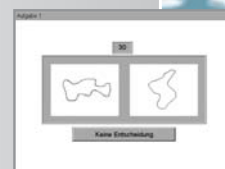
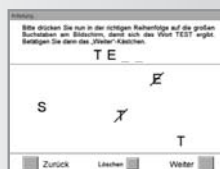


# Expert System HR

## Vienna Test System

The perfect tool  
for personnel decisions



# catalog

First edition

 **SCHUHFRIED**   
Qualität durch Kompetenz



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# Expert System HR

Nothing can replace the HR professional's human knowledge, discrimination and experience - but psychological tests provide the ideal complement.

Tests quickly provide important information on skills and characteristics that cannot always be gathered reliably in an interview. High-quality tests help you to identify a person's true ability. They are thus extremely useful in corroborating decisions and increasing the professionalism and quality of HR work.



The **SCHUHFRIED** company has been active in the field of computerised psychological assessment for more than 60 years. This extensive experience enables it to ensure that its products combine ease of use with high technical and psychological quality.

The **Expert System HR (XPSHR)** is based on the **Vienna Test System**, which has been continuously adapted and developed by the SCHUHFRIED company since 1955. The Expert System HR provides you with a tailor-made solution for the HR field with all the functionality of the Vienna Test System.

The Expert System HR is a psychometrically valid and tested tool for use in **personnel selection**, **personnel development** and **career counselling**. Whatever the area that needs to be investigated, it enables the necessary tests to be quickly and easily put together. In combination with other personnel selection tools such as structured interviews, work tests and references it delivers information that provides a firm foundation for your decision-making.

## Developed for practical use

The Expert System HR has been specially developed for everyday use by HR professionals. It combines scientifically based quality with ease of use.

### Advantages

- ✓ Identifying the success criteria for a wide range of occupations
- ✓ A quick, standardised method
- ✓ Efficient preselection from large numbers of applicants
- ✓ Every aspect of the program - from entering candidate data to evaluating results - is easy to use
- ✓ Results presented in easily understandable form
- ✓ Fixed package price for one year

# Dimension selection – profile creation

## DUAL System

The Expert System HR provides two ways of identifying skills and personality characteristics.

- 1) From a convenient list you can select the particular success-related characteristics that fit a particular job profile.
- 2) Alternatively, you can select the most appropriate Job Family from a given list. For these job families the key success factors have already been predefined in the Expert System HR and brought together in test batteries.

The DUAL System combines maximum flexibility with scientific know-how.

## STANDARD and PREMIUM versions

The Expert System HR is available in two versions: **Standard** and **Premium**. They differ in the number of success-related personality and performance factors that you can choose from:

- General intelligence (precision)
- General intelligence (screening)
- General work habits
- Working accuracy vs. working speed \*
- Eye-hand coordination \*
- Vocational interests
- English as a foreign language \*
- Fine motor skills \*
- Memory
- Customer orientation
- Mathematical abilities
- Multitasking \*
- Visualisation
- Risk appetite
- Inductive reasoning
- Language abilities
- Stress-related work behaviour \*
- Ability to work in a team
- Technical comprehension

\* included only in the Premium package

## Predefined profiles

- ✓ Potential analysis for occupational suitability
- ✓ Career advice for trainees and job-market entrants
- ✓ Career advice for aspiring managers
- ✓ Management skills
- ✓ Sales consulting
- ✓ Hard selling
- ✓ Call centres
- ✓ Administration

The predefined profiles can of course also be used as a basis for creating and adapting your own profiles. This means that you can test your candidates immediately, saving yourself tedious and often expensive internal company research.

## Dimensions in the Expert System HR

### General intelligence

General intelligence as an overall construct comprises the following aspects, which are described below: *inductive reasoning, language abilities, mathematical abilities* and *memory*. These enable a global assessment of an individual's intellectual ability to be provided. General Intelligence is available either in **Screening** form or as a **precision measurement**. The difference lies in the precision of measurement and the duration of testing (screening requires approx. 52 minutes; precision measurement approx. 105 minutes with a 5-minute break).

### Inductive reasoning

Inductive reasoning describes the ability to recognise similarities and differences and deduce general rules from them. This means that the person has the ability to apply existing knowledge to new tasks.

### Language abilities

The Expert System HR uses the term language ability to describe the breadth of a person's general education and the extent of his/her lexical knowledge. This dimension does not measure either the ability to express oneself or grammatical knowledge.

### Mathematical abilities

In the Expert System HR mathematical abilities describes a person's capacity for understanding basic mathematical principles and using them to solve practical problems. This comprises the ability to use the basic arithmetical operations as well as a person's "feel" for numbers. These are basic skills that are required in everyday working life and that form the basis for the acquisition of higher mathematical abilities.

### Memory

The Expert System HR uses the term memory to describe a person's ability to retain visual information in the short term and reproduce it accurately.

### Visualisation

Spatial ability describes the ability to picture objects in one's mind and to manipulate them mentally (e.g. by rotation). This means that objects that are depicted in two dimensions must be imagined three-dimensionally; in one's mind one must also be able to switch between different views of them.

### Mechanical-technical comprehension

Mechanical/technical comprehension describes a person's ability to understand and apply mechanical cause and effect relationships.

### Working accuracy vs. Working speed

The dimension Working accuracy vs. Working speed comprises the variables Working accuracy and Working speed. In order to assess the quality of concentration, the two variables must always be considered in combination since, for example, a fast working speed combined with many errors is not advantageous.

### Multi-tasking

Multi-Tasking describes a person's ability to master work situations in which different requirements must be coordinated and a number of tasks must be handled at the same time.

### English as a foreign language

English as a foreign language tests the respondent's knowledge of English; it is measured by the following variables:

The variable **Text comprehension** describes a person's ability to read and understand English texts.

The variable **Grammar** describes a person's ability to solve English grammar items correctly.

The variable **Vocabulary** describes the extent of someone's knowledge of English vocabulary.

In keeping with the fact that English as a foreign language is usually tested in situations in which English language skills at higher education entrance level or above are required, the test was normed on secondary school leavers and university students. This means that a normal score corresponds to "English at university entrance level".

People with high scores are usually able to conduct specialist discussions and take part in demanding conversations.

Very high scores are characteristic of someone who is fluent in written and spoken English and has language skills approximating to those of a native speaker.

### Eye-hand coordination

The dimension of Eye-hand coordination tests an aspect of senso-motor skills, namely the ability to translate visual information into hand movements. The dimension is measured by the following variables:

**Motor speed**

**Motor accuracy**

### Fine motor skills

The dimension Fine motor skills measures the ability to carry out hand, arm and finger movements in a controlled and coordinated manner. Many work activities make demands on people's fine motor skills. For example, an engraver must be able to follow lines precisely, a precision engineer must be able to fit small parts together and drill holes precisely, and a surgeon must be able to cut and stitch with great accuracy.

The following variables are measured (separately for each hand):

**Aiming**

**Line tracking**

**Tapping**

### **Vocational interests**

The dimension Vocational interests measures on the one hand *career maturity* and on the other the individual's *vocational interest* in different activities. The following variables are measured in this context:

- Career maturity**
- Realistic interests**
- Investigative interests**
- Artistic interests**
- Social interests**
- Enterprising interests**
- Conventional interests**

### **General work habits**

The dimension General work habits describes emotional factors and individual motives relating to a person's behaviour at work. This dimension is measured in the Expert System HR by the following variables:

- Self-estimate of competence**
- Love of order**
- Sense of Duty**
- Ambition**
- Dynamism**
- Openness to ideas**
- Openness to action**
- Self-control**
- Assertiveness**
- Robustness**

### **Ability to work in a team**

Ability to work in a team describes an individual's ability to work on a task with others. This ability is influenced both by the individual's personal traits and by his or her interpersonal skills. In the Expert System HR these factors are measured by the following variables:

- Equanimity**
- Positive mood**
- Sociableness**
- Openness of the system of values and norms**
- Willingness to trust**
- Obligingness**
- Social confidence**
- Openness to imagination**

### **Customer orientation**

The dimension Customer orientation describes a person's ability to initiate and pursue work-related interaction with company or external customers, principals and clients. Since different vocational activities make different demands on customer orientation, the field in which the person works must always be taken into account. This dimension comprises all the variables listed below.

#### **Extraversion**

**Striving for social acceptance**

**Motivation to help**

**Empathy**

**Self-monitoring**

**Frustration tolerance**

**Cheerfulness**

### **Risk appetite**

Risk appetite measures a person's general readiness to take risks. Since different vocational activities make different demands on risk appetite, a number of different factors need to be considered and interpreted in relation to the vocational activities engaged in. In the Expert System HR risk appetite is measured by the following variables:

#### **Adventurousness**

**Caution**

**Genuineness**

**Discipline**

**Carefreeness**

**Openness to feelings**

### **Stress-related work behaviour**

Stress-related work behaviour describes the ways in which an individual deals with work-related demands and manages them constructively. These styles are personality-related. In the Expert System HR stress-related work behaviour is measured by the following variables:

**Subjective importance of work**

**Work-related ambition**

**Willingness to work until exhausted**

**Striving for perfection**

**Distancing ability**

**Tendency to resignation (in the face of failure)**

**Proactive problem-solving**

**Inner calm and balance**

**Experience of success at work**

**Satisfaction with life**

**Experience of social support**

# Test administration

The Vienna Test System is simple and intuitive to use, even for computer novices. Care has been taken to ensure easily understood structure and standardised design. A graphical user interface guides you through the testing and scoring process.

Test administration is divided into the following phases:

## Instructions

Each test begins with instructions, in which the task is described.

## Practice phase

This is followed by a practice phase which checks whether the candidate has understood the task. The instructions and practice phases are often linked and contain a series of stages based on the principles of programmed learning. As a result, the candidate quickly grasps what is required; if he does not, the test administrator can intervene.

## Test phase

The candidate now works the test items. There is no involvement of the test administrator at this stage; this ensures a high level of objectivity.

## Administering tests in foreign languages

You can use the same tests at different locations anywhere in the world. This enables you to standardise your recruitment procedures and to carry out relevant comparison studies.

Individual tests can be administered in up to twenty languages.



## Administration options

Whether tests are administered on a mobile laptop, online, on a stationary PC, or via networked systems for local group testing or geographically dispersed testing - the Expert System HR is flexible enough for all requirements.

### Local installation

The Expert System HR is installed locally on a PC from a CD. The system is unlocked with a dongle connected to the computer's USB port. One Expert System can if necessary be installed on several computers. The dongle is then used on whichever computer is required.

### Online testing

Online testing enables your applicants to complete the tests on any computer with internet access.

In this case the Expert System HR is installed on a central server.

Via the Expert System HR you send e-mails to a selected group of individuals, inviting them to take the tests. The invitation e-mail can be adapted to your requirements (company logo, special text etc.).

The candidates log on via a link in the invitation and identify themselves with an ID number. This takes them straight to your test battery.

After completion of the tests the system saves the results on the server. If you wish, the results can also be e-mailed to you in a pdf file.

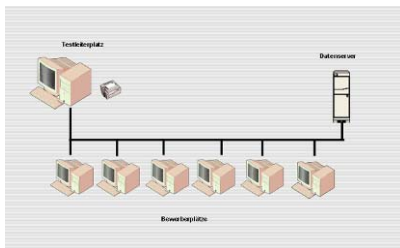


**Test security** is a particularly important issue in online testing. We take various steps to exclude the possibility of cheating and falsification. One such feature is the use of adaptive tests. This means that the difficulty of the items adapts to the applicant's ability. Each candidate therefore receives different items.

## Test system network

Use of a test system network is recommended if a **large number of candidates** needs to be tested **under controlled conditions**.

In one or more test rooms you set up computers on which the Expert System HR is installed; the computers are linked to form a local network.



At the test administrator's workstation you collate the applicants' data, prepare test batteries and carry out the evaluations.

At an individual workstation each applicant enters a code that you have assigned to them. The correct test battery then starts automatically.

### Extract from a reference written by AUDI AG:

"The Vienna Test System has been in use in our training centres in Ingolstadt and Neckarsulm for more than three years. [...]"

The 68 systems on the local networks function smoothly and make a valuable contribution to the assessment and selection of trainees. The ease of use, the facility to store results in our own databases and those of the group and to make further use of them, and the way in which test results are processed and presented - these are all factors which have had a positive impact on the entire selection process and made it significantly faster."

Our list of references can be found at [www.schuhfried.at](http://www.schuhfried.at)

## Decentralised testing

Using this system you conduct testing at **different locations**, but **manage the data centrally**.

Computers at different sites, on which the Expert System HR is installed, are connected to a server. The VTS settings and the candidate and test data are stored in a central database.

You use the user rights function to define which processes can be carried out at the different workstations.

A central workstation is set up with full user rights. There a group of experts manages the data and selects tests to suit the requirements profiles.

At the peripheral workstations rights are restricted and depend on whether the user is a test administrator or a test candidate.

# Adding to the tests

## Additional tests

The STANDARD and PREMIUM versions of the Expert System HR contain tests for the most frequently required criteria of success at work.

However, should you wish to add specific tests to the Expert System HR, you can choose from the entire range contained in the Vienna Test System. Request our Vienna Test System catalogue or visit our website at [www.schuhfried.at](http://www.schuhfried.at) for further information.

The following tests relevant to HR are available:

Working style and behaviour in response to work demands	AHA
Long-term attention (continuous reaction required)	DAUF
Stress management	DSI
Differential stress inventory HR	DSIHR
Current recovery and strain state	EBF
Differentiated analysis of work-related personality traits	EPP6
Influence of motives	MMG
Achievement motivation	OLMT
Reaction speed	RT
Work-related stress and dissatisfaction	SBUSB
Two-hand coordination (complex)	SMK
Long-term attention (occasional reaction required)	VIGIL

## Test generator

The Test Generator enables existing tests or questionnaires to be added to the Expert System HR. These tests are simple to incorporate - no programming knowledge is required. The Test Generator is also very popular for administering knowledge tests to job applicants. It can be used to present questions about the company or about work-related issues.

Detailed information on the tests can be found on our website [www.schuhfried.at](http://www.schuhfried.at) and in the full Vienna Test System catalogue.

Introduction...

How did you learn about us?

1 Ad      6 Colleagues

2 Fair      4 Training

3 Internet      5 Other sources

Back      Next

# Description of results

As soon as testing has been completed the results are available to you. They provide a differentiated picture of the potential of your applicants or employees.

## Summary of results

The summary of results presents the results of the analysis in a table and a chart.

The **table** lists the results and relates them to the scores of a comparison group.

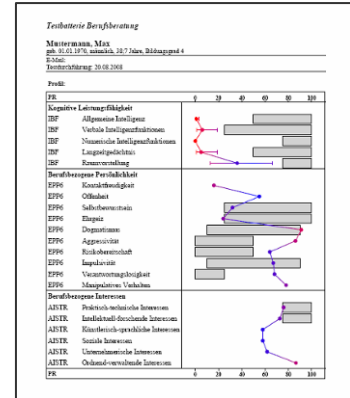
The coloured **chart** enables the results to be taken in at a glance.

*Technische Berufberatung*

Mustermann, Max  
geb. 20.12.1976, männlich, 167 cm, Bilanzassistent  
E-Mail:   
Testdurchführung: 20.08.2008

Profil:

Testvariable	Ergebnis	NR	T	NR
<b>Kognitive Leistungsfähigkeit</b>				
AP: allgemeine Intelligenz	114	100	75	100
VP: verbale Intelligenzleistungen	143	100	100	100
NP: numerische Intelligenzleistungen	125	100	100	100
LP: sprachliche Intelligenzleistungen	100	100	100	100
RP: Raumvorstellung	99	100	100	100
<b>Berufstypische Persönlichkeitsmerkmale</b>				
OP: Offenheit	13	15	45	
EF: Effizienz	18	15	50	
SO: Soziale Sensibilität	33	15	45	
EP: Energie	18	15	45	
DE: Dezentration	22	15	45	
AG: Aggressivität	20	15	45	
EA: Enthusiasmus	22	15	45	
RI: Risikobereitschaft	22	15	45	
AP: Anpassungsfähigkeit	22	15	45	
UC: Unkonventionelle Kreativität	20	15	45	
UV: Unkonventionelle Verbalität	20	15	45	
<b>Berufstypische Interessen</b>				
PI: Persönliche Interessen	33	15	50	
SO: Soziale Interessen	34	15	50	
EA: Einheitsübliche Interessen	20	15	45	
LI: Lerninteressen	30	15	50	
UV: Unkonventionelle Interessen	22	15	45	
OV: Unkonventionelle Verbalität	30	15	45	
<b>Bestimmte Eigenschaften</b>				
EF: Effizienz für Technische Berufe	63			
EP: Energie für Technische Berufe	50			
EA: Enthusiasmus für Technische Berufe	57			



For more detailed information you can of course also print out the results of an individual test. These results contain all the test's main and subsidiary variables and a number of additional sources of information such as test protocols, charts showing how the candidate progressed through the test, speed/accuracy diagrams and hexagon charts.

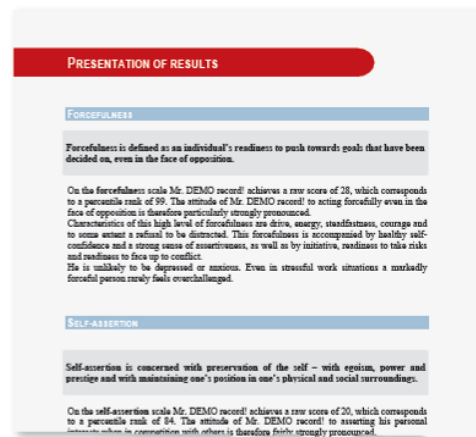
## Report

At the press of a button you can print out a **written report**, which provides a clear explanation of the results.

The report contains the candidate or employee's **results profile** and explains how it should be interpreted.

In addition it provides a brief description of the factors assessed and states how the candidate scored on them. If required you can create a separate, less detailed version of the report for the guidance of your client.

Your company logo and other HR-related or company-specific details can be easily incorporated into this report template. The report can be printed out, e-mailed or saved for later use.



## Ranking

In addition to presenting the candidates' individual results, the Expert System HR can also be used to compare the tested candidates with each other. This is done using the "Ranking" function.

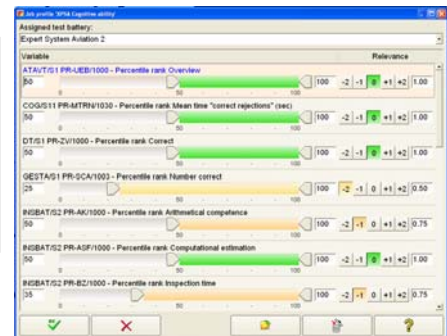
The ranking is based on the fit between the applicants and the requirements profile. The maximum fit possible is 1000 points. The number of points is reduced in accordance with the candidate's deviation from the target profile. A score of 1000 means that the applicant has a 1000 pro mille or 100% fit to the profile. A score of 750 means that there is a 75% fit between the applicant's profile and the target profile of the job.

If required criteria external to the test situation can be included with the tested criteria. This means that biographical data, professional experience or information gathered at preselection (e.g. at interview) can be easily incorporated and weighted as appropriate.

In practice ranking is often used to preselect applicants, since it provides a standardised, structured and fair means of identifying candidates who are likely to be suitable for the post.

Since the ranking function summarise the results of the individual test variables in a single parameter (FIT score), compensatory aspects of the scores can be taken into account at the outset and included in the evaluation. This feature significantly simplifies the routine aspects of test interpretation.

Ranking of 'Personnel selection DEMO'										
Rank	Points	Client	V1	V2	V3	V4	V5	V6	V7	V8
1.	800	Webber, Kathy; 16.03.1971	66+	46-	84-	82+	19-	11-	47+	47-
2.	793	Smith, Patti; 19.01.1955	88+	33-	17-	50+	66-	64+	48+	11-
3.	782	Hoffer, Jimmy; 31.10.1973	45-	66+	58-	57+	3-	27-	90+	42-
4.	659	Doe, John; 05.10.1976	35-	0-	92-	1-	90+	65+	27+	26-
5.	598	Snyder, Rick; 14.10.1957	21-	32-	26-	3-	63-	10-	9-	33-



## Ranking in career counselling

The FIT score provides helpful and important information in the context of potential analysis for occupational and career-related counselling and decision-making. Different target profiles based on the job requirements of the various career options are defined and weighted. After testing the candidate is given the FIT scores for the different job criteria and can thus identify his degree of fit for particular career pathways.

Occupational aptitude	
Aptitude for technical professions	685 <sup>1</sup>
Aptitude for commercial professions	660 <sup>1</sup>
Aptitude for social professions	646 <sup>1</sup>

Comment(s): The confidence intervals are displayed next to each of the comparison scores (in parentheses).  
<sup>1</sup>The variable indicates the match to the ideal profile in per mill.

## Scientifically validated quality

As the **world market leader in computerised psychological assessment** SCHUHFRIED provides the reliability and security that your personnel management needs. All our tests are scientifically validated and are continually being updated.

The tests of the Expert System HR are suitable for use in the context of occupational aptitude assessment procedures **certified in accordance with DIN 33430**.

DIN 33430 (Requirements for Proficiency Assessment Procedures and their Implementation) sets out quality criteria and quality standards for occupational aptitude assessments. It also specifies quality requirements for the staff who carry out such assessments.

**Test information:** A detailed manual is available for each of our tests. The manual explains the theoretical background to the test, documents the process of test development and evaluates the test's quality criteria. It also contains useful hints on the proper administration and interpretation of the test.

**Objectivity:** Our computerised tests guarantee maximum objectivity in test administration, scoring and interpretation.

**Reliability:** The tests of the Expert System HR are highly reliable and have been optimised in numerous studies.

**Validity:** The tests used in the Expert System HR have various types of validity; the validity of each test provides the scientific justification for making personnel appointments or decisions on the basis of the test results.

**Norms, reference scores:** We check the norms regularly (at least every eight years) to ensure that they are still applicable.

All the psychometric tests have sufficiently large, representative and up-to-date norms.

In addition the quality criteria of the norms are regularly checked in accordance with the International Guidelines on Computer-Based and Internet-Delivered Testing (ITC, 2005) and the Standards for Educational and Psychological Testing of the American Educational Research Association, American Psychological Association & National Council on Measurement in Education (1999).

### Test fairness:

Since important decisions both for the company and the candidates are made on the basis of the test results, test fairness is a crucial issue.

The Expert System HR uses classical test theory and item-response theory (e.g. 1PL Rasch model and Partial Credit Model) to ensure that particular groups of individuals are not systematically favoured or discriminated against by the tests.

# Test security

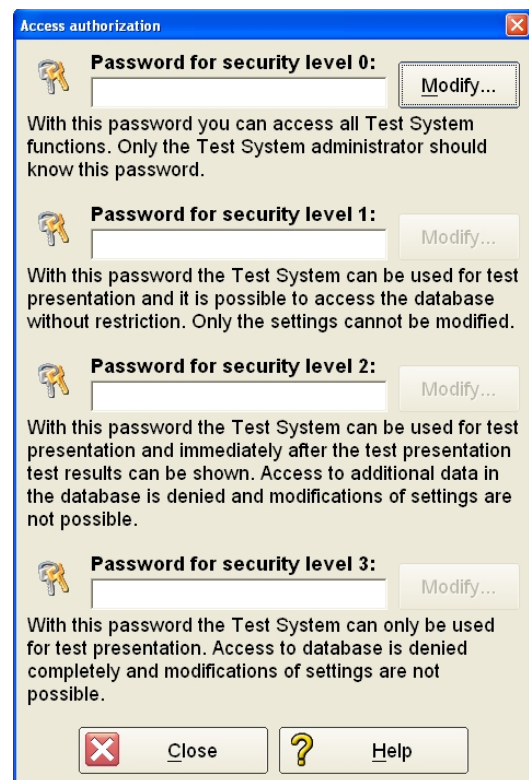
Test security is particularly important in connection with high-potential assessment. The Expert System HR uses both technical measures (e.g. blocking of screenshots, encryption of the database and item contents) and psychometric features (adaptive test presentation) to ensure test security. As a result the user can be confident that the quality of personnel decisions taken on the basis of the test results is not compromised by faking.

For purposes of data protection the Expert System HR includes functions that prevent unauthorised use of the system and the data collected by it - especially person-specific data.

Access can be authorised at different levels and is controlled by four passwords, enabling the following user groups to be defined:

1. All the functions of the Test System can be accessed.
2. Test batteries cannot be created or changed, default settings cannot be changed and tests cannot be installed or deleted. Temporary changes can be made to samples and test result displays, but these changes cannot be saved. Data export options cannot be changed. The test system can therefore be used to administer tests and full access to the databases is permitted.
3. The test system can be used only to administer and score tests; access to all other functions is barred. The database can only be used to evaluate and score the data generated during administration of the tests. Other data in the database cannot be accessed.
4. The test system can be used only for test administration. Access to all other functions and to the database is barred.

The test items and respondent data are saved in encrypted form in the Expert System HR.



## Customer service

Our Support Desk staff are available to deal quickly and reliably with software and hardware queries.

### The Help Desk is responsible for:

- Receiving and processing customer support requests submitted by telephone or in writing.
- Passing on customer enquiries to the relevant departments (e.g. Psychology)
- Documenting all customer enquiries in a support database
- Regular exchange of information with the development departments
- Working on improvements on the basis of customer suggestions.

The Help Desk is available 8.30 a.m. - 4.30 p.m. Monday - Thursday and 8.30 a.m. - 1.30 p.m. on Fridays.

**Tel: +43 2236 42315-60**

**E-mail: [support@schuhfried.at](mailto:support@schuhfried.at)**

**Fax: +43 2236 46597**

## Contact:

### **SCHUHFRIED GmbH**

Hyrtlstrasse 45  
2340 Moedling  
Austria

Tel: +43 2236 42315  
Fax: +43 2236 46597  
E-Mail: [info@schuhfried.at](mailto:info@schuhfried.at)  
[www.schuhfried.at](http://www.schuhfried.at)