

Productivity and workers  
suffering with poorly  
designed barcode scanners



**TOUGHPAD**

# Foreword

There is a popular phrase that “there is no gain without pain” but it appears from our latest research that logistics and delivery businesses and workers are suffering all the pain for no gain as a result of poorly designed mobile barcode scanning devices.

With consumers demanding innovations such as same day delivery, business pressures are rising and the number of scans per day along with it. Managers and staff are reporting double-digit percentage growth in the number of scans required year-on-year but it

seems that a number of key improvements in the design of the mobile barcode scanner could resolve many of the issues highlighted in this report.

From a reference group of 500 UK workers, it was found that an angled barcode scanner and better screen visibility on the device would improve productivity and minimise wrist and arm bend, improving stability and helping to reduce RSI. An improved high precision pen for more accurate electronic signature capture and scanning activation buttons on both sides of the device would also lead to a double digit improvement in productivity.

We have taken on board all this advice and incorporated it into our Panasonic Toughbook rugged handheld tablets to ensure the latest generation of mobile scanners is fit for purpose. Managers equipping their workforce of logistics, delivery and warehouse staff with older generation technology may find this research enlightening reading.



**Jan Kaempfer,**  
General Manager for Marketing for  
Panasonic Computer Product Solutions



## Stress factors

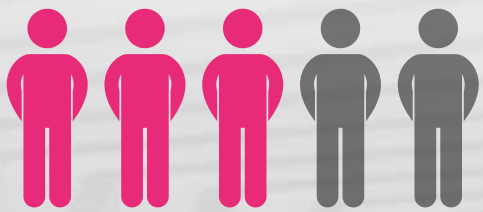
Workers’ biggest stress factors were the slow and cumbersome scanning process using their device, the time it took to scan packages, hard to scan items, delivery times being reduced and the number of packages to be scanned in a day.

<b>32.2%</b>	The scanning process being slow and cumbersome with the device I use
<b>30.6%</b>	The time it takes to scan packages in
<b>26.4%</b>	Items that are hard to scan
<b>23%</b>	Pressures on delivery times being reduced
<b>21.6%</b>	The number of packages you have to scan on a single day
<b>21.6%</b>	Transport problems
<b>8.4%</b>	I don't find anything stressful about my job
<b>0.2%</b>	Other

# Research Executive Summary

Logistics and delivery workers say the pressures of work and poorly designed mobile barcode scanners are affecting productivity and health, according to latest research.

To compound the problem, workforces believed that scanning requirements were dramatically rising with the average worker saying they scanned **197** times a day with year-on-year growth estimated at **24%**.



**24%** Year-on-year scanning growth

**60%**

of workers say their scanning device is only fairly effective or not effective at all

An angled barcode scanner would improve scanning productivity by

**12%**



# Device issues

60% of workers from the delivery, warehouse and logistics industry felt their mobile barcode scanning device was only fairly effective or not effective at all.

## How effective is/are the handheld or mobile device/s you use?



What makes the handheld or mobile device/s you use less than very effective?



14%  
Difficult to scan



14%  
Failed scan attempts



46.4%  
Poor battery life



12%  
Ineffective screen in rain/when wet



10.1%  
Badly designed



27.4%  
Poor screen visibility



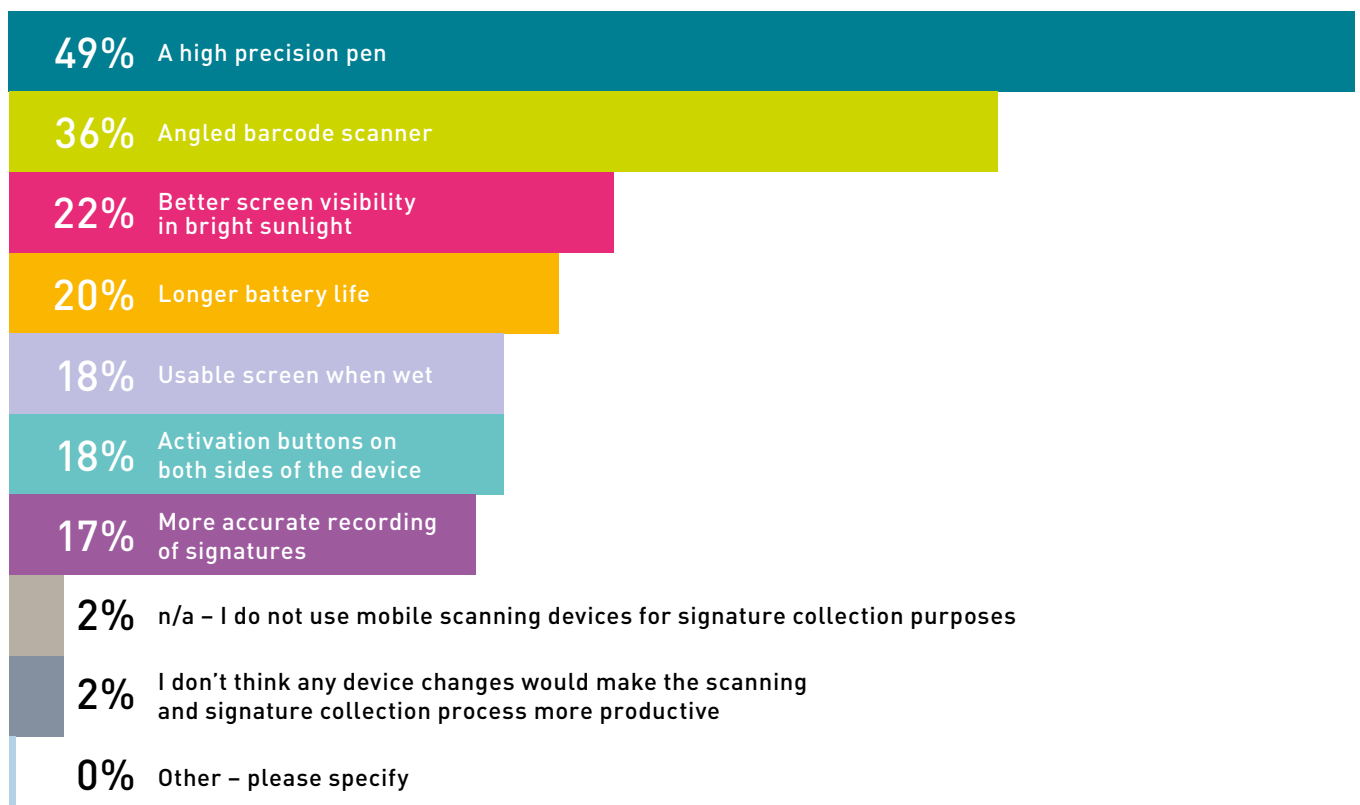
19.5%  
Poor signature sensitivity

Failed electronic signature capture was also reported as a productivity drag, with workers seeing an electronic signature capture failure once every two days.

The top three suggestions to improve barcode scanning and signature capture were a high precision pen (49%), a device with an angled barcode scanner (36%) and better screen visibility in bright sunlight (22%).



## What device changes would make the scanning and signature collection process more productive?



# Major health and productivity improvements from design changes

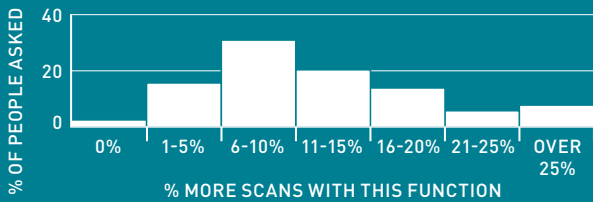
Workers unhappy with their mobile devices said that significant productivity improvements could be made with their recommended design changes. Workers said scanner

activation buttons on both sides of the device could increase scanning numbers by 13%. An angled barcode scanner and pen would improve scanning productivity by 12%.



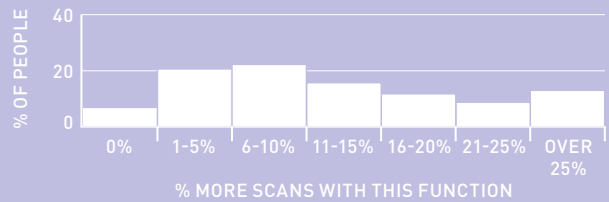
# 30%

said a high precision pen could allow them to do up to **10% more scans**



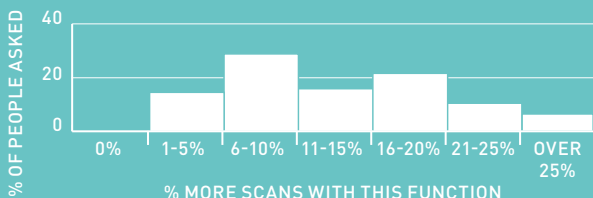
# Over 20%

said a useable screen when wet could allow them to do up to **10% more scans**



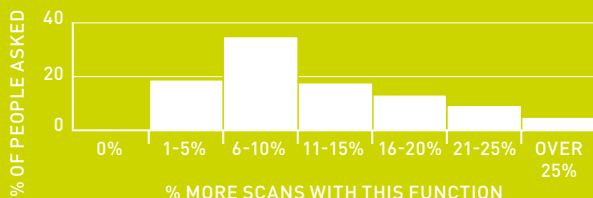
# 25%

said that activation buttons on both sides of the device would allow them to do up to **10% more scans**



# Over 30%

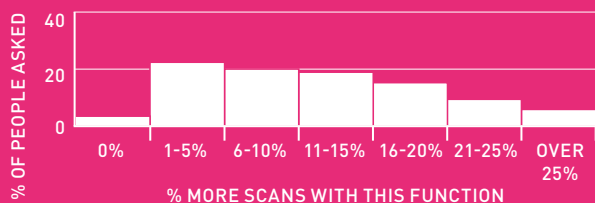
said an angled barcode scanner would allow them to do up to **10% more scans**





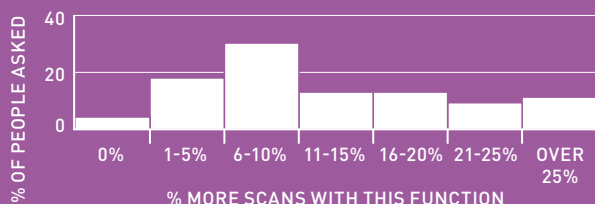
# 20%

said better sunlight visibility would allow them to do up to **10% more scans**



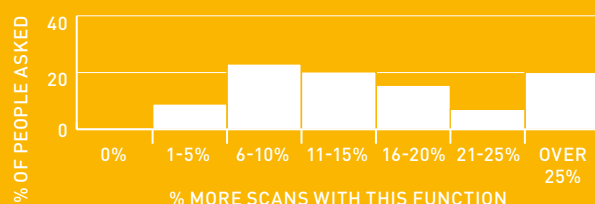
# 10%

said better more accurate recording of signatures would allow them to do up to **25% more scans**



# Over 20%

said better battery life would allow them to do up to **25% more scans**





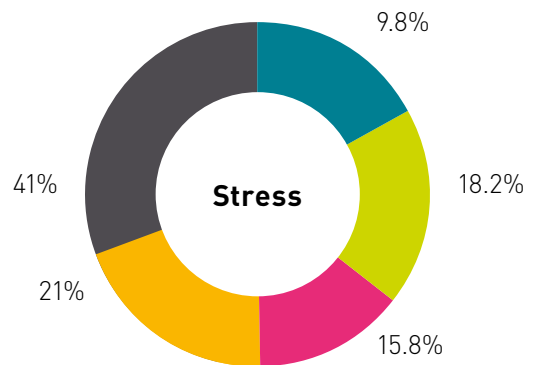
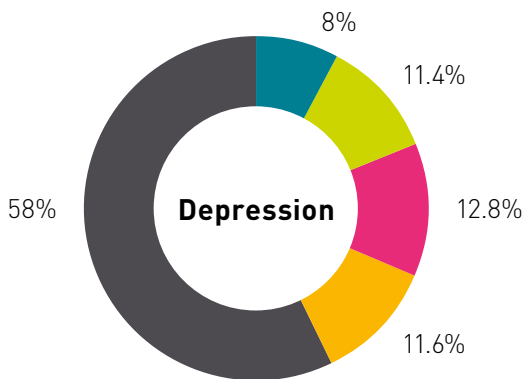
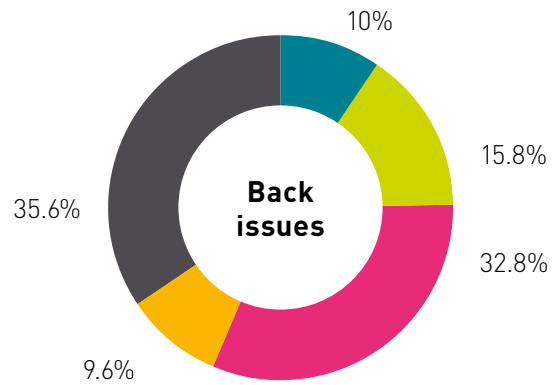
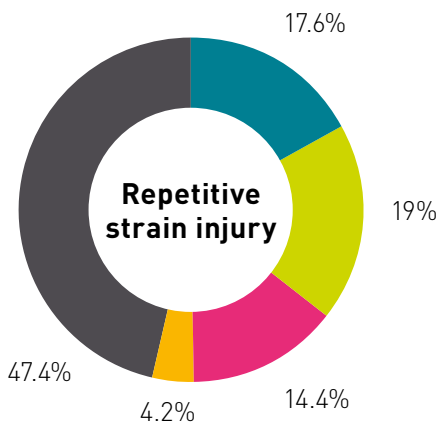
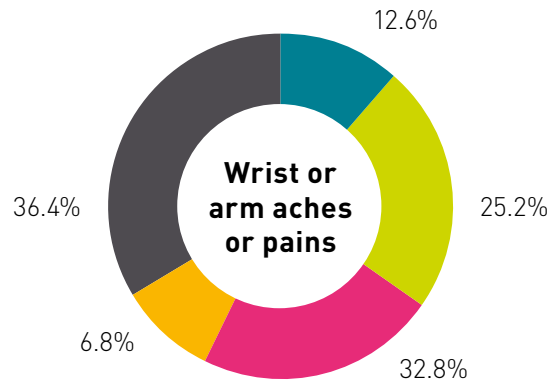
# The painful price

63% reported they suffered from wrist or arm aches and pains with 69% forced to take time off for an average of two and three quarter sick days in the past year – costing their employer £310 per person.

Repetitive Strain Injury (RSI) also affected 52% of the workforce with 78% of those affected having to take an average of three sick days in the past 12 months – costing the employer £338 per person.

## Workers were asked...

Have you suffered any of the following as a result of your job and if so, due to which elements of your job?



Due to dealing with difficult shaped parcels

Due to repetitive scanning

Due to carrying parcels

Other reason for suffering from this as a result of my job

I have never suffered from this as a result of my job

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