



Stuttgart, February 24, 2006

Phase II – Remarks and Schedule for Empirical Data Processing

Dear project participant,

the pilot centre is happy to (finally) announce the availability of three independent data sets from large format digital airborne sensors (Intergraph DMC, Vexcel UltracamD, Leica ADS40), all of them flown under well controlled test site conditions. Details on this data itself are given in an extra document. This material will be distributed for the experimental analysis with the second phase of the EuroSDR Digital Camera Calibration network. The pilot centre would like to express its thank to the data providers and camera manufacturers for continuous support of this project!

In case you would like to actively participate within the experimental phase 2 of the project please note the following in addition to the details mentioned later:

- Does the provided data coincide with the type of data you have to deal with in our daily work? In case you need other or additional data, please let us know in advance.
- In case you have no possibility to deal with the provided formats, please contact us directly.
- We would like to encourage you to really analyse the whole process data flow, which also includes the mensuration of image point coordinates in the digital imagery itself. If you do not have the tools for image measurements, we could provide you with image coordinate measurements already done at the pilot centre. This data is available on individual request only. Please let us know.

Starting from today the following steps will take place within the upcoming weeks:

Step 0 – Information on data availability and data request

- Pilot centre informs on the test flight data availability (this email)
- Each participant has to request the data from pilot centre. Within the first round only **one** data set is given to each participant. Each participant has to declare his personal data set with highest priority. This decision was made in order to guarantee that individual processing results are submitted back to the pilot centre within a reasonable time frame.

Step 1 – Data provision and distribution

- Pilot centre has prepared the three individual test data sets on three different portable USB/Firewire 200 Gbyte portable discs. Each disc is reserved for one data set. Since the first focus within the project is laid on analysis of sensor geometry potential only PAN images are provided. The type of prepared individual data material can be seen from an extra document.
- Pilot centre will define a mailing chain for each data set, namely the data first is shipped to the camera manufacturer. Each manufacturer then will send this data disc to the next participant who requested this individual data set and is written on the next position of this mailing list. The last participant then will resend the data back to the pilot centre. This type of data transfer was chosen to minimize mailing expenses and time. Receiving the data disc and resending the data again has to be reported to the pilot centre via short info email.

Step 2 – Data processing performed by participants

- The participants will start processing of the individual data set requested before soon after receiving the material. The focus has to be laid on the **geometrical aspects** of the sensor data first.
- The main part of the processing is most likely performed via bundle adjustment. Different configurations are possible. One main focus has to be laid on the effects of additional parameters on the final object point accuracy. The different configurations have to be reported and the optimal processing result has to be identified from participants' point of view.
- Each participant provides the final object coordinates from all check points to the pilot centre. In addition and as important as the pure object coordinates a report is submitted discussing the main topics of evaluation strategy as well as more general remarks like:
 - What processing software was used for data evaluation (i.e. point transfer, bundle adjustment)?
 - What kind of parameter set was used for AT? Is the use of additional parameters necessary? Which model was applied?
 - In case you have introduced additional parameter sets within processing, how will this additional parameters be used within further processing chain like DTM generation?
 - Were the two flying heights used separately or in a combined approach?
 - What are the general findings obtained from this specific data set? What is your personal feeling on the data quality and performance of this specific data set?
 - What are your personal experiences with other digital sensor flights of the same type of sensor (in case such experience is available)? Does this result match the experiences from former flights?
 - What is your personal recommendation on optimal processing flow for this specific type of digital sensor data? How will you handle such kind of data in future?

Step 3 – Results obtained from participants input

- An extended report will be compiled from the input information provided by each individual participant. Besides the pure technical part, including the
 - documentation of individual camera specific results,
 - comparison of camera specific results,
 - analogies in evaluation strategies and modelling,
 the report will focus on a more general part, namely
 - further experiences of individual network participants input,
 - derivation of recommendation of “optimal” camera specific process chain,
 - consideration of additional calibration parameters during later processing.
- The final phase II report will be made available through the internet, all network participants are invited to add and discuss this report. In addition to that, an official publication in conference proceedings and / or journal is aspired, again in close cooperation with the network participants. It is planned to present first results from this second project phase on the ISPRS commission I meeting in Paris, July 2006.
- Based on the results of this first processing round in phase II the following future activities might be possible:
 - Processing of another second data set. This data is available on demand, as soon as on participant has finished the processing and report of his first requested data set.
 - Distribution of another data sets, which might have been made available from other system providers (i.e. medium format sensors)
 - Focus on other technical purposes, like radiometry, color, resolution, ...
 - Formulation of other interesting aspects, i.e. what kind of data set could be helpful for system manufacturers, software providers, ... (this might be without scope of this actual calibration project, nonetheless design of new EuroSDR activity is welcomed all the time)

Schedule for upcoming Phase 2

Activity		Relative Time	Absolute Time 2006
Pilot centre	Official announcement of data availability		Febr. 24
Participant	Request of one data set	+ 1 week	March 3
Pilot centre & Participant	Distribution of data via portable discs (land mail chain)	+ 1 week	March 10
Participant	Receiving data material	+ 2 weeks	March 24
Participant	Processing of data	+ 6 weeks	May 5
Participant	Individual report	+ 2 weeks	May 19
Pilot centre	Analysis of results, compilation of phase II report (1 st version)	+ 4 weeks	June 16