

[Editorial] Hi fans,

The new FAN CLUB News is here at last! Thanks to everyone who has contributed towards this issue. And thanks for all the photographs of fischertechnik models brimming with ideas and suggestions. It is worth taking part, because everyone who sends in a photograph which we publish will receive a "thank you" gift from us. In this issue of News we will be reporting on a fischertechnik furniture factory, interesting exhibition models and a junior research project on the theme of solar energy. Of course, we will also be presenting the new UNIVERSAL kit in detail. The possibilities it offers are certain to arouse your enthusiasm. The Internet is also one of the main topics this time. On page 6 you can find out all about fischertechnik sites on the Internet. You can view all the new fischertechnik products for 1997 at a glance in the catalogue of our new products enclosed with this issue of News. Also please note the information on page 2 regarding the feedback campaign. All club members whose membership card expires in December 1997 are requested to extend their club membership for another two years. All said and done, have fun reading the latest issue of fischertechnik NEWS! Yours, Kay.

[Page 2] Extension of club membership

Attention all FAN CLUB members whose membership card expires in December 1997: please remember to extend your membership in time using the reply form in this issue. The best thing would be to send it back to us by mail or by fax straight away (closing date is 10th January 1998). Important: only those who return the reply to us will remain members of the FAN CLUB and will continue to receive the fischertechnik FAN CLUB News free of charge. All club members who extend their membership will of course also receive a new membership card valid until December 1999. So don't forget to extend your club membership. The closing date is 31st January 1998!

N.B.: All members whose membership card is already valid until 1999 needn't send in this reply.

[Page 3] When is a toy more than a toy? (from award-winning school teacher Steve Cremer)

The answer: When it's a fischertechnik kit. It plays with you as much as you play with it. The more you play the greater effect it will have on you.

Much of what we know and understand develops through the experience of life. Play is a significant part of all our lives. How often have you or a friend said that you needed to "play" with something for a while in order to better understand it? Clearly one of the principal ways that we as humans learn and develop our understanding of the world and how it works is through this process of play. It is very important to survival and is probably the most significant learning process for all living things from young bear cubs to adult humans. If we overlook the basic need and mechanism of play and exploration in the education of our children, we will inevitably fail in our efforts to produce thinking and creative adults.

Fischertechnik materials have been used to develop award winning educational programs that enhance the understanding of engineering, mathematics, and science. As an instructional component for education in schools, there exists no rival. Its flexibility and the resistance to accidental disassembly due to its solid construction make it ideal for both basic and advanced modeling activities. Such classrooms have become playgrounds, playgrounds of the mind, playgrounds for learning. They are places in which learning is accomplished through play and experimentation.

The Universal construction set provides a broad range of experience with models of common mechanisms and devices. Through the modeling of working devices found in our homes, workshops, and businesses, a foundation is created for the understanding of many complex ideas.

Each of the 24 models included in the Universal set has been carefully chosen to provide not only high play value but also significant educational experiences. Measuring devices such as scales teach ratio and proportion. Amusement park rides teach an understanding of the physical dynamics of rotating systems. A clamp, a vice, or a mechanical press presents the basis for the understanding of torque and pressure. A mechanism that opens a garage door and an automobile transmission create the basis for the understanding of gearing and energy transformation.

Each device not only accurately models functional items but can be fully useful in its own right. Each can be used to accomplish needed tasks in the home. The postal scale can be calibrated so that accurate measurements can determine proper postage. The mechanical lift can be used as an adjustable "stage" to position items at the proper height. With modification, some of the devices could hold items in position while glue sets. The potential extensions and further applications of the basic models are virtually unlimited. The Universal kit forms the ideal base for an inventor's toolkit.

What is inventing? It is rarely the creation of something completely new. The process of invention is to take the designs and ideas that others have developed and put them together in a new way. The Universal kit and other materials from the fischertechnik collection are ideally adaptable to this process. Models of a wide range of existing devices and mechanisms are easily constructed through the use of detailed instructional diagrams. These models can be easily modified and adapted to the creation of often totally dissimilar devices. The owner of the Universal Kit can thus build new creations based upon a detailed understanding of the operation of some of today's most used mechanisms. Consider designing a cookbook holder, a camera support, or a mechanism for copying drawings. Your imagination may be the only limit.

Since the best way to understand our world is to experience it, the Universal Construction Kit provides an exceptional opportunity for effective learning and fun.

[Page 4] PURE TECHNOLOGY

Automatic timing gear for PROFI PNEUMATIC

Paul van Damme from Lokkeren in Belgium has been experimenting with fischertechnik for many years. He is especially interested in computer-controlled models. Here is his suggestion for the automatic activation of the valves contained in the PROFI PNEUMATIC set:

The design is very simple. Very few components are required. The valve is driven by an S motor with a U gear by means of a Z10 pinion. Use of a steel shaft is important. When the limit position is reached, the steel shaft slides inside the cable drum and nothing is damaged. Therefore, the cable drum must not be secured too tightly to the shaft. This can be achieved by using locking ring 31020, for example. On the other hand, friction between the cable drum and the steel shaft is sufficient to drive the rotating element on the valve.

Unfortunately, we cannot print the timing gear sample program with our new LLWIN software here. However, the program is ready for download in the Internet under the following address:

<http://home.t-online.de/home/kay-uwe.mueller/>

Paul van Damme has tested the design and the programming himself, and wrote to tell us that everything works perfectly. The valve takes 0.15 seconds to reach its limit position, which is sufficient for most models.

[Page 4] "Solar energy in the school" project

As part of their physics courses at Hermann Hesse grammar school in Calw, Germany, Alexander Ebner and Jochen Kim built this model for computer-controlled positioning of a solar module. The momentary position of the sun is determined by means of two sensors and evaluated by a Turbo-Pascal program. The solar module is then rotated to the optimum position relative to the sun. In various tests, the schoolchildren observed the capability of the solar cell and determined its efficiency at different times of the day and in various orientations relative to the sun. They concluded, surprisingly, that a stationary solar cell can achieve almost the same yield as (expensive) mobile modules which are also able to utilise the weak sunlight in the early morning and evening hours.

With this system, realized with the generous support of EVS (Energieversorgung Schwaben) and fischerwerke, the two pupils also entered a competition for amateur inventors held by a local daily newspaper. It promptly won second prize.

[Page 6] fischertechnik in the on-line world

Internet stands for Intermediate Network. It is based on what was originally a military network in the USA. This network was established in the 1960s as a research network for the development of new communications facilities and was opened to the public in 1972. At first, many universities and research institutes linked up to the new computer network. What initially evolved in the USA and subsequently world-wide as a "scientific network" is now a huge general information and communications medium. The Internet is now the world's largest computer network, and is growing constantly. At present, over 40 million people have access to this global network.

In early times it was possible to circumnavigate the world in 80 days. The journey was hazardous and arduous. Today you can circle the globe with a few clicks of the mouse. The key is the Internet. It brings continents closer together and transcends national boundaries. It is a meeting place where people can exchange ideas with their friends and make new friends. Some of fischertechnik's friends can already be found in the Net. Their addresses are listed below:

www.fischertechnik.de

www.fischertechnik.com

Welcome to the official page of fischerwerke for fischertechnik!

www.staudinger.toplink.de

The Staudinger company from Loiching in Lower Bavaria is the sales partner of fischertechnik in the field of industrial model-making - "plan & simulation". Here you can find information about the simulation models used in industry and at institutes of higher education and universities to simulate all manner of processes.

www.comelsen-experimenta.de

The Berlin-based Cornelsen Experimenta company is the sales partner of fischertechnik for the entire fischertechnik educational program (u-t-Series, fischer-geometric). On the pages of Cornelsen Experimenta you will also find a variety of driver software for controlling fischertechnik interfaces, specifically for the service sector.

www.knobloch-gmbh.de

An electronics firm in Erbes-BUdesheim which, in addition to the complete range of fischertechnik products (kits and component parts), supplies computers, computer accessories and other electronic articles. The managing director, Ralf Knobloch, is himself an active fischertechnik FAN CLUB member. A high standard of service and expert advice on every aspect of fischertechnik can therefore be taken for granted.

<http://utopia.knoware.nl/users/cdeweerd/>

This is the homepage of the independent Dutch fischertechnik club. On this page you will find up-to-date club information as well as building instructions and links to interesting fischertechnik pages.

www.informatik.uni-bremen.de/~roefer

www.informatik.uni-bremen.de/~roefer/fischer.html

www.tzi.org/~roefer

These pages are a must for computing and robot freaks! Here you will find a robot gallery as well as a complete and detailed description of the fischertechnik Universal Interface (30520).

<http://home.t-online.de/home/kay-uwe.mueller>

This page contains up-to-date information about all aspects of fischertechnik, the latest catalogue of component parts and interface driver software in the download. A number of links to other fischertechnik partners are provided.

<http://acrux.fmi.uni-passau.de/~camp2/project.html>

The University of Passau in Germany is also experimenting with fischertechnik. These pages provide some good suggestions for your own projects.

fisch-1@lenny.muc.de

This e-mail address does not hold the key to a homepage; rather it provides access to a mailing list. If you want to join this mailing list, just send an e-mail to the address above. New information will then be sent automatically to your computer by e-mail. This mailing list is organized by FAN CLUB member Thomas Heptner.

[Page 7] The spirit of the times

While Germany has been in the grips of Tamagochi fever in recent months, fischertechnik has been winning new friends in areas where the emphasis lies on technical education and promoting inventive genius. In the USA, the President awards a prize for outstanding services to the scientific education of school pupils and students: it is called the "Presidential Award for Science Teaching". One of the award-winners is school-teacher Steve Cremer. He uses fischertechnik to explain technical principles and is currently in the process of developing teaching manuals for American schools. Teams presenting fischertechnik projects have already won the competition of the National Technology Student Association (TSA) for the fourth year running.

[Page 7] "Everything else is just a toy"

Not every fischertechnik model is confined to the playroom. 14-year-old Martin Class has built his father a simulation model which is now used at industry and computer trade fairs world-wide. During a major industry trade fair in Hanover, we visited the company called Data Translation where Martin's father, the managing director, proudly demonstrated us the fischertechnik model on his exhibition stand.

Data Translation develops systems and software for industrial image processing. In simple terms, workpieces are viewed by a video camera and a special computer program checks the image to see if the workpiece is OK, i.e. if any screws are missing. The overall process is known as "optical quality control".

Martin set up a miniature production line for this type of application using fischertechnik and even programmed the controller himself. Various work pieces can be transported and evaluated on this system. The model is connected to the PC through a fischertechnik interface and controlled using an LLWIN program. An interesting point to note is that software for digital image processing of video images also runs on the same PC parallel to LLWIN.

[Page 7] SIMATIC controls fischertechnik robot

Whether it is Amsterdam, Bangkok, Hanover, Paris or Stockholm - this robot model made from the fischertechnik PROFI COMPUTING set has been all around the world. It has been in use on the exhibition stand of IBHsoftec and has run virtually trouble-free at over 40 trade fairs for a total of nearly 1200 hours. The fischertechnik robot model has become a hallmark of the IBHsoftec exhibition stand. The model is used to demonstrate the well-known PLC software S5 for Windows developed by IBHsoftec. It is connected directly to the Siemens Simatic controller by means of relays.

[Page 8] fischertechnik at McDonalds in Brazil

During the previous summer holidays, visitors to a McDonalds restaurant in the Brazilian 4-million-inhabitant metropolis of Belo Horizonte were invited not only to try out the hamburgers, but also a number of fischertechnik products ranging from the JUNIOR kit and MASTER kit through to PROFI Pneumatic and Computing. This scheme was made possible by a joint venture between our importer Arabesco Oficina de Criatividade and McDonalds in Brazil. However, school pupils and students have also been given the opportunity to try out fischertechnik's creative games at the technology centres specially set up this year by Arabesco.

[Page 8] What a great little model!

Presenting our maneuverable and powerful new fire engine. A rack-and pinion steering system provides it with agility; a compressor cylinder converted into a water pump using a compression spring produces the necessary water pressure. This fire engine is exclusive to our FAN CLUB members. Order now while stocks last!