

MECHANICAL CUTTING DIVISION



DIGITAL INSPECTION PLATFORM QUICK CHECK TRAINING



INTRODUCTION

BENEFITS AND APPLICATIONS OF QUICK CHECK INSPECTION

Abstract white geometric lines on an orange background, forming a series of connected triangles and polygons that create a sense of depth and structure, extending from the text area towards the bottom of the slide.

4 REASONS WHY

SANDVIK QUICK CHECK INSPECTIONS

4



- **Improved safety** for personnel and machine by enabling early detection of potential hazards



- **Quick view of machine status** as the inspection was designed to be carried out in only a few minutes by any Sandvik field service employee



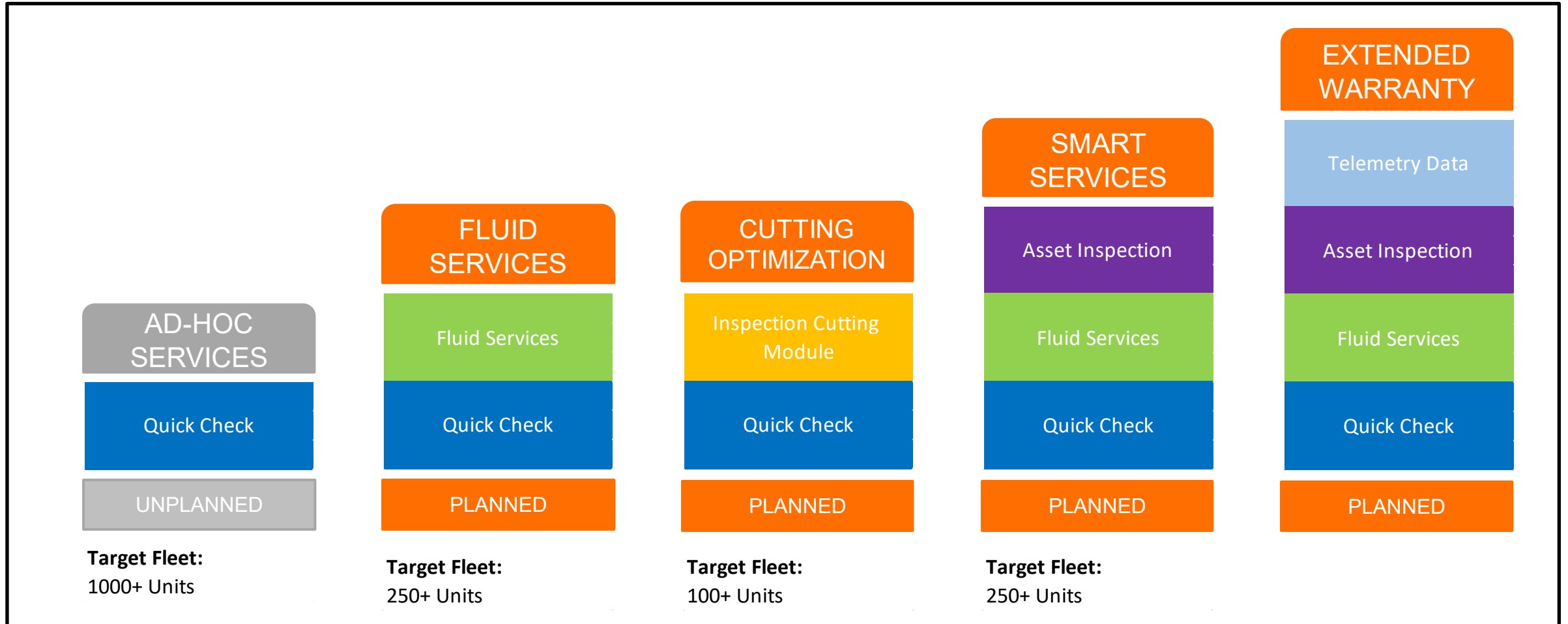
- **Maximum productivity** when additional agreement for future SMART Inspections offering is signed



- **Time saving** due to Quick Check being designed to be carried out in only a few minutes

DIGITAL INSPECTION PLATFORM

DIFFERENT MODULES FOR DIFFERENT SERVICE OFFERINGS



DIGITAL INSPECTION PLATFORM

A series of white lines on an orange background that form a stylized, abstract mountain range or a series of connected triangles. The lines originate from the bottom left, rise to a peak, and then descend towards the bottom right, with additional lines creating a sense of depth and structure.

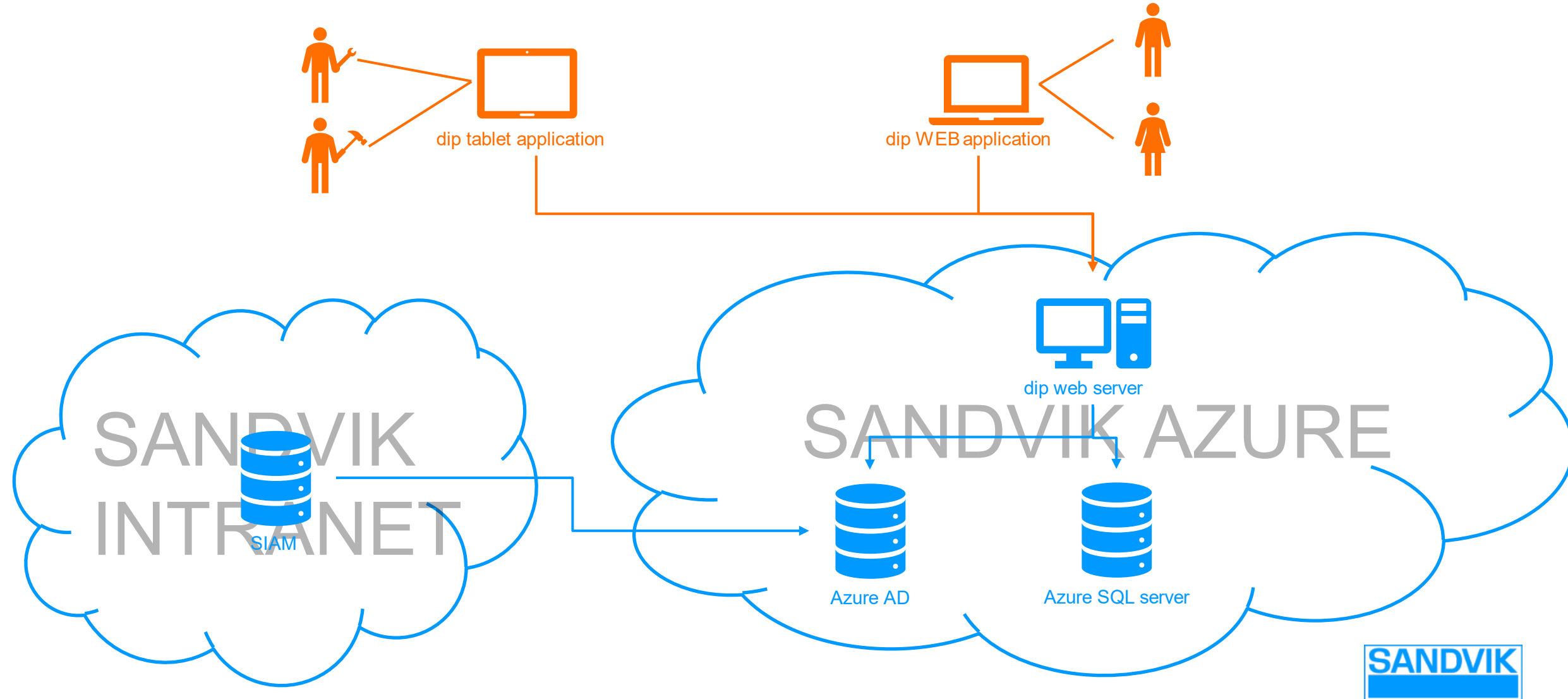
DIGITAL INSPECTION PLATFORM

WHY?

- **Digitized** tool to secure protocol standardization, improve inspector efficiency and improve service perception
- Stakeholders receive a clear **written report** that suggests corrective actions and proactive improvements
- Reports are created and distributed **same day**
- Allows for **trend analysis** to help increase customer availability and lower machine operation cost
- **Manage risk** and improve traceability in service agreements



GENERAL SERVICE ARCHITECTURE DIP



HARDWARE (NON-FLP APPLICATIONS)

APPLE IPAD

Processor	2.49 GHz A12Z Bionic chip
Main Display Resolution	2388 x 1668
Main Display Size	11"
Weight	473 gr
Product Dimensions	178.5 x 257.6 x 5.9 mm
Camera	12.0 MP (rear), 7.0 MP (front)
Internal Memory	6GB RAM, 128GB Storage
Wi-Fi	802.11 a/b/g/n/ac/6 2.4+5GHz
Mobile	Nano-SIM, eSIM, 2G GSM, 3G HSDPA, 4G LTE FDD, 4G LTE TDD
External Memory	N.A.



HARDWARE (FLP APPLICATIONS)

I.SAFE MOBILE IS930.M1

Processor	2.4 GHz (Octa-Core)
Main Display Resolution	1200 x 1920 (RugDisplay-Glass)
Main Display Size	8.0"
Weight	890g
Product Dimensions	237 x 156 x 22 mm
Camera	13.0 MP (rear), 5.0 MP (front)
Internal Memory	4GB RAM, 64GB Storage
Wi-Fi	802.11a/ b/g/n/ac/e/k/r/h 2.4+5GHz
Mobile	Single-SIM(Nano-SIM (4FF)), 2G GSM, 3G WCDMA UMTS B1/2/4/5/8, 4G LTE FDD, 4G LTE TDD
External Memory	MicroSD (Up to 128GB)



USER INTERFACES

TABLET APPLICATION

INTRODUCTION

The following slides explain basic uses of the DIP application. They show how to perform an inspection and in some areas also present alternative flows of the application.

In case you prefer to get the overview in video format, there is similar content available in dip Sharepoint:

[https://sandvik.sharepoint.com/teams/dip/SitePages/Training-videos\(1\).aspx](https://sandvik.sharepoint.com/teams/dip/SitePages/Training-videos(1).aspx)

For access to the web app: <https://sandvik-dip-dev.azurewebsites.net/>

LOGIN PROCESS

WELCOME TO INSPECTION TOOL!

Email

Federico.martinez@sandvik.com

CONTINUE

Enter your email address
and click CONTINUE

Microsoft

federico.martinez@sandvik.com

Enter password

Password

[Forgot my password](#)

[Sign in with another account](#)

Sign in

Insert your Sandvik password

Microsoft

federico.martinez@sandvik.com

Enter code

☐ We texted your phone +XX XXXXXXXXXX84.
Please enter the code to sign in.

Code

[Having trouble? Sign in another way](#)

Verify

Application uses multi-factor authentication via SMS.
Once you have inserted your password system
sends SMS to your work mobile phone. SMS
contains 6-digit code that needs to be inserted here.

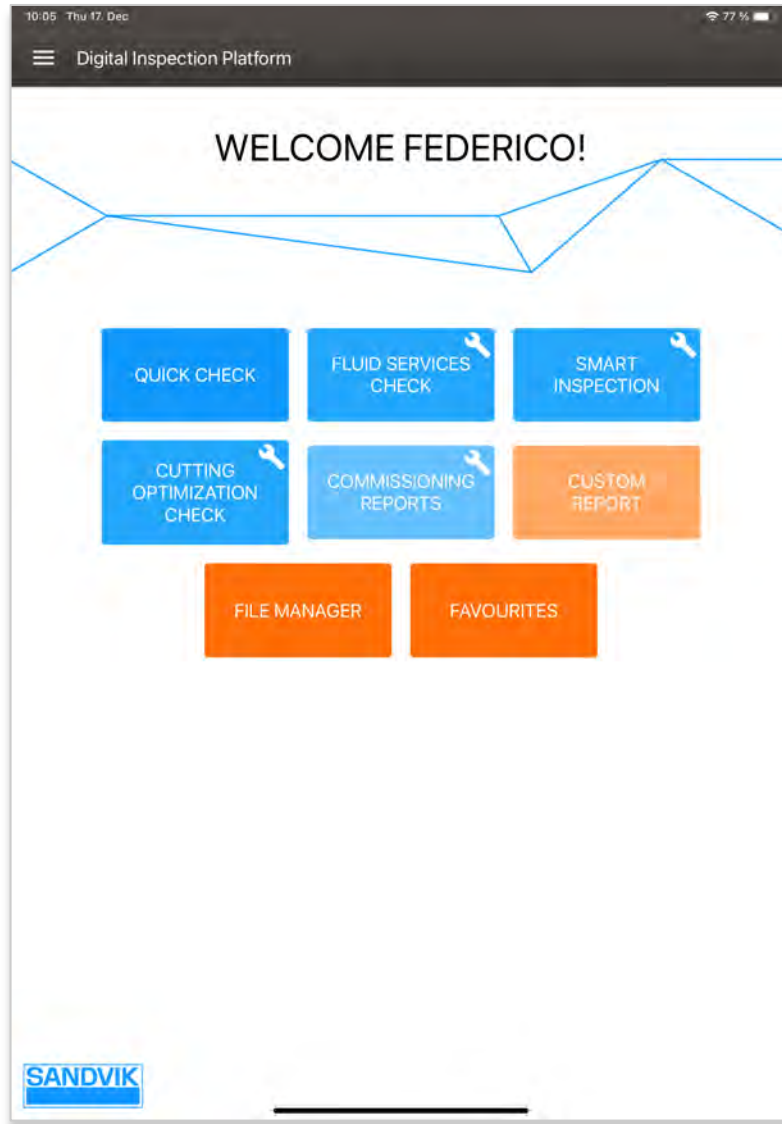
NOTE:

- Login process needs to be completed only once when tablet application is in active use.
- If login session gets expired as tablet application hasn't been used for a while you need to complete the steps again.



QUICK CHECK INSPECTIONS

CHECKLIST STRUCTURE – LANDING PAGE



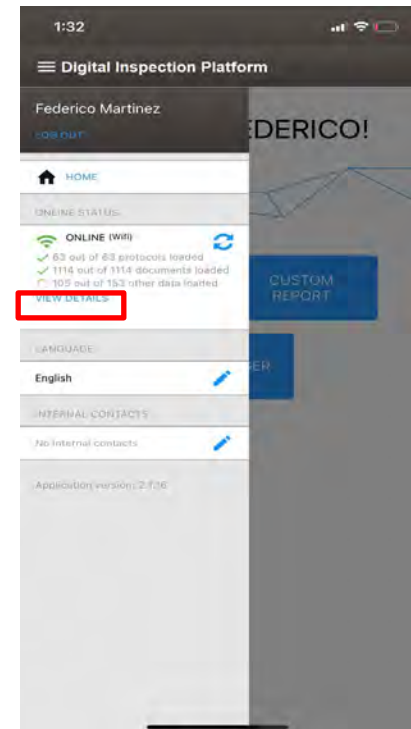
The Landing Page of the Digital Inspection Platform contains the following options:

- Quick Check: 20-30 min inspection which can be carried out by nearly all Sandvik personnel
- Fluid Services: check of fluid-containing components. Includes oil sampling steps
- SMART Inspection: various time and module-based inspections
- Cutting Optimization Check: check of cutting performance and rock sample analysis
- Commissioning Reports: commissioning reports for use as end-of-line checks by Sandvik QA
- Custom Report: allows user to create their own report
- File Manager: access to files containing training material and inspection point support
- Favourite: access to a user's favourite (most often used) inspections without entering additional information

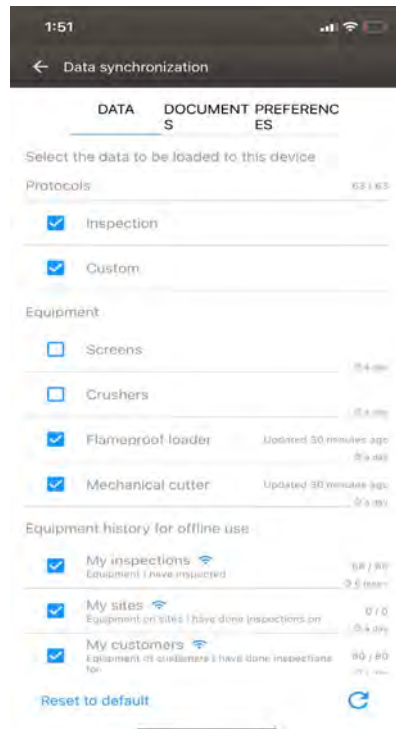


FILE SYNC PROCESS

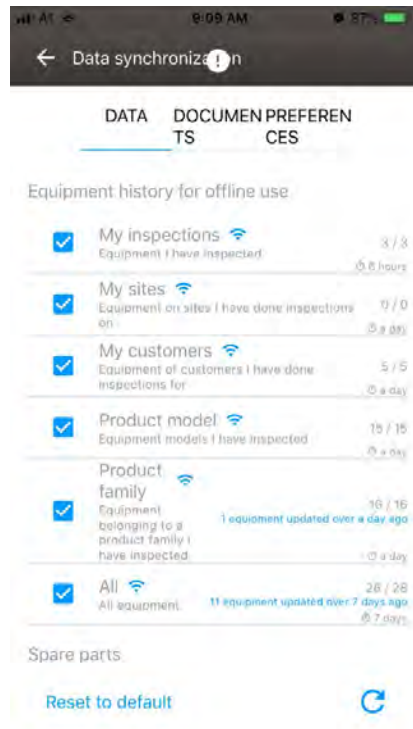
1. On side menu, in the Online Status section, click on View Details in order to select the files to be synced.



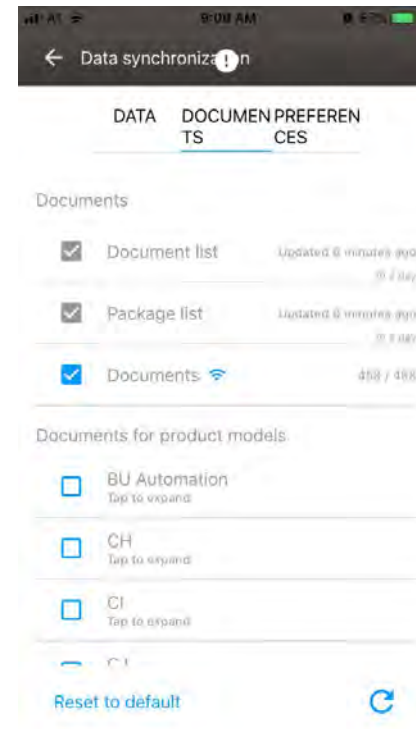
2. In the Data tab, choose inspection and custom as the protocols and the right equipment as shown below.



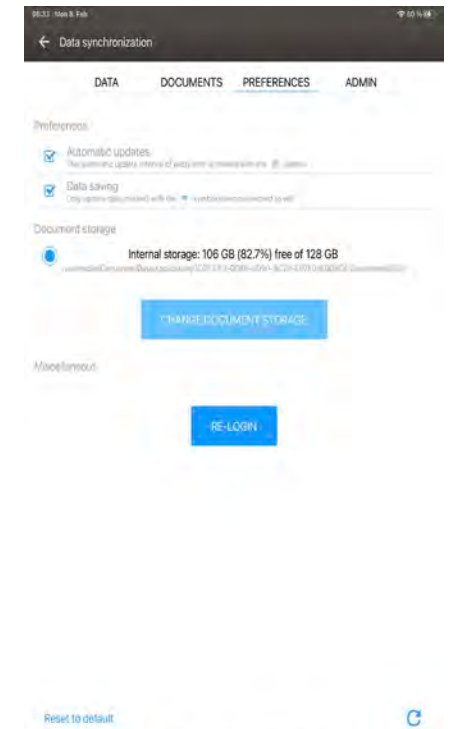
3. In the Data tab, also make sure to choose "All" of the equipment history. This is key for trending history within the app.



4. In the Documents tab, choose all documents in order to have all files available for offline use.



5. Finally, choose the machine family model as shown below and click on the sync icon.



Note: when performing a file sync for the first time, the app might take about 20 minutes (depending on wifi speed) due to the large amount of data. Further, automatic, synching requires just a few minutes.



NEW MACHINE INSPECTION

9:26 Quick Check > Equipment information

NEW INSPECTION PREVIOUS INSPECTIONS

By serial number By customer

Equipment serial number

MT

MT520-014
MT520-016
MT520-008
MT520-010
MT520-017
MT520-023

«MT»

q w e r t y u i o p
a s d f g h j k l ñ
z x c v b n m
123 espacio intro



9:26 Quick Check > Equipment information

NEW INSPECTION PREVIOUS INSPECTIONS

By serial number By customer

Equipment serial number

MT520-016 ✓

Customer name

Global Coal Mine Inc.
Note: Adding as a new customer. Last updated a minute ago.

Product family

MT

Product model

520

OPTIONAL

Equipment site ID
The equipment ID without the site, for example "Crusher 1"

< >

DIP is connected to MDG. If the serial number sought is in the database, the model and customer information will appear. In a contingency, manual entry of information is also possible.

New serial number user must select product family and model

INSPECTION POINT VIEW OVERVIEW

LS 190 Monthly | 1 / 1

General Machine checks (write down part number and take picture when part is not OEM)

00 CETOP VALVE check
Inspect CETOP air pilot valves

Comments

Valve showed wear and was not an OEM part. Therefore, it is recommended to change it for part number 6897364 in order for the component to be compliant.

Internal comments ▾

Rating

OK | Should be followed | **To be repaired or replaced** | Immediate action | Not applicable

Non-OEM part.

Take a photo of the finding(s) for the inspection report.

Header

Category title indicates importance of checking for OEM parts and non-compliance notification.

Content

- Inspection point view consists of header and content parts.
- Header part offers actions to cancel the inspection, shows the name of the inspection and provides easy navigation between inspection points.
- Upper area of content area varies between inspection point types but bottom area contains always comment and rating sections.
- Comments is free text field that is used to collect any extra information that is relevant for inspection
- Rating is providing 5 resolutions for inspection point. In case Should be followed, To be repaired or replaced or Immediate action is selected user can take picture of the problem.

Navigation to next or previous inspection point

INSPECTION POINT VIEW HEADER



Inspection name, contains information about selected product model and inspection type

Inspection progress, shows how many inspection points have rating set

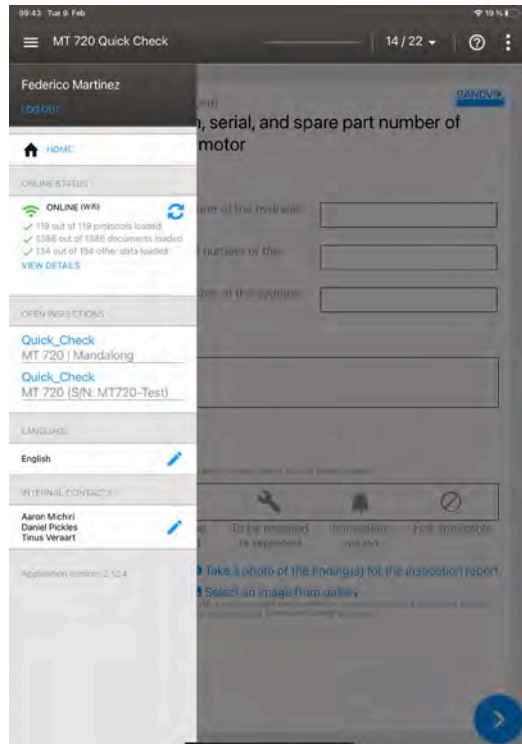
Procedures

Save Menu

Side menu for files and language options

Shows current inspection point number and total amount of inspection points. Clicking opens inspection points overall view.

- Add inspection point
- Priority status and history
- Save and upload to server
- Add as favourite
- Cancel inspection
- Flag inspection point



INSPECTION POINT WITH PROBLEM

Running quite hot, need to be followed

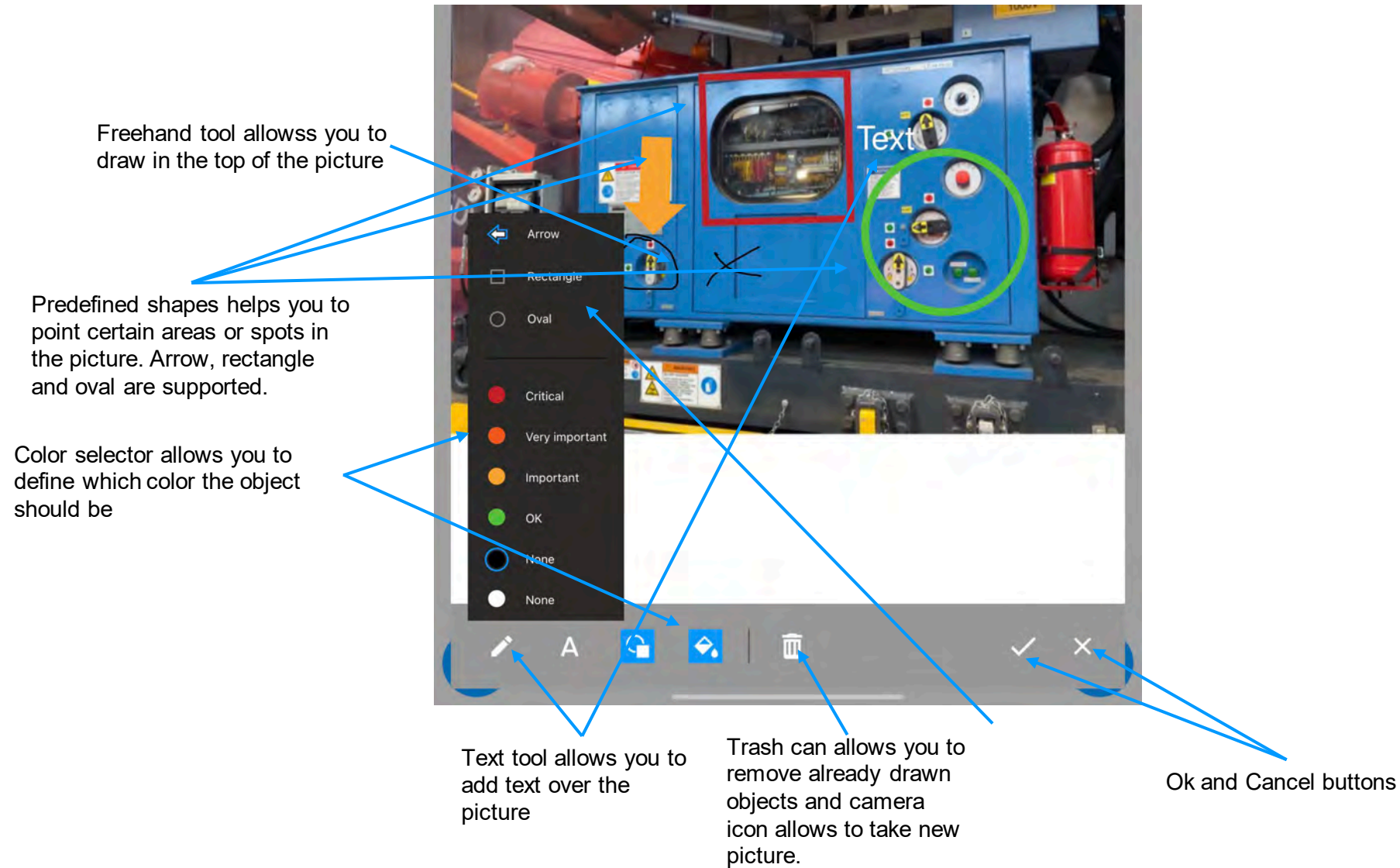
Rating

OK Should be followed To be repaired or replaced Immediate action Not applicable

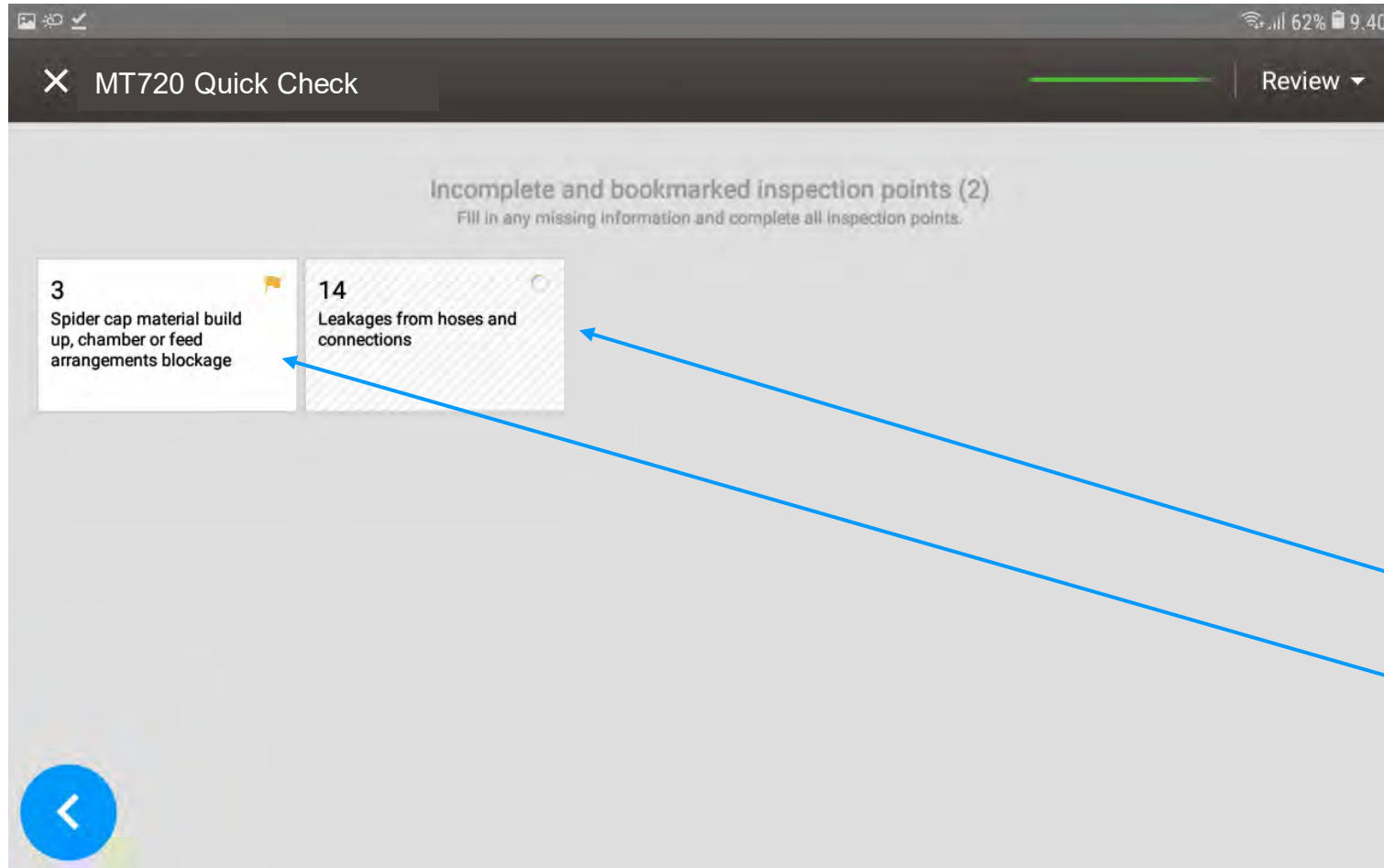
Take a photo of the finding(s) for the inspection report.

- Inspector can easily document the problem by taking a picture of it and save it to certain inspection point.
- Photos are stored in the server and can be added to the final report if needed.
- User can add annotations to pictures so that problem gets more evident, see details on next slide.

PICTURE ANNOTATIONS



COMPLETING INSPECTION

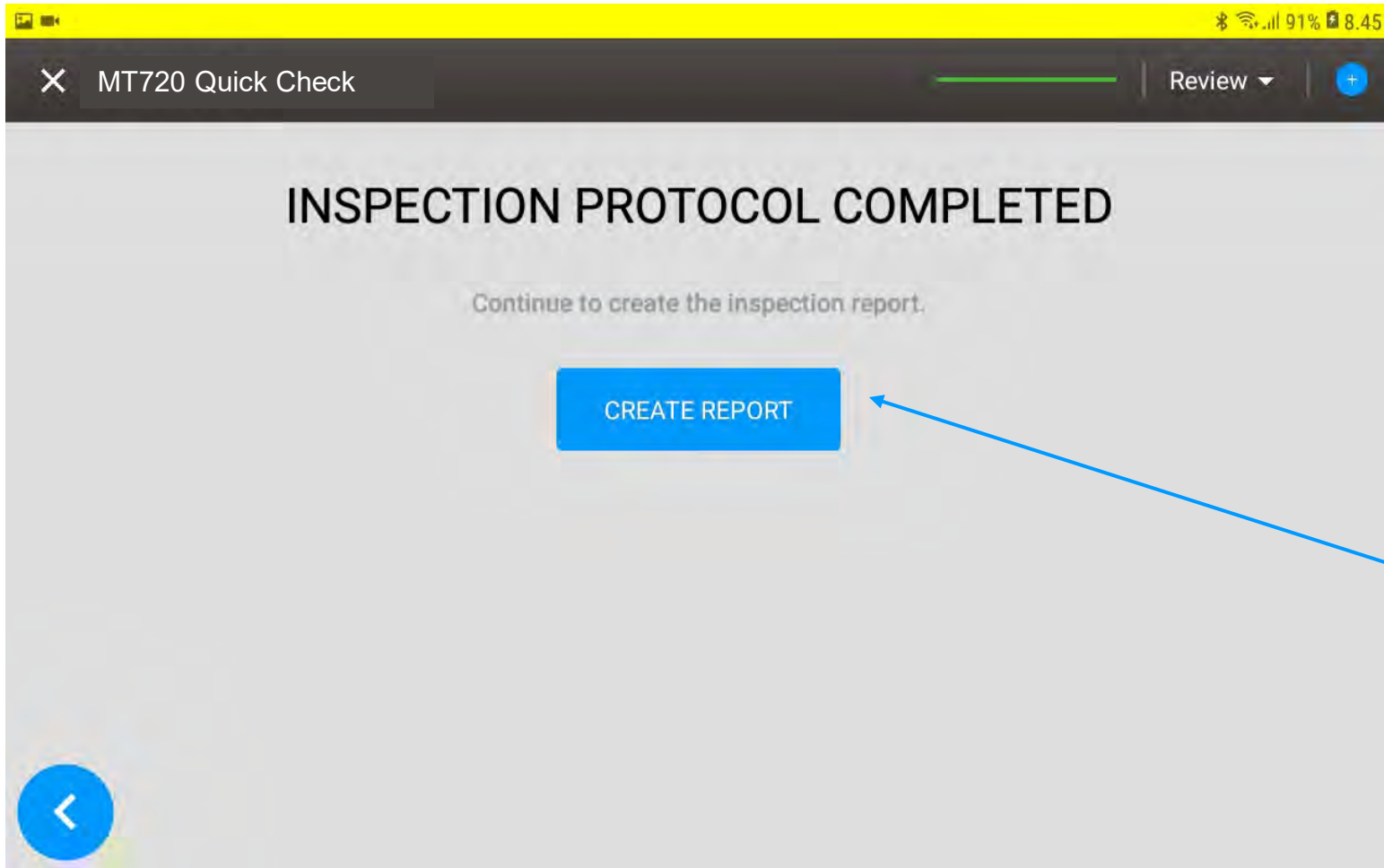


- Inspection report cannot be generated before each inspection point has certain rating set and all flags have been cleared.
- You can easily navigate to inspection point requiring action by clicking it.

Inspection point without rating

Inspection point with active flag

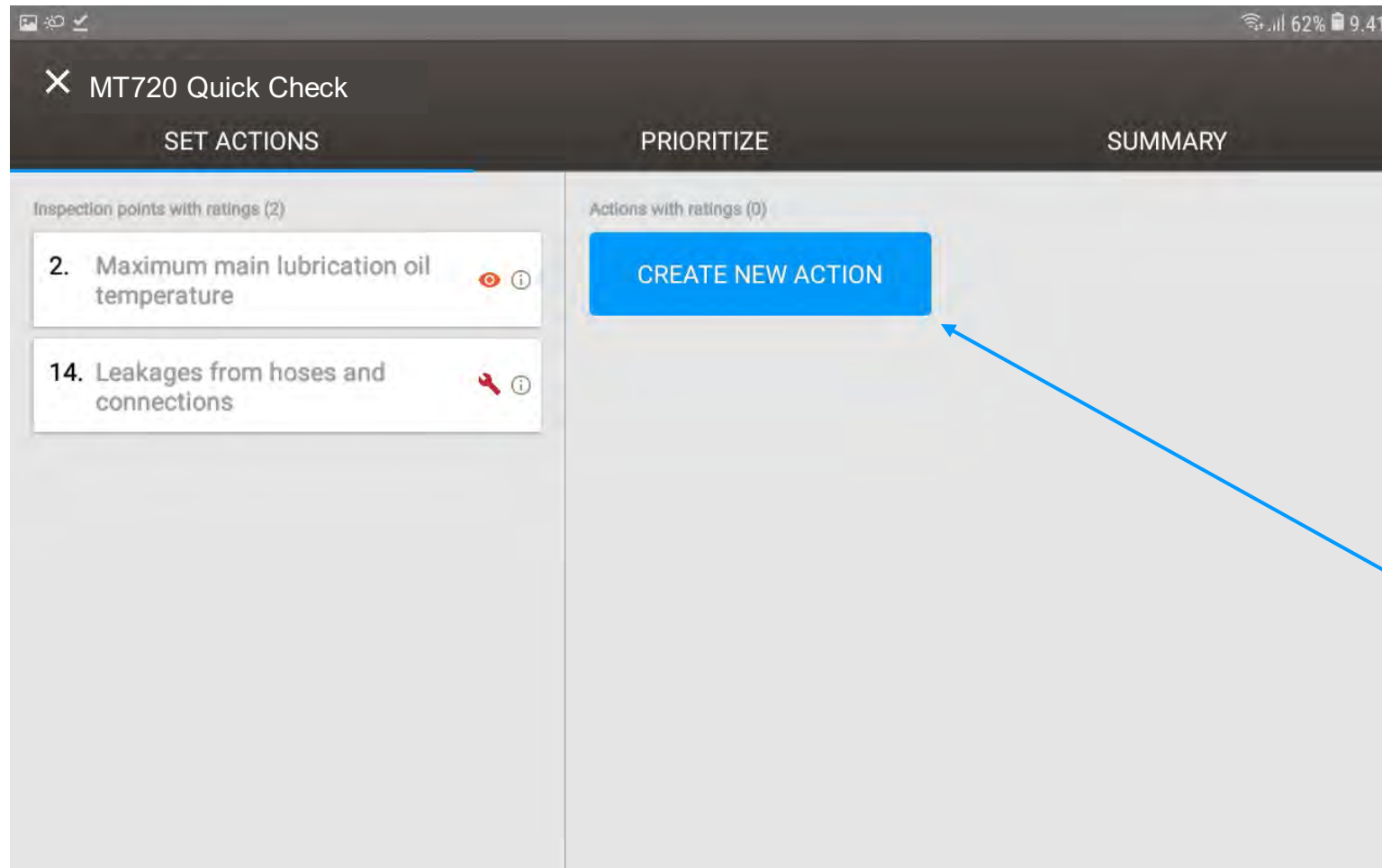
INSPECTION COMPLETE



- When all inspection points have been completed inspector proceeds to create a summary report.

Click CREATE REPORT to start report creation

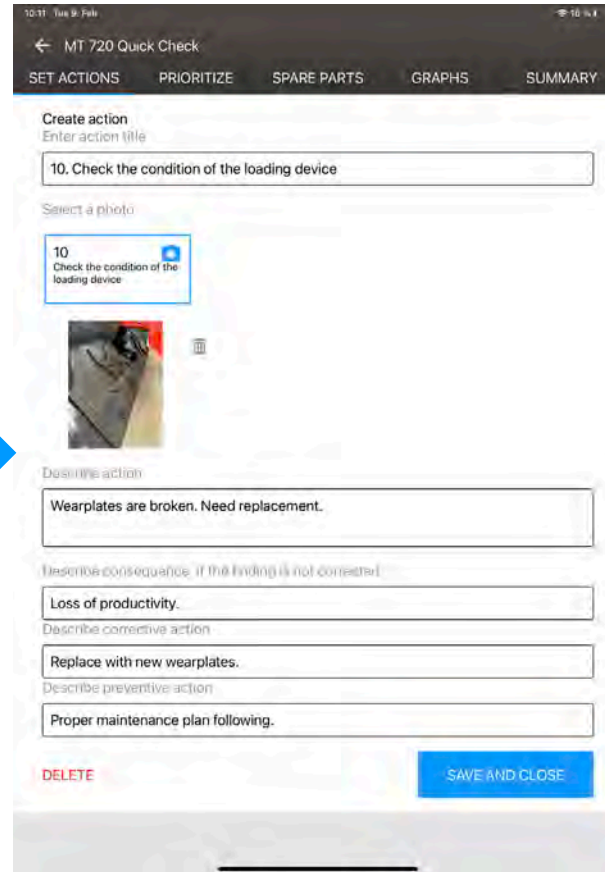
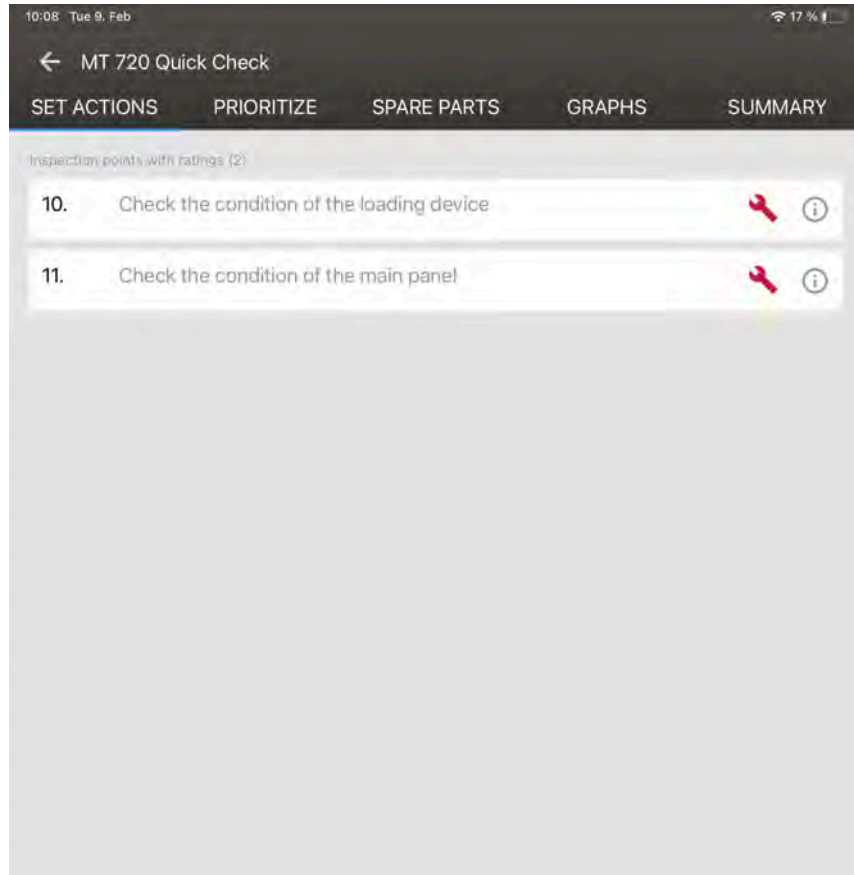
INSPECTION SUMMARY



- Section on the left-hand side shows all inspection points that are available for actions attention.
- Inspector can create necessary actions that are suggested to fix the problems

Click CREATE NEW ACTION to specify an action based on the inspection.

CREATING ACTION



- Action can be linked to multiple inspection points.
- Picture can be also linked to action to bring clarity on proposed action.
- Action has also text input fields for description, consequence and proposed corrective and preventive actions.
- User can add multiple actions.

PRIORITIZING ACTIONS

10:22 Tue 9, Feb 15%

← MT 720 Quick Check

SET ACTIONS PRIORITIZE SPARE PARTS GRAPHS SUMMARY

Create priority action
Enter priority action title

10. Check the condition of the loading device

Prioritize

1

Description for priority action

Wearplates are broken. Need replacement.
Loss of productivity.

DELETE SAVE AND CLOSE



10:20 Tue 9, Feb 16%

← MT 720 Quick Check

SET ACTIONS PRIORITIZE SPARE PARTS GRAPHS SUMMARY

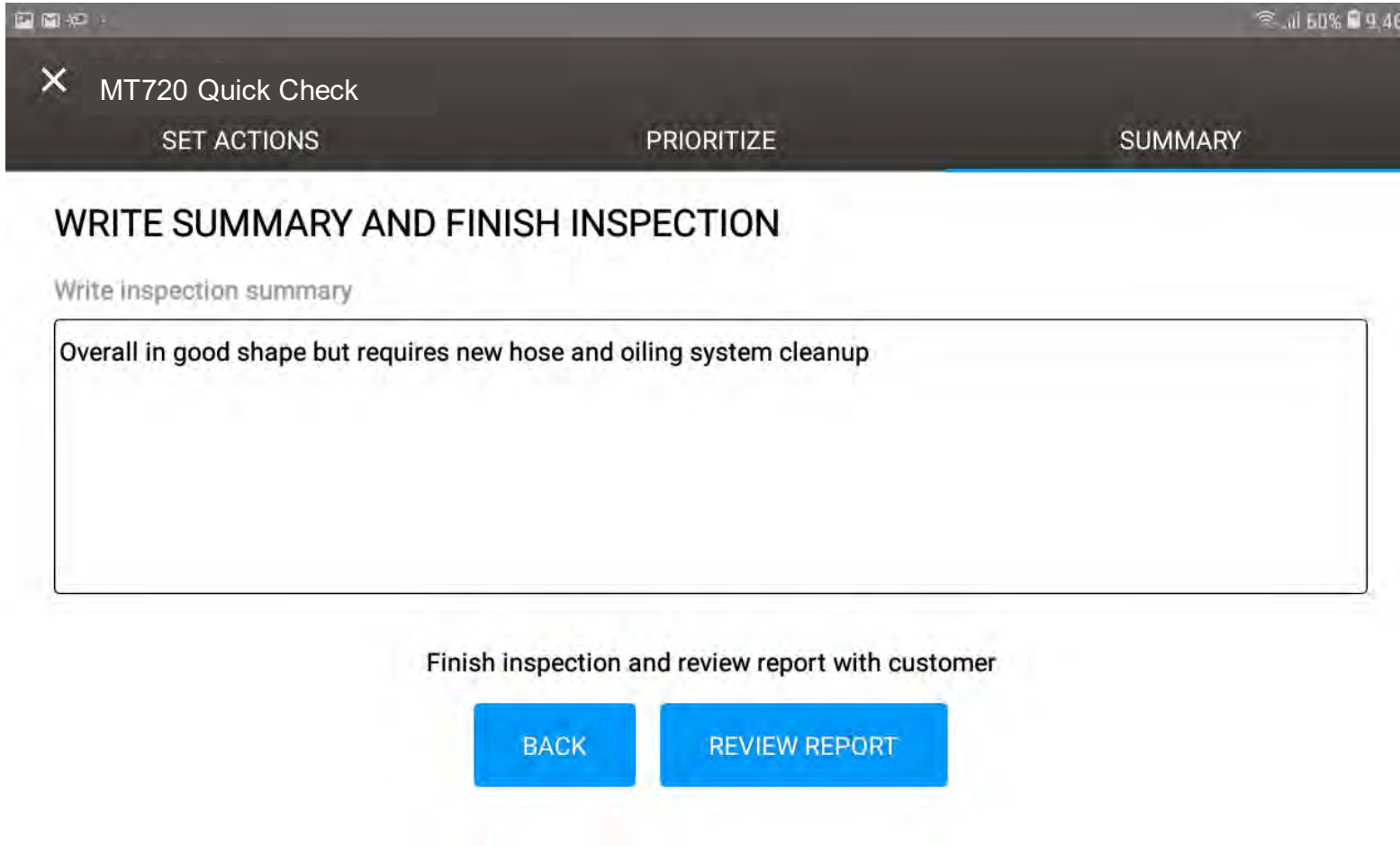
Proposed Actions (3)

10. Check the condition of the loading device
Wearplates are broken. Need replacement.
Loss of productivity.
11. Check the condition of the main panel
Broken glass. Must fix.

+

- Inspector can select how to prioritize actions from the set of all proposed actions. These are presented in the report in own section.

SUMMARY



The screenshot shows a mobile application interface for 'MT720 Quick Check'. At the top, there's a dark header bar with a close button (X) and the title 'MT720 Quick Check'. Below this, there are three tabs: 'SET ACTIONS', 'PRIORITIZE', and 'SUMMARY', with 'SUMMARY' being the active tab. The main content area is titled 'WRITE SUMMARY AND FINISH INSPECTION'. Below this title, there's a prompt 'Write inspection summary' followed by a large text input field. The input field contains the text 'Overall in good shape but requires new hose and oiling system cleanup'. At the bottom of the screen, there's a prompt 'Finish inspection and review report with customer' and two blue buttons: 'BACK' and 'REVIEW REPORT'.

MT720 Quick Check

SET ACTIONS PRIORITIZE SUMMARY

WRITE SUMMARY AND FINISH INSPECTION

Write inspection summary

Overall in good shape but requires new hose and oiling system cleanup



Finish inspection and review report with customer




BACK REVIEW REPORT

- Lastly inspector can write summary for the report.

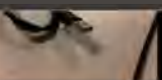
FINISHING INSPECTION

Inspection tool			
REPORT OVERVIEW CH 440 Daily Vehicle Details: 4WD 4x4 TFSI High 2.0 TFSI engine Audi A4 B8 (4000cc)			
Inspected by: Inspector: Preparer contact:	A.C. Kersch Jens T. Schmitt jens_schmitt@autodata.com	Equipment: Equipment used: Tools used:	PS ASR Lubricant [C]
Comments: Comments (internal): Closed online: Closed work:	This company also has: V-Code: 4000B80000 Link: dealer/inspection/jans		
INSPECTION SUMMARY Overall in good shape but requires new hose and oiling system cleaning			
PRIORITIZED ACTIONS We recommend prioritizing actions in the following order			
<p>1. Leakages from hoses and connections  Oil leak from front wheel hub  Leaking coolant reservoir</p> <p>3. Maximum main lubrication of components  Rotating suspension control arm ball joint  Wheel steering engine failure</p>			
DIRECT FINDINGS WARNING The following table is a complete inspection summary with item or function status ratings. ● OK ● Should be followed ● To be repaired or replaced ● Immediate action required ■ Not applicable			
#	Description	#	Description
1	Number of ADIR alarms active/repeating	9	Time temperature, abnormal rising, temperature & leakage
2	Maximum main lubrication of temperature	10	Over pressure filter condition and cleaning
3	Spliter cap materials built up, chamber or feed flow arrangement circuit	11	Main lubrication circuit filters condition
4	Spliter assembly grease leakage and filling of grease	12	Pressure shut lubrication coter filter and pump condition (when available)
5	Cracking chamber, cracks and wear	13	Return of oil chamber for consumption and other findings
6	Head nut and weld condition	14	Leakages from hoses and connections
7	Disc springs compression and adjustment	15	Number of TADT alarm active / repeating (when available)
8	Spliter assembly ventilation line filter, conditioner and clearing		
ACTIONS WITH RATINGS The following inspection points were rated as ● To be repaired/replaced or immediate action required. Findings: ● Consequence, if not corrected ● Corrective action ● Preventative action			
Photo	Action		
	2. Maximum main lubrication of temperature Repeating again has to be followed <ul style="list-style-type: none"> ● Unexpected engine failure ● Oiling system needs cleaning within next 2 months. ● Follow up daily that temperature is not raising from this stop working if cause 		
	14. Leakages from hoses and connections Under low pressure and install <ul style="list-style-type: none"> ● Leaking continue ● Change the hose ● Follow that leak is not increasing 		
GENERAL COMMENTS Below you can together enter any general comments regarding the inspection and the report.			
<div> <div>Customer signature</div> <div>Signature representative signature</div> </div>			
<div>Back</div> <div>Start document</div>			




80% 9:4

MT720 Quick Check

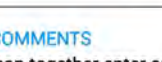


- Leaking continues
- Change the hose
- Follow that leak is not increasing

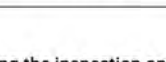
GENERAL COMMENTS

Below you can together enter any general comments regarding the inspection and the report.

CUSTOMER SIGNATURE



SANDVIK REPRESENTATIVE SIGNATURE



BACK

SAVE REPORT

- Next inspection report is generated and customer and Sandvik representatives can give their signature.
- Saving the report will save the report to dip database and send it via email to customer.
- In case network connection is missing then report is saved when network connection is next time available.

REPORT STRUCTURE

SANDVIK

INSPECTION REPORT

QUICK CHECK INSPECTION FOR MT720

SANDVIK MINING AND CONSTRUCTION (MECHANICAL CUTTING)

Inspection date

09.02.2023

Inspector

Federico Martinez

Inspector contact

federico.martinez@sandvik.com

Version

3

Customer

Federico Test

Customer contact

Contact phone number

Contact email

Product family

Tunneling Roadheader

Product model

MT720

Serial number

MT720-Test

Equipment Site ID

Current operating hours

0

INSPECTION SUMMARY

So tenancy should be improved.

PRIORITY ACTIONS

It is suggested to focus in and prioritize according to the following order

1

21. Check the oil level of the loader gearbox RHS

Leak near the oil level meter. Fix before the machine goes underground.

Gar stops working.

2

17. Check the condition, serial, and spare part number of the remote control system

Battery does not last full shift. New part recommended.

Remote stops working.

3

10. Check the condition of the loading device

Wearplates are damaged. Worn.

Loss of productivity. Machine breakdown.

INSPECTION POINT RATINGS

Complete inspection summary with item or function status ratings

Ratings:

OK

Should be followed

To be repaired/replaced

Immediate action

Not applicable

Inspection point	Description	Rating	Inspection point	Description	Rating
2	Ensure that you are fit to perform the machine inspection		14	Check the condition, serial, and spare part number of the hydraulic pump motor	OK
5	Ensure that you are aware of all safety procedures		15	Check the condition, serial, and spare part number of the conveyor gearbox LHS	Should be followed
6	Ensure that the workplace is safe for the job (emergency procedures known)		16	Check the condition, serial, and spare part number of the conveyor gearbox RHS	OK
8	Check the condition, serial, and spare part number of the cutting unit and the cutter gearbox	OK	17	Check the condition, serial, and spare part number of the remote control system	Should be followed
9	Check the condition, serial, and spare part number of the cutter motor	OK	18	Check the condition, serial, and spare part number of the loader motor LHS	OK
10	Check the condition of the loading device	Should be followed	19	Check the condition, serial, and spare part number of the loader motor RHS	OK
11	Check the condition of the main panel	OK	20	Check the oil level of the loader gearbox LHS	OK
12	Check the condition of the operators cabin	OK	21	Check the oil level of the loader gearbox RHS	Should be followed
13	Check the condition of the hydraulic power unit	OK	22	Check if the visual inspection indicates compliance	OK

DETAILED DESCRIPTIONS

Descriptions, consequences, corrective and suggested preventive actions for rated inspection points

Ratings:

Consequence, if not assessed

Corrective action

Preventive action

Picture	Detailed description
	<div>10. Check the condition of the loading device</div> <div>Wearplates are damaged. Worn.</div> <div> <div>Loss of productivity. Machine breakdown.</div> <div>Replace wearplates.</div> <div>Follow proper maintenance schedule.</div> </div>

Title

- Inspection date, inspector, customer, equipment info

Summary

Priority actions

- Inspection point ratings

- All actions



USER INTERFACES

WEB APPLICATION

WEB APPLICATION REPORTS PAGE

SANDVIK

Digital inspection tool (QA)

MY PAGE

REPORTS

AUDITS

INSPECTION POINTS

INSPECTION PROTOCOLS

DOCUMENTS

CUSTOMERS

EQUIPMENT

DISTRIBUTORS

My reports

Search my reports

Name	Date	Status	Serial number	Inspector	View details	Download report in	English
Quick Check inspection for MT720	9.2.2021 7:05 (UTC)	Finished	MT720-Test	Federico Martinez	View details	Download report	
Quick Check Inspection for MT720	9.2.2021 6:38 (UTC)	Waiting	MT720-076	Federico Martinez	View details	Download report	
Quick Check inspection for MT720	8.2.2021 6:29 (UTC)	Finished	MT720-076	Federico Martinez	View details	Download report	
Quick Check Inspection for MT720	4.2.2021 10:40 (UTC)	Finished	MT720-Test	Federico Martinez	View details	Download report	
Quick Check inspection for MT720	3.2.2021 21:38 (UTC)	Finished	MT720-Test	Federico Martinez	View details	Download report	
Quick Check Inspection for MT720	3.2.2021 20:36 (UTC)	Waiting	MT720-076	Federico Martinez	View details	Download report	
Quick Check inspection for MT720	3.2.2021 20:12 (UTC)	Waiting	MT720-076	Federico Martinez	View details	Download report	
Quick Check Inspection for MT720	3.2.2021 19:42 (UTC)	Waiting	MT720-076	Federico Martinez	View details	Download report	
Quick Check inspection for MT720	3.2.2021 17:24 (UTC)	Waiting	MT720-076	Federico Martinez	View details	Download report	
CH440 Daily	14.1.2019 9:48 (UTC)	332211	Jere Paavola	View details	Download report		
CH440 Daily	14.1.2019 9:47 (UTC)	332211	Jere Paavola	View details	Download report		
CH440 Daily	14.1.2019 9:45 (UTC)	665544	Jere Paavola	View details	Download report		
CH440 Daily	14.1.2019 8:10 (UTC)	665544	Jere Paavola	View details	Download report		
CH895 Monthly	9.1.2019 15:56 (UTC)	0990S123456	Mikael Lindberg	View details	Download report		
CH895 Daily	9.1.2019 15:42 (UTC)	0990S123456	Mikael Lindberg	View details	Download report		
CH895 Daily	9.1.2019 15:33 (UTC)	0990S123456	Mikael Lindberg	View details	Download report		
CH440 Daily	9.1.2019 13:14 (UTC)	666777	Jere Paavola	View details	Download report		
CH895 Daily	9.1.2019 12:37 (UTC)	0990S123456	Mikael Lindberg	View details	Download report		
CH895 Daily	9.1.2019 12:19 (UTC)	0990S123456	Mikael Lindberg	View details	Download report		
CH440 Daily	9.1.2019 11:31 (UTC)	666777	Jere Paavola	View details	Download report		

Link to WEB application:

<https://sandvik-dip.azurewebsites.net/>

Inspector users will be able to view / download reports and protocols for all completed inspections.

The language dropdown menu defines in which language the PDF report will be downloaded in.

Clicking this link downloads report in PDF format

Shows detailed information about the inspection (data, comments and pictures that is not included in the report)

Clicking the row shows the report as web page



THANK YOU! DISCOVER MORE...

[ROCKTECHNOLOGY.SANDVIK](https://rocktechnology.sandvik.com)

