

Fan Club NEWS 02/2016 – English Translation

For a copy of the fischertechnik newsletter/magazine (in German) see our webpage...

www.procontechology.com.au/newindex.htm

Page 1

Dear Fans,

This year's fischertechnik Fan Club Day was a great success, especially as a result of the numerous and creative model displays (more about this on page 3). No doubt you are already very excited about the new PROF1 Mechanic and Static 2 construction kit. On page 5 you will see what is included in the construction kit and what great models you can build with it. Hello Dear Fans, just like in every edition of the Fan Club News, you will once again find fantastic instructions for a Fan Club Model that has been built by our apprentice Stefan. You will find this on page 7. The entire fischertechnik team hopes you enjoy this edition and have great fun with FAN CLUB News! Yours Diana.

World Record on Fan Club Day

Longest fischertechnik bridge in the world

45-metre long cable-stayed bridge / 6 metres high / 53,000 fischertechnik bricks / 1,500 hours to build.

Read more about this on page 3.

3D printer from fischertechnik - www.youtube.com/watch?v=7V0IQL1WWNQ

Premium Filament and print examples for your printer

In the last edition of Fan Club News we told you about the fischertechnik 3D printer. The subject of 3D printing is continued on page 4 of this edition, with extra information about print examples and the fischertechnik Premium Filament.

Page 2

Felix's heart's desire:

A visit to fischertechnik

Football and computer games are the hobbies most frequently named by boys the same age as Felix. The 13-year old has a very different passion, however: fischertechnik! For many years he has been excited by the construction kit system and has already completed many exciting and elaborate constructions. Felix's heart's desire has always to be a visit to the "birth place" of his hobby. We were very excited to learn that Felix preferred a visit to fischertechnik over a helicopter ride or a trip to Walt Disney World. Of course, we did not delay and invited the passionate fischertechnik fan and his family, and the heart's desire employee Eva Geissel to visit us in Salztetten in the north of the Black Forest. After an exciting tour of the production and a tasty lunch, he had lots of time for a meeting with developer Markus Burkhardt. Then after all this theory, there was time for some practical experience: Felix and his sister Nina made their own models with the very latest bricks and let their fantasy run free. After so many new ideas, the two children said their goodbyes and travelled home – the end to an interesting and exciting day.

RoboCup Junior Competition

Teams successful with fischertechnik

Kulturzentrum Vöhringen was the venue for the RoboCup Junior on 20 and 21 February 2016. The goal of all 45 teams in the competition was to qualify for the RoboCup Junior Final in Magdeburg. Andreas Kempf, Lecturer in Robotics, participated in various categories with two teams from the Scheffelgymnasium high school in Lahr and a team from the Klostersgymnasium high school in Offenburg. The two teams from Lahr took part in different age groups. Both teams played in the Soccer Light Weight League category, but in different divisions because of the different age groups. While the younger team played in the Under 15 division, the second team faced an enormous challenge: They were no longer in the younger division, and instead were the youngest players playing against teams in the older division because the participants were older than 15. However, the teams coped very well against the other participants and despite a few small difficulties qualified for the German Championships in Magdeburg. The team from the Klostersgymnasium came third at their first ever attempt at the RoboCup Junior Competition. First place went to the Adelbot team from MPG Schorndorf with its fischertechnik TXT robot. All the teams were pleased to qualify for the German Championships Magdeburg, which were held on 01 May 2016. A jury selected the German champions from a total of 173 RoboCup Junior Teams in the three junior disciplines of Soccer, Rescue and Dance. One team from the Scheffelgymnasium high school in Lahr came fifth in one discipline, thereby qualifying for the RoboCup World Championships, which were held in Leipzig from 30 June to 04 July 2016. The Adelbot team came sixth and also qualified for the World Championships. RoboCup 2016, which was held in Germany again after ten years, welcomes a total of 3,500 participants. They brought more than 1,200 robots to compete against each other in various disciplines. Four teams from Croatia, also with fischertechnik robots, took part in the championships and were very successful, coming second, third and fourth. The RoboCup Community has an ambitious and exciting vision for 2050 for the championships – A team of robots should compete against the reigning football world champions, and win of course.

fischertechnik for Panama Canal

Vessels carrying as many as 14,000 containers can now pass through the Panama Canal. fischertechnik played a central role in the planning for the powerful locks. As a result of the forces generated by the vessels weighing up to 150,000 tonnes, the hydraulic processes in the lock had to be calculated and tested more than 2,000 times when planning the project. A total of more than 300 scenarios were digitally designed. In order to simulate the highly complex processes not just on the computer, the responsible companies got Robotic Club Rbots to construct a model lock at a scale of 1:200. We were very pleased that the Robotic Club selected fischertechnik to realise this large project. With this model, all operating steps such as the rise and fall of the water level were performed and tested. The following fischertechnik construction kits were used for the model. ROBOTICS TXT Discovery Set, Robotics TXT Competition, Automation Robots, Power Machines, Oeco Energy, Fuel Cell Kit, Motor Set XM and various single components from fischertechnik. For example, the Robotic Club "Rbots" constructed lifts, drives for lock motors, turntables for turning the vessels on both sides of the lock, and much more. In addition, the designers have developed an App for precise controls of the three lock basins. fischertechnik was particularly suited for this project because it offered many possibilities for precisely reproducing the structures for moving the vessels in the lock basins. All participants invested around 1,500 hours in the large-scale fischertechnik model.

Page 3

World Record on Fan Club Day 2016

The largest fischertechnik model ever built - www.youtube.com/watch?v=wGnvwIHIYIc

At this year's fischertechnik Fan Club Day, Michael Stratmann, fischertechnik model builder, gave the visitors the "biggest" in the true sense of the word. The more than 45-metre long cable-stayed bridge, built from fischertechnik bricks, represented the highlight of the day. At 45.55 metres, the bridge is the world's largest model ever built with fischertechnik bricks. The world record was built at the fischertechnik headquarters in Waldachtal. Approximately 1,400 visitors from Germany, Holland, Austria, Switzerland, as well as from Taiwan, Hong Kong and China, marvelled at the large model. Before the world record attempt could take place, the passionate fischertechnik model builder Michael Stratmann first had to draw up a plan. He invested a total building time of 1,500 hours, and twelve months' preparation in the project. Michael Stratmann selected the famous Russky Bridge in Russia as a template for the model. The great construction was built with a total of 53,000 fischertechnik bricks. Two pylons, which each stretch six metres high, formed the anchor points. Thanks to the energetic support of some fischertechnik fans, Michael Stratmann succeeded in building the bridge on Fan Club Day. It was a particularly exciting moment on the day of the event when the last support was removed and the bridge stood alone, because the bridge model had never been completely built before. Marcus Keller, director of fischertechnik, presented Michael Stratmann with a certificate and informed the spectators that this indeed was the world's largest model ever built with fischertechnik. The fischertechnik Fan Club Day also offered the visitors numerous additional attractions. Among other things, it held the annual model exhibition by fischertechnik fans. Both small and large models made from fischertechnik, such as a Ferris wheel, were on display and could be admired. There was an entertainment programme for children, which included take-part fire service stations and the Dynamic Play Street, where children stacked crates on top of each other or could play with large fischertechnik models. Another highlight was the new fischer TourTruck, in which the visitors were able to try out the fixing technologies from fischer such as fastenings and anchors. Another attraction was the introduction to the world of 3D printing. The visitors were informed here about the new 3D printer from fischertechnik and were given general information about 3D printing. In addition, a sale was held where fischertechnik items could be purchased at a cheaper price.

Successful modellers from the Schüler-Ingenieur-Akademie (SIA) – Student Engineering Academy

Based on the results of the predecessor project, four pupils from the Freudenstädter Technisches Gymnasium of the Heinrich-Schickhardt-Schule high school have further developed and optimised two humanoid (human-like) robots using our fischertechnik ROBOTICS construction kit. Several problems in the areas of statics, drive technology, electromechanics and in the software programming were successfully solved. The SIA Group, which comprises Jakob Pfefferle, Timon Renz, Florian Roser and Daniel Seeger, presented their robots at a final event held at our headquarters in Tumlingen. The pupils had invested around 200 working hours in the project. Everyone present was impressed by the amazing abilities of the robots: The humanoid robots made by the SIA Group cannot only move in all directions, but can also turn, tilt, shake and nod their heads. Moreover, they are able to raise and lower their arms and bend and stretch. Through a camera mounted in the head, it is also possible for the robots to identify colours and movements and to react to them. The SIA Group even got the robots to speak through the loudspeaker on the TXT Controller. Moreover, the two robots detect barriers, react to noises through the installed noise sensor and using a second camera can follow tracks. Video - www.youtube.com/watch?v=pdU7pPNdPTY

Page 4

fischertechnik 3D Printer

Print examples and Premium Filament

Are you excited and have you perhaps already decided to buy a fischertechnik 3D printer, and are wondering where you can get appropriate print examples and the appropriate filament? Then in this edition of the Fan Club News we want to help you. The fischertechnik 3D printer works with the so-called FDM method (Fused Deposition Modeling). It uses a bio-plastic as print material or filament, called PLA. We offer you the high quality fischertechnik Premium Filament, which has been specially developed for our 3D printer and is available in eight different fischertechnik colours: Blue, Green, Red, Yellow, Silver, Black, White, Transparent. The fischertechnik Premium Filament has a diameter of 1.75 millimetres, is available in two different sizes and can be reordered at any time. You can buy it as a coil weighing 500 grammes or as a ring with 50 grammes (www.fischertechnik.de/en). Apart from the 680 components, including 3D controller, each 3D printer includes the printer software, which is ideal for the fischertechnik 3D printer, and 16 print examples. Using the green 50-gramme filament rings supplied and the print examples provided you can immediately start with your first sample prints. We also provide numerous print examples on our eLearning portal (www.fischertechnik-elearning.com) for download. The access code from the 3D printer assembly manual is needed to access the library. Among the print examples you will find very new and interesting fischertechnik bricks that you can use to expand your fischertechnik model. For example you can print a 30-brick with grooves or a 45-degree angled brick. In addition, we have also uploaded tools for the fischertechnik man, such as a hammer and an axe, to the library as a print file. Of course, in the e-Learning portal you will also find completely neutral print files such as a can and a shopping trolley token. For those people who do not want to build their other example models, the internet holds a large number of platforms where you can download model templates for free or for a charge, either as G-Code or a STL file (www.thingiverse.com, www.threeding.com, www.stlhive.com, www.libre3d.com, www.stlfinder.com). Of course, you can also create your own CAD files in order to print your own constructions on the fischertechnik 3D printer. You will find free programs, for example, at www.tinkercad.com or www.sketchup.com.

Page 5

For engineers and builders

New: fischertechnik PROFI Mechanic & Static 2 - www.youtube.com/watch?v=tqV71ruLjIU

Have you already asked yourself why a table is more stable with transverse and diagonal struts? And how does the stability of a bridge change if a top or bottom frame is fitted along with the transverse beams? Of how railway signalman can effortlessly raise and lower a barrier? If yes, then the Mechanic & Static 2 is the perfect construction kit for you! It highlights the basic principles of mechanics and statics. For example, the barrier function model explains why the signalman's muscle power is enough to open the barrier. 30 different models are created from 500 components, with support from comprehensive instructions. Step by step, young builders understand how to use sprockets to transfer force and how the transmission ratio in a gearbox changes when different sized sprockets are used. Differential gears, cardan joint, planetary gears or chain-driven gear drives are no longer foreign concepts to you. With the attractive models, complicated drive types from car and machine engineering are explained to you. Worm gears are used wherever two shafts cross at an angle of less than 90 degrees and very high transmission ratios are needed. A car jack and a scissors lift are operated with the fischertechnik worm gears. And the functioning model of a four-bar linkage drive and the model of

a windscreen wiper motor and a hacksaw explain how rotations are converted into straight or oscillating movements. It is fantastic what you can learn from this construction kit! Apart from building the models, the technical background information, animations and videos on the fischertechnik eLearning portal (www.fischertechnik-elearning.com) provides assistance for all the discussed technical principles to be understood. The PROFI Mechanic & Static 2 construction kit contains a fischertechnik XS motor and a battery holder for a 9-volt PP3 battery (not included) and can also be expanded with the PLUS Accu Set or PLUS Power Set.

Page 6

Gallery

Once again you have sent us a large number of e-mails with photos of interesting and entertaining fischertechnik models – many thanks! We will also show you a selection of models here. At www.fischertechnik.de/en you can also vote for the model you find best. Take a look! Please understand that we can only consider photographs, which are sent by e-mail to info@fischertechnik.de. For legal reasons, we also need to ask you to photograph your models without people in them.

Good luck!

In edition 01/2016, Ursula Buchwald from Leun Germany found all four mistakes in the "Find the mistake" competition. With this correct answer, she won a PROFI Dynamic S. The solution of the crossword puzzle was "MAERZ". This was solved by Gordian Riedel from Neu-Ulm, and he can look forward to receiving an ADVANCE D Universal Starter. Congratulations to all the winners!

TiP Sudoku

SUDOKU, only different! We have modified, or TiP'd the popular logic puzzle for you :) The aim of the game is to fill all the empty cells with TiPs so that each colour only occurs once in each column (vertical), in each line (horizontal) and in each block (3 x 3). To do this, simply write the colour of the TiP in the empty box, or colour it in accordingly. Send us a picture of your completed Sudoku by e-mail, with your full name, address and age, with the subject "Sudoku" to gewinnspiel@fischertechnik.de and win a new PROFI Dynamic L2. Closing date is 16th December 2016. Legal recourse is excluded.

Picture quiz

What words are represented by the following picture combinations? The answers match the information on the previous pages. Play along and win a new PROFI Mechanic & Static 2 construction kit. Send both answers, with your full name, address and age, and subject "Picture quiz" to gewinnspiel@fischertechnik.de. Closing date is the 16th December 2016. Legal recourse is excluded. Good luck!

Page 7

ASSEMBLY INSTRUCTIONS No. 49 – FAN CLUB model – marble run SXS

Stefan Wägemann (18 years old) is in his 3rd year of his IT technician apprenticeship and is currently employed at fischertechnik as part of his course. He had the honourable task of developing the Fan Club model for you. He has chosen his favourite subject, marble runs. He has combined the two construction kits PROFI Dynamic XS and PROFI Dynamic S and has created a really great model from them. Take a look for yourself. Have fun building and playing!

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