

# How water supplies are being secured for future generations.

The Strategic Pipeline Alliance (SPA) in partnership with Anglian Water is working to combat climate change and to secure water supplies for future generations. This complex and challenging infrastructure project involved the creation of hundreds of kilometres of new, interconnecting pipelines to move water from the wetter regions in the north of the UK down to the east of England.

**330 km**

330 km of new  
water mains  
installed

**£350m**

Contract value  
£350m

**5 yrs**

Project duration  
5 years



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Over recent years the UK has experienced record temperatures which is impacting some parts of the country more than others.

The Strategic Pipe Alliance (SPA) in partnership with Anglian Water aims to supply water from the wettest parts of the county to the driest by installing 330 km of new water mains to the east of England. Sunbelt Rentals worked with the SPA in offering onsite support and expertise, whilst providing the equipment needed to enable them to carry out this extensive project.

## Challenges

By far the biggest challenge for the SPA was the sheer scale of the project and the logistics in linking together some 330 km of mains pipe in a safe and timely fashion. With a huge number of joints across the span of the pipeline, finding an effective method to maintain the integrity of the connections was of paramount importance to reduce the potential for leakage.

## Solution

To support the roll out of the project, Sunbelt Rentals provided several key pieces of equipment including the McElroy Tracstar 900i Butt Fusion machine. The Tracstar 900i series features a patented centreline guidance system for equal distribution of force around the joint. This assists in ensuring the reliability of the weld with the integrated data logger recording the key metrics for the entire fusion process.

To create the optimum environment for welding the polyethylene pipe Sunbelt Rentals provided a 20ft welding container. Not only does this provide a clean, waterproof working area, but it also combines an array of features designed to enhance working conditions: From extendable sides to house equipment and personnel, to integrated LED task lighting which facilitates extended working hours. What's more, the container is also designed with the lifting capacity to allow the equipment to remain inside as it's moved around the site, perfect for a job of this magnitude where equipment needs to be relocated on a regular basis.

**“ This has proved a great test for the new McElroy 900i butt fusion equipment and allowed us to demonstrate our expertise and commitment to our customers on turnkey projects like the SPA. We continue to support the SPA and their construction partners on the remaining phases of the polyethylene pipe pipelines. ”**

**Jon Sparkes**

Director of Utilities at Sunbelt Rentals

## Our equipment and services supplied at a glance

- 12 x McElroy Tracstar butt fusion machines
- MegaMc PolyHorse pipe loading system
- Bespoke welding container
- Pipe support rollers
- External debader



To improve productivity, the SPA also employed the use of Sunbelt Rentals' MegaMc Polyhorse. This pipe-handling system consists of a series of pipe racks and powered pipe stands that can hold enough pipe for a day's worth of fusion work. Not only does this quicken up the welding process as the operator can adjust any alignment issues at the touch of a button, but it also promotes safer working conditions as it reduces the need for heavy plant to remain on site to load pipes into the welding machine.

To enable large strings of pipe to be butt welded and to reduce drag, Sunbelt Rentals also provided around 300 pipe support rollers to facilitate the movement of the pipework across each 1 km strand.

Aside from their product requirements, Sunbelt Rentals supported the SPA with a range of tailored training sessions to ensure the safe operation of equipment and adherence with health and safety requirements. Due to the longevity of the project and the associated risk of any unplanned downtime, a preventative maintenance programme was also put in place.

## Result

The solutions provided by Sunbelt Rentals assisted the SPA in remaining on track to complete the works within the desired timeframe, despite the great British weather impacting the works.

The combined use of the Tracstar 900i and MegaMc Polyhorse ensured the correct alignment for the pipe weld, with regular testing of the joints proving more reliable and sustainable than using electrofusion alternatives. The Polyhorse also enabled the reduction of the manpower required to just one operative, with up to 14 pipes being welded per day, an increase from just 4 per day using manual interventions.

The preventative maintenance programme is proving to be a huge success ensuring the machinery continues to operate at an optimum level throughout the duration of the project.