

Point of Contact

For further information, please contact the CyberVote Project Director :

EADS Systems & Defence Electronics
Mr **Stephan BRUNESSAUX**
Phone : +33 2 32 63 40 55
Fax : +33 2 32 63 42 00
Mail : contact@eucybevot.org
Web : <http://www.eucybevot.org>



CYBERVOTE

Vote in a trust environment via internet !

The consortium

> Industrial partners

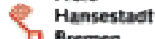
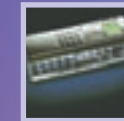
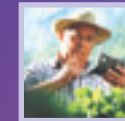
- EADS Systems & Defence Electronics of France, <http://www.eads.net>
- Nokia Research Centre of Finland, <http://www.nokia.com>
- BTexact Technologies of the United Kingdom, <http://www.bt.com>

> University partners

- K.U.Leuven Research & Development of Belgium, <http://www.kuleuven.ac.be/kuleuven/>
- Technische Universiteit Eindhoven of The Netherlands, <http://www.tue.nl>

> User partners

- Freie Hansestadt Bremen of Germany, <http://www.bremen.de>
- Mairie d'Issy-les-Moulineaux of France, <http://www.issy.com>
- Kista Stadsdelsnämnd of Sweden, <http://www.kista.com>





CyberVote, an innovative cyber voting system for internet terminals and mobile phones, is a RDT programme funded by the European Commission and the organisations undertaking the work. This project is part of the IST 1999 programme under the 5th PCRD and attached to Key Action 1 'Systems and Services for the Citizens'. The project started on 1 September 2000. It will end on 31 March 2003. The overall budget of the project is 3 243 629 Euros and the total effort is 27.4 man-years.

> Project description

The goal of the CyberVote project is to develop and demonstrate a prototype of an on-line voting system integrating a highly secure and verifiable Internet voting protocol, and designed to be used for various types of elections.

This prototype allows voters to cast their vote through the use of Internet terminals such as PCs, handheld devices and mobile phones. It relies upon an innovative voting protocol that ensures authentication of the voters, integrity and privacy of their vote when sending it over the Internet and during the tallying phase as well as the scrutiny of the election.

> Social objectives

The CyberVote project aims to contribute to the introduction of a more participative democracy. CyberVote eases the voting process for all voters including people with limited mobility (the disabled, the ill, hospital patients, the elderly, etc.), people travelling during the election day, and expatriates. It satisfies their requirements by allowing them to cast their vote without the need to go to their usual polling station or to vote by proxy. It offers a secure alternative to postal voting when it is authorised.

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> Main technical features

- 1- Use of an homomorphic encryption algorithm that ensures a total secrecy of the vote cast by the voter: the vote is encrypted before being sent to the virtual ballot box and is never decrypted even when computing the tally.
- 2- Distributed trust and robustness: the computation of the tally is carried out by p talliers out of the n authorised talliers. The encrypted votes are multiplied altogether to get the encrypted result of the election. This result is decrypted with pieces of the private key shared by all talliers.
- 3- Support of different Internet terminals to cast a vote. Currently supported terminals include Pocket PC devices (tested on iPAQ Pocket PC), Java mobile phones (tested on Nokia 9210 and 9210i) and PC (tested on W98/W2000/WXP - IE 6.0).
- 4- Verifiable approach allowing each voter to check that his/her vote has been taken account to compute the final tally.
- 5- Support for different types of authentication (smart cards or PIN codes).

Elections conducted with the CyberVote prototype

- 1• Bremen, Germany, from 20 November till 4 December 2002, elections of the Councils of the University of Public Administration, legally-binding result;
- 2• Issy-les-Moulineaux, France, 11 December 2002, industrial election, test election;
- 3• Kista/Stockholm, Sweden, January 2003, referendum, test election.

