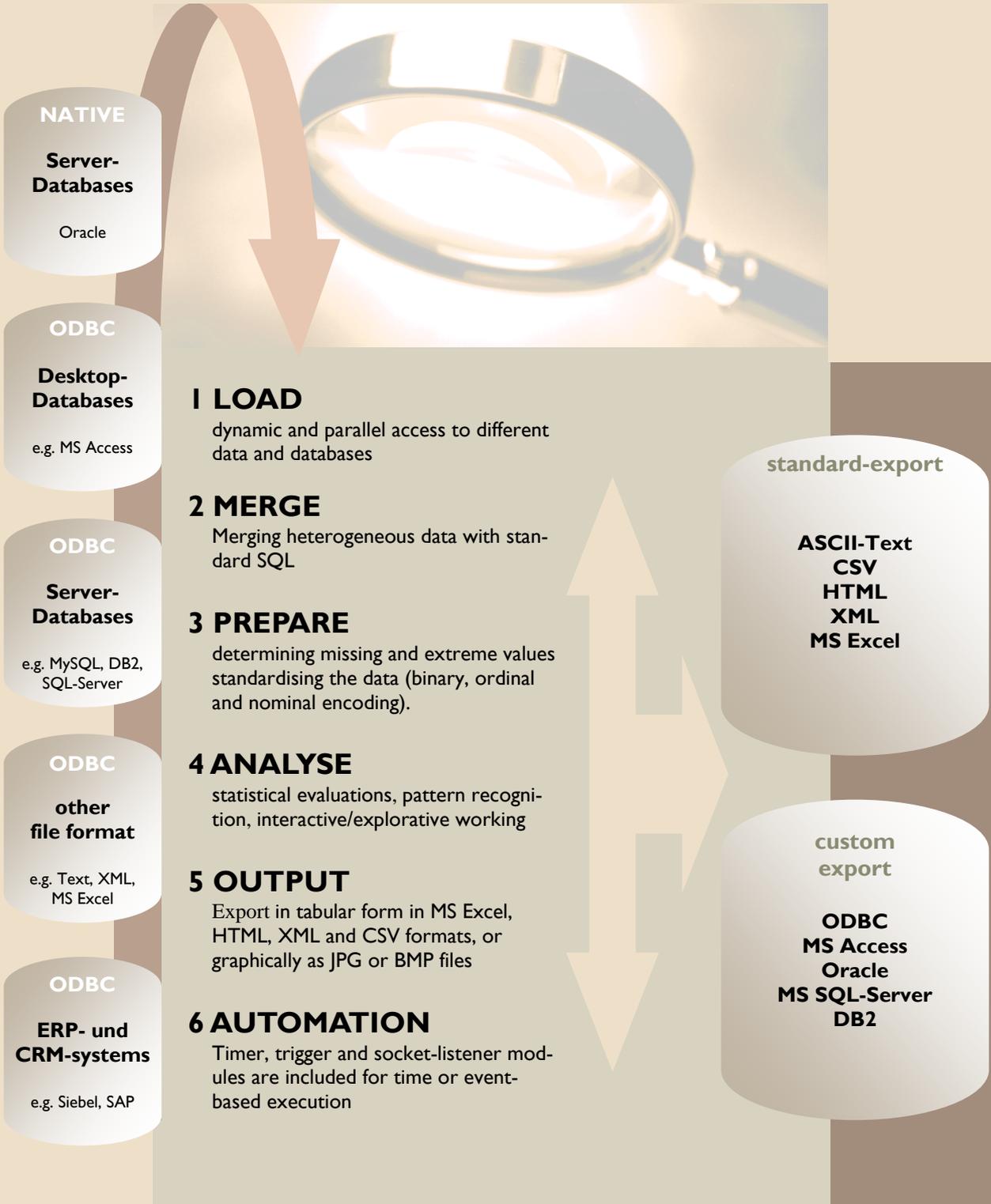


RayQ is a universal software solution designed for a wide-range of business intelligence purposes. RayQ can be used to extract, link and transform large quantities of data from different data sources and then subject them to mathematical/statistical analysis. You can also use neural algorithms to identify multidimensional relationships as a means of discovering previously hidden dependencies. The range of applications for these methods is practically unlimited: extending from shopping basket analyses and quality assurance through to complex stock exchange monitoring.

QYTE GMBH, STEINBACHER STR. 8, 65760 ESCHBORN, GERMANY, PHONE 06173-323706, WWW.QYTE.DE





Dear Readers,

We launched our new version of the RayQ data mining product a few months ago after

five years of intensive and creative development work. Thanks to the close relations we enjoy with our customers, we have now been able to extend the software in a whole variety of ways and can now offer the improved version 1.3. First I would like to take this opportunity to say a big thank you to all the customers who have helped us with their questions and suggestions.

A great deal of effort and enthusiasm has gone into our software and we are more than a little proud to see how well RayQ has been received by our customers.

Besides stock exchanges, health insurance companies and automotive suppliers, many users from a wide range of sectors are now showing interest in our product.

We regard this as proof of the universal features and simple handling which are the basis of RayQ.

We sincerely hope that we are able to arouse your interest and that we will soon be welcoming you to the circle of RayQ users.

Jürgen Hirsch  
Managing Director of Qyte GmbH



QYTE GMBH

Steinbacher Str. 8

D - 65760 Eschborn

Germany

Phone: +49 (6173) 323706

E-Mail: info@qyte.de

Internet: www.qyte.de



## RAYQ IN PRACTICE

### Health Care System

To manage the costs explosion in the German Health Care System, the German legislator requires since the January 2004 an active cooperation of the Health Insurance Companies in auditing the claims and statements of contract physicians and pharmacies.

The Health System Modernization Act (GMG) in 2003 expanded the existing auditing to mandatory include the area „wrongdoing in the public health sector“. In addition it requires since beginning of 2004 that the health insurance companies audit the indemnification requests of their respective contract physicians.

According to the law the insurance companies have to audit:

- [obligation to provide indemnification](#) and scope of indemnification (i.e. billing for deceased patients or simultaneous billing of ambulatory and stationary treatment)
- Plausibility of type and scope of the requested indemnification with regard to the indicated diagnosis
- Plausibility of the number and specialty groups membership of the physicians consulted by the insured patient (e.g. ring referral)

Out of pocket-payment to be paid after § 28 Sec. 4 by the insured patient to the physician and the correct settlement by the responsible Regional Association of SHI-Accredited Physicians

As of June 30, 2004, the above and further standard guidelines for auditing the claims and statements of contract physicians and pharmacies have been defined as mandatory by the Regional Association of SHI-Accredited Physicians and the Health Insurance Companies.

### Software Requirements

As consequence the minimum standards for any auditing software result:

- fast discovery of [conspicuousness](#) in combination pattern of diagnostics and prescription,
- Simple mathematical audit of claimed volumes and underlying score volumes with regard to the time period

However as it as to be expected that additional audits and modifications in existing audits will be required sooner than later, the software solution has to be flexible allowing for easy enhancements and modifications. Else required, mandatory changes can only be implemented at high – non budgeted – costs.

### User friendly and flexible – Data Mining with RayQ

RayQ is easy to use. Therefore it can be used by staff without far-reaching database knowledge or extensive statistical training. In addition functional departments can easily define their own queries and analysis simply by drag-and-drop on the front-end. Let's suppose you want to conduct an analysis considering the distance between pharmacies, physicians and patient dependent upon prescription amounts – no problem with RayQ. Our software is already successfully used in other areas of fraud detection, e.g. in the area of market supervision at Stock Exchanges where large amounts of data have to be analyzed to detect [conspicuous](#) patterns and inconsistencies.

RayQ is designed as a data-Mining-software and therefore uses beside directed analysis (hypothesis based analysis) in addition un-directed analysis. Undirected data analysis allows to search for [conspicuous](#) patterns without a concrete initial assumption. The advantage of this approach is that complex [conspicuous](#) patterns can be discovered. Even if the individual aspects of a data constellation are un-conspicuous if analyzed on a stand-alone basis, a combination with other parameters might lead to the detection of a conspicuous pattern.

Due to the high degree of flexibility of RayQ i.e. in tapping into and joining of many different data sources its use within the Health Care Organizations is not limited to fraud detection tasks but is in addition used in Disease Management as well as Controlling.

## What is RayQ?

RayQ is a data analysis program which covers all the individual steps involved in making an analysis. RayQ gives you parallel access to distributed and diverse data sources by merging them, thereby allowing you to process and visualise data using a whole range of different procedures. It allows you to export your analysis results at any time in many different common file formats.

## Flexible Architecture

We provide all the key analysis and visualisation modules. The architecture of our client/server solution also allows us to respond flexibly to customer wishes. We can integrate specific customer solutions as new modules in the server without making any changes to the platform. Frequently-used analyses can be stored in their own "containers" and made available to other users as a data source for further processing. A timer feature permits automatic reporting: once created, analyses can therefore be regularly updated without any additional processing being necessary.

## Modular design

All the individual steps of an analysis are represented by modules which can be dragged and dropped into the work area. A special feature of our software is that all the individual steps are represented graphically during the analysis process, making it easy to keep a clear overview. New data can be added, filters applied and calculations parameterised at any time. The generated analysis can be run again from the point of the change at the click of a mouse. This way you obtain optimum results quickly and simply, without always having to repeat the same steps of the analysis. We call this the "iterative analysis process".



## YOUR BENEFITS AT-A-GLANCE

### Time

- Quick and simple implementation
- Simple operation, short familiarisation period
- Simple and dynamic access to heterogeneous database
- Iterative basis: modifications can be made at any time without having to reconfigure the entire analysis
- Merging of complete analyses into a new module
- Ad hoc reporting
- High degree of automation
- Customers' specific requirements can be implemented very quickly
- Fast return on investment
- Once generated, analyses can be archived together with data (for target/actual comparison later)
- No knowledge of SQL necessary - even complex database inquiries are set up visually
- No programming skills required (purely visual procedures)

### Money

- Low procurement costs
- All functions are contained in the product itself - no expensive individual products are necessary
- No middleware is required
- Time savings lead to reductions in personnel costs
- Improved basis for decision-making
- The merging of heterogeneous data can obviate the need for additional investment (Datamart)
- Data warehouse simulation

### Knowledge

- Discover previously unknown connections in existing data
- Better exploitation of available data
- Pattern recognition and cluster analysis with neural networks. In contrast to statistics, no sharp cuts are made; all data is included in the analysis

## System requirements for using RayQ

### Server: minimum

Windows 2000 professional  
1 GHz processor, 512 MB RAM  
50 MB available fixed-disk storage for RayQ program  
10 GB available fixed-disk storage for data- and project-cache

### Server: recommended

Windows XP professional  
3 GHz multiprocessor-system  
4 GB RAM  
50 MB available fixed-disk storage for RayQ program  
100 GB available fixed-disk storage for data- and project-cache (fast)

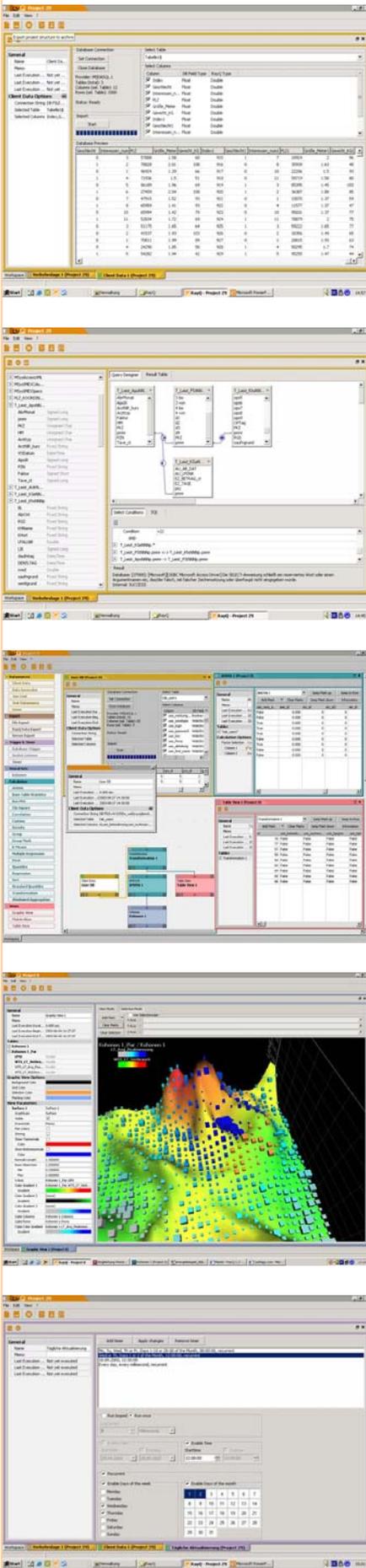
### Client: minimum

Windows XP professional  
1 GHz processor, 512 MB RAM  
20 MB available fixed-disk storage for RayQ program  
Graphics card true colour and min. resolution of 1024 x 768

### Client: recommended

Windows XP professional  
3 GHz processor, 2 GB RAM  
20 MB available fixed-disk storage for RayQ program (fast)  
Graphics card with 3-D accelerator (OpenGL), 128 MB RAM and min. resolution of 1280 x 1024





Evaluation copy of RayQ  
register and download:  
[www.qyte.de](http://www.qyte.de)

## RAYQ: ALL-IN-ONE PRODUCT

### (1) LOAD

Providing dynamic and parallel access to different data and databases represents a major technical challenge. RayQ gives access to a wide range of database source systems (Oracle, DB2, MS-SQL-Server, etc.) including desktop databases (MS Access) and other file formats MS Excel, text etc.).

### (2) MERGE

Data from different sources can be linked together in RayQ and processed as a complete data system. Merging heterogeneous data using RayQ saves costs on Datamart/data warehouse projects. The use of a data warehouse can also be verified or simulated. Anyone wishing to access databases to create complex data analyses using RayQ only needs a basic understanding of the structure of the analysis data. Internally, RayQ uses the database language SQL, however users do not need to be fully conversant with this as the modules for merging data sources can be operated entirely visually.

### (3) PREPARE

RayQ takes account of the fact that statistical preparation and data preparation are generally highly time-consuming steps. RayQ provides users with all the necessary tools for determining missing and extreme values and for standardising the data (binary, ordinal and nominal encoding).

### (4) ANALYSE

RayQ is a piece of data-mining software for targeted data analysis and for targeted and non-targeted pattern recognition of data. Here RayQ combines traditional data analysis methods such as standard visualisation and statistical evaluations of data sources with newer methods of "intelligent" data analysis, such as pattern recognition and visualisation of data based on parameterisable neural networks, in a single product. The software permits interactive/explorative working and also the full automation of frequently-required evaluations through appropriate server processes.

### (5) OUTPUT

The results are issued in the form of two and three-dimensional graphic representations. In addition to the three spatial dimensions, the extended presentation options allow further columns to be shown graphically in object size and colour - which is indispensable when analysing complex data. RayQ offers an attractive spatial display (based on OpenGL) which users can manipulate freely using the mouse (e.g. turn, shift, zoom). Individual data records can be marked directly with the mouse, e.g. to identify them in other display forms, or to export them. Columns are simply dragged to the axes of existing diagrams and converted into a graphic display. Independent data from different data sources can be superimposed in the diagram to make a direct graphic comparison. Each intermediate or final result can either be exported and distributed in tabular form in MS Excel, HTML, XML and CSV formats, or graphically as JPG or BMP files.

### (6) AUTOMATION

Analyses and reports must be re-run or re-created at certain intervals or whenever there are any changes to the source data. Each individual step in RayQ can be triggered on a time or event basis, for instance when a given threshold value is reached in a database. Timer, trigger and socket-listener modules are included for time or event-based execution; this allows processes to be automated. This in turn ensures that analysis results and reports are always up to date. Also, individual steps of the analysis can, with just a few clicks of the mouse, be merged into a new module which is then accessible to others for future use.