

# Environmental report 2005

This report is intended for water protection.



**POLYCOM**

Škofja Loka d.o.o.



# Environmental report 2005

Poljane nad Škofjo Loko, October, 2005



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It is already beautiful if it is calm. Probably the most beautiful. Then it is the reflection of the world, our soul and sky. Of everything that was created. Ever. Endless peace that forms its tranquillity drowns everything that is not in harmony with its quite glorious beauty.

# I. Presentation of the company

## 1.1. Basic information

<b>Company</b>	Polycom Škofja Loka d.o.o.
<b>Address</b>	Poljane nad Škofjo Loko 76
<b>Telephone</b>	00386 45 070 600
<b>Fax</b>	00386 45 070 631
<b>Web site</b>	<a href="http://www.polycom.si">www.polycom.si</a>
<b>E-mail</b>	<a href="mailto:info@polycom.s">info@polycom.s</a>
<b>Number of employees</b>	70
<b>Revenues 2004 (SIT)</b>	1,195,300,000.00
<b>Year of establishment</b>	1985
<b>Director</b>	Iztok Stanonik
<b>Field</b>	Processing of thermoplastics
<b>Products</b>	Plastic mass products for the automotive industry, compressor parts, electricity and electronics, household appliances, hand tools

It is beautiful when awakened by the slightest notion, probably a breeze, probably a drop, probably a fish, or a little fish, probably the thought that it is dear to us.



It is truly dear to us – when it rises and when it falls, when it grows and comes back to us in the safe shelter of Mother Nature

## 1.2. Introduction

Polycom Škofja Loka d.o.o.'s beginnings date back to the year 1985.

Years of hard work have strengthened our position in the field of thermoplastics injection moulding. Our growth has been marked by numerous turning points that were encouraged by Man.

We are a successful company operating in the field of thermoplastics processing and tool-making. Our strategic policy aims at expanding our services to an international level while developing new tools along with the most demanding technical products.

By investing in knowledge, development and new technologies, we are embarking on the road that leads to the place where only the best are. In this way we achieve continuous growth that enables us and new generations to develop and have a safe journey to the future.

We are aware of the importance of quality, and we have therefore adjusted our operations' system to the ISO/TS 16949 and ISO 9001/2000 quality standards. Due to our constant care for the environment, we have introduced the ISO 14001 environmental protection standard and applied the "clean production" methodology. We have also introduced the system for guaranteeing healthy and safe working conditions according to the BSI/OHSAS 18001 standard. All branches of our operations are constantly under development on the basis of the "20 keys" method.

Our continuous striving for development in the automotive and automotive supplier industries is proven by our membership in the "Automotive Cluster of Slovenia".

The experience we have gained during our time of operations helps the environment, ourselves and our customers.



### 1.3. Products and services

Our production programme is divided in the field of thermoplastics injection moulding and the field of development and production of injection tools.

**The thermoplastics injection production programme includes:**

- Plastic parts for household appliances: housings, buttons, assembly plates;
- Plastic components for the automotive industry: window closing parts, exacting parts for hand brakes, gas and clutch, plastic parts for windshield washing mechanisms, etc.;
- Plastic products for precise measuring devices: electrical components, connector housings;
- Plastic housings for electric hand tools (hand drilling machines, grinding machines);
- Plastic parts for electric thermostatic and switch technique (thermostat housings, buttons for switches);
- Plastic parts for compressors;
- Plastic packaging.

**The tool-making programme includes:**

- Development of tools, from construction to prototype and transfer to production;

Services in processing centres.

When it murmurs and sings to us, when it rustles and drowns our voices, we feel how small we are. It lets us think about who we are. In such moments, a thought may appear that makes us think and can wake the water from its slumber in purity.

## 1.4 Company operations

Our scope of operations has been increasing since 1996, and the largest increase was marked in 2000 and 2002. The same applies to employing new workers; since 1999, the number of employees has tripled. Net sales revenues are intended for investing in expansion and renovating the production process.

Chart 1: Net sales revenues according to years (in SIT 000)

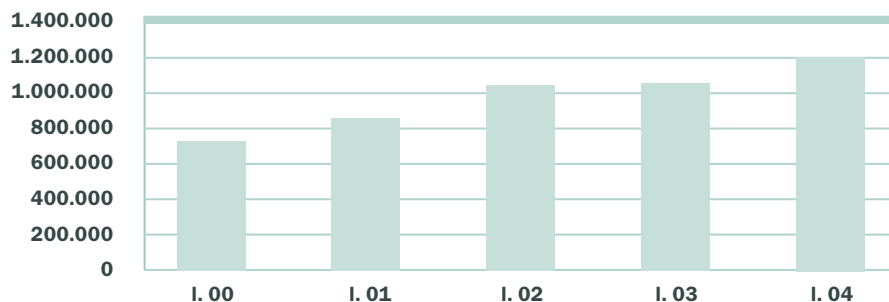


Chart 2: Increase in number of employees from 2000 to 2004

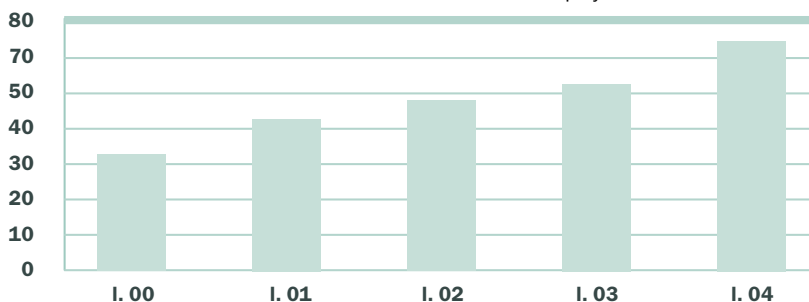
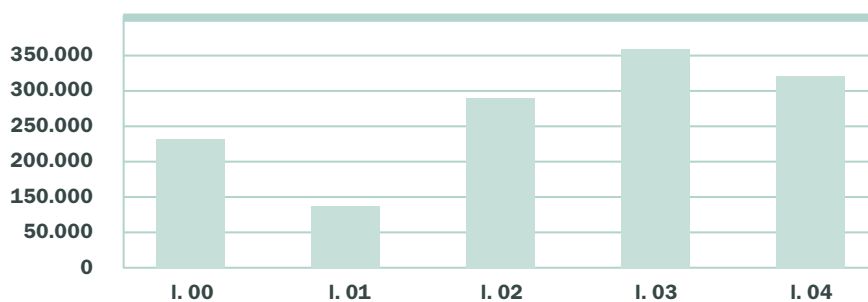


Chart 3: Investments (in SIT 000)





## II. Polycom and the environment

### 2.1. Environmental policy

At Polycom d.o.o., we are aware of the fact that the environment, with its components such as air, water, natural resources, people, animals and plants, is very important. Therefore, we commit ourselves to constantly improving our relationship with the environment and preventing pollution, and we act according to valid state legislation, international regulations and other obligations.

We will constantly strive to decrease harmful effects on the environment that are the consequence of our operations; therefore, we have set the following starting points:

- Introduction of new environmentally friendly technological solutions and technologies that enable a decrease of material and energy use.
- Changing materials and substances that are dangerous for the environment with environmentally friendly materials and substances.
- Constant care for air, water and ground pollution control.
- When collecting, storing and disposing of waste, we do it in an environmentally friendly way, enabling further processing, deposition and decomposition.
- Environmental policy is written and implemented with the cooperation of all our employees.
- All our employees are aware of the policy, and it is available to the wider public.
- Continuous education and informing of all our employees provides a more responsible relationship with the environment.
- Regular evaluations verify our environmental management system. Our corrective measures assure that the system keeps improving.
- Since Polycom is set in an urban environment, we are permanently looking for ways to reduce the disturbing influences of noise, traffic, emissions, etc.



Photo of the injecting plant

## 2.2. Integrated material flow control

### Thermoplastics injecting:

Thermoplastics injecting bases on temperature reformation of substance.

Our up-to-date production equipment enables complete automation of the production process. This means rational use of materials and energy. The material flow through the production is continuous, and the residual material of the regenerator is returned to the process in relation to the original.

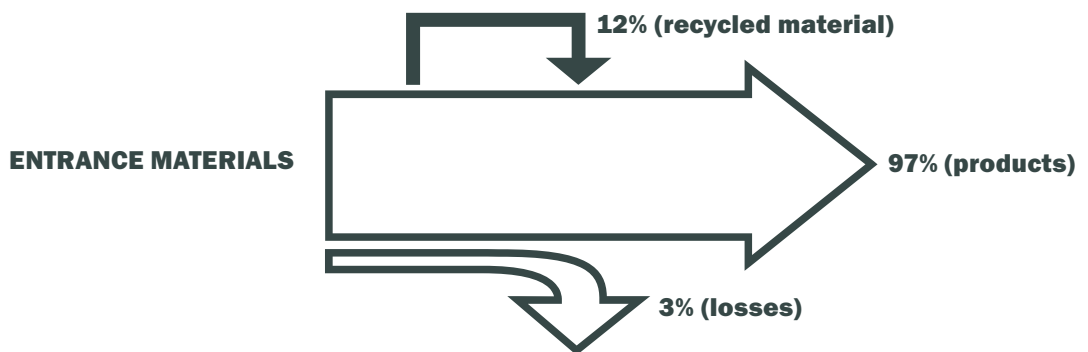


Figure 1: Material balance of injecting process



Photo of the tool-making plant

**Tool-making:**

The development, design and construction of our tools and products demands knowledge and experience, adheres to legal demands, and respects the wishes of our customers.

Our technological equipment guarantees precision, quality, speed, low energy and material use, and a safe and healthy working environment.

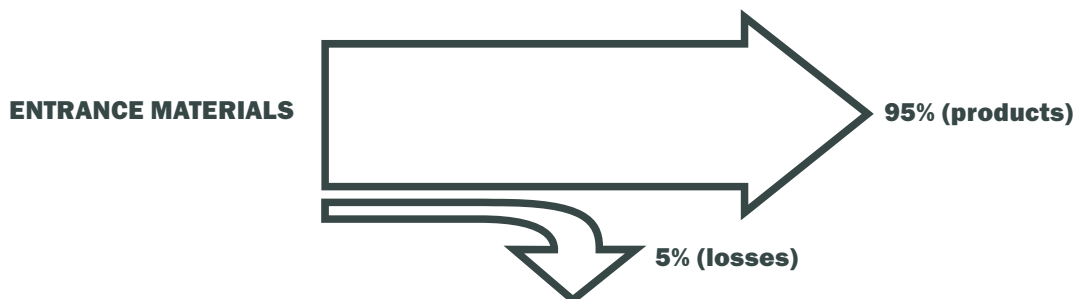


Figure 2: Material balance of tool-making process

It bubbles, it boils, it foams. It is pure. Thus it can cleanse us, our body, mind and spirit. We are pure if we let it cleanse us. Thank you, water. And it quenches our thirst. How simple are all things connected to water. It gives us life.

## 2.3 Water (balancing its use)

### Industrial wastewater:

Industrial wastewater is used for cooling the tools during the production process. A closed cooling system with constant water circulation is used. There are approximately 50 litres of water added to the system on a monthly basis, compensating for the losses induced by spillage and evaporation.

### Communal water:

The remaining water is used for sanitary utilisation. The amount of water used per employee is decreasing from year to year, a fact that we can attribute to the redevelopment of the water supply network and the awareness of the employees.

## 2.4 Energy sources

We are a heavy user of electrical energy; therefore, we constantly strive to reduce its use. It is for this reason that we have implemented the necessary measures and prepared a plan for the reduction of electrical power use in the machinery starting process.

By redeveloping the compressed air network, we have reduced the use of energy due to losses on installation by 5%.

We have managed to retain a part of the heat energy that emerges in the form of losses in the thermal reformation production process and use it for heating the space.

Tabela 1: Ekobilanca

Input	Costs compared to sales (%)	Output	Costs compared to sales (%)
Material	39.73	Products	
Auxiliary material	1.25	Waste	0.08
Energy	2.37	Waste water	0.0010
Water	0.0010	Emissions	/
Fuels	0.08		

One other simple thought. Without water our planet would be like the rest of the universe. It is indescribably beautiful in its endlessness; still, it is empty like a blank sheet of paper. It is truly good.

## 2.5 Evaluation of production costs of waste and emissions

There is 85-90% of material used for products, the remaining material has to be taken care of, otherwise, it presents a great burden for the environment. The polymer industry is a very clean industry; however, the emission of substances and energy into the environment is becoming an economic problem, since the waste material becomes a double cost. We have introduced eco-controls that include analyses and IT, planning, material and energy flow control, and recycling.

We have replaced the old machines with new ones, and despite high amortisation costs, our production costs are still lower by 20%, mostly due to reparations, input energy and labour.

We have established that the newest machines use up to three times less energy.

## 2.6 Waste management

### Information about the inducer

Thermoplastics are linear and chain growth polymers that soften and melt at increased temperature. The reformation of the thermoplastic granulate in the mould is implemented with the help of increased temperature and pressure.

We can regenerate the processing waste; therefore, the largest amount of waste is produced in the tools exchange process. It is necessary to clean the chamber and all channels where the melted mass of the intermediary product was. We name this process re-injecting and we implement it with a cleaning mass or granulate, with which a new product will be injected.

The maximum weight of the product that is injected on the machines amounts to 200g or lower; we can thus assume that there are only small quantities of waste in re-injecting.

The annual quantity of the processed granulate amounts to approximately 644 tonnes, namely 46% PA, 16% PP and 15% POM.

In accordance with Annex 1, Regulations on Waste Management, the waste is divided as follows:

- Classification number of waste: **12 01 05;**
- Name of waste: **plastic particulates.**



*You are really dear to us, water. You are alive.*

### **Information about the tool-making process**

The tool from two halves constitutes an engraving opening. We form a metal surface from the metal block with the help of processing centres (dip, wire erosion, buffing, etc.), in order to get the form of the product. The waste includes lathe turnings from different metal structures, most of which are precious metals, copper, brass and aluminium. Lathe turnings represent secondary material.

In accordance with Annex 1, Regulations on Waste Management, the waste is divided as follows:

- Classification number of waste: **12.01.01, 12.01.03;**
- Name of waste: **fillings and lathe turnings from iron, fillings and lathe turnings from coloured metal.**

### **Amount of waste**

The estimated amount of communal waste deposited annually is 8400 kg. The estimated annual amount of waste that is left during thermoplastics injecting is around 270 kg. There are 12,686 kg of collected secondary materials.

The expansion of the tool-making plant this year will cause an additional 5,000 kg of iron and coloured metal waste.



## 2.7 Waste and emissions prevention measures

### **Waste**

Our company has introduced the separate collection of paper, polyethylene packaging, metal waste, communal waste and hazardous waste. Such waste is submitted to the authorised collectors or processors.

The majority of the waste that is made during injecting is recycled during the production process, with the remaining part intended for lower quality products.

### **Noise**

The company is located in a business and residential neighbourhood; therefore, keeping below the prescribed levels of noise is quite difficult. Besides introducing organisational measures, we have also made additional alterations to the building in 2000.

### **Water**

The average monthly use of water in the company is approximately 80 cubic metres, and this water is supplied by the Poljane water supply network; 90% of the water is used for sanitary purposes.

Wastewater that emerges in the area of the company is communal water.

Due to the nature of the production, there is no industrial water. The production part uses water for the thermal conditioning of tools. A closed cooling system with constant circulation of water is used. Water is added in the event of loss and evaporation.

Rainwater that is collected from the roof and parking spaces then flows onto the meadow surface on the southern side of the building.

### **Airborne emissions**

Flue gas from the boiler room is the sole source of airborne emissions. The boiler room was redeveloped in 2001. The implemented measurements of airborne emissions for small boiling devices remain within the regulated limits.



## 2.8 Description of organisational measures for consideration of regulations on waste management

The most important organisational measure that was introduced in order to respect the regulations on waste management is separate collection. There are ecological points at several places within the company, and they are equipped with marked collectors and instructions for depositing. The logistics unit takes care of waste manipulation to the applicable deposit places, and it also takes care of the submission of waste to authorised collectors and waste processors.

The second organisational measure in the field of waste collecting and separation is attributed to the formation of working groups according to the mini-companies principle. Each individual group is responsible for the regulation of its own working area. Besides complying with the regulations, the employees themselves actively cooperate in the formation of a healthy and safe working environment by assembling propositions for the improvement of the situation.

We have established that employee awareness of the importance of the environment is the main principle that contributes to respecting the organisational measures. Therefore, awareness building and employee training are permanent parts of our operations.

## 2.9 Environmental monitoring/eco-indicators

INDICATORS	CRITERIA	2000	2001	2002	2003	2004
Use of el. energy	Use of kWh per kg processed material	2.12	2.09	2.07	2.04	2.06
Waste production	Tonnes per employee number	4.0	1.7	1.9	0.9	0.74
Water	Cubic metres per employee per month	22	15	14	8	7.1

You are alive even when you disappear into the sky, because we know that you will come back soon. We are only afraid that you will disappear forever. We are really afraid of that. Therefore, at Polycorn, we took all the preventive measures a long time ago to stop you from disappearing. We are pure.

Chart 4: Use of electrical energy per kg of processed material

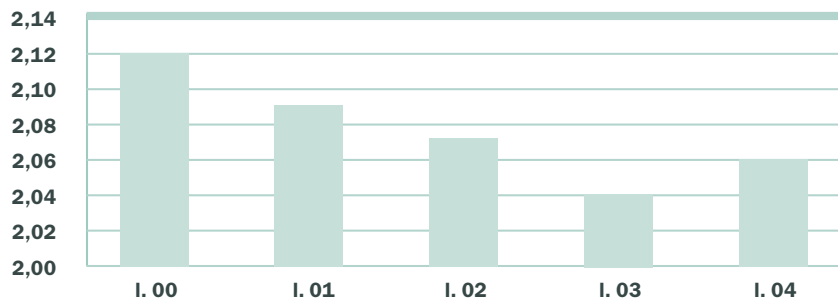


Chart 5: Quantity of waste regarding employee number

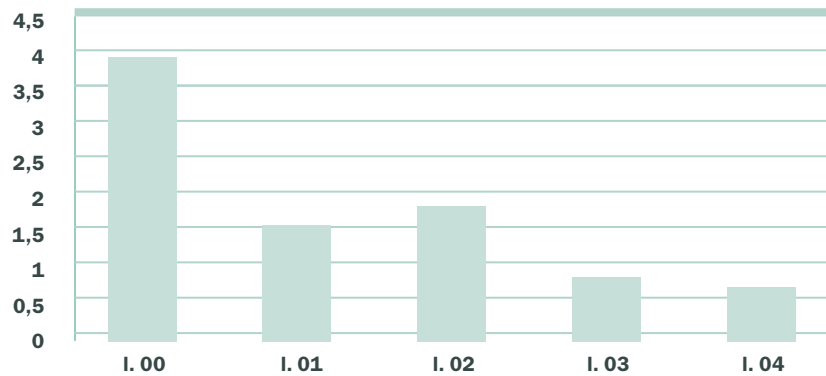


Chart 6: Use of water per employee





# III. Environmental protection projects

## 3.1 Realised/planned measures, realised/planned savings and investment return time

All the environmental programmes that have been implemented since 2000 are presented in the table. This year, the company has adopted the ISO 14001 standard. This system ensures system planning and realisation of measures, the effects of which result in improvement of working conditions, good relations with other residents in the area, and energy and material savings.

Investment values do not represent more than SIT 2,000,000 each, with the exception of the purchase of new machines, which paid for itself in about 2.5 years.

Period	Project description / effect	Investment in SIT/year	Savings in SIT/year	Return of funds (months, years)
2000	Reduction of noise in the area (sealing of open places)	700,000	/	/
2000	Separate collection of waste	1,100,000	500,000	28 months
2000	Flue gases (redevelopment of the boiler room)	1,200,000	600,000	24 months
2001	Changing of machines (use of energy and material)	54,000,000	655,032 (saving energy)	30 months
01/02	Fire safety	1,600,000	varnost	
2002	Reduction of compressed air use (saving energy)	2,000,000	1,200,000	14 months
2003	Cleaning and preparation of water	1,136,800	2,210,735	6 months
2004	Reduction of el. energy use per kg of processed material	Organisational measure	1,228,186	/
2004	Implementation of a junction in the cleaning device	800,000	/	/
2005	Reduction of el. energy use per kg of processed material	Organisational measure	1,000,000	/

### 3.2 Goals for 2006

As in the years 2004 and 2005, we will devote most of our attention in the coming year to decreasing the costs of electrical energy use, which indirectly represents our small contribution to reducing air pollution.

We are planning organisational measures in the area of higher product quality, and we estimate that by improving quality we can save energy in the amount of SIT 600,000. Materials are mostly returned into the process and therefore cause no losses.

Period	Project description/effect	Investment in SIT/year	Savings in SIT/year	Return of funds
2006	Reduction of electrical energy use per kg of used material	Organisational measure	600,000	/





Environmental report  
**Mateja Karničar Šenk**

Water-related text  
**Roman Zajec**

Design  
**Studio Mazzini**

Photography  
**Renata Burnik**

Printing  
**Birografika Bori**