PM_TEN srl

Physical **M**ethods and
Technologies for
Environmental **N**eeds

ABOUT US

PM_TEN is a company that offers innovative services for the environment by connecting the market to the world of research.

ENVIRONMENTAL MONITORING AND ANALYSIS

AIR QUALITY MODELING

PROBLEM SOLVING AND SUPPORT FOR PROJECTS AND PROCESSES

WEATHER AND MARINE MODELLING

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ENVIRONMENTAL MONITORING AND ANALYSIS

with particular reference to the atmosphere matrix and air quality

MONITORING OF PARTICULATE MATTER (INDOOR AND OUTDOOR)

- ✓ Design, organization and management of campaigns to collect samples of atmospheric particulate matter (PM10 and PM2.5 fractions, to be separated using suitable instrumentation, subject to European and national standards) in various sites.
- ✓ Monitoring of indoor air quality (especially in industrial environments), in particular of the temporal trend of the number of airborne particles in different size classes.

COMPOSITIONAL ANALYSIS OF ATMOSPHERIC PARTICULATE

- ✓ Thermo-optical and optical analysis, for the identification of the normally known carbon components (Total, Organic and Elemental Carbon; TC, OC, EC).
- ✓ Analysis for the determination of optical absorption properties and the evaluation of carbonaceous aerosol concentrations (Black and Brown Carbon; BC, BrC).
- ✓ Ion chromatography.
- ✓ Energy dispersive X-ray fluorescence (ED-XRF).

COMPOSITIONAL ANALYSIS OF EXPOSURE IN THE WORKPLACE

For the evaluation of workers' exposure to exhaust gas emissions from diesel engines: thermo-optical analyzes (NIOSH-5040 method, EUSAAR protocol,...) for the determination of the Elemental Carbon content.

LOW-COST SYSTEMS FOR ENVIRONMENTAL MONITORING

- ✓ Development and implementation of innovative systems based on the use of low-cost technology (environmental sensors, IoT), real-time data acquisition and processing with calculation algorithms for identifying the emission source.
- ✓ Early-warning services for the early assessment of environmental criticalities.
- ✓ Support for planning containment/mitigation actions.

ANALYSIS AND CHARACTERIZATION OF EMISSION SOURCES

Identification, characterization and proportioning of polluting sources with the use of multivariate statistical analyzes (receptor models such as: PMF, Positive Matrix Factorization, and CMB, Chemical Mass Balance).

PREPARATION OF FILTER MEDIA

Assembly and preparation of supports - filters and impact stages (coated and uncoated) - for environmental samplers (Streaker (PIXE International), STRAS,...).

AIR QUALITY MODELING

statistical and forecasting models for the assessment of environmental impact on different scales

SIMULATION OF ATMOSPHERIC POLLUTANTS CONCENTRATIONS

- ✓ Development and implementation of atmospheric dispersion models for the study of emission scenarios.
- ✓ Simulation of the dispersion of odors in the atmosphere.

IMPACT ANALYSIS OF SINGLE EMISSION SOURCES

Aimed at evaluating the impact of individual emission sources on the air quality of selected areas and identifying the most significant sources through source apportionment algorithms.

ACCIDENTAL EVENTS SIMULATION

Study of the impact on air quality of accidental events capable of causing large releases on short time scales.

SUPPORT ON IMPACT REDUCTION FOR PLANNED ACTIONS

Evaluation of the consequences on air quality of environmental and infrastructural interventions planned and/or under implementation, comparison with current legislation and identification of specific sets of parameters capable of minimizing the environmental impact.

FUTURE SCENARIOS STUDY AND ANALYSIS

Analysis of possible evolution scenarios of the environmental context determined by socio-economic trends (increase in production activities, transfer or modification of industrial plants, interventions on the production process...).

DigitalPlant

NEW · NEW · NEW · NEW · NEW · NEW

The DigitalPlant platform is an innovative decision support tool that integrates environmental monitoring with predictive modeling.
Monitoring systems of different nature (reference control units, smart sensors, SME systems) interact with each other and with numerical simulation models to identify in real time and prevent the onset of critical issues in the short/medium term.

PROBLEM SOLVING AND SUPPORT FOR PROJECTS AND PROCESSES

for translating ideas into opportunities, identifying critical elements and defining intervention strategies for resolution and optimization

PROJECT BUILDING SUPPORT

Support in the construction and definition of funded research projects: identification of the funding areas and possibilities, technical support in the drafting of the contents (environmental theme), construction of the partnership, definition of the budget and presentation of the proposal.

LEGO® SERIOUS PLAY® WORKSHOP (DESIGN AND FACILITATION)

Design and implementation of problem solving workshops using the Lego® Serious Play® methodology. Support and coaching from a certified Lego® Serious Play® facilitator.

PROCESS MANAGEMENT SUPPORT

Support and analysis for the management/optimization of laboratory processes and activities.

NEW · NEW · NEW · NEW · NEW

DigitaLab

(project financed by the Regional Programme PR FESR 2021 – 2027 of the Liguria Region)

DigitaLab is a package designed for the digital management of business processes related to laboratory analysis services.

The synergetic combination of data analysis, process digitisation and digital document management ensures an in-depth view of laboratory activities and thus an optimal management of specialised consultancy, significantly improving the quality of service provided to customers.

EFFICIENCY AND COST REDUCTION

CUSTOMIZATION AND SCALABILITY

PRECISION AND RELIABILITY

COESIONE ITALIA 21-27 LIGURIA
Cofinanziato dall'Unione europea
REGIONE LIGURIA

WEATHER AND MARINE MODELLING

simulations both for forecasting purposes and for climatological analysis and/or reconstruction of past events on different scales

CLIMATOLOGICAL ANALYSIS AND SIMULATION OF PAST EVENTS

Creation through mesoscale numerical models (forced by planetary scale models), of climatological studies on a multi-decadal basis and reconstruction of past meteorological events in relation to different types of atmospheric observables (such as wind, precipitation, temperature, solar radiation, etc.).

OPERATIONAL SUPPLY OF FORECASTING WEATHER FIELDS

Production on at least a daily basis of meteorological fields (pressure, wind, temperature, humidity, precipitation, solar radiation, etc.) at different forecast deadlines on areas selected by the client (continental and regional scale).

VERY-HIGH RESOLUTION METEOROLOGICAL FIELDS

Production of climatological and/or forecasting meteorological fields with very high spatial detail (up to a few tens of metres) through the coupling of mesoscale meteorological models of both diagnostic (e.g. mass-consistent) and prognostic (e.g. e.g. Large-Eddy Simulation) type.

- ✓ **FOR STUDYING DISPERSION OF POLLUTANTS INTO THE ATMOSPHERE**
- ✓ **FOR STUDYING FOREST FIRE PROPAGATION**

PRODUCTION OF OCEANOGRAPHIC INTEREST FIELDS

Simulation at basin scales of marine currents and wave motion forced by mesoscale and/or high resolution meteorological models in both forecasting and climatological modes.

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