When surveying large-diameter casing/conductor pipes, the industry standard is to use a Drexel controller to keep the survey tool centered. While these controllers work in many situations, they have a maximum range of change in diameter of 3.38 inches.

An operator in Norway set 24-in. casing with an internal diameter of 21.50 inches and a starter head with a 17.74-in. restriction. With diameter changes outside the capability of a Drexel controller, the operator needed a way of keeping a survey tool centered in the hole to provide accurate surveys.

The centroller created by Gyrodata with the help of the operator allowed the conductor pipe to be successfully surveyed despite the large range of change in diameter. The correlation between inrun and outrun surveys showed the centroller was flexible enough for varying diameters but rigid enough to keep the survey tool centered.

Without the unique centroller, the survey tool could have been off-center, causing variations between inrun and outrun surveys. Had this been the case, the operator would have had to perform another wireline run, resulting in an estimated $75,000 in additional rig time and personnel costs. Since developing the controllers, we have performed 47 jobs with this operator.

Misalignment is the largest error term in the vertical section of the well, making the new controller critical in eliminating gross errors. Our controller is the only one of its type now on the market.