

**Integration of European Simulation
Chambers for Investigating Atmospheric Processes.
Towards 2020 and beyond**

Milestone MS3.1: [Evaluation of a library of scripts dedicated to handling of data files in the common format]

Author(s): [Astrid Kiendler-Scharr]

Work package no	3
Milestone no.	3.1
Lead beneficiary	FZJ
Deliverable type	<input checked="" type="checkbox"/> R (document, report) <input type="checkbox"/> DEC (websites, patent fillings, videos, etc.) <input type="checkbox"/> OTHER: please specify
Dissemination level	<input type="checkbox"/> PU (public) <input type="checkbox"/> CO (confidential, only for members of the Consortium, including the Commission)
Estimated milestone date	31/05/17
Actual milestone date	01/06/17
Version	1
Comments	

Milestone 3.1: Evaluation of a library of scripts dedicated to handling of data files in the common format (involved partners: FZJ, CNRS-LISA, PSI, NCAS-UMAN)

It was decided by the EUROCHAMP consortium, that data shall be provided to the data center in a unified format - the edf-format (eurochamp data format). As data generated in the consortium have a multitude of origin and therefore cover a range of formats, conversion routines generating edf-format are needed throughout the consortium.

A first step in this evaluation has consisted in the inventory of routines and software related with EDF format currently developed within the consortium and ready for distribution among the partner at first and at a broader scale later. The results of this inventory is provided in annex 1.

The script to be evaluated within this activity were selected among this list of resources. A coordinated test of scripts available in the consortium was hence performed in which partners of the consortium provided scripts to generate files in the edf-format. The scripts tested cover a range of programming languages (Python, IDL, IGOR, and R) and target the conversion of files from a range of format origin to the standardized edf-format, which has been developed in the EUROCHAMP consortium. The respective scripts were tested by partners in the consortium to check for usability and performance of the conversion scripts. Generally, the scripts are considered very useful for the EUROCHAMP consortium and will be integrated in the data center to provide users with easy to use tools for data format conversion. As a result, these evaluations will be carefully used to improve the scripts before distribution and to prepare future associated "instruction for use" for widespread dissemination among the consortium.

Annex 1: Inventories of routines and software developed within the consortium to produce or handle EDF files.

Supplying institute	Contact name	Purpose of code	Required input data	Programming language	Conditions of use	Other comments
LISA	Jean-François Doussin	Produce EDF from excel sheet	a tab separated data table with dd/mm/yyyy hh/mm/ss in the first column	R	up to 12 different parameters as a function a time	name: Excel to EDF
LISA	Jean-François Doussin	Produce EDF from excel sheet for a large number of file	A list of file (text format) indicating the name of a series of tab separated data tables with dd/mm/yyyy hh/mm/ss in the first column	R	up to 12 different parameters as a function a time	name: serie Excel to EDF
LISA	Jean-François Doussin	Produce EDF file from TSI SMPS software without taking into account dilution	A text file produced from TSI software providing number size distribution in row and an edf file providing the dilution flow brought to a chamber of a known volume	R		name : SMPS to EDF no dilution
LISA	Jean-François Doussin	Produce EDF file from TSI SMPS software taking into account dilution	A text file produced from TSI software providing number size distribution in row	R		name : SMPS to EDF no dilution
LISA	Jean-François Doussin	Glue several comparable EDF file together to make a single one (useful for ex to make multiday series when each EDF file is for a day)	A text file indicating the name of the EDF file to glue	R		name: Glue_EDF
LISA	Jean-François Doussin	Merging several EDF file taken on a comparable time frame (but not the exact same time) into a single one by interpolating the data to the time series of the first one in the list	A list of EDF file to mere	R		name: Merge_EDF
BUW	Ian Barnes / Peter Wiesen	Produce EDF from excel sheet	a tab separated data table with dd/mm/yyyy hh/mm/ss in the first column	R	up to 10 different parameters as a function a time	name: Excel to EDF
BUW	Ian Barnes / Peter Wiesen	Produce EDF from excel sheet for a large number of files	A list of file (text format) indicating the name of a series of tab separated data tables with dd/mm/yyyy hh/mm/ss in the first column	R	up to 10 different parameters as a function a time	name : serie Excel to EDF

FZJ	Hendrik Fuchs	Produce EDF from IDL	Data structure according to EDF format with time in Julian seconds	IDL		
FZJ	Hendrik Fuchs	Read EDF file and put data into an IDL data structure				
UMAN	Gordon McFiggans	Toolkit to analyse chamber data and produce EDF files for basic chamber instruments including standard gases (NO, NO2, O3), T, RH, Aerosol Number from TSI WCPC, wall-loss corrected particle size distributions	Text files from each instrument in bespoke format (examples given) SMPS	Igor		

Annex 2 : Evaluation target and organisation

Type	Provider	tester
Python	data center	data center
IDL	FZJ	LISA
IGOR	PSI, UMAN	LISA
R	LISA	PSI