

## **Gain an hour a day**

Practical solutions to help office-based employees work  
more efficiently and healthily



# Contents

- 3 Introduction
- 4 About the author
- 5 Background
- 6 Sustainable solutions
- 12 Summary and implementation advice
- 12 How Cardinus can help you gain one hour a day

## Cardinus Risk Management Limited

4th Floor  
3 East Grinstead House  
Wood Street  
East Grinstead  
West Sussex  
RH19 1UZ

Tel: 0207 469 0200

Email: [info@cardinus.com](mailto:info@cardinus.com)

Web: [www.cardinus.com](http://www.cardinus.com)



# Introduction



***Jon Abbott***

Director  
Cardinus Risk Management

Who couldn't do great things with an extra hour every day? If you improved your efficiency by an hour a day how much more would you get done? Or would you use the hour to improve your work/life balance and decompress a little? Both sound good to me.

In this latest Cardinus Risk Management white paper, Dr Stefan IJmker, human movement scientist, epidemiologist and senior consultant, explains how organisations can help their staff to work more efficiently and healthily. The solutions offered focus on changing the working behaviour of individual employees. The employee sustainably gains an hour a day, as the solutions simultaneously improve performance and protect health. The solutions are available to all staff and the investments required are small, which makes efficiency gains quick to realise.

So read on to find out how you and all of your colleagues can find an extra hour in every work day. Then enjoy thinking about how you might spend it.

**Jon Abbott**  
**Director**  
**Cardinus Risk Management**

**DISCLAIMER:** This document is for general guidance only. All liability is excluded for actions taken or not taken in reliance on these guidelines alone. Specific advice should be obtained in each specific case. Please contact **Cardinus Risk Management Limited** on 020 7469 0200 (e-mail [info@cardinus.com](mailto:info@cardinus.com)) to review your specific circumstances and requirements.

**COPYRIGHT:** All information copyright © 2013 Cardinus Risk Management

# About the author



**Stefan IJmker**

Senior Consultant  
ErgoDirect

Dr Stefan IJmker is a senior consultant based in The Netherlands. He combines insights from health, performance and behavioural change research in order to offer practical solutions for organisations to improve health and productivity.

Dr IJmker's areas of expertise are research and development, software product development, project management, training and implementation. His PhD thesis provided a longitudinal perspective on risk factors for arm-wrist-hand and neck-shoulder symptoms among office workers.





# Background

Organisations are continuously looking for ways to work more efficiently. Working more efficiently means generating more time, enabling the business to perform better. The recent economic crisis compels organisations to look harder than ever before for solutions to work more efficiently. There is now more work to do due to increased competition or perhaps because there are fewer staff after reorganisation.

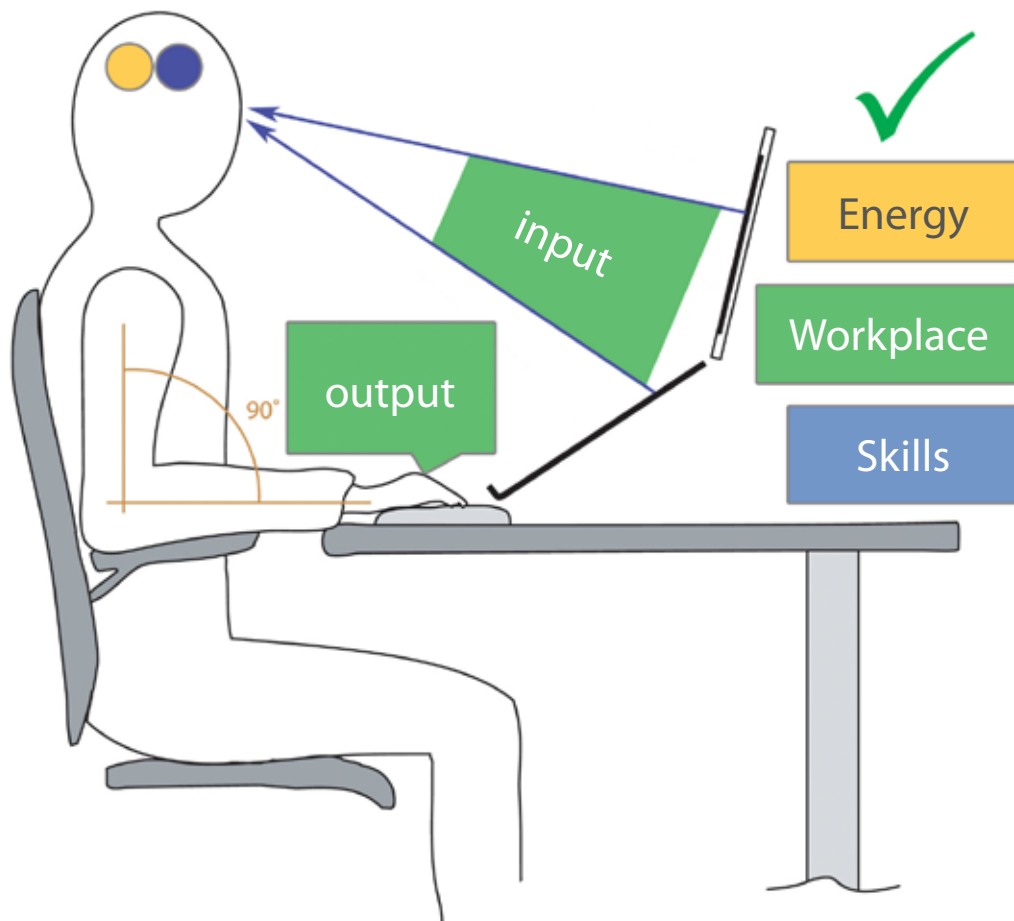
The working population is predicted to shrink in the future, meaning there will be increasingly fewer people to keep the economy running and finding staff will become more competitive. This scarcity of staff would not be a problem if we were to go back to the time when Saturday was considered a normal working day for most of the population. However, flexibility and a balance between work and private life are important for the current working population. Therefore, the challenge for organisations now and in the future is to help staff work more efficiently and at the same time offer working conditions which attract and retain good staff.



# Sustainable solutions

In the short term it is possible to save time by increasing work pressure on staff, making them work harder and faster to tougher deadlines. However, if this situation is enforced over a long period, employees run the risk of suffering psychological and physical health problems. From studies into sports psychology, it is known that too much pressure reduces performance instantly. In the long term, too much work pressure leads to reduced energy levels and an increased risk of burn-out. A better solution is to optimise the working pressure, which improves performance, comfort and health simultaneously. In business, a sustainable gain in efficiency is possible by implementing the following three solutions:

1. Improve basic computer skills.
2. Organise workstations so that they are as comfortable as possible.
3. Optimally manage concentration during the working day.



These solutions have a number of things in common. The investment required from the organisation (purchase costs) and the employee (training time) are small. For most solutions, the employee does not need to interrupt their work. In addition, the training is tailored to the individual, to ensure that they can actually apply the skills. Feedback on their progress over the working day based on objective measurements form a crucial link to bring a permanent behavioural change. Let's look at each area in more detail.

# 1. Improve basic computer skills

The office-based employee spends, on average, average; 3.9 hours a day performing display screen equipment (DSE) work (CBS, 2012). This has increased by half an hour a day since 2005. Expectations are that the time spent performing DSE work will further increase, as a result of an increase in the digitalisation of work. Although staff spend more than half their working day with DSE, computer skills remain mediocre. Two thirds of staff cannot type without looking at the keyboard, or do not use keyboard shortcuts. (ECDL, 2011).

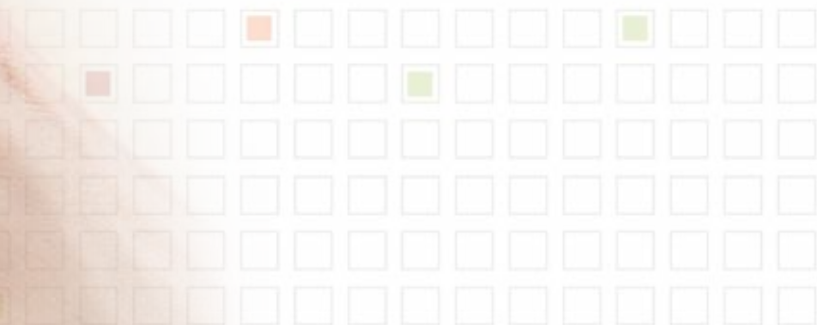
## Keyboard shortcuts

A calculation shows what can be gained by replacing tasks carried out using a mouse with keyboard shortcuts. Each day, we work for an average of 234 minutes on the computer. Of this time, 60 per cent is mouse use, 140 minutes a day (IJmker, 2008). For the same computer-based task, keyboard shortcuts yield an average time saving of 30 per cent compared with mouse use (Lane et al., 2005; Tak, 2007). If keyboard shortcuts were to replace all mouse actions, the achievable efficiency gain would be 42 minutes a day ( $0.3 \times 140$ ). However, not all computer programs support keyboard shortcuts. Assuming that keyboard shortcuts replace half of all mouse actions, this still yields an efficiency gain of 21 minutes a day, per employee.

The big challenge is teaching staff keyboard shortcuts relevant to their working activities. Traditional training methods are lacking, as this usually involves giving staff a crash course in using a large number of keyboard shortcuts. Training is usually very generalised; employees are taught keyboard shortcuts for actions that they either do not use or only use sporadically. The consequence is that employees have difficulty applying keyboard shortcuts in their work.

This can be easily addressed using on-demand software-assisted support, with no requirement for staff to stop working to receive training. The employee learns and applies relevant keyboard shortcuts in real time as they work. In this way, they learn keyboard shortcuts useful to their work activities quickly and fully.

The software registers the mouse actions of the individual employee. Based on what the software learns from the individual's mouse use, the employee is shown a report that shows which keyboard shortcuts to use to save the most time, with focus being placed on learning the shortcuts for their three most repeated actions. Each week the employee receives feedback on their progress based on objective measurements. In this way, the employee learns keyboard shortcuts step by step in a focused and tailored manner.



## Typing skills

Although typing only makes up a quarter of the time spent on the computer (IJmker, 2008), substantial gains in efficiency can be made by improving typing skills. After a number of weeks, an increased speed can be realised using the same effort. The effects of completing a touch-typing course are fewer typing errors and a higher typing speed. With touch-typing the number of typing errors is reduced from 7.5% to 2.5% and typing speed is increased by 55 keystrokes a minute. The efficiency gain is 20 minutes a day.

Some effort is required to realise this gain in time. However, staff can learn touch-typing in half the time required for traditional typing training using the Typereflex® method. Using the Typereflex® method, participants practise typing meaningful words sooner than in traditional typing training where first letters and syllables are learnt fully. The Typereflex® method utilises the fact that human brains do not perceive individual letters, but meaningful words. The following sentence illustrates this clearly:

“According to Eglsinh raereschers it doesn’t matter in what order the letters are in a word. The only important thing is that the first and the last letters are in the right place.”

Since perception and action are linked in the human brain, learning touch typing progresses more quickly if staff practice with meaningful words as soon as possible. An important advantage of using this method is that quickly practising with meaningful words motivates the employee, as progress is more obvious. To guarantee progress with the training, the employee can follow the typing lessons anywhere and at any time: at work, during breaks or on a home computer. In addition, various stopping points are incorporated into the training, involving typing tests that provide objective feedback to the employee regarding their progress.





## 2. Organise the workstation

A number of studies show that a comfortable workstation results in higher performance (Vink en De Korte, 2008). For DSE work, the first requirement is that the employee can see the screen clearly. The modern trend is increasingly towards using tablets and laptops with smaller screens, however, staff hunch forward to get closer to the screen. An external monitor or a laptop/tablet holder is a practical solution for adjusting the distance between the user's eyes and the screen and for creating a comfortable working posture.

Widespread use of laptops is logical; we then have a single device for both home and the office. What is less known is the fact that laptop keyboards and touchpads are inefficient entry tools. Research shows that the use of an external mouse instead of the touchpad, an external keyboard and a laptop stand results in a gain in efficiency of 17 per cent or more (Sommerich et al., 2002; Lindblad et al., 2004). However, because the tests in these studies were performed over a limited number of hours,

a smaller gain in efficiency is more realistic in practice. But a gain in efficiency of only half is still nine per cent, which is a saving of 21 minutes a day per employee.

To realise this gain in efficiency it is important that staff actually use the aids provided. A thin laptop stand attached to the device stimulates use of the aid, as the employee always has the stand with them and sees it when they open the laptop.



### 3. Manage concentration

The third solution for working more efficiently is potentially the most important. Everyone recognises the tendency to persist in working on to get something finished. Even though making headway becomes increasingly difficult as time goes on, mistakes are made and creativity suffers. The reason for this is that our concentration is limited to one-hour time periods and energy levels fluctuate during the day.



Our energy levels are especially low in the afternoon (Thayer, 2001). Not surprisingly, our typing speed is slower and the number of typing errors is greater in the afternoon compared with the morning. Studies show that, in the afternoon, concentration is reduced after just 20 minutes. After an hour, staff work noticeably more slowly and make more mistakes. Also, problem solving skills are greatly reduced with staff persisting in working on inefficient solutions. (Boksem et al., 2005; Lorist et al., 2000, 2005). This may sound familiar.

## Pit stops

An effective strategy to restore concentration is to take regular pit stops, a quick refreshing physical reanimation every 15 minutes, and focusing on something else for a short period every hour, such as a short walk, exercises or reading (Coker, 2011; Sauter & Swanson, 1991). This increases our working speed and reduces the number of errors we make. Estimates show that the gain in efficiency can be at least 15 minutes a day (Van den Heuvel et al., 2002; Hedge & Evans, 2001).

Although taking pit stops during work is effective, it is also counterintuitive. In a Formula 1 race, a racing driver enters the pits while his competitors race on. But servicing his car will increase his speed during the race and new tyres will keep him on the track through sharp corners. The efficiency gained by making the pit-stop outweighs the apparent delay caused by carrying out the procedure. This metaphor can be applied to staff.

More than half of staff take lunch at their desk (Umket, 2008). If my colleagues do not take pit stops, this makes it culturally difficult to take a necessary pit stop myself. A solution is to make staff conscious of when pit stops are needed. Advisory software can suggest pit stops to staff via messages displayed on the screen. These messages are designed to be positive, attractive and educational. They are broad-ranging, so that all staff in the organisation can



relate to them. After all, not everybody finds the same things interesting. News flashes from the internet can be shown during longer pit stops, as well as intranet messages, email and time management tips, or exercises can be suggested. Organisations can put together bespoke content for pit stops on anything they wish to promote to staff. By implementing them organisation-wide, the chance is greater that the majority of staff take pit stops.

To promote good pit stop behaviour among staff, the software provides feedback. This feedback is given at the start of the working day when the employee is most open to it.

## Stand-sit tables

Stand-sit tables also have a positive effect on increasing efficiency. This gain requires staff to use the stand-sit table properly and regularly alternate between standing and sitting work activities. Several studies show that the gain in efficiency can be ten per cent (Ebara et al., 2008; Choi, 2010). On this basis employees save 23 minutes a day.



# Summary and implementation advice

Adding the figures up shows the solutions above can easily generate a realistic time saving of at least one hour per day per employee. Indeed, staff do not have to implement all the improvements to gain an hour a day but it is important to think about a number of critical success factors for the implementation of solutions, to maximise the gain in efficiency.

Firstly, staff must be informed about the presence of the solutions. Adequate internal communication is a necessity for this. Secondly, the solutions must not be frustrating or annoying (so choose reminder wording carefully); they must work from an IT perspective and be easy for staff to obtain. Thirdly, good preparation using a pilot is invaluable.

Finally, having management buy in to the solutions and set an example to their staff is important. They should be the first to take on the changes and show the desired behaviour. Experience shows that early adoption by a small group of influential innovators will ultimately lead to a positive behavioural change throughout the entire organisation.

## How Cardinus can help you gain one hour a day

Staff must be offered the right tools to achieve these improvements and thereby realise the time saving. To this end, practical products are available in the market: the pit stop program CtrlWORK provides staff with reminders, SitStandCOACH will make sure you get maximum benefit from specialist furniture and keyboard shortcuts can be learned using AltMOUSE. Ticken, our online touch typing course, uses the Typereflex® method so that learners master this valuable skill in half the time.

Cardinus experts are available to help you to find the right vproducts for your organisation's needs.

If you would like more information on Gain an hour a day or about the solutions mentioned in the white paper, or if you have other questions on efficient, healthy working, please contact Cardinus Risk Management on 020 7469 0200, email [info@cardinus.com](mailto:info@cardinus.com) or visit [Cardinus.com](http://Cardinus.com).



**Cardinus Risk Management Limited**

4th Floor  
3 East Grinstead House  
Wood Street  
East Grinstead  
West Sussex  
RH19 1UZ

Tel: 0207 469 0200

Email: [info@cardinus.com](mailto:info@cardinus.com)

Web: [www.cardinus.com](http://www.cardinus.com)



**CARDINUS**  
riskmanagement