

Integration of Solid waste management Tools into specific settings of European and Asian Communities (ISTEAC)



Minutes of the Summit Meeting, Dresden, Germany (October 31st – November 5th, 2005)

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Location:

Dresden, Germany.

Time:

- **Pre-meeting activities:** Monday, October 31. Partners' arrival at Dresden, preliminary contacts.
- **Day 1:** Tuesday, November 1: Internal Project Meeting.
- **Day 2:** Wednesday, November 2: 1st Study Tour.
- **Day 3:** Thursday, November 3: 2nd Study Tour.
- **Day 4:** Friday, November 4: 3rd Study Tour.

- **Day 5:** Saturday, November 5: Departure.

Attendance:

Prof. Bernd Bilitewski	Dresden University of Technology (TUD), Germany
Jan Reichenbach	TUD, Germany
Asst. Prof. Avraam Karagiannidis	Aristotle University Thessaloniki (AUPh), Greece
Maria Theodoseli	AUPh, Greece
Dr. Angelina O. Galang	Miriam College (MC), The Philippines
Dr. Phares P. Parayno	MC, The Philippines
Tereza M. Oliva	MC, The Philippines
Prof. Nguyen thi Diem Trang	Hanoi University of Science (HUS), Vietnam
Prof. Bui Dui Cam	HUS, Vietnam

1. Attendance and documents

The attendance at this mission was as planned with at least two representatives from each organization participating in the project taking part. The meeting followed and extensively built on the agenda, which had been determined, circulated and agreed among the project partners. The internal meeting was followed by a workshop which included study tours to several Solid Waste Management facilities. The organization of the study tours was based on discussions which took place among the partners during the previous project meeting in the Philippines and the plan was made according to the visitors' interests.

The presentations made at the meeting are available. Reference to the presentation files and their content is made in the meeting notes following.

2. Meeting agenda

Day 1. Internal meeting

Date	What		Where	Who
1/11 AM	8:15	Beginning of the session	"Schauraum" of the Rectorate, University Campus, Mommsenstraße 11, 01069 Dresden	Chaired by Prof. Bernd Bilitewski
	8:15	Welcoming address and organisation details		Prof. Bernd Bilitewski Mr. Jan Reichenbach Asst. Prof. Avraam Karagiannidis
	8:30	Approval of the agenda		Asst. Prof. Avraam Karagiannidis
	8:45	Workpackage review and summary of accomplishments <ul style="list-style-type: none"> • Results from AUTH • Results from MC • Results from HUS • Results from TUD 		(15 min presentation each) AUTH MC HUS TUD
	9:30	Coffee break		
	10:00	Discussion on the project's results		All
	11:30	Lunch break		
	13:30	Final deliverables and closing procedures <ul style="list-style-type: none"> • Website update and needs • Publications (socio-economic study and paper recycling activity) • Additional results on the home-composting activity in Vietnam 		Mrs. Maria Theodoseli
	15:00	Coffee break		
	15:30	Other issues: <ul style="list-style-type: none"> • Reporting issues (Technical and financial) • Supporting documents • Internal evaluation • Website update • Audit 		
	17:30	End of session		
		Confirmation of transportation arrangements and passenger list for next day		Mr. Jan Reichenbach

Days 2-4. Workshop & facilities' tours

Date	What	Where	Who
November 2 Wednesday	Tour day 1 ('short' tour)		Guided by Mr. Reichenbach
08:30	Visit Sorting Facility for light packaging (Green-dot)	Dresden	Mr. Wolf
10:00	Visit Composting Facility for bio-waste	Dresden	Mr. Fehrmann
13:00	Visit Waste Disposal Site (Landfill body, gas-collection and treatment system, water treatment system)	Gröbern (near Dresden)	Mrs. Knigge
15:00	End of visits		
16:00	Arrival Dresden		
16:30	Visit of the laboratories at Institute of Waste Management and Contaminated Site Treatment – Presentation of the Master's course	Pirna	Mr. Janz
17:30	Meeting on possible enhanced resubmission / redevelopment of the EC-PRO proposal in the next ASIA-LINK call, by building on recent lessons learned.	Pirna	
18:30	Arrival Dresden		
November 3 Thursday	Tour day 2 ('middle' tour)		Guided by Mr. Reichenbach
10:00	Visit of "Dry-Stabilization" Facility (Biological Drying of mixed waste and Production of RDF)	Dresden	Mr. Lautenbach
13:00	Visit Fermentation Facility for Bio-waste and Sewage Sludge	Radeberg (near Dresden)	Mr. Friedmann
16:00	Visit Waste Incineration Plant	Lauta	Mr. Jager
18:30	End of visits		
20:00	Arrival Dresden		
November 4 Friday	Tour day 3 ('long' tour)		Guided by Mr. Janz
09:00	Visit Underground Waste Disposal Plant	Halle (near Leipzig)	
Evening	Farewell dinner with Prof. Bilitewski	Dresden	All
November 5 Saturday	Departures		

3. Meeting notes

- **Day 1: Tuesday, November 1, 2005 – Internal meeting of the project**
8:00-17:30 Internal meeting of the project.
- **Days 2-4 Workshop & Study tours:**

Wednesday, November 2, 2005 – 1st study tour (07:45 – 19:30) The study tour included visits at 3 SWM facilities, located near the city of Dresden. During the afternoon the participants visited the Institute of Waste Management and Contaminated Site Treatment.

- **08:20 - 09:40** Visit of ISTEAC participants to the **Sorting Facility for light packaging/Green dot wastes**. The company named Wertstoffaufbereitung (WAD) serves 750,000 citizens from Dresden and suburbs, and it is both manually and automatically operated. It receives packaging waste which is source separated in yellow bags according to the city's SWM. The flows and each stage of the sorting process were presented in detail, while several questions, from the participants, concerning the facility and its operation were answered.



Figure 1. Visit of ISTEAC participants to the Sorting Facility for light packaging.

- **10:00 – 12:45** The next visit included the presentation of the **Composting Facility for bio-waste**, named Humuswirtschaft Kaditz GmbH. The company offers several SWM services for different kinds of waste. Bio-waste from households and garden waste are collected, mixed together, homogenized and the compost is the final product of the process. The capacity of the plant is 15,000 t/year and the annual compost production is approximately 5,000 t. The quality of the product is monitored by external auditors.



Figure 2. Visit of ISTEAC participants to the Composting Facility for bio-waste.

- **13:00 – 15:00** The **Municipal Waste Landfill** was the final destination of the 1st study tour (Siedlungsabfalldeponie des ZAOE in Gröbern). This facility started its

operation in 1962 and today the active part of the landfill receives only residual waste. ISTEAC partners also visited the restored part of the landfill, where 40m height of waste are disposed of. The facilities for landfill gas and leachate treatment were presented to the participants and a short discussion took place on their operation details.



Figure 3. Visit of ISTEAC participants to the Municipal Landfill for residual waste.

- **17:00 – 19:00** Last visit of the day was the **Institute of Waste Management and Contaminated Site Treatment**. A meeting was organized aiming to present the history, the activities and the teaching courses and modules of the institute. For this reason a presentation was prepared and shown to the participants, including historical information, the structure of the institute, the main research and training activities, the content of the courses and teaching approaches. Finally, the institute's master course was presented and a short discussion took place on its content and structure. At the end of the visit, all partners visited the laboratories of the institute, and the main research and laboratory activities were shown. The participants were very interested on the laboratory's equipment and experimental activities and several questions were answered from the German colleagues.



Figure 4. Visit of ISTEAC participants to Institute of Waste Management and Contaminated Site Treatment in Pirna.

Thursday, November 3, 2005 – 2nd study tour (09:00 – 20:00)

- **09:40 - 12:30** The 2nd study tour started with the visit to the **Waste Stabilization Facility** (Trockenstabilatanlage der Dresdner Abfallverwertungsgesellschaft mbH (DAVG), Dresden-Hammerweg). This area also includes the old landfill of Dresden city. The facility is a Mechanical and Biological Treatment (MBT) plant which receives 350t/day and the whole processing takes 10-12 hours. The annual input of residual waste in 2004 was 78.922 t. The company sells the final product of the plant (Refuse Derived Fuel – RDF) for energy recovery; product in pallets is used for methane production while the product in crumb is burnt in cement industries. In parallel to the plant's presentation, several data were shown concerning the solid waste management program in the city of Dresden.



Figure 5. Visit of ISTEAC participants to the Waste Stabilization Facility.

- **13:15 - 14:30** The next plant that ISTEAC partners visited was the **Fermentation Facility for biowaste and sewage sludge** (Bioabfallvergärungsanlage der Bio-Verwertungsgesellschaft (BVR) Radeberg mbH). Biogas (fermentation) plants have been widely applied in Germany. The large majority of biogas plants of the country are used in agriculture. The company that ISTEAC participants visited is a co-fermentation plant for solid, liquid and pasty waste as well as for clarification of sludge. The visitors were guided to several parts of the plant in order to have a view of the facility's operation. The main procedures and the equipment of the plant were also presented to the participants, while several discussions took place concerning the plant's operation.



Figure 6. Visit of ISTEAC participants to the Fermentation Facility for biowaste and sewage sludge.

- **16:00 – 18:30** The last visit of the 2nd study tour included the **Waste Incineration Plant** (Thermische Abfallbehandlungsanlage Lauta der VEAG/STEAG Aktiengesellschaft oHG (<http://www.ravon.de/inhalt/de-entsorgung-talauta.html>)). The participants visited several parts of the facility and the whole process was presented to them. The waste flow in the plant and the specific operations from waste input to burning process, were also shown. This visit provided the opportunity to the participants to be informed on the facility's monitoring procedures and environmental policy.



Figure 7. Visit of ISTEAC participants to the Waste Incineration Plant.

Friday, November 4, 2005 – 3rd study tour (06:30 – 17:00) The last day of the workshop included a visit to an old **salt mining**, which is used as underground waste disposal facility (Versatzbergwerk der Grube Teutschenthal Sicherungs GmbH & Co. KG, Teutschenthal (b. Halle) (<http://www.grube-teutschenthal.de>). The location of the site is roughly 200km far from the city of Dresden. At first, historical data and the structure of the unit were presented to the participants and then, safety rules were also provided. Special white uniforms, helmets, flash lights and oxygen boxes were given to each member of the team for safety reasons. ISTEAC partners visited a part of the mine located 700m under the surface and they were guided to several disposal areas inside the mine. The area is used as disposal site for different kind of waste, such as ashes from waste incinerators and inert waste.

At the end of this visit ISTEAC partners had a meeting about future possible collaborations among the partners. All partners expressed their promptness to participate in future activities and projects aiming to strengthen the existing partnership.



Figure 8. Visit to an old salt mining used as underground waste disposal facility.

4. Detailed summary of the activities at the internal workshop

These meeting minutes record the main points raised in each part of the meeting. Action points are noted in bold. Reference is made to the presentations made in the meeting.

Tuesday, October 1st

#1 Welcome address

Prof. Bernd Bilitewski
Mr. Jan Reichenbach
Assist. Prof. Avraam
Karagiannidis

#2 Review and Approval of the Agenda

Assist. Prof. Avraam
Karagiannidis

A short discussion took place on the organization details of the field trips. The German colleagues informed the partners about the final arrangements for the study tours and the visit to the Institute of Waste Management and Contaminated Site Treatment.

#3 Presentation from AUTH – Contribution to the paper recycling activity. See file: **paper recycling.pdf**

Assist. Prof. Avraam
Karagiannidis

Main points:

- The presentation of Asst. Professor Mr. Avraam Karagiannidis focused on the last research activity of the project (Activity 23, Annex I of the Grand Contract) and included a summary of the results from the AUTH's research contribution. At first, the presentation focused on the paper's and recovered paper's market worldwide including trade flows and comparisons among regions.

Historical data on the European paper's production and consumption, the recovered paper's trade balance and the evolution of the paper recycling rates were also presented. Finally, a detailed presentation followed about paper market and paper recycling in Greece. The paper mass flow prepared for Greece was shown, the Hellenic recycling projects were analysed and the country's future plans were presented.

#4 Presentation of the Miriam College contribution to the activities of the project. See file:

MC-paper recycling.pdf

Dr. Phares Parayno

Main points:

- The presentation focused on the results of the paper recycling study and the current situation of the paper industry in the Philippines, the Ecological Solid Waste Management Law was analysed. Furthermore, quantitative data concerning the number of paper mills, the annual paper production and consumption, and the production of main paper categories in the country were shown. A discussion followed about the paper recycling activities in the Philippines, the content and the main targets of the Law, as well as each stage of waste paper collection and recovery

#5 Presentation of the Hanoi University's of Science contribution to the activities of the project. See file:

Results from HUS.pdf

Prof. Trang Nguyen Thi Diem

Main points:

- Prof. Trang Nguyen Thi Diem presented a summary of the activities that HUS was involved in from the previous project meeting in Manila (April 2005). Particular emphasis was given to the socio-economic study (Activity 16, Annex I Grand Contract) and the paper recycling activity (Activity 23, Annex I Grand Contract).
- Concerning the socio-study Prof. Trang presented the contribution from HUS to this activity. The format and the content of the questionnaire prepared and used for this activity were shown and then the results were analyzed. It should be mentioned that the questionnaire consisted of key questions on community data, waste management related details, perceptions on future waste management and reflections on various technological options for solid waste management and was filled in by Asian persons involved in SWM.
- Dr. Phares Parayno from Miriam College also presented the corresponding results from the study in the Philippines and then a discussion started about the results of the studies. The similarities and the differences based on this research, between Vietnam and the Philippines were also analyzed.
- The 2nd part of the presentation from HUS included the results from the paper recycling activity. The study was focused on reviewing the paper industry, assessing the waste paper quantities and also on the paper recycling schemes in Vietnam.

Lunch break

#6 Presentation of Dresden University of Technology concerning the institute's contribution to the activities of the project. See files:

TUaccomplish3.ppt

Mr. Jan Reichenbach

Main points:

- Mr. Reichenbach presented TUD's contribution to the activities of the project. During the period from the meeting in the Philippines and the current meeting in Dresden, TUD was involved in

updating the project's website, in the socio-economic study, in the research activity for paper recycling and in several dissemination activities.

- A short discussion took place concerning the website and its latest update. The website includes information and pictures from the project meetings, workshops and teaching missions, as well as results from the project's research activities. The website also contains an informative section about relevant conferences, the launching of new programmes and calls for international research co-operations. During this meeting it was discussed and agreed among the partners to continue updating the project website and working on make it more attractive.
- Concerning the paper recycling activity Mr. Reichenbach presented data from Germany including an overview of paper quantities, collection and utilization of recovered paper, the recycling rates and the mass flow chart on paper quantities.

#7 Presentation focused on the remaining activities and the closing procedures of the project. See file:

AUTh-ISTEAC closing-Dresden.pdf

Mrs. Maria Theodoseli

A presentation of the remaining project activities, the reporting obligations at the end of the 2nd year and the closing procedures of the project followed.

- Mrs. Theodoseli summarized the remaining activities until the end date of the project, and then a discussion started about the publications based on the research findings.
- Concerning the socio study, it was agreed among the partners that a common publication should be prepared from both Asian partners. Therefore, an abstract will be written during November 2005, from MC and HUS, supported by the EU partners, and will contain a summary of the activity's results. This abstract along with the full written paper will be then submitted to a German magazine for publication.
- During the AUNP meeting (August 2005) ISTEAC partners had a discussion on the progress of the paper recycling activity and ideas were discussed for the common publication. All partners agreed to submit a publication including results from each participating institution. An opportunity for publishing the findings came up just before the summit meeting through an International Conference organized in Greece on February, 2006. This Conference is organized by the Hellenic Solid Waste Management Association in Athens and it is called "2nd International Conference and Exhibition, From Waste Disposal to Resource and Energy Recovery". AUTh, on behalf of the ISTEAC partners, prepared and submitted the abstract on November 31st, 2005, one day before the final project meeting.
- A short discussion also took place concerning the research findings of the paper recycling study and how these results can be further used for promoting waste reduction tools like paper recycling. AUTh proposed the organization of a campaign for disseminating the activity's results to local authorities located in Northern Greece. By this activity, local authorities will be informed on the current paper recycling projects within the country, paper recycling potentials, and benefits from paper recycling and waste reduction. On the other hand, AUTh will receive feedback and information from the communities concerning their current recycling activities and plans, as well as the main problems in adapting paper recycling schemes. This information will support the continuation and development of the paper recycling research further after the project's completion, since AUTh continues its work on this field.
- Mrs. Theodoseli also presented a summary of the publications submitted from AUTh in collaboration with ISTEAC partners, during the 2nd year of the project's implementation.
- The 2nd part of the presentation was focused on the closing procedures of the project and the reporting obligations. The schedule of the 2nd Interim Report, the Final Report, the Final Payment Request and the Audit Report was presented to the partners and advices were given for adherence to the timetable. The content of the 2nd Interim Report, both technical and financial part, were also presented and analysed. Particular emphasis was given to the financial part of the Interim's Report and several advices were provided for the preparation of each annex and the supporting documents.

- The proposed date for internal submission of the 2nd Interim's Report (technical part) and its supporting documents is **November 20th**.

#8 End of the meeting

Prof. Bernd Bilitewski

5. Table of Tasks and Responsibilities during the 2st year of the project

The following table presents the timetable of the project's remaining activities according to the 2nd Action Plan.

Activities n° and Title	Period covered in month											
	1	2	3	4	5	6	7	8	9	10	11	12
Activity 23 (Exploration of paper recycling potential schemes in different settings)												
Activity 24 (Preparation of publication on the research findings on recycling industry and schemes)												
Activity 25 (Summit meeting)												
Activity 26 (Project website update)												
Activity 27 (Internal evaluation)												

6. Contact List

Name	Organization acronym	Ways of contact
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7. Acronyms

AUTh	Aristotle University of Thessaloniki
HUS	Hanoi University of Science
MC	Miriam College
SWM	Solid Waste Management
TUD	Dresden University of Technology