



The Secret Sauce of Cutting Changeover Time in Half.

Making Work Instructions the Silent Hero
of Your Operations.

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In an era of

- Robotics
- Internet of Things
- Artificial Intelligence
- Big Data

... Industry 4.0



Where **Mobile** is the
go-to-device of all
ages for finding and
sharing information



and with
**Wearables &
Augmented Reality**
in the industrial
workplace





Instructions are stuck in the past century.

Section 3

Maintenance & Troubleshooting - Vertical Shaft

- WARNING:** High Voltage may be present even when the machine is not rotating. Ensure that power has been disconnected before touching the motor or any of its components. Electrical shock can cause serious or fatal injury.
- WARNING:** Surface temperatures of motor enclosures may reach temperatures which can cause discomfort or injury to personnel accidentally coming into contact with hot surfaces. When installing, protection should be provided by the user to protect against accidental contact with hot surfaces. Failure to observe this precaution could result in bodily injury.
- WARNING:** Pacemaker danger - Magnetic and electromagnetic fields in the vicinity of current carrying conductors and permanent magnet motors can result in a serious health hazard to persons with cardiac pacemakers, metal implants, and hearing aids. To avoid risk, stay away from the area surrounding a permanent magnet motor.
- WARNING:** Solvents can be toxic and/or flammable. Follow manufacturer's safety procedures and directions. Failure to observe this precaution could result in bodily injury.
- Caution:** Do not use solvents containing trichloroethane to clean interior or exterior of motor. Damage may occur to paint and insulation systems.


Maintenance General

Prior to maintenance, the motor should be removed from service.
The motor should be inspected periodically for the build up of foreign material.
Any build-up of foreign material should be removed prior to energizing the motor.
If unusual bearing noise or vibration is experienced, the bearings should be replaced.
Inspections which are important to the proper motor operation and maintenance. Maintenance should be performed every 3 months or 500 operating hours, whichever comes first.
In addition, the following should always be observed:
Provide adequate ventilation.
Avoid sharp blows and excessive axial thrust loads on the output shaft.
Maintain proper lubricant level.
When properly applied, 3000 Frame motors require minimal routine maintenance. Since cleanliness and precise adjustment, no periodic mechanical adjustments are required. Like any precision machine, periodic inspection and simple routine maintenance will prolong your motor's life and help avert potentially damaging conditions.
The minimal time spent performing simple maintenance cannot begin to compare with the cost of lost productivity and time consuming major repairs incurred through neglect or routine inspection and maintenance.


Periodic Maintenance

Every 3 months or 500 operating hours, whichever comes first:
1. Lubricate the motor shaft and output shaft with the recommended lubricant.

- Hard to find & access
- Difficult to understand
- Outdated & hard to control
- Complex to produce & maintain
- No tracking & traceability



"90% of current
instructions are
ineffective"



5-20%
of productivity is
lost due to bad or
missing instructions

- Downtime
- Questions
- Claims
- Defects

... **waste**



and we still face

Tribal Knowledge

[= information that is not commonly known by others in a company and that may need to be known by others in order to produce quality products or services]



**“27% of the US
Industrial Workforce
is 55+ years old”**
- Bureau of Labor
Statistics

... what about their
tribal knowledge?



Improve operational efficiency by digitising & sharing (tribal) knowledge.

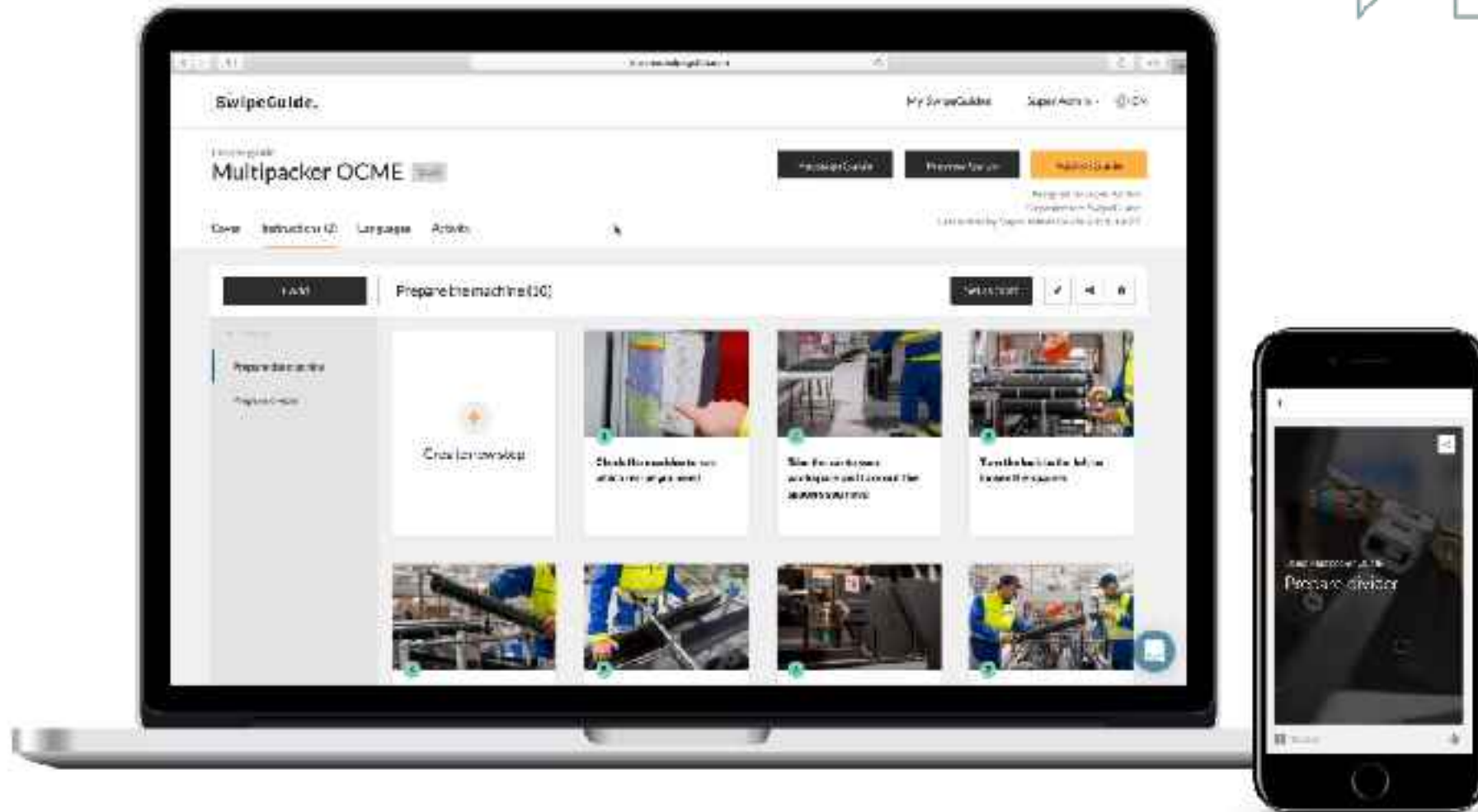
Improve performance and eliminate waste with clear, visual, and step-by-step work instructions.





1. Easy knowledge capture.

Mobile drag & drop creation.



Ombouw OCME Multi

5S Audit nacht ploeg

Trainingen Beschikbaar

QR Codes

Opent via computer



This board displays a list of available training modules on the left. In the center, there are four QR codes arranged in a 2x2 grid. On the right, there is an image of a smartphone and a speech bubble icon. At the bottom right, there is a red circular icon with a white 'X' over it.

5S Audit nacht ploeg



This board features a large QR code in the center. To the right of the QR code, there are several diagrams and text blocks, including a flowchart and a list of items. The top of the board has a header with the title '5S Audit nacht ploeg' and some navigation icons.

UPS - Unified Problem Solving proces

Over UPS

Meer uitleg over UPS



This board shows a detailed flowchart for the 'UPS - Unified Problem Solving proces'. The flowchart consists of several colored boxes connected by arrows, illustrating a step-by-step process. Below the flowchart, there is a section titled 'Over UPS' and another titled 'Meer uitleg over UPS' which includes a QR code.

5S Audit nacht ploeg



This board is similar to the one above, featuring a large QR code and various diagrams. It includes a header with the title '5S Audit nacht ploeg' and a list of items or steps on the right side.

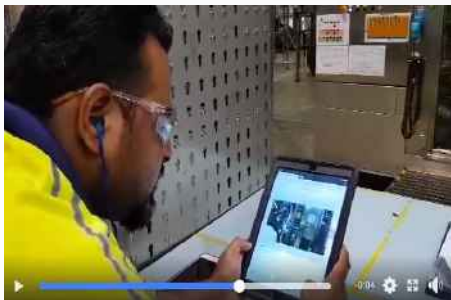
HOMEREN



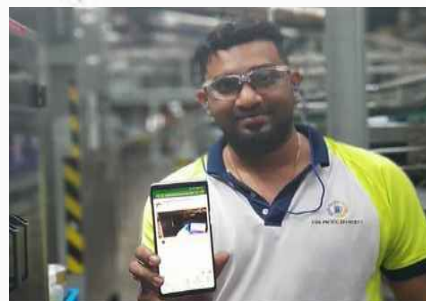
This board displays a large QR code and a diagram. The title 'HOMEREN' is visible at the top. The board appears to be part of a larger set of information displays.



2. Easy collaboration & sharing.



IMPROVE





Explora

Categorías

🔍 Help



Search results for "filler"



Filler SOPs - Gebo Cermex
Starcans SFSRSC300056



Panel HMI Main Modul III
Filler



Packaging process
standards-Filler line 3



Can-Filler Filler Filling -
Single Valve





3. Easy just-in-time access.

(Workflow learning)



Identify the relevant moments of instruction need.



Assembly.

Make sure the user is prepared for first use.



Commencement.

Make sure the user has a great first experience.



Operating.

Access and use the right instruction at the moment of need.



Troubleshooting.

How to solve common issues the operations.



Maintenance.

Service, cleaning, and maintenance.



Recycle.

End-of-life plan for products and machinery.





4. *Easy* to understand.



S

Make it visual.



Evidence-based instructions.



1. Visual Cue

Illustrations

Photo

Animated GIF

Video



2. Step-by Step Instructions



4. Task Overview, Navigation



**UNIVERSITY
OF TWENTE.**

Evidence-based instructions.

- 25% reduction in time to performance.
- 30% better knowledge retention.

3. Warning, Tip, Alternative, Error Fix



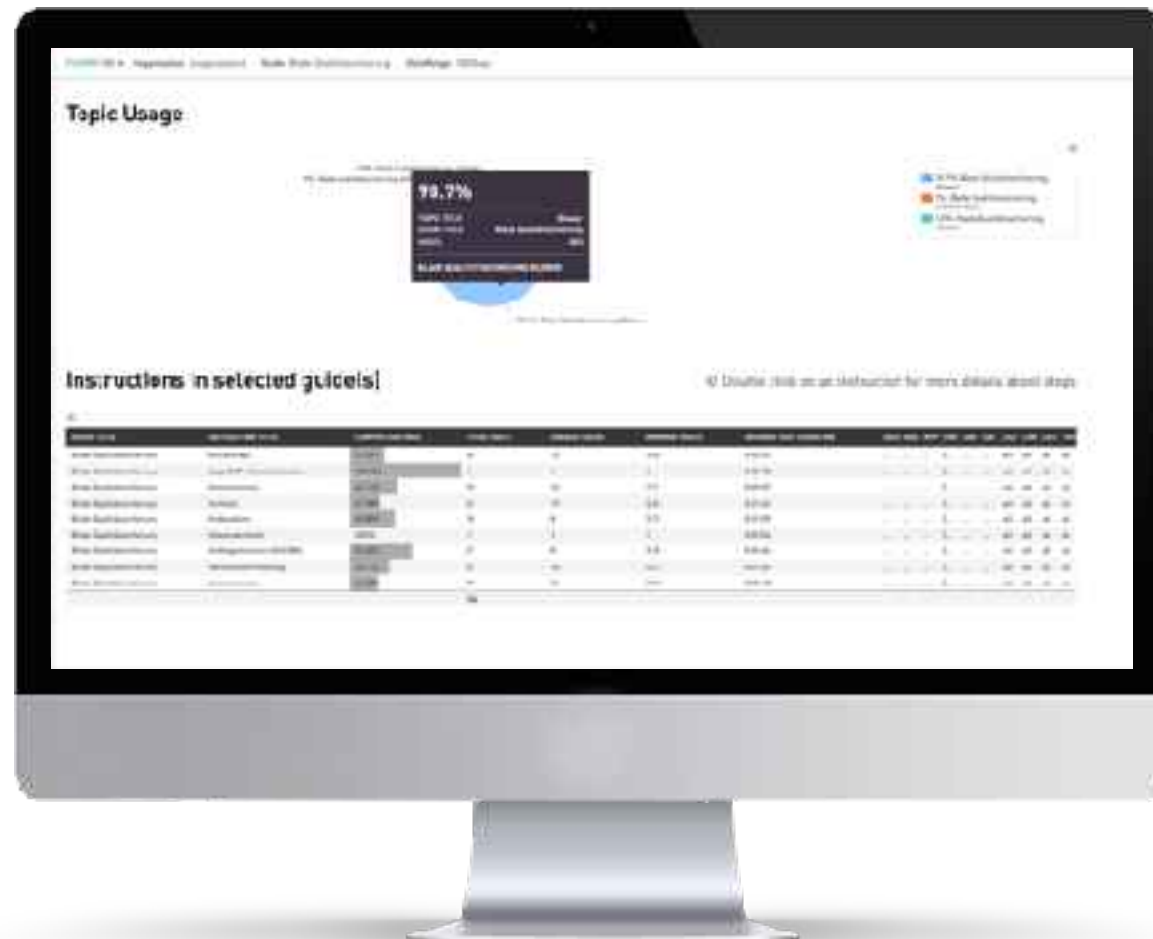
5. Feedback, Contact Support





5. Learn & improve.

Capture insights for continuous improvement.



Improvement loop

Time tracking

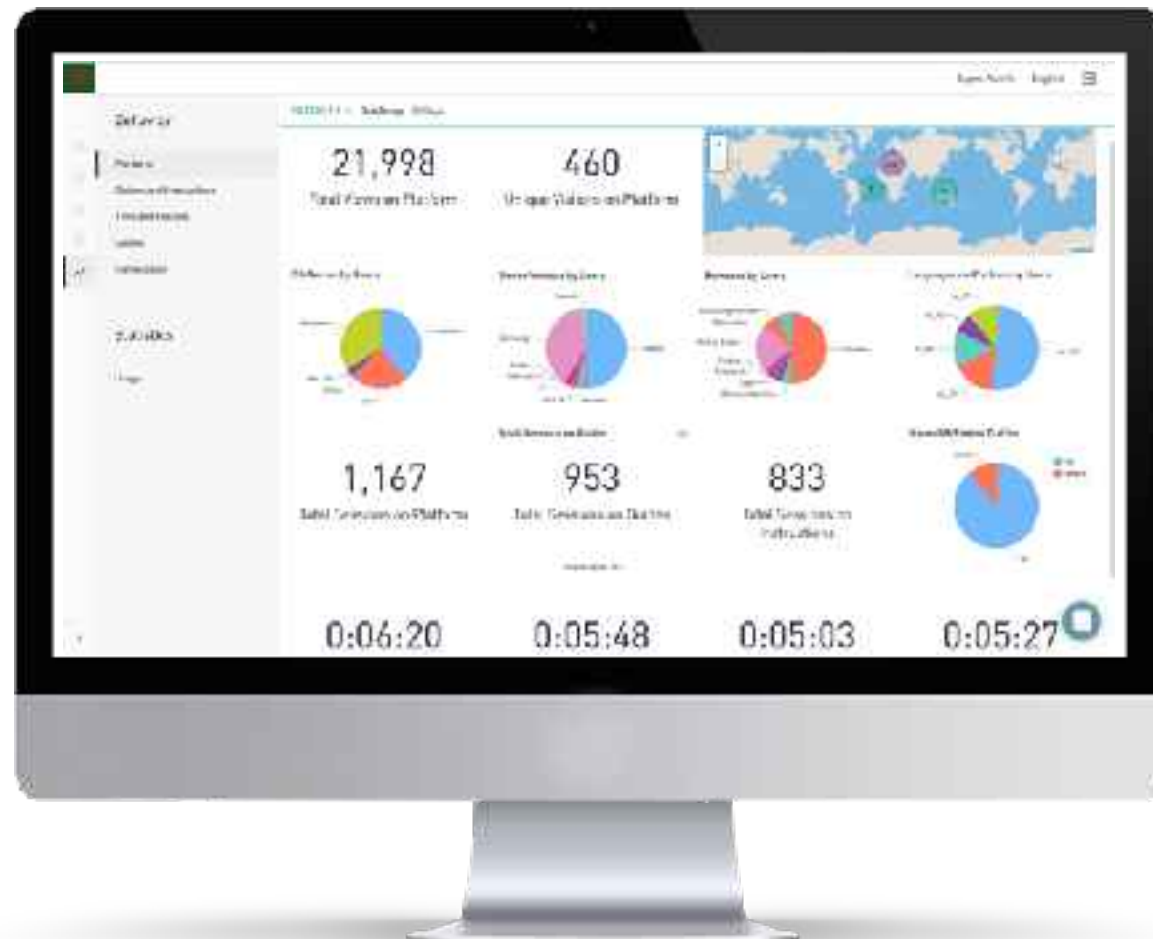
+

Completion ratio's

+

Instruction scoring

Capture insights for continuous improvement.



Improvement loop

Usage statistics

+

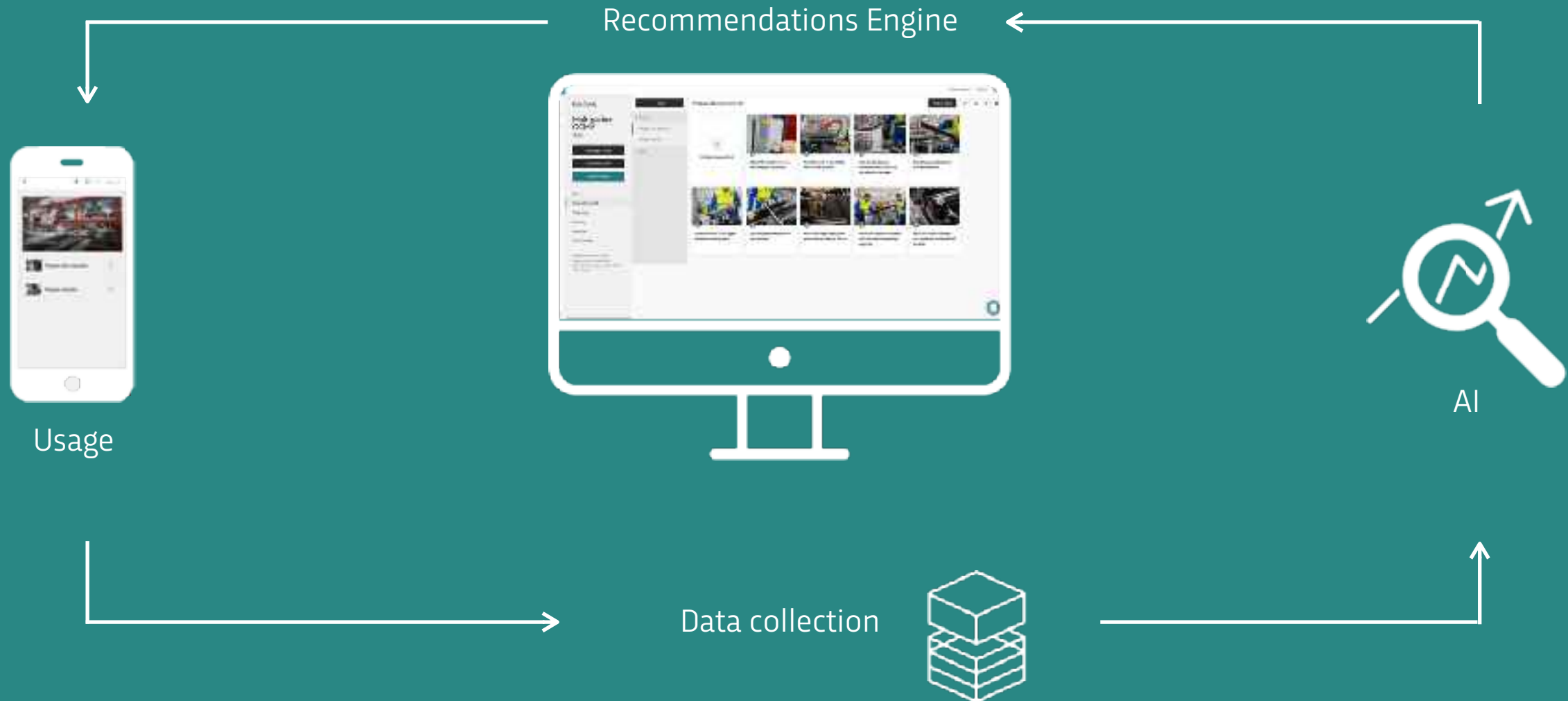
Employee feedback

+

Sign offs/compliance



Learn from usage & user feedback.





Experiences so far?



60% reduction in
instruction authoring
time.



5% increase in
“first-time right” error
resolution



33-60% reduction in
machine changeover
time.





Applications across the value chain

1.

Digital work instructions for production & manufacturing



2.

Digital work instructions for your field service engineers



3.

Digital work instructions for your professional customers and their user group



4.

Digital user guides for your customer in the consumer space





Goals.

- Improve quality & productivity
- Capture & share best practices
- Workflow learning on the shop floor

Facts.

- 50+ production sites globally
- 900+ instructions
- 20.000+ monthly views

ROI.

- 2.5% improvement in First time Right (quality)
- 30-50% reduction in changeover time
- 5.6% improvement Overall Performance Indicator (OPI)
- 15% improvement in 5S score





Goals.

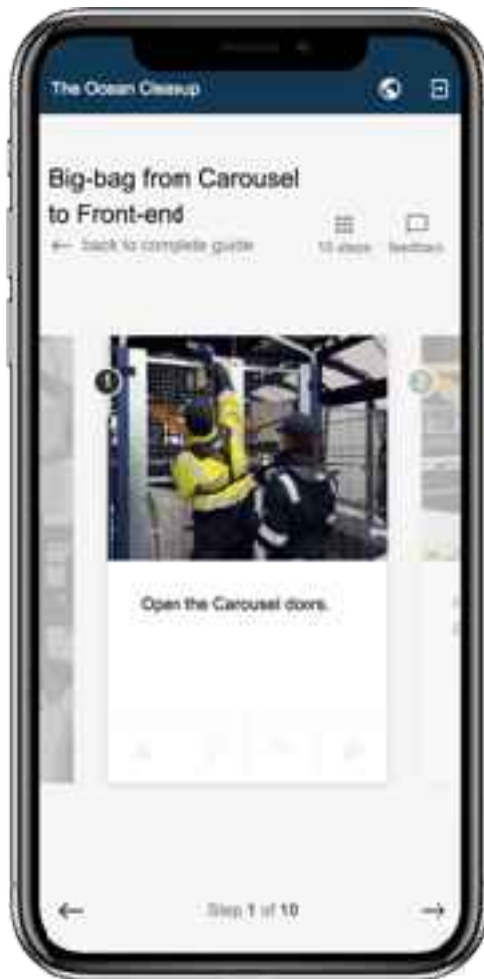
- Capture & distribute field service knowledge
- Easier production of user manuals
- Better end-user experience
- Improve the uptime of Drives

Facts.

- 31 instructions in 2 weeks
- High adoption with engineer editors
- Preparing Global roll-out
- Drive-SwipeGuide connection



THE OCEAN CLEANUP



Goals.

- Global scalable operations without on-site training.
- Effective self-training for Installation, Operation, Troubleshooting & Maintenance
- Enable suppliers to create better instructions

Facts.

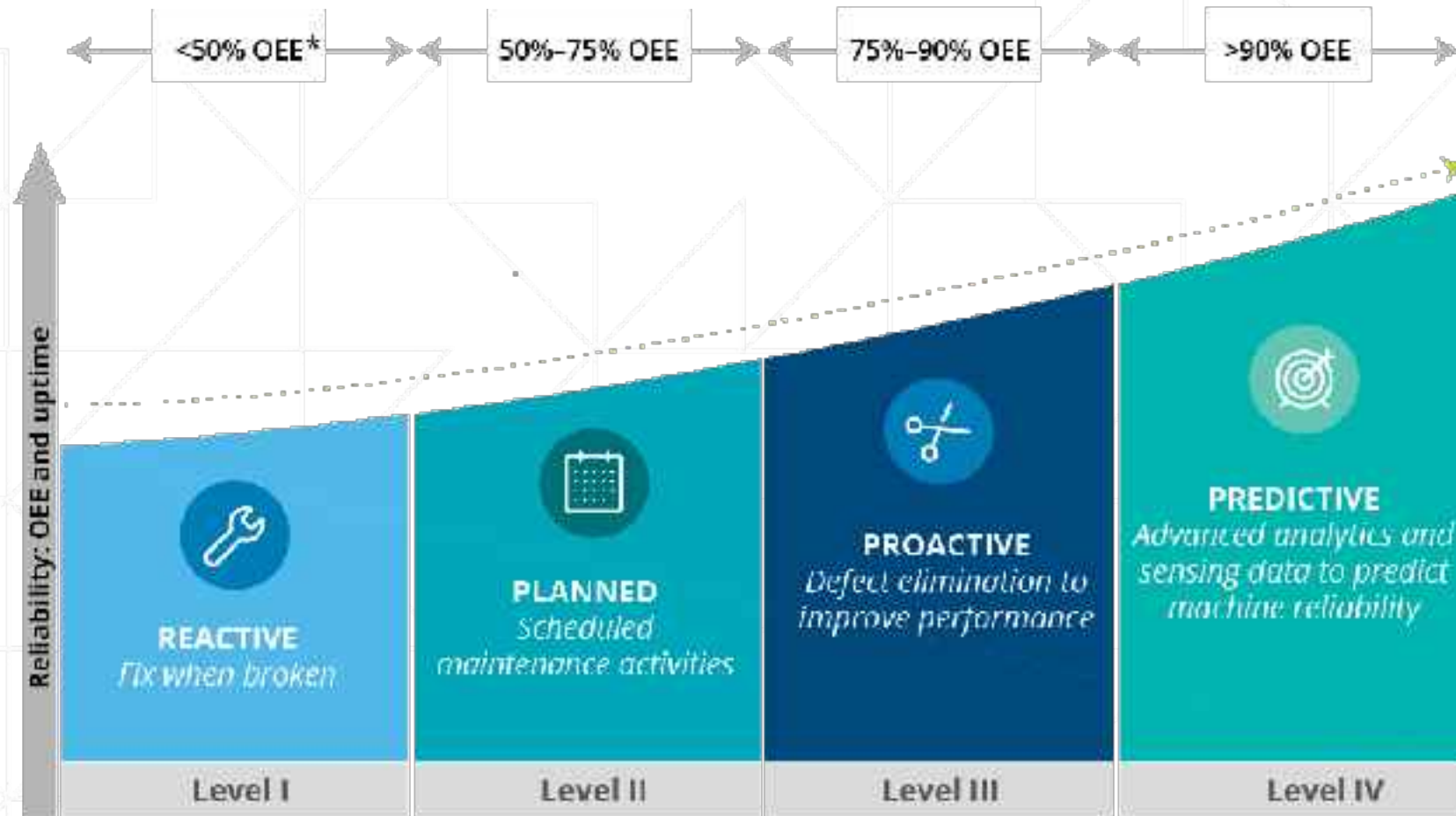
- 5 remote production sites covered
- Initial pilot and now scaling up
- High adoption with engineer editors





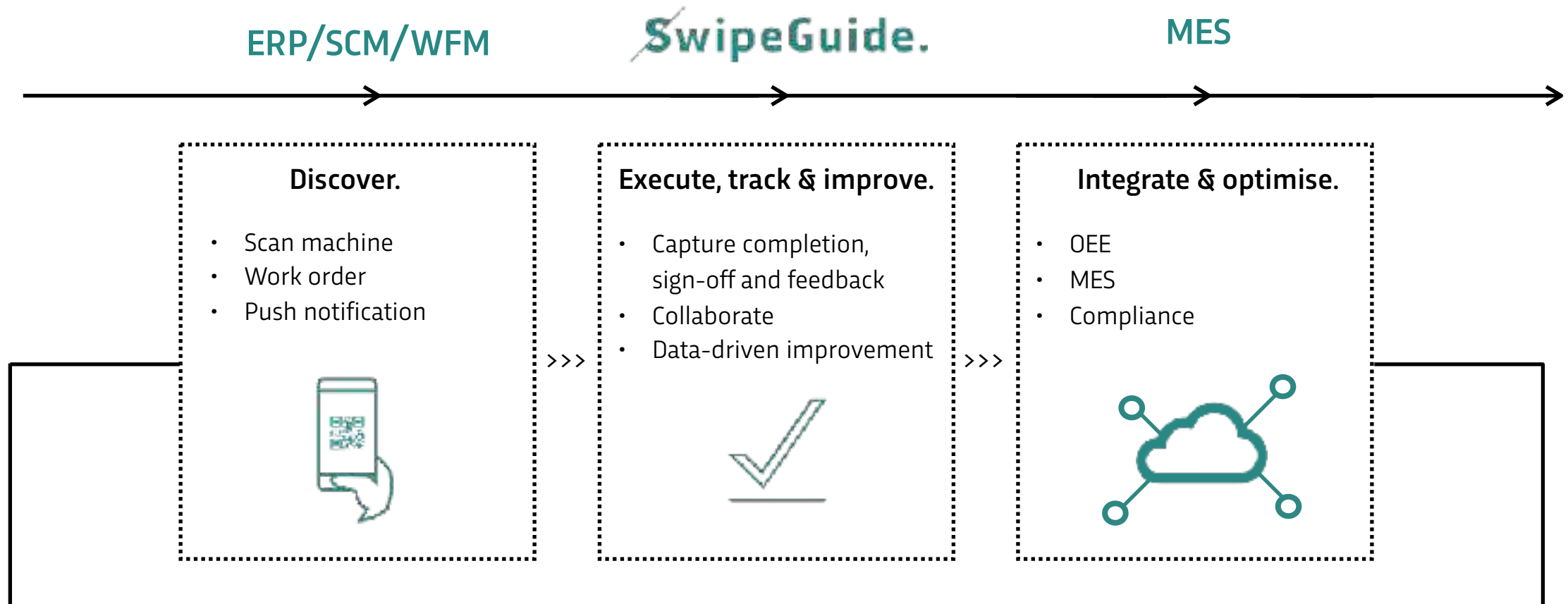
Next steps?

In an era of digital transformation.



* Original equipment effectiveness

Digital instructions as part of the i4.0 tech stack.



Secret sauce ingredients.

1. Easy knowledge capture.
2. Easy collaboration and sharing.
3. Easy just-in-time access.
4. Easy to understand.
5. Continuous learning and improvement.







~~SwipeGuide.~~

Effortless instructions. Smarter work.

Hall 13, D22/1

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