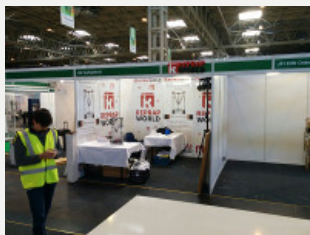# REPRAPWORLD

A month with lots of new products: the Beagle, the 3D printer controller board and much more. Also we have a report on the TCT show and Martijn Korevaar is showing his design for an extruder belts. If you have feedback regarding the newsletter or you like to share your own news that is interesting for our audience, please feel free to drop an email at: info@reprapworld.com.

TCT show 2015

RepRapWorld was for the first time on an exhibition, the TCT show 2015 in Birmingham UK. We went with a car full of 3D printer stuff on the boat to the UK, where we had a stand reserved on the TCT. We were placed next to the E3D stand, so it was a great location with lots of people walking by as you can see on the picture ;). There was a great emphasis in our stand on our new printer line, the Beagle, which had some very positive feedback. But also a lot of people were interested in the electronics and filament.

We hoped to have a very informative stand and we think it was a success. If you missed us, please visit us next year as we certainly will be there again!
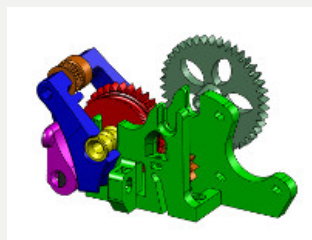

Beer and pizza!

The monthly Beer and pizza party was again a great success. Around 30 people showed up, some with their printers, some with other interesting things. Like a model train fully composed of printed parts including the rails. Also as far as we know our youngest (12 years) 3D printer enthousiast was there to show his printer, his MendelMax.

For more pictures check out our facebook. And be sure to make it to the next beer and pizza party next thurday (5th of November).

Vaeder cold end

A nice part of the Beer and pizza party is the possibility of discussing new designs and solutions with peers. This allows us as community to improve designs and give feedback to authors. Martijn Korevaar was with us last time and showed his geared cold end: Vaeder.

Martijn: *Last time at the beer and pizza evening, really nice homebrew beer by the way, I took a prototype with me of a new kind of cold end using a belt to clamp down on the filament. In the past weeks I have developed this prototype to a fully functioning and easy to use design that I now want to share with you and the rest of the world.*

So what is special about this cold end is the belt solution, which drives filament using belts. This allowes for great torque on your filament, without slipping or damaging the filament. The geared solution gives enormous torque from even a simple stepper motor.

Events

3D printer news

Turn your cat into a fearsome warrior with 3D printed cat armor

Jwall, the talented designer and maker behind the Print That Thing, has unveiled his latest 3D printed creation. With Halloween approaching, Jwall felt that his cat Bobo should be part of the festivities, so set about making a CAD model for a 3D printable suit of cat armor, which he could 3D print for Bobo to wear. The process was a massive success, and the designer has published a YouTube video of the results. Most importantly, the files for the 3D printable armor are available to download on Thingiverse, so you can fire up your own 3D printer and ready your mog for battle.

DIY auto-adjusting jacket from Back to the Future with 3D printed parts

This week marked an important date in both science and pop culture, as the past caught up with the present, and brought us back to the future. That is, this past Wednesday, October 21st , the world celebrated the 'actual' date that 1980s pop-culture heroes Marty McFly and Doc Brown traveled to in the infamous Back to the Future trilogy. In the film's vision of 2015, flying cars and hoverboards get us from point A to B, while on the fashion scene, self-lacing shoes and self-fitting
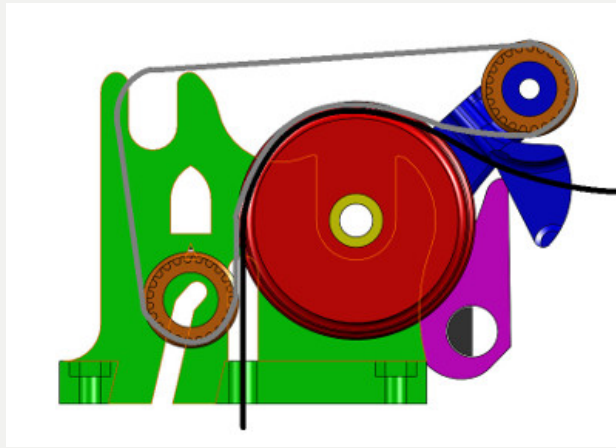
Martijn: The idea for this new type of cold end came to me through having a lot of frustrating experiences with the Greg Wade's cold end, such as frequent slipping of the filament, the drive wheel grinding into the filament, the deformation of the filament which causes extra friction in the PTFE tubing and overall lack of force to extrude the filament. I thought "why couldn't you exert force on the filament from both sides of the filament by adding gears between the drive wheel and the flywheel?". Early prototypes showed me that this improved the extrusion performance significantly. Unfortunately it still deformed the filament the same way as the Greg Wadeâ€™s cold end. Therefor I thought: "what if you increase the contact area between the filament and the drivewheels, so you can reduce the force pressing down on the filament while increasing the extrusion force?". This brought me to using a belt and wheel to clamp the filament between, which gave very promising results during early prototyping. Now many iterations down the line I present to you the Vaeder curved and geared cold end.

Martijn also published a video on YouTube showing the cold end in action:

[Download Video as MP4]

https://www.youtube.com/embed/Cd8yOYo9mJU

I have spent extra attention to ease of assembly and ease of use. All the gears and axles can be be assembled without having to fiddle too much with nuts, bolts and washers. The fast release clamps at the back and the removable guide wheel makes it very easy and fast to exchange or insert the filament.

There is still a lot that can be improved upon my design and that is why I want to share it with you and the world. I encourage you all to go to https://github.com/Vaeder3D/ and print your own Vaeder cold end.

We think Martijn has find a very neat solution to a lot of the problems we encounter with the many different cold ends and hope you help him improving his design by giving feedback. You can contact Martijn directly at vaeder3D@gmail.com. He will also be on the next Beer and pizza party, so you can meet him in person.

RepRapWorld on tour: back to school

As part of the project month we were invited to show a 3D printer at bassisschool (SBO) 'de diamant' in Naaldwijk. The idea was to show the kids how 3D printing works and make them enthousiastic about technology in

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shoes and self-fitting jackets are the norm. Yet, as us millennials know, so far none of those predictions have really come true. Rather than waiting for some future designer to make it happen, wearable's technology expert and Instructables member Lara Grant used 3D printing technology and some nifty sewing tricks to recreate the auto-adjusting jacket that put the 'fly' in Marty Mcfly.

3Dom releases Buzzed, 3D printing filament made from beer

According to legend, people in the Middle Ages consumed more beer than water, supposedly because the alcohol made it safer to drink. While we certainly wouldn't endorse reverting to a similar lifestyle today, 3D printing company 3Dom USA may have just given us the perfect excuse to order another round: they've released a brand new earth-friendlyÂ 3D printing filament that's actuallyÂ made from beer.

Eora 3D Scanner turns smartphone into a 3D scanner, now available on Kickstarter for $229

With 3D printers now a common sight in most makerspaces throughout the world, the making community is increasingly discovering other devices to add to their creative capacity. 3D scanners are often top of the wishlist for their ability to make 3D printable digital models in a flash. While several affordable scanners are currently in developed, few have caught our eye as strongly as the Eora 3D Scanner. Announced a while ago, this Australian high quality, low cost add-on for iPhones and Android is now making its debut on Kickstarter.

BEEVERYCREATIVE and Leonel Moura 3D print 5-meter-tall statue in Lisbon

There seem to be two camps in the 3D printing technology world: those on the nano-scale, developing 3D printers and materials capable of handling the tiniest, most detailed objects such as PCBs; and then there are those who go big or go home (or go big to go home?). As part of a project for ICT2015 in Portugal, 3D printer manufacturer BEEVERYCREATIVE placed themselves firmly in the second camp by supporting the construction of a 3D printed 5 meter tall sculpture titled "3D Europa."
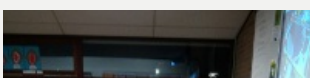
general. Over 200 kids have seen our Kossel printer at work and many were intrigued by the printer and asked very interesting questions about the duration, what you can do with it and how it works.

Also we had a lot of printed parts with us which were for sale. All profits (almost €50) have been donated to KWF kankerbestrijding (Dutch Cancer Society).

Our latest delta printer development named "Beagle" has been unleashed! This is a beautiful looking printer that RepRapWorld has developed.

The Beagle is easy to assemble, provides reliable, high quality prints and is of course open-source in the spirit of RepRap. We're offering the printer in three versions:

Beagle Mini €299

Primarily as an introductory printer, this basic version has a build volume of 170mm diameter x 150 mm height and is suited primarily for PLA using an industry leading e3D lite. Heater bed and LCD panel upgrades will be available in the near future.

Beagle Standard €499

This version doubles the print surface area with a 240mm print bed, and includes a full e3D kit with high temperature thermocouple. For all these extra features and build capacity, we consider this printer the best option for value.
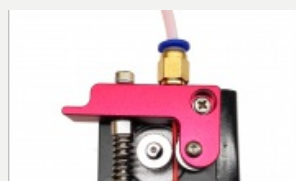
Beagle Tower €599

For customers that are looking to build vases or other tall objects, the Tower model adds an extra 10cm of build height and includes the LED lighting effects upgrade.

All options are designed for 1.75mm filament and 0.4mm e3D nozzle. Please let us know in the order comments field if you prefer another e3D nozzle size.
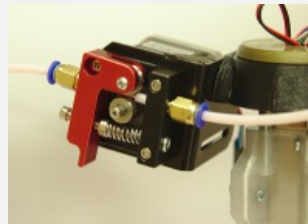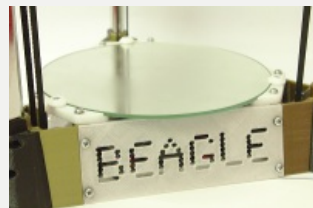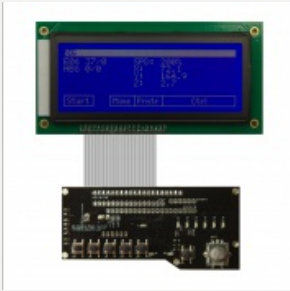
New products

Simple metal cold end

Easy, simple, powerful. A great solution for printing 1.75mm filament.

3D printer control board

This solutions gives you direct control over your printer without using a computer. You can now start your prints, control the speed, control the temperature and much more. You can do this for five printers at a time! Features hardware:
- Big LCD screen (78.67x26.19mm / 192x64 pixels)
- Includes a powerful atmega2560, programmable using ICSP
- 5 action buttons, a back button and a rotary encoder with push button
- control up to four extruders (if applicable)
- contrast trimpot to increase/decrease contrast
- communication over I2C with up to 5 printers
- compatible with RAMPS, Minitronics and Megatronics

Highlighted products

Official Arduino Due 32bit ARM Cortex-M3 module

We now have the Official Arduino due 32-bit in stock.

Antimicrobial

We now also have an antimicrobial filament available! Normal filament tends to attract lots of germs and mold, making it unsuitable for small children and objects touched by many different people. Purement filament will stop germs from multiplying and reduce the amount of pathogens over a short time.

* Prices are exluding VAT and subject to change without notice