

Project DEMOCRASI

User Interface Requirements

Power Forward Challenge 2020

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Author: Kiwi Power

Contributors: Opus One, Bracebridge Generation

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1 Introduction

1.1 Purpose

This deliverable summarises the identified user interface requirements for the joint solution developed as part of the DEMOCRASI project. These described requirements were identified and selected by the DEMOCRASI partners over a number of brainstorming sessions and prioritised following the MoSCoW technique.

This document will focus on types of requirements associated with the topic of “user interface” and is part of the Milestone 1 Submission of the DEMOCRASI project to NRCAN, which includes the following reports:

- 1.1 Market Adaptation Report
- 1.2 Use Cases Definition Report
- 1.3 User Interface Requirements
- 1.4 Solution Architecture Diagrams
- 1.6 Due Diligence Report
- 1.7 Verification Plan

This document is structured in four sections, starting by providing an overview of the DEMOCRASI project, including background and scope in section 1. *Introduction*. Section 2. *User Interface: Key Principles and Requirements Prioritisation* provides an understanding of the users and key principles assumed by the project team and describes the technique used to prioritise the listed requirements. These requirements are detailed in section 3. *User Interface Requirements*, followed by a few final considerations in 4. *Report Remarks*.

1.2 Project Background

DEMOCRASI - *Dispatchable Energy Market Optimized Constraint Real-time Aggregated System Interface* is a project funded under the Power Forward Challenge, a Canada-UK joint competition on Smart Energy Systems, sponsored by Natural Resources Canada (NRCAN) and the Department for Business, Energy and Industrial Strategy (BEIS).

The goal of the project is to demonstrate the viability of a modern approach to asset aggregation where asset dispatch is optimized to meet the demands of the bulk market, while also serving local grid needs. The output of the DEMOCRASI project is the design and deployment of a joint product solution that allows distribution-connected distributed energy resources (DER) to participate in both bulk and local flexibility services safely and optimally.

Project DEMOCRASI is delivered by a consortium led by Bracebridge Generation (Canada) in partnership with Opus One Solutions (Canada) and Kiwi Power (UK).

1.3 Project Scope and Document Objectives

The technical focus of DEMOCRASI is the design and deployment of a joint product solution that allows distribution-connected distributed energy resources (DER) to participate in both bulk and local flexibility services safely and optimally. Solution aims at 1) optimally dispatching DERs for participation in a bulk market while also serving local grid needs without affecting grid reliability, and 2) gives LDC visibility and control over participating assets.

The joint product solution formalises the integration between the two software solutions:

- GridOS, by Opus One Solutions: an advanced analytics platform providing the optimization functionality needed to support the joint product, performing a three-phase unbalanced time-series optimization on distribution and sub-transmission networks
- Kiwi Core, by Kiwi Power (also referred to as KOMP in previous outputs): a proprietary Platform-as-a-Service (PaaS) product, providing a set of core services to help efficiently manage anything from individual assets to huge fleets, to take advantage of the flexibility of these assets in different markets. It is the operational and management platform for all of our customers - primarily Flexibility Suppliers and Flexibility Operators.

The joint product solution is composed of four elements: GridOs, Kiwi Core, an Orchestrator and a Bulk Market Adapter. The functionalities of these elements are described in report *1.5 Joint Product Specification Document*.

This document describes the user interface element of Kiwi Core, acting as the presentation and high-level dispatch layer within the DEMOCRASI joint product solution.

On the front end, Kiwi Core will present a user interface to the Asset Owner, LDC Operator, and the Aggregator roles; utilising role-based access controls to present relevant screens to each user role.

In line with this, the objective of this document is to present and describe the requirements of the Kiwi Core interface in the joint product solution.

2 User Interface: Key Principles and Requirements Prioritisation

2.1 Users and Key Principles

The users of the joint solution system are defined in Table 1. Further information on users and use cases can be found in the deliverables 1.2 Use Cases Definition Report and 1.5 Joint Product Specification Document.

User	Role / Activities
LDC Operator	Monitors DERs on the local grid, taking action to ensure the reliability of the grid.
Aggregator	Monitors aggregated DER fleet and participating markets. Ensure that available DERs are participating in the most lucrative actions available.
Asset Owner	Maintains owned DERs, ensuring availability for dispatch. Communicates scheduled or unscheduled downtime with the Aggregator.

Table 1 - DEMOCRASI Users

In DEMOCRASI, Kiwi Core provides the bulk system interaction, aggregator functionality and the user interface needed to support the product solution. This document describes the user interface changes required in Kiwi Core current functionalities for the above-mentioned users.

The design of the user interface in the DEMOCRASI joint product solution focuses on anticipating what the operator/user might need to do and ensuring that the interface has elements which facilitate those actions, in an easy to access, understand, and use manner. The project team has accounted for concepts within interaction design, visual design and information architecture, to develop an interface that is as intuitive, efficient, and user-friendly as possible.

The following key principles (non-exhaustive) were considered when defining the interface requirements:

- The LDC Operator could be Lakeland Power or Bracebridge staff for the project, likely to be the latter.
- The following data will be sent to Kiwi Core and there is decision needed on whether this information is to be displayed in the user interface, subject to project timelines:

Maximum Load Reduction	The total amount of load (per hour) that could be reduced by all flexibility assets participating in the bulk system whilst minimising the impact to the local network.
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Maximum Per-Asset Utilization	The amount of load (per hour) that could be reduced by each flexibility asset participating in the bulk system whilst minimising the impact to the local network.
Reference Meter Point Load	The expected load (per hour) at the meter point.
Per Asset Dispatch Schedule	The output from the network optimization performed by GridOS that determines which assets to dispatch (per hour) in the event of a bulk or local activation.
Load & Generation Forecasts	The load and generation forecasts for non-participating assets that have an impact on the network optimization (Feeder Head Load, Hydro Generation and Solar Generation).

- For IESO Capacity Market participation, the Maximum Per Asset Dispatch Schedule could be higher than the Maximum Load Reduction (i.e.. different).
- The operator will not be allowed to override the bid update
- The operator will not be allowed to override the automatic removal of a bid by Kiwi Core

With the key principles identified, the project team was able to list the user requirements and prioritise each using the MoSCoW methodology, as described in *2.2 Technique: MoSCoW*.

2.2 Technique: MoSCoW

The project has selected the MoSCoW technique as a prioritisation method to decide which requirements to complete first, which must come later and which to exclude. The letters stand for:

- **M**ust Have
- **S**hould Have
- **C**ould Have
- **W**on't Have this time.

The specific use of MoSCoW in this project aims to provide a clear indication of items being specified and the expectations for its completion. The requirements have been defined as follows:

Must Have

These provide the Minimum Usable Subset (MUST) of user requirements which the project guarantees to deliver. These have been defined assuming that a viable solution cannot be delivered without them and are critical to the current delivery time frame in order for it to be a success.

Should Have

Should Have requirements have been defined as important but not vital to the user or necessary for delivery in the current delivery timeframe. Should have requirements are not as time-critical as Must

Have or there may be another way to satisfy the requirement so that it can be held back until a future delivery timeframe. As so, these requirements are to be included if time and resources allow.

Could Have

Could Have requirements are defined as wanted or desirable but less important or less impactful if left out. These requirements are not to be delivered within the agreed timeframe of the project but are to be considered for any future developments.

Won't Have

These are the requirements which the project team has agreed will not be delivered as part of this timeframe of DEMOCRASI. Nonetheless they are to be recorded in this document as they help clarify our process of defining the requirements for the user interface.

2.3 List of identified requirements

The user requirements were identified and prioritised as shown in Table 2.

Requirement	MoSCoW Category	Priority
Operator must have the ability to set the availability of assets	Must Have	M1
Operator must have the ability to set which programmes an asset can participate in.	Must Have	M2
Operator must have the ability to stop the dispatch of assets in the event of an emergency.	Must Have	M3
Report to the Operator, meter point (if available) / asset performance for compensation or non-performance purposes.	Must Have	M4
Alerts on Activation notices from the IESO	Must Have	M5
Operator must have the ability to download measurement data at 5 minute interval granularity	Must Have	M6
The <i>Per Asset Dispatch Schedule</i> is displayed to the Operator	Should Have	S1
Receipts of dispatch instruction by a Fruit and by GridOs are displayed to Operator	Should Have	S2
Telemetry during activation is displayed to Operator	Should Have	S3
Display [to the Operator] the daily bid for the programme	Should Have	S4
Display [to the Operator] the Load & Generation Forecasts	Should Have	S5

Display [to the Operator] the Maximum Load Reduction which is the total (aggregate) utilisation per hour	Could Have	C1
Display [to the Operator] the Reference Meter Point Load which is the assumed load at the meter point per hour (2.0 and 2.2.2 with an override for the second)	Could Have	C2
Display [to the Operator] the Maximum Per Asset Utilization which is the estimated maximum utilisation per asset per hour for the bulk system (2.0)	Could Have	C3
Inform the operator that a bid has been updated (could simply recorded in a log)	Could Have	C4
Inform the operator that a bid has been removed (could simply recorded in a log)	Could Have	C5
Inform the operator that no standby has been received (could simply recorded in a log)	Could Have	C6
Inform the operator that a standby has been received (could simply recorded in a log)	Could Have	C7
Inform the operator that no activation notice has been received (could simply recorded in a log)	Could Have	C8
Display the IESO commitment period availability window (Winter / Summer)	Could Have	C9
Display the IESO Capacity obligation (Winter / Summer)	Could Have	C10
Display the IESO Standing Bid (which has been set via the IESO portal)	Could Have	C11
Operator has the ability to override local peak shaving dispatch on the day of (2.1)	Could Have	C12
Report [to the Operator] the Per Asset Dispatch Schedule vs. Maximum Per Asset Dispatch Schedule	Could Have	C13
Report [to the Operator] the Reference Meter Point Load vs. actual meter point load before dispatch	Could Have	C14
Report [to the Operator] the Maximum Load Reduction vs. actual bid vs. actual meter point reduction after dispatch	Could Have	C15
Report [to the Operator] the Load & Generation Forecasts vs. actual load and generation before dispatch	Could Have	C16
Restrict the Operator from changing the asset availability and participation after the bid update (10:00 the day ahead) has passed.	Could Have	C17

Allow the Operator to update the bid post-activation notice (within the mandatory window) once approved by the IESO	Could Have	C18
Notify operator when a Per Asset Dispatch Schedule is received (via SMS, Phone or Email).	Could Have	C19
Operator has the ability to override a daily bid	Would not Have	W1
Display the pre-dispatch schedule [to the Operator] which gives them an idea whether they will get an activation from the IESO (non-binding).	Would not Have	W2

Table 2 - Identified requirements

3. User Interface Requirements

In this section the user interface requirements are identified and prioritised in each MoSCoW category, defining the rules of engagement for the user interacting with Kiwi Core as part of DEMOCRASI and providing a visual representation for each requirement.

Where possible wireframes and screenshots have been used to illustrate the right requirements and possibly shorten future requirements review cycles, by giving visual points of reference.

Within project DEMOCRASI, Kiwi Core is updated with regards to existing functionality, so this document focuses on primary scenarios requiring major changes rather than the entire Kiwi Core functionality.

3.1 Must Haves

The following section provides the Minimum Usable SubseT (MUST) of user requirements which the DEMOCRASI aims to deliver, which the project team considers imperative to the viable solution and current delivery time frame.

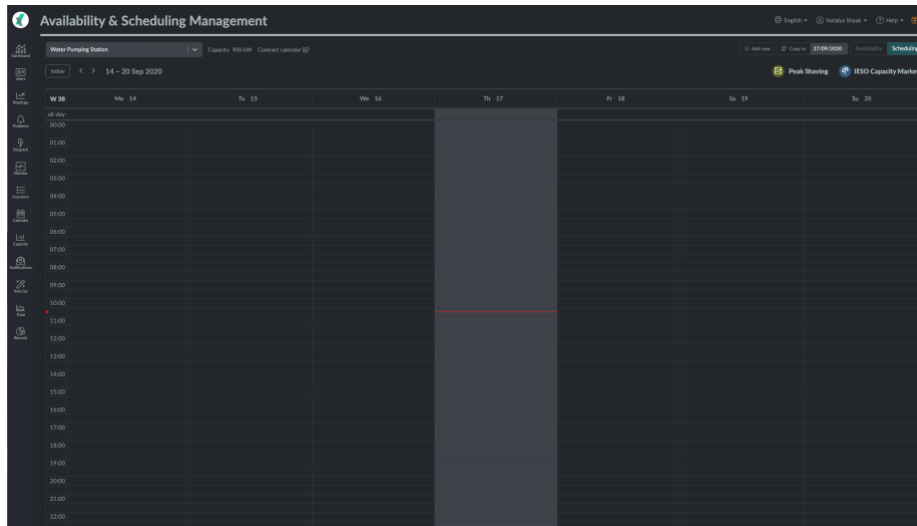
UIREQ-DEMOCRASI-M1	
Rationale	Operator must have the ability to set the availability of assets
Description	The operator will determine the availability of assets and set this on Kiwi Core. The availability will be set by day (00:00 to 23:59).
Priority	Must Have; High
Dependency	None
Risk	The operator enters incorrect availability, as it is their responsibility to determine availability and update in Kiwi Core.
Additional attributes	None

Proposed Solution

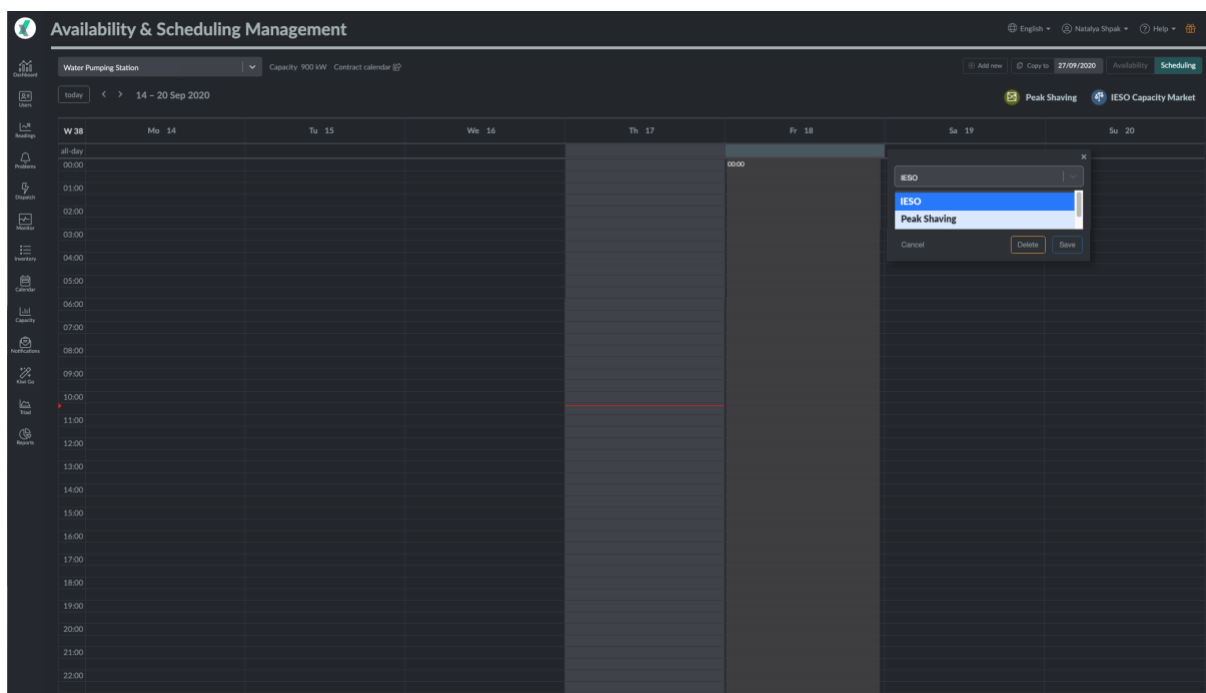
Operator will determine availability and update the calendar in Kiwi Core.

Planned Interface

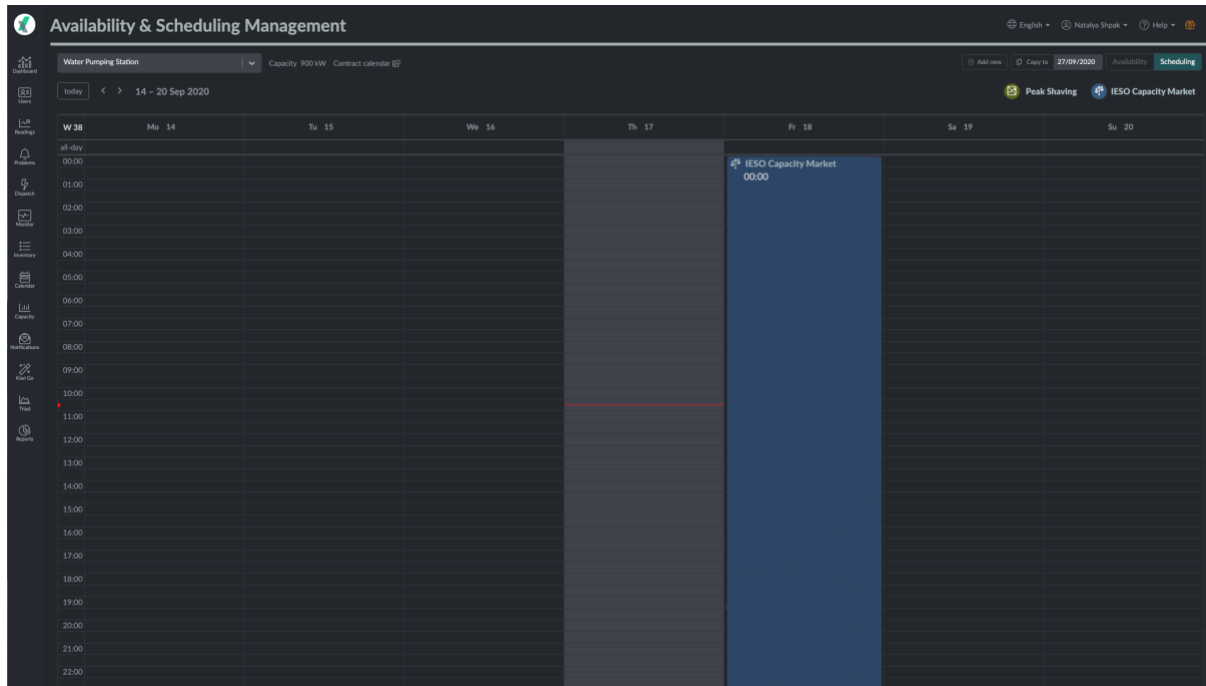
To get access to the Availability and Scheduling option, the user clicks on the Calendar menu item in Kiwi Core. Upon determining availability, the user updates the Calendar.



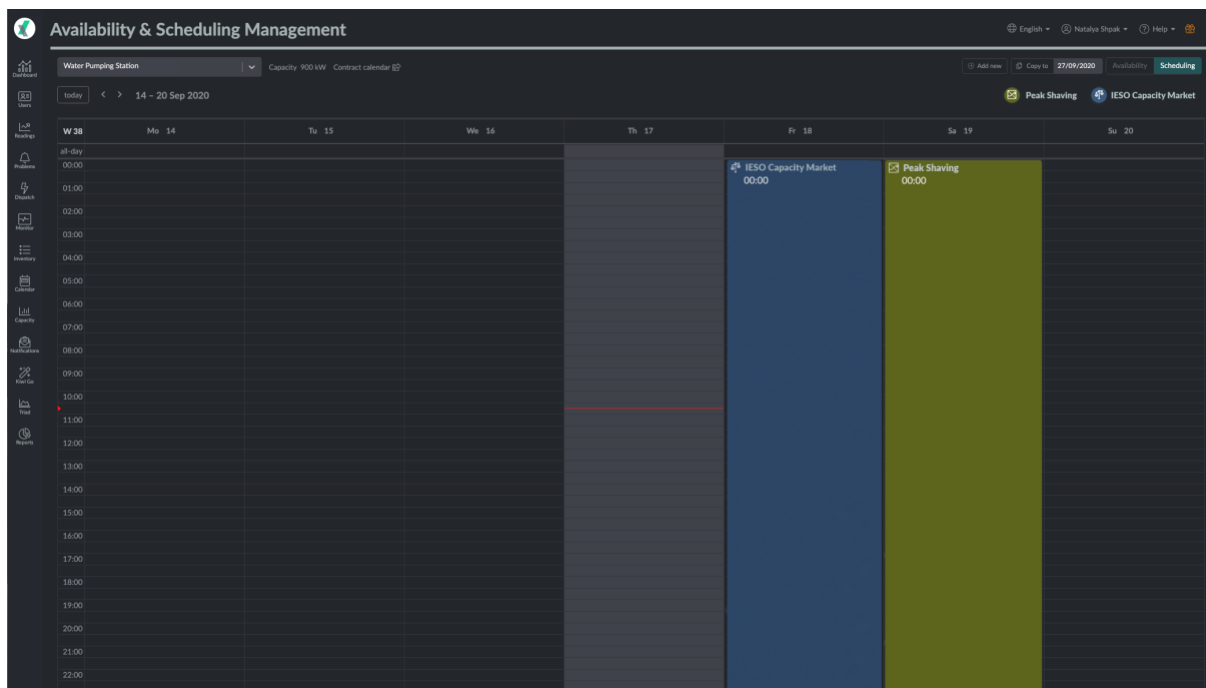
By clicking on the specific day cell, a pop-up frame appears with the option to select to programme from a drop-down list (IESO Capacity Market in this example). After selecting the programme from the drop-down list, the user will click the SAVE button.



The selected programme is highlighted on the calendar grid:



Example of two programmes selected in two different days:



UIREQ-DEMOCRASI-M2

Rationale

Operator must have the ability to set which programmes an asset can participate in.

Description	The Operator will chose from the following options which programmes the asset(s) will participate in: → Local peak shaving → IESO Capacity Market → Both → None.
Priority	Must Have; High
Dependency	UIREQ-DEMOCRASI-M1
Risk	The Operator sets the incorrect programme.
Additional attributes	None

Proposed Solution

Eligibility for programmes will be configured one-off when the operational data is set up. Given this is a one-off exercise that will not change during the project, a user interface may be unnecessary. How this is done will be an implementation decision.

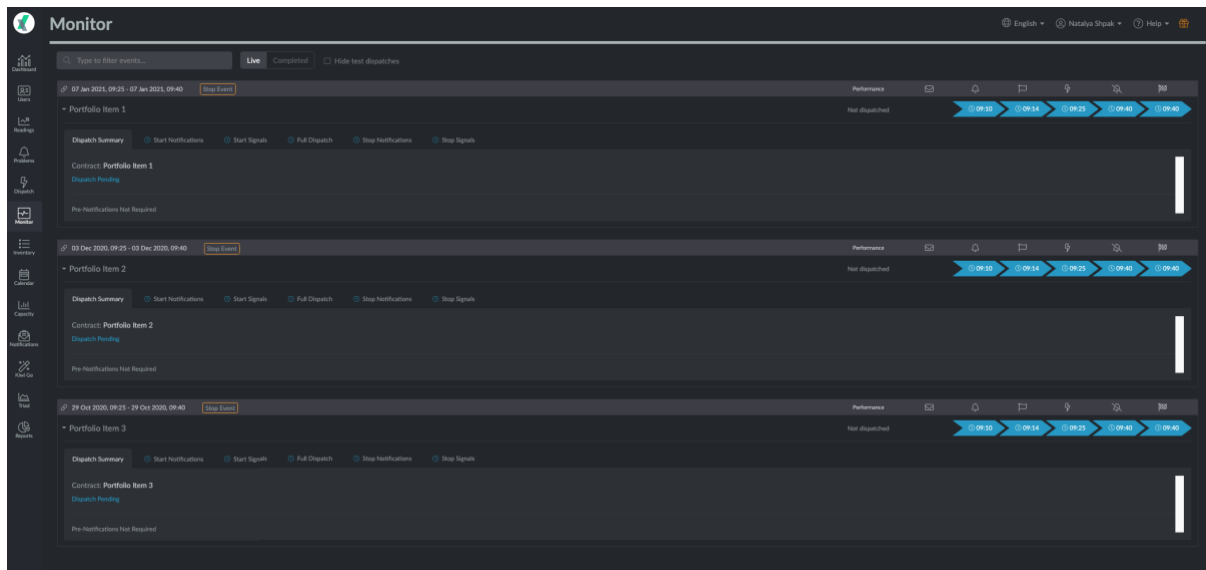
UIREQ-DEMOCRASI-M3	
Rationale	Operator must have the ability to stop the dispatch of assets in the event of an emergency.
Description	In case it is needed, the operator should be able to cancel the dispatch of assets when such a decision is made. This will result in sending an updated dispatch schedule.
Priority	Must Have; High
Dependency	UIREQ-DEMOCRASI-M1; UIREQ-DEMOCRASI-M2
Risk	Operator cancels incorrect dispatch(es)
Additional attributes	None.

Proposed solution

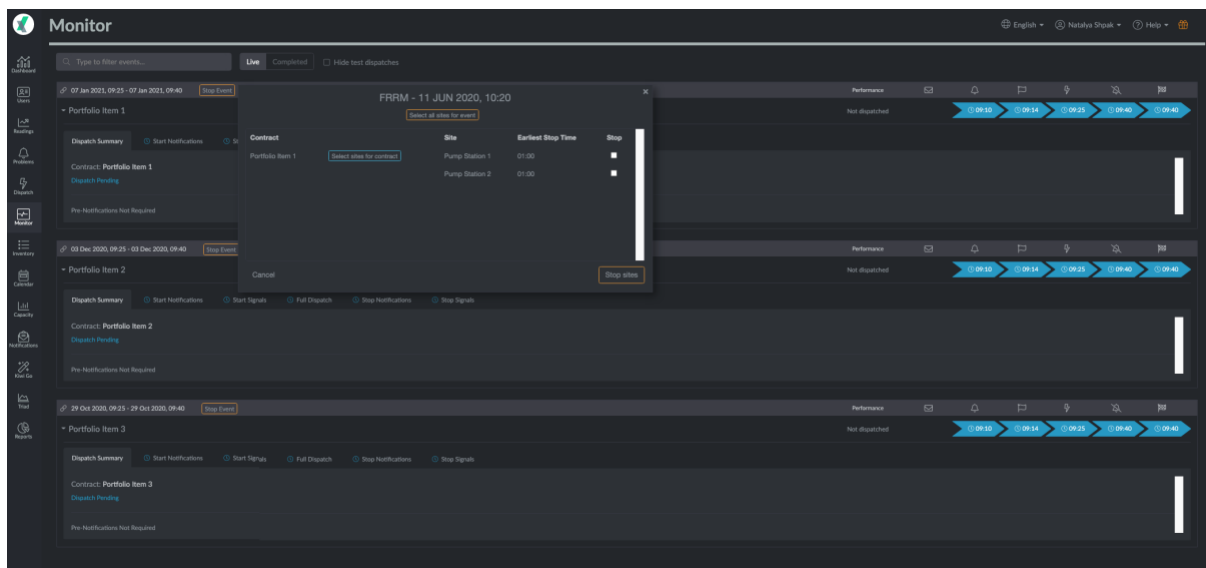
The Operator can prevent a dispatch from starting once it is scheduled. They can do this for some or all assets using contract (portfolio) features. The Operator can also choose to stop some or all sites once a dispatch has begun.

Planned Interface

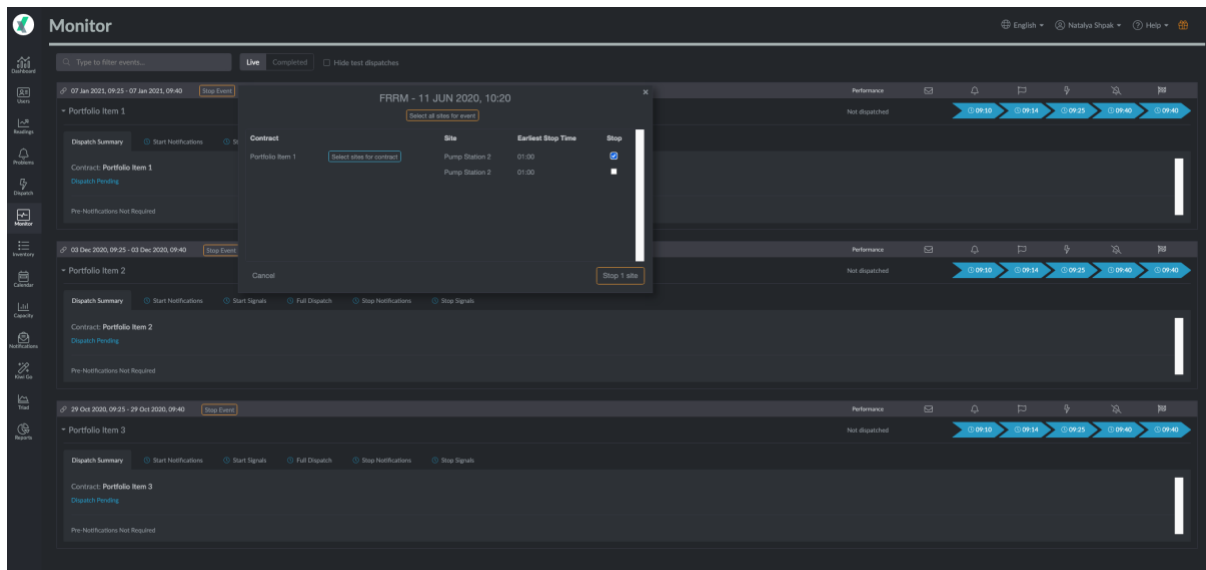
To see a list of dispatched contracts (portfolios), the operator clicks on the *Monitor* menu item:



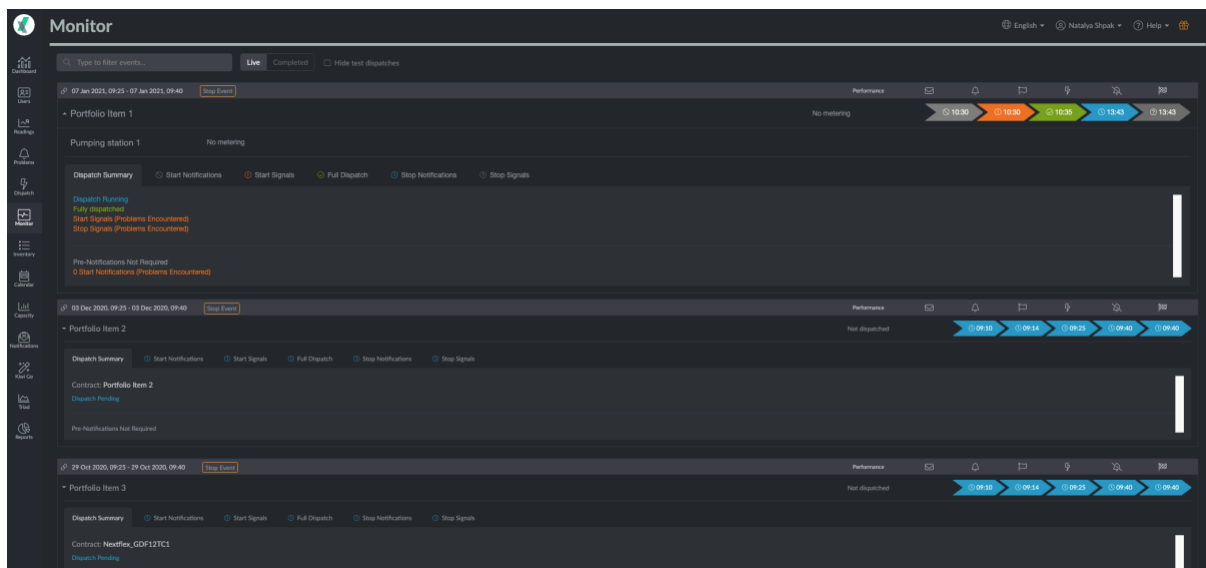
To stop an active dispatch of an asset or an entire portfolio, the Operator clicks on a *Stop Event* button in the portfolio header. A pop-up appears to display the current portfolio assets list and specify what asset should be stopped.



By selecting an asset from the list, the operator can stop one or all assets dispatched:



Once the dispatch has stopped, flags change, and comments and information about the dispatch are displayed in the tab situated under the flags. If a dispatch has been stopped, it will disappear from the *Monitor* page.



UIREQ-DEMOCRASI-M4	
Rationale	Report to the Operator, meter point (if available) / asset performance for compensation or non-performance purposes.
Description	The Operator should have access to asset performance data and metering data available, so settlements (reconciliation between the difference between the energy purchased and the energy sold).
Priority	Must Have; High

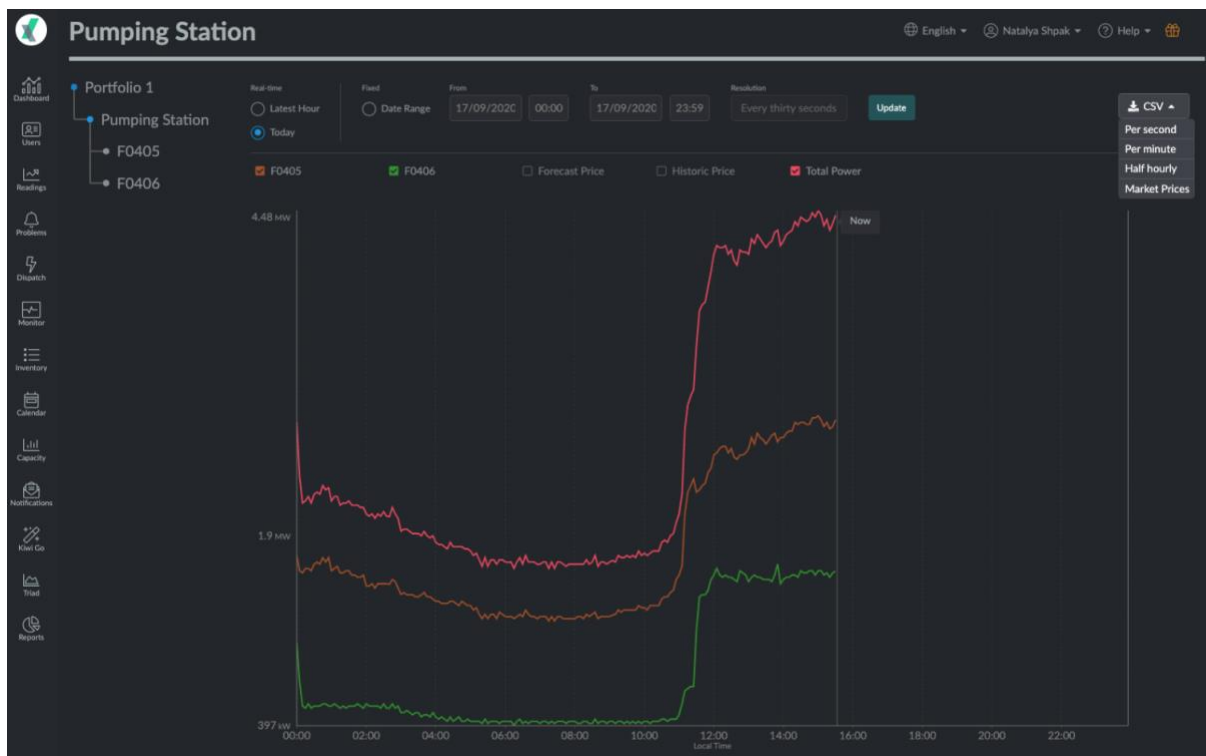
Dependency	UIREQ-DEMOCRASI-M1; UIREQ-DEMOCRASI-M2
Risk	None
Additional attributes	None.

Proposed solution

Display of a readings chart showing the metering data available for all affected assets in the flex portfolio. The Operator will be able to download asset performance data in a CSV to calculate settlements.

Planned Interface

The Operator has access to the *Portfolio* page through the *Inventory* page. The telemetry could be set by “latest hour”, “range”, “today”.



The readings can be downloaded as a CSV file by the Operator in the 5 minute intervals required by the IESO for measurement submission.

UIREQ-DEMOCRASI-M5	
Rationale	Alerts on Activation notices
Description	Alert to the Operator that an activation notice has been received

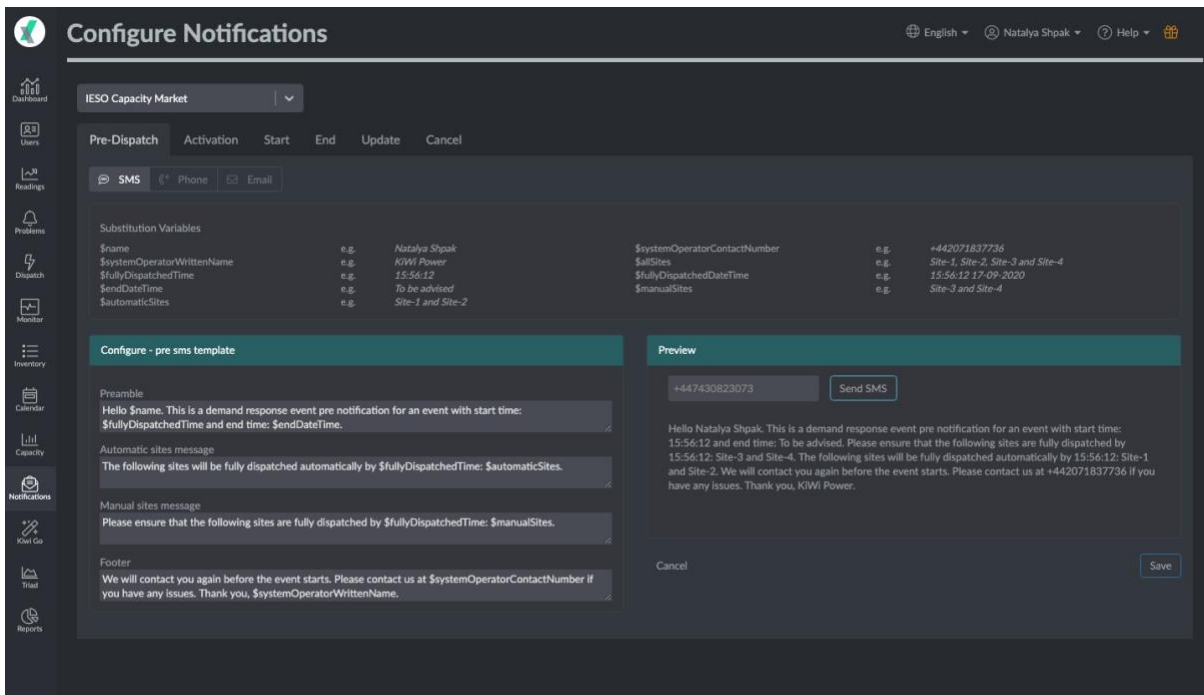
Priority	Must Have; High
Dependency	None
Risk	Alert does not reach operator due to external factors (e.g. no connectivity).
Additional attributes	The alert could be email, SMS, phone call, screen alert and/or recorded in a log.

Proposed solution

When an activation notice is received, and an "optimisation" has been received from GridOS, the dispatch will be scheduled. The programme will be configured so that pre-notifications are sent out at the point of scheduling. The Operator will be listed as a contact for all the sites in the project, so they receive the same phone call/SMS/email as the asset owners.

Planned Interface

The Operator could set up notifications messages per programme and per type of notification (e.g. Pre-Dispatch, Activation, Start, etc):



Configure Notifications

English | Natalia Shpak | Help

IESO Capacity Market

Pre-Dispatch | Activation | Start | End | Update | Cancel

SMS | Phone | Email

Substitution Variables

\$name	e.g. Natalia Shpak	\$systemOperatorContactNumber	e.g. +442071837736
\$systemOperatorWrittenName	e.g. Kiwi Power	\$allSites	e.g. Site-1, Site-2, Site-3 and Site-4
\$fullyDispatchedTime	e.g. 15:56:12	\$fullyDispatchedDateTime	e.g. 15:56:12 17-09-2020
\$sendDateTime	e.g. To be advised	\$manualSites	e.g. Site-3 and Site-4
\$automaticSites	e.g. Site-1 and Site-2		

Configure - pre sms template

Preamble
Hello \$name. This is a demand response event pre notification for an event with start time: \$fullyDispatchedTime and end time: \$sendDateTime.

Automatic sites message
The following sites will be fully dispatched automatically by \$fullyDispatchedTime: \$automaticSites.

Manual sites message
Please ensure that the following sites are fully dispatched by \$fullyDispatchedTime: \$manualSites.

Footer
We will contact you again before the event starts. Please contact us at \$systemOperatorContactNumber if you have any issues. Thank you, \$systemOperatorWrittenName.

Preview

+447430823073 Send SMS

Hello Natalia Shpak. This is a demand response event pre notification for an event with start time: 15:56:12 and end time: To be advised. Please ensure that the following sites are fully dispatched by 15:56:12: Site-3 and Site-4. The following sites will be fully dispatched automatically by 15:56:12: Site-1 and Site-2. We will contact you again before the event starts. Please contact us at +442071837736 if you have any issues. Thank you, Kiwi Power.

Cancel Save

On *Event Monitor Page*, the Operator could see notifications sent to an asset owner:



UIREQ-DEMOCRASI-M6	
Rationale	Operator must have the ability to download measurement data at 5 minute interval granularity
Description	The Operator will need the ability to download measurement (metering) data at 5 minute interval granularity for submission to the IESO
Priority	Must Have; High
Dependency	UIREQ-DEMOCRASI-M4
Risk	None
Additional attributes	None

Proposed solution

The solution to this requirement is covered in UIREQ-DEMOCRASI-M4, with a display of a readings chart showing the metering data available for all affected assets, which the Operator will be able to download in a CSV format.

Planned Interface

The readings can be downloaded as a CSV file by the Operator in the 5 minute intervals required by the IESO for measurement submission.



3.2 Should Have

In DEMOCRASI, Should Have requirements have been defined as important but not vital to the user or necessary for delivery in the current delivery timeframe, and as so will be implemented during the project if time allows.

UIREQ-DEMOCRASI-S1	
Rationale	The Per Asset Dispatch Schedule is displayed to the Operator
Description	Display [to the Operator] the Per Asset Dispatch Schedule which is the actual schedule per asset per hour for the following: <ul style="list-style-type: none"> → Local Peak Shaving (2.1 and 2.2.1) → Bulk System (2.2.2)
Priority	Should have; Medium
Dependency	UIREQ-DEMOCRASI-M1; UIREQ-DEMOCRASI-M2
Risk	None identified.

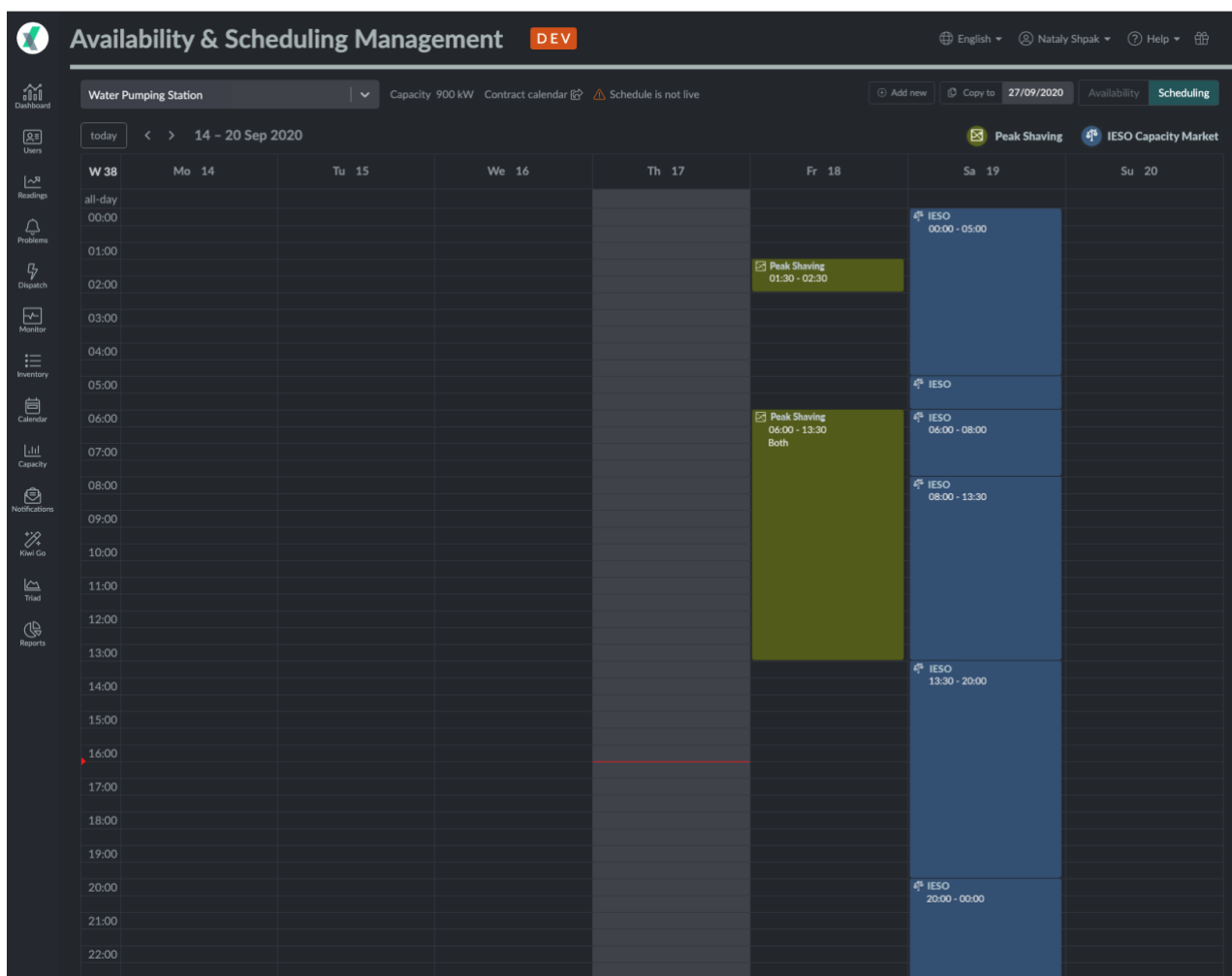
Additional attributes	The system must provide a way for the operator to differentiate between local peak shaving and bulk system and include a timestamp of when it was received.
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Proposed solution

The Operator will be able to see the dispatch schedule for individual assets or portfolios of assets using the Kiwi Core calendar.

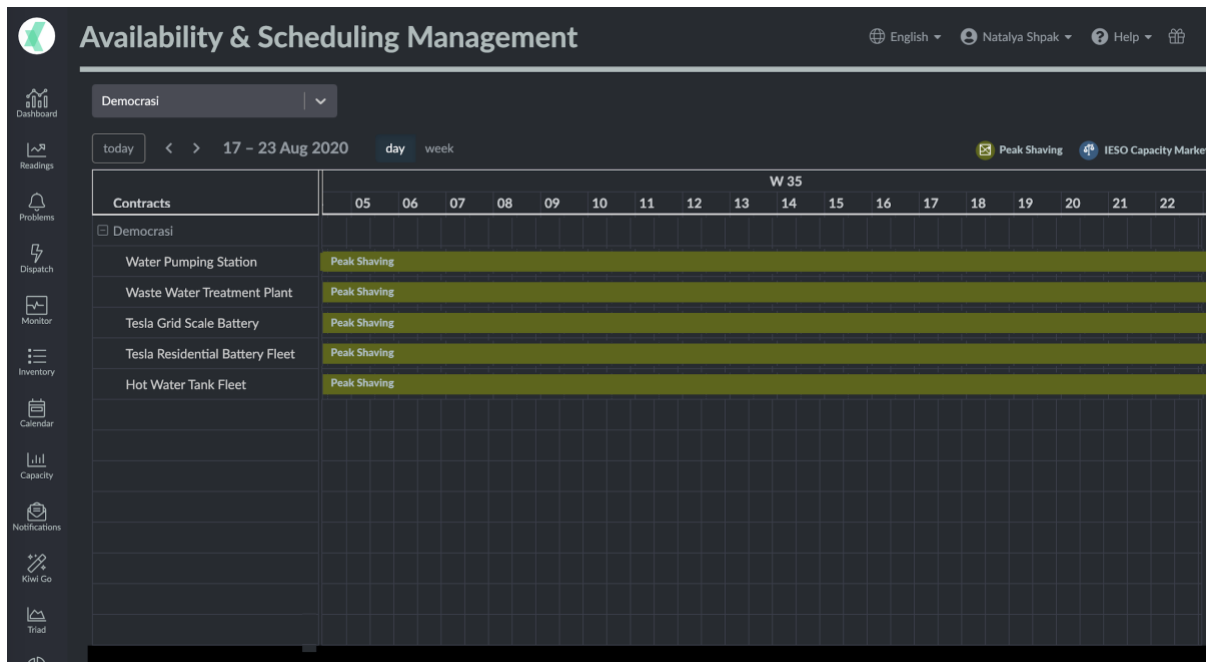
Planned Interface

The following image shows the calendar for a single asset.



By clicking on the *Contract Calendar* link above, the operator may switch to *Multiple Assets* view.

The Calendar for Multiple Assets is also displayed below. By clicking on individual assets names the Operator may switch to an asset schedule.



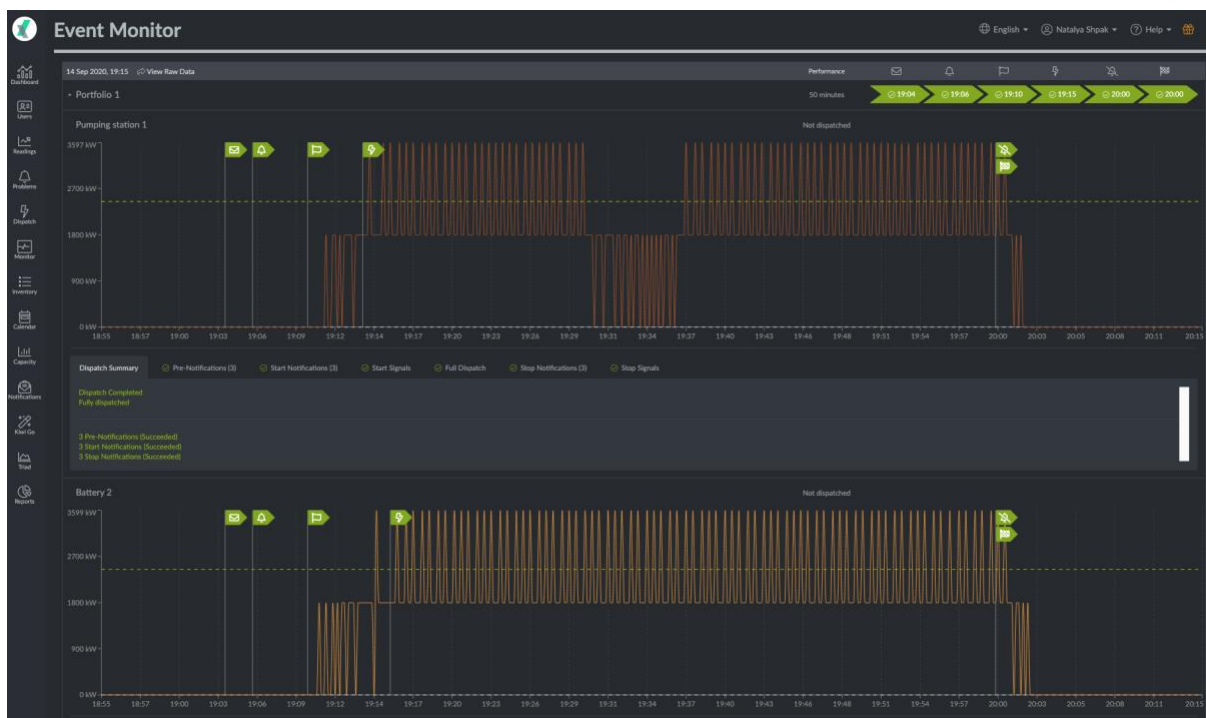
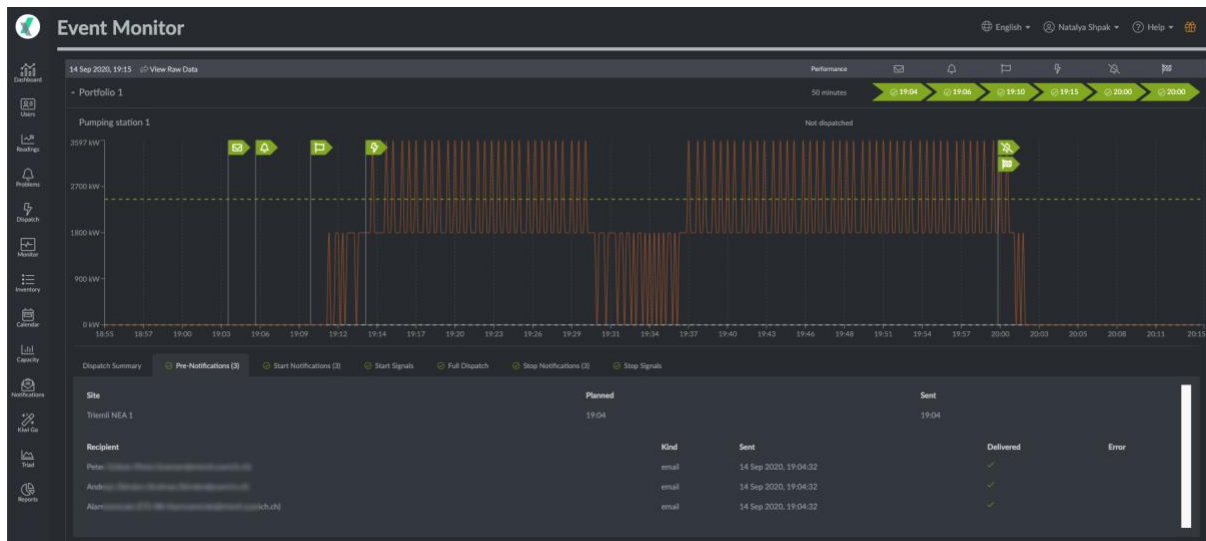
UIREQ-DEMOCRASI-S2	
Rationale	Receipts of dispatch instruction by a Fruit and by GridOs are displayed to Operator
Description	Display [to the Operator] that a dispatch instruction (control event) has been received by a Fruit; Display [to the Operator] that a dispatch instruction (control event) has been received by GridOS
Priority	Should Have; Medium
Dependency	None
Risk	None
Additional attributes	None

Proposed solution

Kiwi Core records the success/failure of start and stop signals sent to any station (Fruit or GridOS).

Planned Interface

The following images show the configurable signals tab on the dispatch Event Monitor.



UIREQ-DEMOCRASI-S3	
Rationale	Telemetry during activation is displayed to Operator
Description	<p>Display [to the Operator] the asset status (telemetry) during activation (source: Fruit)</p> <p>Display [to the Operator] the asset status (telemetry) during activation (source: GridOS)</p>
Priority	Should Have; Medium

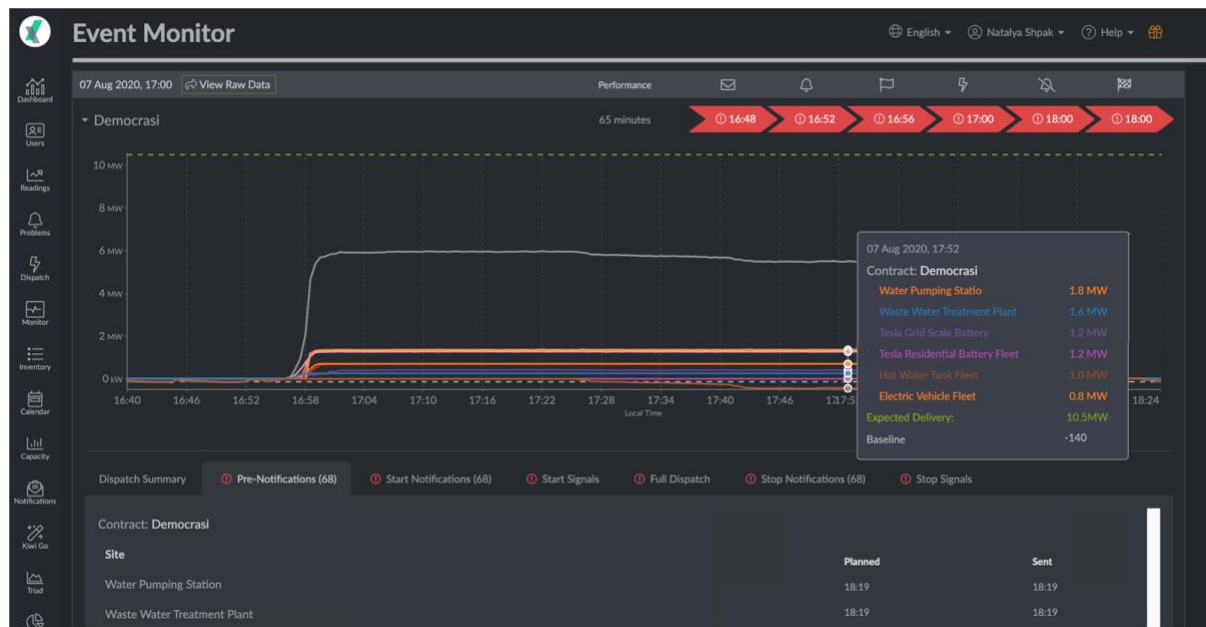
Dependency	None
Risk	None
Additional attributes	None

Proposed solution

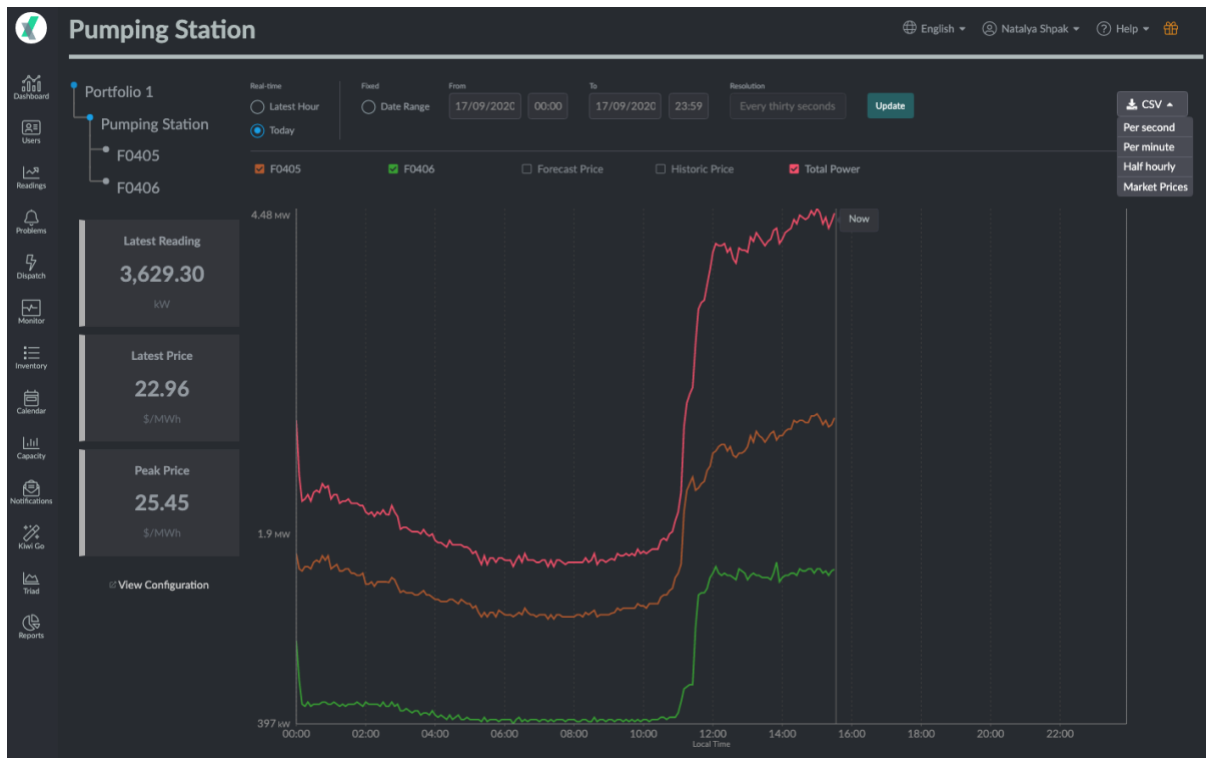
GridOS will call Kiwi Core's Signals API to submit telemetry every minute, where Fruit already sends data via the API. Readings data submitted this way will be shown on the dispatch monitor and in the readings graphs.

Planned Interface

The Event Monitor feature, as shown below, will provide readings graphs, both during and outside of events



An example of the of how Live Readings will be displayed is shown below:



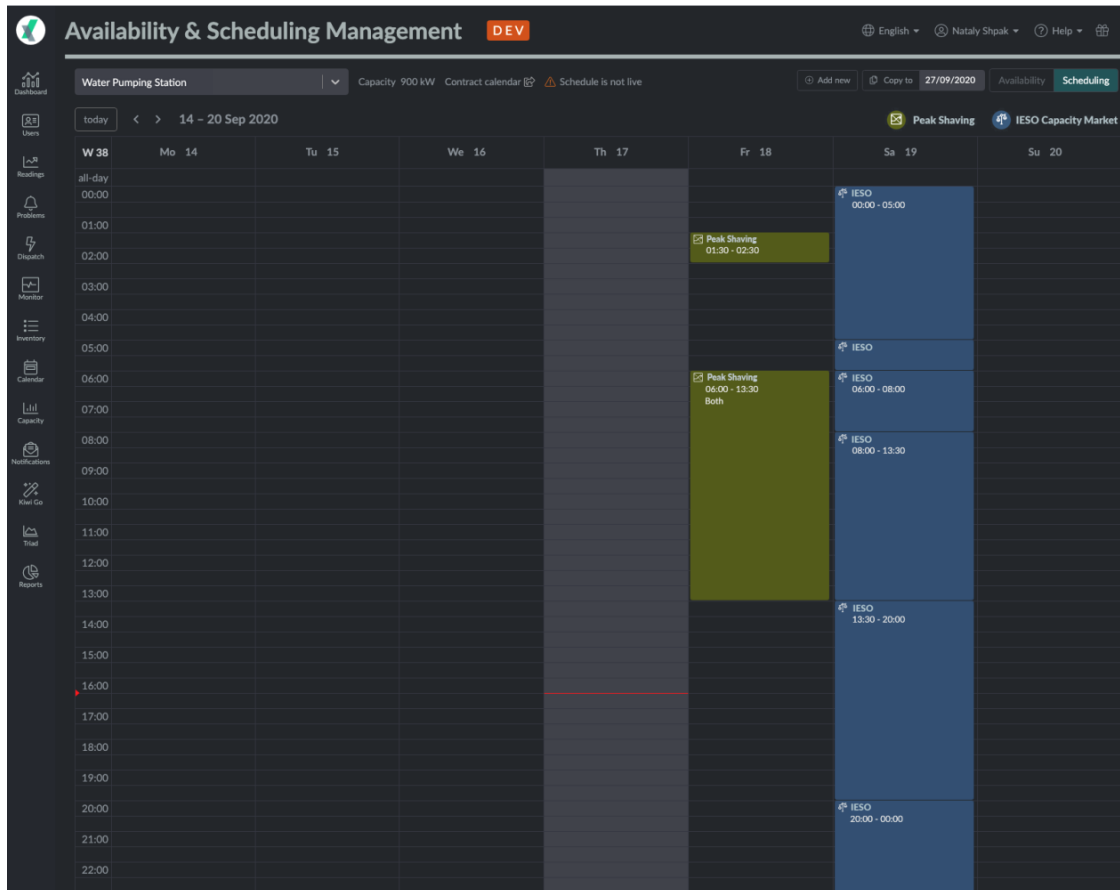
UIREQ-DEMOCRASI-S4	
Rationale	Display [to the Operator] the daily bid for the programme
Description	The Operator is provided with a display of the daily bid for the programme. In DEMOCRASI pilot in the IESO Capacity Market this is either equivalent to the capacity obligation or lower if the Maximum Load Reduction is lower.
Priority	Should Have; Medium
Dependency	None
Risk	None
Additional attributes	None

Proposed solution

Bids will be scheduled in the scheduling calendar, which allows the user to specify power.

Planned Interface

An example of a summer bid in the scheduling calendar is provided below:



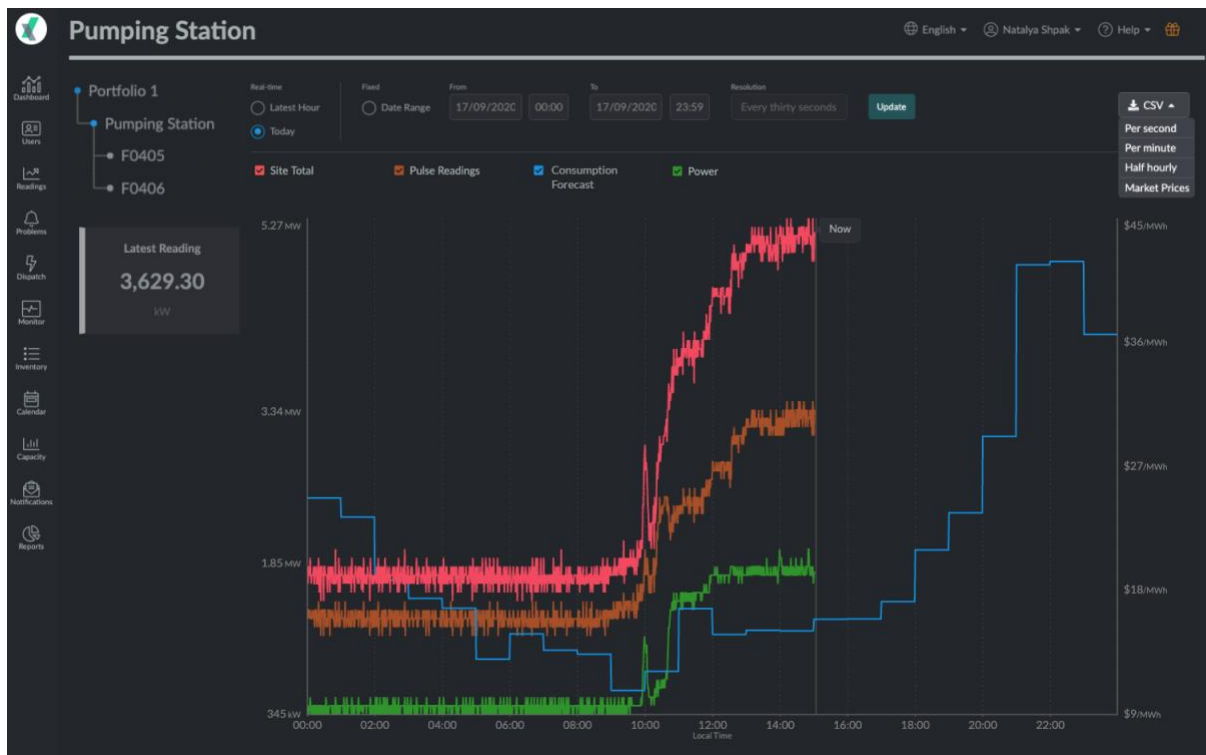
UIREQ-DEMOCRASI-S5	
Rationale	Display [to the Operator] the Load & Generation Forecasts
Description	Display [to the Operator] the Load & Generation Forecasts which is the per asset and feeder assumed load per hour (2.0 and 2.2.2 with an override for the second)
Priority	Should Have; Medium
Dependency	None
Risk	None
Additional attributes	None

Proposed solution

The forecasts will be displayed for the Operator in reading charts.

Planned Interface

Forecasts are displayed to the Operator in the reading chart.



3.3 Could Have

Could Have requirements are not necessary to the core function of the joint product as so will not be implemented during the timeframe of DEMOCRASI. These are deprioritized requirements, which would have a much smaller impact on the outcome of the project when compared to Must Have and Should Have requirements.

As an indication of what could be performed beyond project, the following Could Have requirements have been listed:

UIREQ-DEMOCRASI-C1: Display [to the Operator] the Maximum Load Reduction which is the total (aggregate) utilisation per hour

UIREQ-DEMOCRASI-C2: Display [to the Operator] the Reference Meter Point Load which is the assumed load at the meter point per hour (2.0 and 2.2.2 with an override for the second)

UIREQ-DEMOCRASI-C3: Display [to the Operator] the Maximum Per Asset Utilization which is the estimated maximum utilisation per asset per hour for the bulk system (2.0)

UIREQ-DEMOCRASI-C4: Inform the operator that a bid has been updated (could simply recorded in a log)

UIREQ-DEMOCRASI-C5: Inform the operator that a bid has been removed (could simply recorded in a log)

UIREQ-DEMOCRASI-C6: Inform the operator that no standby has been received (could simply recorded in a log)

UIREQ-DEMOCRASI-C7: Inform the operator that a standby has been received (could simply recorded in a log)

UIREQ-DEMOCRASI-C8 Inform the operator that no activation notice has been received (could simply recorded in a log)

UIREQ-DEMOCRASI-C9: Display the IESO commitment period availability window (Winter / Summer)

UIREQ-DEMOCRASI-C10: Display the IESO Capacity obligation (Winter / Summer)

UIREQ-DEMOCRASI-C11: Display the IESO Standing Bid (which has been set via the IESO portal)

UIREQ-DEMOCRASI-C12: Operator has the ability to override local peak shaving dispatch on the day of (2.1)

UIREQ-DEMOCRASI-C13: Report [to the Operator] the Per Asset Dispatch Schedule vs. Maximum Per Asset Dispatch Schedule

UIREQ-DEMOCRASI-C14. Report [to the Operator] the Reference Meter Point Load vs. actual meter point load before dispatch

UIREQ-DEMOCRASI-C15: Report [to the Operator] the Maximum Load Reduction vs. actual bid vs. actual meter point reduction after dispatch

UIREQ-DEMOCRASI-C16. Report [to the Operator] the Load & Generation Forecasts vs. actual load and generation before dispatch

UIREQ-DEMOCRASI-C17: Restrict the Operator from changing the asset availability and participation after the bid update (10:00 the day ahead) has passed.

UIREQ-DEMOCRASI-C18: Allow the Operator to update the bid post-activation notice (within the mandatory window) once approved by the IESO

UIREQ-DEMOCRASI-C19: Notify operator when a Per Asset Dispatch Schedule is received (via SMS, Phone or Email).

3.4 Would not Have

As mentioned, Would not Have requirements are those which the project team has agreed will not be delivered in the timeframe of DEMOCRASI. Nonetheless they are to be recorded as follows:

UIREQ-DEMOCRASI-W1: Operator has the ability to override a daily bid

UIREQ-DEMOCRASI-W2. Display the pre-dispatch schedule [to the Operator] which gives them an idea whether they will get an activation from the IESO (non-binding).

4. Report Remarks

For this document, the DEMOCRASI project team focused on describing the elements of the User Interface Design by anticipating what users might need to do and ensuring that the interface has elements that are easy to access, understand, and use to facilitate those actions. Further adjustments and decisions will be made during the implementation and development of the DEMOCRASI joint solution, taking into consideration any new technical challenges and available resources.