

ENV-PR # 3

PROGRESS REPORT # 3

Period:

01-05-02 to 31/10/02

V1.0



IPS-2000-0035

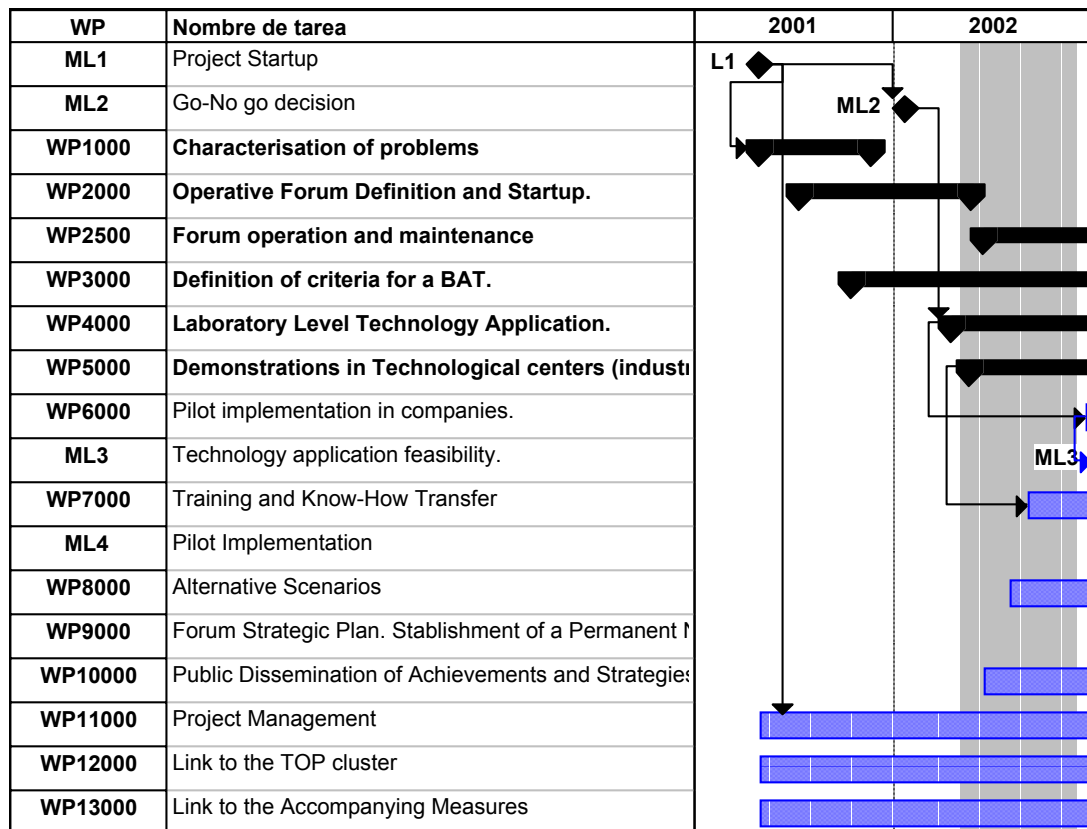


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1. Description of the work carried during the considered period.

The period covered by this PR#3 is highlighted in the general Gantt Chart of the project. The version of the Gantt Chart is corresponding to the actual going of the project, based on the updated workprogramme that arose from the GO-No GO.



The main milestones covered during this period are summarized in the following list:

- Start of the four forums (presential meetings in Porto, Valencia, Alicante and Saint Etienne, and on-line forum tool) and follow-up.
- Setup of pilot equipment in the technical centers.
- Effective beginning of the project's technical core (WP4000, 5000 and 6000): development of the laboratory analysis for the two first applications and definition of the technical requirements.
- Project's corporate image.

1.1. Project progress.

1.1.1. Summary of the tasks carried out and results achieved.

WP 1000.

Contributions to DL1003 -which has been translated in a simplified version into spanish, portuguese and french- have been done by the forum participants. An updated version is available.

WP 2000

Forums have been defined in its initial composition. The corporate image of the project has been defined and incorporated in the main documentation and the WebSite.

WP 2500

The four first sessions of the forums have taken place in the four regions. The first forum programme was mainly devoted to the project presentation, the current version of the forum methodology and the simplified version of DL1003, as the grounds for the technology identification (as one of the main arguments for forum operation).

A follow-up has been continuously carried out and new forum sessions are being arranged.

WP3000

DL3001 has evolved into a more complete document. DL3002 is to be ready for the next forum sessions, as it will be the basis for the assesment of the technology

WP4000

Two applications have started in the laboratory phase: cyanides and degreases. The cyanides application has been completed both in France and Spain, and results are available (initial conditions, suitable anodes, etc.). Degreasing is in process and will be finalised in January 2003. Contacts with the spanish companies are almost completed to collect the featured residuals.

WP5000

Pilots have been built and setup in the technological centers. The first application (cyanides) is currently running in Spain. Based on the set of variables defined for control and monitoring, a data acquisition system has been designed. The testing cycles have also been scheduled.

WP8000

The report on the french scenario is in its first versions. It was introduced in ENV-M-7.

WP 11000

The consortium agreement will be signed during the next period, as some remarks concerning exploitation of results appeared in the last minute.

No other activities or results are remarkable in terms of project management.

WP12000

The new cluster strategy of the Commission for Innovation Projects has been presented and worked out in several meetings. ENVIREDOX has attended the Pamplona and Brussels Workshops, participating in the arranged sessions. Several contributions have been developed during this period.

WP13000

The change of approach in the support from the AMs has led to a different interaction with them, mainly in the framework of the cluster sessions. However, specific support has been granted by ECO-INNOVATION and several contacts have been carried out with LifeStyle to involve them in the assesment of the forum operation.

1.1.2. Modifications over the Workplan (if any).

During this period several modifications have been produced over the initial workplan:

- (In period #2 there was a change in the consortium: ASTRE responsibilities and rights were taken over by AQUATEC.)
- During this period, a generic delay of around 7 weeks was detected in ENV-M-7 (See minutes of the meeting).
- **Most of the information related to WP2500 has been decided to be delayed till an effective validation by the forum participants.** This includes the deliverables DL2502 (Particular applications of the forum Methodology. Analysis of the regional situations) and DL2503 (Audit Manual of the Forum Operation. Assesment Reports of the individual Forums), as well as the final version of DL3002 (Biding conditions for a BAT in the featured applications and geographic areas). As far as this period is concerned, only DL2502 is affected. **New deadline for DL2502 is expected to be end of February 2003 (Month 22), after the second forum session and its follow-up have been taken into account. New dealine for DL2503 is not decided yet, but it should not be before the third forum session, which lead us towards September/October 2003. DL3002, which is in its early version, will have a significant progress after the second forum meeting and the next project meeting in March.**
- As in the former period, the need for additional technical and non-technical specific meetings will have as a consequence more meetings than initially foreseen. This is only to improve the project pace. New meetings other than general co-ordination (ENV-M) are expected.
- No other changes have been produced in the workplan.

1.1.3. Activities per WP.

WP1000

1. DL 1003 – Definition of waste limits in the different geographic areas:

- A simplified version of the document has been translated and presented to the forum participants. The general objectives per application were included in the document.

WP2000

- Corporate image of the project.

1. DL2001- ENVIREDOX WebSite.

- Incorporation of the corporate image on the ENVIREDOX WebSite (www.enviredox.org).
- Integration of the on-line forum tool in the ENVIREDOX Website. Pilot work has been intensively done by the partners and continuous improvements have been added. Although starting of the online forum tools was expected for September 2002, online Forums will be officially launched in December 2002. For practical purposes, the Valencia and Alicante forums have been integrated in an *spanish* forum.

Several sections were defined and created so as each country may manage and share information with its own forum actors. The result is the availability on the Website of development tools for collaborative work between forum participants in each country. These sections are:

- Presentation of the Enviredox project.
 - Events Panel: information about events of interest.
 - Messages: forum participants will maintain discussion about topics to be debated outside the forum meetings.
 - Documents: availability of working documents, minutes of the forum meetings and dissemination papers can be downloaded for reviewing, comments and approval, if needed.
 - Participants: data related with the registered forum participants.
 - Administration: restricted area for the web administrators to update and manage the Website.
- Previously void sections of the Website are currently active (What's new, Project Progress, etc.) helping the objectives of WP10000 (Public Dissemination).

WP2500

1. DL 2501 (Formerly DL2002) – Working methodology and procedures – Initial set objectives per forum:

The methodology has been updated, based upon the results of the first forums held in Spain, France and Portugal from May to September 2002. The sequence of the achieved activities has been as follows:

- a) Forum organisation for the two Spanish forums (Alicante and Valencia). The launching of the two forums has been prepared by making visits to almost all the chosen actors, distributing informative Enviredox brochures and mailings formal invitations to relevant members of the participating organisations. The content of the presentations was also prepared as well as opinion questionnaires to position the debates and collect the comments and suggestions.
- b) Forum Launching. The Spanish forums were launched, first in Valencia, on May 29th and second, in Alicante, on September 26th. The meeting places were Innove Verda (Valencia) and FEMPA (Alicante) facilities. There was a fairly good response from the invited actors and a general interest for the Enviredox approach
- c) Coordination of all the forums. After the Valencia forum, support has been given for the preparation of the French and Portuguese forums which were held respectively on June 24th and July 11th. Information, conclusions and documents from the Valencia Forum were submitted to forum coordinators in order to provide some guidance and confidence in the success of the event.
- d) Conclusions - Minutes of the forum were prepared and sent to all forum members for their information, comments and suggestions.

Additionally the feedback from forum participants and the St. Etienne meeting discussions have also been key points to update the methodology document. Though the general approach has been the same for the three countries, some particular differences have been showed and will be included in the DL-2502.

2. Organization and participation in the different forums launched.

- As the animator of the french forums, PESE has coordinated and organised the first French forum which took place in 24th of June 2002 in Saint-Etienne. This meeting was organised in two parts :
 - Technical part : presentation by AQUATEC and ECS of the innovate technology and its industrial applications
 - Methodological part : presentation by EMSE and PESE of the purpose of the forum and degree of implication that the partners are expecting from all the actors.

WP3000

- The first draft of the document on the sensitive criteria for the analysis of the requirements for a BAT has been included in the wide-scope impact analysis for the ENVIREDOX technology in the different regions. Input from the project partners has been related to:
 - Contribution to the definition of the technical and non-technical indicators
 - Contribution to the definition of a BAT criteria for the Spanish, French and portuguese regions for technical and social and environmental criteria.
- As it was stated in the forum conclusions no existing evaluation methodology for technique acceptance has been found up to now, in such a way this means that DL-3001 and DL3002 should be structured as a reference document for the technique evaluation process.

Definition of categories of criteria for the technique evaluation should be included in it and there was work done on that subject (DL3002), and focused on the following criteria (Modifications will be proposed as a discussion model for the forum actors in each country):

- Technical and implementation / operating costs of the technique.
- BAT criteria contained in the Annex IV of IPPC Directive.
- Social and economic factors which will be able to describe the impact of a technique on a local community.

WP4000

The detailed tasks carried out within the context of wp4000 were:

- Acquisition of the pilot equipment and electrodes for laboratory testing.
- Contacts with the spanish collaborator companies (METALORFE, GALOL and ELIG) in order to set up specific objectives and collect featured residuals.
- A bespoke data acquisition system has been designed and built to measure the significant parameters.
- Realisation of preliminary tests of COD removing
- Concerning the application **cyanides**, liquid residuals were collected in Spain and France from the collaborator companies.
 - Development of the laboratory testing with rinsing waters from cyanide waters in brass coating processes.
 - At constant current density, different anodes were tested in terms of toxicity elimination.
 - In parallel, decreasing of COD, behaviour with heavy metals (for both elimination and eventual re-use) were studied.
 - Definition of the choice of electrodes for pilot testing.

- Comparative of the results achieved in France and Spain.
- Analysis of the residuals chosen for the **degreases** application. Degreases chosen were electrolytic and chemical. Both are from the collaborator company GALOL.
- Samples of the degreases collected in Spain were sent to France for analysis.

WP5000

The work carried out is based on the results of the analysis carried out in WP4000. Additionally, part of the pilot equipment was acquired.

- The equipment acquired followed the specifications marked in the previous period, and the laboratory results showed that no changes were expected.
- A data acquisition system has been designed and is currently being connected to the pilot equipment. This system is based on the one developed to the laboratory testing.
- Testing of the application **cyanides** has been carried out at different current densities, and with different cathodes, with a view of improving metals recovery. Pilot testing in technical center for cyanides has been developed for two companies (Elig Manufacturas de acero and Metalorfe).
 - Choice of cathodes and current densities for the pilot validation in companies (anodes follow choice in WP4000).
 - Definition of complementary techniques (filtration, etc.) for pilot validation.

WP7000

- A common internal training session in Valencia (18/09/2002) took place with CATIM and AIMME, in order to set up the use conditions of the pilot equipment during the experiences, based in the previous knowledge of related processes.

WP8000

- EMSE developed a first version of the document DL8001. Current version of the document is in French, and soon an English version will be available in the WebSite.
- The french partners participated in:
 - The Elaboration of comparative tables for diverse treatment techniques.
 - Definition of the French situation for hazardous industrial wastewaters
 - Contribution to the definition of the French scenarios : off-site treatment and in-site treatment

WP10000

- The french partners have prepared a technical article for a conference on process engineering which will take place in Saint-Nazaire in France in September 2003.

WP11000

- One official meeting has been carried out (ENV-M-7). The minutes are annexed information. Each host partner has dealt with organization and logistics.
- Re-evaluation of the Consortium Agreement, which is undergoing the last reviews and signing procedures.

WP 12000

- The main tasks developed in this Workpackage are explained in point 1.4 Clustering Activities.

WP 13000

- The main tasks developed in this Workpackage are explained in point 1.3 Links to Accompanying Measures.

1.2. Project Management.

1.2.1. Project meetings.

Only one official ENVIREDOX meeting has taken place during this third period.:

Code	Date	Venue
ENV-M-7	17-18/10/02	Saint Etienne

A technical meeting with CATIM took place in Valencia (18/09/2002), to discuss several technical topics.

The minutes of the project meetings are available in the private part of the ENVIREDOX WebSite www.enviredox.org (data warehouse/WP11000).

The management procedures used in the meetings are the *activities*, which are integral part of the meeting minutes. As an indicator, a total of 25 *project activities* have been issued and 14 have been completed. The list of activities can also be accessed in the private part of the ENVIREDOX WebSite.

1.2.2. External actors involved.

The main contacts with external actors have been related to both the startup of the forums and the technical work with the companies. A list of the actors involved follows:

Valencia

- METALORFE
- GALOL
- AIMME
- FEMEVAL
- Asociación de Talleres de Reparación de automóviles.
- Unión General de Trabajadores
- Cámara de Comercio de Valencia
- Comité Económico y Social de la C.V.
- Consellería de Industria - IMPIVA.
- Consellería de Medio Ambiente
- Confederación Empresarial Valenciana (C.E.V)
- Ayuntamiento de Valencia.
- Ayuntamiento de L'Ollería
- Ayuntamiento de Quart de Poblet.
- Universitat de Valencia.

Alicante

- ELIG, Manufacturas del acero S.A.
- Consellería de Medio Ambiente
- FEMPA

- Cámara de Comercio de Alicante
- Comité Económico y Social de la C.V.
- COEPA Confederación Empresarial de la Provincia de Alicante
- Consellería de Industria - IMPIVA.
- Ayuntamiento de Elche.
- Ayuntamiento de Alicante
- OTRI Universidad de Alicante
- OTRI Universidad de Elche

North Portugal

- Câmara Municipal de V. N. Gaia
- Câmara Municipal da Maia
- INR - Instituto dos Resíduos
- IA - Instituto do Ambiente
- Direção Geral da Indústria
- ANECRA - Associação Nacional das Empresas do Com. e Rep. Automóvel
- UGT – União Geral de Trabalhadores
- DRAOT/Norte - Direcção Regional do Ambiente e Ordenamento do Território do Norte
- QUERCUS – Associação Nacional de Conservação da Natureza
- CCRN - Comissão de Coordenação da Região Norte
- APEMETA – Associação Portuguesa de Empresas de Tecnologias Ambientais

Rhône-Alpes.

- Agence de l'Eau Rhone-Mediterranee-Corse
- CCI de Roanne
- IUT de Saint-Etienne (Institut Universitaire de Technologie)
- APDD (Association des Pratiques du développement Durable)
- Saint-Etienne Metropole
- ADEME
- CCI de Lyon
- MEDEF (Syndicat Patronal)
- Novelect
- SATS (Syndicat des Appicateurs du Traitement de Surfaces)

1.3. Clustering Activities.

Two cluster workshops (Pamplona and Brussels) were attended by the ENVIREDOX Consortium.

1. Pamplona (June 3-5/06/2002).

In the Pamplona Event a new classification of clusters was developed. ENVIREDOX showed its interest in issues related to involvement of stakeholders. With other projects, the GO (Getting the most out of Innovation) Cluster was created. Gaspar Lloret and Manuel Sánchez attended the meeting from AIMME.

A draft workplan was discussed, with a view of getting it formal before the end of the year.

2. Brussels (Oct. 21-22/10/2002).

In the two-days Brussels workshop –attended by the project co-ordinator-, the different clusters worked out their workplans and showed some advances and tools to the other projects.

Concerning the relationship with other projects, the ENVIREDOX consortium has invited members of the CLEANTOOL consortium to one of the forum sessions (Alicante), and continuous participation as observers is foreseen in subsequent forum sessions.

1.4. Dissemination activities.

Publication of the following references:

Media	Title	Audience.
InfoAIMME	Foro ENVIREDOX. Reunión piloto	Spain. 1000 (Companies)
Reutil	ENVIREDOX. Desarrollo técnico y metodológico de una “MTD” (Mejor Tecnología Disponible).	Valencia Region. 3000 (Companies and entities).
BREF Rhône-Alpes	Une alternative a l’incineration d’effluents ?	France (Rhône Alpes Region)

2. Conclusions regarding progress of the project

2.1. Operative conclusions (related to WPs).

Further work in WP3000 has showed that relationship with IPPC concepts is a key issue. Contacts with IPPC directive/laws is foreseen, and IPPC concepts must be included in the forum discussion and evaluations. An effort of stronger compatibilisation of the ENVIREDOX results with the IPPC issues will need to be carried out.

The number of variables to be monitored in WP4000 has turned out to be very high. A data acquisition system has been designed for this monitoring. Fortunately, results have confirmed that “good” solutions are not strictly depending on fine tuning of the laboratory analysis. Fine tuning of the applications working conditions will be specific of WP5000 and –partly- WP6000. As a conclusion, “industrially good” solutions are adressed in the project phase, while “optimal” solutions belong to the implementation in companies (Outside the limits of the project).

The amount of information –formal and informal- generated in the project is high, and has very different facets (languages, audiences, contexts). Launching of the knowledge management taks should have been started earlier. In this kind of multi-participative projects, this is an issue that should be adressed since the very beginning of the participative activities.

2.2. General conclusions (related to the project objectives).

General conclusions relate to the main objectives of the project :

1. *Development of a transregional innovation model involving all relevant decision makers and actors in order to integrate all main aspects of the IPPC Directive and European harmonization.*
2. *Demonstration of the technical feasibility of industrial liquid waste treatment by anodic oxidation techniques as an alternative to incineration and evaporation-incineration processes.*

Conclusions:

- **All** participants in the forums have pointed out the need of a methodological framework to identify/nominate a BAT. This is currently being adressed, and stronger integration with IPPC initiatives is on the way.
- Forums should be monographic, as it was perceived in the former period. A periodicity of around four months is being considered.
- Technical results are essential not only for the project, but for the forum operation. This kind of participative effort must be feeded up with hands on experiences/data.
- First results in WP4000/5000 clearly conclude that the application of the ENVIREDOX technology to industrial environmental problems will not be conditioned by poor performance (rather the opposite). Technical/Economic issues will be studied in WP6000.