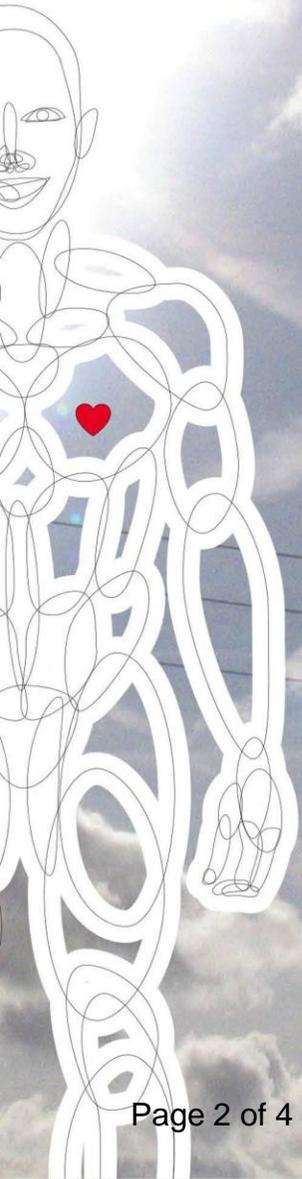


## **Health . . . .**

- is gradually being recognized as a production factor. Work tires, and people with deficient health tire early. Tired people make errors and such errors can be costly or even life-threatening. Optimal work performance needs an optimal condition; life-endangering work is akin to top-sport!
- is a work enabler. The combination of healthy people and a healthy workplace optimizes the output of the office. The World Health Organization finds in 1984 that 30% of building occupants have health issues for which no specific hazards aka problem areas can be identified: the 'sick office syndrome'. Nowadays the concept of the 'green building' approaches the health of its occupants as an inclusive design goal.

*Sick building syndrome causes are frequently pinned down to flaws in the heating, ventilation and air conditioning (HVAC) systems.*



Health is next in a series of technological disruptors, bringing forth an explosion in societal improvements. Production is based on three factors: workforce, finance & transport. The relative importance has changed over time, boosting production efficiency's forward progress.

**Access.** Societal effects here are easily translated into access to production factors. The wheel has introduced us to carriages by which several people are transported without themselves owning a horse. Fire brought the knight a harness without having forging skills.

*The key to societal progress lies within lowering the access costs to a given production factor.*

**Electricity.** In the 20<sup>th</sup> century, the generator brings us electricity but the power lines offer electricity to everyone, even when the generator itself is remote.

**Information.** In the 21<sup>st</sup> century, the Internet now brings us information from the computer farm to wherever we are without even any local connection to a server.

**Health.** Personal health is the globalization of the records at the hospital. Having continuously refreshed information available instead of a yearly average allows a view on the current potential to perform.

*“The next sea change is upon us.”  
(Bill Gates, Microsoft Intern. Memo.,  
October 30, 2005)*

*Lowering access rights leads us to globalization.*



A number of health effects play a major role towards the work efficiency in the office. Especially for safety-related jobs, work is to be seen equal to top sports and health monitoring is mandatory to limit the human error.

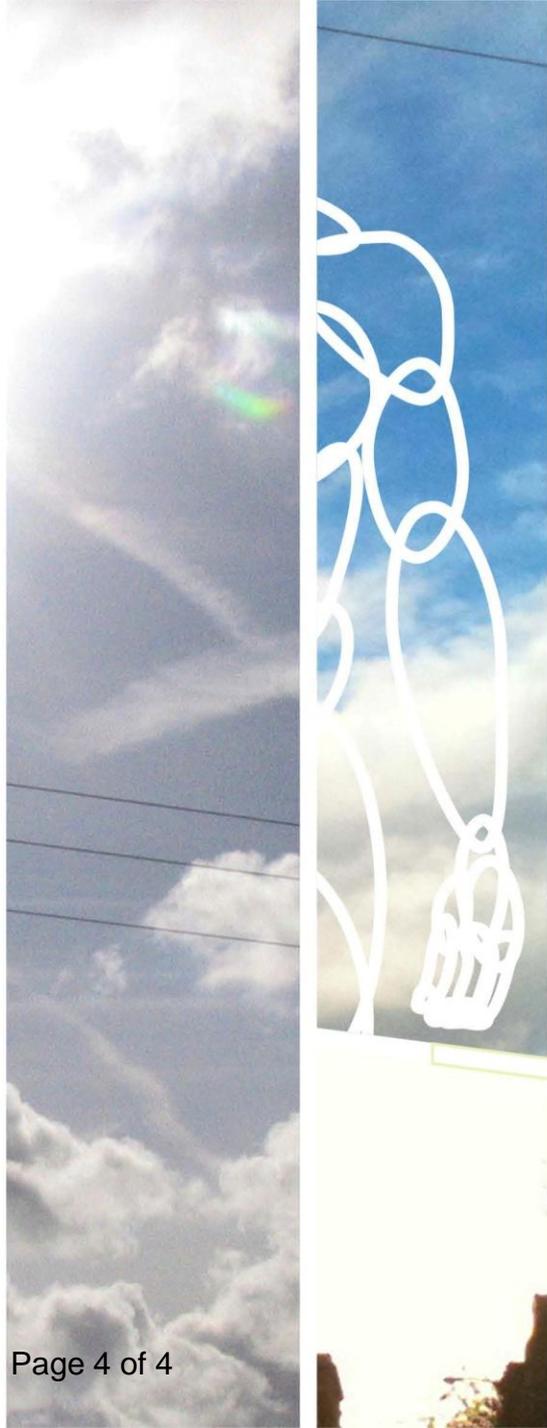
*Comoray technology can be integrated for B2B services. The Smart Grid needs HVAC optimizations.*

**Work stress** directly influences the ability of humans to function well. Not only does it decrease work focus, a phenomenon leading to errors, but equally impedes the health of the people themselves. The amount of non-productive hours will increase.

**Low air quality** reduces the ability to focus. The amount of carbon monoxide is increasing, intoxicating the body. People get drowsy and the amount of work errors increases. This immediately lowers the work output.

**Lack of hydration** has similar effects. It is well-known for senior citizens, but not restricted to that age category. Both de- and over-hydration can ultimately cause people to die.

**“If victory is long in coming, then men’s weapons will grow dull and their ardour will be dampened.”**  
**(Sun Tzu, The Art of War, chap. 2, rule 2)**



With the introduction of the central heating came climate control. And with climate control came the 'sick office syndrome'. Is your headache caused by a hang-over or by being in an unhealthy atmosphere?!

This however is not limited to offices only. Schools and houses also create an atmosphere that is unhealthy to their inhabitants. Attention is reduced, learning is reduced and people get sleepy!!

