Digital Twin Work Group: Outcomes & Applications Subgroup

Guest Presentation

Darren Coleman, Systems Performance Manager at Anglian Water discussed the implementation of Artificial Intelligence at their water treatment plants, sharing lessons learned as well as insights into the wider context of workforce and business transformation.

The delivery of AI will transform the way we learn about our systems/processes and will accelerate the way we link analytics and visualisation together into a single tool. Anglian Water is mapping their journey surrounding people, processes and technology.

Top 3 Outcomes Focus Groups

1. Insight (Tangible Outcomes)
   - *System performance*: what is happening in my current distribution system and what are the costs? We should constantly learn from past experiences (figuring out why it happened) and forecast what will happen for decision making.
   - *Investment*: what is the present need and the long-term investment planning? What are the solutions? What is the optimal investment?
   - *Customers*: are they receiving the right level of service? Do we know what they want? Anglian Water has found that it's not necessarily lower costs.

2. People (Soft Outcomes)
   - *Collaboration*: A digital twin enables all departments to collaborate, using the same information to meet specific goals.
   - *Happier, Healthier, and Safer*: A digital twin reduces high risk activities, creates less stress, and removes tasks that do not add value.
   - *Skills and Culture*: Empowering and valuing the workforce to be proactive.

3. Business Transformation (Soft Outcomes)
   - How does a digital twin influence the future business operating model? How does this align with the organisation's purpose and values?
   - We should control our network, rather than our network controlling us.

In order to increase utility involvement, we will:

- Host workshops inviting a larger group to generate feedback from utilities
- The groups can use informal surveys they send to get feedback along the way
- Use the Digital Twin Utility Advisory Group to review all major steps and act as a guide

Open Discussion

Led by Andy Smith (Anglian Water), the group began to brainstorm the direction of each focus group. We need to gain insights to know our desired outcomes and have a trusting, adaptable workforce in order to drive the business transformation.

- The workforce is crucial during the initial steps of digital twin implementation, as it's a manual step to determine the normalisation of processes. The technologies take time to learn the positive behaviour, while not replicating the negative.

- It's important to think about performance monitoring (not only condition based monitoring) and to build trust in the system's data, once the baseline in which to measure oneself has been determined.

- Traditional methods focused on the specific problem area while AI solutions give us the ability to see a holistic view of how the system is operating, delivering the right service to the customer. One key outcome will be the impact on maintenance and asset standards - which technologies are actually critical?