



## VDR TRAINING

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## **ABOUT THIS DOCUMENT**

The purpose of this document is to provide the user with sufficient information to understand the concept of the VDR repository database tool set, how to use it in support of capturing validation data and carrying out simple reporting. It is not a design manual and is not intended to provide the types of information that would be needed to modify or extend the database or tool set design, with the exception of the built-in facilities for user-developed extensions to the repository.

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## OVERVIEW – CAPABILITIES AND BASIC ARCHITECTURE

### ATM Validation Context

Validation is a key process in the development of ATM services. There is, however, an information management issue in that there is a lot of ATM validation information available, but overviews are restricted, it has little structure and it is difficult to get access to the results. As a consequence there is little reuse of existing knowledge, lots of fragmentation and no overall picture.

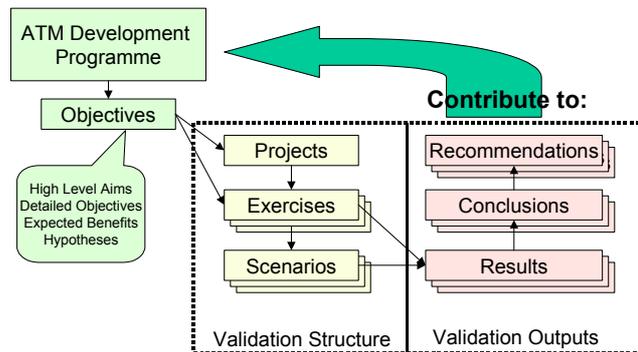
### How the VDR Service helps

The VDR Service is a comprehensive suite of services provided by the EUROCONTROL Agency that manages and supports the use of a flexible management information system for ATM validation information. It:

- provides a single, secure, managed repository of ATM validation information;
- is the source of guidance on how to use validation information, and on how to select and follow through the most suitable options for future validation work, supported by templates and data views based on a widely agreed terminology;
- supports views of the repository contents depending on user type and role through its security mechanism.

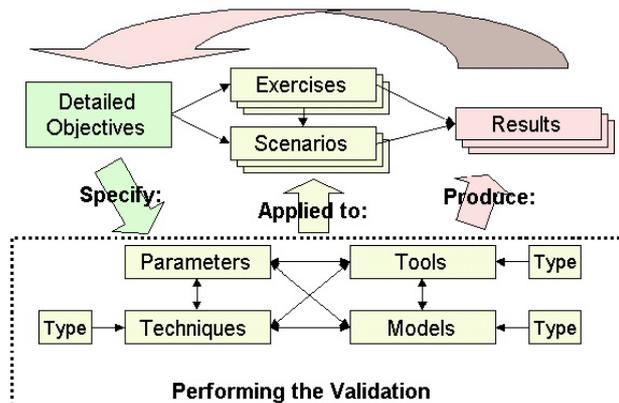
### Who does it support?

**Managers and planners in programme management** (e.g. EATMP): it provides a view of the overall validation status of given projects in terms of how the outputs from the validation activities are contributing to the overall objectives.



**Managers and planners in the Domains and Projects:** it provides a view of the validation work that is needed, that has been done and that is planned to be done and enables the evidence for assertions derived from validation activities to be viewed in context.

**R&D experts planning & performing ATM validation work:** it provides a view of information on validation tools, techniques, standard scenarios etc. that are used by an exercise in order to produce results that address the objectives.



## What are its Benefits?

The VDR Service provides an opportunity for improving the efficiency and effectiveness of information management within the ATM validation community. It is a source of validation information that:

- allows identification of reusable results; prevents unnecessary repetition;
- maximises the synergy of experience between different organisations and projects;
- ensures consistency of information by using a well defined and managed data structure;
- limits access to critical information using its flexible security functions,
- supports geographically distributed work groups through the Internet
- facilitates the use of a common validation language; and,
- provides a common support structure for the input, retrieval and communication of information.

As a consequence, the VDR can promote mutual understanding and convergence of validation related information.

## What does it consist of?

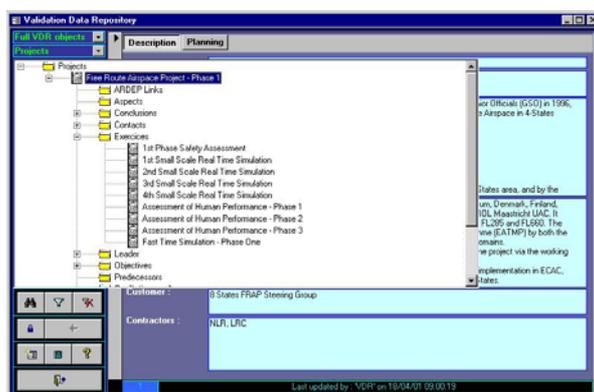
### VDR User Services

The User Services comprise:

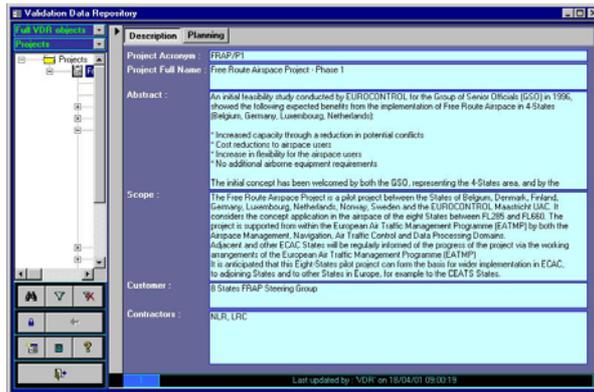
- a Validation Interest Group forum for sharing experiences on using the VDR Service, influencing the new developments, and for promoting its use;
- validation information input quality checking;
- a telephone help desk for users of the system to assist in solving technical, organisational and validation related problems.
- professional database management through IT service center

### The VDR repository and toolset

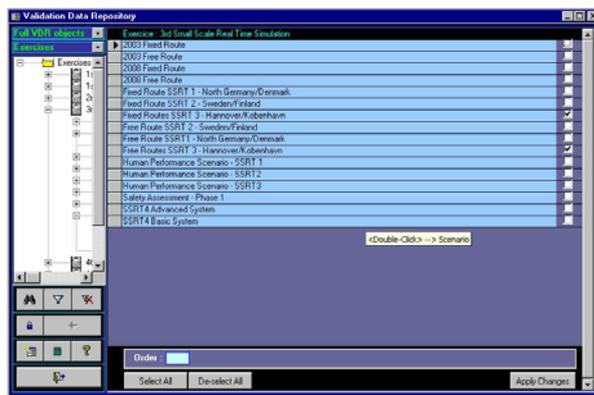
It features a flexible MS Windows based HMI that allows users to easily find and navigate information that is relevant for them.



It provides a search source for validation (related) items, including results; a repository filled with ATM validation related data.



It enables traceability linkages between any data sets to be identified – the basis on which, for example, validation exercise results and conclusions can be linked to ATM development objectives.



Other features include:

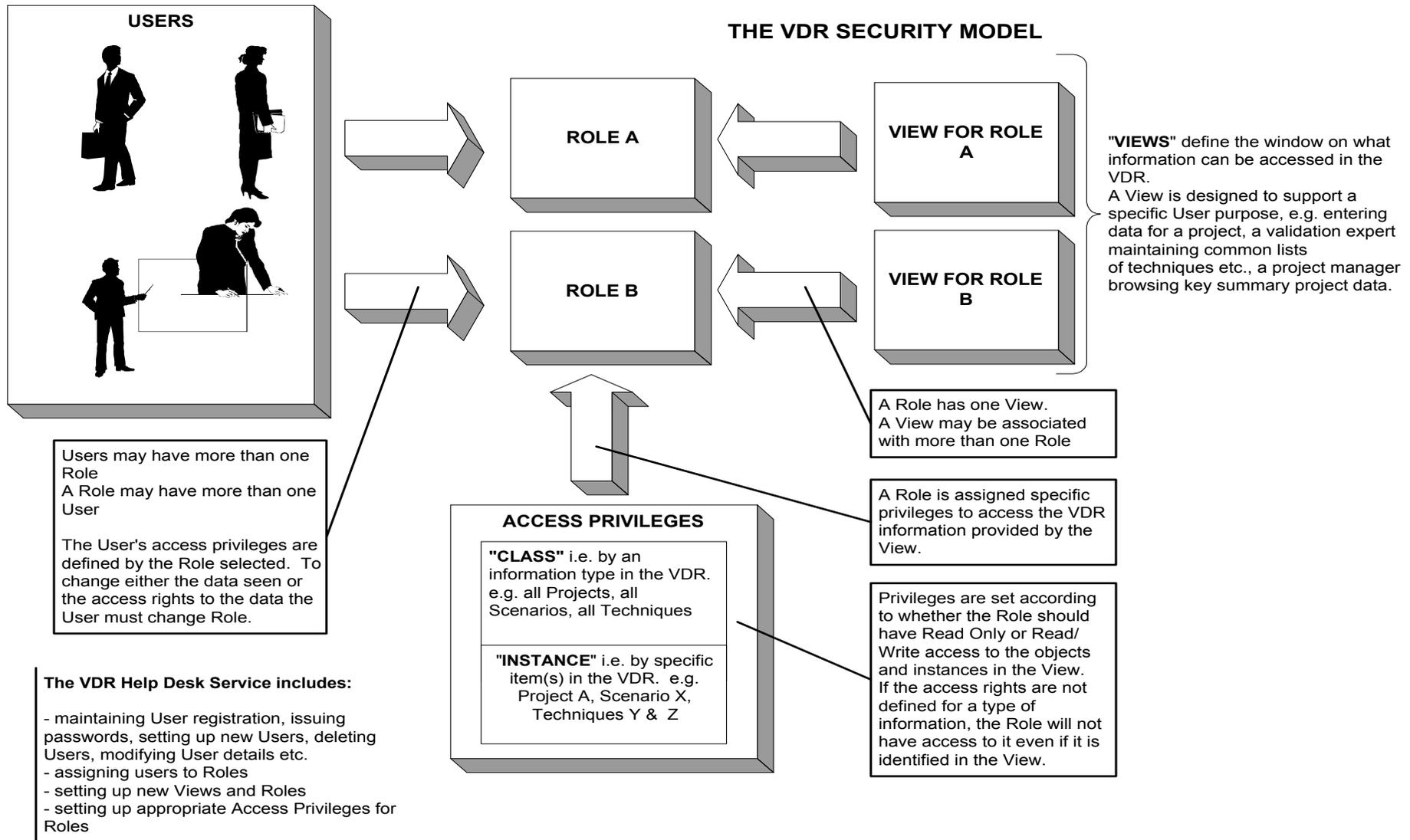
- internet access using a web browser interface, including interactive data update;
- the ability to integrate with, and access data from, existing systems and data repositories, e.g. ARDEP;
- industry standard security at user and data level to ensure only relevant data can be seen and/or modified by users;
- a controlled framework for consistent recording of validation activities;
- flexible validation information reporting facilities;
- hyperlink references to validation documents including validation plans, exercise reports etc.;
- an on-line user documentation and help system.

### **The VDR support team and its responsibilities**

1. Registration and authorisation of VDR users.
2. Populating the VDR.
3. Updating VDR contents.
4. Making VDR back-ups.
5. Monitoring the VDR.
6. VDR configuration control / change control.
7. Assessment of quality of user input.
8. Checking completeness, correctness, and consistency of data.
9. Validate VDR input data
10. Define data input templates for VDR users
11. Define procedure for user input

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## VALIDATION DATA REPOSITORY (VDR): WHAT IS IT?



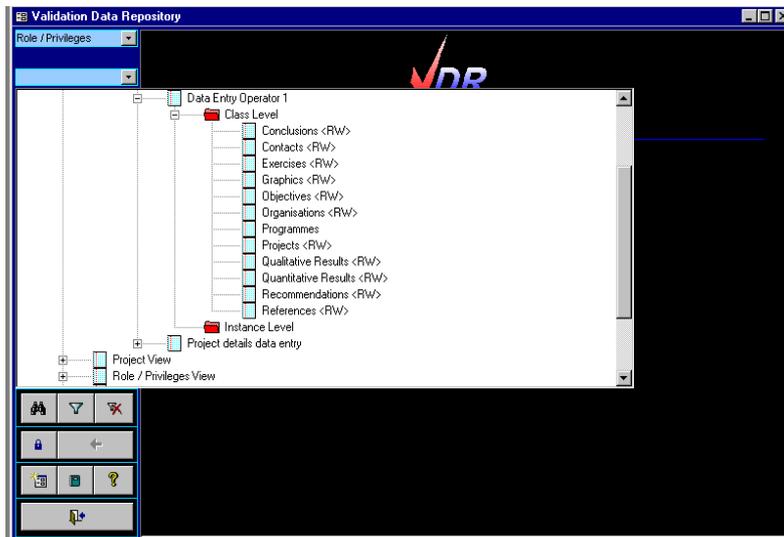
**The VDR Help Desk Service includes:**

- maintaining User registration, issuing passwords, setting up new Users, deleting Users, modifying User details etc.
- assigning users to Roles
- setting up new Views and Roles
- setting up appropriate Access Privileges for Roles



## THE STRUCTURE OF THE VDR VIEWS

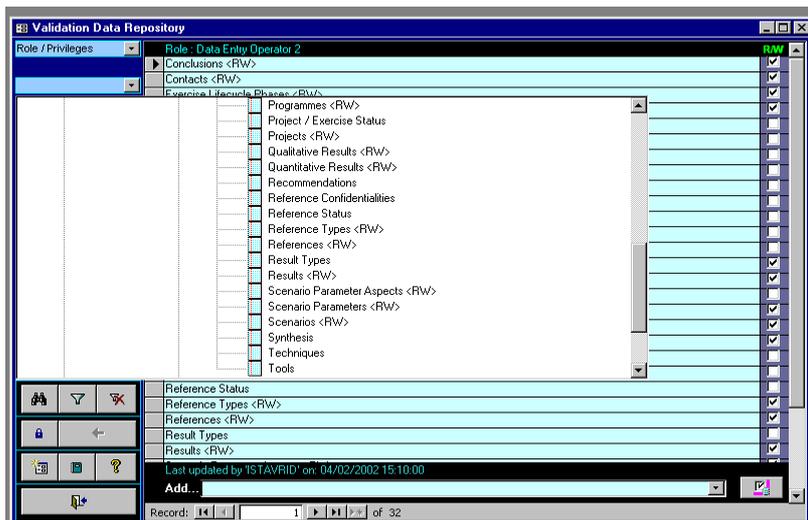
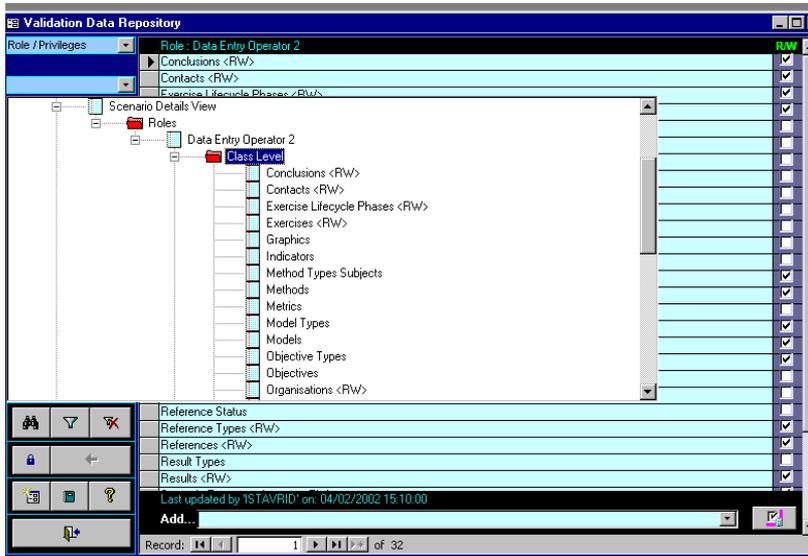
**Role:** Data entry operator 1    **View:** Project details view



### 1. PROJECT DETAILS VIEW:

- Programme
- References
- Contacts
- Projects
  - Conclusions
  - Contacts
  - Exercises
    - Conclusions
    - Contacts
      - Organisations
    - Objectives
      - Conclusions
    - Qualitative results
      - Conclusions
        - Graphics
        - Recommendations
      - Graphics
    - Quantitative results
      - Conclusions
        - Graphics
        - Recommendations
      - Graphics
    - Recommendations
    - References
  - Objectives
    - Conclusions
- Qualitative results
  - Conclusions
    - Graphics
    - Recommendations
  - Graphics
- Quantitative results
  - Conclusions
    - Graphics
    - Recommendations
  - Graphics
- References
- Recommendations

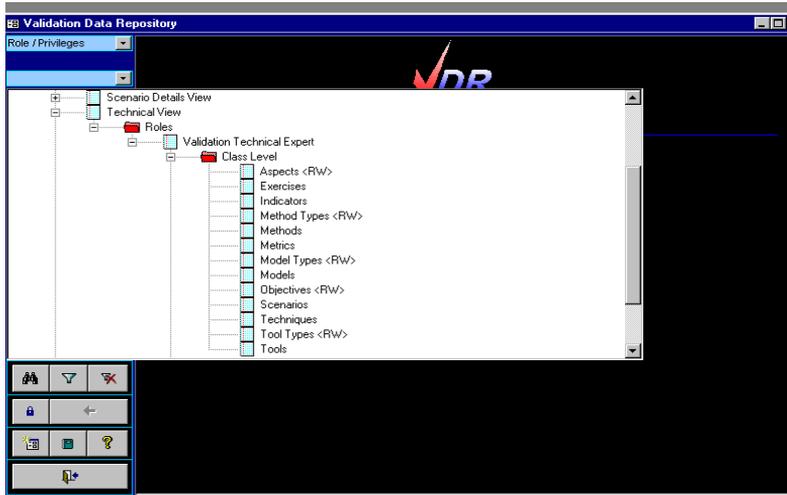
**Role: Data entry operator 2    View: Scenario details**



**2. SCENARIO DETAILS VIEW**

- Programme
- Projects
- Exercises
- Scenarios
  - Qualitative results
  - Graphics
  - Quantitative results
  - Graphics
  - Methods
  - Techniques
  - Tools
  - Scenarios Parameters
  - Graphics
  - References
  - Contacts

**Role:** Validation Technical Expert    **View:** Technical

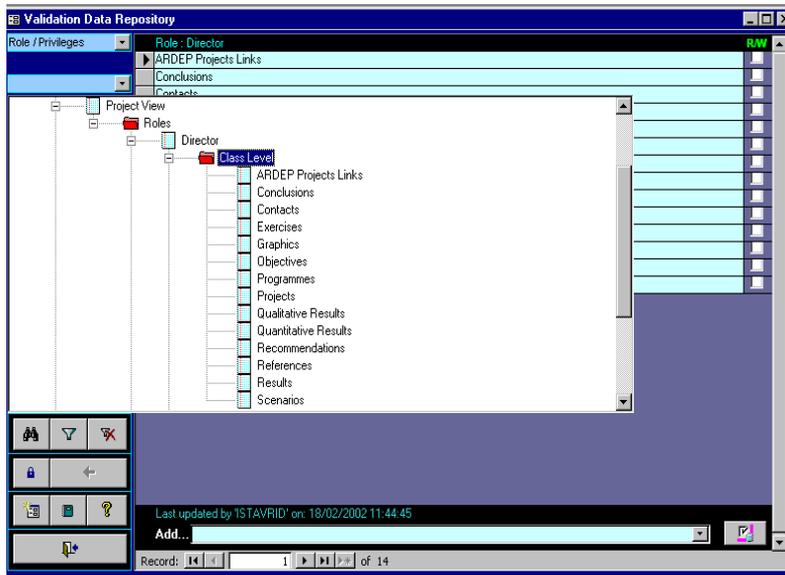


**3. THE TECHNICAL VIEW :**

- Exercises
  - Scenarios
  - Methods
  - Models
  - Scenario Parameters
  - Techniques
  - Tools
- Methods
  - Scenarios
  - Exercises
  - Scenario Parameters
  - Techniques
- Models
  - Scenarios
  - Exercises
  - Scenario Parameters
- Techniques
  - Models
  - Scenarios
  - Exercises
  - Scenario Parameters
- Tools
  - Scenarios
  - Exercises
  - Scenario Parameters
  - Techniques
- Aspects
  - Indicators
  - Metrics

**Role:** Director

**View:** Project View



#### 4. THE PROJECT VIEW

Programme

Projects

Conclusions

Contacts

Exercises

Conclusions

Qualitative Results

Graphics

Quantitative Results

Graphics

Objectives

Conclusions

Recommendations

References

Exercise Unit

Objectives

Conclusions

Qualitative Results

Graphics

Quantitative Results

Graphics

Recommendations

References

## THE VDR DATA SETS

The VDR datasets have a large number of inter-relationships that need to be recorded. Those that are of a "many-to-many" type (e.g. a given scenario may use many techniques and a give technique may be used by many scenarios), require a "linking dataset". The browsing and data entry forms associated with these are known as Linking Forms.

### DEFINITIONS

**Validation** is the process through which a desired level of confidence in the ability of a deliverable to operate in a real-life environment may be demonstrated against a pre-defined level of functionality, operability and performance [EVAS].

Data sets	Definition	Definitions' examples	Data Input information
<i>Analysis Technique</i>	A methodical and systematic approach used to extract meaning and conclusions from a set(s) of qualitative and/or quantitative Results (q.v.).	Exploratory, e.g. descriptive Inferential.	
<i>Aspect</i>	The highest level element(s) of a performance structure that define the quality and capability attributes of ATM services. An Aspect can be assessed using one or more Indicators (q.v.)	The ATM Strategy for 2000+ identifies eight high level performance Aspects namely: <ul style="list-style-type: none"> <li>• Safety</li> <li>• Economics</li> <li>• Capacity</li> <li>• Environment</li> <li>• National Security and Defence Requirements</li> <li>• Uniformity</li> <li>• Quality</li> <li>• Human Involvement and Commitment</li> </ul>	Identify aspects (e.g. Workload). For each aspect, enter: <ul style="list-style-type: none"> <li>– Aspect name</li> <li>– Aspect description</li> </ul>

Data sets	Definition	Definitions' examples	Data Input information
<i>ATM System</i>	A set of human, technical, procedural and operational components co-operating as a coherent whole to provide a suite of ATM services for airspace users.		
<i>Conclusion</i>	An output describing the findings of a validation activity that is derived from the analysis of one or more Qualitative and/or Quantitative Results. (q.v.).	<p>“The use of controller tool A in operational context X significantly reduces controller workload.”</p> <p>REMARK A conclusion can be related to either validation projects or exercises. In the former case it is called validation project conclusion, in the latter that it is called validation exercise conclusion. The only difference between the two types of conclusions is that for validation exercises they are drawn from the analysis of scenario results, whilst for validation projects they are drawn from the analysis of exercise conclusions and/or scenario results.</p>	<p>Identify the project conclusion. For each conclusion, enter:</p> <ul style="list-style-type: none"> <li>– Conclusion title</li> <li>– Conclusion summary</li> <li>– Conclusion description</li> <li>– Compliance with objectives</li> <li>– Analysis technique used to produce the conclusion</li> <li>– The set of related exercises conclusions</li> <li>– The set of related Literature References</li> </ul> <p>Link it to the project / exercise.</p>
<i>Contacts</i>	Self explanatory		<p>Identify contacts. For each contact, enter:</p> <ul style="list-style-type: none"> <li>– Surname</li> <li>– First Name</li> <li>– Title</li> <li>– Position</li> <li>– Department</li> <li>– Organisation</li> <li>– Telephone</li> <li>– Fax</li> <li>– e-mail address</li> <li>– Postal address</li> </ul>

Data sets	Definition	Definitions' examples	Data Input information
<i>Exercise</i>	<p>Lower intermediate level element(s) of the validation project structure that defines a coherent set of one or more closely related tests required to meet specific, focussed Objective(s).</p> <p>Typically it is carried out as part of a Project (q.v.) and has one or more Exercise Units (q.v.).</p> <p>Terms such as “Trial”, “Demonstration”, “Experiment” are typically synonymous with Exercises.</p>	<p>-Business Case -Literature Review -Flight Trial to demonstrate ground air data links and acceptability of cockpit equipment -Model based simulation to assess potential of Concept A to increase capacity across Eastern Europe</p>	<p>Identify exercises (e.g. FRAP 2nd Small Scale Real Time Simulation). For each exercise enter:</p> <ul style="list-style-type: none"> <li>– Exercise name</li> <li>– Exercise description</li> <li>– Exercise plan</li> <li>– Supported EATMP lifecycle phase</li> <li>– Exercise commentary</li> <li>– The set of considered indicators (e.g. ISA score)</li> <li>– The set of related validation literature references</li> </ul> <p>Link it to the project.</p>
<i>Exercise objectives</i>	<p>A lowest level statement of expected results and conclusions of a specific validation activity.</p>	<ol style="list-style-type: none"> <li>1) To validate that the use of Operational Concept Y will increase capacity</li> <li>2) Develop and assess different sets of procedures for military /civil co-operation under Concept A</li> <li>3) In scenario Z, the use of Operational Concept Y will reduce controller workload by 10%</li> <li>4) Operational Concept Y will result in a shift of workload from EXC Controller to Planning Controllers</li> </ol>	<p>Identify exercise objectives. For each exercise objective, enter:</p> <ul style="list-style-type: none"> <li>– objective name (e.g. Evaluate the impact of FRAC on Capacity by comparing controllers workload in free route operations and fixed route operations)</li> <li>– objective description</li> <li>– objective comment</li> <li>– Indicators the objective refers to (e.g. ISA score, NASA TLX)</li> </ul> <p>Link it to the exercise.</p>
<i>Exercise Unit</i> <i>(This is currently implemented as Scenario)</i>	<p>Lowest level element(s) of the validation project structure that defines a specific case to be tested in order to meet a lower level Objective(s) such as a detailed objective or hypothesis.</p>	<p>Typically referred to as an “Organisation” in simulation activities:</p> <ul style="list-style-type: none"> <li>• Low Traffic Load Existing Procedures and Tools</li> <li>• Low Traffic Load Modified Procedures, existing tools</li> <li>• Low Traffic Load Modified Procedures, new tools</li> </ul>	<p>Identify exercise unit (e.g. Fixed Route ARN v3). For each exercise unit, enter:</p> <ul style="list-style-type: none"> <li>– name</li> <li>– description</li> <li>– Subject of validation</li> <li>– environment</li> </ul> <p>The set of related literature references</p>

Data sets	Definition	Definitions' examples	Data Input information
<i>Indicator</i>	A dependent variable whose value is considered to provide information about the level of an Aspect (q.v.) and which may use a Metric (q.v.)	Controller Workload (as an indicator of the Capacity Aspect) Loss of Separation Conflicts ( as an indicator of the Safety Aspect)	Identify indicators (e.g. ISA Score). For each indicator, enter: <ul style="list-style-type: none"> <li>- Indicator name</li> <li>- Indicator description</li> </ul> The aspect the indicator refers to
<i>Input Parameter</i>	The set of parameters used as direct inputs to the validation activity in order to define the test cases.	Traffic Sample Sectorisation Procedures System Configuration	
<i>Method</i>	Defines how a validation activity is performed at a high level terms of an enabling technique	Small Scale Real Time Simulation Fast Time Model Based Simulation Flight Trials Cost Benefit Analysis	Identify the scenario method, the validation techniques used by the method and the validation tools supporting the techniques. For the identified scenario method, enter: <ul style="list-style-type: none"> <li>- scenario method name</li> <li>- scenario method description</li> <li>- The type of scenario method</li> <li>- The aspect the method is related to</li> <li>- The set of related literature references</li> </ul> Link the scenario method to the scenario.

Data sets	Definition	Definitions' examples	Data Input information
<i>Method Type</i>	Defines a class of exercise unit methods according to the combination of whether it is using a real or modelled item in a real or modelled environment	Type 1: Real Item/Real Environment e.g. Operational Trial Type 2: Real Item/Modelled Environment e.g. Real Time Simulation  Type 3: Modelled Item/Real Environment e.g. Simulated tool in operational trial Type 4: Modelled Item/Modelled Environment e.g. Fast Time, model based simulation	Identify standard method types For each standard method type, enter: <ul style="list-style-type: none"> <li>- Scenario method type name</li> <li>- Type of ATM item subject to validation (real item vs. modelled item)</li> <li>- Type of ATM environment (real environment vs. modelled environment)</li> <li>- Application procedure</li> </ul>
<i>Metric</i>	A standard of measurement used to indicate the level of an Aspect (q.v.), Indicator (q.v.) or other variable.	% of radio usage per hour per sector (as a metric of the Controller Workload Indicator) Number of aircraft by time by sector (as a metric of the Controller Workload Indicator) Number of loss of separation conflicts (as a metric of the Loss of Separation Indicator)	Identify metrics (e.g. ISA level). For each metric, enter: <ul style="list-style-type: none"> <li>- Metric name</li> <li>- Metric description</li> <li>- The set of Indicators measured by the metric</li> </ul>
<i>Model</i>	According to definition, a model is the representation of an ATM item subject to validation, of an ATM item of the environment or of a validation scenario parameter (e.g. a traffic sample).		Identify models. For each model not already available in the repository, enter: <ul style="list-style-type: none"> <li>- Model name</li> <li>- Model description</li> <li>- Formalism used</li> <li>- Location</li> <li>- The type of the model</li> <li>- The set of related literature references</li> </ul> Link it to the scenario.

Data sets	Definition	Definitions' examples	Data Input information
<i>Model types</i>	Models can be categorized into types depending on their possible usage.	Examples of model type are prototypes, fast-time simulation models, and real-time simulation models.	Identify standard model types (e.g. Air space model). For each standard model type, enter: <ul style="list-style-type: none"> <li>- Model type name</li> <li>- Model type description</li> </ul>
<i>Objective</i>	<p>Defines the purpose of carrying out a validation activity. Four types are identified:</p> <p>1) Aims High level statements of intent for the validation activities.... according to ATM 2000+: safety, economics, capacity, environment, national security..., uniformity, quality, human involvement...</p> <p>2) Detailed Objectives Formulation of specific validation aims in terms of measurable factors. The goal of each validation activity, including a statement of its purpose and directing the validation requirements, indicators and metrics.</p> <p>3) Expected Benefit A specific objective stated in terms of the planned benefit of introducing a change to the way of operational working.</p> <p>4) Hypothesis A lowest level statement of expected results and conclusions of a specific validation activity.</p>	<ol style="list-style-type: none"> <li>1) To validate that the use of Operational Concept Y will increase capacity</li> <li>2) Develop and assess different sets of procedures for military /civil co-operation under Concept A</li> <li>3) In scenario Z, the use of Operational Concept Y will reduce controller workload by 10%</li> <li>4) Operational Concept Y will result in a shift of workload from EXC Controller to Planning Controllers</li> </ol>	<p>Identify project objectives (e.g. as in Section 3.1.2 of the FRAP PMP v1.1). For each validation project objective, enter:</p> <ul style="list-style-type: none"> <li>- objective name (e.g. determine the impact on controllers)</li> <li>- objective description</li> <li>- objective comment</li> <li>- Aspect the objective refers to (e.g. Capacity)</li> </ul> <p>Link it to the project.</p>

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Operational Concept</i></p>	<p>Defines an approach to operational working in terms of what is done, by whom/what, where, under what circumstances and with what resources. It may consist of a hierarchy of operational sub-concepts. It is an element of the Scenario (q.v).</p>	<p>RVSM Gate to Gate Free Routing</p>	

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Programme / Project Group</i></p>	<p>Highest level element(s) of the validation project structure that defines a group of Projects (q.v.) that are managed in a co-ordinated way to achieve high level Objective(s) (q.v.)                      Related Programme/Project Groups may constitute a hierarchy.</p>	<ul style="list-style-type: none"> <li>- EATMP</li> <li>- European Commission 5<sup>th</sup> Framework</li> <li>- AGI</li> </ul>	<p>Enter the following Programme information:</p> <ul style="list-style-type: none"> <li>- Programme acronym</li> <li>- Full programme name</li> <li>- Programme customer</li> <li>- Programme contractor</li> <li>- Programme leader</li> <li>- Abstract</li> <li>- Scope</li> <li>- Validation programme plan</li> <li>- Supported EATMP programme (e.g. DSA/AMN)</li> <li>- Supported EATMP lifecycle phase(s) (e.g. Development)</li> <li>- The set of considered aspects (e.g. capacity, safety)</li> <li>- The set of related validation literature references</li> <li>- The set of contacts</li> </ul> <p><b>(Optional:</b> The address of the programme web site, if applicable. If no specific programme web page is available, please indicate an address where at least partial information can be retrieved )</p>

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Project</i></p>	<p>Higher intermediate level element(s) of the validation project structure that comprises a set of related Exercises (q.v.) organised to meet specified Objectives (q.v.). It is characterised typically by a group of activities under common budget, resource and timescale management responsibilities.</p>	<ul style="list-style-type: none"> <li>- Free Route Airspace Project</li> <li>- Mediterranean Free Flight</li> </ul>	<p>Enter the following project information:</p> <ul style="list-style-type: none"> <li>- Project acronym (e.g. FRAP/P1)</li> <li>- Full project name (e.g. Free Route Airspace Project - Phase 1)</li> <li>- Project customer (e.g. Eight States FRAP Steering Group)</li> <li>- Project contractor (e.g. NLR, LRC)</li> <li>- Project leader (e.g. Jose Martins Dos Santos)</li> <li>- Abstract (e.g. as in the Section 1.1 of the FRAP PMP v1.1)</li> <li>- Keywords (e.g. FRA)</li> <li>- Scope (e.g. as in the Section 1.2 of the FRAP PMP v1.1)</li> <li>- Validation project plan (e.g. pointer to the FRAP PMP v1.1)</li> <li>- Supported EATMP domain (e.g. DIS/ATD, DSA/AMN)</li> <li>- Supported EATMP programme (e.g. DSA/AMN)</li> <li>- Supported EATMP lifecycle phase(s) (e.g. Development)</li> <li>- The set of considered aspects (e.g. capacity, safety)</li> <li>- The set of related validation literature references</li> <li>- The set of contacts</li> </ul> <p><b>(Optional:</b> The address of the project web site, if applicable. If no specific project web page is available, please indicate an address where at least partial information can be retrieved )</p>

Data sets	Definition	Definitions' examples	Data Input information
<i>Recommendation</i>	A kind of output, derived from Conclusions (q.v.) suggesting actions, changes or improvements to future validation Objectives (q.v.) and/or activities.	"Further evaluation on the use of colour HMI to improve controller acceptability is required"	Identify project recommendations. For each recommendation, enter: <ul style="list-style-type: none"> <li>– Recommendation name</li> <li>– Recommendation description</li> <li>– The set of related conclusions</li> <li>– The set of related literature references</li> </ul> Link it to the project, or exercise.  <b>REMARK</b> In some cases, a recommendation can be directly derived from a project or exercise conclusion.
<i>References</i>	Self explanatory		Identify references relevant to the scenarios, scenario methods, validation techniques, validation tools, models, validation scenario parameters and scenario results. For each literature reference, enter: <ul style="list-style-type: none"> <li>– Reference identifier</li> <li>– Authors</li> <li>– Source document title</li> <li>– Document description</li> <li>– ISBN</li> <li>– Document reference number</li> <li>– Year and Date</li> <li>– Keywords</li> <li>– Availability</li> <li>– Web location, with hyperlinks to electronic version of document if available and feasible</li> <li>– Publishing Organisation</li> </ul>

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Result</i></p>	<p>Either:</p> <ol style="list-style-type: none"> <li>1) A direct, measured output from performing an Exercise Unit (q.v.)</li> <li>2) At Exercise (q.v.) level; a derived output from a systematic combination of Results from Exercise Units</li> <li>3) At Project (q.v.) level, a derived output from a systematic combination of Results from Exercises.</li> </ol> <p>A Result can be either qualitative or quantitative.</p>	<ol style="list-style-type: none"> <li>1) 29% radio usage per hour for sector ABC</li> <li>2) Decrease of controller workload of 12.5% between Base Load and use of Controller Tool A</li> <li>3) Workload reduction due to Controller Tool A varies by between 1 and 20% depending on operational context</li> </ol>	<p>Identify results. For each result, enter:</p> <ul style="list-style-type: none"> <li>- Name</li> <li>- Description</li> <li>- Compliance/Non-compliance with objective</li> <li>- The set of related literature references</li> <li>- The set of Contacts</li> </ul> <p>If the result is quantitative, the following information have also to be provided:</p> <ul style="list-style-type: none"> <li>- Absolute value</li> <li>- Distribution</li> <li>- Mean value</li> <li>- Variance</li> <li>- Confidence</li> <li>- Unit of measurement</li> </ul> <p>Otherwise, if the result is qualitative, the following information has also to be provided:</p> <ul style="list-style-type: none"> <li>- Qualitative result</li> </ul> <p>Link it to the scenario, Project or an Exercise Unit.</p>
<p><i>Required Technology</i></p>	<p>The set of techniques and methods required in the ATM System (q.v.) to deliver the Scenario (q.v.) being validated.</p>	<p>Controller Tool A</p>	

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Scenario</i> (This object is not yet implemented in the current VDR version)</p>	<p>Defines the ATM operating environment subject to validation in terms of ATM System, Operational Concept and traffic profile.</p>	<p>Free Routes operating between flight levels a and b, with current operating patterns below and above, in northern European sectors, traffic density as predicted for 2005, using current controller workstation configurations plus MTCD, current procedures plus free route procedures xyz.</p>	
<p><i>Scenario aspects</i></p>	<p>Aspects are high-level ATM item quality factors defined in terms of indicators. Indicators belonging to a given aspect can be evaluated by means of proper validation scenario methods.</p>		<p>Identify scenario aspects (e.g. Sector population). For each scenario aspect, enter:</p> <ul style="list-style-type: none"> <li>- scenario aspect name</li> <li>- scenario aspect description</li> </ul>
<p><i>Scenario objectives</i></p>	<p>Objectives can be related to validation projects, exercises or scenarios (project objectives, exercise objectives or scenario objectives, respectively). Scenario objectives are specific to indicators to be evaluated for each single ATM item.</p>		<p>Identify scenario objectives. For each validation scenario objective enter:</p> <ul style="list-style-type: none"> <li>- objective name</li> <li>- objective description</li> <li>- objective comment</li> <li>- Indicator the objective refers to</li> </ul> <p>Link it to the scenario.</p>

Data sets	Definition	Definitions' examples	Data Input information
<p><i>Scenario Parameters</i></p>	<p>The set of parameters used as direct inputs to the validation activity in order to define the test cases.</p>	<p>Traffic Sample Sectorisation Procedures System Configuration</p>	<p>Identify scenario parameters. For each scenario parameter not already available in the repository, enter:</p> <ul style="list-style-type: none"> <li>- scenario parameter name</li> <li>- scenario parameter description</li> <li>- Qualitative summary</li> <li>- Distribution</li> <li>- Absolute value</li> <li>- Mean value</li> <li>- Variance</li> <li>- Unit of measurement</li> <li>- Location</li> <li>- The associated scenario aspect</li> <li>- The metric used to measure the parameter</li> </ul> <p>Link it to the scenario.</p>

Data sets	Definition	Definitions' examples	Data Input information
<i>Technique</i>	Specific technical approach to perform the validation activities specified to meet an Objective (q.v.) and generate the appropriate Results (q.v.) in terms of the required Metrics (q.v.), by measurement.	ISA Assessment NASA TLX	<p>For the identified technique, check if it is already available. Enter:</p> <ul style="list-style-type: none"> <li>- technique name</li> <li>- technique description</li> <li>- technique intrusiveness</li> <li>- The type of technique</li> </ul> <p>Enter:</p> <ul style="list-style-type: none"> <li>- The scenario method that uses the technique</li> <li>- The set of models used as input by the technique</li> <li>- The set of scenario parameters used as input by the technique</li> <li>- The set of models produced by the technique</li> <li>- The set of scenario results produced by the technique</li> <li>- The set of related literature references</li> </ul>
<i>Technique Analysis</i>	A methodical and systematic approach used to extract meaning and conclusions from a set(s) of qualitative and/or quantitative Results (q.v.).	Exploratory, e.g. descriptive statistics Inference, e.g. statistical techniques such as Willcoxon Mann Whitney, Friedman, Kruskal-Wallis	<p>Identify technique (e.g. statistical techniques).</p> <p>For each technique, enter:</p> <ul style="list-style-type: none"> <li>- technique name</li> <li>- technique description</li> <li>- technique intrusiveness</li> </ul>

Data sets	Definition	Definitions' examples	Data Input information
<i>Technique Type</i>	Defines a class of technique according to how and what it measures.	Subjective Controller Workload Measurement Physiological Signs Measurement modelling techniques, evaluation techniques, fast time simulation techniques, real time simulation techniques	Identify standard technique types (e.g. Subjective Workload Measurement Technique). For each standard technique type, enter: <ul style="list-style-type: none"> <li>- technique type name</li> <li>- technique type description</li> </ul>
<i>Tool</i>	Equipment, device, material or computer-based instrument used to carry out a Technique (q.v.) with respect to measuring the required Metrics (q.v.).	<ul style="list-style-type: none"> <li>- ISA Box</li> <li>- Eye Gaze Tracker</li> </ul>	For the identified tools, check if it is already available. Enter: <ul style="list-style-type: none"> <li>- tool name and version</li> <li>- tool description</li> <li>- Comments</li> <li>- The type of tool</li> </ul> Enter: <ul style="list-style-type: none"> <li>- The set of techniques that use the tool</li> <li>- The set of models needed as input by the tool</li> <li>- The set of validation scenario parameters used as input by the tool</li> <li>- The set of models produced by the tool</li> <li>- The set of scenario results produced by the tool</li> <li>- The set of related literature references</li> </ul> <p>REMARK Validation tools may require, input, models and/or scenario parameters</p>

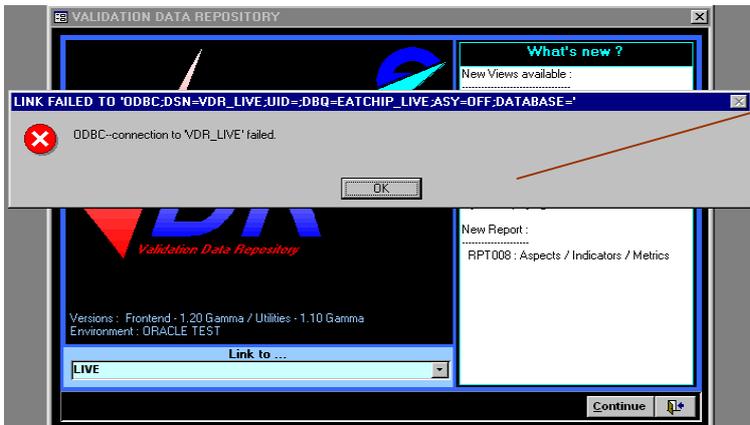
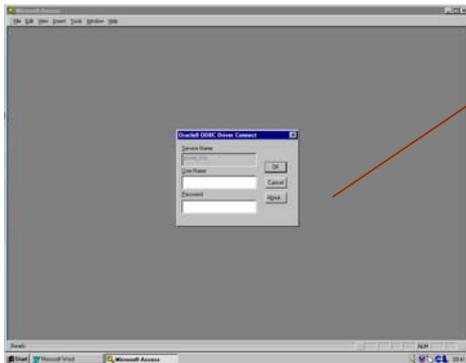
Data sets	Definition	Definitions' examples	Data Input information
<i>Tool Type</i>	Defines a class of tool according to its function	<ul style="list-style-type: none"> <li>– Real time simulator</li> <li>– Model based simulator</li> <li>– Physiological Measurement Tool</li> </ul>	Identify standard tool types (e.g. Subjective ATC Workload Measurement Tool). For each standard tool type, enter: <ul style="list-style-type: none"> <li>– tool type name</li> <li>– tool type description</li> </ul>
<i>Validation Configuration</i>	Set of ATM items appropriate to be used for a specific validation purpose [ASIVAL].		

## HOW TO USE THE VDR

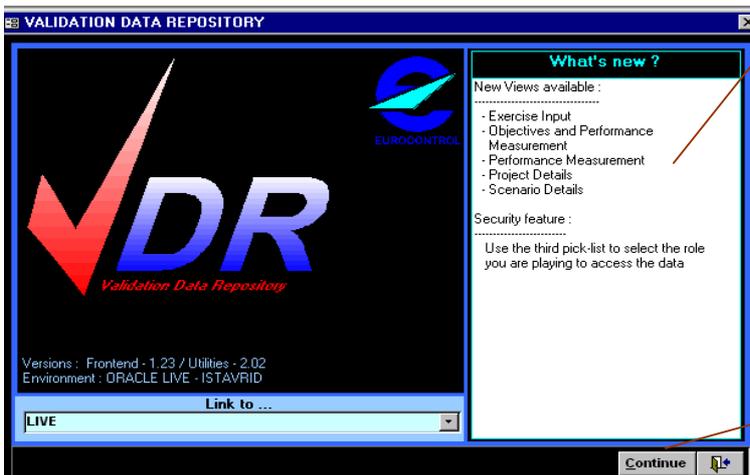
### Accessing the VDR



Double clicking the VDR shortcut provides the user the possibility to connect to the database by log on with a username and password, which is sensitive case.



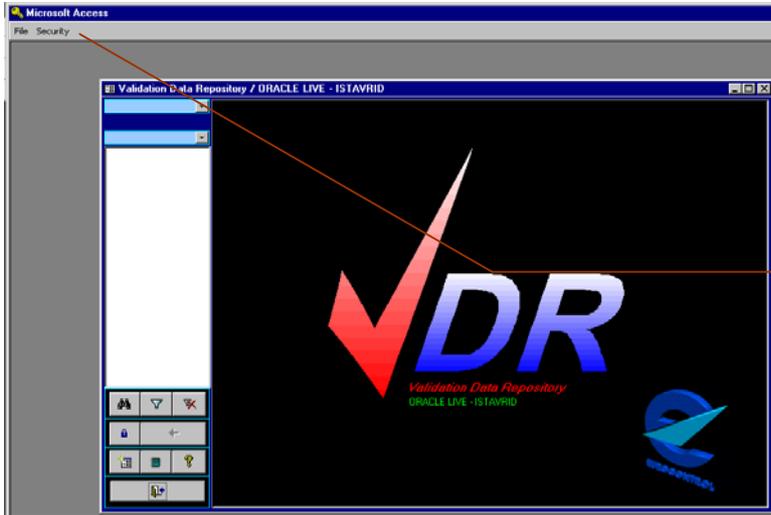
If this message appears, first click on and then call the local Support Team.



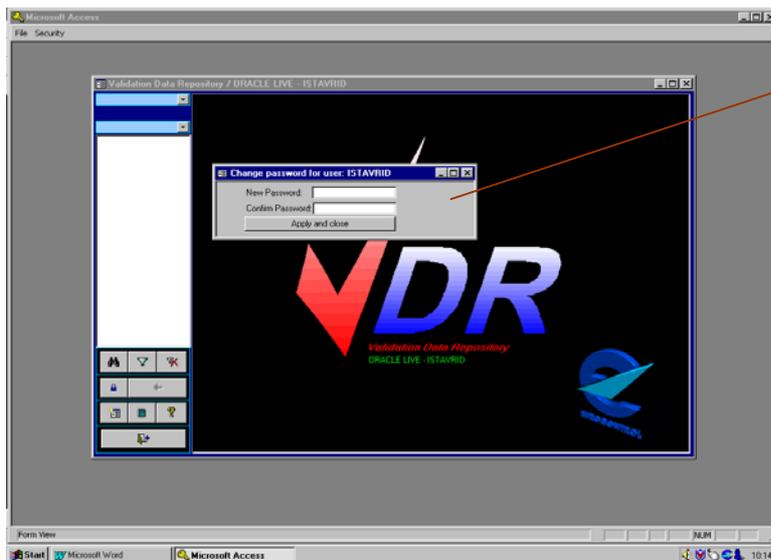
- Here you can find useful information about the new VDR functions.

Click on « Continue » to enter the VDR data base.

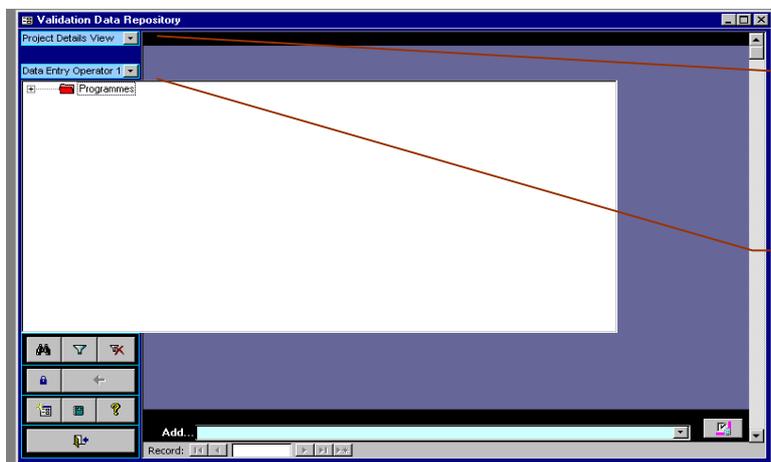
## How to change your password



From the menu bar, click "Security" and select change password. A dialog box will appear where you must type your user name and your current password.



To the next confirmation dialog box type your new password, apply and close.



Click on the dropdown menu to see the view that is available to you.

Here you can see the Role that you have been allocated. You can only have one ROLE to one VIEW at a time. (But more Roles to more Views)

## COMPONENTS OF THE MAIN SCREEN

### THE QUESTION MARK Development in progress

When clicking on the “question mark”, the arrow will turn into a question mark. By dragging it and clicking onto the field on which you need some information, you will be prompted the corresponding help message window, and access to help messages on related subjects.



### THE LOCK BUTTON

If whilst navigating you find interesting information, you can click on the “lock button” and drag it to the object of your interest. You can then continue your navigation and recall it at any time by clicking the “flash”. This will return to the object, which you were previously working on.



### THE REFRESH BUTTON

Click on this button to refresh your page.



**THE REPORT BUTTON**  
This button provides you access to a list of reports to run.



**THE CLOSE FORM BUTTON**  
This button ends the session at any time, but does not exit the interface.



**THE SEARCH**  
Development in progress

**THE FILTER - UNFILTER**  
Development in progress

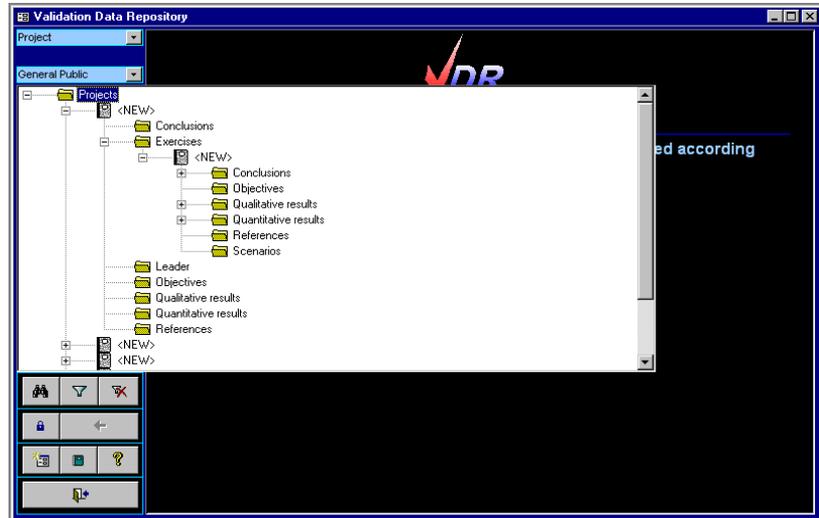


## HOW TO ENTER AND EDIT DATA

It is easy to navigate through the VDR by clicking every time to the appropriate box marked with a plus +. Then by clicking the light blue coloured square you can access the text fields.

**TIP:**

- If there is no plus sign, means that there is no text field.
- The minus - indicates you have seen all the available data.



### Copy and Paste

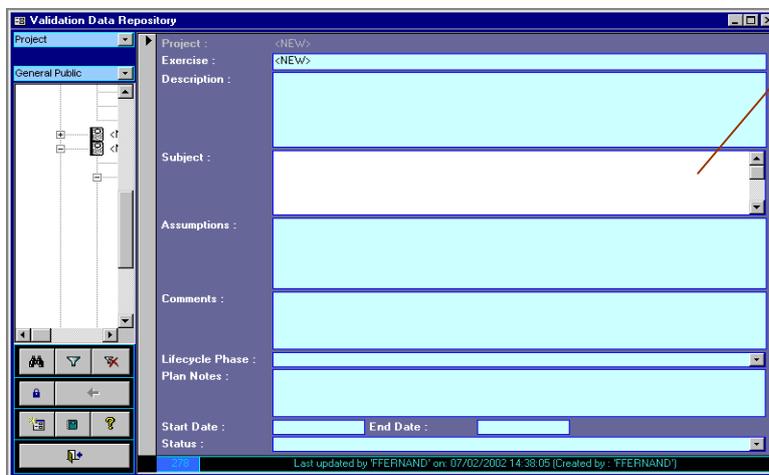
The VDR repository uses the standard MS Access functions for copying and pasting. Copy / paste is available during the Data Entry. Cut/Copy/Paste functions work normally when applied to sections of text in a given field using the right mouse button.

TIP: In case of Read Only access message to the field please call the Security Administrator.

### Entering a record

**Option 1 : Adding a new record**

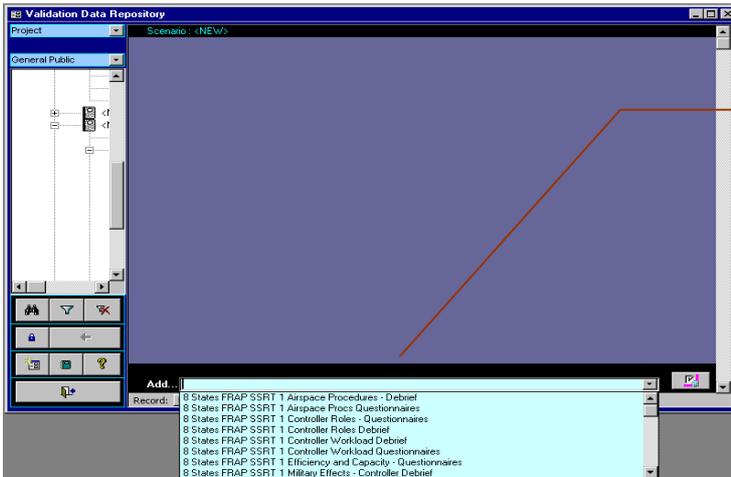
Whilst entering data you can introduce a new field by using the “Insert” key on your keyboard. For example if you need to enter a new project you select “Project”, press on your “Insert” key and the “NEW” object appears on your left-hand half screen. When you click on it, the text fields appear.



Some data fields are free text where you can either enter your data directly or cut and paste from an existing document.

**TIP:**  
The data repository is not a word processing tool. Some functionality may not be in use e.g. Bold, italics, bullets.

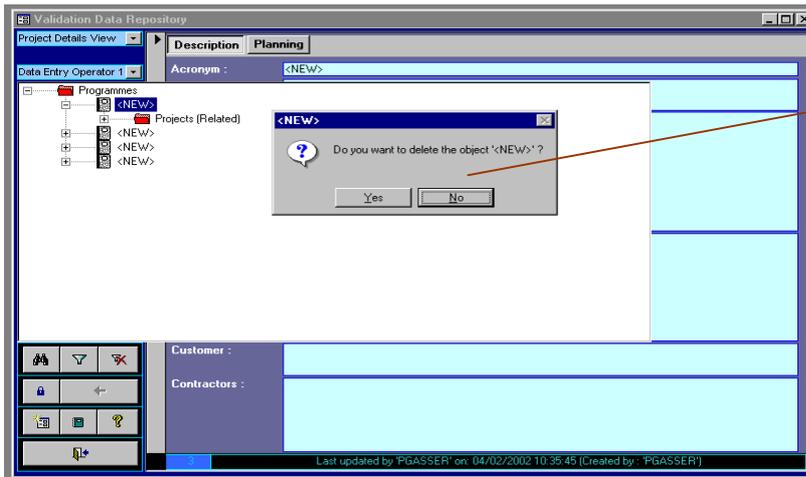
### Option 2 : Add an existing record



It is possible to select an existing object from the 'Add' dropdown menu. Then click on Apply, the record is recalled and saved in your database.

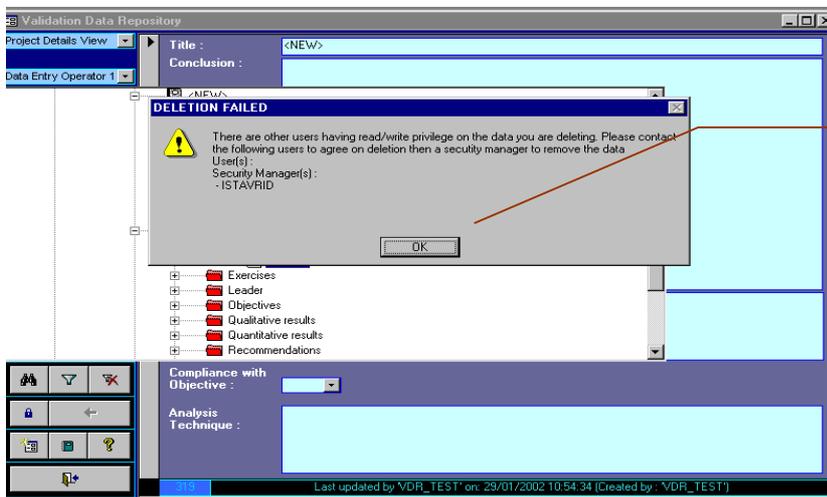
### Delete a record

There is no way to retrieve deleted records. Lost information will have to be re-entered from old printouts or extracted from a backup copy of the database. (Contact your local Support Operator)



This confirmation message appears when you press the delete button on your keyboard

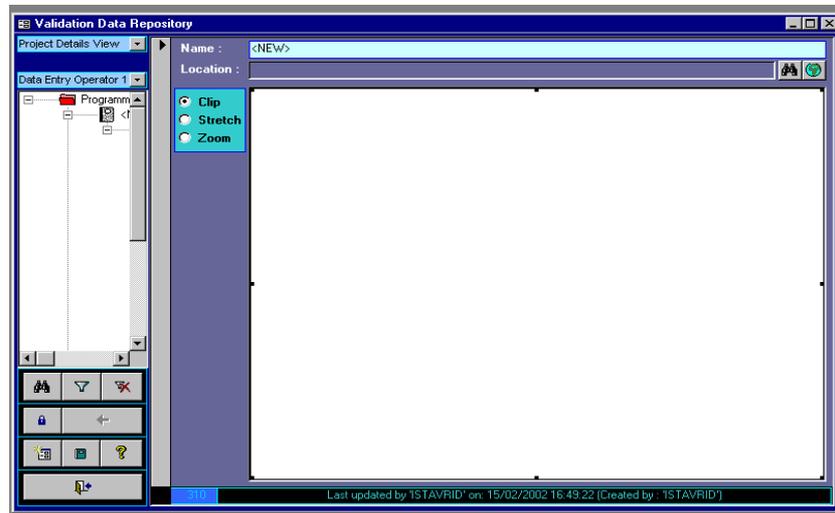
**TIP :** While attempting to delete a record that is linked to other Projects, or contains shared information the VDR will be blocked and a warning message will be displayed.



While this warning message of sharing violation appears, click OK and contact the Security Administrator.

## Enter Graphics

Graphics can be associated with Scenario Parameters, Qualitative Results, Quantitative Results and Conclusions. In this context "graphical" information refers to "non-body text" sections of documents that may be tables, diagrams, graphs, maps etc



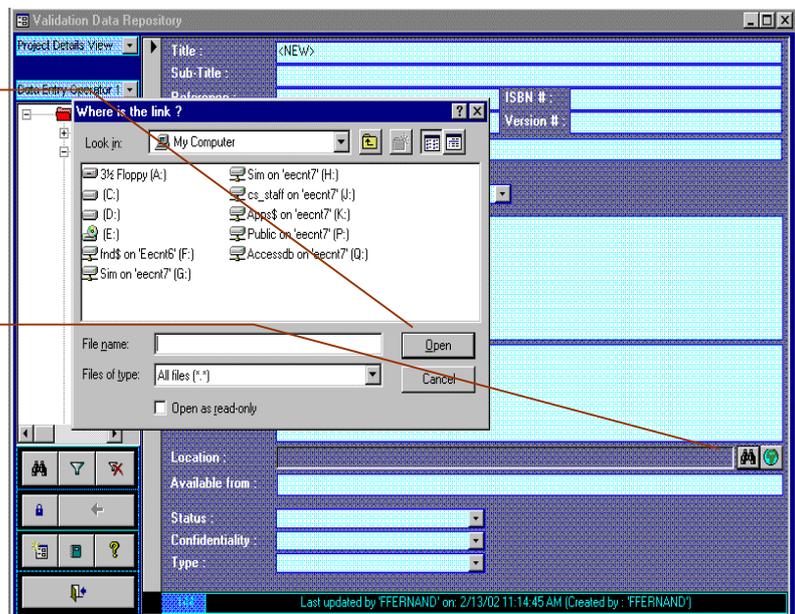
There are two mechanisms provided for linking VDR datasheets to graphical information.

1. Hyperlink
2. Object

## Enter Hyperlinks

Once you have selected the file, click on open.

To add a hyperlink click on the browse button, which is situated near the location field. A window will pop-up asking where the file is located.



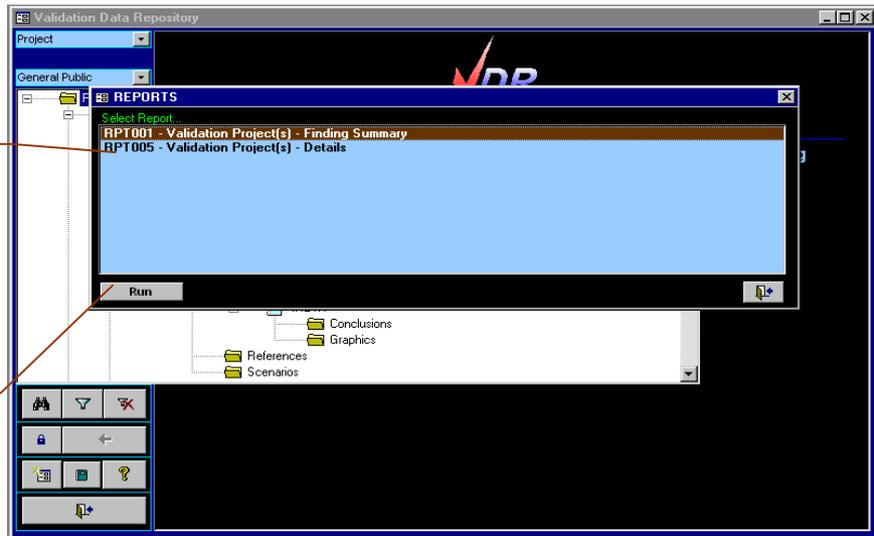
## HOW TO SELECT AND PRINT THE REPORTS

In order to print a report, choose the Project or the Scenario by clicking on it. Then click the report button. You will be asked to select the report that you need to print. Once choosing it from the list provided, click on the “Run” button and preview your report before printing it.

TIP: The existing reports are to be updated after the first user group meeting on April 2002

The report list where you can select to print in .pdf one of the existing reports.

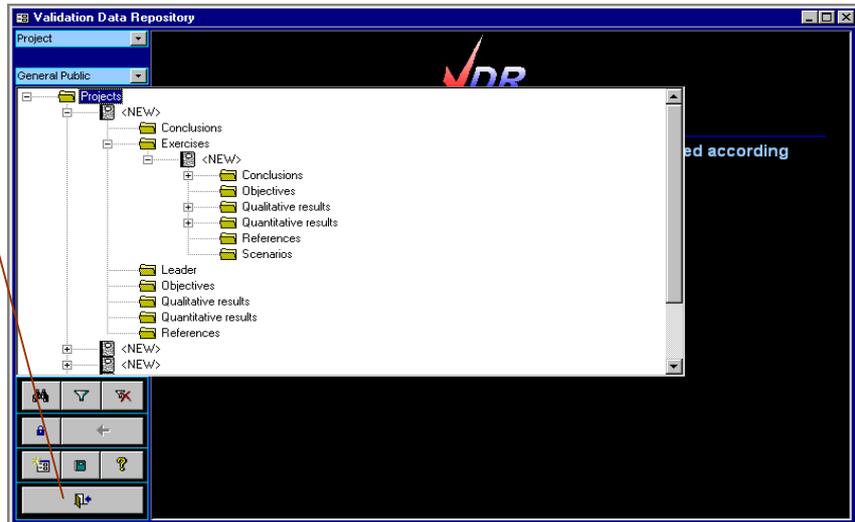
Click the Run button to have the print out



## EXIT THE VDR

To exit the application, first click on the Exit button.

Then, choose “File” from the Access bar menu and select “Exit”.



## **TECHNICAL INFORMATION**

### **Hardware requirements:**

Desktop PC with an operating system like Windows NT or Windows 2000. A minimum of 128 MB Ram (memory) recommended is 256 MB ram and LAN or Modem connection for the Client-Server VDR application.

### **Software requirements:**

The VDR works on an Oracle database and uses a Microsoft Access Interface (Front-end). So you need a Microsoft Access 97 or Office 2000 with a VB 6.0 runtime library which is provided during the installation process by the EUROCONTROL MIS help desk. For the connection with the database we use an Oracle ODBC driver (version 5).

## **VDR SUPPORT**

### **Fiona Fernandes**

VDR Support  
Eurocontrol Experimental Center  
Tel.: +33 169887003  
fiona.fernandes@eurocontrol.int

### **Irini Stavridou**

VDR Security Administrator  
HQ, Eurocontrol  
DSA/PPM  
Tel.: +32 2 729 5107  
Irini.Stavridou@eurocontrol.int

## **VDR WEBSITE**

[www.eurocontrol.int/eatmp/vdr/index.html](http://www.eurocontrol.int/eatmp/vdr/index.html)