

# User Story

## Think 3D

**FARO**



*Convinced by the scanning qualities of the FARO laser scanners, Think 3D made the radical choice to build the drone around the FARO Laser Scanner instead of choosing a scanner that fits an existing drone.*

## Think 3D first to commercialize 3D drone scanning

3D DOCUMENTATION / AS-BUILT DOCUMENTATION *Unique combination of drone technology with FARO Focus<sup>3D</sup> X 130 laserscanner*

The use of 3D scanning for industrial environments has already been done since the 3D laserscanner has been invented. However, scanning with a fixed solution often provided problems, technicians often had to do dangerous climbs to be able to scan everything, machines had to stop working, etc. Belgian company Think3D has found the solution by combining the FARO Focus<sup>3D</sup> X130 with a drone to create the world's first high precision 3D scanning drone.

Think 3D is a Belgian company that provides 3D CAD models for complex industrial

installations ranging from different sectors such as petrochemistry, steel, pharmaceuticals and the food industry. Think3D is called in when the companies want to make changes to their installations and need a full 3D CAD model of their installation. The customer can then use this model as they please, to give to the architect, add to specifications or to create a 3D tour of the facility with.

"From the start we have been using the FARO Focus<sup>3D</sup> X130 to perform the scans," CEO Liesbeth Buyck reveals. "One advantage of the Focus was that it was very accurate

in comparison to other models, but the main advantage was that it was lightweight, portable and use-friendly. As we continuously had to move in between industrial infrastructures, we needed a scanner that could fit in narrow spaces and could also be set up and used in a minimal amount of time."

During their different scans of industrial and factory sites, Buyck found a fundamental drawback in the scanning of these sites. The main problem was that making 3D models of industrial sites is incredibly time consuming if done from a stationary position because of two

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www.think3d.be



Think 3D's STORMBEE in action: The innovative scanning solution that combines the FARO Laser Scanner Focus<sup>3D</sup> X130 with a drone.

reasons. First of all, the scanning equipment has to be moved around all the time to get all angles of the facility to ensure a complete 3D model, in certain cases even stopping the whole production line to avoid deviations. Secondly, the work after the scans is again time consuming, as at the end they also have to link all the different point clouds together to create a singular model.

To increase productivity in these cases, Liesbeth Buyck thought of the concept to link the FARO Focus<sup>3D</sup> X130 with a drone for easy manoeuvrability: "At that time drones were becoming readily available on the market and we saw the advantage that it could mean for our scanning tasks. By combining a drone and a laser scanner you are decreasing the time cost twofold. On the one hand the drone does not have to be moved and you can make one complete point cloud in a single flight. This way we were able to deliver the requested 3D model to our clients much faster than a company that does fixed scans as we are now able to deliver the point cloud within a 24 hour time frame in most cases."

As Think 3D was already convinced about the scanning qualities of the FARO Focus<sup>3D</sup> X130, they made the radical choice to change the way of construction: usually a scanner is chosen to fit the drone, while they chose to build the drone around the FARO Focus. To research if the drone could be equipped with the laser scanner of FARO, extra expertise was needed. Think 3D combined a team of specialists in aerospace, aviation and UAV technology. After a research period of 4 years research, STORMBEE was born. The UAV makes it possible to use all type of Faro laser scanners.

"The slightest gust of wind can destabilize the drone, thus impacting the accuracy of the scan. Of course we understand that if you place a laser

scanner on a drone that there will always be a certain level of deviation, however, it is our task to see how we can bring back that deviation to the bare minimum."

At the moment, Think 3D is the only company in Europe providing 3D laserscanning with a drone with this level of accuracy and increase in productivity. The possibility to personalize the UAV, results in a unique concept.

"We see tremendous potential in this project and offering it to other interested parties. At the end of the day, all companies choose to be as productive as possible and this unique combination of the FARO Focus<sup>3D</sup> X130 and our specially developed drone is the key to making this happen."

## COMPANY NAME

Think 3D provides state-of-the-art 3D laser scanning and 3D modelling for the industrial market. Constantly searching for innovative solutions to provide clients with best results, Think 3D has succeeded in utilizing drones for various services it offers. Because of the accuracy, the speed and the range of the FARO Laser Scanners that Think 3D uses the company is able to provide a 3D model of any indoor and outdoor site on short notice and according to the individual requirements of each customer.

WWW.THINK3D.BE

## - FOUR GOOD REASONS -

Liesbeth Buyck, CEO, Think 3D

- 1 Accuracy:** In comparison to other Laser Scanners, the FARO Focus is extremely accurate and reliable.
- 2 Portability:** Continuously moving in between industrial infrastructures, Think3D need a scanner that fits in narrow spaces and is set up and used in a minimal amount of time. FARO Laser Scanner Focus<sup>3D</sup> X 130 perfectly satisfies these demands.
- 3 Speed:** The FARO Focus<sup>3D</sup> X130 can be set up and used in a minimal amount of time. This allows us to provide individually tailored 3D models for the wide range of our customers as swiftly as within 24 hours.
- 4 Flexibility:** The FARO Focus laser scanners can be combined with a drone to increase productivity significantly



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## SUMMARY

Convinced by the scanning qualities of the FARO Laser Scanner Focus<sup>3D</sup> X 130, the Belgian company Think 3D built a drone around it and created the world's first high precision 3D scanning drone – a combination of the FARO Laser Scanner Focus<sup>3D</sup> X130 and a drone – resulting in a tremendous increase in productivity along with the highest level of scanning accuracy available.