

Information Item: Engaging the Wastewater Workforce with Advanced Technology

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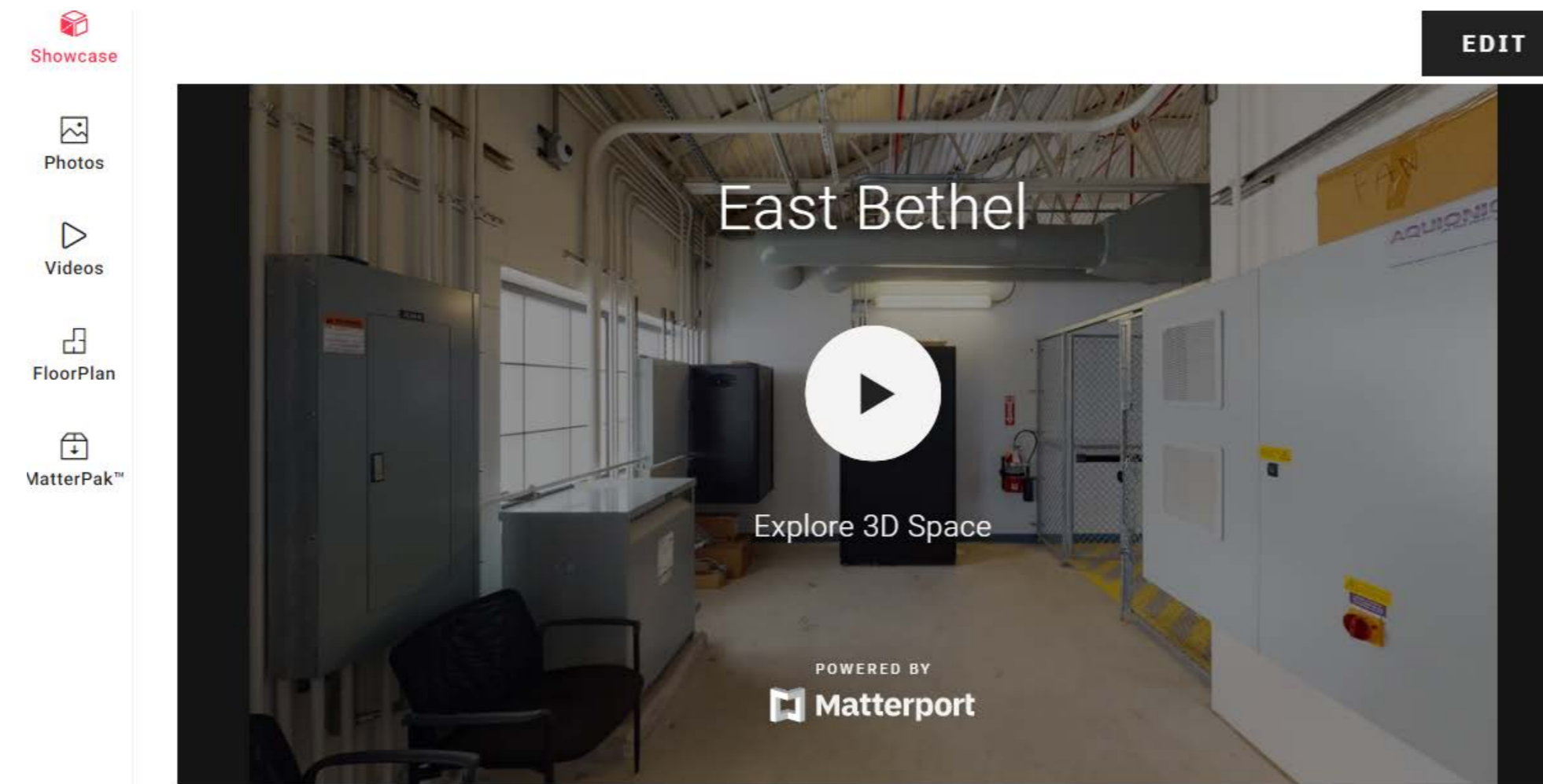
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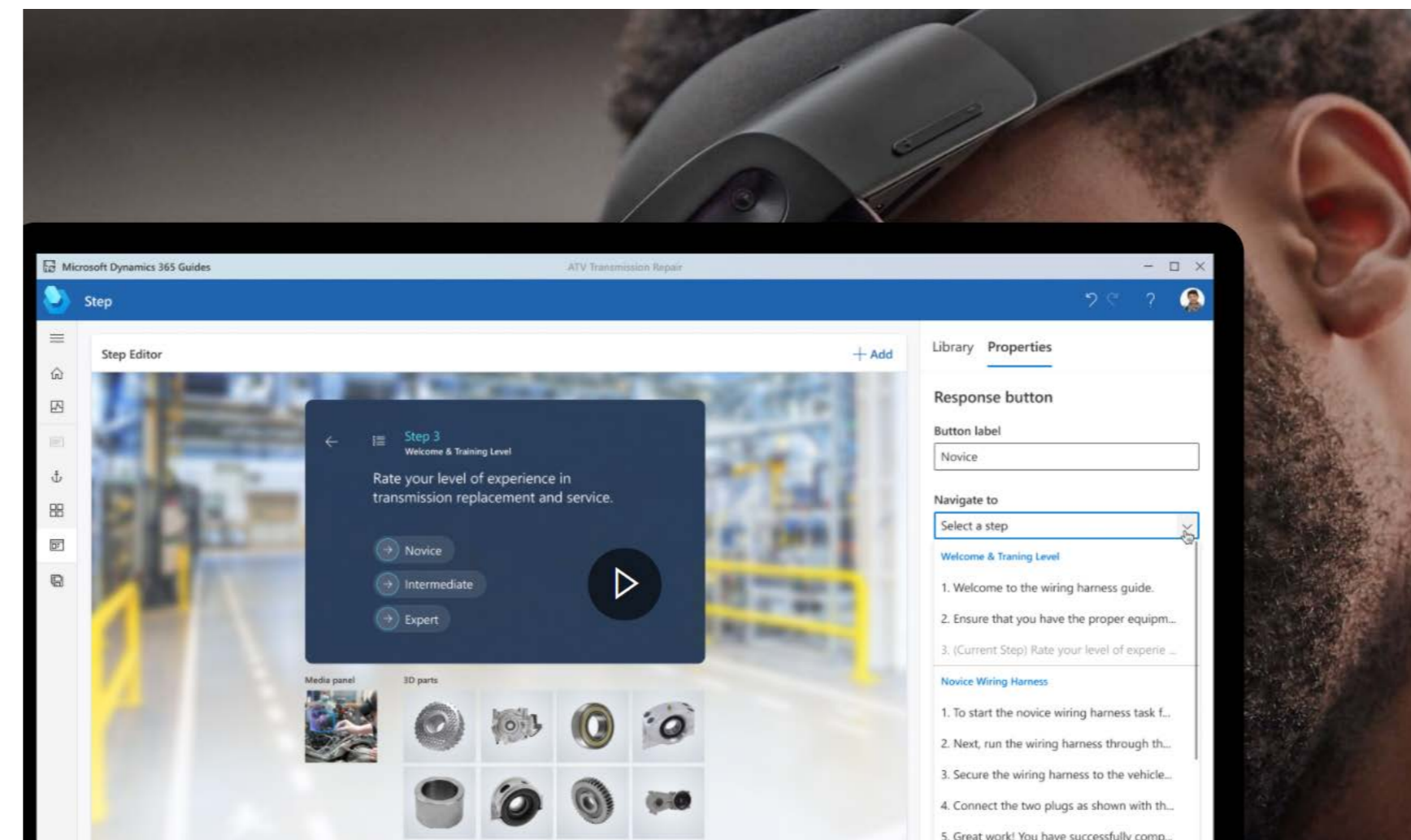


Definitions

- Digital Twin




- Augmented Reality



Why we are exploring new technologies

- Retiring workforce has left knowledge gaps
- New staff need to be up and running quickly!
- To provide more effective training
- Existing processes are labor intensive:
 - Identifying locations of piping, valves, and equipment
 - Change management of assets, wastewater processes, and operating parameters

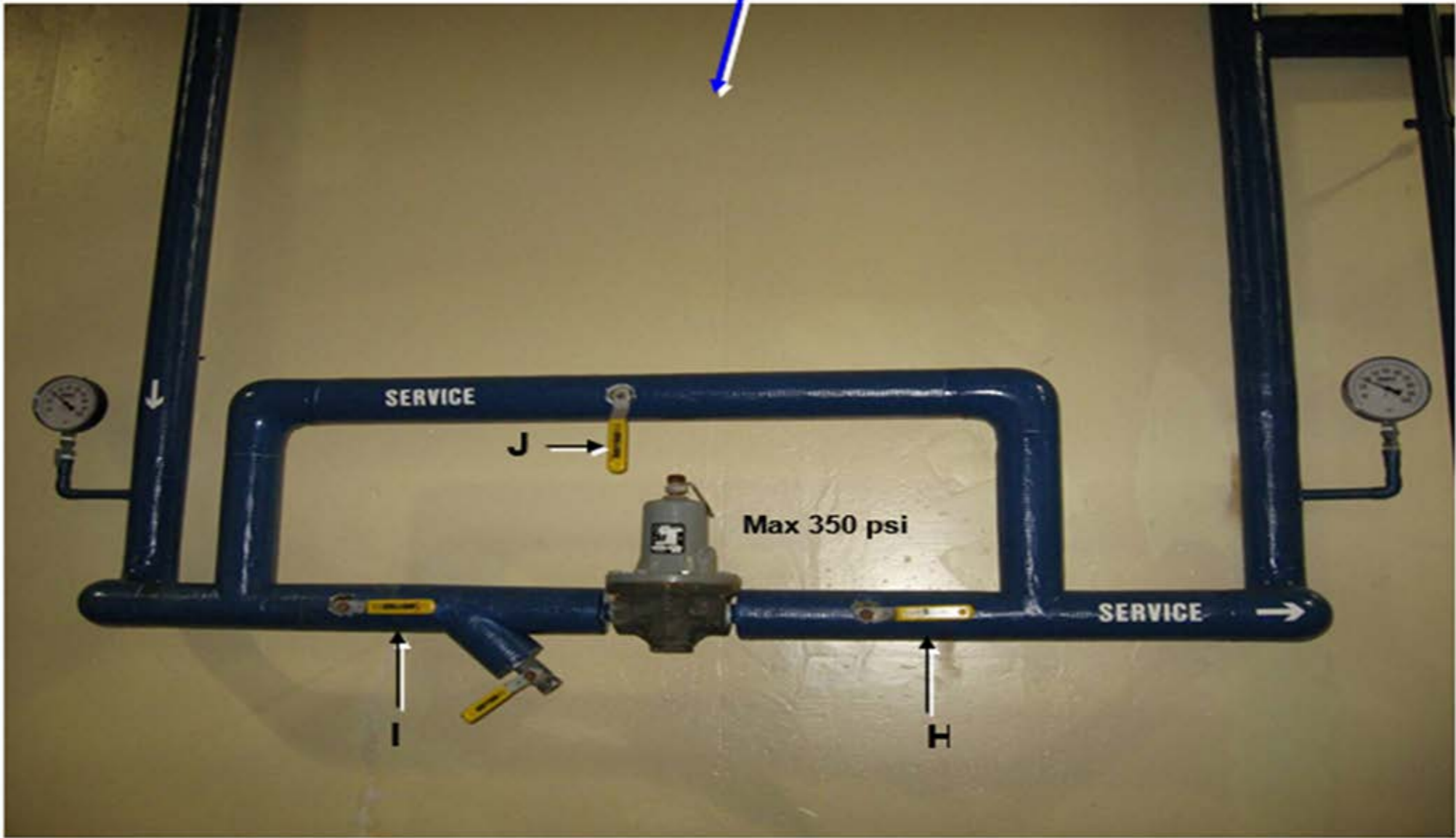

4. At the water heater next to the remote water supply,



a. Turn off cold water supply to hot water tank by closing the valve marked "W". The hot water tank is now isolated.

b. At the remote water supply site, check that valves H and I are open.

c. Check that valve J is closed.



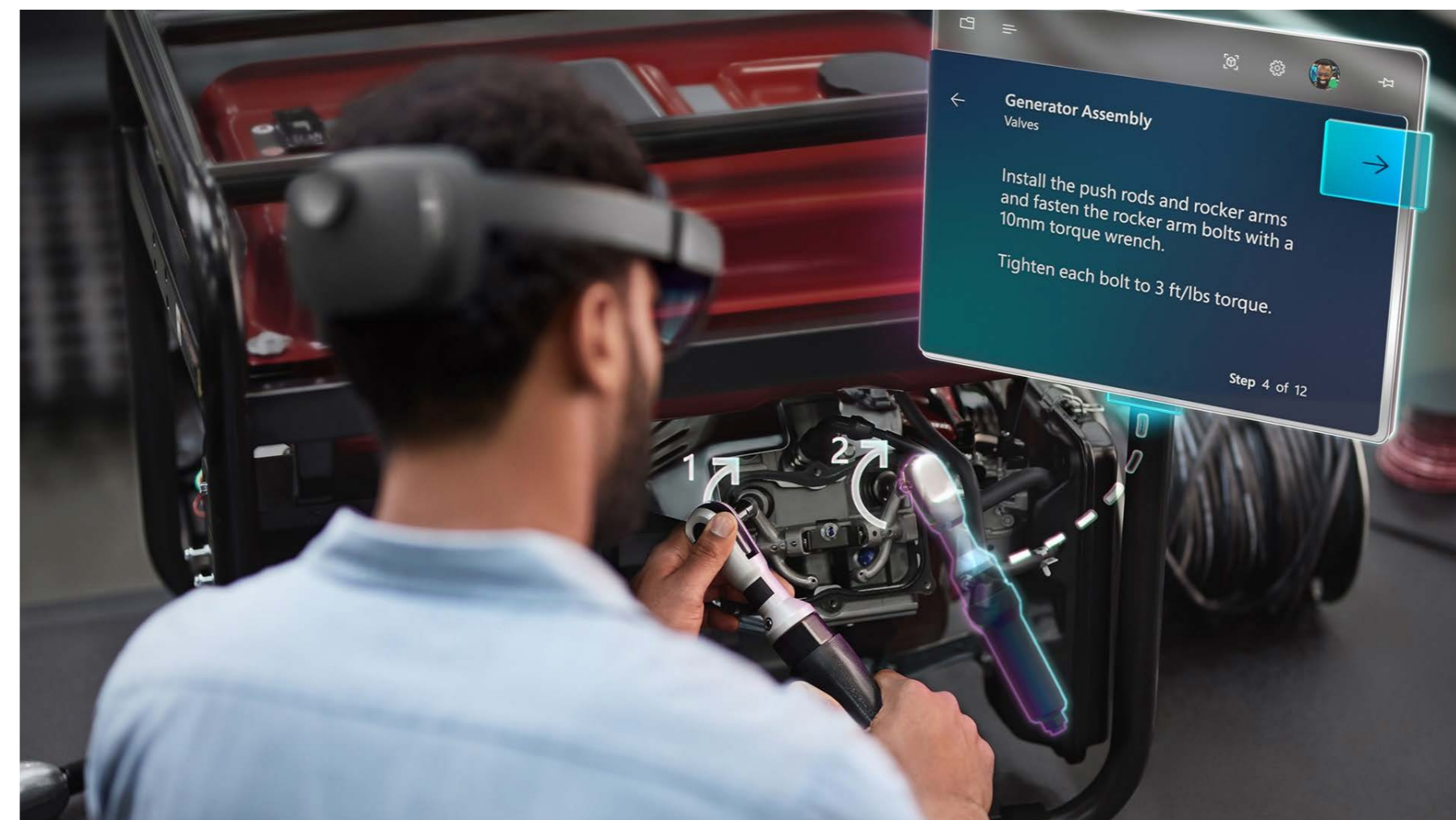
Remote Water Supply

Benefits of Augmented Reality & Digital Twins

- Puts users training directly into the experience of their actual environment, virtually
- Trainees can learn significantly faster because they're not having to find their place in the training materials
- Consistent training for each trainee
- Ability to take the online training on their own at any time
- Easy to author and easy to use
- Digital Twins save authors time when identifying locations for equipment, piping, and valves
- Provides value to other areas of the Council

What are we doing, how are we doing it?

- Digital Twins
 - Full Plants
 - Buildings
 - Vehicles
- Augmented Reality Training
 - Small pilot using Lockout/Tagout mockup



How are we involving our operations staff?

- Operations Staff
 - Involved in initial pilot of Augmented Reality technology
 - Walking us through scanned areas helping name equipment
 - Helping test out procedures and tours of areas virtually
 - Request specific areas/projects in which to use Augmented Reality or create Digital Twins

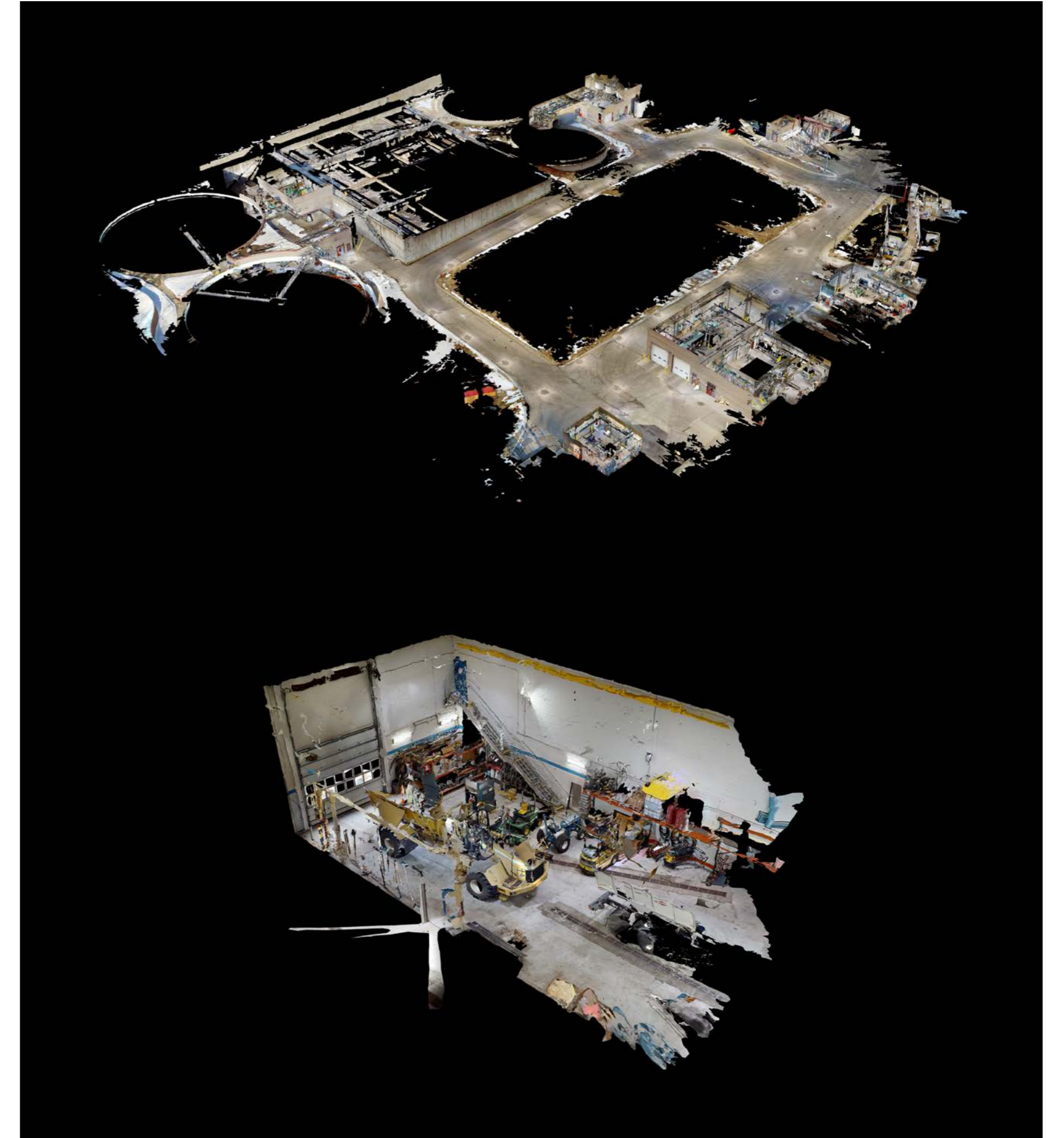


DEMO: The best part

1. Eagles Point Wastewater Treatment plant Digital Twin
2. Video SOP combining the mapping technology with video
3. Vehicle mapping for training

Use cases

- Virtually meet in the location
- Maintenance and construction meetings
- Site and building tours
- Before and after inspections
- Planning
- Training



Lessons Learned and Next Steps

- Lessons Learned
 - Transitioning our workforce to new training techniques/technology takes time
 - Select projects/pilots that will show the most value
- In the Future:
 - Increase the number of Digital Twins created
 - Creating easy access to the models
 - Create Augmented Reality training pilots using the HoloLens
 - Create more plant tours and SOPS using Digital Twins and video
 - Exploring more Potential uses for Virtual Reality training

Questions

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