



Company Profile 2005

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I ERNI Group of Companies

1 History of ERNI Group

The roots of the **ERNI Group** reach back to 1947, when the Swiss mother company ERNI & Co. was founded. The latter eventually became the ERNI-Real Estate company. In its place, two speciality firms became active:

ERNI Elektrotechnik AG mainly concerns itself with the sales of products of affiliated ERNI-Group members for Switzerland, including complementing products and services.

In addition, **ERNI Licht-Technik AG**, which focuses on the design, construction, manufacturing, and implementation of optical guidance systems for airports. Special fixtures and related parts for the automobile traffic complete the product line.

In 1956, **ERNI Elektroapparate GmbH** was established, with headquarters and manufacturing located in Adelberg, Germany. In subsequent years, new locations were included and in 1991 a new production facility was established. **ERNI GmbH** manufactures interconnection products and systems in addition to respective tooling and related products.

The start of our US activities dates back to 1980 with the first US manufacturing site opening in 1984 in Richmond, Virginia. The production has been closed in September 2003 and transferred to the Adelberg site due to the slowdown of the US market and to concentrate in one production site. In September 2003 ERNI Electronics Inc., was established in order to better serve our customers, ERNI maintains its sales office in Midlothian, Virginia. The company utilizes a national network of distributors and representatives.

Joint ventures and the establishment of new companies, such as **ERNI Asia Pte Ltd**, Singapore, in 1996 assure continued growth.

All companies within the ERNI Group are managed and coordinated by the **Swiss ERNI-Holding AG** and the **German Holding ELFINA GmbH**.

II ERNI Elektroapparate GmbH, Germany

1 General information

1.1 Company history

The **ERNI Elektroapparate GmbH** is one of the worldwide largest manufacturers of connectors in compliance with DIN 41612. At the time of its establishment by the Swiss parent ERNI + Co. AG in 1956 on the scenic grounds of the former monastery of Adelberg the product range consisted solely of relays.

After a continuous period of growth the ERNI Elektroapparate GmbH in 1968 became the worldwide first manufacturer to produce connectors in compliance with the new standard **DIN 41612**. This standard has, by today, evolved into the most widely accepted standard for industrial PCB connectors in the world.

As ERNI further expanded its operations in Europe, worldwide activity was not far away. Therefore it came as no surprise, that the large U.S. market was opened up through a sales organization in 1980, manufacturing from 1986 to 2003 and current through **ERNI Electronics Inc.** in 2002.

Continuous growth let ERNI centralize its domestic production capacities in a **newly constructed modern production plant** at the Adelberg site in 1992.

ERNI's uncompromising total quality orientation has been documented by the certification according to **CECC / DIN ISO 9001** since July 25, 1993.

As a result of continuous growth, the production plant at the Adelberg site was expanded by 75% of its previous size at the end of 1997 (+ 7,500 sqm). ERNI met the new requirements of the heavily increasing telecommunication market in the mid 90's and initiated a new growth with the design of the connector series **ERmet and SMC**. Newest manufacturing technologies, excellent design, and a strongly widespread sales activity ensure ERNI an outstanding market position at the moment.

Today the ERNI Elektroapparate GmbH can rely on a long history of practical experience. In a highly modern environment this experience is used to continuously develop, not only its current product line, but also customer specific components.

2 Major products

2.1 Connectors

- ▶ DIN 41612
- ▶ ERNIPRESS (connectors with ERNI's pressfit technology)
- ▶ D – Sub (TMC)
- ▶ Small multiple connectors (SMC)
- ▶ Insulation displacement connectors (IDC)
- ▶ Coaxial connectors
- ▶ SMD connectors
- ▶ Crimp connectors
- ▶ High-density connectors
- ▶ Customer specific connectors
- ▶ Cable housings
- ▶ Modular cable housings and cable connectors
- ▶ ERmet hard metric 2mm connector system
- ▶ ERcom highly competitive generation of Type C DIN 41612 connectors for solder and pressfit implementation.
- ▶ ERbic cable connector for bus interfaces
- ▶ MicroStac 0.8mm SMT connector
- ▶ MicroSpeed 1mm SMT connector
- ▶ ERmet ZD high speed differential backplane connectors, 2.5 and 5 Gbit/s
- ▶ ERmet zeroXT high speed differential backplane connectors, 10 Gbit/s

2.2 Small enclosures for electronic units in DIN-rail mounting technology

Fully insulated housings, which permit connections between terminals and pcb's without wires by fitting solder terminals.

2.3 Electronic Assemblies (Systems)

Backplane assembly with electrical test and system integration, according to customer specifications, in SMD, THT and pressfit technology.

Services

- ▶ Backplane Design and Layout
- ▶ Outsourcing/Purchasing of PCBs and electronic components
- ▶ Assembly
- ▶ System Integration
- ▶ Testing

Technology

- ▶ Pressfit Center fully automated assembly machines and PC-controlled hand presses which allow highly efficient assembly of pressfit connectors.
- ▶ Testfield double sided AOI up to board size 600 x 1000 mm
cross-connect test up to 64.000 pins/backplane
circuit tests (customized solutions) on request equipment-safety
and power distribution test on integrated systems

3 Certification

3.1 Product Certification

Our products are accredited according to the following certifications:

UL	Underwriter Laboratories Inc. File No. E 84703
CSA	Canadian Standard Association – File No. LR 62504
Bellcore	Several approvals for connectors

3.2 Quality Management Certification

Connector division	DIN EN ISO 9001:2000	Registration No. 6078/QM/04.93
Backplane division	DIN EN ISO 9001:2000	Registration No. 24195/QM/11.2000

3.3 Environmental Management System

It has always been an ERNI policy to take responsibility for the environment. Therefore, we have consequently pursued a strategy of ecologic and economic manufacturing. A part of this strategy is that:

- ▶ **We consequently use recyclable material for packaging (cardboard).**

We have installed an environmental manager, who is responsible for all aspects concerning the ecologic strategy of ERNI, i.e. reducing waste, compliance with environmental laws, usage of recycable materials, considering environmental aspects in the product developing process etc.

- ▶ **We are currently in preparation to obtain the DIN/EN ISO 14001 Certification by the end of 2005.**

4 Quality

4.1 Philosophy

The importance of electronic functions and system components have been the driving force for our quality system. We follow a "Quality First" philosophy which is clearly aimed towards a "Zero Defect" production through continuous improvement. Our system has to meet the requirements of universal guidelines such as CECC 00114T1, with EN 100 114T1 and DIN EN ISO 9000, respectively.

Our defined goal is to become a market leader in quality, which we want to realize by gaining manufacturer approval, qualification approval, capability approval, process approval, and finally technology approval.

In order to have a full understanding of quality, every employee must identify him/herself with his/her duties and have a sense of responsibility for his/her work. Every employee at ERNI is responsible for the quality of his/her work.

4.2 Equipment

▶ Measurement

7 3-D measuring machines

▶ Laboratory

1 Environment simulation system for testing heat, cold and industrial atmospheres

2 High-resolution industrial microscopes

1 System for mechanical life cycle testing

▶ Incoming Inspection

1 X-ray measurement system for thickness of surface

▶ Production

40 Video inspection systems on production equipment

Several SPC online-measurement-instruments

Various types of testing equipment

▶ Quality

1 CAQ system für incoming inspection, SPC, testplan

▶ Backplane Shop

8 Testcomputer for backplanes

5 Logistics

5.1 Customer and delivery

Ship to Stock

In order to meet and exceed our customers' expectations in terms of customer service and flexibility, we have installed programs incorporating quality assurance agreements (ref. 6.3), to reduce incoming inspection for our customers.

JIT

ERNI is committed to deliver our products Just-in-Time to our customers, with whom we have JIT programs as part of a mutually beneficial partnership.

Barcode

We employ an integrated barcode system from production up to our dispatch department in order to speed up our processes and eliminate errors. For specific customers we have implemented barcode on our shipping papers.

5.2 Supply chain management

Forecasting

We have a forecasting system installed that gives our supplier a monthly forecast in a 4 / 8 / 12 / year end window. Thus we reduce not only delivery times but also the quantity of stock on hand at ERNI and at the vendors location. We have installed in 1997 a new ERP-system which lets us plan our capacity even more effectively by integrating our customers' forecasts.

Vendor management

All of our A suppliers are regularly evaluated and rated in terms of quality, delivery, early/late shipments, and over/under shipments. This program is geared to forging an even closer working relationship with our suppliers based on mutual trust and partnership. It is the basis for continuous improvement and increased overall supplier performance. Reviews are made on a quarterly basis.

6 Staff

6.2 Training and team programs

The challenges of todays markets can only be mastered through and with skilled and highly motivated personnel. Thus we strive to keep our high level standard by:

- ▶ having installed a team organization. We have "product teams" and "project teams" which coordinate every aspect of a product line and project. Each of these teams consists of specialists from R&D, Sales, Marketing, Production, and QC.
- ▶ developing our own trainees. We have up to 8 apprentices every year, partly in the tooling and production department and in the office area.
- ▶ frequent and regular trainings, i.e. computer and technical trainings, let us utilize modern technologies and serve our customers faster and better.

6.3 Info policy

ERNI management follows a consequent "open door" policy. Our staff has to be well informed in order to react to today's fast changing markets. Thus we have installed a periodical series called "Management Informs", that every ERNI employee can attend on a voluntarily basis. First our president comments the current situation, then different departments present news and facts.

6.4 Company programs

ERNI sponsors a wide variety of cultural (e.g. Adelberg Theater Festival) and sports events, and social organisations. Our staff can participate in several company sponsored sports teams (table tennis, bicycling, soccer, tennis).

7 Objectives for the future

- ▶ strength, independence, flexibility
- ▶ focus on global strategy in production, marketing, and sales
- ▶ openness for cooperations in design, production, and sales
- ▶ no compromise in quality and customer satisfaction
- ▶ increased efforts and investments for even better and new products as well as costeffective production equipment
- ▶ leadership in technology, innovation, and quality through a highly motivated and skilled team

Consulting sales engineers make the customers' problems their own all over the world. They coordinate them with internal advisors and the department responsible at the plant. For your comprehensive solution from ERNI you will find experience in the fields of development, toolmaking, stamping, galvanization, injection molding, special-purpose machine construction, precise mechanical production, and quality assurance.

At ERNI you can obtain individual parts or a comprehensive solution custom-tailored to meet your specific requirements.