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### TAC Voting Members

<table>
<thead>
<tr>
<th>Name</th>
<th>Organization</th>
<th>Role</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boris Dolley</td>
<td>RTE (Renseau de Transport dElectricite)</td>
<td>OperatorFabric TSC Chairperson</td>
</tr>
<tr>
<td>Anne Tilloy</td>
<td>RTE (Renseau de Transport dElectricite)</td>
<td>PowSyBI TSC Chairperson</td>
</tr>
<tr>
<td>Phil Ngo</td>
<td>Recurve</td>
<td>OpenEEmeter TSC Chairperson</td>
</tr>
<tr>
<td>Arjan Stam</td>
<td>Alliander</td>
<td>Membership Entitlement</td>
</tr>
<tr>
<td>Jonas van den Bogaard</td>
<td>Alliander</td>
<td>GXF TSC Chairperson</td>
</tr>
<tr>
<td>Benoît Jeanson</td>
<td>RTE (Renseau de Transport dElectricite)</td>
<td>Membership Entitlement</td>
</tr>
<tr>
<td>Antonello Monti</td>
<td>RWTH Aachen University</td>
<td>SONGO TSC Chairperson TAC Chairperson</td>
</tr>
</tbody>
</table>

*The Power of Together*
# LF Energy Hosted Project Leads

<table>
<thead>
<tr>
<th>Project</th>
<th>Project Lead(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowSyBI</td>
<td>Anne Tilloy, RTE</td>
</tr>
<tr>
<td>OperatorFabric</td>
<td>Boris Dolley, RTE</td>
</tr>
<tr>
<td>OpenEEmeter</td>
<td>Phil Ngo, Recurve</td>
</tr>
<tr>
<td>GXF</td>
<td>Jonas van den Bogaard, Alliander</td>
</tr>
<tr>
<td>SOGNO</td>
<td>Antonello Monti, RWTH Aachen University</td>
</tr>
<tr>
<td>EM2</td>
<td>none</td>
</tr>
<tr>
<td>CoMPAS</td>
<td>Frederic Fouseret, RTE</td>
</tr>
<tr>
<td>FledgePOWER</td>
<td>Akli Rahmoun, RTE</td>
</tr>
<tr>
<td>Hyphae</td>
<td>Kotaro Jinushi, Sony ESL</td>
</tr>
<tr>
<td>openLEADR</td>
<td>Lonneke Driessen &amp; Stan Janssen, OpenADR</td>
</tr>
<tr>
<td>SEAPATH</td>
<td>Eloi Bail, Savoir-faire Linux</td>
</tr>
<tr>
<td>Grid Capacity Map</td>
<td>none</td>
</tr>
<tr>
<td>Shapeshifter</td>
<td>Jelle Wijnja, Alliander</td>
</tr>
</tbody>
</table>
Agenda

Opening (5 Minutes)

• Summary of last TAC meeting & Updates from the Board Meeting

TAC Business (60 Minutes)

• OpenSTF project proposal
• Sandbox stage proposal and approval

Events & Marketing Update (5 Minutes)

• Project video interviews

Open Discussion (15 Minutes)

Closing and next meeting (5 Minutes)
Summary of last TAC meeting

- Meeting notes and deck at

Updates from the Board
Upcoming community meetings of interest

- If interested in participating in Security WG meetings, please join the mailing list at https://lists.lfenergy.org/g/security
- Please share others!
Agenda

Opening (5 Minutes)
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Closing and next meeting (5 Minutes)
OpenSTF project proposal
Agenda

About Alliander; why Short Term Forecasting

Functional demo of OpenSTF

Overview of functional components

Roadmap
About Alliander

1. Optimizing use of assets
2. Balancing the energy system
3. Required: accurate forecasts
High-level Concept

Automated Machine learning Pipeline

Forecasts up to 48 hours ahead
Operational use cases at Alliander

1. Local grid balancing (~20/10kV)
   - Flexibility markets (USEF / GOPACS)
   - Bilateral contracts
   - Grid curtailment

2. Enable grid safety analyses TSO: GLDPM (150 -> 20/10 kV)

3. Stimulate innovation projects (with third-parties) (230 V)
   - EV smart charging
   - Microgrid optimization
   - Self-consumption maximization
Functional Dashboard OpenSTF
OpenSTF: Open Short Term Forecasting

Open Source repositories from Alliander. Interested? Send us an e-mail.
Anhem, The Netherlands  cpeo@alliander.com  Part of Alliander

Repositories

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>openstf</td>
<td>Automated Machine Learning Pipelines. Builds the Open Short Term Forecasting</td>
</tr>
<tr>
<td>openstf-dbc</td>
<td>Provides (company specific) database connector for the OpenSTF package</td>
</tr>
<tr>
<td>openstf-offline-example</td>
<td>Provides Jupyter Notebooks showing how to use OpenSTF and apply it's functionality to your usecase</td>
</tr>
<tr>
<td>openstf-reference</td>
<td>Deploy the entire OpenSTF stack on your machine. Provides a reference implementation of the OpenSTF stack including datamodels, databases and UI</td>
</tr>
</tbody>
</table>

Installation

Install the openstf package

```
pip install openstf
```

Usage

To run a task:

```
python -m openstf task <task_name>
```

Reference Implementation

A complete implementation including databases, user interface, example data, etc. is available at:
https://github.com/alliander-opensource/openstf-reference
Overview pipeline

Scheduled tasks in schedulers

Means:
- KTP pd.DataFrame()
- (dict) Prediction job
- Sklearn model
Nothing more!

Influx Database

OpenSTF

SQL Database

Data Collection
- Weather data
- Apx data
- pvoutput
- Load data
- Load corrections

Data retrieval
Historic load
Predictor data

Data preprocessing
Feature engineering/ data enhancement

Smart stuff
- Fit
- Predict
- Optimize
- Calc. KPI’s
- Split

Post processing
- Reporter
- Model score
- Confidence interval
- Renewable sanity

Load/store
- Save model
- load model
- save figures
- save confidence interval data
- Save forecast
- save hyperparams

OpenSTF-dbc

Company-specific-data fetchers

OpenSTF-dbc

User-api

Grafana
Active collaborations

Started deployment of OpenSTF at RTE
To replace legacy system

Exploration of integrating Sogno – ProLoaF in OpenSTF
And reusing OpenSTF-API for ProLoaF

August 25, 2021
Roadmap and challenges @Alliander

- Peaks (1% chance)
- Extremes (0.001% chance)
- Capacity ~2 weeks ahead
- Incorporating Customer T-forecasts
- Incorporating novel forecasting techniques
- Clustering of models
- Reactive power
- Logging / monitoring / auditability
- ...

...
TAC Open Discussion
## Project Review Cycle

<table>
<thead>
<tr>
<th>Project</th>
<th>Current Level</th>
<th>Initially Accepted</th>
<th>Last Review Date</th>
<th>Next Review Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>OpenEEmeter</td>
<td>Incubation</td>
<td>June 4, 2019</td>
<td></td>
<td>October 12, 2021</td>
</tr>
<tr>
<td>EM2</td>
<td>Early Adoption</td>
<td>June 4, 2019</td>
<td></td>
<td>October 12, 2021</td>
</tr>
<tr>
<td>GXF</td>
<td>Early Adoption</td>
<td>February 4, 2020</td>
<td></td>
<td>October 12, 2021</td>
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<tr>
<td>SEAPATH</td>
<td>Incubation</td>
<td>October 6, 2020</td>
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<td>OpenLEADR</td>
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<td>September 15, 2020</td>
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<td>November 23, 2021</td>
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<tr>
<td>Hyphae</td>
<td>Incubation</td>
<td>December 8, 2020</td>
<td></td>
<td>December 7, 2021</td>
</tr>
<tr>
<td>FledgePOWER</td>
<td>Incubation</td>
<td>February 11, 2021</td>
<td></td>
<td>February 15, 2022</td>
</tr>
<tr>
<td>SOGNO</td>
<td>Early Adoption</td>
<td>October 27, 2020</td>
<td>March 16, 2021</td>
<td>March 8, 2022</td>
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<tr>
<td>Shapeshifter</td>
<td>Incubation</td>
<td>April 6, 2021</td>
<td></td>
<td>March 29, 2022</td>
</tr>
<tr>
<td>Grid Capacity Map</td>
<td>Incubation</td>
<td>April 27, 2021</td>
<td></td>
<td>April 19, 2022</td>
</tr>
<tr>
<td>OperatorFabric</td>
<td>Early Adoption</td>
<td>April 30, 2019</td>
<td>July 20, 2021</td>
<td>July 12, 2022</td>
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<tr>
<td>CoMPAS</td>
<td>Incubation</td>
<td>May 5, 2020</td>
<td>June 29, 2021</td>
<td>July 12, 2022</td>
</tr>
<tr>
<td>PowSyBl</td>
<td>Early Adoption</td>
<td>April 30, 2019</td>
<td>August 31, 2021</td>
<td>August 23, 2022</td>
</tr>
</tbody>
</table>
Sandbox stage proposal

Proposed changes are in Exhibit A

RESOLVED: That the LF Energy Project lifecycle, as presented during this meeting, is hereby approved.
Agenda

Opening (5 Minutes)
- Summary of last TAC meeting & Updates from the Board Meeting

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Events & Marketing Update (5 Minutes)
- Project video interviews

Open Discussion (15 Minutes)

Closing and next meeting (5 Minutes)
Project Video Interviews

We are aiming to have each hosted project do a video interview with TFiR in the next few months.

Published:
• SOGNO - https://www.tfir.io/Lf-energy-open-source-projects-sogno/

Currently scheduled:
• OpenLEADR
• OpenEEMeter
• CoMPAS

ACTION: Have your primary project contact email marketing@lfenergy.org to get on the schedule
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Open Discussion (15 Minutes)

Closing and next meeting (5 Minutes)
The next meeting of the LF Energy TAC is scheduled for 12 October 2021 at 8:00 am US Pacific Time/11:00 am US Eastern Time/5:00 pm Central European Time.

Agenda will include:

- Recap of last TAC meeting/Governing Board updates
- OpenEEMeter/EM2 annual review
- GXF annual review
- Green Energy Hub project proposal (tentative)
- TFiR project interview updates
Thank you!