CUSTOMER CASE STUDY

> "As it can take more than twelve hours to analyze the data that the drones gather during their flights, having reliable, stable systems is essential. With Fujitsu, we get exactly that."
>
> **Sascha Heising**
> **Chief Technology Officer**
> **GeoMon**

Source: MAVinci GmbH, adapted

For GeoMon, a geo-information service provider, processing data on workstations rather than with a cloud solution became more cost-effective within just six months.

At a glance

Country: Germany
Industry: Geographic Information Systems (GIS)
Founded: 2013
Employees: 2 permanent staff plus freelancers
Website: www.geomon.info

Challenge

GeoMon specializes in advising customers on how to analyze data acquired from drone flights. To do this, it requires a stable hardware environment.

Solution

The company now uses FUJITSU CELSIUS R920 workstations with professional AMD FirePro™ W7000 graphics cards. Workstations can prove to be more cost-effective solution than cloud based services after just six months.

Benefit

- System stability
- Lower costs, particularly during the testing phase and when under frequent use
- Onsite data availability

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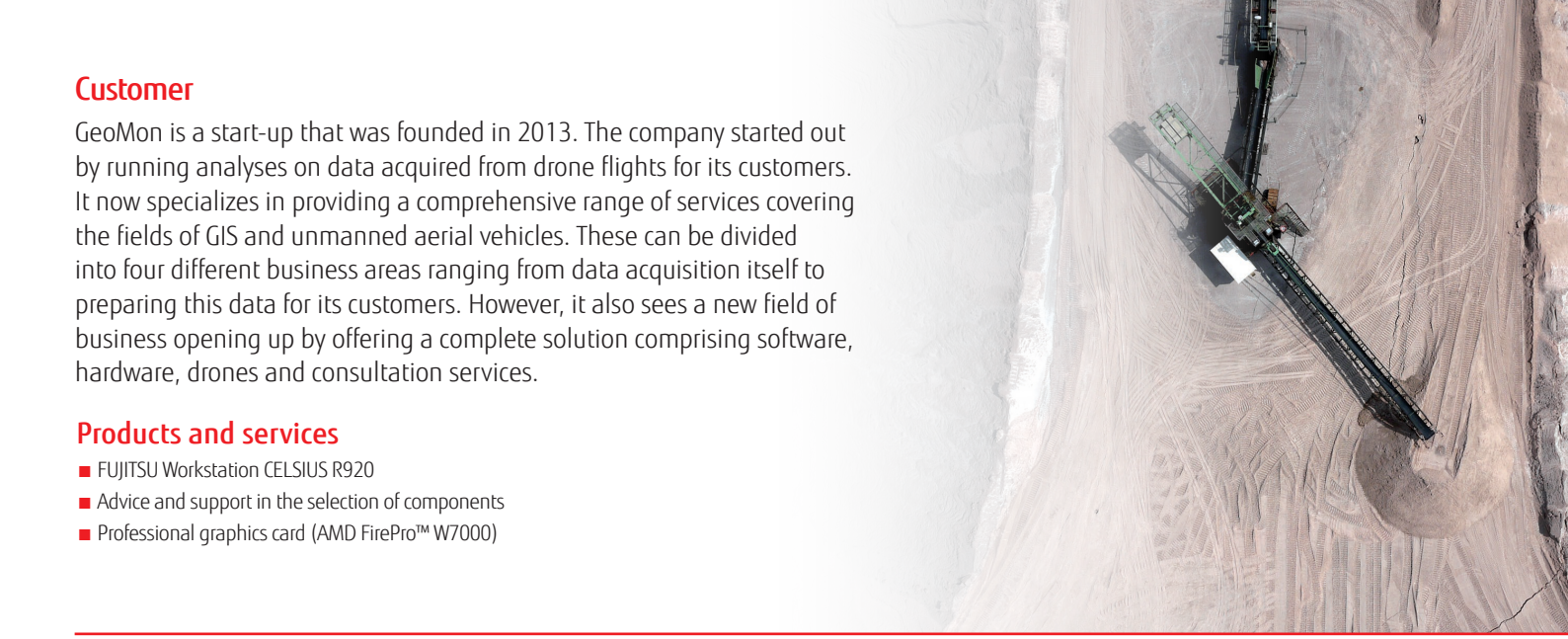
Customer

GeoMon is a start-up that was founded in 2013. The company started out by running analyses on data acquired from drone flights for its customers. It now specializes in providing a comprehensive range of services covering the fields of GIS and unmanned aerial vehicles. These can be divided into four different business areas ranging from data acquisition itself to preparing this data for its customers. However, it also sees a new field of business opening up by offering a complete solution comprising software, hardware, drones and consultation services.



Products and services

- FUJITSU Workstation CELSIUS R920
- Advice and support in the selection of components
- Professional graphics card (AMD FirePro™ W7000)

Challenge

Companies still have large knowledge gaps when it comes to processing data gathered by drones. In Germany, there is not a lot of information available to them. GeoMon was founded to fill these gaps by providing much-needed advice and support.

Drone technology is particularly suited to situations where data regarding large areas of ground movement needs to be captured quickly, such as at waste disposal sites, quarries, or in road construction. "Our methods are faster than terrestrial measurement processes," explains Heising. The volume of data generated depends upon the number of images captured. For typical projects, this amounts to around 1,000 to 1,600 images. Even if this data is stored in compressed .jpg format, each image will still be around 10 megabytes. And if the company wants to have the data in RAW format for further processing, the volume can increase by a factor of 10. "All this data then has to be passed through the RAM. That's the limiting factor," says Heising. For customers, it is often not only the speed with which the data can be processed that is of the essence, but also that it can be processed all at once.

The problem here is that many of the solutions available to analyze data from drone flights use computers with gaming graphics cards. "This does still work," says GeoMon's Sascha Heising. But his company, which predominately offers its services to engineers, decided to choose a different solution following extensive consultation with Fujitsu partner CSW, Customer Service Wilhelm GmbH & Co. KG: Fujitsu workstations with reliable, professional graphics cards. "These professional workstations don't come with gaming graphics cards. Instead, they contain pro-level graphics cards specifically designed for reliability, so they are very durable and consistent," says Heising. The team confirmed this by testing the graphics card in one of its own Fujitsu workstations. If you want to provide services to customers, you really do need the reliability and assurance these devices provide. Particularly because even with a powerful computer, analyzing drone-acquired data can still take a number of hours.

Solution

If you only need to process a couple of projects, a cloud solution may well be an option. But it quickly reaches its limits. "At the location where the data is actually needed, they may only have a telephone line," warns Heising. Even with a VDSL connection, it can still be time-consuming. After just six months, a workstation can prove to be the more cost-effective solution, particularly if you are still trying to find the perfect configuration for the drone and need to keep running tests. It is also more convenient. On average, each project generates data volumes of some 10 gigabytes. Transferring this to the cloud means having to check that the data has not been corrupted either on the way to the cloud or on the way back. Making corrections is also frustrating, says Heising, as you have to then re-upload the data. "Our customers feel it is important to have the data on their own computer as it gives them a sense of security," says Heising.

Benefit

"We have found that for small to medium-sized companies without their own IT departments, reliability plays a big role as the devices have to run and make money," says Heising. Companies can often spend between €10,000 and €100,000 on drones and software alone. The warranty and assurance that Fujitsu offers for the hardware is therefore enormously important and enables the company to offer services that can help to recoup the investment in the drones.
In future, stable hardware may play an even more important role: "The data volumes are only going to grow as the technology improves," says Heising, confidently. Unmanned aerial vehicles will become more sophisticated and will be able to fly for longer, batteries will last longer, and more powerful cameras will deliver more images. And companies are also starting to look for more than just image data. They want to receive information from other sensors that can record factors such as aerosol particles and temperatures. Another important point in favor of purchasing your own hardware is having the option to correct the data during processing. "The process from data capture to transferring it to the customer is complex in many areas and much easier to carry out on your own system," explains Heising. This collaboration between GeoMon, its service partner CSW and the team at Fujitsu has created new areas of business that are sure to bear fruit quickly for all involved.

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