Uplift

January 2011

CargoLifter

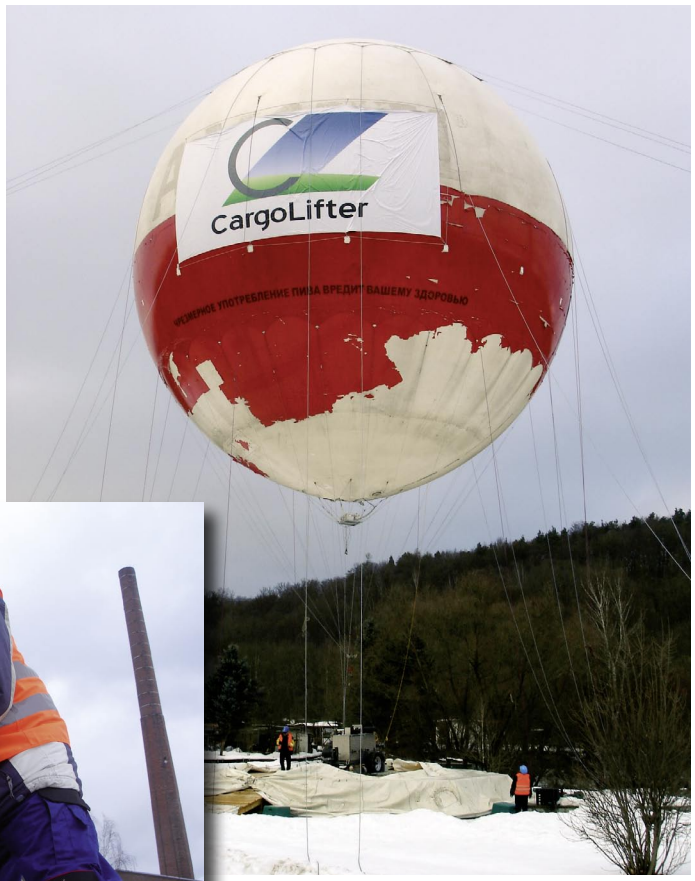
Dear Reader,

Through the erection of our balloon crane system (BCS) on 24 November 2010, we achieved the first milestone towards the realisation of the system. Immediately after that, winter got hold of Germany and took its toll on the entire country. The winter, in our location in Netzschkau, the Vogtland, transpired in record-breaking temperatures and snowfall in over forty years.

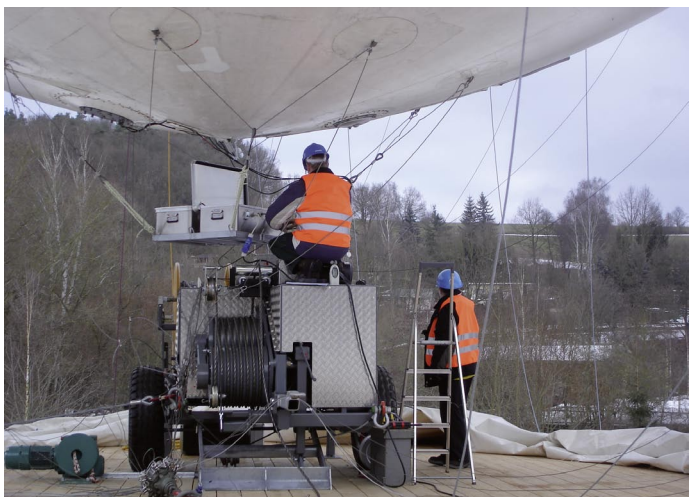
The weather delayed the take-off of our balloon crane by 6 weeks. Consequently, the first take-off with the complete configuration, including three pullers and crane-node only took place on 12 January. However, the planned tests and demonstrations are now in full swing.

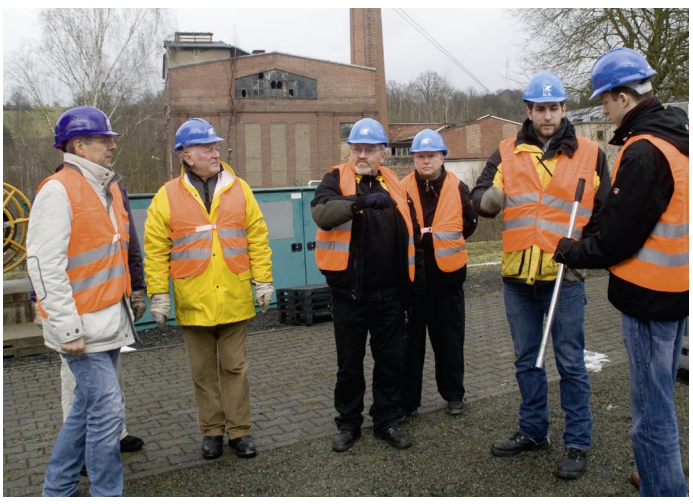
Our team did not sit idle during the delay period, of course. The first step was adapting our used-observation balloon to the operational requirements of a balloon crane system. Our team's previous experience with GTG is based on the operation of such observation balloons. An observation balloon is designed such that it is assembled only once or twice during its lifetime. We have to be able to assemble and disassemble the BCS several times a year. This must be mirrored in the material and workmanship of the different components. The involved processes must be simple, quick and achievable with a minimal number of personnel. A balloon crane should operate regularly in bad weather as well and be used on individual good days during longer, persisting, bad-weather-periods. The function and limits of the individual components, in addition to the overall system must be acquainted with and the team must be able to develop means, under even less optimal conditions, to ensure communication and procedures.

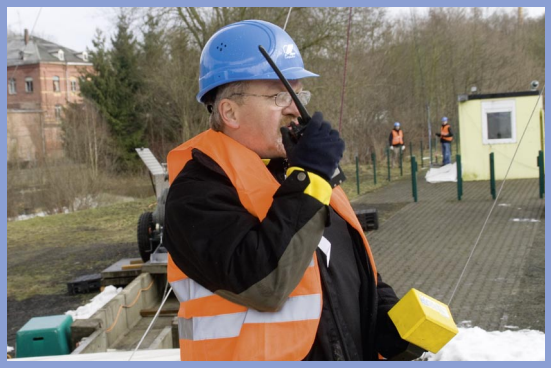
Those winter weeks have already brought about a marked development in our hand-books, check-lists and specifications. Moreover, several constructive modifications were conducted on the basis of the findings of the preceding weeks. Similarly, testing equipment and procedures were refined and enhanced in order to be able to attain optimal-test-data in the following months.

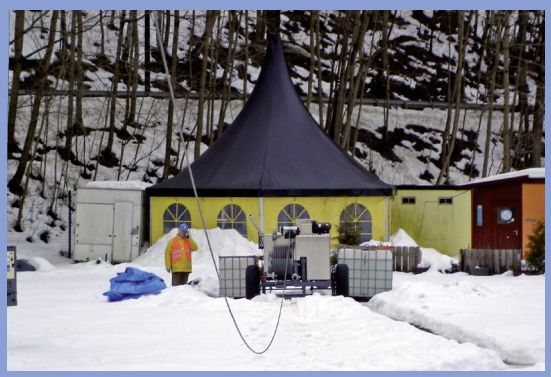


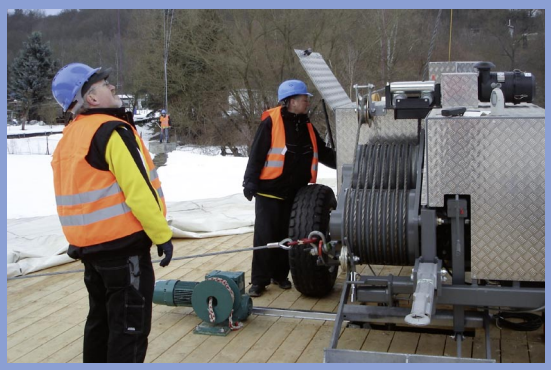
There were still a few, minor necessary modifications that were required following the first takeoffs as balloon-crane. For example, the frequencies of the puller-remote-control and the data transmission from the load cells overlapped. There were smaller elements that still had to be

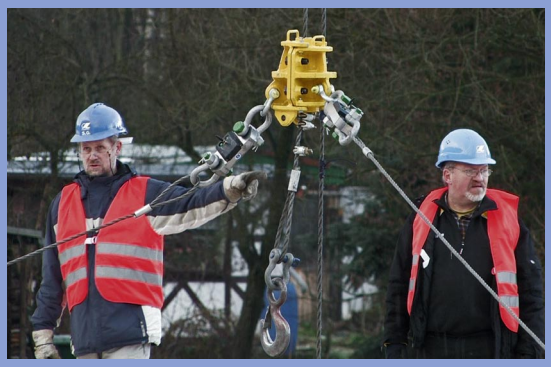


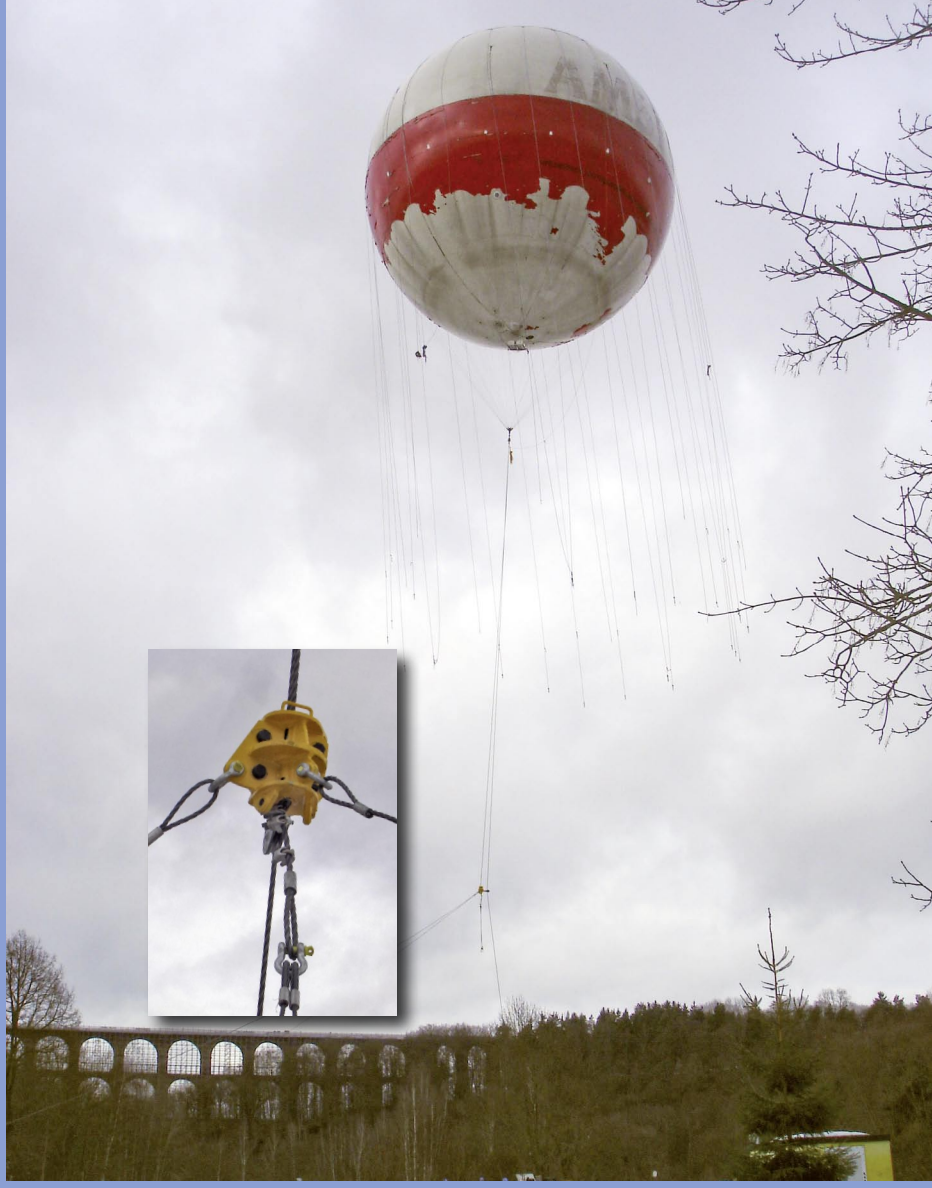












Tests of the balloon crane system at Netzschkau

Photos:
Dörjer, von Gablenz, Werner

bought, e.g., different-sized shackles, or rebuilt on the service-platform and the pullers' location, here and there.

We have entered into our next phase on January 20th. We can now concentrate on the testing! Should we decide to conduct a test or a demonstration, then it would be a matter of half an hour before the balloon is in the air. We also decided to initially conduct the upcoming tests during lower wind velocities of approx. 3-4 m/s (equivalent to 6-8 kn). The reason for that is to simply try to maintain accurate measurement-results of the system while excluding the relative external influences.

On the other hand, we will expose the BCS to different wind and weather conditions in various, defined positions while monitoring the balloon and measuring instruments. In this manner, we will be able to gather experience on the general influence of weather conditions on the system. Our simulation program will be fed with the data acquired. Thereby, we will be able to verify the resulting expectations on the system during deployment. From now on, we are basically able to monitor the system during testing / operation any time, whereby takeoffs will certainly not be possible every day.

Please, take a look into our balloon crane-website www.cl2.info every now and then. We will regularly put in up-to-date photo and video material.

We remain at your disposal for any queries or suggestions you may have under info@cargolifter.info.

Your CargoLifter-team