

ScytI Secure Electronic Voting

eID Centric Approach for Building eServices and Electoral Process Modernization

Lenka Kmetova
CEE Business Development Manager
lenka.kmetova@scytI.com

Christoph Leixner
Consultant
christoph.leixner@scytI.com



HP & ScytI help democracies worldwide modernize their electoral processes providing electoral solutions that are as secure as traditional elections.



Digital Certificates

Pre-existing
(eID, banking smartcards, etc.)

Non pre-existing
(PKI infrastructure)

Specific Voter Credentials

Direct delivery
(post, e-mail, phone, fax, sms, etc.)

After registration
(in-person, remote by postal mail, online)

Pre-existing authentication mechanism

Obtaining a voting credential

With additional specific voting credentials

Without additional voting credentials

Project Description

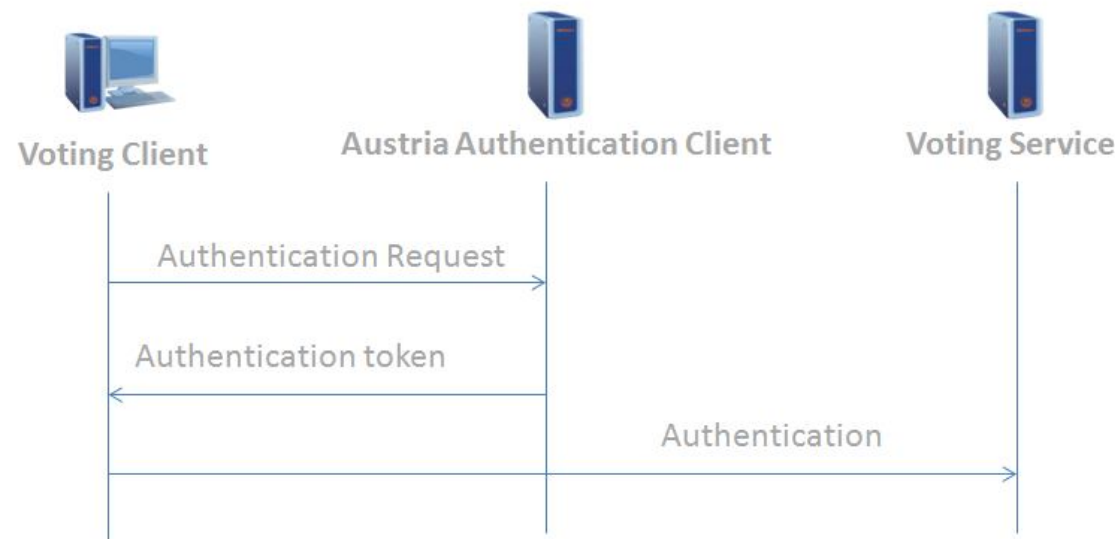


Austria executed in May 2009 its first Internet Voting election, a binding electoral process. **Scytl was chosen by the Ministry of Science and Research** due to its worldwide experience in electronic voting projects. **230 749** students from **21 Universities** could cast votes for **376 simultaneous elections**, for **100 political parties** and **2411 candidates**. Scytl provided:

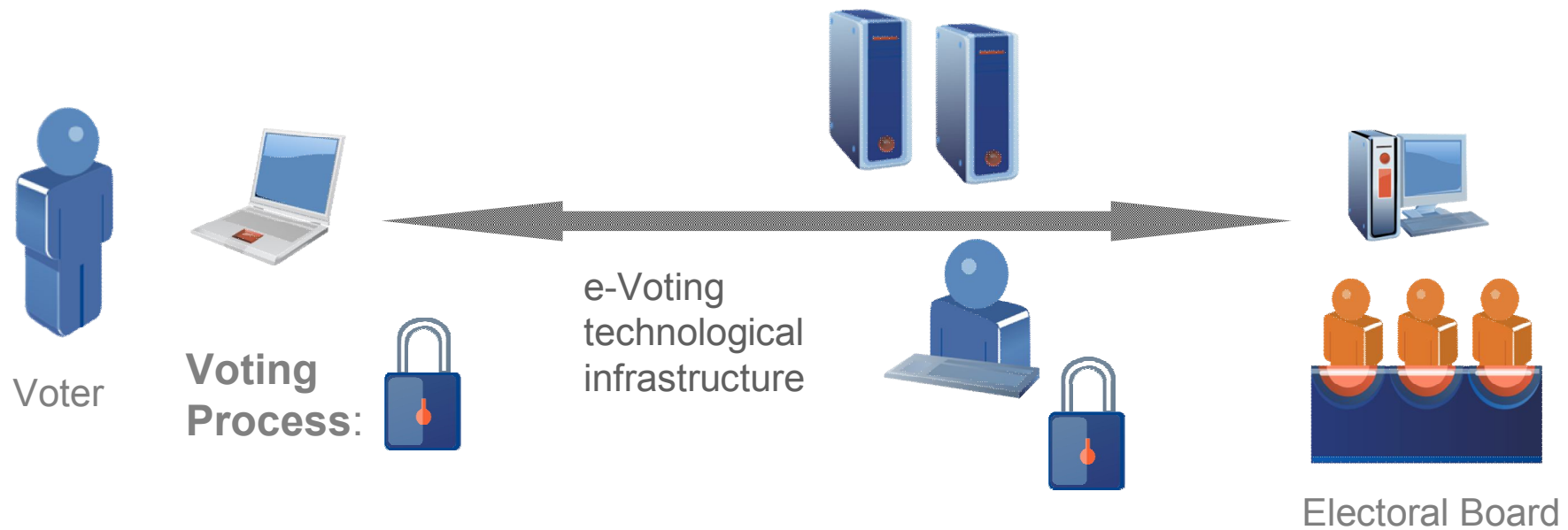
- ✓ Internet voting solution **Pnyx**,
- ✓ **Election management system (EMS)** to the Ministry and all the **Universities**, from a centralized system,
- ✓ **Results consolidation platform (RCP)** used by all the Universities to securely report the local counts at each polling station based on paper ballots, and to merge the results from all the voting channels in a single set of results divided by University,
- ✓ Technological component, Scytl also provided its electronic voting technology, which allowed thousands of voters with the activated **Bürgerkarte (Citizen Card)** to vote from any computer with Internet access.

Electronic ID cards used in the project

- ✓ Card issued by the Austrian Social Security or by banks
- ✓ Interested users had to request a digital certificate to be stored inside the card using an special “Bürgerkarte” software developed by the Government
- ✓ Software could be downloaded easily
- ✓ Easy authentication from each computer with a card reader
- ✓ Access to Austrian Public Administration with the “Bürgerkarte” (digital Signature)
- ✓ Use of the “Bürgerkarte” implemented in the voting process



Voting Process Overview



Electronic voting with ScytI's specialized security technology



- ✓ Selection of the corresponding University among the list of all Austrian Universities.
- ✓ If voting rights are given the student is allowed to vote.

- ✓ Login with the “Bürgerkarte”. needed to be confirmed by the voter.



- ✓ The voter has different PIN codes to use the “Bürgerkarte”. When issuing the card, the voter receives his PIN codes. In the first step, the Infobox PIN is needed to use the card for the digital signature.

- ✓ As a next step, the voter is asked for his „personal signature“; the personal signature consists of a PIN code with 6 numbers.

The screenshot shows the top navigation bar with the logo 'ÖH-Wahl.gv.at', 'Infos zur ÖH-Wahl 2009', and 'zur elektronischen Stimmabgabe'. Below the navigation bar, the breadcrumb trail reads 'Sie befinden sich hier: Home > Universität Wien > Voting'. The main content area is titled 'Universitätsvertretung' and includes the instruction 'Sie können ein Minimum von 0 Optionen und ein Maximum von 1 Optionen auswählen...'. A list of five options is displayed, each with a checkbox: 'Aktionsgemeinschaft Studentenform Technik', 'Ring Freiheitlicher Studenten', 'Verband Sozialistischer Studentinnenösterreichs', 'BasisListe Alternativer Technikerinnen und Techniker', and 'Fachschaftliste'. At the bottom of the list are two buttons: 'Schliessen' and 'Fortfahren'.

✓ Parties can be voted for

The screenshot shows the top navigation bar with the logo 'ÖH-Wahl.gv.at', 'Infos zur ÖH-Wahl 2009', and 'zur elektronischen Stimmabgabe'. Below the navigation bar, the breadcrumb trail reads 'Sie befinden sich hier: Home > Universität Wien > Voting'. The main content area is titled 'Studienvertretung für Architektur' and includes the instruction 'Sie können ein Minimum von 0 Optionen und ein Maximum von 3 Optionen auswählen...'. A list of six candidates is displayed, each with a checkbox: 'Dobonik, Jörg', 'Standfest, Matthias', 'Oschina, Stefan', 'Mayer, Anna', 'Fissthaler, Evelin', and 'Simon, Michael'. At the bottom of the list are two buttons: 'Schliessen' and 'Fortfahren'.

✓ Candidates can be voted for

All chosen voting options are shown to the voter at the end.

The screenshot shows the website **ÖH-Wahl.gv.at** with the following content:

- Header: **Infos zur ÖH-Wahl 2009** zur elektronischen **Stimmabgabe**
- Navigation: **Sie befinden sich hier:** Home > Universität Wien > Voting
- Contact: **HOTLINE 0800 555 555** | support@öh-wahl.gv.at | Schriftgröße A A A
- Main text: **Wahlbeleg**
Ihre Stimme wurde erfolgreich empfangen.
- Form fields:
 - Wahlzettel-Identifikator: a3ed30435e5e4d51
 - Kontroll-Code: hv4VpJmN0Bx107LUjpbxLGLZemzcwFELUv8ae1JYfmgAMKu7fNsRizkVz5sAZOvpyBzcOHGm60hV239u0l3lQqs5NnNrmlUkzmgstsEpgzN1EOcNng9PJvaPj4OuFONHmMTxjFBZ4MksdtQb8rFrye1AYAyVW6G9eSGv0=
- Footer: © 2009 den Wahlkommissionen bei den Hochschülerinnen- und Hochschülerschaften an den Österreichischen Universitäten zur Verfügung gestellt, vom Bundesministerium für Wissenschaft und Forschung | Impressum

- ✓ After having successfully cast the votes, the voter receives the voting receipt which is the confirmation, that the vote has reached the ballot box. All voting receipts are published.

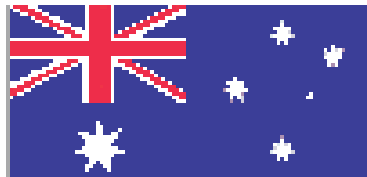
The screenshot shows the **DIGITAL AUSTRIA** software interface for document signing. The window title is **trustview 2.1.1 R9**. The header includes **DIGITAL AUSTRIA** and **Dokument signieren** (Document signing) with a logo for **IT solution**. The main text reads: "Mit meiner digitalen Signatur erkläre ich eidesstattlich, dass ich meine elektronische Stimme persönlich, unbeobachtet und unbeeinflusst abgegeben habe. Meine Stimme ist durch Verschlüsselung mit dem öffentlichen Schlüssel der Wahlkommission vor dem Zugriff Unbefugter gesichert:" Below this is a long alphanumeric string: `Sfd9L/2ryleimo0Qrlw429bt-Qg*1234521682:4098:4096;1132771032;ApESFY3hva93e0J6coIOOR2lmp*_A_rnHaBf12/BbVve1Q`. At the bottom, there are buttons for **Beenden** (End), **Zertifikat** (Certificate), **6-stellige Signatur PIN** (6-digit signature PIN), and **Unterschreiben** (Sign).

- ✓ The voter has to confirm his decision and that he casts his vote alone without influence from other persons. The 6 numbers PIN needed to be introduced again.



The City of Madrid, Madrid Participa (Spain), 2004 / 2006

- ✓ one of the largest e-participation events in Europe
- ✓ multichannel e-voting platform (136,000 / nearly 3 million citizens)
- ✓ variety of voting channels, ranging from polling stations equipped with electronic voting terminals to mobile devices
- ✓ 21 binding e-consultations



State of Victoria (Australia), 2006

- ✓ the first e-voting election during their parliamentary election
- ✓ blind and visually impaired voters could, for the first time, cast votes from electronic voting terminals with total privacy and without needing the assistance from third parties
- ✓ finally, the voting kiosks supported 12 different languages to allow voters with different language capabilities to vote with total privacy



The Electoral Commission (Philippines), 2007

- ✓ nonbinding internet voting pilot simulating Senatorial and Party list election for the Filipinos living in Singapore
- ✓ online enrolling of 26,000 voters through Voter Registration System and obtaining special voting credentials
- ✓ authentication over the user friendly website



www.scytl.com

