



# POLYAS

ONLINE VOTING SOLUTIONS





#### POLYAS: A Better Vote

Polyas is software for implementing online elections. Up until today more than 750.000 votes have been cast with Polyas via the Internet. Its user-friendliness as well as its high security standards have turned it into a popular alternative to postal votes and voting in ballot boxes.

Become a satisfied Polyas user!

#### Security Profile - The International Standard

Even online elections have to be free, fair and confidential. In order to fulfil these democratic principles, Polyas meets the requirements of the internationally recognised protection profile for online elections. The German Federal Office for Information Security has published a Common Criteria Protection Profile for this purpose, thus setting high standards worldwide that are legally binding. With Polyas you vote in a verified secure environment.

#### Basic Authentication

The most familiar authentication method within IT technology is the PIN and TAN technique, which most users are familiar with through online banking. The voters logs on with an identification number (PIN) and a transaction number (TAN) only known to them.

#### Digital Signature

Digital signatures are enhanced authentication methods with which the authorship of a vote can be checked without compromising the voter's identity. These cryptographic techniques use a set of keys comprising of one secret and one public signature key.

#### Each Typical POLYAS Election Guarantees:

- no software installations on own PC are necessary
- standardised interfaces for the loading of electoral roll
- automatic generation of access data
- high-level security data processing centre
- servers with a high level of availability
- legally-binding elections documents

#### System Architecture

One of the main security features of Polyas is the system architecture which primarily refers to the strict separation of the electoral roll and the ballot box within the system, a requirement in compliance with the certification principles of the Common Criteria.

The principle of the separation of powers optimally protect the integrity of user data. In so doing, it minimises the risk of outside influence on an election.

### The System Structure

Polyas' key technical structures are based on the principles of strict separation between the electoral roll and the ballot box. By logging onto the electronic electoral roll, the eligible voter receives a temporary key.

There are a number of ways available for logging on — from the ubiquitous online banking system that applies the PIN and TAN procedure to using digital signatures. The receipt of a temporary key bestows the eligible voter with anonymity. It is not possible to trace back any of the votes to the voters themselves. Electronic elections are often assumed to lack transparency. The metaphor 'Black Box' has been introduced to describe the mystery of modern election systems.

### Election Management Client

Polyas provides transparency using the so-called 'election management client'. It allows the organisers of the election to monitor and manage their election themselves. The 'election management client' is a kind of virtual board of directors enabling organisers to put the running election to the acid test and to request a confirmation of the integrity of the all data transferred.

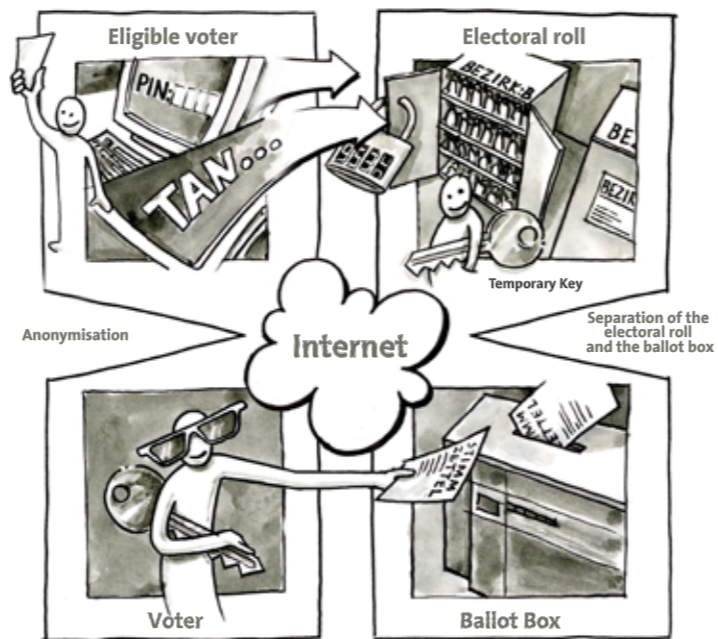
Within the framework of an intra-system self test the 'election management client' provides the election supervisor with the following information:

### Heart Beat

The election managements clients 'heart-beat' view supplies information about the functional efficiency of each individual sub-system such as the ballot box, the electoral register and the validator. If everything runs as expected it is confirmed with 'OK'.

### Elector and Votes Count:

The 'election management client' creates transparency during the running election without compromising the basic principles of a free, fair and confidential election. The election supervisor merely sees how many eligible voters in total had been accessed, how many of those have already participated in the election and the amount of votes that have been cast into the ballot box.



### Check Sum Integrity

All data transferred by Polyas is asymmetrically encrypted. In order to enable the election supervisor to check the integrity of the election data, the 'election management client' makes the integrity of the check sums transparent to her. Integrity is confirmed with 'OK'. If for whatever reason integrity does not exist, a notification of 'FAIL' is delivered and the election supervisor can respond accordingly.

### Your Customised Online Election

- Installation and maintenance of electoral registers
- Design of all election documents
- Printing, packaging and distribution of election documents
- Creation of information Screencasts and Videos
- Support for voters via telephone or email
- Legal Advice

### POLYAS Key Features

Because no two elections are the same an individual profile is compiled for each single election according to its own requirements. During this process, the tradition of your previous elections as well as the opportunities of your current organisational structure will be taken into consideration. The aim is to reduce the costs of the election whilst turning it into a full success.

Upon request Polyas provides the complete implementation and management of the election, including services such as the creation of the electoral register as well as any other traditional and Internet-based election documents. The printing and distribution of all election documents is provided, as well as detailed documentation of the election process.



### Your Contact Person



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**POLYAS BASIC** is the core product in all of Polyas applications. It guarantees the compliance with the rules of law for elections whilst maintaining exceptionally high levels of safety and quality standards. Furthermore, there are a variety of product specifications for different user groups including clubs, associations, businesses, organisations, public limited companies and many more.



**POLYAS VOTES** Are you a member of a committee and require an easy procedure to vote on an issue. Polyas Votes is a cost-efficient module for organisations, companies and associations. Multiple separate elections can be created, managed and carried out in a fast, easy and secure manner.

**POLYAS COMPANY** Are elections for the workers' council pending in your enterprise? Polyas Company allows you to exercise your right to have a say in matters within your company, for instance during elections of members for the workers' council.

**POLYAS DEPARTMENT** Particularly aimed at government agencies and is very suitable for Employee Committee elections. Time, effort and expenses can be reduced to a bare minimum.

**POLYAS ASSOCIATION** Clubs, associations, unions, societies and organisations form an important part of our democratic culture. Polyas association offers everything you need for your election ranging from setting the content of the election and the voting period to notification of the voters via email or post.

**POLYAS SHAREHOLDER** is designed for public limited companies, which face the challenge of their members residing in various locations across the globe.

**POLYAS UNIVERSITY** is a software package designed for universities. It can be applied during various types of elections, for example in student parliament, faculty representatives, student representative elections.



### POLYAS - Prides Itself With Experience!

**Polyas has been used since 1996 in several languages both nationally and internationally. Hitherto more than 750,000 votes have been cast using Polyas. Below you can read about some of the milestones on this path:**

#### Swiss Life



In 2009 the leading Swiss life insurance provider Swiss Life used Polyas for the first time to vote for its foundation council. Participants were able to vote for their preferred candidates in a fast and secure way with a simple mouse click rather than

through the traditional postal vote. Thanks to Polyas the online election could be carried out in all three official languages: Italian, French and Swiss German.

→ [www.swisslife.ch](http://www.swisslife.ch)

#### PSD Bank Westfalen-Lippe

The PSD Bank Westfalen-Lippe eG (a registered cooperative) carried out the election of its highest committee with Polyas for the first time in 2009. About 37.000 members were invited to participate during the on-line election.



The Polyas election management client was applied as virtual control centre enabling the election committee to monitor the entire election.

→ [www.psd-bank.de](http://www.psd-bank.de)

#### German Research Community (DFG)

In the autumn of 2007 the German Research Community for the first time elects the members of its specialist colleges via the Internet. With more than 90,000 voters, this becomes the largest legally-binding online election in Germany. → [www.dfg.de](http://www.dfg.de)

#### Society for Computer Science (GI)

In the autumn of 2004 over 20,000 members of the Society for Computer Science were invited to vote for the steering committee. The election was supported by an internal team of senior security experts from several German universities. Since then the Society for Computer Science carries out their elections with Polyas every year. → [www.gi-ev.de](http://www.gi-ev.de)

#### Youth Election

In 1996 Polyas was used abroad for the first time as a multilingual application: 64,000 students and adolescents in Finland participated in the 'Youth Election'. This initiative was supported by the Finnish Department of the Interior.

#### Junior election



In Germany, Polyas was applied for the first time in 2002 during the Junior Election, which was carried out parallel to the elections to the German Parliament

(Bundestag). 70,000 adolescents participated in this project for political education. Under the patronage of the then Federal President Johannes Rau, those young people had a practical, first-hand experience of democracy. → [www.juniorwahl.de](http://www.juniorwahl.de)

➔ More references at [www.polyas.de](http://www.polyas.de)

**Further Information about Polyas**

[www.polyas.de](http://www.polyas.de)

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