

# Schoolnet Report LIECHTENSTEIN

## What is a Schoolnet?

The term schoolnet Liechtenstein includes the following services:

### **a) The school network Liechtenstein (Technology)**

The school network Liechtenstein includes approximately 1500 PCs, 230 printers, 30 server systems as well as numerous other system components. Individual schools are connected with each other via fibre optic cables (1000 MBit). Among the customers of the School Information Technology Office (assi) are approximately 5000 users who are provided with various services such as an extensive program offer, e-mail address, file storage, internet access as well as other information systems services.

Furthermore, teacher can log on to their schoolnet account both at school and at home and have access to all schoolnet resources around the clock.

### **b) The school intranet Liechtenstein (Information)**

The school intranet provides a platform that supplies students and teachers alike with lesson and school-related materials.

Contrary to databases on the public education servers, the school intranet Liechtenstein mainly consists of information and collected materials pertaining to our own schools. In addition to this, country-specific services (e. g. the School Psychological Service of the Principality of Liechtenstein, the Office for Social Services, etc.) have been included in the offer.

The teacher can access the data at home via password protected online access.

Moreover, the constant availability of a large collection of materials on a school's own intranet will facilitate the future design of open learning situations such as instruction outside of school, project-related instruction or writing assignments.

### **c) The school administration (SVL) Liechtenstein (Administration)**

Any school-related data such as student's data, class lists or lists containing names of teachers can be accessed directly via the schoolnet Liechtenstein by means of a web-based application.

## **Schoolnets and policy**

At the end of the 1990s, the School board / Office for Education in Liechtenstein was required to consolidate and restructure the previously uncoordinated ICT developments at individual schools. The Government and consequently the country of Liechtenstein have pledged their full ideal and financial support of the innovative package based on the pillars network, hardware, support (technical and pedagogic), information, administration and continuing education.

### **Who are Schoolnets designed for?**

- The school network is designed for anyone who is in any way associated with the school.
- The school intranet

The school intranet has been designed in 3 levels. A small, informative part can be accessed globally via <http://www.schulnetz.li>. The student's area can only be accessed within the closed school network in Liechtenstein. Consequently, the students are limited to their own area which is protected from outside, allowing an open and individual information exchange without any distractions caused by external influences.

By far the largest part is designed for teachers of Liechtenstein. The access is password protected.

Within the protected area for teachers, additional divisions have been implemented (School Administration, Office for Education, responsible IT staff (Super Users) and ICT Coordinators.

- The school administration (SVL) Liechtenstein  
Access to the school administration is profile-dependent. Teachers can only access information that is relevant for their work.

### **What do Schoolnets contain?**

#### **a) Schoolnet**

For an overview of services, please refer to the attached diagram!

#### **b) School intranet**

Please see the attached short overview of various levels!

#### **c) School administration**

Class lists, class statistics, statistics of personal PC use (PC utilisation), statistics pertaining to the number of personal printouts (printers), etc.

## Who is involved?

The School Information Technology Office (assi) is responsible for the design, upgrades, contents and support.

The School Information Technology Office consists of 5 technicians and one information technology teacher.

In addition, all teachers in Liechtenstein are responsible for providing their input regarding the contents of the school intranet Liechtenstein and are invited to do so.

## What research has been done about Schoolnets?

An ICT survey conducted in December 2004 during which 282 questionnaires (approximately 60 %) were filled in, has provided the following results:

- Overall, the ICT expertise has been rated good unto satisfactory
- The offer of continuing education in ICT for teacher (LWB) has been rated good unto excellent.
- With respect to the continuing education for teachers, the following course contents have been particularly popular:
  - a) Use of word processing during class
  - b) PowerPoint (focus on animations)
  - c) Advanced level spreadsheets
  - d) Use of internet during class
  - e) Use of digital camera
- The internet in school is usually used on a daily basis, but at least once a week.
- The internet is mainly used for practical applications (use during class), to access current information and for personal training and continuing education.
- All teachers check their personal mailbox daily or at least several times a week.
- Most teachers in the FL are in favour of ICT.  
New media are naturally a part of the everyday school life. Moreover, students are motivated to use new media for their work.
- The following applications are mainly used in the intranet:
  - a) School board documents
  - b) Address lists
  - c) DMS database
  - d) Teaching materials
  - e) Link lists
- The teacher prefer regular information via the following channels:
  - a) Newsletter
  - b) LWB courses
  - c) Short inputs during regular team hours.

## Schoolnets in Schools

Teaching and learning environment, administration, information, cooperation, work environment (technology) and publication.

## Financial aspects of Schoolnets

Both the Government and the Parliament of the Principality of Liechtenstein have approved a corresponding report in the spring of the year 2000 and have consequently agreed to establish a country-wide schoolnet. The start-up credit and associated expansion and maintenance expenses have been approved herewith.

We are grateful to TeleNet AG Liechtenstein, Telecom FL and the University of Liechtenstein which sponsored the fibre optic network for all public schools which laid the foundation for our current modern schoolnet.

## Organisational aspects of Schoolnets

The School Information Technology Office (assi) is the main responsible organ for the schoolnet, the school intranet and the school administration. Various persons or groups are responsible for the created contents, depending on subject matter, intention and target audience.

## Examples of Schoolnets

<http://www.schulnetz.li>

## Use of ICT in schools

### **a) Schoolnet (technical, organisational environment)**

- On system level, the individual schools form one organisational unit with **autonomous user and resource administration**, performed via the schoolnet by the respective information technology staff (Super Users) on the central servers.
- The operating system as well as additional software can usually be installed **automatically** via network, while most applications can be installed automatically via central software distribution.

- **Management tasks** involving server systems and network components are largely performed via network, saving a significant amount of expenses and improving the reaction time in favour of the customers.
- All active network components are subject to preventive monitoring using **network monitoring systems** associated with warning messages as soon as the defined threshold has been reached.
- **Data security and data protection** are administrated centrally. Data (students, teachers, school administration, etc.) is saved daily at a central site. All data access authorisations are allocated to users and groups by the staff responsible for the system. Antivirus programs are automatically installed on the individual PCs and continuously updated via network.
- Both the **investment protection** as well as a technically stable network operation are guaranteed with the use of trendsetting systems and solutions under consideration of a homogeneous network environment.

### ***b) Pedagogic and didactic environment***

Mandatory training and continuing education of teachers in the areas of „personal computer literacy“ and „pedagogic ICT skills for use in the classroom“ have been expanded during the past years. During the calendar year 2004 for example, 65 ICT courses were taught to 617 teachers of all levels, i.e. a total of 917 course hours have been logged during free periods.

At every school, the assi (School Information Technology Office) supports one ICT coordinator who is in charge of promoting practically proven ICT applications and modules appropriate for the respective grade levels for the pedagogic use of ICT based on specific lesson concepts. The teachers are now able to use the computer as an effective teaching means during lessons.

The objective of our strategy is to replace „canned software“ long-term in favour of an effective application of available standard software (Office, etc.) as well as the gradual acceptance of web-based solutions (eLearning).

By the end of 2004, 357 students at continuing education schools in Liechtenstein as well as 74 teachers had earned an ECDL certificate (European Computer Driving Licence).