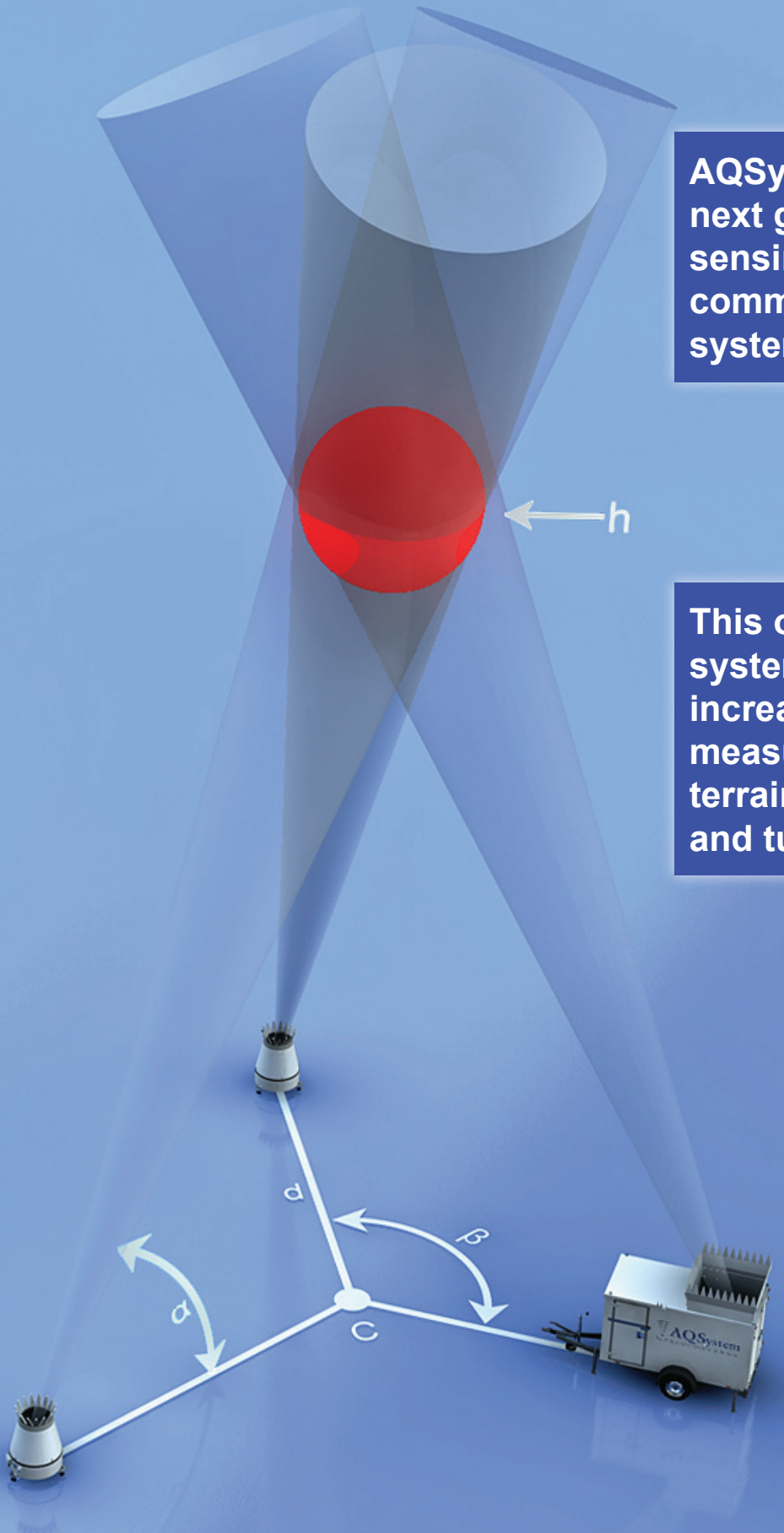
Common-Volume Option

AQSystem
Remote sensing technique



AQSystem introduces the next generation remote sensing instrument. The first common-volume SODAR system in the world.

This option to the AQ500 system will meet the increasing demands for measurement in complex terrain with extreme wind and turbulence conditions.

Example of configuration:
h= 100m
d= 26m
β= 120°
α= 75°

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Common-Volume setup

AQSystem can now offer a system concept for common-volume measurements. The concept is based on the monostatic* probing technology, with features for common-volume measurements. This means that instead of the increasing separation between the measurement beams as a function of height the beams will converge in a common volume at an altitude depending on how the system is configured.

The concept is based on combining the standard AQ500 system with two separate antenna units that transmit and receive signals. The principle of measurement is the same as of monostatic operation but with less separation between the measurement beams and that they also converge in a single volume. In addition to the monostatic function the system configuration also offers bistatic** functions which increase the strength of the scattered return echoes by a factor of 4 to 5.

This new product based on a combination of the monostatic and bistatic technology is unique in the market and AQSystem is proud to offer this to the growth and technology-intensive wind industry. We are confident that this new system concept will meet the increasing demand for measurements in **complex terrain** with extreme non-homogeneous wind and turbulence conditions.

* A system based on mono-static technology usually means that three measurement beams are emitted in different directions from an antenna unit and the scattered return signals are received by the same antenna unit and the scattered return signals derive from small-scale temperature fluctuations (C_T^2) in the atmosphere.
** The bistatic feature means that the transmitter and receiver are separated and the scattered measurement signals derive from the combination of temperature and wind turbulence (C_V^2) in the atmosphere.

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