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Introducing a graphical user interface for creating the metadata governing the secondary cell suppression process

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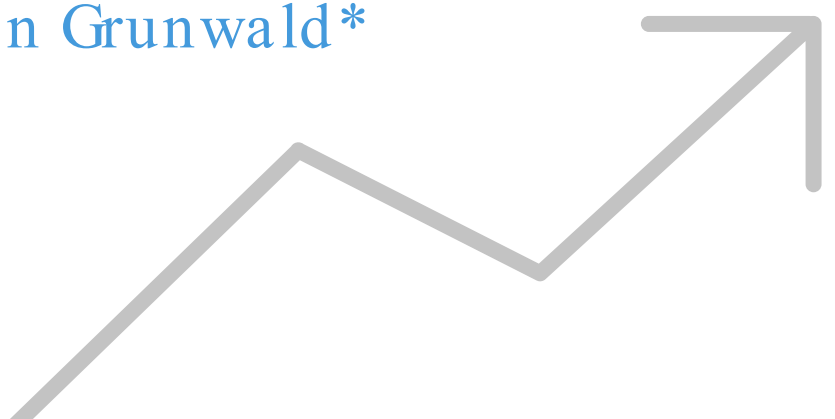


Agenda

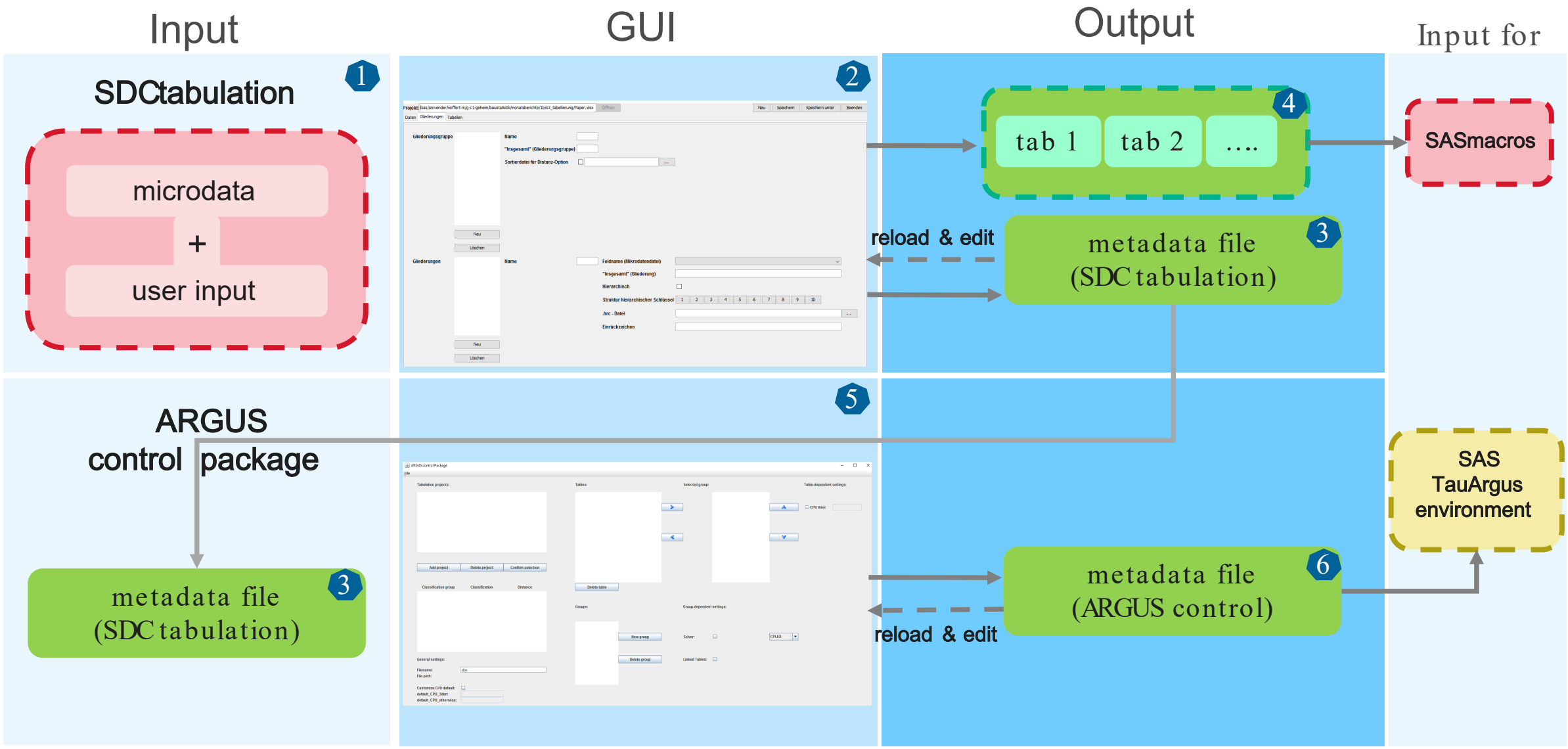
- Introduction and background information
- Motivation to implement the GUIs
- Interaction of the GUIs with the SAS/ τ-ARGUS environment
- Workflow and output of the GUI based on a simplified set of tables
- Conclusion and benefits of the approach
- Further developments

Introduction and background information

- Statistics can produce large sets of multiple linked tables.
- τ-ARGUS has very efficient algorithms implemented for dealing with linked tables.
- However, it is not possible to run every set of tables as linked tables in τ-ARGUS directly
  - Dimensionality
  - Covering Hierarchy

Motivation to implement the GUIs

- We use a working solution, consisting of a set of SAS macros in this situation.
- Applying the τ-ARGUS modular method to each single table or groups of tables as a module within an iterative procedure.
- The iterative process is controlled by a set of metadata files.
- The motivation for creating the GUIs stems from the fact that these metadata files have to be created and filled manually as of now.

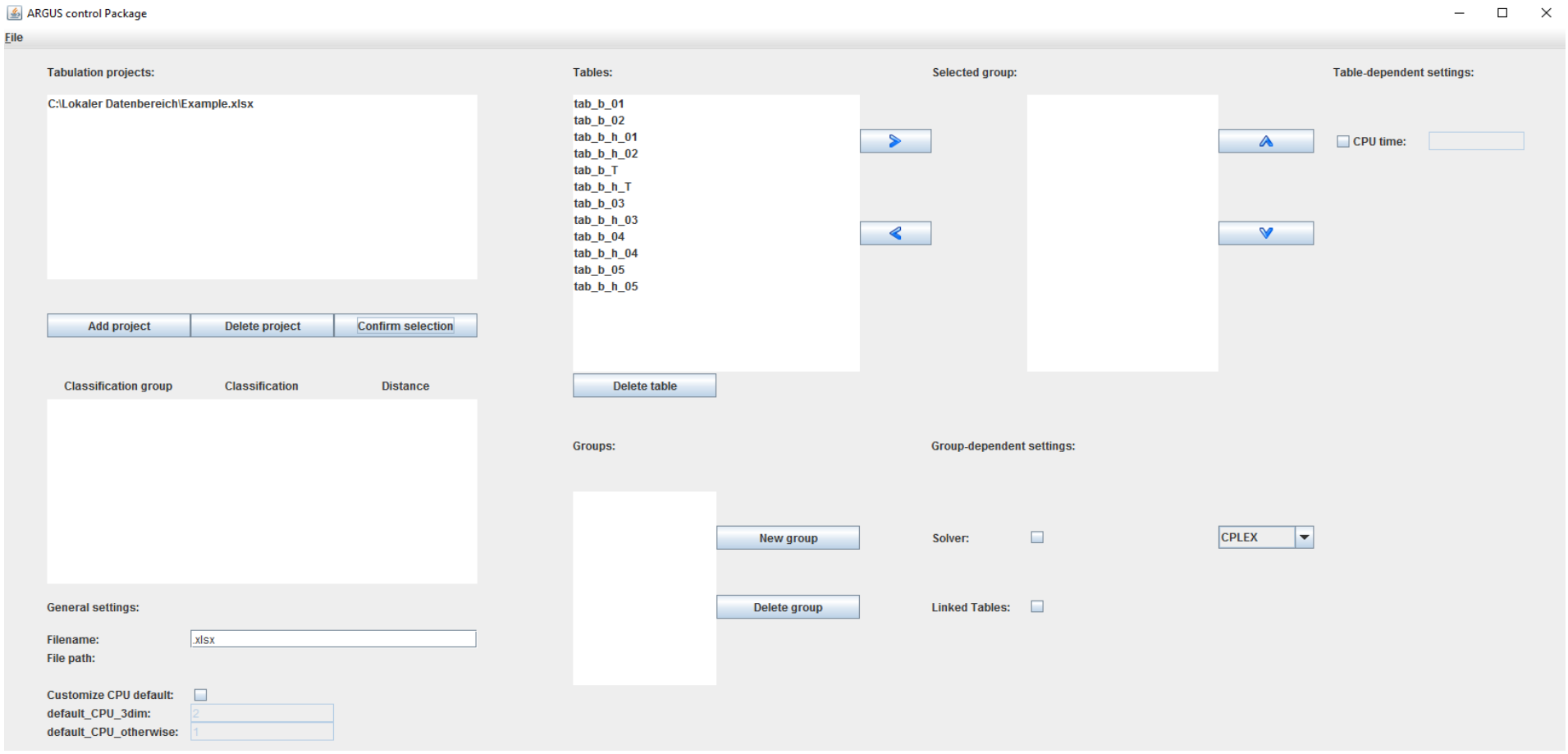

Input
GUI
Output
Input for
SDCtabulation
1
microdata
+
user input
2
4
tab 1
tab 2
....
SASmacros
reload & edit
metadata file
(SDC tabulation)
3
ARGUS
control package
5
SAS
TauArgus
environment
metadata file
(SDC tabulation)
3
metadata file
(ARGUS control)
6
reload & edit

Introducing an examplary set of tables

reduced version of the example from (Schmidt and Giessing, 2011)

- Sub regions release a one-dimensional table “ tab_b” and a two-dimensional table “ tab_b_h” (accordingly “tab_b_T” and “ tab_b_h_T” on the federal level).
- b is the explanatory variable, which is the NACE-code in a breakdown to the divisions.
- h represents any size-class variable.
- For better clarity we consider only five sub regions.

Overview of the ARGUS control package GUI



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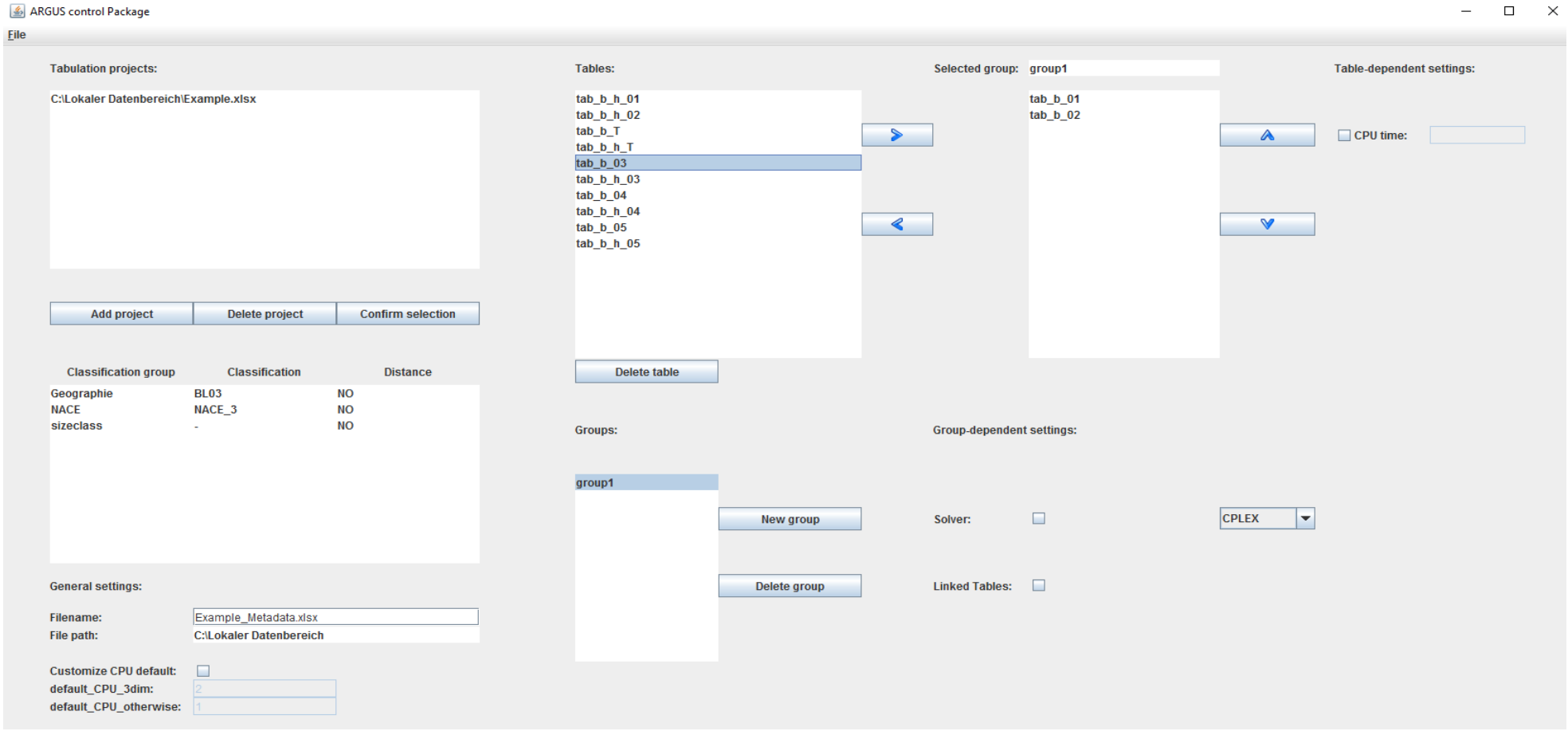

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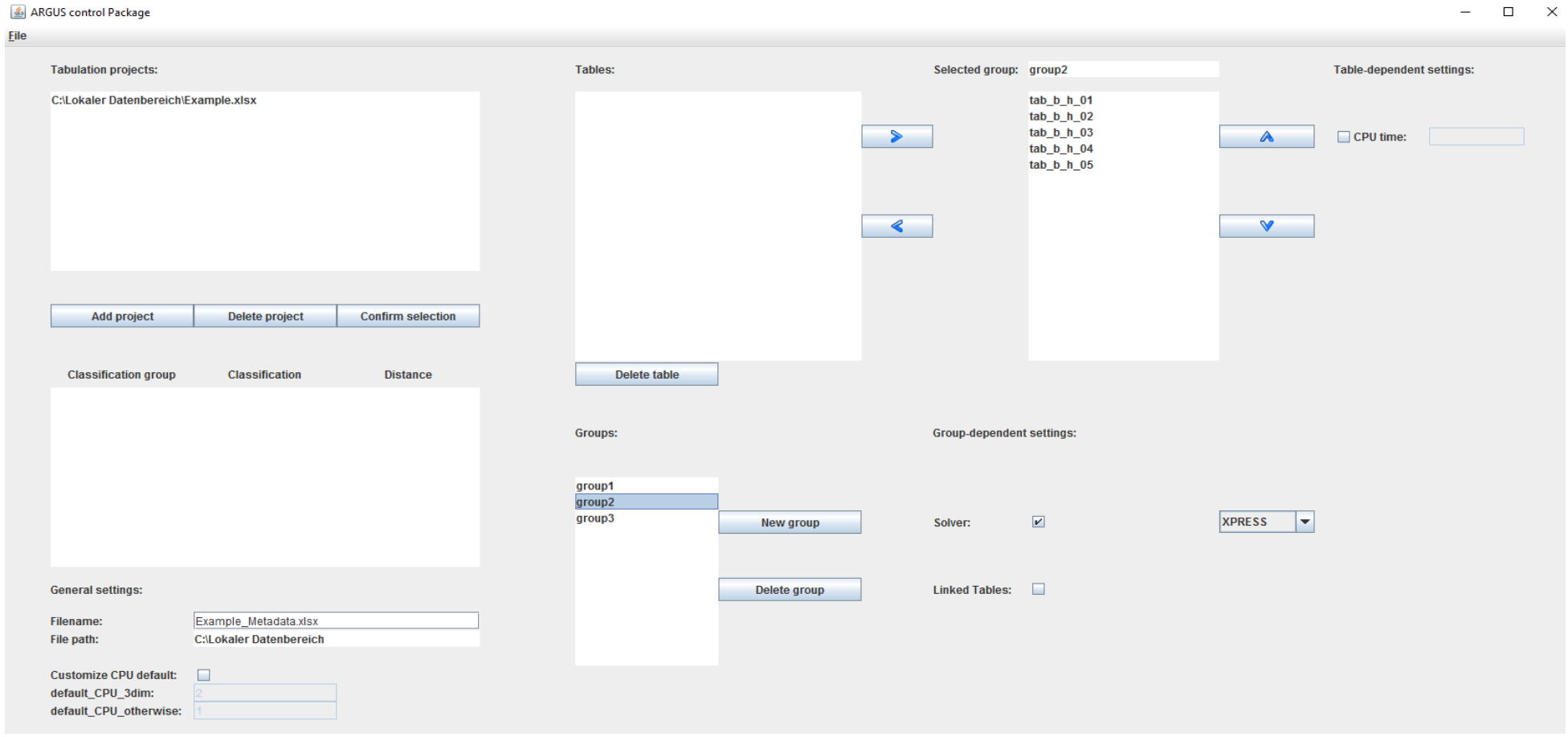

Conclusion and benefits of the approach

- In the process 13 metadata sheets were written for the SDC tabulation process and the ARGUS control package combined.
- The approach saves a lot of manual work and also reduces the amount of errors that are being made.
- It makes the design of a complex SDC process for multiple linked tables more accessible to a wider range of users, while it is still able to facilitate the work of SDCexperts.

Further developments – interactive plausibility

- Implement an active plausibility check during runtime for the ARGUS control package, in order to give interactive feedback on the GUI
  - For example, an impermissible combination of dimensions in the group composition could be automatically detected and reported back to the user.

Further developments – roll forward

- Automatically prepare all settings, and with that all necessary Excel sheets for the next reporting period, in a “roll forward” functionality.
  - The initial set up is developed by an SDC expert and tested for the first reporting period, and then the project can be handed over to the statistics department for further use.

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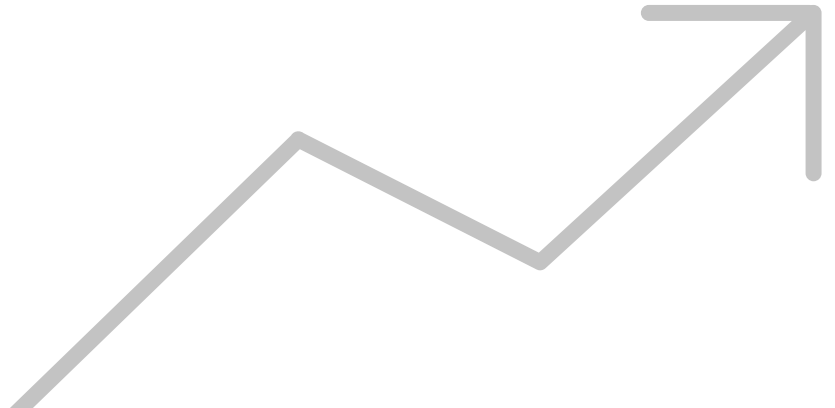
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