



# DEV4 CASE STUDY

## **PROJECT**

EquiTrack

## **CLIENT**

Muehlhan GmbH

## **INDUSTRY**

Global Technical Services

# CASE STUDY



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# CASE STUDY



## BACKGROUND

Muehlhan GmbH approached DEV4 in 2012 seeking a bespoke solution to meet their equipment & servicing requirements.

Muehlhan GmbH's existing methods of recording and storing their equipment & servicing data was mainly MS Excel and MS Word based.



Seeking to move to a more flexible and secure platform, Muehlhan GmbH engaged DEV4 to deploy and further develop the EquiTrack software.

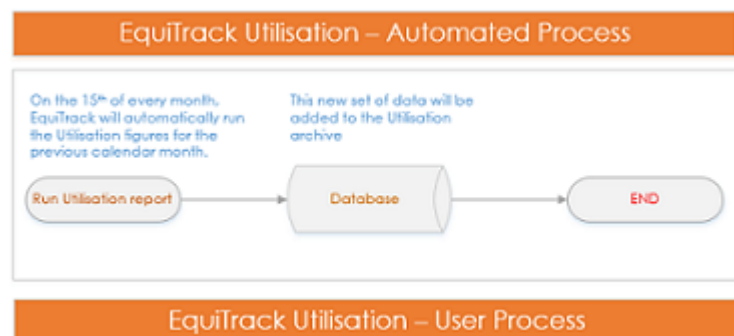
## THE REQUIREMENTS

1. Single, secure point of equipment data
2. Single source of equipment servicing records
3. Equipment & service file management
4. Cloud based application *to include*;
5. Centralised financial & depreciation algorithms
6. Improved User data validation
7. System auditing and reports
8. Equipment Dashboarding
9. Reporting templates
10. Multi-platform support
11. Multi-lingual application
12. System & component security

## OUR APPROACH

DEV4 worked with Muehlhan GmbH in mapping existing functionality with business processes to manage their equipment & servicing needs within the system.

By analysing the existing file-based systems, we designed & further developed a robust database structure for optimal storage and a secure application business layer.



Working closely with Muehlhan GmbH Management & operational staff, we provided the unique functionality they were seeking.

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## THE SOLUTION

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DEV4 developed EquiTrack - a Cloud based application providing global access to equipment data and associated servicing records.

Designed and built primarily using Microsoft .NET technologies, the system is secure, robust and compatible with several devices and browser platforms.

EquiTrack provides real-time data on equipment movements and locations for Muehlhan GmbH Management & staff globally.

EquiTrack also provides detailed financial overviews, depreciation functionality and utilisation trends.



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**THE SOLUTION** **Single, secure point of equipment data**



Designing from a fragmented system gave us the opportunity to create logical datasets which could be stored efficiently within a database structure.

Our team developed a secure SQL Server database, which provides one source of data for the system.



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## THE SOLUTION Single source of equipment servicing records ✓

By providing service admin tools, EquiTrack allows Users to create service date flags for future alerts.

Simple colour alerts are also available on the EquiTrack service interfaces.



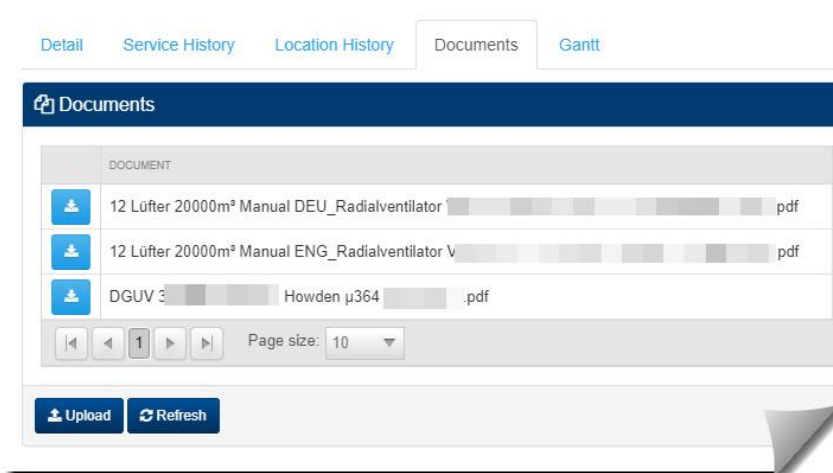
## THE SOLUTION Equipment & service file management ✓

Equipment servicing is an important element when maintaining equipment such as scaffold and ropes, for example.

Retaining service records and scheduling service dates is vital for keeping equipment operational, safe to use and readily available.

With the ability to set service dates and alerts of the upcoming service provides Muehlhan GmbH with a single repository to manage their equipment servicing needs.

External documents and related service files are stored in one location and are searchable from within the EquiTrack software.



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## THE SOLUTION Cloud based application ✓

Developed on Microsoft .NET technologies, EquiTrack was developed as a Cloud application on the Microsoft Azure platform.

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## THE SOLUTION Centralised financial & depreciation algorithms ✓

There were numerous approaches to handling financial & depreciation reporting, all held in individual files. By providing a central secure repository which is administered by Muehlhan GmbH Management.

Controlling this important information allowed Muehlhan GmbH to manage price updates, depreciation percentages and provide one reference point for all system financial calculations.



## THE SOLUTION User Data validation ✓

Mapping business and application processes, our team designed, documented and implemented the required validation models which provide data consistency throughout EquiTrack.

Protecting the quality of the data entered into the system mitigates data type errors and helps improve business logic and application consistency.

Simply; validation enhances the accuracy of the EquiTrack project information and reporting mechanisms.

Create Items

Serial Number	Name
202008271237551	Search in eq. [v]
	Field required
Serial Number [v]	Chest Name: [v]
Please provide a value	

Save

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## THE SOLUTION Audit history & reporting ✓

The application tracks all data changes which provides a complete audit history and full accountability.

EQUIPMENT ITEM	USER NAME	ACTIVITY DATE
	All items checked	10/30/2019
		30 Oct 2019 16:50
		30 Oct 2019 16:36
100m Rope Low Stretch		30 Oct 2019 16:35

The audit history functionality covers and reports on areas of the application including Jobs, Tracker, items, reference data, service data and external files.

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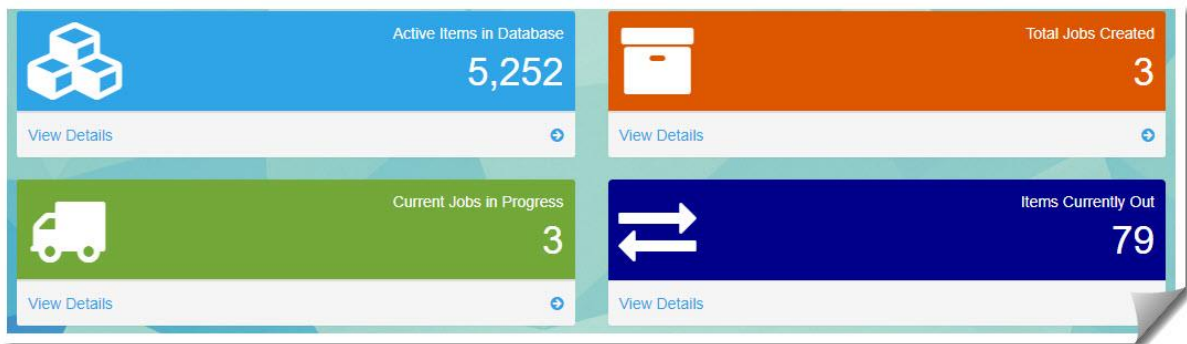
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## THE SOLUTION

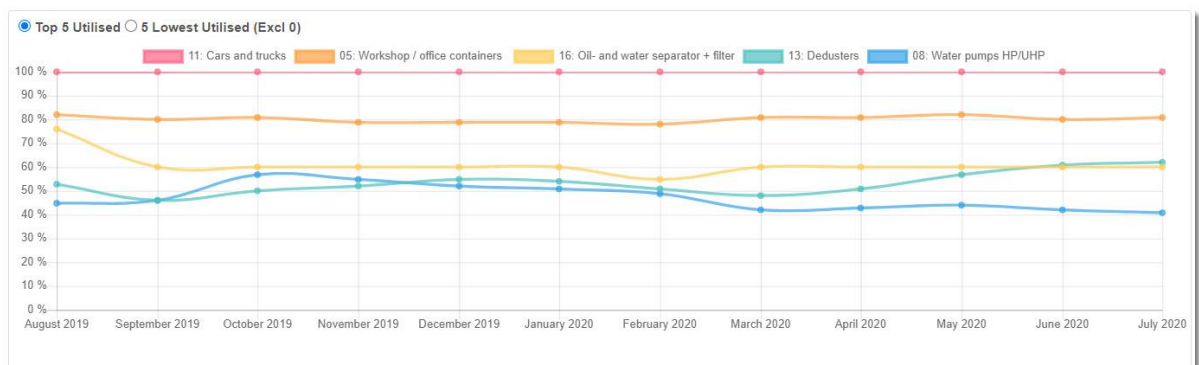
## Equipment Dashboarding ✓

EquiTrack provides several dashboard components such as available machinery, jobs created, jobs in progress, equipment utilisation, services due and generated income.



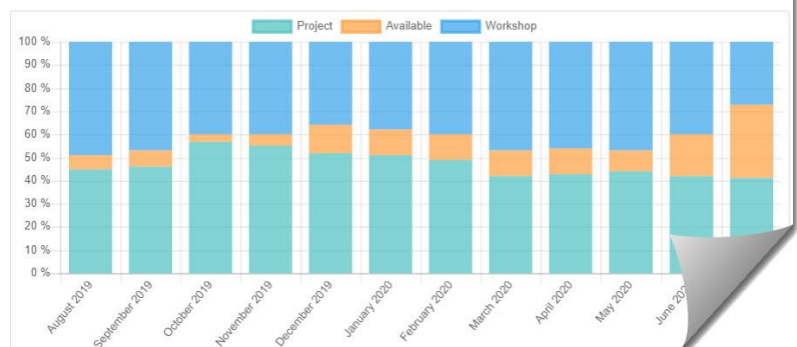
Dashboard graphs provide overviews while the ability to investigate individual equipment utilisation has also been included.

This functionality is vital for Muehlhan GmbH when making decision on new purchases and relocation of equipment to different sites.



Utilisation rate: 08: Water pumps HP/UHP

MONTH	PROJECT	AVAILABLE	WORKSHOP
Aug 2019	45	6	49
Sep 2019	46	7	47
Oct 2019	57	3	40
Nov 2019	55	5	40
Dec 2019	52	12	36
Jan 2020	51	11	38
Feb 2020	49	11	40
Mar 2020	42	11	47
Apr 2020	43	11	46
May 2020	44	9	47
Jun 2020	45	10	46





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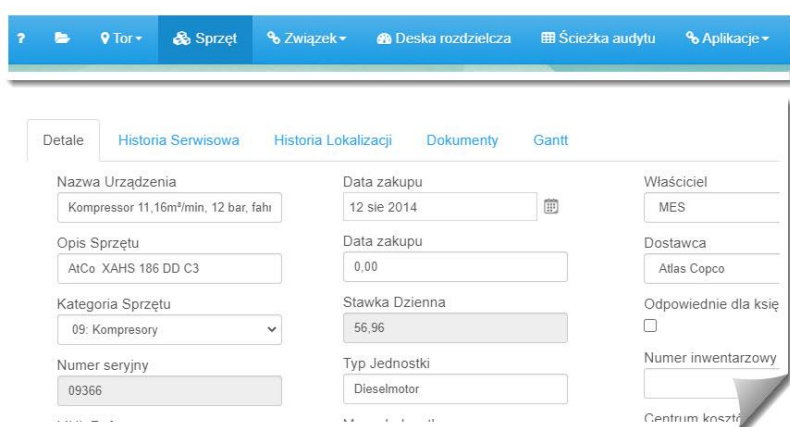
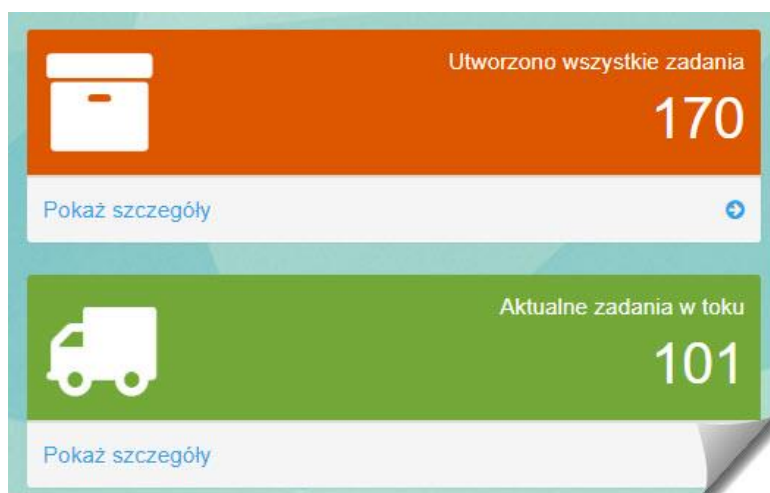
## THE SOLUTION Multi-lingual application ✓

EquiTrack provides support across several languages including English, German, Polish and Dutch.

Requiring local solutions for their global equipment inventory & system Users, the introduction of the multi-language functionality addressed this important element.

Providing local language support enabled Muehlhan GmbH to roll the EquiTrack software out to Holland, Poland, Greece, Germany and the UK.

Additionally, equipment data is visible to other Muehlhan GmbH locations and is thus shareable throughout the organisation.

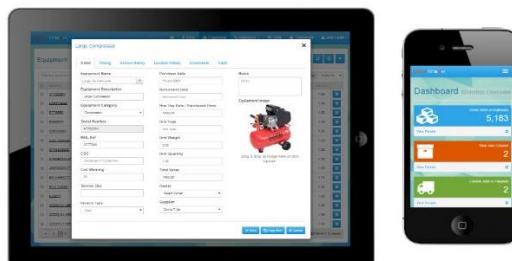


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## THE SOLUTION Multi-platform support ✓

Using responsive design techniques, EquiTrack is accessible via devices such as a PC, laptop, tablet or mobile phone.



EquiTrack supports the latest versions of Google Chrome, Microsoft Edge, Firefox and Safari browsers.



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## THE SOLUTION System & component security ✓

Database security | Application security | User management

All our specific Client security frameworks are confidential for obvious reasons.

What we can tell you about EquiTrack;

Our team designed numerous User security layers within the EquiTrack architecture including role & permissions management. Additionally, data encryption, code injection safeguards, business object & enterprise authentication were also utilised to further protect the system.



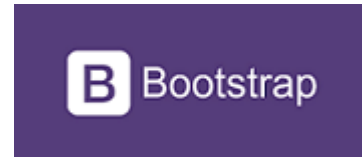
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## PROJECT TECH

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EquiTrack utilises a range of design, development, testing & hosting technologies.



## ABOUT DEV4

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SOFTWARE | PLAN | DESIGN | BUILD | MANAGE

DEV4 Online Ltd. have provided solutions in various industries such as financial, engineering, quality assurance, logistical, inventory control, training and human resources.

Our Team has extensive engineering systems experience, particularly within the Oil & Gas sector.

From bespoke projects to off the shelf offerings, we have assisted many businesses resolve, create and plan for future growth.

Contact us at [info@dev4.online](mailto:info@dev4.online) to discuss your project ideas & requirements.