



# NEUROSCIENCE LAB

## SMART WORKING IN THE DIGITAL SOCIETY

Impact on society and individuals under a neuropsychological and behavioral perspective

March 2021



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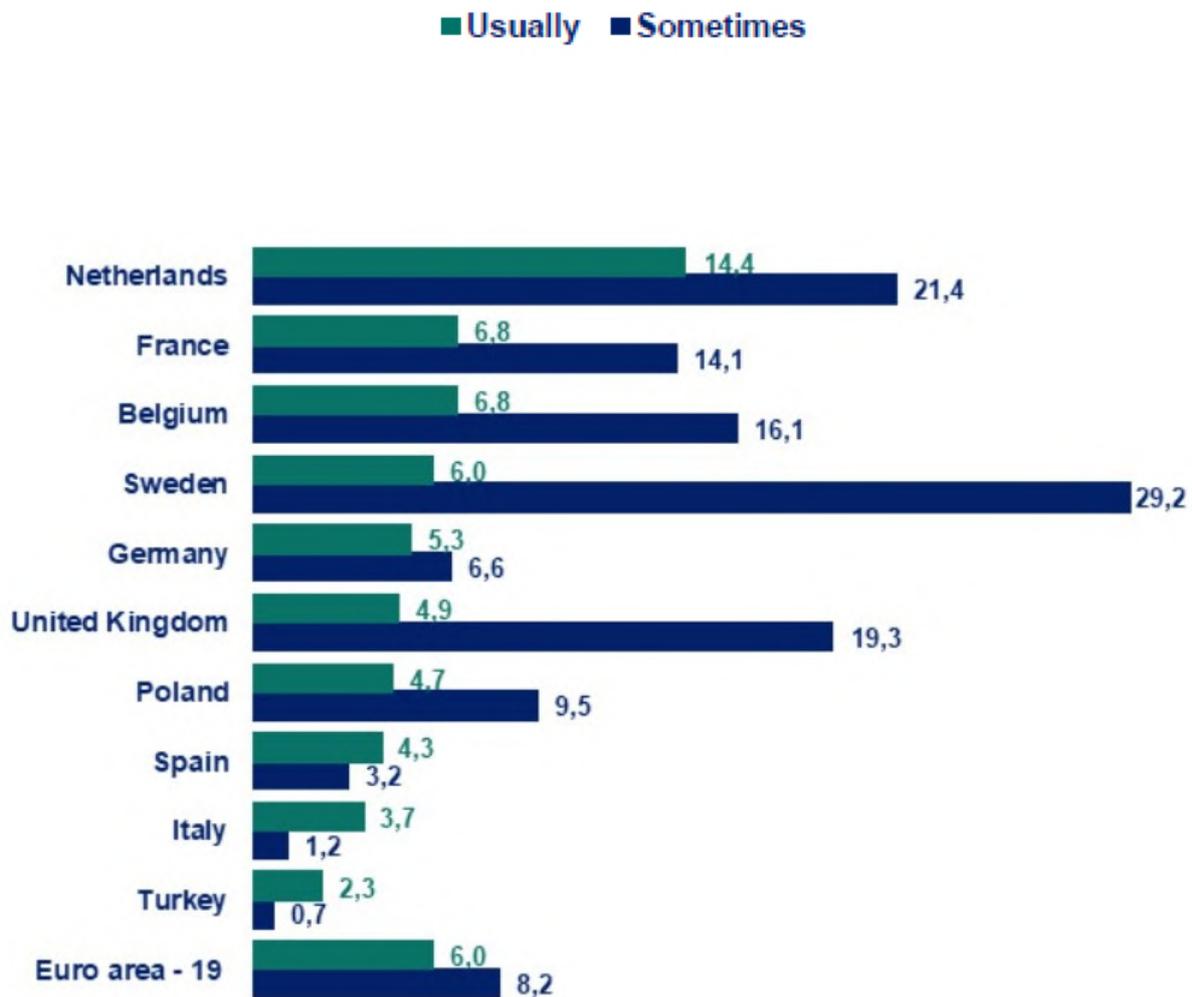


# Smart Working in the pre-Covid-19 era

In the decade 2008-2018 Italy **did not register an increase in the adoption of smart working**, while in Europe, as evinced from the Eurostat 2018\* research, the growth was more evident. To this regard, we must remind that the smart working in Italy is disciplined by the law 22<sup>nd</sup> May 2017\*\*, n.81, entered into force the 14<sup>th</sup> of June 2017.

\*<https://www.4manager.org/smart-working-ricerca-dellosservatorio-4-manager-durante-lemergenza-coronavirus/>

\*\* Gazzetta Ufficiale n. 135 del 13 giugno 2017



Country comparison of workers "working from home" in Europe before covid-19 (Elaboration Observatory 4.Manager based on Eurostat 2018 data)\*

# Smart working as an emergency solution

In the space of few weeks in March 2020, following the appearance of the pandemic, Italy applied a “forced revolution” that transferred hundreds of thousands of workers from the usual working environment to their homes. **Transformations that would have required years** have been implemented in just a few weeks.

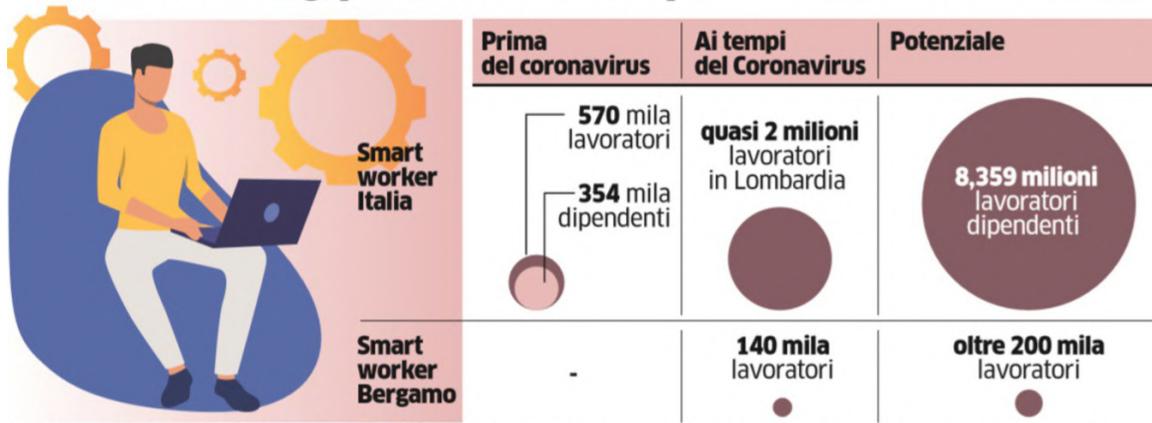
«... what was going on stage in a large part of the houses of the 19 million employees (as well as in those of self-employed workers and freelancers) was not the triumph of a new remote working modality but rather an experience that, for its characteristics, did not fit neither in the smart nor (and, much less) in the agile description.

*What during the lockdown (and still going on) has materialized in the houses of most employees is instead better definable as a “mandatory measure of workers distancing”, whose objective was neither the increment of the workers’ wellbeing nor the increase of their productivity.»*

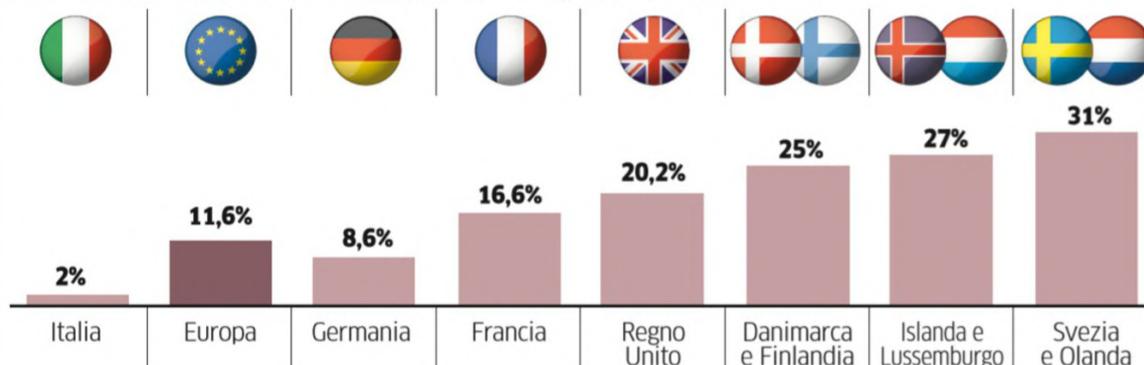
Luca Pesenti, associate professor, Faculty of Political and Social Sciences of Università Cattolica del Sacro Cuore, Milan

Giovanni Scansani, co-founder Valore Welfare Srl

## Lo Smart Working, prima durante e dopo



### Percentuali di diffusione in Europa prima dell'emergenza sanitaria



FONTE: Stime Osservatorio Politecnico di Milano; stima Fondazione studi Consulenti del lavoro, 26/02/2020; dati del Ministero del lavoro al 13/3/2020; stima Fondazione studi Consulenti del lavoro, 26/02/2020; stime Cisl Bergamo, Eurostat L'EGO - HUB

# Smart Working as an emergency solution

According to the results of the research made by the Smart Working Observatory of School of Management, Politecnico di Milano\*, published at the beginning of November 2020, **during the first lockdown** (March-May 2020), in Italy, ten times as much workers as in 2019 worked from home (2,11 million in the big businesses, 1,85 in PA, 1,13 million in SMEs and 1,5 in micro businesses).

\*<https://www.osservatori.net/it/ricerche/comunicati-stampa/smart-working-emergenza-covid19-new-normal>

Following the projections from the same source, it is estimated that in Italy, starting from the end of the first emergency phase (June 2020) the employees that will continue working at least in part remotely, will be 5,35 million in total (1,72 million in big businesses, 1,48 million in PA, 920 thousand in SMEs and 1,23 million in micro businesses).

Such estimates are plausible, considering that in September 2020 the smart workers were already 5,06 million (1,67 million in big businesses, 1,32 million in PA, 890 thousand in SMEs, 1,18 million in microbusinesses).



# The New Normal

Intesa Sanpaolo Innovation Center - Neuroscience Lab\* (Society of Gruppo Intesa Sanpaolo) in collaboration with Scuola IMT Alti Studi Lucca, at the beginning of October 2020 conducted research on a sample of 1500 people of Intesa Sanpaolo Group, highlighting that 55% of the respondents had already made use of smart working before the pandemic.

It also emerged the **strong propensity to continue working remotely after the pandemic**, despite the possibility of gradually returning in the office\*\*, **to an extent that also in the post lockdown phase, corresponding to the period June-October 2020:**



The quasi-totality of the sample (99%) chose to work remotely at least once per week;



The 95% was working from home at least 3 days per week;



For the 91% of respondents the interpersonal distance judged as adequate in the working place was at least one meter/one meter and a half;



The 81% predicted that such a distance of one meter/one meter and a half would have been necessary even after 6 months;



The 34% felt worried enough or very worried when thinking about returning to work at the office while continuing to work remotely did not raise any concern in the 82%.

\*in collaboration with Intesa Sanpaolo Health and Safety Department and Intesa Sanpaolo People and Process Care Department.

\*\*The ISP group advised to prefer smart working, providing the possibility for those in need to come back to the office

# A ri(e)volutionary theme

Enthusiasm for smart working conquered giants like Twitter, which announced (May 2020) that their collaborators would have been relocated in SW permanently. Almost on the same path, Facebook and Apple predict that most of their employees, once the pandemic is over, will not get back to the office. Visions like this ones are probably utopistic, maybe neither necessary nor functional.

Even without arriving to such extremes, the mentioned data confirm undeniably that **in Italy the experience determined by the emergency has signed a point of no return for the working world, what might be called the begin of a New Normal**: smart working has now entered the daily life of Italian employees. It is no more a benefit to eventually exploit, but rather a full-fledged alternative to the traditional ways.

Nevertheless, the lockdown begun in March 2020 highlighted the fact that **most Italian businesses were not structured enough** – others did not even plan the activation – to smart working.

While medium and big enterprises were forced to structure to get organized and deal with the smart working to continue their operations, the small-medium enterprises has instead faced, in many situations, hard challenges in organizing to such a methodology.

Beyond the technological and infrastructural unpreparedness, what was evidenced is **a cultural gap between theory and reality**, also highlighted by:

- **an often vague and confusing terminology** (remote work, working from home, mobile work, flexible workplace, coworking, teleworking, streaming, etc.);
- **a not-fully-prepared rule of law** (privacy questions, labor and legal aspects, risk evaluation for the protection of health and safety in the working place, etc.);
- **adopting organizational arrangements that resulted not suitable.**

# Is smart working good or bad?

Considering the described unpreparedness, the heritage of the March 2020 lockdown consists in appreciating smart working not only in its episodic and occasional advantages,

in the form of sporadic benefits, **but rather as an actual way of working**, capable to provide a series of advantages both for the business and for the employee.

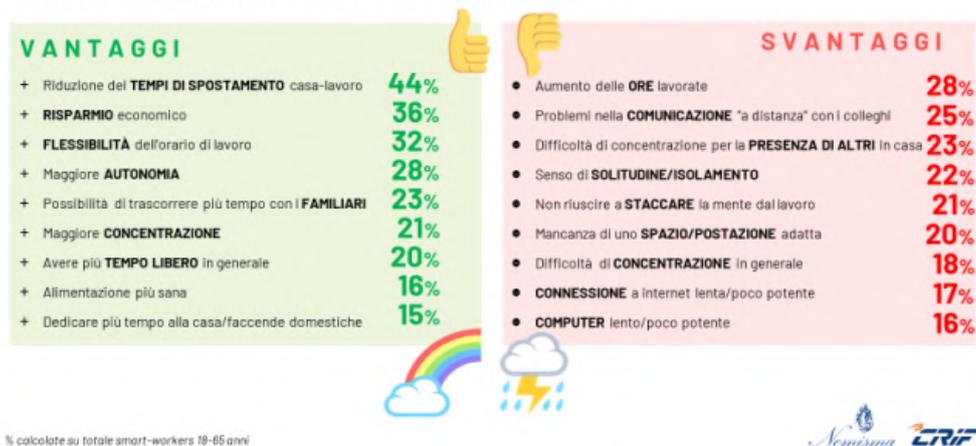


<https://www.spindox.it/it/blog/smart-working-osservatorio-2017-polimi/>  
[www.osservatori.net/it/home](http://www.osservatori.net/it/home)

●●● OSSERVATORIO THE WORLD AFTER LOCKDOWN NOMISMA-CRIF | FOCUS SMART WORKING

## PLUS & MINUS DELLO SMART WORKING

(% smart workers che riscontrano ciascun punto di forza/debolezza, risposte multiple)



[www.crif.it/area-stampa/comunicati-stampa/2020/ottobre/smart-working-nel-2021-il-16-degli-italiani-lavorerà-da-casa/](http://www.crif.it/area-stampa/comunicati-stampa/2020/ottobre/smart-working-nel-2021-il-16-degli-italiani-lavorerà-da-casa/)

## Between change and status quo

Despite the evident advantage that smart working may represent, e the undeniable change of pace happened, nowadays we note **a diffused skepticism towards a practical and structural shift to smart working**. How to explain this phenomenon?

In nature, news and changes **arouse diffidence in the short run** as they request **a cost in terms of energy**, necessary not only to break pre-existing equilibriums but also to reach a new adaptation.

The principle of homeostasis is crucial in physiology: all the living organisms, included the human being, during their evolutionary history, adopted a series of physiological, structural, and behavioral mechanisms aimed mainly at maintaining constant their environment, both internally and externally.

Furthermore, what we do not know might be, by definition, **threats or source of danger**.

Even the individual and social psyche, as any other natural phenomenon, responds to the described principles.

The co-existence of these two great drives determines **a conflict**, both in society and within an individual, conflict that usually, where the change results as evidently advantageous or unavoidable, ends with an integration that is not necessarily immediate. Normally, in face of initial refusal, it follows a phase of resistance followed in turn by a progressive acceptance, often based **on a compromise solution**.

*«It is not the strongest species to survive nor the most intelligent one, but the most responsive to change.» — Charles Darwin*



<http://www.renatopilutti.it/2017/08/25/i-cambiamenti-profondi-sono-lenti-un-caso-di-scuola/>

# Adapting to the emergency

By applying this perspective to the recent historical events, we can better comprehend the social and individual dynamics concerning smart working.

In fact, due to the rapidity and unpredictability of the massive recourse to smart working associated with lockdown, firms, as well as employees, had to modify their life and working styles, **applying de facto social, behavioral, and cognitive schemes not completely adequate to the new context and new requirements.**

Times, objectives, relations, expectations, communication styles, emotional experiences, still based on mental, social, and behavioral schemes typical of the "traditional" working world have revealed partially inefficient once fallen in a new digital reality.

## Naïve psychology

We must consider that pressure and stress tend to induce with higher probability answers based on the so-called "**naïve psychology**".

For naïve psychology, we mean the collection of all the **psychological knowledge deriving from commonsense and past experiences.** Heider (1958)\* analyzes the "psychology of common sense" or "naïve psychology" intended as a set of unexpressed principles that are normally utilized to represent the social environment and which guide the actions.

\*Heider F., Psychology of interpersonal relations, 1958.

In our daily life we form ideas on other individuals and social situations, interpret others' actions, try to predict how they will behave in certain circumstances, attempt to master reality by reporting volatile and transitory behaviors to subjective situations, equipped with certain stability.

Such a form of psychology has no scientific nature and is characterized by habitual **evaluation mistakes, logical flaws, and ineffective behaviors.**

## Bias, heuristics and loss aversion

**Cognitive biases** (constructs based on erroneous or deformed perceptions, on prejudices and ideologies, out of the critical judgement) and **heuristics** (intuitive and impatient mental procedures, mental shortcuts) are naïve psychology byproducts. Both the modalities allow us to build a generic idea of an argument without putting much cognitive effort.

Besides, in the case of smart working, a relevant role may be played by the mechanism of monetary perception said **Loss Aversion**: from the emotional point of view, **earnings and losses are not weighted the same way. A loss is indeed weighted twice as much as an earning of the same entity.**

Hence, the benefits of smart working must outweigh the disadvantages twice as much, to be able to break the barrier of the status quo.

In such a perspective, the skepticism of many workers towards smart working might in part be explained by the fact that the perception of advantages deriving from smart working is not yet sufficient to push for a change.

Also, from the business point of view, due to Loss Aversion, the emotional impact is not necessarily proportional to mere monetary gains.

## Spontaneous changes in business behavior

A study conducted by the London School of Economics in 2016\* revealed that by increasing the time passed in smart working many employees **do not consider remote working as a privilege anymore** and begin acting differently from office employees.

Research has found scarce communication with colleagues and limited face-to-face interactions. Consequently, employees have deemed a lack of professional support from the employers and complained about them for arresting their professional development, feeling less loyal towards the firm as a consequence.

Confirming this, big corporations like IBM and Yahoo inverted the politics of remote working, **having seen as a result a decrease in productivity\*\*.**

Furthermore, a naïve approach to smart working might conduct to **situations of psycho-physical discomfort, as burn-out, technostress, workaholism, and ageing effect**

\*<http://etheses.lse.ac.uk/3349/>

\*\*<https://www.forbes.com/sites/carolkinseygoman/2017/10/12/why-ibm-brought-remote-workers-back-to-the-office-and-why-your-company-might-be-next/#6350779316da>

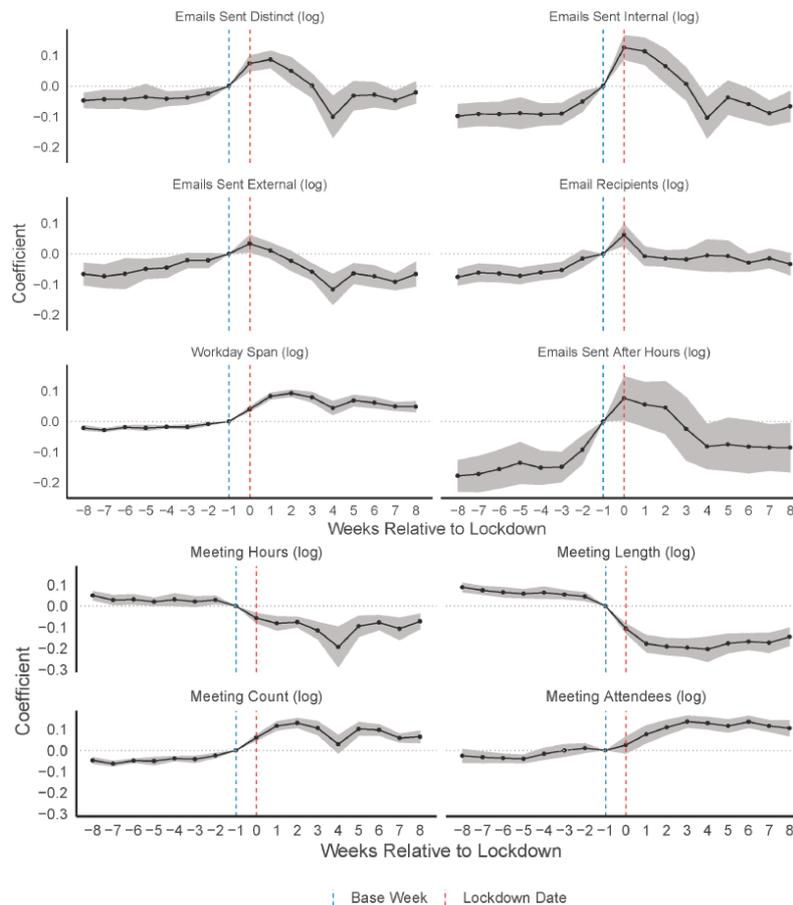
# Spontaneous changes in business behavior

Spontaneous, non-programmed, hence «naïve», adaptation emerges for example from **research of Stern School of Business of New York University**, in collaboration with Harvard Business School for the National US Office for economic research, that analyzed the working habits of **3,1 million people in 16 cities in Europe (including Rome and Milan), North America and Middle West** in smart working, during the 8 weeks preceding and the 8 weeks following the first Lockdown (March 2020). The shreds of evidence report that:

- on average **the working time has stretched 48 and half minutes** every day (+8% compared to pre-Covid rhythms);

- **Meetings have increased by about one-fifth (+17%)** and the number of colleagues present in the various virtual meetings on Zoom or Teams also increased (+14%), while decreased are the average duration of both the meetings (-21%) and the total time spent on confronting with others (-9%);
- the employees sent **more emails within the firm**, while private mails decreased by 3%;
- smartphones (and computers) have been used much more **well beyond working hours**, so much that e-mail sent in the evening and night surged 5%.

<http://www.nber.org/papers/w27612>



# The risks of a “naïve” approach

## BURN OUT: DEFINITION

«The breaking down of motivation or the sense of gratification, especially when we are dedicated to a cause, or when a relationship fails in producing the desired results».

Condition of physical, emotional, and mental depletion, caused by a prolonged involvement in emotionally challenged situations to which a perception of satisfaction does not follow.



<https://twitter.com/kidsconclusion/status/755741830600355840>

# The risks of a “naïve” approach

## BURN OUT: CAUSING FACTORS

**Loneliness/Alienation:** working from home the social aspects of working life, useful for the employee's wellbeing, tend to fail. Smart working might bring to isolation and a lack of social interaction with colleagues.

**Social conception of Smart Working:** remote working is sometimes considered of 'lower value' compared to working on-site, both from the business and within the family.

**Distraction easiness:** too many contemporaneous stimuli solicit a stress reaction and force one to a very frequent attention reset effort.

**Dealing with family and kids during the working hours:** the indeterminateness of the space-time dimension of the working and family setting triggers an overexposure difficult to deal with, due to an increase of performance requests often falling in both the spheres.

**Motivation control:** the worker, already forced to an autonomous process of activity organization, may fall into some problems difficult to be solved alone and incurs a decline of motivation resulting in a decrease in the working performance.

Dealing with stress characterized the days of almost one third of women and men.

**LinkedIn surveyed smart working** during the first lockdown in Italy (March-May 2020), interviewing 2 thousand Italians, finding that:

- 46% of workers declared to feel **more anxious and stressed**;
- 19% reported a **feeling of discomfort** relative to the survival of their workplace;
- 18% found a negative impact on their **mental health**;
- 27% of workers developed **difficulties sleeping**;
- 22% described a state of **constant anxiety**;
- 26% had **problems of focus** during the day.

## BURN OUT: DATA

Two recent Italian studies\* agreed in detecting that:

- the situation of emergency shed light on some characteristics of the Italian welfare system, substantially focused on family as a social safety net hinged in the female figure. This data is exacerbated by the impossibility, especially in times of lockdown, to lean on friends and other family members;
- the double business (working and taking care of educational and family needs) also affects the evaluation of working performance, given the difficulty to focus on the working task;
- an important resource is constituted by the increased capacity to deal with stress and fatigue thanks to the shared care within the couple.

\*Centro di Ateneo Studi e Ricerche sulla Famiglia in collaborazione con la società Human Highway  
CGIL - Fondazione Di Vittorio, 18 maggio 2020  
[https://centridiateneo.unicatt.it/centro\\_di\\_ateneo\\_studi\\_e\\_ricerche\\_sulla\\_famiglia](https://centridiateneo.unicatt.it/centro_di_ateneo_studi_e_ricerche_sulla_famiglia)



Covid emergency will  
bequeath society previously  
not believed possible  
working methods.



52%

37%

[https://valored.it/wp-content/uploads/2020/06/CS-Valore\\_D\\_ioracconto.pdf](https://valored.it/wp-content/uploads/2020/06/CS-Valore_D_ioracconto.pdf)

#### BURN OUT: DATA

The data emerged by the study implemented by Intesa Sanpaolo Innovation Center – Neuroscience Lab and IMT, highlights that during the first lockdown (March-June 2020):



For the 58%, interpersonal relationships did not change if compared to the time before lockdown, for the 28% they were empowered, while for the 14% worsened;



7% declares they lived with or took care of a handicapped person – law 104/92 art 3 comma 3 – or with other pathologies who needed continuous assistance;



22% declares to have cohabited with a non-autonomous person – newborn and/or kid up to primary school included, old person with no invalidity reason;



40% of those that, during lockdown, had to take care of a non-autonomous person, declares that the assistance to such people negatively influenced their working activity.

# The risks of a “naïve” approach

## TECHNOSTRESS: DEFINITION AND CAUSING FACTORS

«Syndrome caused by the constant, simultaneous and often excessive use of information technology and informatics and digital tools, as well as by the erroneous ergonomics of working places and activities».

- **Lack of formation in the use of technologies and working remotely:** workers in smart working found themselves massively projected in telematic work, often with no technical and methodological knowledge to help them deal with the instruments, software, and the organization of work.
- **Information overload:** effect due to the plurality of technologies in use and related problems (technical and personal). The worker is continuously reached by a great quantity of information, which struggles to elaborate.

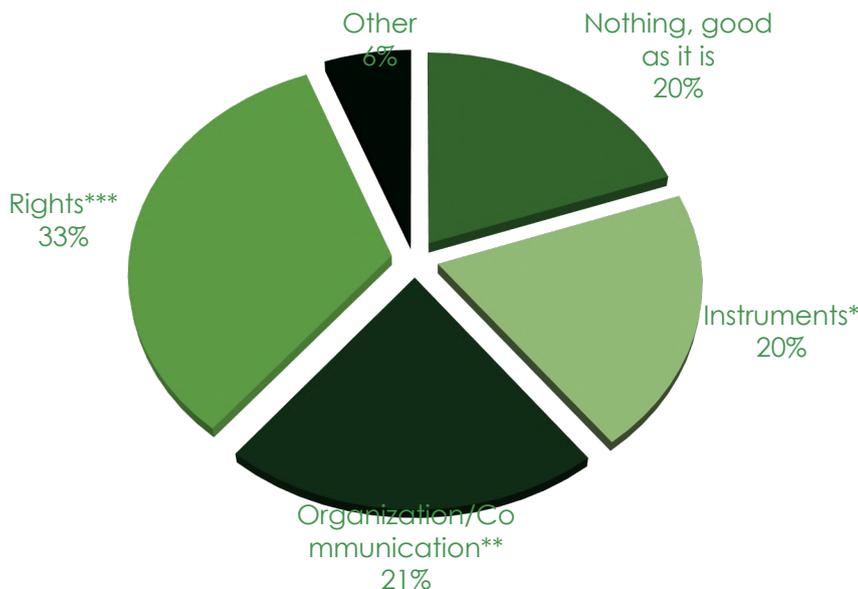
- **Necrosis by technology latency:** stress reaction caused by technical problems (due to the lack of information, inadequate technologies, systemic problems on the Italian telco infrastructure) producing loss of time, continuous interruptions, with consequent falls of personal attention and motivation.

## TECHNOSTRESS: DATA

The research made by Intesa Sanpaolo Innovation Center – Neuroscience Lab in collaboration with IMT Scuola Alti Studi Lucca, highlights several criticalities and unsolved aspects in the implementation of such a massive way of smart working by the employer.

Among the most frequent observations, as depicted by the pie chart, the most evident are those regarding the logistics and inadequate instruments, as well as the need for better connection to the web.

Requests of adjustment/improvement by smart workers:



sample size 1500

\*Technology: Internet connection, IT support, more digitalization

\*\* Organizzazione, riunioni e call, gestione dei carichi di lavoro.

\*\*\* Flessibilità di orario, rimborsi, gestione straordinari.

# The risks of a “naïve” approach

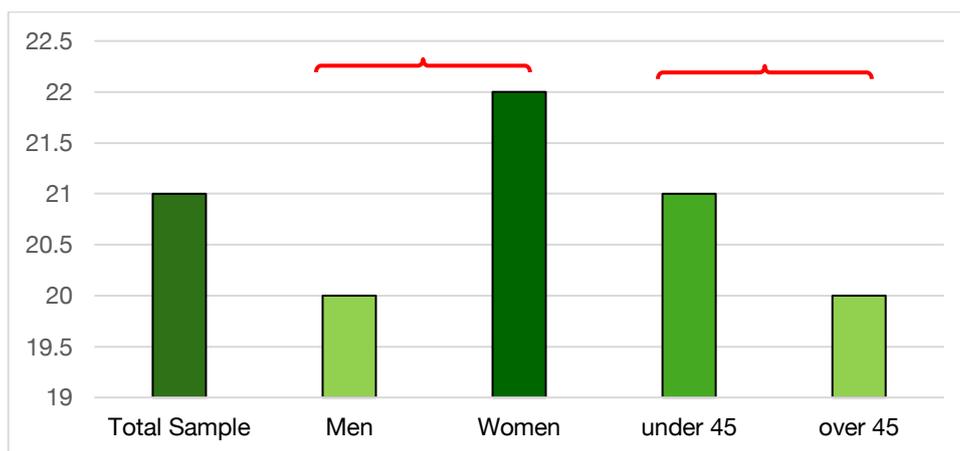
## WORKAHOLISM: DEFINIZIONE E FATTORI FAVORENTI

«Continuous need to work and a tendency to continuously think about work. A pulsion that manifests independently if compared to other conditions like working constraints or the real requests of the employer or effective economic needs».

- **Time porosity:** situation of reciprocal interference and overexposure between working time and lifetime, that might conduce to personal and family conflicts. Working from home, it results difficult to be able to separate in a net and clear way what is the work and what is home, with the risk not to give themselves a time limit for working activity.
- **Tele-pressure:** the “always-on” connection and the continuous flow of information from the firm to the employees pushes them to respond more rapidly and is available online for longer times than normal.

## WORKAHOLISM: DATA

In the study made by Intesa Sanpaolo Innovation Center – Neuroscience Lab in collaboration with IMT Scuola Alti Studi Lucca, it emerged, as evidenced by the bar plot, that women tend to perceive an excessive involvement in the working sphere much more compared to men, as well as the youngest subjects compared to the over 45, even after the end of the first lockdown.



workaholism levels in the total sample and sub-samples of around 1500

# The risks of a “naïve” approach

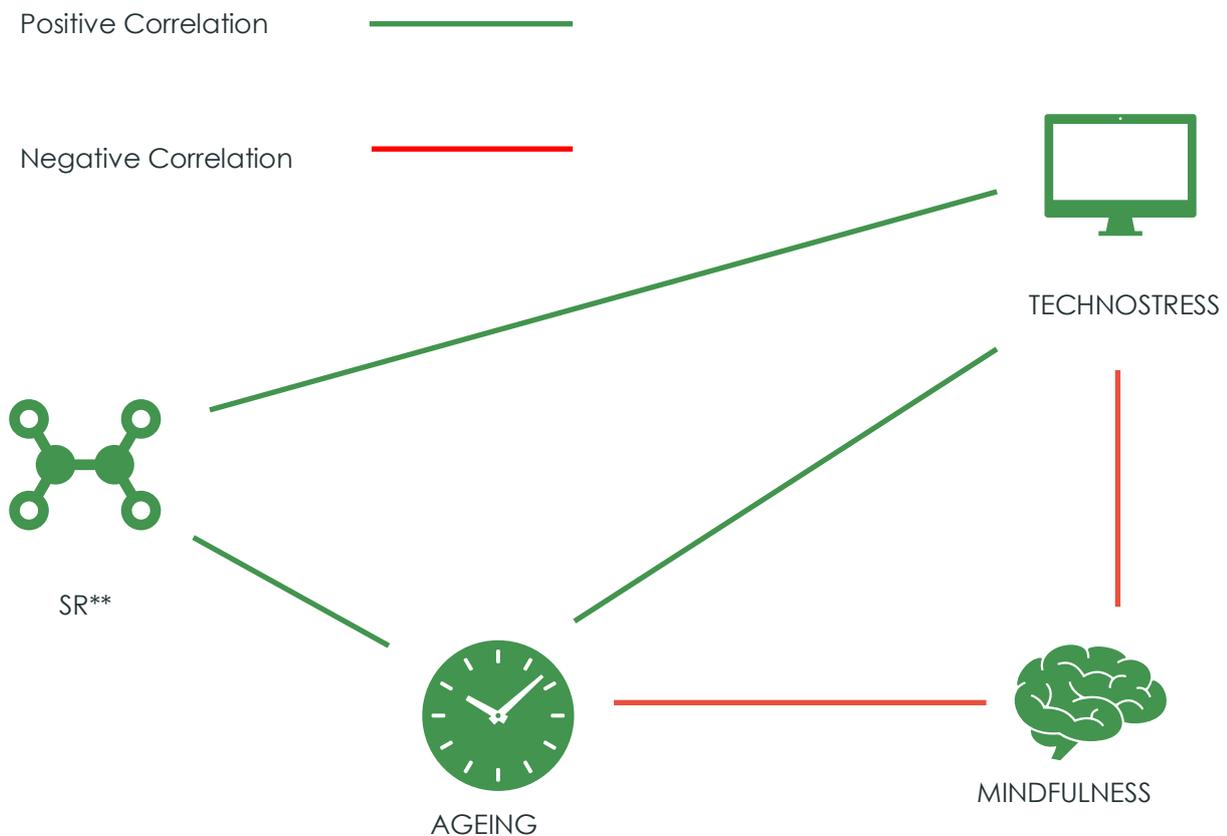
## AGEING EFFECT: DEFINITION AND DATA

Subjective perception of functional and/or cognitive deterioration in the working sphere, compared to the past, attributed to ageing.

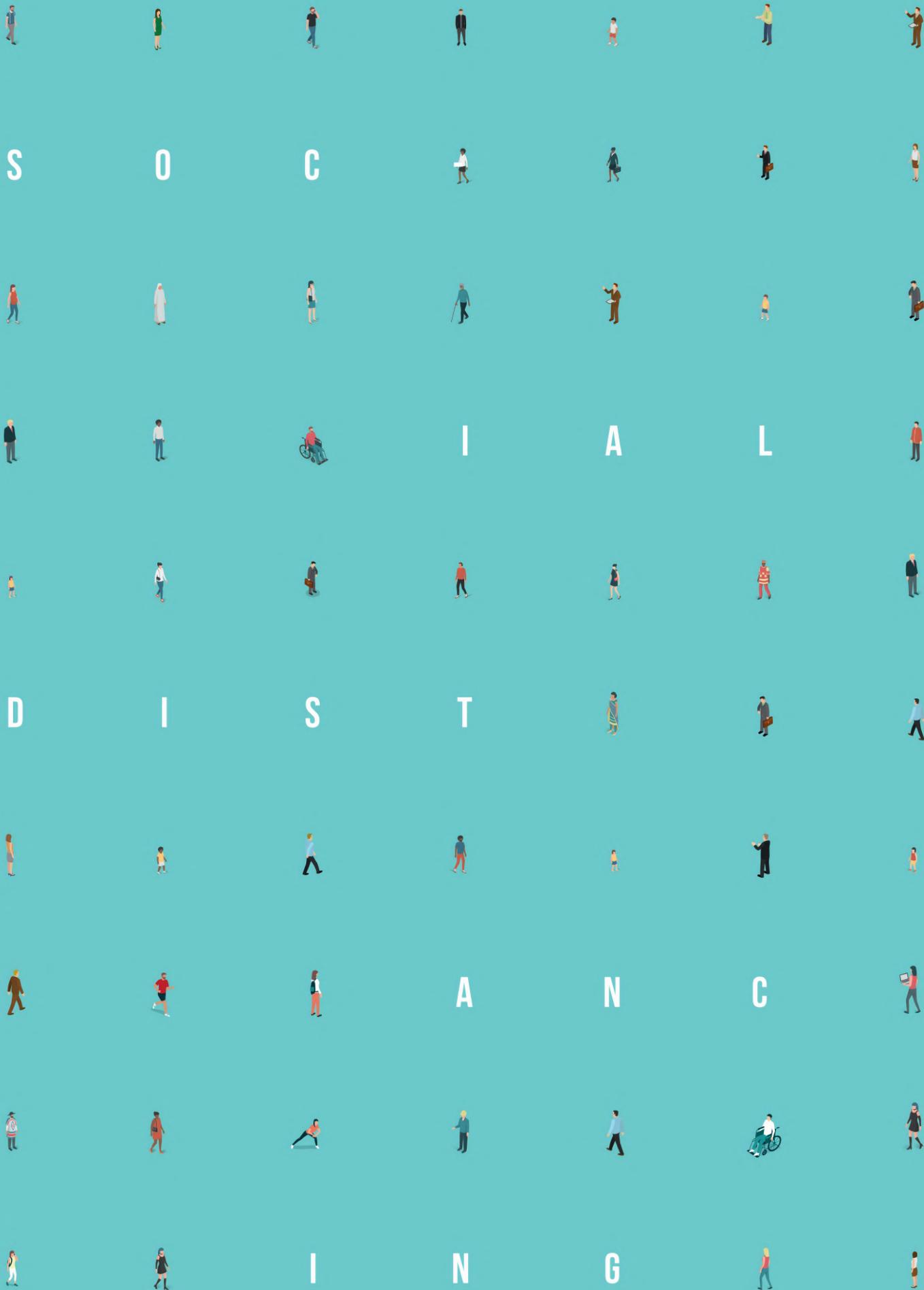
Less young workers (in the public sector the average age is 50,4 years) may have struggled to face alone information technology topics, like different sw platforms, video calls, etc.

In a study made by Intesa Sanpaolo Innovation Center – Neuroscience Lab in collaboration with IMT Scuola Alti Studi Lucca in 2019\* the perceived loss of efficiency in the working sphere relates to technostress, but also to a loss of self-confidence and with the tendency to be close to innovation.

\* In collaboration with Intesa Sanpaolo Health and Safety Department; «Interaction between man and computer and implementation of new applications and technologies», April-January 2019, study on 55 subjects of DC TA Health Safety and Environment



\*\*SR = Self-Reflectiveness, predisposition to critical evaluation of own beliefs and opinions



# The Next New Normal

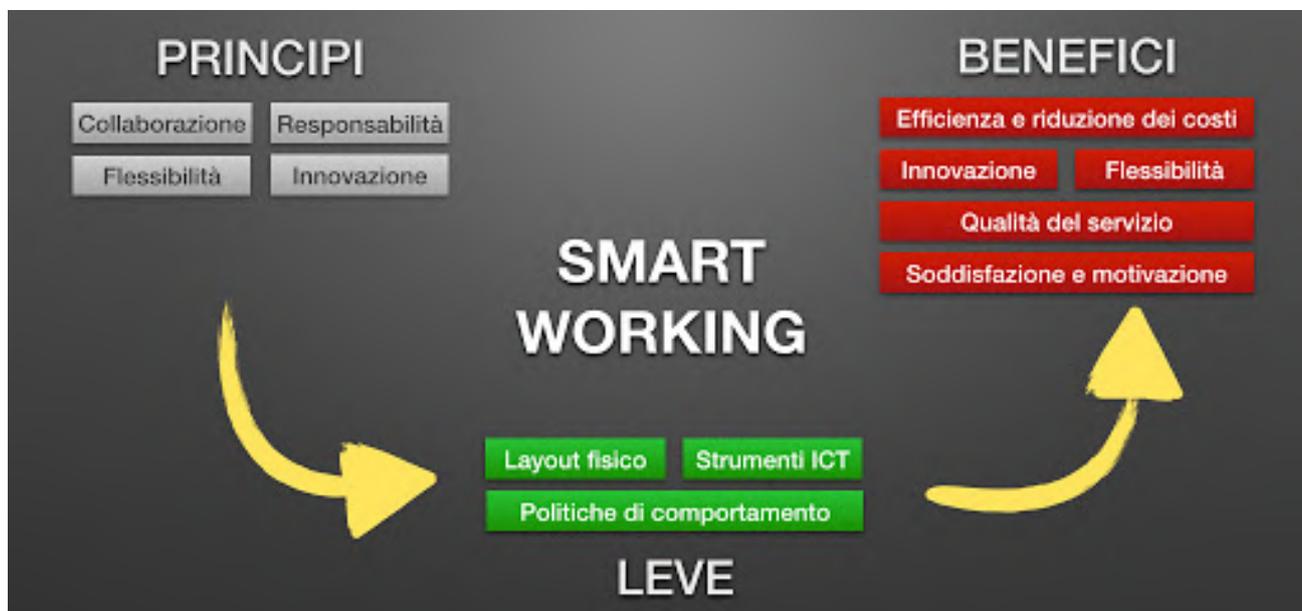
## REDEFINING PROCESSES, FUNCTIONS, AND ROLES

Despite the described «collateral effects», the application of smart working during the pandemic, even though a forced emergency measure, demonstrated that it is possible not only to work differently, but also more desirably.

Nevertheless, the step from contingency to stabilization **requires the development of a structural model**, whose basic principle is that smart working is not the target, but the mean. In this perspective, to reduce risk of dysfunctional processes, **the model must be functional, rational, programmed, with peculiar modalities derived by its characteristics and instruments.**

In this perspective it is necessary to redefine:

- leadership;
- working teams;
- employee;
- communication;
- workplace.



Riferimento: <http://www.mauropelucchi.com/blog/smart-working/>

# Rethinking leadership

## FROM MANAGER TO LEADER

The change deriving from smart working needs a shift from a present and direct-business oriented management to a trust-, collaboration-, flexibility- and delegation-oriented one.

The manager assumes more clear characteristics and functions of the leader to foster synergy and new team culture.

«Leadership is the powerful combination of strategy and character. But if you must choose which one to live without, live without strategy.» - Gen. N. Schwarzkopf

## WHICH STYLE?

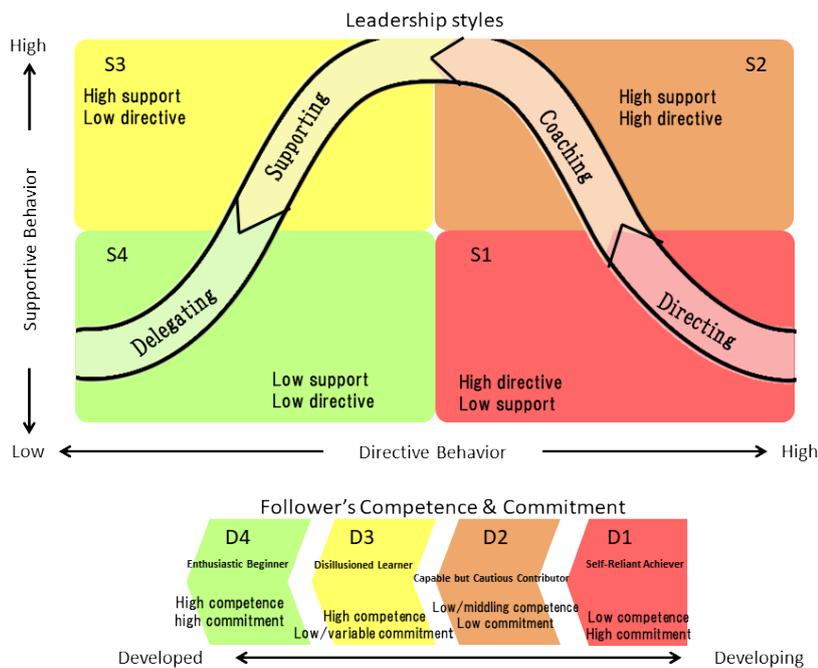
According to the classic theory, the leadership style can be described concerning two variables:

- directivity (high/low directive);
- supportiveness (high/low supportive).

These functions need a reinterpretation in a smart working context.

**Directivity** should be interpreted as the ability to orient processes, both decisional and productive, holding a clear vision reflecting the mission of the working group, to make everyone operate autonomously and in the same direction.

**Supportiveness** must be reinterpreted by the leader as the ability to deal with an efficient but not invasive communication style, especially remaining accessible as a point of reference and support, granting the identity of the team.



# Rethinking leadership

## THE FUNCTIONS

More specifically, the new smart leader functions assuming relevance are:

- **Informative function:** leader as a neuralgic center of the information network;
- **Decisional function:** leader as a protagonist of the decision-making process to determine the strategy and resolution of problems;
- **Relational function:** leader as a center of the network of internal and external organizational relations.



<https://www.maticmind.it/smartworking>

## The next new smart leader

Pragmatically speaking, this implies that the leader will have to:

- **Rethink the activities in terms of tasks, phases, and objectives** to reach singularly, with the employee at the center, guided by his capabilities and sense of responsibility;
- **Assess employees performance through teal productivity and no more physical presence;**
- **Account for the group dynamics**, dealing with activities and people beyond the physical distance, favoring affiliation;
- **Be present but not invasive**, hence in coherence with the autonomy which is integrating part of agile working;
- **Plan video calls and meetings** to strengthen the sense of collaboration between colleagues. In a virtual working environment, the focus on activities might obscure the relationship area, resulting in remote workers feeling treated as a mere "gear of the engine", instead of an essential part of the team;
- **Provide frequent feedback** to employees, not much related to the time spent on the job but rather on strategies to make the work more productive.

# Re-thinking the smart worker

## NEW FIELD, NEW GESTALT

Classic theories conceive groups as «gestalt» («form», in German), the concept in which a structured totality, a unitary set, is something more and different from the set of isolated elements or the sum of its parts. Hence, the group constitutes an entity with its own identity, common thoughts, and dynamics, different from the singles making it up.

Since every gestalt assumes meaning based on its background, the individual is influenced by thoughts, behaviors and actions by the group and the context of which he is part. The context defines a «psychological field» whose definition, in a bidirectional relation, contributes to every individual that is part of it.

In the virtual interaction the «field» assumes characteristics different from the ones of traditional working contexts (identified and defined also by a common physical space, similar hours, working routine, etc.), hence produces a new «form» of the working team, based on elements interpreted in function of the new environment.

## The next new smart team

### CHARACTERISTICS OF THE VIRTUAL PSYCHOLOGICAL FIELD

**Reducing emotional tensions:** employees mirror themselves less in their colleagues (attenuating strong bonds).

**Reduction of information vehiculated informally.**

**Selecting salient information,** functional to a rational and calculative approach by the members.

**Reducing the groupthink:** the group is less united but also less biased towards decisions, in which the virtual interaction allows to reduce cohesion and judgement errors deriving by an excessive one.

In other words, virtual interaction allows members to conserve cognitive differentiation.

**Emphasizing in/out-group dynamics,** given a geographic and/or logistic «segregation».

These characteristics are neither positive nor negative per se: by conscientiously using such dynamics, the team might assume a new, peculiar, and functional identity.

# Rethinking the smart worker

## NEW DYNAMICS

Virtual interaction can magnify the economic potential in relational terms typical of weak bonds: **more fluidity and dynamism in remote contact**, representing a privileged entrance of new information, new knowledge, new opportunities.

Virtual interaction facilitates contacts with people external to our working context. Once, to meet we had to travel; **nowadays the virtual contact allows for more dynamism, immediateness, and agility... and exposition to novelty.**

More virtual contact with weak bonds causes a sure increase in the noise, but at the same time exposes individuals to new **«happy accidents» and manifestations of serendipity.**

## A CONSCIOUS AND MOTIVATED ADAPTATION

We noticed that, by changing the psychological field also habits, references, expectations, rules, routines change. This might create disorientation, confusion, sense of loss of control.

Temporal flexibility characterizing the smart working can paradoxically disorient and bring to inconclusiveness, just like the fluidity of the working and familiar spaces facilitates distraction. But **flexibility does not mean chaos**: the smart worker will have to carefully plan daily actions and objectives, realistically realizable.

Hence, not only the business and the leaders have to modify their approach to the smart worker, but also **the individual must redefine a new own image, of his functions and working modalities.**

First of all, it is necessary to **welcome with conscientiousness and personal motivation** the new modifying our daily habits in terms of times, spaces, organization of the day, to avoid reactions of frustration. Our brain needs to adapt to change, especially when the preceding daily routine radically modifies.

# The next new smart worker

## DEALING WITH FLEXIBILITY: SUGGESTIONS AND INDICATIONS

**Plan the activities accurately**, specifying short-, medium- and long-term work methods.

**Establish hours.** It is not necessary to stick with office hours, but rather understand the times when we are more productive and disciplined. Alternatively, we can maintain the usual hours as we were going to the office.

**Account for pauses:** it is important to account for brief pauses each 45-60 minutes, to stand up and take a walk. Remote working gets our mind and eyesight tired: pausing is good to raise the information retention capabilities allowing more focus and productivity.

**Separate moments of working activity by those in the private sphere:** this allows to reduce possible interruptions and to avoid the risk to be "eaten alive" by work.

**Organize the environment** both in minimizing distractions and maximizing comfort by setting optimal lightening and ergonomic furniture.

**Work in the same workstation as much as possible.** It is highly recommendable to find a reserved area for operations, so to create effective borders that are tailored to the working needs.

**Keep an adequate posture**, do not sit in non-ergonomic postures (like sofas or armchairs), keep the correct head posture both when using electronic devices and when reading (do not keep your head inclined, but rather use a slightly raised support for your device).

**Stay in contact with colleagues** and/or your team and/or clients, more than once per day; this allows you not to feel isolated and favors useful feedback exchange to keep a high motivation.

**Train your focus.** Better to work on one task per time, with a serial method rather than in parallel, thus avoiding multitasking and continuous attention set-shifting. There is evidence that using multiple technological devices frequently and simultaneously is correlated to modification of anterior cortical region which, in turn, would bring to a poorer capability of cognitive control and a decreased social interaction capacity.

**Bid on self-discipline:** it is indispensable, for example, to set some rules, like deactivating notifications, if we are doing a delicate task as writing; when at home, it is good to avoid television switched on, for example, establishing moments of pause to consult social networks or read news, etc.

**Review our prefixed objectives at the end of the day** and make, at least periodically, an efficiency analysis to be conscious of the progress and mistake made.

# The next new smart worker

## FUNCTIONAL PRINCIPLES

Communication rules and form assume different characteristics in smart working, both as a function of the new group gestalt and the virtual tool.

Communication will result to gain efficacy if the following aspects will be accentuated consciously:

- **Cooperation principle**, sharing some rules and basic assumptions, for which the partner implicitly follows a principle of cooperation, hence allowing everyone to give their contribution properly focused on the context and the scope of the conversation;

- **Principle of pertinence**, in communication inference processes. are always activated to comprehend the intentions of the speakers. Hence, these must always be clear and never subtle.

Each participant should focus on three aspects:

- The communication objective;
- The communication context;
- The specific interlocutor we are talking to.

# The next new smart communication

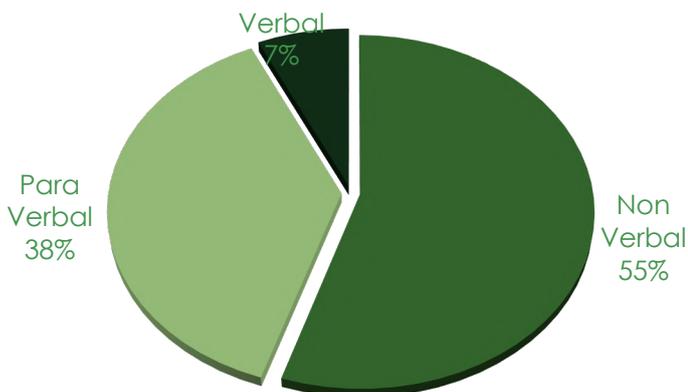
Remote communication methods assume a different configuration compared to vis à vis.

Methods that are not used in virtual communication:

- proxemics;
- haptics;
- posture;
- gesture.

Methods to use in virtual communication:

- prosody;
- voice tone;
- timing of conversation;
- facial mimics;
- eye contact.



*"In virtual interaction, most of the non-verbal message we usually and often unconsciously rely on, becomes secondary. In remote we find an increased probability not only of efficacy but also of misunderstandings and equivocations. In any case, the effectiveness of the verbal message might result notably weakened, if we use the same «rules» of physical communication"*

Regola di A. Mehrabian (docente presso l'University of Los Angeles).

# The next new smart communication

Other measures favoring effective communication in smart working are:

- Communications are preceded by a daily lineup;
- The messages are precise, concise, and specific in the terms to be used;
- The voice tone is more expressive and incisive;
- Pauses are minimized;
- In the case of video call, the posture is frontal and centered;
- A correct alternation of verbal exchanges is respected, with no overexposures;
- Informal and expressive communications are inserted;
- Forms of metacommunication (irony, sarcasm) are avoided or reference to episodes or people whose connotation is not explicitly shared;
- Keep in mind that, in the case of video calls, being at home (or in another place) does not mean we are not seen. We must hence avoid expressions or behaviors resulting not appropriate for the situation.

# Rethinking the working place

## VIRTUAL SETTINGS

The setting is central in any narration: it includes spatial, temporal, and relational dimensions. The setting determines the rules, expectations, and interpersonal dynamics.

In traditional working methodologies the setting, including elements like desk, furniture, the spatial position of the room, create a mental habit and denote the work activity and the relative operative expectations.

In the smart working methods, the physical setting is substituted by the mental (or virtual) one: it is not the place defining the activity, but rather it is the activity defining the place. The workplace might change time by time, not losing its connotation because inside our mind.

This needs focus, auto-determined rules, and a clear mental asset with well-defined «borders».

## FROM WORKPLACE TO WORKSPHERE

As highlighted in the concept of gestalt, the organization is a set of conversations. This means that the organization is made not only by its formal structure but by all its internal network. And this is made by formal and informal conversation, internal communication, business speeches, myths, rituals, and organizational stories, up to the chitchat at the coffee machine.

All these elements gain importance, structuring and propagating business culture, consolidating the existing hierarchies and creating new ones, contributing to the born of new ideas, but, most important, constituting essential moments of sociality for the workers.

The new next smart working will hence account not only for the virtual spaces in which to share and deposit information, files, etc., but also for the opportunities and spaces of socialization, virtual and non.

The construction of polyfunctional Hubs, equipped with modern workstations, cafeterias and restaurant areas dislocated in various areas of the city might allow the managers, freelancers, and employees to meet and discuss at lunchtime. Or also it is possible to share a coffee realizing the crossroad effect which generates relations, connections, and ideas.

## FROM OFFICES TO URBAN STRUCTURES

Another ongoing change is evident: the smart working will have a net effect on the «architectural dimension» of work.

Organizations are preparing to translate the new habits and expectations from the employees in a new working approach. Based on the results of the Smart Working Observatory of the School of Management of Politecnico di Milano\*, one over two big business will intervene in the physical spaces when the emergency is terminated (51%) by differentiating (29%), amplifying (12%) or reducing (10%) the spaces; 38% will not change architecture but rather methodologies of use.

There is increasing attention towards creating smart workplaces, likely to become multifunctional spaces, for finalities of different interactions not characterized by a specific identity, neither personal nor corporate.

The interface design represents a new research frontier. The design of digital affordances projects us towards new digital ergonomics. For example, we are proceeding towards the use of binocular visual interfaces allowing for a 3D immersion into virtual spaces. A head-mounted display makes it possible, for example, to have a remote meeting through an avatar in a virtual environment simulating the real one.

\*<https://www.osservatori.net/it/ricerche/comunicati-stampa/smart-working-emergenza-covid19-new-normal>

# Which activities to prefer in smart working?

One of the most frequent questions made by businesses nowadays is **which activities are best suited to smart working**. The question is complex because not only the activities are incredibly varied - the reason for which universal criteria cannot be applied - but also the same organizations and their units present specificities that make it difficult to express generalizations. To this, we must add the personal characteristics of each employee. Certainly, the experience of these months induced us to think that the next new smart working, based on solid principles and indications, such as on the evolution of technological devices, opens to always higher potentials if compared to what was conceived a few months ago. We will account for task-related factors and personal factors. It is the interaction between the two elements to make effective or non-effective the smart working flow. For example, the same activity, made in smart working by two subjects presenting different personal characteristics might have a quite different outcome in terms of efficiency.

## TASK-RELATED FACTORS

The **Media Richness Theory** suggests that when the interaction between two individuals needs uninterrupted feedback for which the information of the one becomes essential for the activity of the other, a rich face-to-face method might be desirable. When instead the tasks between two individuals are parallelizable or sequential, it is possible to use virtual interaction or less rich mediums (like e-mails). Other specific factors to consider are:

- 1. The potential of remote working:** it represents the pragmatic dimension. It evaluates:
  - The use of tools favoring smart working (PC, email);
  - Organizational degrees of freedom;
  - Necessity of presence in the working place (related to the use of machinery, equipment, vehicles);

**2. Interaction:** it identifies the interaction in the working place between colleagues and managers.

It evaluates:

- The possibility that some types of relations, normally vis à vis, might be mediated by technology;
- The role of the empathic relationship and emotional contagion;
- Confidence between interacting subjects.

**3. Autonomy:** it indicates the measure to which the execution of a task or the reach of an objective is assigned to the single, with no contemporary interaction with others.

## PERSONOLOGIC FACTORS

Nevertheless, in the optics of the next new normal, smart working is a mean, not the end. On the contrary, the central element remains the human factor. The psychological theory of regulatory modes indicates two dimensions as potentially relevant.

**Locomotion:** the tendency to act impulsively, to attack situations, to see less the risks and more the opportunities, to be individualist and count on oneself. People with high levels of locomotion are less propense to see the dangers, are used to not stay still even if the situation becomes difficult and different from the usual one, they have less tendency to the routine. They must be motivated so to allow them to give their best contribution, at the same time trying to avoid risks.

**Assessment:** tendency to ponder, calculate, predict, build routines, try to avoid risks, coordinate much with others. Those with a high level of assessment always seeks the possibility of mistake. These subjects must be sustained emotionally and psychologically, must be reassured, they must be provided with strong reference points and stable and predictable procedures.

# Which activities to prefer in smart working?

## PERSONAL FACTORS

In general, the personal factors necessary for a good adaptation and good productivity in conditions of smart working are:

- flexibility;
- autonomy;
- trust;
- responsabilization;
- collaboration;
- optimization of tools and technologies;
- result-orientation;
- ability to work per project;
- ability to focus;
- ability to self-evaluate.

The characteristics above are in part temperamental and can not only be individuated through specific tests. In any case they can be trained and developed with dedicated teaching paths.

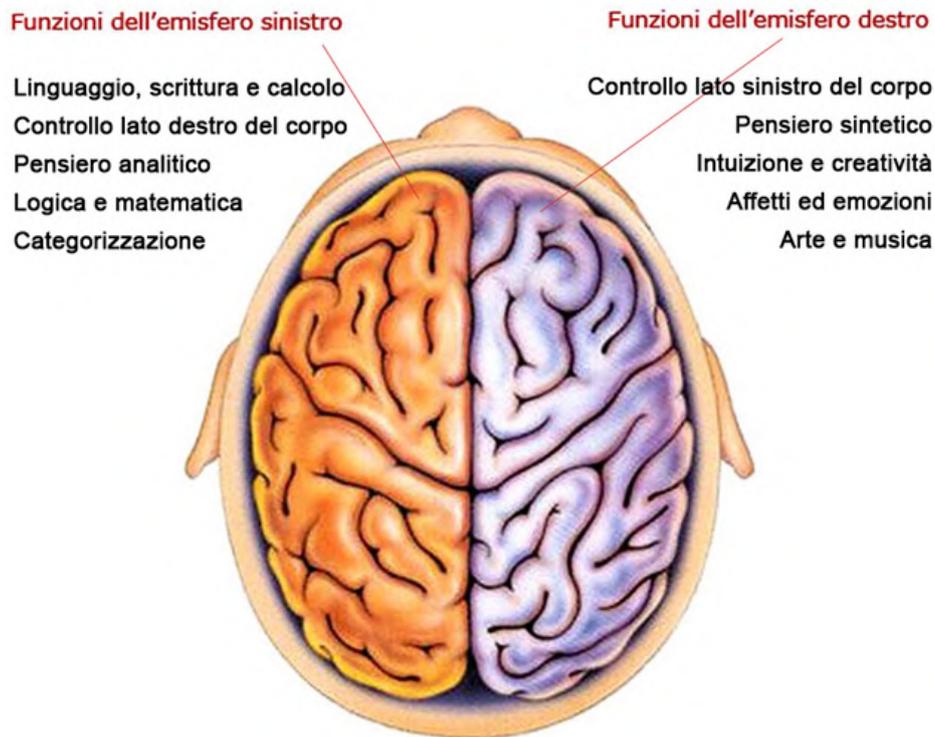


# Beyond technologies: brain functions most involved

No evidence is supporting the hypothesis that smart working activates different neuropsychologic areas compared to other working situations.

Nevertheless, as a function of its peculiar characteristics, it is reasonable to hypothesize that it **mostly stimulates certain cerebral areas, based on the activities to make.**

In general, if on the one hand, we can hypothesize **a greater activation of the left hemisphere** for all the tasks requesting logic, application of a rule, seriality (for ex. Application of programs, data analysis, etc.), on the other hand, we can imagine that tasks requiring more creativity, inventive, new solution research (for ex. Brainstorming, graphic tasks, etc.) **involve majorly the right hemisphere.**



<https://blog.libero.it/ALFCOSMOS/13479700.html>

# Beyond technologies: brain functions most involved

## EGOCENTRIC AND ALLOCENTRIC NEURAL NETWORKS

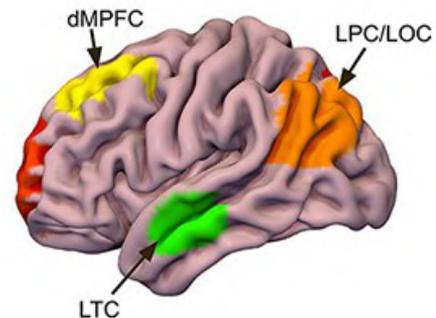
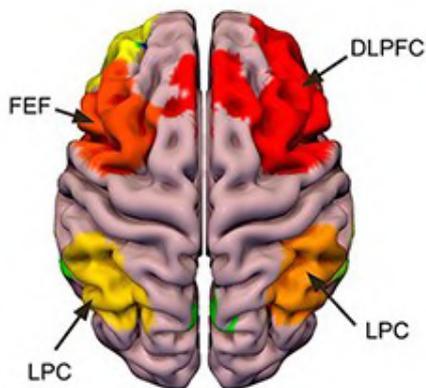
Working in autonomy and mostly alone can induce us to hypothesize an alternate activation of two complex neural systems: the Executive Control Network (ECN) and the Default Mode Network (DMN).

The ECN involve frontal, lateral pre-frontal, and parietal areas. Its activation is related to executive functions, like focus, problem-solving, working memory, planning, cognitive control.

**It is more active when the attention is focused on external stimuli (allocentric).**

The DMN involve frontal, medial pre-frontal, and temporal areas. Its activation is prevalently related to auto-reflexion, imaginative activity, mentalization, memory.

**It is more active when attention is focused on internal stimuli (egocentrica).**



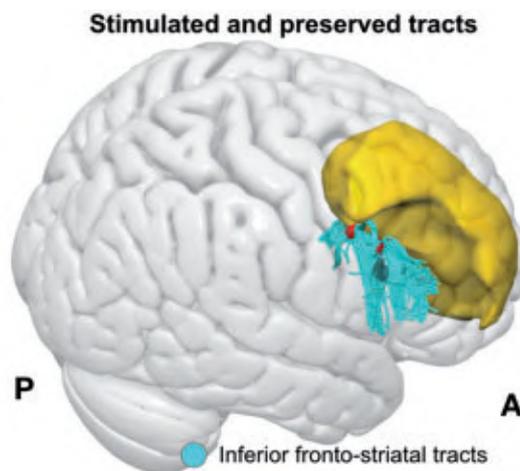
Brown CA et al. (2018) *Cortex* 104: 58-74; Brown CA et al. (2019) *Neuroimage* 195: 320-332

# Beyond technologies: brain functions most involved

## EGOCENTRIC AND ALLOCENTRIC NEURAL NETWORKS

Furthermore, smart working, both carried out at home or in a hub, surely requires an elevated effort in terms of focalized concentration, which in turn implies the suppression of irrelevant or interfering environmental stimuli and the inhibition of the related reactions. Such a top-down cognitive control function is exemplified by the so-called cocktail party effect, which is selective attention, making it possible for people for example to focus on the voice of the single speaker.

A recent Italian study\* discovered that the cortical-striatal bundle, involving the right frontal inferior gyrus, plays a role in the suppression of interfering stimuli.



Puglisi et al., Brain (2019) 142(8):2451-2465

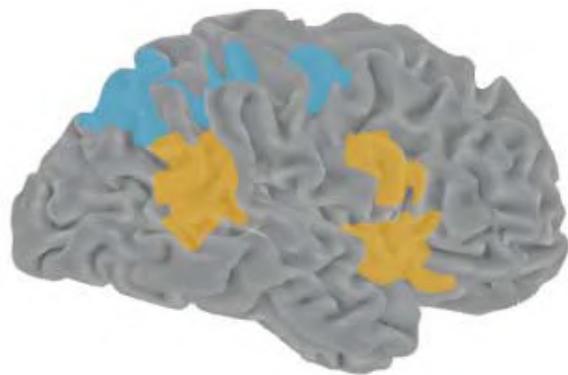
# Beyond technologies: brain functions most involved

## GOAL-ORIENTED AND STIMULUS-ORIENTED NEURAL NETWORKS

Smart working, as a function of its continuous interaction with technologies, implies a prevalently visual perceptive activity. Cognitive-perceptive strategies are activated to search and identify target visual stimuli, stimuli of interest for the scopes of the task (goal-oriented activity).

Nevertheless, especially in smart working, the stimuli to which we are contemporaneously exposed (e-mails, reminders, etc.) are very frequent and must be detected in their salience. We can hence hypothesize an alternation of two systems of attentive regulation: a goal-oriented one and a re-orienting one for unexpected salient stimuli.

Areas in blu represent the frontoparietal dorsal network aimed at the research and identification of target stimuli (goal-oriented selection). The areas in orange represent the frontoparietal ventral network aimed at re-orienting attention when unexpected salient stimuli happen (re-orienting activity).



Corbetta and Shulman (2002), Nature reviews Neuroscience 3(3):201-15

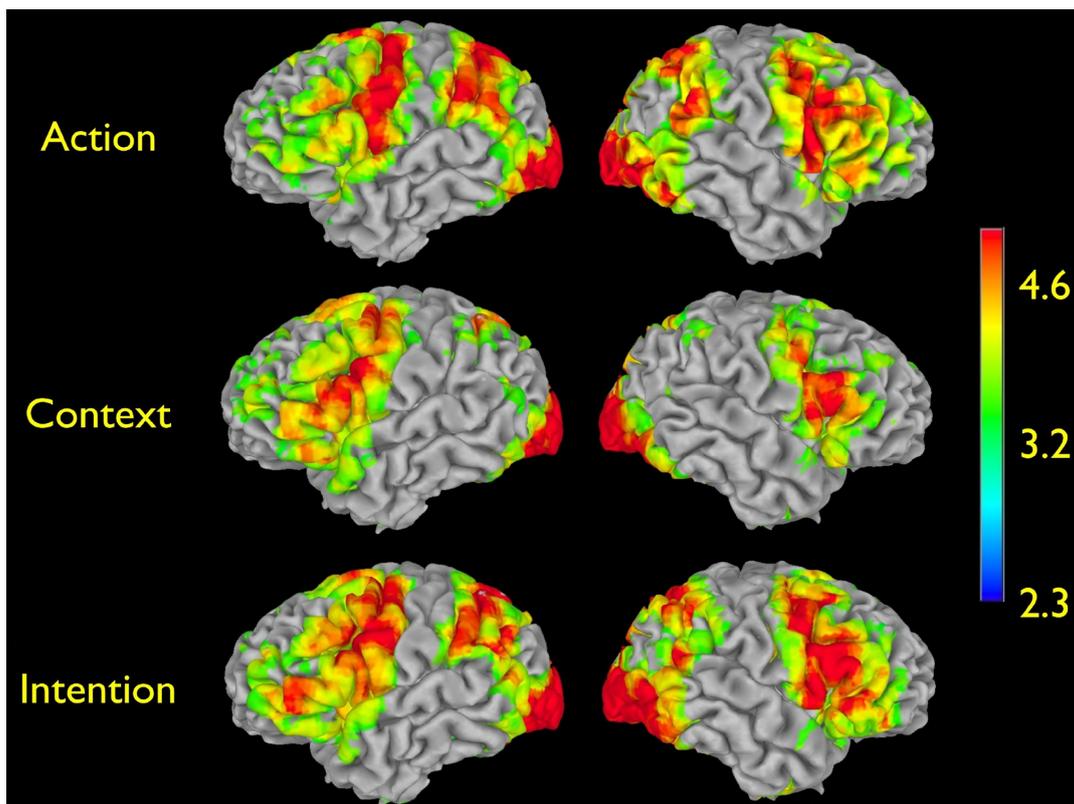
# Beyond technologies: brain functions most involved

## MIRROR NEURONS

Working autonomously and remotely probably stimulates fewer other functions, for example, empathy and hence mirror neurons, usually engaged in social situations of direct interaction, for the de-codification of intentions, emotions, and others' actions. Nevertheless, it is likely that in specific activities in which intrapersonal communication is central (for example education, coaching, brainstorming) especially when in videoconference mode, those areas designated to empathy get activated.

Activation of mirror neurons in situations of comprehension of others' actions, of the context and others' intentions

Iacoboni et al., (2005) Plos Biology





# Conclusions

The experience of the Covid-19 pandemic triggered **deep changes** at a social level, including the world of work, in particular smart working which, from occasional benefit, started representing a real **alternative to the traditional working methods**.

Nevertheless, this shift has happened, because of the urgency and emergency, **with methodologies often not programmed**, bringing to collateral effects of burn-out, technostress, workaholism, ageing effect.

If, on the one hand, uncovered the Pandora's box of infrastructural unpreparedness to the smart working of the Italian system, on the other hand, this situation revealed the **undeniable potentialities of smart working**, at an individual, business, social, and even environmental level. The coexistence of all these aspects have generated **conflict and resistance to change**.

Hence, it is necessary to redesign smart working **no more and not just as an emergency solution, but in a structural optic**, to exploit its potential as a form of work **to assist and integrate the traditional ones**.

This requires a new approach, systematic and programmatic, and hence a new working culture, **through which rethinking the roles of leadership and employees, the working place, communication**, with the adoption of new functions and operational strategies.

Potentially, many activities not requiring a physical presence in the working place by nature might be adapted in smart working, provided the respect of the above-mentioned principles. Because **the human element is back at the center of productivity**, individual characteristics represent the discriminant element, as much as the perception of personal advantage, not only in economic terms but also in terms of quality of life. Ongoing studies will make it possible to verify the degree of effectiveness of the single activities in smart working and the weight of personal factors.

**Technological innovations** will allow to dare beyond space-time borders and propose solutions and facilities to be exploited and to which rely on through specific educational courses.

**A specific formation** for the *next new smart working*, dedicated to all business levels, might represent an important step to face the challenge of a cultural and psychological change in the smart-working theme.

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