



Al-Maqdisi Programme
Design and Control of Photovoltaic Systems



Mission Report
Ghislain REMY, Jean DEPREZ
Palestine Technical University Kadoorie - Tulkarm
November 1st – 4th , 2010

1- Context

In November 2009, the Palestine Technical University Kadoorie – Tulkarm and the Palestine Polytechnic University Hebron for the Palestinian side, the Laboratory of Electrical Engineering and the IUT Cachan of Paris-Sud 11 University for the French side have submitted a proposal to the Palestinian- French Research Program AL-MAQDISI.

The project “Design and Control of Photovoltaic Systems” has been elected in September 2010.

Although, no financial support has been received neither in France nor in Palestine already, it has been decided to organize the first meeting planed in the program. The financial support of this mission is provided (as an advance) by the NGO MedLink and the PTU.

2- Objectives of the mission

First meeting of the steering committee of the project

- Remaining of the objectives of the program.
- Administrative and Financial aspects.
- Definition of the steps of the project, including bibliography, training, equipment specification and installation, simulation, experimentation, validation and optimization, valorisation of the results.
- Identification of the tasks in PTU and PPU respectively.
- Synthetic information of the state of the art concerning photovoltaic panels, control hardware and software and system optimisation.
- Definition of date, objective and content of the next mission (Palestine to France) and listing of the tasks to be achieved before this mission.

3- Financial aspect

- The Travel ticket of Jean DEPREZ (572 €) is covered by MedLink
- The Travel ticket of Ghislain REMY (572 €) is advanced by MedLink and will be covered by the Al Maqdisi budget of the French side.
- The taxi from CDG Airport to Ghislain REMY’s home (67,70€) is advanced by MedLink and will be covered by the Al Maqdisi budget of the French side (no RER or bus available at the arrival time around 23h45: due to delayed flight and technical issues on the luggage delivery)
- The indemnity (perdiem) of Ghislain REMY (120 €) is advanced by MedLink and will be covered by the Al Maqdisi budget of the Palestinian side.

- The local transportation (Airport <--> PTU by taxi) of Ghislain REMY and Jean DEPREZ (180 €) is advanced by MedLink and will be covered by the Al Maqdisi budget of the Palestinian side.
- The food and accommodation of the participants to the meeting are advanced by PTU and will be partially covered by the Al Maqdisi budget of the Palestinian side.

4- Participants to the working meeting

Ghislain REMY (LGEP / IUT)
 Jean DEPREZ (MedLink)
 Basim ALSAYID (PTU)
 Mahmoud ISMAIL (PTU)
 Samer ALSADI (PTU)
 Raed AMRO (PPU)
 Khaled TAMAIZI (PPU)

5- Agenda of the mission and program of the meeting

Agenda of the mission

Sunday October 31st

- Flight Paris CDG – Tel-Aviv Ben-Gurion (Arkia Israelian Airline)

Monday November 1st

- Taxi Tel-Aviv Ben-Gurion – Tulkarm
- Rest in Sultan YASEEN home
- Working session 1 in PTU
- Diner in Tulkarm and night in the Campus House

Tuesday November 2nd

- Working session 2 in PTU
- Working session 3 in PTU
- Diner in Tulkarm
- Visit to Mahmoud ISMAIL home
- Night in the Campus House

Wednesday November 3rd

- Working session 4 in PTU
- Visit of the laboratories
- Finalization of technical documents
- Diner and night in Sultan YASEEN home.

Thursday November 4th

- Taxi Tulkarm -Tel-Aviv Ben-Gurion
- Flight Tel-Aviv Ben-Gurion _ Paris CDG (Arkia Israelian Airline)

Program of the working sessions

Session 1, Monday November 1st:

12h30 Welcome
 13h Presentation of the active collaborators of the project
 13h15 Presentation of the research programme
 13h30 Scientific objectives
 13h45 Funding status
 14h Funding and scientific management strategy
 14h30 Material and simulation software
 15h Expected experimental activities in PTU and PPU
 15h30 Schedule of intermediate step in the project

(including learning, experimentation and valorisation of the results)

16h Schedule of the next mission Palestine -> France

16h30 End of session

Session 2, Tuesday November 2nd:

9h State of the art on photovoltaic panel (types, difference, efficiency)

10h Planning a bibliographic study on PV

10h30 Presentation of Matlab Model for PV

12h Lunch

Session 3, Tuesday November 2nd:

13h30 State of art on power converter and MPPT control technique

14h30 Planning a bibliographic study on power converter and MPPT

15h Presentation of Matlab Model for power converter and MPPT

16h30 End of session

Session 4, Wednesday November 3rd:

9h State of the art on global optimization for photovoltaic systems

10h Data logger for luminescence and temperature

10h15 Palestinian consumer evaluation (market study)

10h30 Presentation of Matlab Model for optimization of PV systems

11h Specification of the project component in Palestine

11h30 Research of photovoltaic producer/seller Palestine

12h Lunch

Wednesday November 3rd afternoon

13h30 Visit of laboratories

15h End-writing of the technical report and end-design of a poster

17h30 End of the meeting.

6- Scientific report - Poster

A detailed scientific report has been elaborated during the sessions. It is available as attached document to this report.

A presentation poster has been design, to be install for valorisation of the project, either in PTU, PPU and LGEP. It is also available as attached document to this report.

7- Conclusion

The objectives of the mission were achieved.

Ghislain REMY strongly insisted on the methodology in a research project:

- Bibliography
- Scheduled production of documents for review and coordination
- Linking the successive steps: modelling - simulation - specification - realization - validation - optimization.

The technological bases on which the project rests were specified.

The list of the tasks to be carried out before the next work meeting has been defined.

A working session by Internet will be organized on March 15th to give a progress report on these tasks.

The next mission (Palestine France) will have to take place in May 2010.

It will comprise:

- Presentation of the results of simulations
- Training sessions (PSoC processor, MPPT Algorithms)
- Specification and preparation for ordering the equipment.

Ghislain REMY and Jean DEPREZ thank their PTU colleague for the organization of the first meeting and for their warm welcome. They also thank Sultan YASEEN and his family for their reception in the beginning and the end of the mission.

Cachan, the 8th of November 2010

Jean DEPREZ
MedLink

Ghislain REMY
LGEP / IUT cachan

Joint Documents (3):

- Technical Report

Programe_Al-Maqdisi_11_2010_v6.pdf
Type : Adobe Acrobat Document
Auteur : Remy
Date de modification : 04/11/2010 09:25
Taille : 1,53 Mo

- Poster

2010-11-02_Poster_Al-Maqdisi_v1.pdf
Type : Adobe Acrobat Document
Auteur : Remy
Titre : Al Maqdisi Poster
Date de modification : 08/11/2010 09:39
Taille : 1,28 Mo

- Financial Agreement

Type : Adobe Acrobat Document
Auteur : Jean
Titre : Financial Agreement.pdf
Date de modification : 08/11/2010 09:51
Taille : 231 Ko

Notes:

- We was told about the construction of a fast axis “North-South”, intended for the Palestinians, connecting, in the long term Jenin, Nablus, Ramallah, Jericho, Hebron, Gaza. This axis will not have connection with the road network reserved to the Israeli settlers. Jerusalem is largely surrounded...

This road must cross the PPU campus (which was seen refusing the removal envisaged towards a more suitable space)

- The security checks were particularly long (more than 2 hours at Ben-Gurion Airport) and painful for Ghislain REMY, in spite of the order of mission of the French Consulate. He was, since the first interview, qualified “level 5” whereas Jean DEPREZ “profited” from a qualification in “level 2”...