# M3CENTRAL

# INTEGRATION GUIDE

Version 3.0

# M3Central Integration Guide

# Overview of M3Central

M3Central is a web-based system with two modes. The Diagnostics mode gives non-technical staff at housing providers the ability to diagnose repairs and accurately allocate Schedule of Rates items. The Reporting mode gives tenants the ability to report repairs online. Each mode can be run standalone or together.

M3Surveyor is an optional add-on for the Diagnostics mode that works offline. It is primarily used for void property surveys, but can also be used to create a schedule of works for any purpose.

M3Central is designed to be portable across multiple devices, including mobiles and tablets. This enables on-site diagnosis of repairs. The system is highly customisable to ensure each organisation can tailor the content to their specific requirements.

Visit the M3 website to try out M3Central and view a video demo:

> https://www.m3h.co.uk/try

This document is intended to assist with implementation of M3Central, especially when integrating M3Central with other systems.
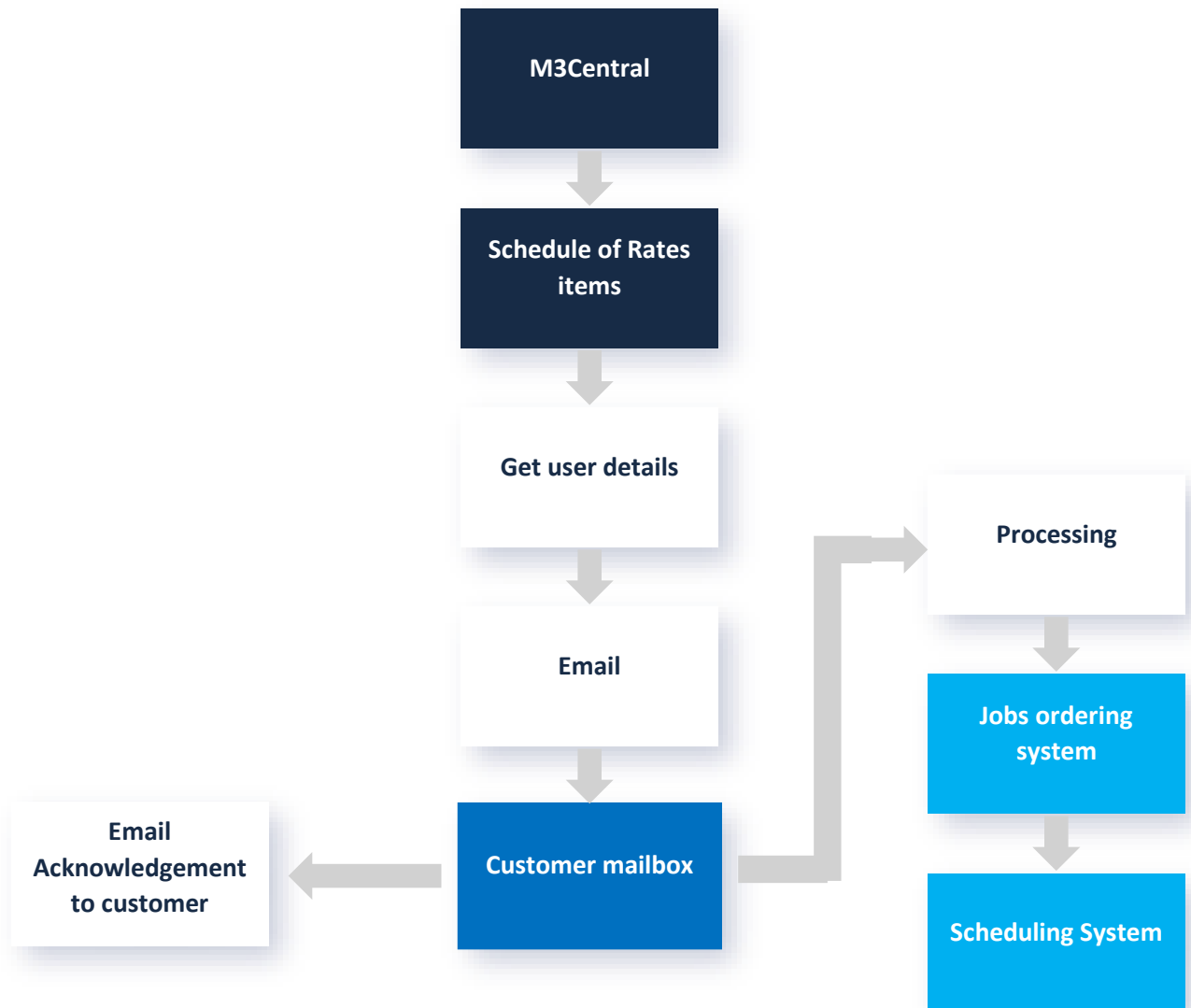
## Integration with other systems

The schematic below provides a simple overview of how M3Central Diagnostics integrates with other systems.

## Receiving repairs via email (Reporting mode)

The schematic below provides a simple overview of how M3Central Reporting can integrate with your other process when repairs are received via email.

```
                    ┌──────────────────────┐
                    │      M3Central        │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │  Schedule of Rates    │
                    │       items           │
                    └──────────────────────┘
                               │
                               ▼
                    ┌──────────────────────┐
                    │   Get user details    │             ┌──────────────────────┐
                    └──────────────────────┘             │     Processing        │
                               │                          └──────────────────────┘
                               ▼                                     │
                    ┌──────────────────────┐                        ▼
                    │       Email           │             ┌──────────────────────┐
                    └──────────────────────┘             │  Jobs ordering        │
                               │                          │     system            │
                               ▼                          └──────────────────────┘
  ┌──────────────────┐   ┌──────────────────┐                        │
  │     Email        │ ◄─│ Customer mailbox  │───┐                   ▼
  │ Acknowledgement  │   └──────────────────┘    │        ┌──────────────────────┐
  │  to customer     │                           └───────►│  Scheduling System    │
  └──────────────────┘                                    └──────────────────────┘
```

# Setup procedure

M3Central comes with a standard set of repair problems, advice and messages for users and includes built in support for the M3NHF Schedule of Rates. You can deploy M3Central immediately, or use the tools provided to customise it to your organisation's specific requirements.

After purchasing M3Central the person nominated as your organisations primary contact will be sent an email with a link to M3Central Reporting, Diagnostics or both (depending on your subscription). The email will also include the login details for the M3Central control panel. Refer to the *M3Central User Guide* for more information on the control panel. Administering the System

M3Central will usually be displayed inside an iframe, so it does not need to be branded with your organisation's logo. M3 can make any desired changes to fonts or colours to bring the look and feel of M3Central in line with the hosting website.

Technical queries regarding implementation can be answered by emailing helpdesk@m3h.co.uk, or by calling +44 (0)208 274 4010.

# Integration with other systems

M3Central has an API that allows other systems to integrate it into their workflow. Some suppliers have built in integration with M3Central and provide configuration tools to set this up. To determine the current level of integration with your housing management system it is best to contact the supplier of the system you are using.

## Integration method 1: Post Message to host page

M3Central is displayed in an iFrame. The repair information can be POSTed from the iFrame to the host page. This allows data to be sent from one client to another. The key parameter is called **wpm**, and needs to be included in the URL to enable this integration method:

https://m3central.net/index.cfm?ID=439354&wpm=1

Script in the host page can send data back to your server. This approach is increasingly being supported by housing management system suppliers, and it is often quite straightforward to configure modern CRM systems to receive and process this data.

The data is sent in JSON format.

The output in Reporting mode can be tested using the following link:

https://m3central.net/wpm-m3cr-test.html

The output in Diagnostics mode can be tested using the following link:

https://m3central.net/wpm-m3cd-test.html

## Integration method 2: XML over HTTPS

The key parameter is called **returnurl**. The returnurl tells M3Central to POST reports in XML format to a predefined URL. M3Central requires that the values for this parameter are defined in advance and are referenced by an alias. A returnurl for M3Central might look like this:

> https://m3central.net/index.cfm?ID=439354&returnurl=example

where 'example' is the alias for:

> https://example.com

Refer to the *M3Central User Guide* for more information on how to add or remove a returnurl.

The XML payload (Reporting mode) and XML payload (Diagnostics mode) sections show the output from M3Central when reports are POSTed to a predefined URL.

### Session IDs

Session IDs can be appended to the returnurl. The following link:

> https://m3central.net/index.cfm?ID=439354&returnurl=example&userid=1234&sessionid=567

would send information to:

> https://example.com?sessionid=567

The way this works can be modified for integration with specific systems.

### Redirects (Reporting mode)

Redirects only apply to M3Central Reporting subscribers. You can redirect the user's browser to the returnurl after data has been posted. The following link:

> https://m3central.net/index.cfm?ID=439354&returnurl=example&userid=1234&redirect=1

would first send repair requests to https://example.com and then display https://example.com (so it does a POST and a GET)

Since M3Central is making AJAX calls, you may find that redirects are failing because the browser is blocking calls to another domain. You can avoid this by setting a header like this:

> **Access-Control-Allow-Origin: https://m3central.net/**

There is more information about how to handle cross origin requests in the Cross Origin Resource Sharing (CORS) documentation.

Alternatively, you can add the parameters **redirect=1** and **decor= 1**. That will display an acknowledgement and provide a link for the user to the **returnurl**. Because the user has initiated the redirect, the cross-origin restrictions do not apply.

If you use the decor option, you can also have a different URL for the redirect. You pass this URL using the **redirecturl** parameter. The value for the redirecturl must be an alias. Refer to the *M3Central User Guide* for more information on creating an alias. Defining the URL

## XML payload (Reporting mode)

M3Central Reporting will generate an XML that looks like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<ROOT>
<ENVELOPE DATETIME="02:18 PM Wednesday, March 5, 2014">
<DYNKEYS>
<KEY NAME="hc" VALUE="1"/>
<KEY NAME="returnurl" VALUE="example"/>
<KEY NAME="ID" VALUE="276678"/>
<KEY NAME="USERID" VALUE="1234"/>
</DYNKEYS>

<CUSTOMER ID=" false"/>

<REPAIRS ID="8395443">
<REPAIR SEQUENCE="1">
<CATEGORY>Baths</CATEGORY>
<REPAIRAREA>Panels</REPAIRAREA>
<PROBLEM>Bath panels</PROBLEM>
<ITEM>Side panel broken</ITEM>
<SORCODE>388007</SORCODE>
<LOCATION>Bathroom or Shower Room</LOCATION>
<COMMENTS/>
</REPAIR>
</REPAIRS>

<PHOTOGRAPHS>
<PHOTO>
<LINK>https://www.m3central.net/photos/528452012-05-2415.43.40.jpg</LINK>
<CAPTION/>
</PHOTO>
</PHOTOGRAPHS>
```

### DYNKEYS element

The DYNKEYS element contains parameters that have been passed to M3Central:

```
<DYNKEYS>
<KEY NAME="ID" VALUE="439354"/>
<KEY NAME="returnurl" VALUE="example"/>
<KEY NAME="userid" VALUE="1234"/>
</DYNKEYS>
```

This allows arbitrary values to be passed to M3Central and later retrieved so that the repair requests are passed back to the right session on your system.

### REPAIRS element

The REPAIRS element contains the repair requests made by the user:

```
<REPAIRS ID="8395443">
<REPAIR SEQUENCE="1">
<CATEGORY>Baths</CATEGORY>
<REPAIRAREA>Panels</REPAIRAREA>
<PROBLEM>Bath panels</PROBLEM>
<ITEM>Side panel broken</ITEM>
<SORCODE>388007</SORCODE>
<LOCATION>Bathroom or Shower Room</LOCATION>
<COMMENTS/>
</REPAIR>
</REPAIRS>
```

SORCODE may be absent if you have elected for no schedule of rates codes to be returned.

LOCATION is only present if you have elected to make this option available to users.

There is no limit on the number of repair requests that a user may make.

### PHOTOGRAPHS element

The PHOTOGRAPHS element is present only if you have chosen to make this option available to users, and the user has uploaded photographs of their repair problem.

```
<PHOTOGRAPHS>
<PHOTO>
<LINK>https://www.m3central.net/photos/528452012-05-2415.43.40.jpg</LINK>
<CAPTION/>
</PHOTO>
</PHOTOGRAPHS>
```

If you have enable extra photograph security, you will need API credentials to access the photograph. Refer to the Accessing secure photographs section for more information on how to access these photographs.

### ACCESS element

The ACCESS element is present only if you have used the **accessonly=1** parameter. This prompts the user for access details but not for their personal information. The user must also have completed one or more fields on the user information form.

```
<ACCESS>
<NOTE>Please avoid school run</NOTE>
<NOTE>Access to my home is not necessary</NOTE>
<IN>Monday AM</IN>
<IN>Friday PM</IN>
</ACCESS>
```

## XML payload (Diagnostics mode)

M3Central Diagnostics will generate an XML that looks like this:

```
<?xml version="1.0" encoding="UTF-8"?>
<SORFILE>
<DATETIME>Wednesday, March 5, 2014 12:54 PM</DATETIME>
<DYNKEYS>
<KEY NAME="restart" VALUE="1"/>
<KEY NAME="HC" VALUE="0"/>
<KEY NAME="returnurl" VALUE="testlocal"/>
<KEY NAME="REDIRECT" VALUE="0"/>
<KEY NAME="ID" VALUE="439354"/>
<KEY NAME="showdata" VALUE="1"/>
</DYNKEYS>
<NHFSOR>
<ITEM HEADING="Waste Pipework and Fittings" SUBJECT="Soil/Waste Pipe
Blockages" TRADE="Plumbing" VER="NHF61">
<CODE>620513</CODE><PRIORITY>E</PRIORITY><JOBTITLE><![CDATA[WC
PAN:CLEAR BLOCKAGE INCLUDING REMOVE]]></JOBTITLE><DESCRIPTION>
<![CDATA[WC Pan:Clear blockage to wc pan including remove refix pan, remake all
joints, flush out and test, remove, refix any access panels etc, remove debris on
completion, make good any finishes
disturbed.]]></DESCRIPTION><UNIT>NO</UNIT><RATE>32.63</RATE><QUANT
ITY>1</QUANTITY><COMMENT/><UID>1</UID><SLOTS>0</SLOTS>
</ITEM>
</NHFSOR>
</SORFILE>
```

### DYNKEYS element

The DYNKEYS element contains parameters that have been passed to M3Central:

```
<DYNKEYS>
<KEY NAME="ID" VALUE="439354"/>
<KEY NAME="returnurl" VALUE="example"/>
<KEY NAME="userid" VALUE="1234"/>
</DYNKEYS>
```

This allows arbitrary values to be passed to M3Central and later retrieved so that the repair requests are passed back to the right session on your system.

### NHFSOR element

In Diagnostics mode the REPAIRS element is replaced by the NHFSOR element. This element contains all the schedule of rates items selected by the user, including any changes to quantity or comments they may have added.

The element can hold items from any schedule of rates, but each item is always presented in the same format with the following elements:

- CODE
- PRIORITY

- JOBTITLE
- DESCRIPTION
- UNIT (of measure)
- RATE

Variations between schedules means that some elements may not be populated. Currently it is not possible to upload photographs in Diagnostics mode, so there is no PHOTOGRAPHS element.

UID is used internally for backwards compatibility with other systems.

SLOTS can hold a standard minute value for the job expressed as a user defined unit which defaults to 15 minutes. This would only apply if you have set up standard minute values, otherwise the value is always 0. The value may also be 0 for items in the schedule of rates that do not have a rate (the M3NHF Schedule of Rates includes items that are used to order works under service contracts which do not have a rate).

## Accessing secure photographs (Reporting mode)

You can add extra security to photographs uploaded by users. This will save them in a secure folder which can only be accessed using API credentials. For information on how to add extra photograph security or setup API keys refer to the *M3Central User Guide*.

Depending on the integration method you have chosen, the repair data will be sent in XML or JSON format and contain a link to the photograph. If you have enabled extra security the link will look like this:

https://m3central.net/api/securephoto.cfm?ID=501667&photo=my_photo.png

If you HAVE NOT enabled extra security the link will look like this:

https://m3central.net/photos/my_photo.png

To retrieve the secure photograph, an authorisation header must be sent with the API credentials using the basic authentication scheme. The steps to retrieve the photograph are as follows:

1. Format the credentials as {API Key}:{Secret Key}
2. Convert the string to Base64
3. Request the given URL with an authorisation header of Basic and the Base64 string

For example, the details needed to access my_photo.png at each step could look like this:

1. livekey:F7NGJB9ABRHAQUYP5ZTVVPGU0ACDKPNQ
2. bGl2ZWtleTpGN05HSkI5QUJSSEFRVVlQNVpUVlZQR1UwQUNES1BOUQ==
3. GET https://m3central.net/api/securephoto.cfm?ID=501667&photo=my_photo.png
   Authorization: Basic bGl2ZWtleTpGN05HSkI5QUJSSEFRVVlQNVpUVlZQR1UwQUNES1BOUQ==

## Debugging

If you are having issues setting up the connection with M3Central you can pass a **showerror=1** parameter to get more information.

This will display any error information and response from the remote server. If you use showerror, the redirect parameter should be omitted or set to 0.

You can also pass a **showdata=1** parameter. This will display the remote server's response for a successful connection. This is intended solely for debugging connections. The section above on Redirects (Reporting mode) provides more information on displaying your message to the user. Redirects (M3Central Reporting)

## URL parameters

The only required URL parameter is ID. All others are optional.

| Parameter | Parameter value | Applicable mode | Explanation |
|---|---|---|---|
| accessonly | 1 | Both | This parameter will prompt the user for access details. It does not ask for personal information, so it can be used when M3Central is integrated with a portal.<br><br>Refer to the *M3Central User Guide* for more information on how edit this form. |
| contract | An alias for the contract to load | Both | This will apply the percentage uplift or discount, associated with the specified contract, to the M3NHF Schedule of Rates.<br><br>Refer to the *M3Central User Guide* for more information. |
| decor | 1 | Reporting | After data has been posted the user is presented with confirmation and a link. Must be used with redirect and redirecturl.<br><br>Refer to the Redirects section for more information. |
| hc | 1 | Both | Turns on Reporting mode. Only required for accounts that are enabled for both Reporting and Diagnostics modes. |
| ID | Account number | Both | Required. |
| lang | cym | Reporting | Displays the M3Central interface in Welsh. |

| Parameter | Parameter value | Applicable mode | Explanation |
|---|---|---|---|
| load | Loads any available extensions. | Diagnostics | This will load M3Surveyor. You must be licensed to use M3Surveyor. |
| nobreak | 1 | Both | Stops M3Central from breaking out of an iFrame to full screen when displayed on smaller screen.<br><br>Refer to the Mobile support section for more information. |
| profile | An alias for the profile to load | Both | Loads the profile attached to the specified alias.<br><br>Refer to the *M3Central User Guide* for more information on how create and edit profiles. |
| quicksend | Raise repair report quicker | Reporting | This parameter will send the repair report through after the tenant clicks 'Make Report', skipping the 'Reports' and 'Send' tabs and limiting the tenant to raising one repair at a time. |
| redirect | 1 | Reporting | Redirects the user's browser to the returnurl after data has been posted.<br><br>Refer to the Redirects section for more information. |
| restart | 1 | Both | Reloads data and other resources. Useful when switching from Diagnostic to Reporting mode or vice versa. |
| returnurl | An alias for the URL to which data should be posted. | Both | If the returnurl parameter is present, M3Central will not ask the user for personal details or send reports via email.<br><br>Refer to the XML over HTTPS section for more information. |
| sessionid | A value that will identify a session on the remote server. | Both | M3Central will append the sessionid to the returnurl.<br><br>Refer to the Session IDs section for more information. |

| Parameter | Parameter value | Applicable mode | Explanation |
|---|---|---|---|
| setmail | A valid email address | Both | **Only relevant where reports are returned by email.**<br><br>This parameter allows you to provide an alternative email address to which a report will be sent. It is often used by groups who are using one account for all their members.<br><br>Refer to the *M3Central User Guide* for more information. |
| show advice | 1 | Both | Automatically displays the Advice window. |
| showdata | 1 | Both | Displays any available error information about a connection to another server or the server's response.<br><br>Refer to the Debugging section for more information. |
| showerror | 1 | Both | Use this to get more information about a connection failure.<br><br>Refer to the Debugging section for more information. |
| sor | NHF61<br>NHF62<br>NHF70<br>NHF71<br>NHF72<br>NHF_ROS61<br>NHF_ROS62<br>NHF_FMSOR2<br>NHF_FMSOR3 | Diagnostics | This parameter will override the default SOR.<br><br>To load a version 7.0 of the M3NHF Schedule of Rates, the parameter will be NHF70, to load version 7.2 it will be NHF72.<br><br>To load version 7.0 of the Repairs Ordering Schedule, the parameter will be NHF_ROS70, to load version 7.2 it will be NHF_ROS70.<br><br>To load version 2 of the Facilities Management Schedule, the parameter will be NHF_FMSOR2, to load version 3 it will be NHF_FMSOR3. |

| Parameter | Parameter value | Applicable mode | Explanation |
|---|---|---|---|
| userid | A user id set in the M3Central Control Panel | Diagnostics | Passing a userid avoids being prompted for it when a user wants to save or open a file.<br><br>Refer to the *M3Central User Guide* for more information. |
| wpm | 1 | Both | If M3Central is running in an iFrame, this will post the data in JSON format to the host page. You will need to configure the page to receive the data.<br><br>Refer to the Post message to host page section for more information. |

## Language support

In addition to English, the M3Central Reporting interface can be viewed in Welsh. You can switch to using Welsh by using the **lang=cym** parameter.

## Mobile support

M3 Central has a touch friendly interface and designed to automatically adjust to different screen sizes. By default, M3Central will break out of an iframe to run full screen when it is run on a smaller screen. This ordinarily provides a better user experience. You can use the **nobreak=1** parameter to override this behaviour.

## Privacy

By default, no user information is stored on the system. You can opt to store users' details if you think this may assist you in tracking repair requests. Refer to the *M3Central User Guide* for more information on how to do this. Settings

M3Central Reporting will only use a cookie to store a user's personal information if the user checked the **Remember me** option on the user information form. This option is not available if they are accessing M3Central via a portal.

You can access the M3's privacy policy here: https://www.m3h.co.uk/company
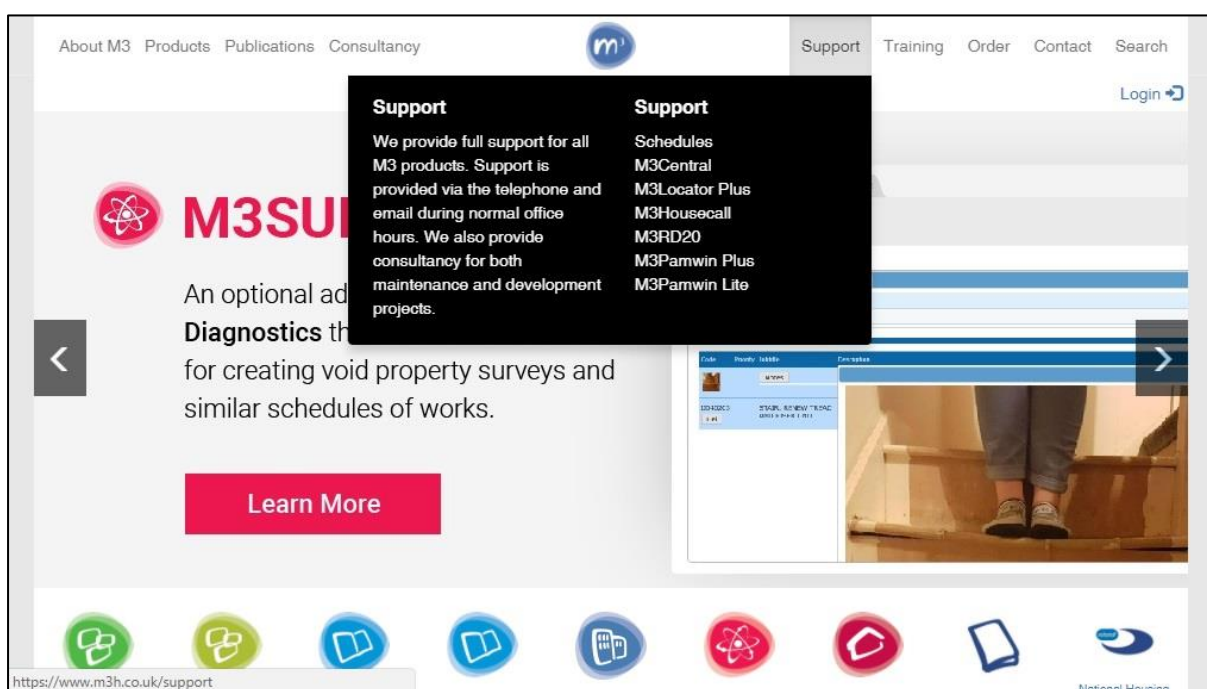
# Support

M3 provides full support to M3Central administrators, and staff who use M3Central Diagnostics and M3Surveyor.

## Helpdesk

You can contact the M3 helpdesk by emailing helpdesk@m3h.co.uk or by calling the helpline on +44 (0)208 274 4010.

## M3 website

You can access M3Central support via the M3 website (www.m3h.co.uk/support/m3central). This page provides answers to a list of frequently asked questions and a link to a contact form where you can raise additional support queries.



## M3NHF Schedule of Rates support

For support and advice on the M3NHF Schedule of Rates visit the Schedules support page on the M3 website (www.m3h.co.uk/support/schedules). This page contains a link to a contact form where you can raise technical queries.

*Thank you for using M3Central!*