



1. THE DRAW



2. THE MULTI-DEVICE



3. THE TEXT



4. THE COCOON



5. THE SWIPE



6. THE SMART LEAN



7. THE TRANCE



8. THE TAKE IT IN



9. THE STRUNCH



1980年、パーソナルコンピュータ（PC）の普及により、デスクワークの環境が変化した。

30年経ち、スマートフォンやタブレットの普及により、デスクワークの環境がさらに変化した。1日平均80%の時間をモバイルデバイスで過ごすという調査結果がある。

1990 Delft Peter Vink

Peter Johnson

1

PC

PC RJI & 2012—2013 21% 46%

2 Steelcase 2013 11 2000

3

Steelcase Steelcase 30 9

Steelcase 2

3 Steelcase 5



□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□  
□□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□ □□□□□□□□□□□□□□□□□□□□

□□□□

Ariens GAM. *Work-related risk factors for neck pain*. PhD thesis Vrije Universiteit, Amsterdam, 2001

Stein PD, Yaekoub AY, Ahsan ST, Matta F, Lala MM, Mirza B, Badshah A, Zamlut M, Malloy DJ, Denier JE . *Ankle exercise and venous blood velocity*. *Thrombosis and Haemostasis* 101(6), 1100-1103, 2009

Dekkers C, van Mechelen W. *Overgewicht, lichamelijke inactiviteit en ziekteverzuim bij werknemers*. Tijdschrift voor Gezondheidswetenschappen; 1: 53-5, 2006

Dieën JH van, Looze MP de, Hermans V. *Effects of dynamic office chairs on the low back*. *Ergonomics* 44:739-50, 2001

Ellegast RP, Kraft K, Groenesteijn L, Krause F, Berger H, Vink P. *Comparison of four specific dynamic office chairs with a conventional office chair: Impact upon muscle activation, physical activity and posture*. *Applied Ergonomics* 43(2):296- 307, 2012

Eltayeb S, Staal JB, Hassan A, Bie, RA de. *Work Related Risk Factors for Neck, Shoulder and Arms Complaints: A Cohort Study Among Dutch Computer Office Workers* *Journal of Occupational Rehabilitation* 19: 315-322, 2009

Franz M, *Comfort, experience, physiology and car seat innovation*, PhD thesis, Delft University of Technology, 2010

Gold JE, Driban JB, Thomas N, Chakravarty T, Chanell V, Komaroff E. *Postures, typing strategies, and gender differences in mobile device usage: An observational study*. *Applied Ergonomics* 43, 408-412, 2012

Goossens RHM, Snijders CJ. *Design criteria for the reduction of shear forces in beds and seats*. *Journal of Biomechanics* 28, 225-230, 1995

Groenesteijn L, Vink P, Looze M de, Krause F. *Effects of differences in office chair controls, seat and backrest angle design in relation to tasks*. *Applied Ergonomics* 40:362-370, 2009

Lueder R . *Ergonomics of seated movement. A review of the scientific literature*. Humanics ergosystems, Encino, 2004

Nordin M. *Zusammenhang zwischen Sitzen und arbeitsbedingten Rückenschmerzen*. In: H.J.Wilke (ed.) *Ergomechanics* (pp. 10-35), Aachen: Shaker Verlag, 2004

Proper K, Zaanen S van. *The relation between sedentary lifestyle and health, a literature review*. (In Dutch).

In: Hildebrandt VH, Ooijendijk WTM, Hopman-Rock M, red. *Trends in Physical Activity and related Health 2006-2007*. Leiden: TNO Quality of Life, 89-112. (In Dutch). 2008

Shin G, Zhu X. *Ergonomic issues associated with the use of touchscreen desktop PC*. [CD-ROM 949-953] In:

the Proceedings of the Human Factors and Ergonomics Society 55th Annual Meeting; 2011 Sept 19-23; Las Vegas, USA. 2011

Stranden E. *Dynamic leg volume changes when sitting in a locked and free floating tilt office chair*. Ergonomics 43(3), 421-433. 2000

Vink P, Konijn I, Jongejan B, Berger M. *Varying the Office Work Posture between Standing, Half-Standing and Sitting Results in Less Discomfort*. In: Karsh B, ed. Ergonomics and health aspects of working with computers, proceedings of the HCII2009 congress, San Diego (USA), July 19-24,2009. Berlin/Heidelberg: Springer Verlag 115-120, 2009

Wilke HJ, Neef P, Caimi M, Hoogland T, Claes LE. *New in vivo measurements of pressures in the intervertebral disc in daily life*. Spine 24(8): 755-762, 1999

Young, J.G., Trudeau, M., Odell, D., Marinelli, K., Dennerlein, J.T., Touch- screen tablet user configurations and case-supported tilt affect head and neck flexion angles. Work 41, 81-91, 2012

Zenk R. *Objektivierung des Sitzkomforts und seine automatische Anpassung*, dissertation TU München, 2008

