



# TAC Meeting

21 September 2021

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# TAC Voting Members

Boris Dolley	RTE (Reseau de Transport dElectricite)	OperatorFabric TSC Chairperson
Anne Tilloy	RTE (Reseau de Transport dElectricite)	PowSyBI TSC Chairperson
Phil Ngo	Recurve	OpenEEmeter TSC Chairperson
Arjan Stam	Alliander	Membership Entitlement
Jonas van den Bogaard	Alliander	GXF TSC Chairperson
Benoît Jeanson	RTE (Reseau de Transport dElectricite)	Membership Entitlement
Antonello Monti	RWTH Aachen University	SONGO TSC Chairperson TAC Chairperson

# LF Energy Hosted Project Leads

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

# 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 <https://wiki.lfenergy.org/display/HOME/Technical+Advisory+Council#TechnicalAdvisoryCouncil-MeetingMinutes>

## Updates from the Board

# Upcoming community meetings of interest

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

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# OpenSTF project proposal



# Agenda



About Alliander; why Short Term Forecasting



Functional demo of OpenSTF

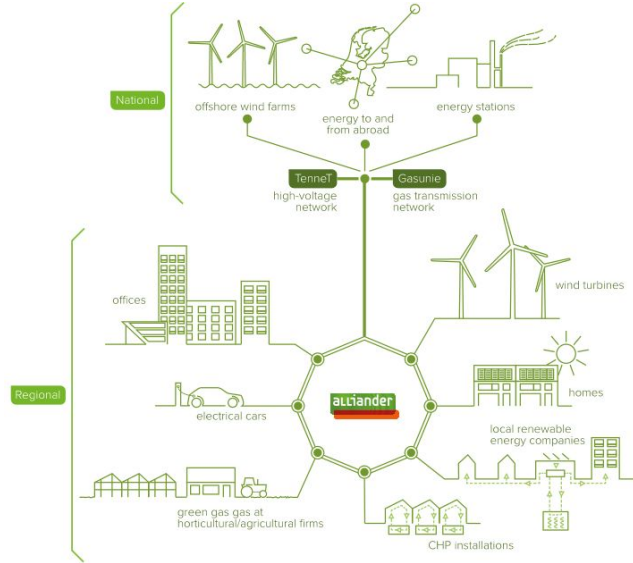


Overview of functional components

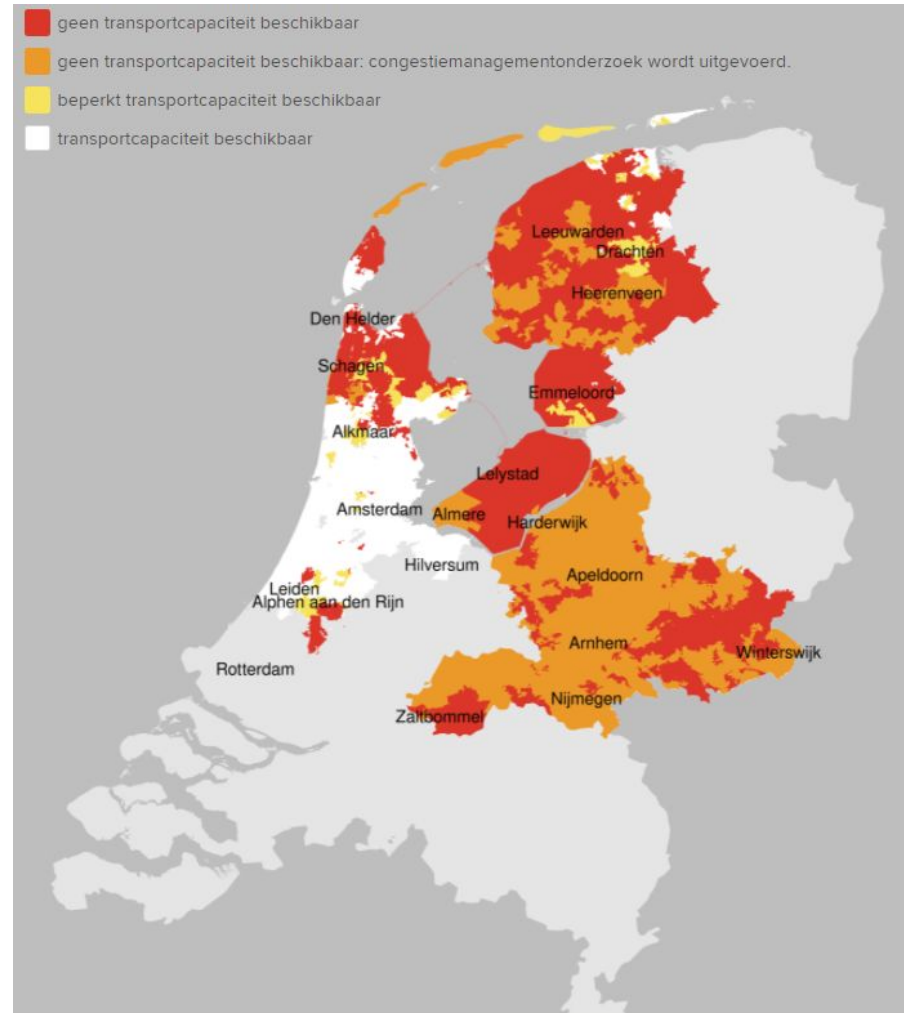


Roadmap

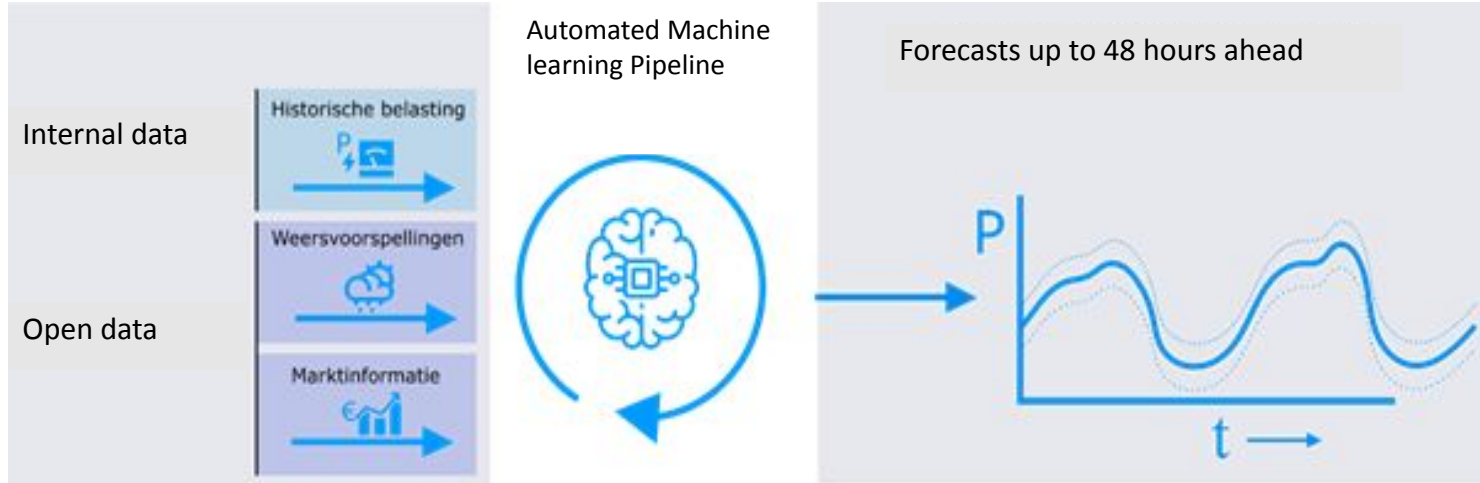
# About Alliander



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



# High-level Concept



# 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)

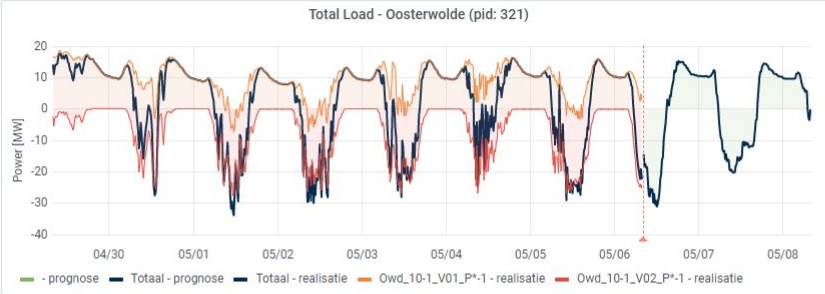
- EV smart charging
- Microgrid optimization
- Self-consumption maximization

# Functional Dashboard OpenSTF

Flex / Stationsprognoses ★ 🔊

📊 📄 ⚙️ 🕒 now-7d to now+2d UTC 🔍 🔄 📱

Prediction Oosterwolde ▼ Pid 321 ▼ description None ▼ Systems All ▼ Confidence [%] 98 ▼ SpecificTAhead 0.0 ▼ PolarityFlippedSystems All ▼ Now 🔴

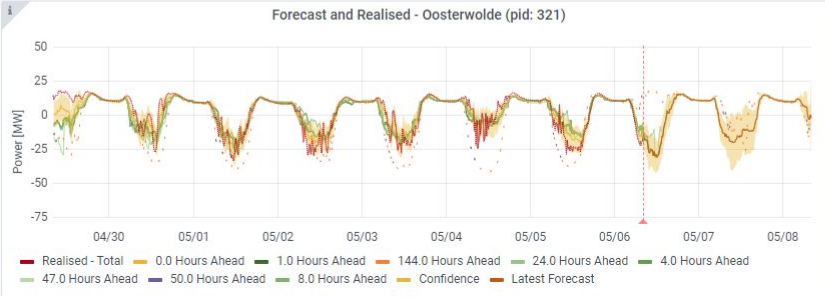


Last measurement  
**4 minuten geleden**

Prediction available till  
**over 2 dagen**

Laatste update  
**een paar seconden geleden**

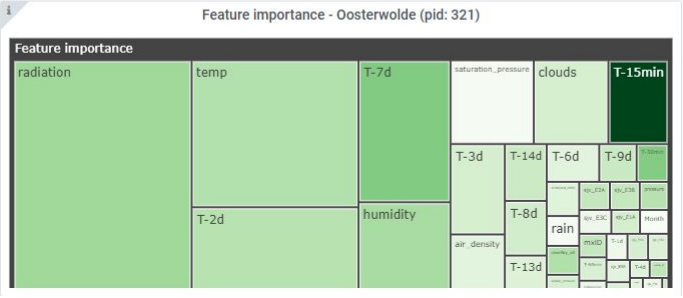
Prediction available till  
**over 2 dagen**




Forecast Quality  
**not\_renewed**

EAN (if any)  
**8716867555500000**

APIkey (if any)  
**1717286b-75e7-4fb7-b259-5c6043d2a7fc-Oosterwolde**



# OpenSTF: Open Short Term Forecasting

**Alliander Open Source**

Open Source repositories from Alliander. Interested? Send us an e-mail!

📍 Arnhem, The Netherlands ✉️ [ospo@alliander.com](mailto:ospo@alliander.com) 🏢 Part of Alliander Verified

🏠 Overview 📁 Repositories 44 📦 Packages 👤 People 322 👥 Teams 9 📁 Projects 📈 Insights


Repositories

🔍  Type ▾ Language ▾ Sort ▾ New

4 results for repositories matching **openstf** sorted by **last updated** Clear filter


**openstf**  
Automated Machine Learning Pipelines. Builds the Open Short Term Forecasting package

🔴 HTML ☆ 5 📦 MPL-2.0 🧑 3 🕒 8 (4 issues need help) 🛠️ 2 Updated 4 minutes ago




**openstf-dbc**  
Provides (company specific) database connector for the OpenSTF package

🔴 Python ☆ 0 📦 MPL-2.0 🧑 1 🕒 0 🛠️ 1 Updated yesterday




**openstf-offline-example**  
Provides Jupyter Notebooks showing how to use OpenSTF and apply it's functionality to your usecase

☆ 0 🧑 0 🕒 0 🛠️ 0 Updated 22 days ago



**openstf-reference**  
Deploy the entire OpenSTF stack on your machine. Provides a reference implementation of the OpenSTF stack including datamodels, databases and UI

🔴 HTML ☆ 3 📦 MPL-2.0 🧑 1 🕒 0 🛠️ 0 Updated on Aug 9



☰ README.md

🔍 quality gate passed 🐛 bugs 0 🧴 code smells 4 📊 coverage 82.9% 📄 duplicated lines 0.4% 🛡️ maintainability A

📈 reliability A 🛡️ security A 📄 technical debt 13min 🛡️ vulnerabilities 0

## Openstf

Openstf is a Python package which is used to make short term forecasts for the energy sector. This repository contains all components for the machine learning pipeline required to make a forecast. In order to use the package you need to provide your own data storage and retrieval interface. `openstf` is available at: <https://pypi.org/project/openstf/>

## Installation

### Install the openstf package

```
pip install openstf
```

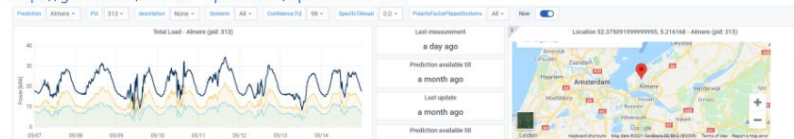
## Usage

To run a task use:

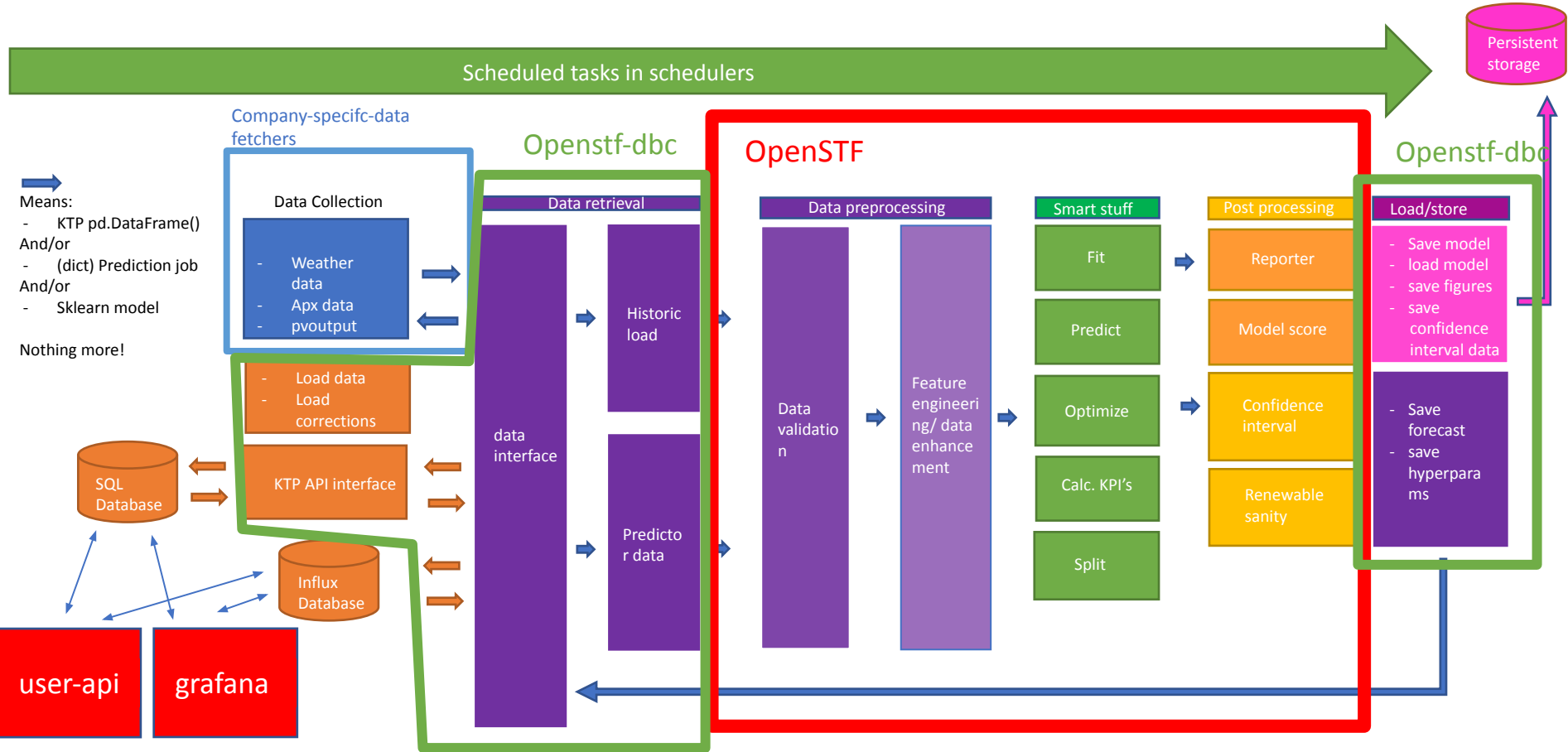
```
python -m openstf task <task_name>
```

## Reference Implementation

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



# Overview pipeline

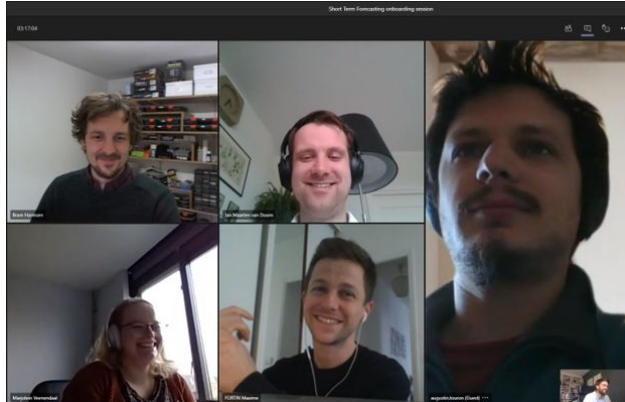




# Active collaborations

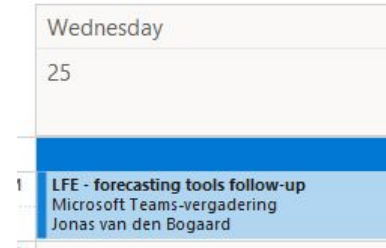


Started deployment of OpenSTF at RTE  
To replace legacy system



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

day < > 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

Project	Current Level	Initially Accepted	Last Review Date	Next Review Date
OpenEEmeter	Incubation	June 4, 2019		October 12, 2021
EM2	Early Adoption	June 4, 2019		October 12, 2021
GXF	Early Adoption	February 4, 2020		October 12, 2021
SEAPATH	Incubation	October 6, 2020		October 25, 2021
OpenLEADR	Incubation	September 15, 2020		November 23, 2021
Hyphae	Incubation	December 8, 2020		December 7, 2021
FledgePOWER	Incubation	February 11, 2021		February 15, 2022
SOGNO	Early Adoption	October 27, 2020	March 16, 2021	March 8, 2022
Shapeshifter	Incubation	April 6, 2021		March 29, 2022
Grid Capacity Map	Incubation	April 27, 2021		April 19, 2022
OperatorFabric	Early Adoption	April 30, 2019	July 20, 2021	July 12, 2022
CoMPAS	Incubation	May 5, 2020	June 29, 2021	July 12, 2022
PowSyBI	Early Adoption	April 30, 2019	August 31, 2021	August 23, 2022

# Sandbox stage proposal

Proposed changes are in Exhibit A

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

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# 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](mailto:marketing@lfenergy.org) to get on the schedule**



LF Energy Open Source  
Projects: SOGNO

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# Open Discussion



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# Next TAC Meeting

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!