Medjil General User Guide

Version: 1 December 2025

Document Control

1. <u>Introduction</u>

Medjil is a survey instrumentation calibration portal (Medjil Portal) developed by Landgate (the Western Australian Land Information Authority) in collaboration with the Intergovernmental Committee on Surveying and Mapping (ICSM). It allows rigorous calibration and reporting of:

- Barcode staff using staff calibration range facilities
- Staff ranges (only available to verifying authority[1] users)
- EDM Instrumentation (EDMI; EDM and prism) using standardised EDM Baselines
- EDM Baselines using standardised instruments (only available to verifying authority[1] users)

establishing legal traceability of user's instruments to the national standard of length provided by the National Measurement Institute (NMI).

This user guide provides a quick reference on the functionality and operation of the Medjil Portal. For more detailed documentation on mathematical procedures, please refer to the [Medjil technical manuals](#) for EDMI Calibration and Staff Calibration.

Location specific guides on the following topics are also available for each participating jurisdiction.
- Site calibration – EDM Baseline[1]
- EDMI Calibration
- Site calibration – Staff Range[1]
- Barcode Staff Calibration Guide

Users interested in reviewing or contributing to Medjil's development are requested to contact Landgate geodesy@landgate.wa.gov.au to access the source code on GitHub. Only users with GitHub account will be provided access to the source code due to security concerns.

Access Medjil here: https://medjil0.lb.landgate.wa.gov.au

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[1]Verifying authority users have additional permissions when using the Medjil portal. Please contact a Landgate staff member to enable these permissions. (email geodesy@landgate.wa.gov.au)

2. <u>Medjil Home Page</u>

The Medjil home page (see Figure 2.1) allows direct access to the portal's main functions enabling instrument calibrations and management of all related information. Before using the full functionality of Medjil, users need to sign up and login (see section 3).
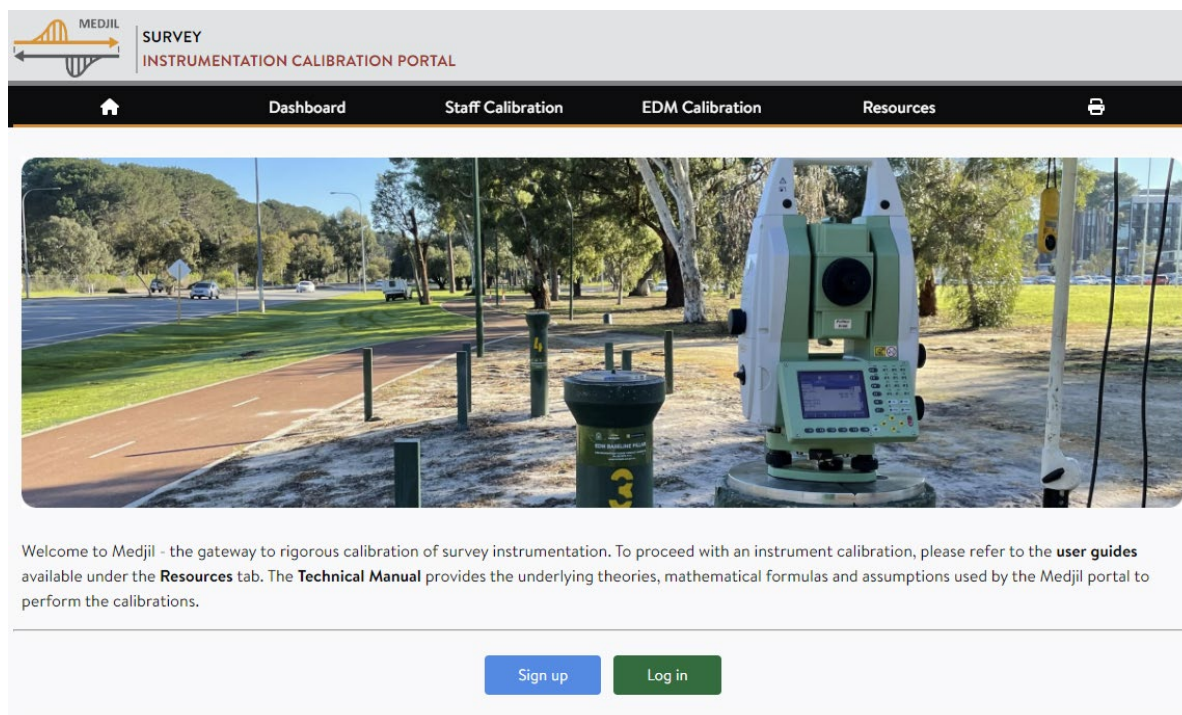

Figure 2.1: Medjil home page.

<u>Main menu options on Medjil's home page</u>

🏠   Home button to return to Medjil's home page.

Dashboard   Access the *Instrument Register* and *Accreditation Calibrations* of your company and list of available *Calibration Sites* (see section 4).

Staff Calibration   Perform levelling *Staff Calibrations* and access the *Levelling Staff Registry* containing calibration records of your company (see section 5)

EDM Calibration   Perform *EDM Instrumentation Calibrations* and *Interlaboratory Comparisons* of calibration results, input *Uncertainty Budgets* and customise *Report Endnotes* included in calibration reports (see section 6).

Resources   Access *Calibration User Guides* and *Technical Manuals* (see section 7).

🖶   Print the current screen view or reports.

3. <u>Sign up, Login and User Profile</u>

3.1.   Sign up

Step 1:

New users of the Medjil Portal need to sign up (register) before being able to use its full functionality. Existing users of Medjil as well as users that previously signed up to Landgate's Online Staff Calibration portal can directly login (see section 3.2).

To sign up, select [Sign up] on Medjil's home page, which opens the interface shown in Figure 3.1 below.

Figure 3.1: Sign up interface.

On the sign up form complete the following information:

Email address:	Enter your e-mail address associated to your account.
First and last name:	Enter your first and last name.
Company:	Select your company from the drop-down list if already registered. You will need to enter your *Company Secret Key* issued at first sign up.
	Otherwise, select [+] and enter your company's name and a short abbreviation. Your *Company Secret Key* will automatically be generated for you*.
Company secret key	Only required if you are joining an existing company. The company secret key is randomly generated on the creation of the company. Users who want to join an existing company can ask for the key from existing Medjil company members. (See Section 3.3)

4

Password & confirmation: Create and confirm a password for your user account.

Before submission, confirm that you read and agree to the terms & conditions, which can be viewed following the *user agreement* link (see Figure 3.1).

Step 2:

After successful submission of your sign up details an e-mail is sent to the nominated e-mail address containing an activation link to confirm your registration. To complete the sign up click the link to activate your account. After successful activation you will be directed to the Login interface.

Note: During your first login you will need to setup Multi Factor Authentication (MFA) using the Authenticator App (see section 3.2).

3.2.   Login

To login as a registered user select [Login] on Medjil's home page to open the interface shown in Figure 3.2 and enter your e-mail address and password used to sign up.
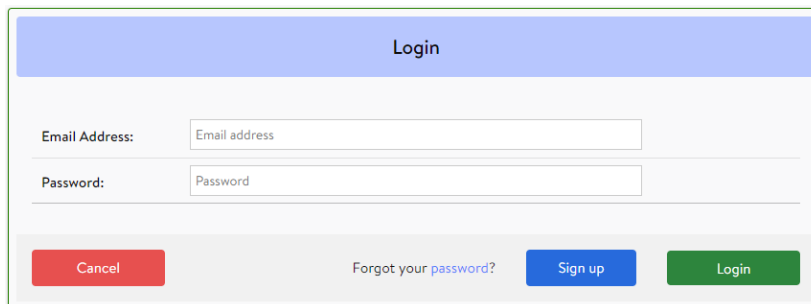
Figure 3.2: Login interface.

Use the *Forgot your password* link to reset your password. You will be prompted to enter the e-mail address used to sign up, which will sent an e-mail containing a link to reset your password.

First Time Login – Setting up MFA

During first time login you will be presented with a QR code and instructions to set up MFA (see Figure 3.3). For the setup, open an Authenticator App (either Microsoft Authenticator or Google Authenticator), select add a new account and scan the QR code. This will create a new account called Medjil – Survey Instrument Calibration linked to your nominated e-mail address. Important, do not scan the QR on your device camera and click the link but use the Authenticator App.
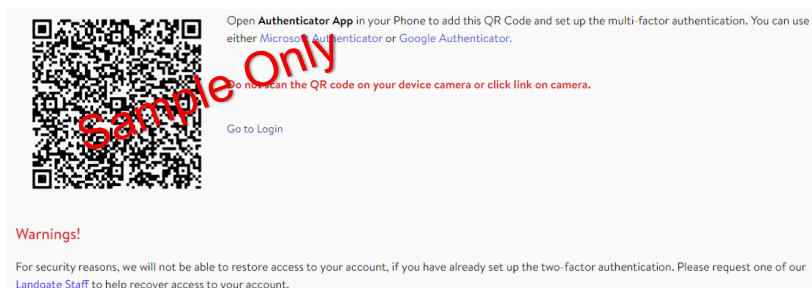

Figure 3.3: Example of QR code to setup MFA.

Once MFA has been setup go back to the login interface either selecting the link next to the QR code or [Login] on Medjil's home page for a normal login using MFA (see below).

Login – Using MFA

After submission of your user details through the login interface (see Figure 3.2) you will be prompted to enter a One Time Password (OTP) code (see Figure 3.4) created through the Authenticator App. To access the OTP code open the Authenticator App and select the Medjil account. Use the generated OTP code to complete your login.

Figure 3.4: OTP input interface.

3.3. User Profile

Once logged in, your first name will be shown as the current user in the top-right corner of the webpage (see Figure 3.5). Expand the drop-down menu to view or edit your user profile details (e-mail, company) or view the list of all company users (see Figure 3.5 below). Use the ✏ action button to edit your user profile. The company secret key is visible to all members of the company. This key can be shared within the company to add additional members or change your company membership.

Note: Any change requires confirmation with the company secret key to assure confidentiality.

Figure 3.5: User profile details.

4. <u>Dashboard</u>

Figure 4.1: Dashboard drop-down menu

The *Dashboard* manages your company's instrument register, stores EDM accreditation certificates and provides information on available calibration sites. Any instrument used during a calibration must first be added to the instrument register and relevant specifications defined. Use the dashboard drop-down menu (see Figure 4.1) to access the following areas:

Instrument Register	Repository of your company's instrument records and related calibration certificates (see section 4.1).
Accreditation Certificates	Repository of EDM accreditation certificates for selection during EDM baseline calibrations (see section 4.2). This functionality is only utilised by verifying authority users.
Calibration Sites	Repository of information on all available EDM calibration baselines and staff range calibration sites (see section 4.3).

Transfer of existing records:

Users of Landgate's Online Staff Calibration portal will have records migrated to Medjil.

Records from the Baseline.exe suite of software can be transferred to the dashboard with the assistance of Landgate staff. Please contact one of our Landgate staff to request assistance. geodesy@landgate.wa.gov.au

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4.1.   Instrument Register

The *Instrument Register* menu allows the creation and management of the instrument types listed in the left-hand menu shown in Figure 4.2. For each instrument type up to three tabs can be selected to add or edit records of the model and its manufacturer specifications, instrument and related calibration certificate.
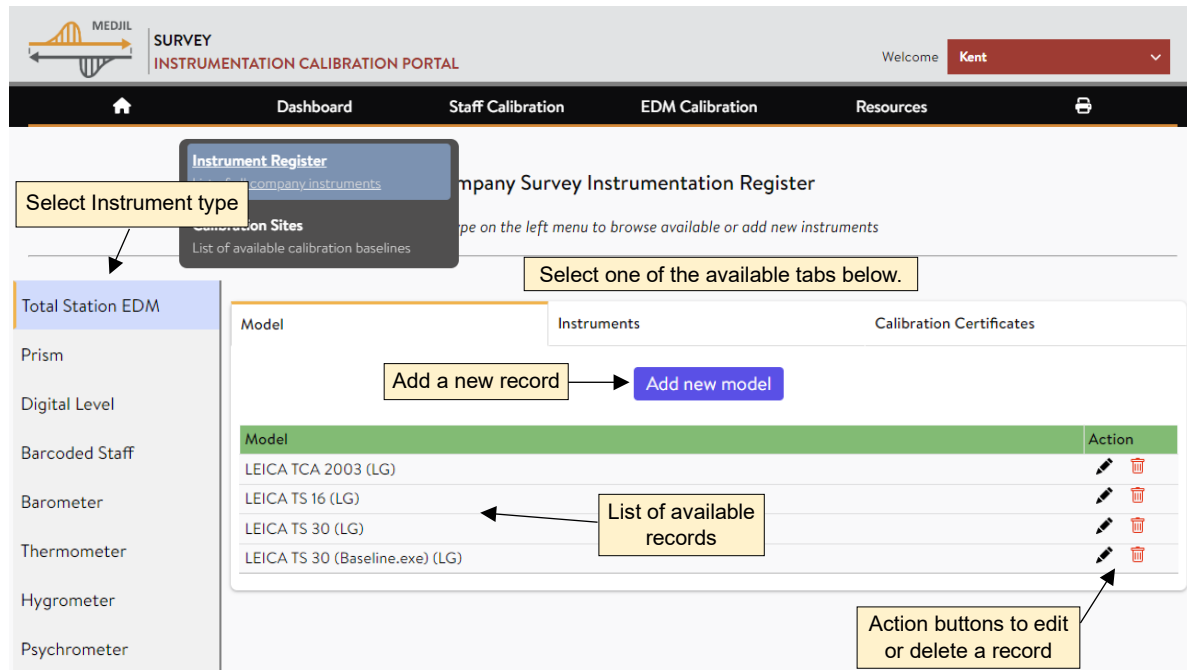
Figure 4.2: Example of a company total station EDM register.

To add or edit a record in the instrument register, select the instrument type from the left-hand menu, then select one of the available tabs and specify the following information.

Model Use the **Add new model** button to open the input interface to create a new record. Specify make (manufacturer), model and owner (custodian). For each model provide the manufacturer specifications. Note, for EDM instruments a look-up table can be used to extract common manufacturer specifications. For more detailed information use the information button ⓘ to refer to the technical manual.

Instruments Use the **Add new instrument** button to open the input interface to create a new record. For each instrument select the model (once added), specify the instrument number (e.g. serial number) and owner (custodian). You can also upload a photo for each instrument. Note, if the model has not been specified you can use the add button ➕ to directly go to the "Add new model" interface (see above).

Calibration Certificates Use the **Add new certificate** button to open the input interface to create a new record for calibration certificates issued from external sources. When an instrument has been successfully calibrated in Medjil, a record of the calibration certificate with the icon 📄 will automatically be added to this list.

Once a successful calibration of an instrument has been performed the generated calibration certificate can be uploaded to the company's repository. Use the

Under each tab a list of existing records is displayed (see Figure 4.2). Use the action buttons ✏ and 🗑 to edit or delete a record.

4.2.   Calibration Sites

The *Calibration Sites* menu provides information on all EDM Baselines and Staff Calibration Ranges currently available (see Figure 4.4).

Figure 4.4: List of Instrument Calibration Sites.

Use the drop-down menu on the left-hand side to select a location or state to list all available calibration sites. For each calibration site an access sketch and booking sheet is provided. You should check the current status (see last column of the lists) before visiting any calibration site.

Note: Only verifying authority users can add, edit and delete calibration sites while 'normal' users can only view the details of each calibration site.

5. <u>Staff Calibration</u>
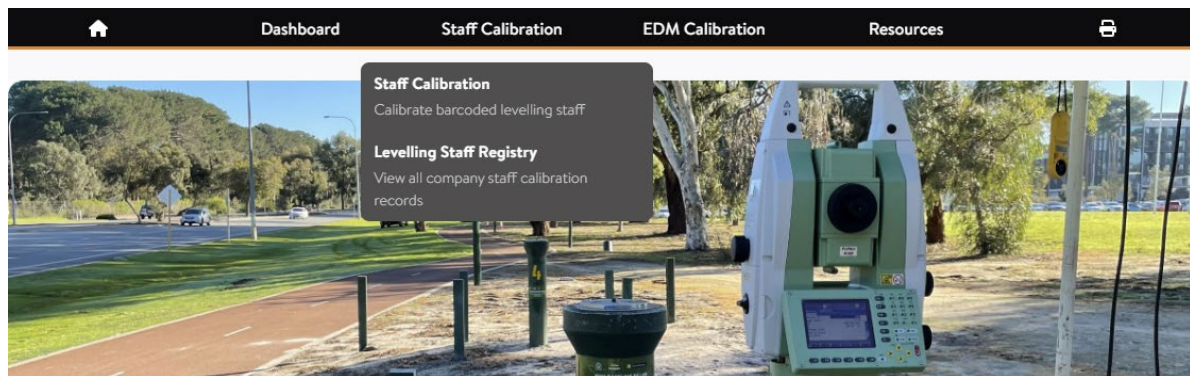
Figure 5.1: Staff Calibration drop-down menu

The *Staff Calibration* area is used to perform calibrations of barcoded leveling staffs and store company staff calibration certificates. Use the *Staff Calibration* drop-down menu (see Figure 5.1) to access the following areas:

Staff Calibration	Start a new barcoded leveling staff calibration or access your company's list of staff calibration records (see section 5.1).
Calibration Range Parameters	Repository of information on all available staff calibration ranges (see section 4.3). Note: This menu is only accessible to verifying authority users.
Leveling Staff Registry	Repository of your company's staff calibration certificates (see section 5.3).

5.1.   Staff Calibration
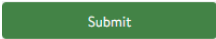
The *Staff Calibration* menu allows to perform a new barcoded staff calibration and lists records of all successful calibrations together with the calibration reports (see Figure 5.2).

Figure 5.2: List of staff calibrations.

To perform a new staff calibration, use the [Start new calibration] button to open the *Barcode Staff Calibration Details* interface shown in Figure 5.3 and enter the following information:

Calibration Site	From the drop-down menu select the staff calibration range.
Job Number	Enter a job number to uniquely identify the calibration.

Staff Number	From the drop-down menu select the used staff by its number. If the staff is not available, use the [+] button to add it to your company's barcoded staff register (see instrument register in section 4.1).
Level Number	From the drop-down menu select the used digital level instrument by its instrument number. If the digital level is not available, use the [+] button to add it to your company's digital register (see instrument register in section 4.1).
Start and End Temperatures	Enter the start and end temperatures present during the field observations.
Field Data	Attach the ASCII file generated by the digital level instrument containing all observations.
Field Book	Attach the field book(s) created during the fieldwork.
Observer	Either confirm if you are the observer or enter the observer's name.
Calibration data	Enter the date when observations were taken.
[Submit]	Perform the calibration using the submit button.
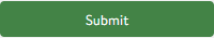
Figure 5.3: *Barcode Staff Calibration Details* interface

Use the [Submit] button to perform the calibration. After successful completion you will be presented with the calibration report. The report is also added to your company's list of

staff calibrations (see Figure 5.2). Use the action buttons ✎ and 🗑 to edit or delete a record. If you edit a calibration record you will be able to change the input information and perform the calibration again. Note, the previous calibration report will be retained in the list while the new report will be added.

For detailed information on field procedures, mathematical models used and report outputs refer to the user guides and technical manuals available under the resources option on the home page or following information button ⓘ.

5.2. Leveling Staff Registry

The *Leveling Staff Registry* provides all current (most recent) and historical barcoded staff calibration records including their certificates (calibration reports) (see Figure 5.4).

List of Levelling Staves Calibration Certificates

Contains the most recent calibration certificates

Add new certificate

Current Staff Calibration Certificates

Job Number	Instrument No	Model	Type	Scale Factor	Field Book	Calibration Date	Certificate	Action
JN20172297	209	GKNL4F (LEICA)	Fiberglass	0.999820	📄	March 17, 2020	🖹	
JN001	210	GKNL4F (LEICA)	Fiberglass	0.999779	📄	Aug. 15, 2024	▪	
JN20172297	212	GKNL4F (LEICA)	Fiberglass	0.999900	📄	March 17, 2020	🖹	
JN20172297	213	GKNL4F (LEICA)	Fiberglass	0.999920	📄	March 17, 2020	🖹	
JN20172297	222	GKNL4F (LEICA)	Fiberglass	1.000030	📄	March 17, 2020	🖹	

Figure 5.4: List of Current Staff Calibration Certificates.

Use the Add new certificate button to open the input interface to create a new barcoded staff certificate record.

5.3. Staff Calibration Procedures

Step 1: To start a new Staff Calibration, click on the **Staff Calibration** > **Staff Calibration**.

Step 2: Click on the **Start new calibration** button.

- **Job Number**: enter a **Job Number** with a ten-digit alphanumeric code.
- **Calibration Site**: select **Boya** from the dropdown.
- **Staff Number**: select the staff number or enter a new one by clicking on the + button. When entering (or creating) a new staff, a new window will pop up and users are advised to enter all the known fields - Make, Model, Owner, Staff Number, Type, Length and CoE. If the staff has been previously **calibrated**, users can tick the **Is Calibrated** box. A new window will appear to provide information about the calibration details.
- **Level Number**: select the digital level (number) or enter a new one by clicking on the + button.
- **Start temperature**: Temperature at the beginning of measurement.
- **End temperature**: Temperature at the end of measurement.
- **Field Data**: Click the **Choose File** button to select the csv file.
- **Field Book**: Click the **Choose File** button to select the field book (in pdf format).
- Enter an **Observer** name or tick the **I am the Observer**, if the observer is same as the person performing this procedure.

- **Calibration date**: Choose a calibration date.
- Click the **Submit** button.
- **Note:**
  - Form errors will be shown in red text to help correctly fill the form.
  - Test data is provided here with the corresponding Field Book to assist with the Staff Calibration procedure.

Figure 5.5: Staff Calibration Procedure.

Step 3: By submitting the form in **Step 2**, the files will be read and processed to calibrate the staff. The Staff Calibration Report will be displayed in the next window - tabulating the Correction Factor (a multiplicative scale factor) and the graduation uncertainty at 95% confidence level at 25∘C, staff readings and corrections, the correction factors/errors at various temperatures. *If the temperature exceeds +55∘C or -10∘C at Correction Factor = 1, users are advised to check for possible errors in metadata information provided. Wooden staves generally exceed this limit and are generally used for high precision levelling.*

Step 4: Click on the **Print Report >>** to print in a pdf format. The report has three pages. A formula is provided in Page 1 just below the **Correction Factor** on how to apply it to the future height differences (see below).

MEDJIL

Levelling Staff Calibration

Version: 2023.0.1 (November 2023)

Page 1 of 2

Laboratory Name: **Boya (WA)**

Description: Staff Calibration Range

Authority: **Landgate**

Location: Victor Road, Darlington, WA 6056

This test information

Job Number : JN20220023

Observation Date: March 17, 2022

Average Temperature: **24.7°C**

Level & staff details

Staff Number: **213 - fiberglass** (Fiberglass, 4.0 m)

Staff Owner: **Landgate**

Level Number: **702272 LS 15**

Observer: **admin@admin.com**

Correction Factor: **0.999961** at 25.0°C. Note that Correction Factor is temperature dependent.

Apply the correction factor to your observed height difference (ΔH_{obs}) as $\rightarrow \Delta H_{corrected} = ((((T_{ave} - 25.0) * 0.0000100)+1) * 0.999961) * \Delta H_{obs}$, where T_{ave} is the observed temperature during the measurement.

Figure 5.6: Staff Calibration Certificate.

Step 5: Staff Calibration Record – The staff calibration records are automatically stored in a database. Calibration reports can be retrieved from the **Levelling Staff Registry** under the **Staff Calibration** tab.

Users are also able to **add** previous calibration record (s) here by clicking the **Add new calibration certificate**. *However, the form only accepts staffs calibrated at Boya Staff Calibration Range and it is also important to note that previous calibration has no impact on the current calibration as they are independent of each other.*

6. <u>EDM Calibration</u>

Figure 6.1: EDM Calibration drop-down menu

The *EDM Calibration* area is used to perform and manage calibrations of EDM Instrumentation (EDMI; EDM and Prism), refine uncertainty budgets and create customized calibration report endnotes. Use the *Staff Calibration* drop-down menu (see Figure 6.1) to access the following areas:

EDMI Calibration	Start a new EDMI calibration or access your company's list of EDMI calibration records (see section 6.1).
Interlaboratory Comparisons	Compare EDMI Calibration results (see section 6.2).
Uncertainty Budgets	Definition of a customised (e.g. instrument- or company-specific) uncertainty budget (see section 6.3).
Report Endnotes	Create a customised (e.g. company-specific) endnote to be included in calibration reports.

6.1.   EDMI Calibration

The *EDMI Calibration* menu allows to perform a new EDMI calibration and lists records of all EDMI calibrations to either edit or delete. Successful EDMI calibrations will display as icon link to the html calibration report 📋 and certificate 📜 (see Figure 6.2).

Figure 6.2: List of EDMI calibrations.

To perform a new EDMI calibration, use the `Start new calibration` button to open the *EDMI Calibration Details* interfaces shown in Figures 6.3 to 6.5 (input is done in three steps) and enter the following information:

<u>Step 1 of 3:</u>

Calibration Site	From the drop-down menu select the EDMI calibration site. Tick the *"Auto select corresponding calibration of this baseline"* box to automatically detect the calibration date of the baseline, e.g. commensurate with the observation date. Alternatively select the calibrated baseline.
Survey Date	Specify the date field observations were taken.
Observer	Specify the observer.
Weather	From the drop-down menu select the weather conditions during the field observations.
Job Number	Optional, Enter a job or reference number to uniquely identify the calibration.
Comment	Optional, Enter any comment.
`Next`	Click next to enter details in step 2.

Figure 6.3: EDMI Calibration Detail interface (Step 1 of 3).

Step 2 of 3:

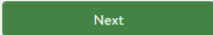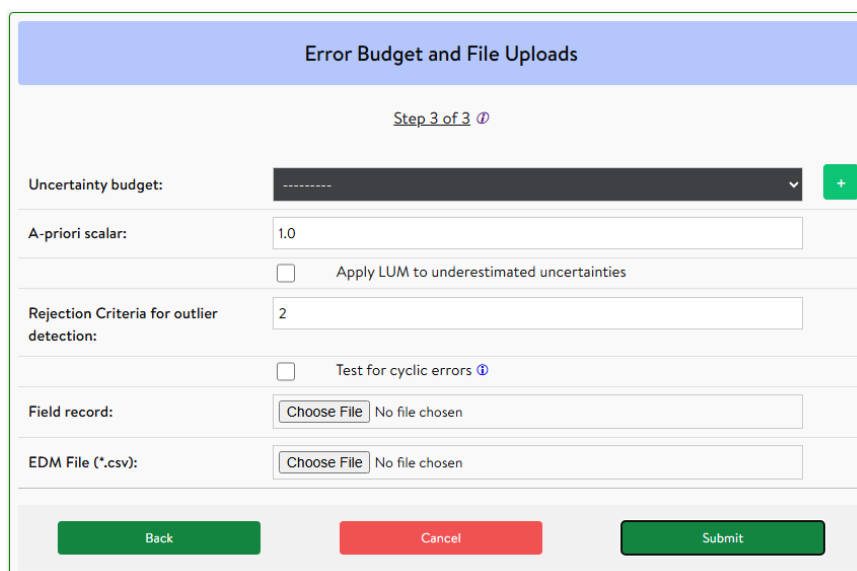|	
EDM	From the drop-down menu select the EDM instrument used. If the EDM instrument is not available, use the + button to add it to your company's Total Station EDM register (see instrument register in section 4.1).
Prism	From the drop-down menu select the prism used. If the prism is not available, use the + button to add it to your company's Prism register (see instrument register in section 4.1).
Atmospheric corrections	Tick if atmospheric corrections have been applied to the EDM observations prior to import. Unticking this box will make Medjil apply the first velocity correction to the imported data.
Thermometer, Barometer and Hygrometer	From the drop-down menus select the thermometer, barometer and hygrometer used. If the instruments are not available, use the + button to add them to your company's instrument register (see section 4.1). (Hygrometer is Optional)
Meteorological corrections	Tick the respective boxes if thermometer, barometer or hygrometer calibration corrections are applied. Unticking these boxes will result in calibration corrections being applied to the imported records. The calibration is selected according to the survey date and the register of calibration certificates for specified instruments
Next	Click next to enter details in step 3 or click back to return to step 1.
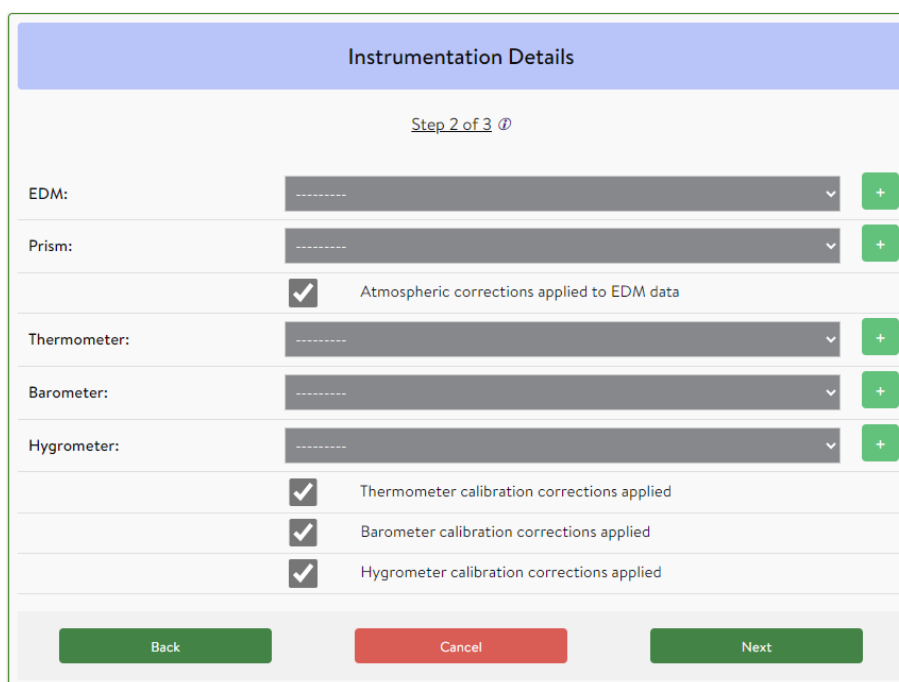
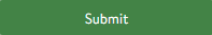**Figure 6.4:** EDMI Calibration Detail interface (Step 2 of 3).
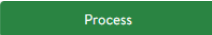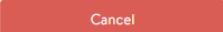
Step 3 of 3:

Uncertainty budget	From the drop-down menu select either the default uncertainty budget or a customised uncertainty. Use the [+] button to add a customised uncertainty budget (see section 6.3).
Apply LUM	Specify if the Least Uncertainty of Measurement defined in the company's accreditation is applied if a-posteriori uncertainties are less than LUM.
A-priori scalar	Specify the a-priori scalar (factor) or use the default of 1.0. Entering a value other than 1.0 will result in all a-priori uncertainties being multiplied by this factor.
Rejection criteria	Specify the rejection criteria for outlier detection or use the default of 2.0. Outliers based on this criterion will be flagged in the calibration report.
Cyclic errors	Tick if cyclic errors should be determined and tested for significance during the calibration processing. Cyclic errors cannot be determined for instruments with no specified unit length.
Scanned fieldnotes	Attach any fieldnotes.
EDM File (*.csv)	Attach the total station generated observation file (*.csv). Refer to this sample dataset for the required data format.

Figure 6.5: EDMI Calibration Detail interface (Step 3 of 3).

Use the [Submit] button to start the EDMI calibration. After the EDM observations have been successfully imported you will be presented with a list of all observations (see Figure 6.6). From the list select/deselect the observations to be used to estimate the EDM instrument corrections. See information button ⓘ for more information. Then use the [Process] button at the bottom of the observation list to perform the calibration. Alternatively use the [Back] button to change any of the input information (see steps 1 to 3) or cancel the calibration by using the [Cancel] button.

Figure 6.6: List of imported EDM observations (extract).

After a successful calibration you will be presented with the calibration report. At the bottom of the report enter the approval details. Once saved the report will be added to your company's list of EDMI calibrations (see Figure 6.2). To view the report, use the icon link 📖. Use the action buttons ✏️ and 🗑️ to edit or delete a record. If you edit a calibration record you will be able to change the input information and perform the calibration again. Note, the previous calibration report will be retained in the list while the report is being recalculated.

For detailed information on field procedures, mathematical models used and report outputs refer to the user guides and technical manuals available under the resources option on the home page or following information button ⓘ.

6.2.   Interlaboratory Comparisons

As a requirement in accordance with ISO 17025:2017, the *Interlaboratory Comparisons* menu allows to perform comparisons between calibrated baselines (reference laboratory) to confirm they deliver the same results. For more information follow the information button ⓘ.

6.3.   Uncertainty Budgets

Through the *Uncertainty Budgets* menu, you will be able to create and edit a customised (e.g. company specific) uncertainty budgets (see Figure 6.8) to be used for a calibration instead of Medjil's default values.

Figure 6.7: List of Uncertainty Budgets.

The Default uncertainty budget may not suit all users and companies are encouraged to create their own default uncertainty budget. Settings for an uncertainty budget that does not require calibration certificates in the instrument register are shown in Figure 6.8. To create a new uncertainty budget, use the Add new uncertainty budget button to open the *Create Custom Uncertainty Budget* interface shown in Figures 6.8.

The uncertainty budget comprises of the following sources:

a.) **Instrument-related uncertainties** that are specified through the *Instrument Register* (see section 4.1) and will be sourced during computations.
b.) **Derived uncertainties** that are computed during the calibration based on observations.
c.) **Custom uncertainties** a user can define to be used for the calibration.

Use the drop-down menu to select one of the following custom uncertainty sources (see Figure 6.8).

- EDM scale factor
- EDMI measurement
- EDM LS zero offset
- Temperature
- Pressure
- Humidity
- Certified distances
- EDMI calibration
- Centring (instrument and prism)
- Heights (instrument and prism)
- Offsets

Use the + Add new uncertainty link to add a new uncertainty source or 🗑 to delete an existing uncertainty source.

For each uncertainty source specify the unit, uncertainty type, statistical distribution type, uncertainty value, coverage factor K and degree of freedom. For more detailed information refer to the technical manual available under the resources option on the home page or follow the information button ⓘ on the *Create Custom Uncertainty Budget* interface (see Figure 6.8).

Apart from the custom uncertainties listed above you can also specify the numerical value used when a standard deviation is statistically zero (default value is 0.00029).

Once completed, use the [Save] button to save your customized uncertainty budget which will be added to list of uncertainty budgets (see Figure 6.7). Use the action buttons ✏ and 🗑 to edit or delete a record.

Figure 6.8: Custom Uncertainty Budget interface.

6.4.   Report Endnotes

The *Report Endnotes* menu allows to create or edit customised endnotes and lists records of your company's existing endnotes (see Figure 6.9). These company specific endnotes will be included in addition to those created by the verifying authority in both EDMI and Baseline calibration reports.
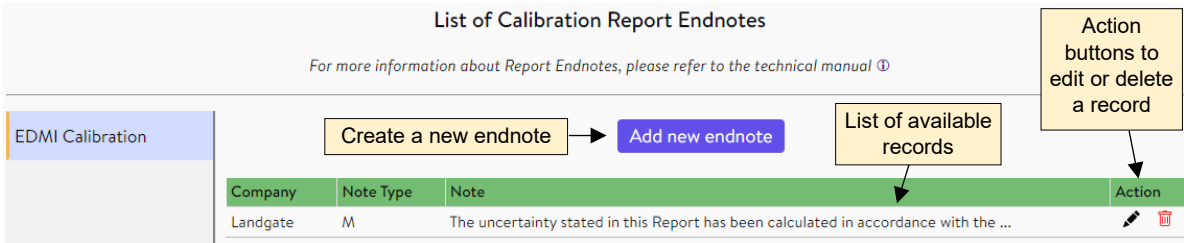
Figure 6.9: List of Calibration Report Endnotes.

To create a new customised endnote, use the [Add new endnote] button to open the *Create Report Endnote* interface shown in Figure 6.10. Leaving the 'Site' field blank will apply the endnote to all company reports. Selecting a specific 'Site' from the options will only apply the endnote to Company reports associated with that site.

Figure 6.10: Create Report Endnote interface.

Once created, use the [Save] button to save your customized endnote which will be added to the list of calibration report endnotes (see Figure 6.9).

7. <u>Resources</u>
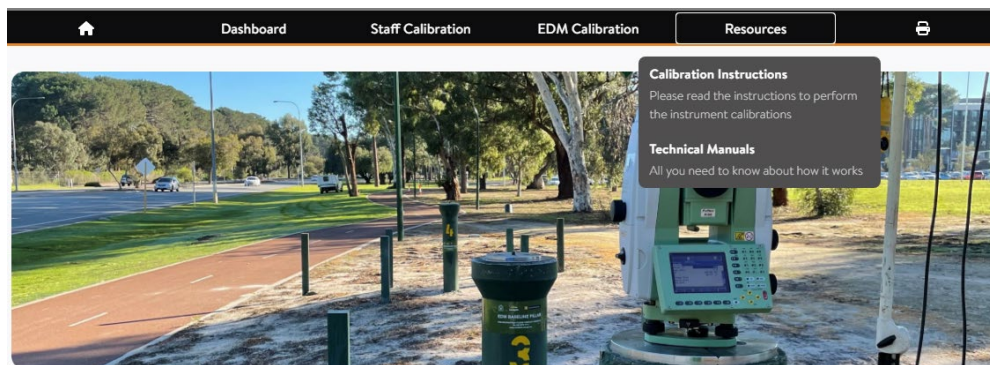
Figure 7.1: Resources drop-down menu

The *Resources* area provides access to all calibration instructions and technical manuals. Use the *Resources* drop-down menu (see Figure 7.1) to access the following information:

Calibration Instructions	**Access to Staff and EDMI calibration user guides.**
Site Calibration	*Provides information on the procedure used for the calibration of either a staff range or a EDM Instrumentation baseline.*
Instrument Calibration	*Provides information on observation and field procedures used to calibrate either a barcoded staff or EDMI calibration.*
Technical Manuals	**Access to Staff and EDMI technical manuals.**
Staff Calibration	*Provides information on the Boya (WA) staff calibration range, mathematical models used for staff calibration including the computation of a correction factor for barcoded staff.*
EDMI Calibration	*Provides general information on baseline design, mathematical models used for baseline and EDMI calibrations, corrections, modelling of uncertainties, EDMI correction, least squares adjustment and statistical tests.*

8. <u>Medjil Release Notes</u>

Medjil Version 2025.12.3 was deployed on the 28th November 2025. Software changes included in this release include the following.

- EDMI calibration certificates
    - o The ordering of the repeat observations for a pillar bay have been sorted to display in order of observation.
    - o Instrument calibrations that use an uncertainty budget that requests calibration certificates for meteorological instruments will now give warnings rather than errors when no calibration certificates are provided.
    - o The ordering of headings in the table 'Summary of Distance Reductions' have been corrected.
    - o Improved formatting when printing.
    - o Corrected significance testing of cyclic errors.
    - o The Chi-squared test of the variance factor has been corrected. The upper and lower limits bound the ideal variance factor of 1.000 rather than the adjustment variance factor.
    - o Uncertainties are round up and printed to two significant figures rather than simple rounding.
    - o Distances used for ISO 17123:4 Test A can be customized by calibration site operator.
- An icon has been added to the EDMI Calibrations list to link the EDMI Certificate.
- Prism constant added to definition of prism model. Option to apply constant added to EDMI Calibration forms.
- Barcoded Staff Calibration
    - o Option to add joints (or breaks) on Levelling Staves to enable better visualisation of Errors along the Staff Readings.
    - o Staff error diagram now presents the errors as per the given table, which as previously cut at +-0.1 mm.
- Version control added with traceability to GitHub repository history.
- Contact us links have been added for each location selected in user profile.
- The requirement for Calibration site operators to supply access diagrams and booking sheets has been changed to optional.
- Minor bug fixes.

Issues:

Landgate welcomes any positive feedback the user experience. Please log issues to geodesy@landgate.wa.gov.au.