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HAND-HELD DATA CAPTURE SYSTEMS IN FRANCE AND GERMANY

Document prepared by experts from Germany and France  
  
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# Introduction

From time to time hard and software components of hand-held data capture systems have to be upgraded. There is an UPOV document which describes the actual situation in different member states (see document TWC/32/27 “Updated Survey on Hand-Held Data Capture Device”).

The aim of this document is to inform participants of TWC meeting about new developments in Germany regarding to hand-held data capture systems, to compare the French and the German system and to offer an English version of the software.

# The French system: SIRIUS

The hand-held data capture system of French colleagues “SIRIUS“ was described in document TWC/27/17 “Hand-Held Data Capture System: SIRIUS”. It is a highly developed system and is in use in many countries. There are a lot of useful functions and a user-friendly interface. The system was developed by using “WINDEV” as programming language and a relational database “HYPERFILE”. The software works on all windows platforms. The contact person is Christophe Chevalier, a member of the TWC.

# The German system

Up to 2012 German colleagues worked with hand-held data loggers which had proprietary operating systems. In 2013 there was for the first time a data logger on the market comparable with the old ones but using a windows mobile operating system. In the past the Bundessortenamt developed an application program for these data loggers in co-operation with a private company based on programming language “C-Easy”. There is an interface to exchange data with the German DUS program which can use to import and to export different types of data.

German DUS experts wanted to transfer the same application program on the new platform in order to minimize their training time and costs. So IT experts of the Bundessortenamt rewrote the program using programming language Visual Studio 2008 (.NET).

Starting in 2013, we have been using a first version successfully and we developed a second version which has a user interface in English in 2015. The contact person is Thomas Drobek, a member of the TWC.

# Comparison of French and German system

In the following table the French and the German system are compared.

|  |  |  |  |
| --- | --- | --- | --- |
| Category | French system | German system | Remarks |
| Programming language | WINDEV | .NET Compact |  |
| Windows compatible | Yes | Yes |  |
| English version | Yes | Yes |  |
| Changing order of characteristics on display | Yes | Yes | The order is defined by the selection (click-order) |
| Definition of data format for each characteristic | Yes | Yes |  |
| Definition of lower and upper limit of expressions | Yes | Yes |  |
| Definition of input type of each characteristic | Yes | Yes | No input,  Not displayed,  Day of month,  Reference value |
| Definition of filter | Yes | No | To define accessible cells |
| Parameter update in the office and/or in the field | Yes | Yes |  |
| User friendly interface to handle many notes | Up to 250,000 | Yes  1000\*5\*3\*20=300.000 (plot-no.\* No. of characteristics \* No. of repl. \* No. of single plants) |  |
| Rules-processing | Yes | Yes | Dependence between two characteristics |
| Note-mode | Yes | Yes | fast typing without enter key (only press one key) |
| Hardware | Panasonic  Toughbook CF 19  Toughbook CF U1 | ACD  M210 Pocket-PC |  |
| Screen | 10,1” | 3,5” |  |
| Pixel |  | 240 x 320 |  |
| Weight | CF-U1: 1060g | 550g |  |
| Resistance | IP65 | IP54 |  |
| Application area | DUS, VCU | DUS |  |
|  |  |  |  |
| Contact person | Christophe Chevalier | Thomas Drobek |  |

# Screenshots German System

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

# Database-Model German System

|  |  |  |  |
| --- | --- | --- | --- |
| A table with all database table and column names is included in Annex. | |  | |
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|  | |  | |

# Images of data loggers in use

 Panasonic Toughbook 19 using in France

 Panasonic Toughbook CF-U1 using in France

 ACD M210 Pocket-PC using in Germany

TABLE OF DATABASE STRUCTURE

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| database | table | column name | datatype | length | description |
| masterdata | duschar | speccode | nchar | 3 | species code |
| masterdata | duschar | charact | nchar | 4 | character |
| masterdata | duschar | measobj | int | 4 | object of measurement |
| masterdata | duschar | charno | int | 4 | number of character |
| masterdata | duschar | mrule | nchar | 20 | rule of measurement |
| masterdata | duschar | mob\_min | int | 4 | minimum value |
| masterdata | duschar | mob\_max | int | 4 | maximum value |
| masterdata | duschar | descript | int | 4 | description |
|  |  |  |  |  |  |
| masterdata | standard | minmaxflag | nchar | 1 | minimum/maximum flag |
| masterdata | standard | mruleflag | nchar | 1 | rule of measurement flag |
| masterdata | standard | warnflag | nchar | 1 | warning flag |
| masterdata | standard | safeflag | nchar | 1 | safe flag |
| masterdata | standard | nosp | int | 4 | number of single plants |
| masterdata | standard | maxsp | int | 4 | maximal number of single plants |
| masterdata | standard | noteflag | nchar | 1 | note flag |
| masterdata | standard | minpltno | int | 4 | minimal plot number |
| masterdata | standard | maxpltno | int | 4 | maximal plot number |
| masterdata | standard | minreplno | int | 4 | minimal replication number |
| masterdata | standard | maxreplno | int | 4 | maximal replication number |
| masterdata | standard | zoom | int | 4 | zoom |
|  |  |  |  |  |  |
| masterdata | measurements | measno | int | 4 | measurement number |
| masterdata | measurements | speccode | nchar | 3 | species code |
| masterdata | measurements | year | int | 4 | year |
| masterdata | measurements | trialst | int | 4 | trialstation |
| masterdata | measurements | nosp | int | 4 | number of single plants |
| masterdata | measurements | no\_sp | int | 4 | number of single plants exception |
| masterdata | measurements | maxsp | int | 4 | maximal number of single plants |
| masterdata | measurements | minmaxflag | nchar | 1 | minimum/maximum flag |
| masterdata | measurements | minpltno | int | 4 | minimal plot number |
| masterdata | measurements | maxpltno | int | 4 | maximal plot number |
| masterdata | measurements | minrepl | int | 4 | minimal replication number |
| masterdata | measurements | maxrepl | int | 4 | maximal replication number |
| masterdata | measurements | mruleflag | nchar | 1 | rule of measurement flag |
| masterdata | measurements | noteflag | nchar | 1 | note flag |
| masterdata | measurements | safeflag | nchar | 1 | safe flag |
| masterdata | measurements | warnflag | nchar | 1 | warning flag |
| masterdata | measurements | no\_char | int | 4 | number of characters |
|  |  |  |  |  |  |
| masterdata | trialstnam | trialstno | int | 4 | number of trial station |
| masterdata | trialstnam | trialstname | nchar | 20 | name of trial station |
|  |  |  |  |  |  |
| masterdata | measchar | measno | int | 4 | measurement number |
| masterdata | measchar | charorder | int | 4 | character order |
| masterdata | measchar | measobj | int | 4 | object of measurement |
| masterdata | measchar | charno | int | 4 | number of character |
| masterdata | measchar | descript | nchar | 75 | description |
| masterdata | measchar | mob\_min | int | 4 | minimum value |
| masterdata | measchar | mob\_max | int | 4 | maximum value |
| masterdata | measchar | mrule | nchar | 20 | rule of measurement |
| masterdata | measchar | charact | nchar | 4 | character |
|  |  |  |  |  |  |
| m-measurement | measurement | measno | int | 4 | measurement number |
| m-measurement | measurement | plotno | int | 4 | plot number |
| m-measurement | measurement | repl | int | 4 | replication number |
| m-measurement | measurement | sp | int | 4 | single plot |
| m-measurement | measurement | m001 | nchar | 4 | measurement 1 |
| m-measurement | measurement | m002 | nchar | 4 | measurement 2 |
| m-measurement | measurement | m003 | nchar | 4 | measurement 3 |
| m-measurement | measurement | m004 | nchar | 4 | measurement 4 |
| m-measurement | measurement | m005 | nchar | 4 | measurement 5 |
| m-measurement | measurement | m006 | nchar | 4 | measurement 6 |
| m-measurement | measurement | m007 | nchar | 4 | measurement 7 |
| m-measurement | measurement | m008 | nchar | 4 | measurement 8 |
| m-measurement | measurement | m009 | nchar | 4 | measurement 9 |
| m-measurement | measurement | m010 | nchar | 4 | measurement 10 |
| m-measurement | measurement | m011 | nchar | 4 | measurement 11 |
| m-measurement | measurement | m012 | nchar | 4 | measurement 12 |
|  |  |  |  |  |  |
| m-measurement | measorder | measno | int | 4 | measurement number |
| m-measurement | measorder | order | int | 4 | order |
| m-measurement | measorder | plotno | int | 4 | plot number |
| m-measurement | measorder | repl | int | 4 | replication number |
|  |  |  |  |  |  |
| archivflag | archivflag | measno | int | 4 | measurement number |
| archivflag | archivflag | archivflag | char | 1 | archive flag |

[End of Annex and of document]