



Specification Sheet

**eControl
Software module**

BirdControl

Based on eControl basic system/core functions

optional:

Add-on module BirdControl Risk Assessment

Add-on module ADREP Export according to Regulation (EU) 376/2014

Version eControl 4.7.0 v. 22.02.2018

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22335 Hamburg

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Editors: Frank Espenhain
Pascal Rohmann

Layout & Graphics: Torben Petrina

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1 Regulatory requirements

The software module Bird Control meets regulatory requirements according to:

- Regulation (EU) 376/2014 and
- ICAO Annex 14

2 System standard

- Audit compliance – legal, documentation of all data changes
- User rights management based on Oracle RDBMS security standard (each user exactly matches one oracle scheme)
- Prepared editing history for all electronic forms and attached objects
- Browser application available on each workstation without installation
- Number of users scalable without limits
- No need for long-term archiving of transaction data
- Continuous development (since 2006)

3 Biotope management and animal observations

- Point-stop method
 - N freely definable measurement paths with M measuring points
 - Interrelated documentation for single inspections of the monitoring measurement path
 - Near and far biotopes
- Ad hoc observations
 - Additional documentation of aversive conditioning
 - Non-specific species recording
- Cartographical information (WGS84) for location-specific recording of animal observations
- Automated provision of METAR and TAF information for animal observations
- Fast recording function based on freely definable species codes
- Display and recording of key figures for cultivated grassland
- Display of image and text material for recorded species

- Fully automated integration of animal observations in daily or shift reports from operative units
- Annexing of N documents (e.g. photos) per observation including automatic version management

4 Ecological criteria and species database

- N ecological criteria with user-specific value ranges per species
- Manufacturer's pre-set initial ecological criteria per species
- Species database for any desired animals (birds, mammals, insects)
- Manufacturer's pre-set species database for Central Europe
- Structure and content of the ecological criteria and species database pursuant to the requirements of the NBSC

5 Biotope management and carcass finds

- Suitable for carcass finds and hunting bags
- Link between carcass finds and bird strikes on request
- Cartographical information (WGS84) for location-specific recording of carcass finds
- Automated provision of METAR and TAF information for carcass finds
- Fully automated integration of carcass finds into the daily or shift reports of the operative units
- Attachment of N documents (e.g. images) per observation incl. automatic version management

6 Mobile data recording with eControl mobile

- Intuitive touch GUI for windows tablets
- Efficient implementation of counts via point stop method
- System-based documentation of all incidents relevant to the bird control sector: carcass finds, bird strikes, runway inspections, FOD, etc.
- Online and offline mode

- No need for additional data maintenance of eControl mobile regarding user, master data etc. – all information gets taken over and updated automatically
- Fully automated location (WGS84) of events, manual editing feasible based on measured map material
- Fully automated identification of measuring points
- Convenient photo documentation via on-board camera
- Documentation and initiation of measures if required
- Fully automated data transfer incl. coordinates, photo documentation, measures etc.
- Optional post-processing/enhancement of the data in web front-end

7 Bird strike documentation

- Data structure in accordance with international ICAO bird strike form (ICAO DOC 9332)
- Documentation of all wild animal incidents
- Processing of bird strike reports of varying data quality
- Validation of flight phases, spot height and further data
- Link between bird strikes and carcass finds on request
- Cartographical information (WGS84) for location-specific recording of bird strikes
- Automated provision of METAR and TAF information for bird strikes
- Fully automated integration of bird strikes into daily or shift reports of the operative units
- Attachment of N documents (e.g. images) per observation incl. automatic version management for each document
- Free definition of descriptive, prognosticating and predictive indicators based on a query generator pursuant to ICAO logic incl. ALOS and Target
- Free definition of key figures according to key traffic indicators
- Administration of key figure data for KPIs
- Freely definable dashboards / information cockpits for key figures
- Fully automated daily update of these dashboards / information cockpits
- Release for system users without specific rights to the underlying complex statistics

8 Bird strike reports to CA according to Regulation (EU) 376/2014

- Add-on module ECCAIRS Export in accordance with Regulation (EU) 376/2014
- Provision and continuous updating of the ECCAIRS taxonomy as underlying data of a report
- Generation of incident report in accordance with the ADREP-Standard according to Regulation (EU) 376/2014
- Digital data provision in E5X format
- Automatic data migration from eControl bird strike reports into the ADREP reporting format
- Freely parametrizable data migration assistant for avoidance of duplicated data entry
- Definition of pre-sets for faster creation of ECCAIRS reports
- Conversion assistant for automated data migration between eControl value ranges and the ECCAIRS taxonomy
- Predefined conversion rules for all value ranges of the eControl bird strike reporting form
- Complete image of the report categories initial, preliminary and closed
- Voluntary and mandatory reporting
- Complete editing history for the electronic eControl form and the ECCAIRS reporting format
- Automatic archiving of official ECCAIRS reports in E5X format as well as PDF file
- Printing of ECCAIRS reports according to Regulation (EU) 376/2014 as a PDF file
- Simplified monitoring of the time course of a report by an appropriate reporting system

9 Wildlife risk assessment

- Add-on module BirdControl Risk Assessment
- Concept according to EASA OPS.B.020

- Risk model according to the concepts of scientists Dr. John Allan and David C. Patton
- Further development of the model on the basis of the scientific criteria of the DAVVL (GBSC)
- No need for further data recording – animal recordings and bird strikes serve as transaction data exclusively
- Freely parametrizable risk matrix in accordance with ICAO, EASA or individual requirements
- Risk assessment differentiated by species
- Cumulative bird strike risk per observation period
- Detailed documentation for the steps for calculating “Severity” and “Probability”
- Bird strike detailed verification for risk assessment of relevant bird strikes
- Database related predefined module parameters and interval boundaries for quantitative and qualitative factors of “Probability” and “Severity”
 - Relative proportion of animal observations
 - Relative frequency of animal observations
 - Relative degree of spread of animal observations
 - Quantitative overall frequency of animal observations
 - Relative bird strike frequency
 - Quantitative “probability”
 - Ecological criterion “likelihood of bird flight” (Risk Assessment)
 - Ecological criterion “night flying activity” (Risk Assessment)
 - Temporary markups and markdowns for “probability” species
 - Ecological criterion weight classification (Risk Assessment)
 - Ecological criterion flocking(-tendency) (Risk Assessment)
 - Species-specific risk potential
 - Extent of damage from bird strike
 - Relative loss ratio from bird strike per species
 - “Severity” of bird strike per species
- Parametrization of the Risk Assessment
 - Observation period
 - Reference period bird strikes
 - Location

- Biotope
- Observation method
- Staff who performed the observations
- Frequencies per inspection or per inspection and measuring point
- Different calculation methods for bird strikes with regard to the varying data quality
- Report categories bird strikes for selection of the data source – independently recorded bird strike reports provided by the NBSC
- Flight phases / scope of the airport's responsibility
- Statistic Risk Assessment "Probability"
- Statistic Risk Assessment "Severity"
- Statistic Risk Assessment per Species and observation period
- Statistic Risk Assessment cumulative for an observation period
- Statistic Risk Assessment trend analysis

10 Data exchange Airport ↔ NBSC

- Export of animal observations and carcass finds by the airport
- Import of animal observations and carcass finds by the NBSC
- Export of bird strike data by the NBSC
- Import of bird strike data by the airport
- Proprietary eControl data format
- Simplified creation of biotope reports by the NBSC
- Authentic bird strike statistics for the airport by considering bird strikes that were not reported to the airport directly
- Fully automated management of the master data

11 Statistics and report generators

- Pre-settable standardized selection criteria for convenient application in different statistics
 - Observation period
 - Measuring method – absolute frequencies or average value method for point-stop observations

- Determination of a group of people whose observations shall be taken into account – e.g. <ALL> or only staff trained in ornithology
- N ecological criteria based on a condition generator including AND, OR, parentheses as well as a logic-check of the query terms
- Saving of statistics in PDF format
- Export of statistical data in CSV format
- Copy functionality of graphs for further use in Office applications
- Statistic Frequency distribution for birds
- Statistic Frequency distribution for birds per partial section
- Statistic Trend analysis - observations
- Statistic Monthly mean values
- Animal Groups daily frequency distribution
- Statistic Frequency and vegetation data
- Statistic Frequency cartographic evaluation
- Statistic Report animal collisions by animal group
- Statistic Report animal collisions and observations
- Statistic Animal collisions height profile
- Statistic Animal collisions time of day analysis
- Statistic Carcass finds
- Statistic Indicators
- Report Observations
- Report Vegetation- and cultivated grassland data
- Report Inspections
- Report Animal collision risk reports grouped by area and flight phase
- Report Animal collision risk reports monthly update
- Report Animal collision report grouped by month
- Report Hunting finds and carcass finds
- Report Ammunition use
- Report Carcass finds
- Report Species database

12 Technical framework

- Browser-based solution
- Microsoft IIS
- Oracle RDBMS (from 11 G)
- eControl mobile
 - Windows 8.1 or higher
 - Mobile devices with touchscreen, GPS and built-in camera