



Workpermits Online www.workpermits.zh.ch

A Case Study on the project e-WorkPermits
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Initiators

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Goals

In several analyses of factors concerning the location of the canton of Zurich during the years from 1998 to 2000 the results indicated again and again that above all the difficulty to access the Swiss labour market and thus less favourable recruiting conditions to hire international specialists was rated as a great disadvantage of the Zurich location .

During that time basic legal conditions were changed: with new regulations between Switzerland and the European Union (the main destination of foreign people coming to Switzerland) the free movement of labour will be the case, but the conversion of these laws to the operational status is not yet fully finished .

A main goal of the project was to realize this potential and thus to prove, that the Swiss labour market is more open. Generally the obstacle of difficult access to the Swiss labour market was to be eliminated.

Further goals were: the simplification of the application process by eliminating the need of signatures or personal appearance; a drastic shortening of the turn-around time; the elimination of double work-loads resulting from digital and non-digital storing; and finally the creation of a modern and open image of the location.

e-WorkPermits was built to offer services at four levels:

Level 1 – Information:

General information on work permits

Level 2 – Interaction:

If necessary, clients can contact officials by e-mail and forms can be downloaded

Level 3 – Transaction:

Applications are submitted online, online status tracking is available; clients can modify their own data and request extensions

Level 4 – Convergence:

Qualified users have special access rights and can manage their quotas independently



Project Phases

During the initiation phase all administrative regulations and the basic laws were changed and the new laws passed by the government of the Canton of Zurich, in order to create the preconditions for an electronic application and granting of the permission.

After these conditions were given, it was the target of a preliminary study to evaluate, which organizational work flows had to be changed, and which requirements existed on a new application system. Besides a work permit, foreign employees also need a residence permit, which is issued by the office for migration. To fully satisfy the customers, it was clear that only an integrated process, at the end of which both permissions were given, would work. Both offices, respectively their workflows had to be synchronized and organized without breaks.

Given these organizational premises, a systems requirements specification was elaborated and a call for offers was made. At this time get-IT-done was appointed to the project for the first time and provided an expert's report to the requirements specifications. The results of this report concerned mainly project-organizational concerns like the definition of the phase model, project management methods, project organization etc. The changes were applied to the requirement specifications before it was used for the call for offers.

The call for offers produced around 30 replies, which were evaluated in a three-part procedure. An external consulting firm provided one part of the evaluation. It consisted of a catalogue of criteria, which used mainly formal and structural criteria for the evaluation of the offers. The second part was the analysis of the offers according to technical criteria and qualitative characteristics, which was provided by get-IT-done. The third part was an economic criteria and the general impression evaluated by the client. From these three points of view the best offer in all points was determined and accepted.

At this time the company Icontel AG from Zurich entered the project together with an international consulting firm. Icontel was signed responsible for the realization and the consulting firm for project management. get-IT-done was working as a supervisor and controller and appeared as a representative of the client.

The first step for conversion consisted of a comprehensive conception phase, at the end of which a specification described all legal, organizational and technical aspects of the future system. The specification was completed according to the e-Trust standard CWA 14842, in order to adapt the legal, organizational and safety-relevant definitions of this European standard.



The company Euro Project Office AG, a specialist for security management and e-Business processes, analysed the risks, reviewed the specifications, and later executed a security penetration test for the system. This led to many improvements.

get-IT-done reviewed the project in view of the targets set. The project specification had to be adapted and enhanced before it was approved for realization. Several previews and prototypes led to the final version with tangible results.

Thus the project did not self-propel towards technical fancies. The tangible results reached at milestones were instrumental for the continuous progress control comparing the actual status with the planned status. With only little delay against the original schedule the realization was completed.

get-IT-done steered the intense testing phase. Application tests and load tests were successfully executed, and Euro Project Office AG tested the system against security leaks and intrusion. This helped to establish the high security standards expected by customers. After the test findings had been addressed, e-Work Permits finally went online in February 2003.

Operation phase

In order to plan the operation of e-workPermits several subprojects were set up:

- The AWA/MA was responsible for the organisation of the workflows.
- IconTEL was responsible for technical operations and further development.
- The Euro Project Office was responsible for risk management, security and protection of data privacy.
- get-IT-done was responsible for the coordination and project management of the operation as a whole, also for marketing and public relations.

By thusly organising the project, a smooth and transparent structure and operation were guaranteed. Holes appearing late and costly during the realisation phase (as in many IT-projects) were avoided. The operations team now meets once a month and plans, decides, and coordinates the further expansion of eWP. Several extensions and goals were realised since the operations began:

- A usability test on the information portal and forms was realised by ergonomie & technologie gmbh, a specialist.
- A modul was incorporated for qualified customers, i.e. major enterprises which entered an agreement with the AWA and were schooled appropriately. The modul lets qualified customers enter and finish the process of acquiring work permits for their employees by themselves within three seconds after entering the data .



- A central scanning station used to digitalise all application forms on paper was installed.
- To achieve status for an audit according to CWA 14842 the provider was changed to Aspectra, which was more experienced with security related hosting.
- The e-trust Certificate was achieved through an extensive audit by e-comtrust according to the CEN workshop agreement CWA 14842, as the first e-government site worldwide.
- The current culmination: by entering the "Best of Swiss Web" contest a sixth place was achieved in the view of the public, which decided the "Master of Swiss Web". The category "Public Affairs" was won – the best government site in Switzerland in 2004.

The success of e-WorkPermits

- User numbers are increasing since the launch; right now about 8000 identified hits per month.
- Shortly after the launch the percentage of online applications was just under 10%; as of Mai 2004 the percentage is 33%; the goal for 2004 is 40%.
- The turnover (the waiting time for the applicant) until the application is granted was lowered from 4 to 6 weeks to two days (for qualified customers to three seconds).
- As an argument for the Zurich location eWP has met all expectations, several larger companies, who had identified problems in a restrictive labour market changed their minds. Among others, google was persuaded through e-WorkPermits, that restrictive conditions were a thing of the past.

The next steps

- **International Competition**
We want to put e-WorkPermits up for international comparison by entering a European contest.
- **Further Enhancements**
The opening of the Swiss labour market follows a step-by-step plan: in June 2004 a next step was met: Swiss workers are no longer privileged. For EU citizens work permits are no longer compulsory – a simple notification to the office for migration and a residence permit is all it needs. This simplification is supported by e-WorkPermits since June.
- **Technical Features**
Application via pda's is discussed at the moment. As a vision, application or status reports by sms are pursued.



Technical details

e-WorkPermits is based on the Lotus Domino-Platform, on which the web-services, the workflow-engine and different agents are running.

The Lotus Domino-Hosting and the security infrastructure are described in the Service Level Agreement of the system operator. The main characteristics are:

- Hardware: NT-Server with Windows 2000 operating system
- Software: Lotus Domino 6.5, MS-Word-2000, ODBC Interface to the accounting system, Adobe Acrobat, Crystal Reports for reports and queries (for the administrator)
- Security: Virus protection for attachments, SSL, monitored firewall, restricted access to the server room
- Backup: daily and weekly data backups
- Availability: 7*24 hours, constant server monitoring

User administration: The users with their roles and access rights are administered in Lotus Domino; a difference is made between the internal users (clerks, administrators) and external users.

Lotus Domino Agents: e-Mails are dispatched by the system automatically. This concerns the passwords, reminders of pending documents and messages regarding status change of the entered application.

Archiving: The archiving process takes place based on pre-defined rules by a Domino-agent.

Security

The system contains confidential, personal data and is accessible both over the internet and over the intranet. An important success factor for the successful operation of e-WorkPermits therefore is extremely high security precautions. e-WorkPermits is based on a multi-level security concept, which is custom-made for the specific requirements.

The system runs in a DMZ, which guarantees that the external users can access only data in the DMZ. Additional safety precautions concern the application, the technical and organizational areas.



Security precautions are:

- Dispatch of passwords without indication of the user name
- Minimal password length required
- Question / Answer at registration for later identification for phone calls
- Barring of specific users names
- Highly secured local area network for the clerks
- No login for clerks outside of the local area network

Technical security precautions:

- outward:
 - SSL-Encryption between the workstation of the applicant and the application
 - Virus check of all attachments that go with the application
 - Automatic logout for users after a certain time
- workstations of the clerks:
 - Constant update of the virus protection files
 - High macro security for the MS-office products
 - Automatic logout after 60 minutes
 - Special examination of transmitted applications for authenticity (dummy applications are possible)
 - Printing of decision letters and other document on dedicated printer

The compliance to highest security precautions was confirmed in April 2004 by the e-Trust certificate

The benefits of the European standard CWA 14842

The standard CWA 14842:2003 covers the following three areas:

1. Regulatory and self-regulatory requirements
2. Business process management for e-Shops
3. Security Management

The standard provides a comprehensive checklist for design and operations of a web site that is oriented towards interaction, transformation and convergence. It addresses the needs of providers of e-Shops.

The question arises whether the standard is applicable for an e-Government application. A critical walk-through of the CWA 14842 standard demonstrated easily that some 85% of all legal requirements are applicable without change, and 100% of business processes and security.



Department for Economy and Labour
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Where legal requirements are different between private and public sector, analogous requirements were easily identifiable. For instance, the CWA 14842 asked for a trade registry entry; in government this corresponds to the official public service directory. It is more difficult to explain to foreigners, which government agencies are involved in the process, although this plays a crucial role depending on their legal status.

Efficient business processes and effective security management obviously are key topics in e-Government. Without an active focus, they will not install themselves. The CWA standard enforces practices that make the application successful. With regards to work permits, financial institutions and High-Tech organizations are particularly reliant on high confidentiality standards when exchanging information with government agencies. In this case, the CWA 14842 certification audit was a precondition for the participation of many Zurich-based banks. Thus the e-trust certificate according CWA 14842:2003 was very instrumental for the success of e-WorkPermits.

Addresses for further information

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The operating team will continue to write on this success story...