

IBPSA Project 2

Online meeting: Task 1 – mission BOPTTEST funding

23/01/2025

Attendees:

<u>Name</u>	<u>Affiliation</u>
Antonio Galvez	R2M, Spain
David Blum	LBNL, CA, USA
Ettore Zanetti	LBNL, CA, USA
Guowen Li	Texas A&M University, TX, USA
Harald Walnum	SINTEF, Norway
Iago Cupeiro	Cupeiro Sinte, Spain
Javier Arroyo	Wedoco, Spain
Matthias Van Hove	DTU, Denmark

Agenda.

- Events, workshops, and presentations [10 min]
- Website and other media [5 min]
- Mission BOPTTEST funding [40 min]
- Miscellaneous [5 min]

Introduction

Antonio Galvez is introduced to the team. He is a technical project manager at R2M and works with Laura Zabala. He is advising on seeking funding for BOPTTEST in Europe.

Events, workshops, and presentations.

- **2024/11/27 → 1st Project 2 research webinar at IBPSA Webinar Series.** It went smoothly! Thanks a lot to Iago Cupeiro and Esther Borkowski for presenting. The recording is available [here](#).
- **2025/01/29 → 2nd Project 2 research webinar at IBPSA Webinar Series.** Topic: BOPTTEST in action. Two scheduled presentations:
 - 1) Aaron Fish, product owner at Distech Controls, will explain how Distech integrates BOPTTESTS into its applications. Dave: it will be a colleague of Aaron who will present in the end.
 - 2) Gao Yuan, Assistant Professor at the International Institute for Carbon-Neutral Energy Research, Kyushu University, will demonstrate how BOPTTEST can be integrated into studies on MPC and RL.

Link for registration [here](#).

- **2025/03/26 → 3rd Project 2 research webinar at IBPSA Webinar Series.** Topic: demand response and energy flexibility. Esther mentioned to Javier that she is asking

Lieve's group for availability and that Flávia Andrade Pereira (from UCL) has confirmed she will speak at the webinar.

- **2025/05/13 → Presentation at the Building Digital Twin International Congress.** Laura Zabala or Jesus Febres from R2M will present there. This has been recently confirmed by Laura.
- **2025/08/24 → BS2025 in-person meeting and workshop.** Esther and Dave have been in contact with the conference organizers. The next step is to submit a workshop proposal to the conference program chair.
- **2025/08/24 → BS2025 papers on software and test cases.** Papers are due at the end of February. Please make sure you visit the link sent by Ettore to review and contribute to the paper on test cases. The other paper on software is also in the works by Dave. It will probably be shared with the team by next week.

Website and other media.

Updates to website

No progress here yet. Pending edits agreed on DTU in-person meeting were:

- Results Dashboard: There will be a summary of the dashboard and a link to it.
- Documentation: Needs multiple updates here and there. Particularly to remove those sections that are deprecated. Distinguish between the technical implementation of custom KPIs and other KPIs.

Mission BOPTTEST funding

- **Objective:** define a consortium emerging from IBPSA Project 2 that seeks funding to support BOPTTEST developments and community building. Sharing a research project leads to common goals and delivers a united community.
- Ideally, we could have USA partners as active members. Michael already got funding from the EU, but this was a very specific instance with a partnership already in place. Even if that is not possible, we could get support letters e.g. from Amir Roth (technology manager at DOE) to prove the broader scope of the project.
- Partners that have already shown their interest in participating are:
 - Wedoco
 - R2M
 - Cupeiro Sinte
 - DTU
 - SINTEF
 - Terion
 - LBNL
- Other partners that could be interested:
 - KUL (Javier will reach out).
 - Politecnico di Milano (Ettore's former PI already showed interest and mentioned they could contribute with a test case. Ettore will arrange a meeting with Javier).
 - Guowen will talk with his advisor Zheng O'Neill about it as well.
 - Aachen university: Laura Maier and Phillip Stoffel.

- Other partners could be the Hong Kong University (Walter Zhe) or Australia CSREL lab. However, getting funding for other partners outside the EU could be a burden.
- We are considering two types of calls:
 - HORIZON: very broad scope and heavy requirements. BOPTTEST could serve as a work package.
 - [The Clean Energy Transition Partnership](#) (CET Partnership, formerly ERANET). Smaller scope and lighter requirements. The requirements are defined per each country's agent, meaning that specific regional requirements may apply. Even then, requirements are probably more lightweight than HORIZON. Adrenalin project was funded by ERANET. DOE is shown as a collaborating organization on CET Partnership's website. Dave to look into it.
See the call from the previous year [here](#). We can expect the deadline for submitting the pre-proposal in ~November, acceptance in ~January, and the deadline for submission of the full proposal in ~April. Notice that IBPSA Project 2 is planned to end by 2027.
- A non-exhaustive list of ideas of use cases for contributions to the project:
 - Advanced control benchmarking in existing building emulators. This use case aligns seamlessly with BOPTTEST's core mission and requires no adaptations.
 - Advanced control benchmarking in new building emulators. Such cases allow for more accurate and tailored evaluations of controller performance, closely simulating real-world operational conditions and enhancing reliability during deployment.
 - Optimization engine using BOPTTEST-Gym. A new building emulator integrated into a BOPTTEST test case can be leveraged for simulation-based reinforcement learning (RL) via BOPTTEST-Gym.
 - Extension toward DOPTTEST. By extending its runtime environment, BOPTTEST can unlock new opportunities for optimizing larger energy systems, such as districts or energy clusters.
 - Training and workforce development e.g. for teaching at university and technicians on advanced building controls.
- Javier will send a form to confirm interest and start defining expected contributions to the project. It is relevant that partners align their expected contributions with their interests to get the most leverage with the project.