LIFT IWS Challenge 2024

Guidance for Solution Submission

The LIFT Intelligent Water Systems Challenge: Judging Criteria

An Opportunity for Utilities, Vendors, Civic Hackers, and Students

Today's water industry operates complex treatment, collection, and distribution systems to protect public and ecological health. These systems are increasingly instrumented to monitor key process indicators and other parameters to facilitate operations. The Water Research Foundation (WRF) and Water Environment Federation (WEF) LIFT program holds the LIFT Intelligent Water Systems Challenge to demonstrate the value to utilities of these "intelligent water systems." The Challenge seeks to foster the adoption of smart water technologies by showcasing the ability of intelligent water systems to leverage data effectively for better decisions.

Solution Goals:

- Demonstrate the value of intelligent water systems.
- Leverage data using the best available tools to better understand and make decisions.

The Challenge will recognize the best solutions developed by participants, offering a top prize of $10,000. Recognition will also be given to innovative approaches and outstanding contributions from students or young professionals.

The Challenge will work with water utilities worldwide to identify individual challenges. Teams will work to address these individual challenges through innovative analytics applied to data from utilities' intelligent water systems. Some utilities may have the capacity and interest to participate directly on teams, while others may limit their involvement to furnishing a problem statement and relevant data. The Challenge therefore recognizes two kinds of solvers:

- Teams who select a Challenge problem statement provided by a utility and work closely with staff from that utility to develop and implement a solution approach.
- Teams who select a Challenge problem statement provided by a utility and develop and implement a solution with minimal interaction with the utility.

In either case, multiple teams can select the same problem and independently implement a solution.

Eligibility

The Challenge is open to anyone who has a registration form. Participation by utility members, technology providers, consultants, academia, and students is encouraged. There is no participation limit for any single organization. However, expect no more than one team from that organization to be invited to the final ceremony at WEFTEC.

Teams can consist of a minimum of two and a maximum of six people. Each team member must complete the individual registration form.

2024 Challenge Timeline

January 22	Challenge Launch
April 8	Webcast for Interested Participants in the IWS Challenge
April 22	Team Registration Deadline
May 13	Challenge Plan Deadline
May 14 – June 13	Optional check-in with Steering Committee
July 29	Challenge Solution Deadline
August 19	Judges' Scoring Completed
September 2	Finalists Notified
October 7	Final Presentations and Awards Ceremony at WEFTEC 2024 in New Orleans, LA

Requirements

Team Lead registering for all the team members with contact information is required on Alchemer by April 22, 2024 – (https://survey.alchemer.com/s3/7684940/LIFT-IWS-Challenge-2024). Each team member will be required to submit a Conflict of Interest form. If an individual is on multiple teams, they must disclose to each team their participation and role in each team for transparency and to clarify participation expectations.

Each team will have one identified Team Lead.

The Challenge Plan and Challenge Solution must be submitted via WEF's online platform by 11:59 PM EST on the associated deadline. Each team will receive a link to the WEF online platform to submit the solution. Materials that aren't submitted through the online platform will not be accepted. No additions or modifications to the submitted materials will be accepted after the deadline.

If previous work has been done on the proposed problem, teams must clearly articulate the existing work and the intended scope of work to be done under this Challenge period in the Challenge Plan.

If a proprietary technology or software is part of the Challenge Solution, teams must indicate in the submission materials and request signed NDA forms from steering committee members and judges. The Challenge is not responsible for managing intellectual property rights.

Challenge Plan Submission

Each team should submit a Challenge Plan that will be provided to the Steering Committee and judges. The Challenge Plan must be submitted via WEF's online platform by 11:59 PM EST on May 13, 2024. Each team will receive a link to the WEF online platform to submit the solution.

The Challenge Plan must include (but is not limited to):

The Team:

- Identify the Team Lead, who will serve as the primary point of contact for the Challenge.
- For each team member include name, title, organization, email, and skill set/area of expertise.
- Description of each team member's role and responsibilities.

The Problem Statement:

- Explain the problem/need faced by the utility that the team is solving for.
- Explain the desired outcome for the solution. What is the target or goal that the team is trying to meet? What metrics will be used to evaluate progress and success?

The Intelligent Water System:

- Describe the current system (e.g. data source, technology used, networking, system architecture, O&M) relevant to the problem being solved.
- If previous work has been done on the proposed problem, please clearly articulate the existing work and the intended scope of work to be done under this Challenge period.

The Plan:

- Describe the proposed solution, level of effort and timeline; may include visuals or graphics. Teams should note if, for the Challenge, the solution is a pilot or a full-scale solution.
- Timeline to implement the proposed solution.

Challenge Solution Submission

Each team should submit a Challenge Solution that will be provided to the Steering Committee and judges. The Challenge Solution must be submitted via WEF's online platform by 11:59 PM EST on July 29, 2024. Each team will receive a link to the WEF online platform to submit the solution. The Plan must be no longer than seven (7) pages. You are welcome to submit appendices; they will not count towards the maximum page count. However, there is no guarantee that the judges will review any appendices, so we strongly encourage you to present pertinent information within the seven-page limit.

The Challenge Solution must include (but is not limited to):

The Team:

- Names of Team Lead and members.
- Identify if any changes to the team have occurred during the duration of the Challenge.

Problem Statement (maximum of two pages):

- Concisely describe the problem/need the Team is solving for.
- Describe key considerations and the desired outcome.

The Solution (maximum of five pages):

- Recap the Intelligent Water System and any possible modifications or additions identified to meet the outcome goal.
- Describe the implementation and whether any adjustments were made.
- Describe the quantified and/or qualified value-add of the solution.
- Present next steps for the solution beyond the Challenge.
- Outline financial support needed or considerations.
- Consider ease of replication by other utilities to address a similar problem.
- Describe any difficulties faced and how the team mitigated them.
- Describe how the results of the solution will be communicated and used by the utility.
- Identify data streams and QA/QC considerations.
- Provide analysis and interpretation to support the solution.

Judging Criteria

These are the following criteria applied for Grand Prize consideration.

Intelligent Water Systems Challenge **Judging Sheet**

TEAM NAME	(team name)
JUDGE	(judge name)
SCORE	**out of 140**

	Raw (0-10)	x Weight =	Score	
TEAM				
1 Team includes necessary skills and has appropriate utility input representation.		x 1.0 =		out of 10
PLAN				
2 Problem Statement that shows understanding of how analytics can address utilities' challenges in utilities' terms.		x 2.0 =		out of 20
3 Characterization of the Intelligent Water System by describing the existing system or its salient parts.		x 1.0 =		out of 10
4 Plan that lays out a realistic timeline and approach for achieving the intended solution.		x 1.0 =		out of 10
IMPLEMENT				
5 Data streams are clearly identified and **QA/QC** appropriately discussed.		x 2.0 =		out of 20
6 Analysis & Interpretation deliver results that clearly support the intended solution.		x 2.0 =		out of 20
7 Communication & Use provide actionable results supporting decisions.		x 2.0 =		out of 20
8 The Solution meets utility expectations using appropriate tools.		x 2.0 =		out of 20
JUDGE'S IMPRESSIONS				
9 Recognition of alignment with IWS Challenge goals, scalability and sustainability, lessons learned, and more.		x 1.0 =		out of 10

COMMENTS