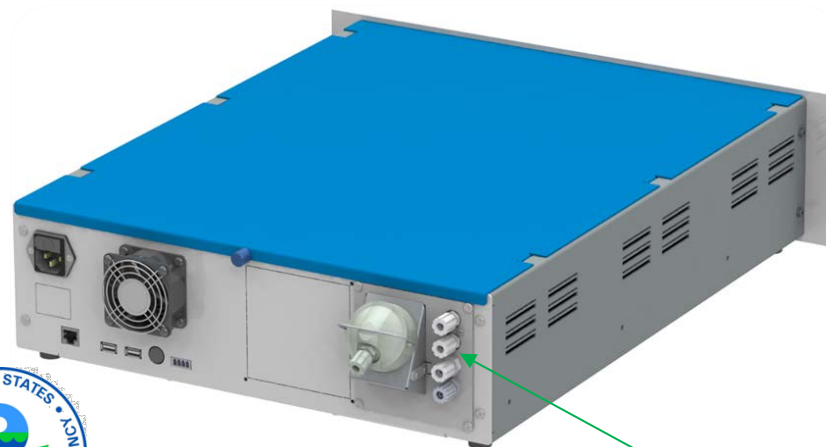




AF22e - Main specifications

Foreseeing the future with the e-series

- ☁ Range: 0-20 ppm
- ☁ Detection Limit: 0.4 ppb
- ☁ Noise: 0.2 ppb
- ☁ Zero drift: < 1 ppb/ 24 h
- ☁ Span drift: < 0,5%/7days
- ☁ Flow: 1L/min
- ☁ Power Consumption: 50 W
- ☁ Memory Capacity: 12 Months (15 min average)
- ☁ Operating Temperature: 0 - 40°C
- ☁ Weight: 9 Kg
- ☁ Dim: 483 mm × 545 mm × 133 mm
- ☁ 3 USB ports
- ☁ 1 Ethernet port
- ☁ Wi-Fi on USB



Solenoid Valves Block
+
Dust Filter



NF EN 14212
2013 version

Design. Number :
EQSA-0802-149



40 CFR Part 53
SUB B & SUB C



☁ LCD Touch Screen - 7" - 800 (RGB) x 480

- Wi-Fi USB Key as option



☁ Serial interface (RS 232 / RS 485) via USB port

☁ External ESTEL Electronic Board

- 4+4 Analog I/O; 4 Remote Control Inputs; 6 Dry Contacts Outputs

☁ Permeation Bench with SO₂ / H₂S or COS tube

☁ H₂S Built-in Converter (range 0 – 1000 ppb)

☁ TRS external additional module (19" – 3U)



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Chemiluminescent NO-NO_x & NO₂ Analyzer the **AC32e**

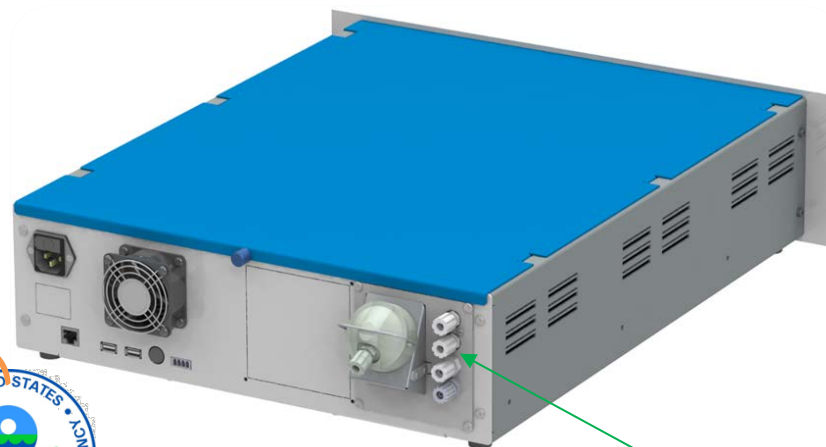




AC32e - Main specifications

Foreseeing the future with the e-series

- ☁ Range: 0 – 20 ppm
- ☁ Detection Limit: 0.2 ppb
- ☁ Noise: 0.1 ppb
- ☁ Zero drift: < 1 ppb/ 24 h
- ☁ Span drift: < 1%/7days
- ☁ Flow: 1L/min
- ☁ Power Consumption: 160W
- ☁ Memory Capacity: 12 Months (15 min average)
- ☁ Operating Temperature: 0 - 40°C
- ☁ Weight: 10 Kg (w/o pump)
- ☁ Dim: 483 mm × 545 mm × 133 mm
- ☁ 3 USB ports
- ☁ 1 Ethernet port
- ☁ Wi-Fi on USB



Solenoid Valves Block
+
Dust Filter

QAL1 Certified



NF EN 14211
2013 version

Design. Number :
To come (June 2016)



40 CFR Part 53
SUB B & SUB C



☁ LCD Touch Screen - 7" - 800 (RGB) x 480

- Wi-Fi USB Key as option



☁ Serial interface (RS 232 / RS 485) via USB port

☁ External ESTEL Electronic Board

- 4+4 Analog I/O; 4 Remote Control Inputs; 6 Dry Contacts Outputs

☁ Permeation Bench with NO₂ or NH₃ tube

☁ Additional module (19" – 3U) for NH₃ monitoring (0 – 1000 ppb)



Environnement s.A

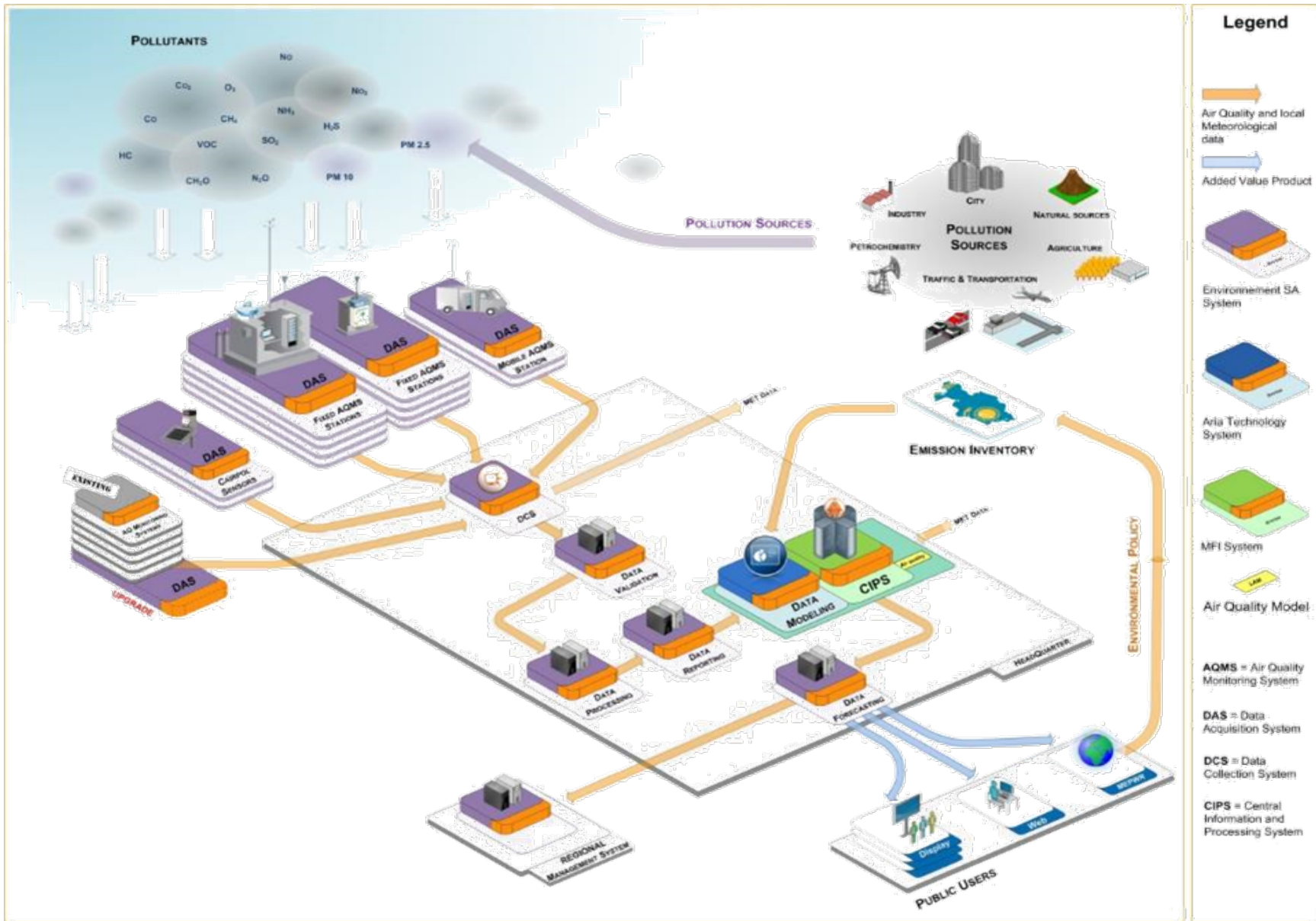
Global Solution Provider

Turnkey Systems with data management





Foreseeing the future with the e-series





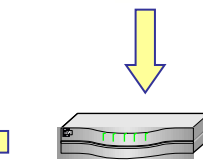
Foreseeing the future with the e-series

Offering all tools for Air Quality data management

Air Quality Monitoring Stations



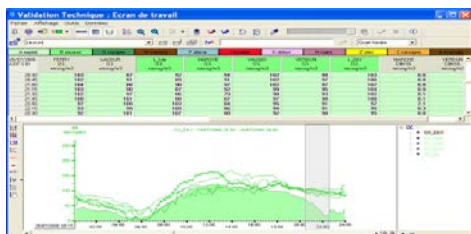
Data Acquisition Systems



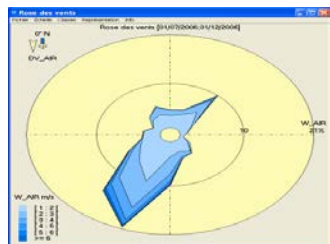
GSM/GPRS/Radio Data Transmission



Data Centralization System



Data Validation in Central Office



Data Management tools



Dissemination of the information (Public Displays, Website...)



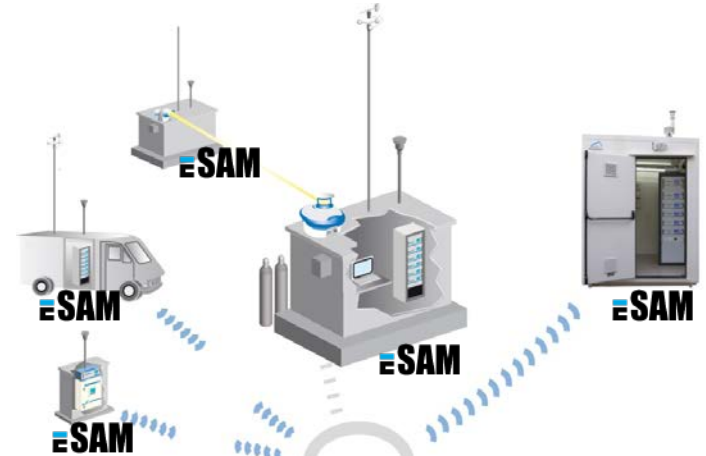
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Data Acquisition & Management



Data Acquisition Systems

- The eSAM Data Acquisition Systems (DAS)
 - ✓ An advanced DAS to collect and prepare the data for the XR central data management software



Data Management Software

- XR Software
 - ✓ An advanced central data processing system for any type of Air Quality Monitoring Network
 - ✓ From the management of 1 analyzer to the collection of the data at a National level



Main Features

- Communication with central software
 - ✓ SPTN, GSM, GPRS, Radio, Ethernet TCP-IP
- Real Time data Acquisition (gas, dust, meteo,...)
- Bi-directional communication with a central software
- Failures, alarms and over thresholds signalling

eSAM

Strong Points

- Quality code allocation to each data
- Automatic calibration management
- First level of automatic data validation
- Local storage of data & local Internet server
- Web interface for remote control of the instruments



Linux



The Platform

- Windows or Linux
- Installed on an industrial rack or on a Personal Computer (Windows)



Available types of connection with the instruments :

- Analog
- RS232
- Ethernet TCP-IP
- Modbus on TCP



Control of the instruments

- Check of the connections with the instruments
- Automatic or manual start of the configuration of the analyzers

The largest range of protocols available in a DAS

- More than 250 protocols are included
- from more than 55 manufacturers of Gas, dust and Meteorological instruments (including all the major manufacturers)
- We include or update 1 to 2 communication protocol per Month

Preparation of the data

- Easy and quick access to the real time data
- Analysis of the real time data and first level of automatic data validation
- Preparation of the averages

Communication with the central software

- Management of the Alarms and over thresholds
- Data transfer to the central software



#	Name	Equipment	Acquisition type
1	NO	AC 32M (04-882)	SERIE
2	NO2	AC 32M (04-882)	SERIE
3	NOx	AC 32M (04-882)	SERIE
4	O3	O3 42M (535)	SERIE
5	Dust	PM 101M (10) (105...)	SERIE
6	Temperature	WXTS10 (-)	ANALOGIQUE
7	Humidity	WXTS10 (-)	ANALOGIQUE
8	Rain	WXTS10 (-)	ANALOGIQUE
9	Wind speed	WXTS10 (-)	ANALOGIQUE
10	Wind direction	WXTS10 (-)	ANALOGIQUE

General parameters

Name: NO Id: 02

Enable: Delay (s): [dropdown] Unit: ppb

Signal linearisation

Coef A: 1 Coef B: 0 Fmul: [dropdown]

Substitution: [dropdown] Forc: 1.25 Unit: µg/m³

Device range


Lower limit: 0 Coefficient: 0

Upper limit: 0 Coefficient: 0

Apply

14/04/2016 17:33:29 Copyright © iseo 2016

A Web Based interface

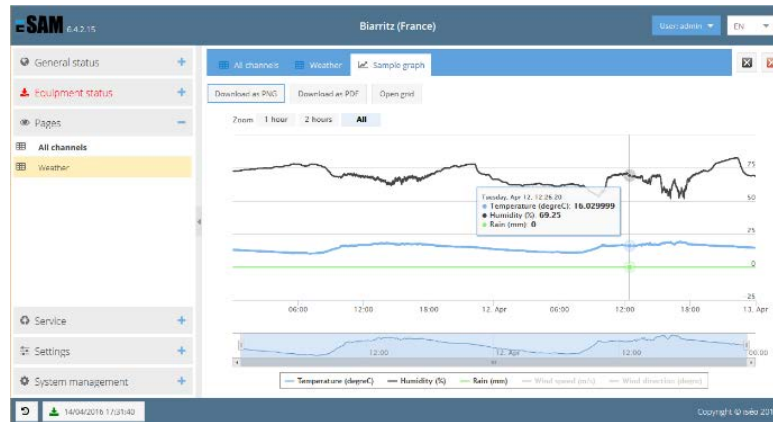
- Responsive Web design
- Touchscreen compatibility 
 - ✓ PC, Tablet, Smartphone.
- Technology HTML5, JavaScript, ...



eSAM

Application accessible via the WEB

- The eSAM interface is accessible from everywhere
 - ✓ Via the web from a web browser
 - ✓ Consultation & download of data
 - ✓ Remote control and management of the instruments (calibration, failures, ...)



Foreseeing the future with the e-series





Data Collection from the eSAM DAS

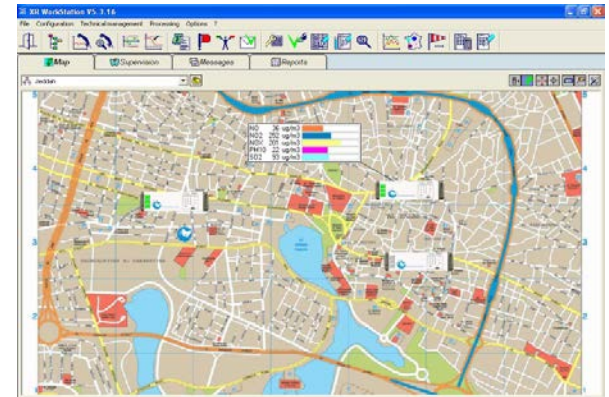
- Automatic collection of data from the eSAM DAS
- No limitation on the number of station (from 1 station to a national network)
- Bi directional communication with the eSAM (Land Line, GSM, GPRS, Ethernet, radio,...)

Data validation

- Manual and/or automatic validation

Data centralization and display

- Local or remote Workstations
- On line data visualization on a map



Reporting

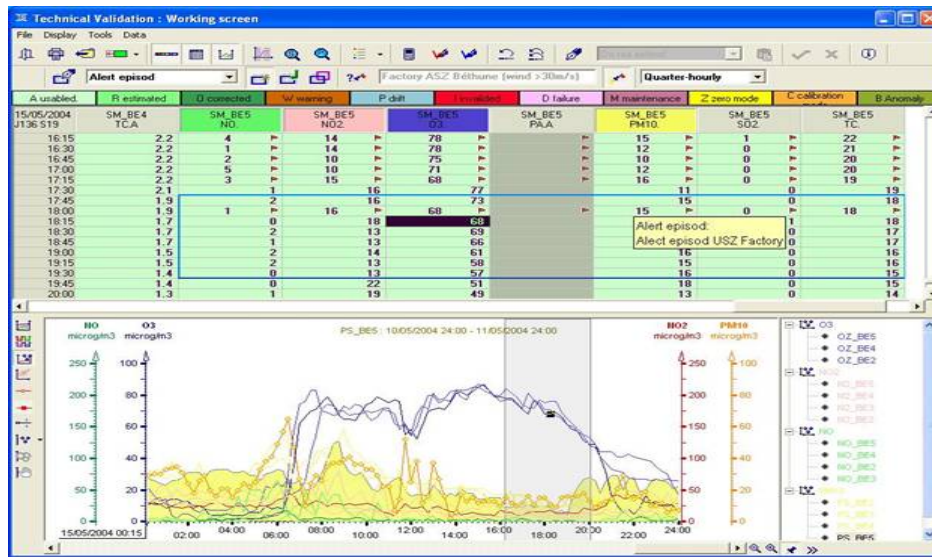
- Advanced reporting and data exporting module
- Data transfer (raw and validated) by files to National Authorities



☁ On line calibration & configuration of the analyzers

☁ Advanced Data Validation module included

- Automatic or fast “manual” validation module



The « manual » data validation screen gives all the information to proceed the « Manual » data validation (Quality codes, 1st data invalidation from the DAS,...)

☁ Data processing and reporting

- Powerful included engine for data reporting with exports in several formats (Excel, csv, txt, XML,...)



Access Rights Management



- Required ID and Password for system connection
- Definition of user's profiles (administrator, validation of data, reports, data visualization only,...)



Traceability and security

- Complete traceability of actions and data on the system (validation, modification of the configuration, ...)
- The raw data (before validation and modification) are stored in the database
- All the modifications on the data are recorded with the ID of the User, Date & Hour
- Included backup and restore module of the database





Importance of Data Validation

- Data validation is an element of Quality Assurance
 - ✓ Necessity to publish accurate and reliable data to the public
 - ✓ The data must be displayed on real time 24H/day (internet,...)
- **Raw data cannot be displayed automatically without validation**



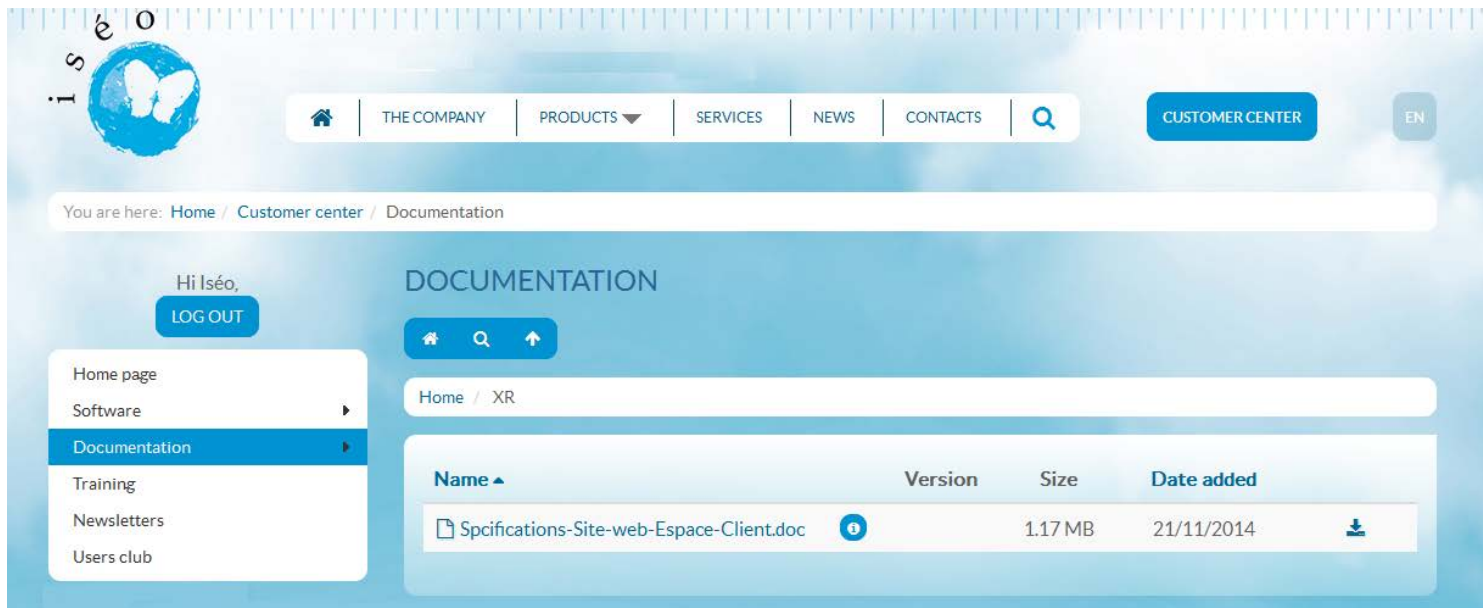
The Automatic Data Validation in XR – ADVAL

- **First level of automatic validation** by the eSAM DAS (on scans – 10" data) : Calibration (Span and Zero), Maintenance, Failures from the analyzers, ... All these data can be automatically invalidated by the DAS
- **Second level – Advanced Automatic Validation** by the XR central software
 - ✓ It is based on a set of rules (which can be modified and adapted by the software administrators)
 - ✓ Consequence: The data which is automatically displayed is accurate and reliable


Available Services en Iséo Website

Customer Area : <http://www.iseo.fr/index.php/en/customer-center>

- Documentation
 - ✓ Latest software documentation
 - ✓ Technical notes, available protocols,...
- Software
 - ✓ Download of the Latest updates
 - ✓ Revision notes



The screenshot shows the 'DOCUMENTATION' page in the Iséo Customer Center. The page has a blue header with the Iséo logo and navigation links: THE COMPANY, PRODUCTS, SERVICES, NEWS, CONTACTS, and a search icon. A 'CUSTOMER CENTER' button and an 'EN' language selector are also present. Below the header, a breadcrumb trail reads 'You are here: Home / Customer center / Documentation'. On the left, a user is logged in as 'Hi Iséo,' with a 'LOG OUT' button. A sidebar menu lists: Home page, Software, Documentation (highlighted), Training, Newsletters, and Users club. The main content area shows a 'DOCUMENTATION' section with a search icon and a breadcrumb 'Home / XR'. Below this is a table with columns for Name, Version, Size, and Date added. One document is listed: 'Spçifications-Site-web-Espace-Client.doc' with version 1, size 1.17 MB, and date 21/11/2014. A download icon is visible next to the document name.

Name	Version	Size	Date added
 Spçifications-Site-web-Espace-Client.doc	1	1.17 MB	21/11/2014



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**Thank you for your
attention**

