



THE IMPACT OF TECHNOLOGY IN THE HOME

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Bryan K. Sanderson CBE.
Home Renaissance Foundation



I am thrilled to be back with a new Communication Project to be shaped from start to finish with the immense good fortune of knowing that I am accompanied by the best in putting this report together.

As we often say, homes are multifaceted and many disciplines converge in them, and great challenges, that we at Home Renaissance Foundation want to tackle. Our aim, as you already know, is to give homes a voice and to influence the way we value and inhabit our homes.

The two previous communication projects, 'The Home in the Time of Coronavirus' and 'Caring at home for those with extra needs', were shared and downloaded thousands of times. This prompted us to continue working on this way of disseminating content through your testimonies.

The reviews of our latest book, 'The Home in the Digital Age' and the reflections we have received after its presentation in different parts of the world, reinforced our initial thesis: the incorporation of technology into the home is a crucial issue in the day-to-day life of households and it is necessary to continue generating material that serves to guide families, as well as to share the feelings of parents and experts.

We know that this is not a trivial issue, it requires both social and individual effort to get it right. Our future and that of the next generations' depends on the correct use of these technologies by both households and society. To this end, we must ensure that they are developed intelligently, with human needs in mind, and that they are integrated into our lives in the same way. This is not to demonise them, but neither is it to think of them as simple and innocuous tools. Their power is great and we have to learn to manage them.

As in most of the situations we face in life, not everything is white, not everything is black, but it is up to us to find the balance. It is an honour for Home Renaissance Foundation, and for me in particular as head of communication, to introduce you to those who are participating in this new project: experts with deep experience and knowledge of this subject ; parents who are overwhelmed but interested in learning and facing the dilemmas the new technologies raise for the family; psychiatrists who warn us of the dangers, and people whose lives have been changed for the better by technology.

Thank you to everyone who has so generously contributed their time and insight to this report. We hope that you will find this both informative and enjoyable reading.



MARÍA ZABALA

Journalist.
Madrid.

HOME AND TECHNOLOGY: TANGIBLE AND INTANGIBLE

María Zabala is a journalist and technology communicator. María has prepared a framework to help understand the time we are living through.

The word 'home' comes from the Latin *focāris* -from focus, fire, the centre of the house, where families lived-; it is the tangible (the dwelling) and the intangible (the characteristics and customs of the group that lives together on a daily basis). The word 'technology' comes from the Greek, joining *tekne* -technique, craft- and *logos* -science, knowledge-, understood as resources and ideas that serve to design objects that satisfy human needs. Home and technology have been living together for centuries, evolving symbiotically, undergoing a process of change mar-

ked by the generality that unites us all and by the individuality that differentiates each one of us. It is not something new, nor easy, nor quick. It is not a destiny; it is a path. History is a succession of 'normal' people doing 'normal' things in the framework of their time.

There is no doubt that 'digital' has been a revolution. With the creation and mass adoption of products or services marked by their connected aspect, it has changed the way we inform ourselves, consume, learn, work, communicate, express ourselves, relate, entertain ourselves, organise ourselves, even interpret ourselves. The home and family life, both tangible and intangible, have not escaped the impact of this digital revolution.

PREFACE

For better, because of the undoubted opportunities. For worse, because of the risks - how we use technology -, contact - people we meet in digital environments -, content - access to all kinds of experiences, whether we are ready for them or not - and contract - business interests and still weak regulation of what the digital marketplace does with the information we voluntarily or involuntarily contribute through digital activities -. The question of whether the home is ready to coexist with such fluid and ubiquitous technology, in the context of a digital society, cannot be resolved with a single, absolute answer.

On the tangible side, Internet access is growing in households – standing at 92% in the European Union and 77% of homes in the United States. Moreover, our homes have come to be defined as more or less “smart” depending on digital technology; beyond tablets, mobiles and computers, the smart home phenomenon is associated with security, surveillance, energy efficiency, cleaning, comfort, logistics and health products. Whether we are more or less prepared to introduce all this technology depends on two factors: that it is designed, regulated and marketed in an ethical and responsible manner, and that at a personal level we make an effort to understand how this

technological intelligence that we are introducing into our homes works - at least in part - in order to apply the limits of coexistence or interference that each of us deems appropriate.

In relation to what cannot be seen, but is lived - the intangible - technology has created new ways of organising family life and, especially, new ways of making a home. People live differently, live together differently, learn differently. The presence of digital technology alters customs, generates new conflicts and new concerns. Not because technology changes us, but because, depending on who we are, we live with it in different ways and with different consequences. As adults, we are faced with numerous decisions about how best to be citizens and parents, facing the advantages and disadvantages of the digital society. When digitalisation is done without thought or understanding, it can break ties, impose dangers, widen generational and socio-economic gaps.

If it has always been important to pass on values and healthy habits, by a good adult example, with gradual access to different experiences and progressive autonomy, today it is more important than ever, incorporating technology into the equation, as the environment in which our lives develop. Whether

PREFACE

we are more or less prepared depends on learning about the technology we introduce at home and understanding that, more than any social network, the particular connotations of each family influence their digital experiences. Our convictions, personalities, situations, concerns or naivety also determine the family's digital routines and, with them, the conversations and the experience that our children assume about the society in which they grow up. Moreover, there are specific situations - disabilities, problems, education, culture, character, resources, psychological or physical predisposition - that weigh much more heavily than the technology itself when it comes to measuring the benefit or harm of any activity, digital or analogue.

Beyond tangibles and intangibles within the home, families need more scientific evidence on the impact of technology and more information without sensationalism or prejudice. We need commitment and transparency from technology companies to defend the user. We need policies and regulations aligned with real digital use and more resources to improve the digital culture of families, the cybersecurity of our homes and equity in access to technology. We need them to stop considering that all families are the same. At the dawn of this new era, we need to decide whether technology determines everything and, above all, whether the digital life of our home creates panic, laziness, discomfort... or opportunity.

FROM AN

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POINT OF VIEW



MARIAN ROJAS ESTAPÉ

Psychiatrist.
Madrid.

EDUCATING ALSO MEANS POSTPONING THE REWARD

Marian Rojas Estapé is a psychiatrist and author of the best-selling book in Spanish in 2020 "Cómo hacer que te pasen cosas buenas" (How to make good things happen to you).

The home should be a physical, psychological, social and spiritual space. Parents should be the first educators. To educate is to turn someone into a free and responsible person. To educate is to provide children with values that do not go out of fashion. One loves as one has been loved; love is like a boomerang. Parents must have an educational model and fight to put it into practice but knowing that the best strategy is to set an example, which means the living out of values: fighting for a good relationship between theory and practice, between what

they say and what they do. A good mother and father offer more than a hundred teachers; they are a domestic university. The family should be a school where the best lessons for life are learned. And now we must apply all this to the incorporation of technology in our homes as well.

We must take advantage of the digital world so that it brings out the best in our brains and not the worst. Because the screen soothes us, the screen gives us instant gratifications that allow us to feel recognised, loved. But beware of the hormone that underlies the screen: dopamine. It is the hormone of pleasure, related to rich food, wine, video games, things that make us have fun and enjoy ourselves. The "likes" on social networks are sparks of dopamine.

We must not forget that the networks, according to their own founders, were created to be addictive and in consultation, screen addiction is treated in the same way as cocaine addiction. These addictions go through the same brain circuits. Our brain is not immune to constant screen exposure.

And I am aware that technologies help and that they are good for many things, but we have to know how they work and how they activate our brain to cope in the best possible way.

Because we have become emotional drug addicts, we have become accustomed to receiving constant emotions and sensations. Companies realised this in Silicon Valley and transformed the economy into the attention economy. What matters to companies is to keep the user's attention for as long as possible on a screen. And it is much easier to capture our impulses than to master them. Instant gratification, I want it and I want it now.

But if we think coldly about the only two things that really make us happy in this life because they fill the heart of a human being, they are: love (of a partner, of parents, of children) and a job well done, and neither of them are based on instant gratification. They are the opposite, I postpone rewards,

I work on patience, I wait and I do not receive all the time what I am looking for and what I want. They require time, time, time, time, and nowadays we don't know how to wait.

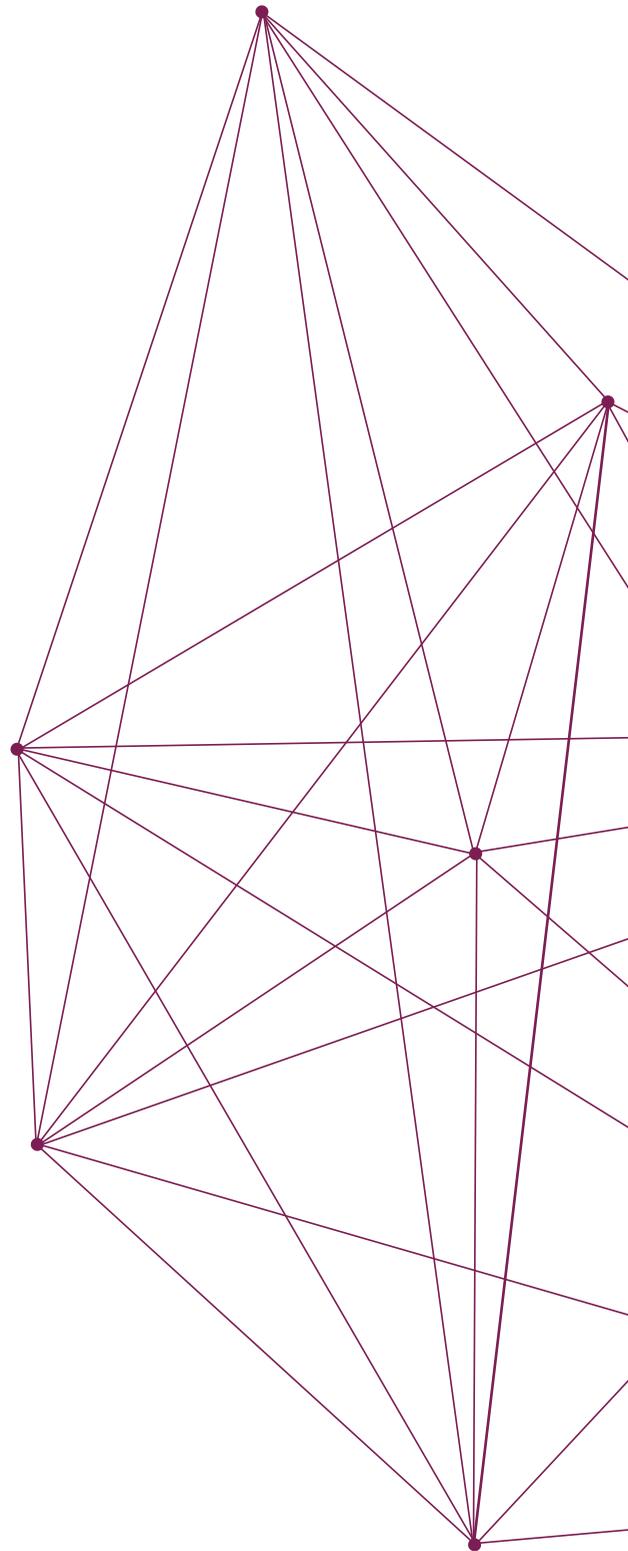
There is another area of the brain that is important to understand, the prefrontal cortex. It is this frontal area that is responsible for attention, concentration, problem solving and impulse control. It is what allows us to be superior beings. It is the one that prevents us from rushing to take someone else's food, seduce someone else's girlfriend, or steal someone else's things. It is the one that allows us to get out of the way of things that are not good for us.

This prefrontal cortex matures over the years and is activated in the baby in three ways: with light, movement and sound. What do we want from our children's prefrontal cortex? We want them to be able to pay attention to immobile things. If I give them a mobile phone when they are a few months or a few years old, I am overstimulating them, and there is a mechanism called "use it or lose it", which prevails with screens. We need to postpone the use of the screen by children. If we, who were raised without screens, depend on mobile phones, imagine children. It is I who dominate the device and not the device that dominates me. Bo-

redom is the cradle of creativity. We have to curb overstimulation. If we don't know how to manage stress, and every time we get angry, we pick up the phone, we don't know how to manage anxiety. Those who don't know how to manage these problems end up with frustration and tolerance problems. Screens bring very positive things, but we must be the ones to master the screens.

Here are three ideas:

1. Remove notifications from the screen as they weaken my prefrontal cortex.
2. Postpone the reward. I feel like something now, I don't do it. My father, who is a sage of willpower, says that "a strong-willed person goes further than a smart person".
3. Let's curate our attention. Let's reconnect with real life. Let's take time to ask people how they are doing.





ANA OYONARTE

Teacher.
Washington.

THE SELF-ESTEEM OF TODAY'S YOUNG PEOPLE DEPENDS ON THEIR POPULARITY ON THE INTERNET

Ana Oyonarte, a teacher at Our Lady of Mercy School in Maryland, is a mother of four children. She is confident that technologies are good tools for the future, but she thinks that good training is needed, and that schools and homes must share a good strategy and walk hand in hand.

Among the new challenges we parents face in educating our children is undoubtedly the integration of new technologies both at home and in schools.

My husband and I have been teachers in a primary and secondary school for many years, respectively. These years of experience as educators have allowed us to dialogue with other parents and to see what challenges await us as parents and educators of our own children.

With regard to technology, it makes us dizzy to see how every Christmas at school children talk about the presents they have liked the most and there is always a console, phone, video game.... It is clear that technology plays a very important role in the lives of today's children and we cannot deny them its use, but neither can we leave them alone without any kind of control.

We are tired of hearing doctors explain that we must be very careful with the number of hours our children spend in front of screens. Maintaining this control becomes more complicated as children get older. As a teacher, I realise how many activities children do at school in front of a screen. For this reason, we try to keep screen ex-

posure to a minimum at home during the week: no movies, no video games. As much as possible, we keep them from completing homework on the computer. And I know that my children are still young and for the moment, we are not experiencing the most difficult challenge: the time kids spend on their mobile phones.

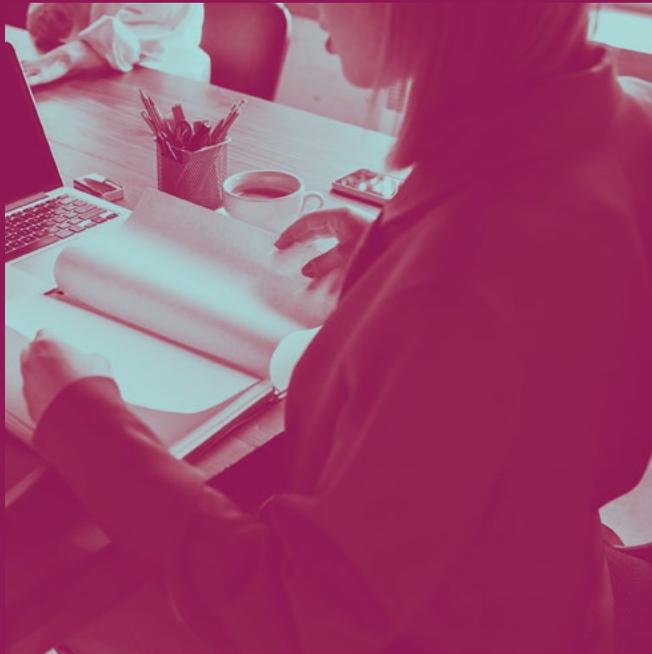
In our case, it gives us peace of mind to think that both my husband and I feel the same way on the issue of mobile phone use. Then when the time comes, we will establish clear boundaries and a thoughtful, coherent, seamless digital strategy.

But what really scares us is not the hours our students spend glued to their devices, but the things they do with them. They spend their time chatting, commenting or gossiping about the lives of their friends and strangers. No matter what activity they do, they do not value enjoying what they do or not, but rather being able to show their followers on social networks what they have done and get "likes". This creates a brutal dependency, they are hooked, and their mood and self-esteem depend, to a large extent, on their popularity on social networks.

My husband and I see this every day at school so we will try to delay our chil-

dren getting their own phones. We think it is very important to be able to monitor not only how much time our children spend on their phones, but also how they spend that time: which pages they visit, which people they follow, which social networks they use. I don't think it is a question of "spying" but rather, having detailed information so that we can maintain constant communication with them about what they see and what they do on the net and thus be able to accompany them.

It is clear that education in the use of new technologies is not an easy task. I do not think it is possible or good to prevent our children from spending time with their friends online. But we will first have to learn how to use it properly in order to teach them, and the road should also be travelled with the schools so that the students, who are our children at home, feel comfortable talking to us about what they do with their time on the net.



MELANIE BLACKWOOD

Mother .
Londres .

A LOVE-HATE RELATIONSHIP

Melanie Blackwood, mother of four children, New Zealander and resident in the UK, conveys feelings about technology, especially screens, that many parents share: overwhelm, worry, fear. Such a response is understandable because, as well as being stressed by the absorbing role that these gadgets can play in the lives of our children and teenagers, we have just lived through two years in which our dependence on technology has increased as a result of the imperative need to carry on with our normal lives without being able to leave the house.

Today I only slept four hours, because in the middle of the night I attended my little sister's wedding, in the southern hemisphere, via Zoom. Travelling all the way to Australia to attend in person would have meant a two-week quarantine in a hotel room, with children. So, instead, my other sister and I toasted

with prosecco through a screen from this side of the world. It was very sad not to be there, but thanks to technology we were able to experience it with them. We watched my sister walk out of the house, in her dress and with a smile from ear to ear. We watched my father arrive in his smart suit and a ridiculous sun hat. We listened to the speeches and watched people get excited as ours were read out. This makes me so grateful for technology. Today.

But to date, I have had a love-hate relationship with technology, especially in recent times. We have faced a homeschooling problem, because until Covid came along, many of us parents had spent our lives trying to get kids away from screens, and instead, now everything was done with screens. From that moment on, the way we used screens, the amount of time with

them and the limits changed. Some of our old rules became impractical, for example the prohibition of using more than one screen in the room. I can't hide the fact that it has been difficult to regain balance and control of the screens afterwards.

Like most things in life, technology is a tool, and it's how you use it that counts. But I suspect I would feel less anxious if I gave my children a chainsaw to use, rather than giving them an internet connection. Monitoring, managing, limiting and deleting screens is now my biggest headache. It adds an extra level of anxiety for parents, we now feel like we have to be on our toes all the time. Jim Gaffigan, a comedian who uses family life for humour says, "if you want to know what it's like to take a screen away from a child, imagine you have an addict in front of you and you're trying to convince them to go to rehab". Some of my friends have resorted to locking safes for phones, but my husband and I just hide them, only sometimes we forget where they are.

I have tried various computer programmes to help protect my children, but sometimes those in secondary school have had to use their phones in class and have been mortified when parental controls haven't let them onto the educational platform they needed.

I have not given up on this quest for a better balance in family life. We are trying, but I feel we could do much better. I recently met a friend, a GP, for coffee and she just explained to me that she is using a new app to manage technology with her family. She inspired me and made me think that perhaps it is more necessary that we share among parents, formulas that work.

Of course, I haven't talked about all the advantages of the Internet thanks to which my children take drawing classes, baking classes and learn with documentaries. And, neither have I explained that a couple of nights ago, when I was asked at the last minute to send a power point with photos for my sister's wedding, instead of taking the iPhone away from my 13-year-old son and sending him to bed, I asked him to help me, late into the night, by teaching me how to create a PPT.



MEI LIN FUNG

People Centered Internet.
California.

THE IMPACT OF TECHNOLOGIES IN THE HOME - DO WE REALLY UNDERSTAND WHAT IT MEANS?

Mei Lin Fung is a board chair and co-founder (with Vint Cerf, considered one of the fathers of the Internet) of People Centered Internet. This organisation works to ensure that people are at the centre of the Internet as digital interdependence reshapes societies and economies.

When HRF approached us to participate in this project, we posed this question to our People Centered Internet community. Here are some of the reflections we received and our conclusion.

“The home is an ecosystem in which one lives immersed, trusting that it is useful, comfortable and safe. Technologies enrich that environment, whether we are at home or not. And technologies serve precisely that primary purpose. When well connected, technologies serve to amplify and multiply the desired effect: greater utility, greater comfort and greater security” Benn Konsynnski.

“The outcome of a successful coexistence between people and technolo-

gy depends on affordable and reliable Internet access and the capabilities of those home devices. Socio-economic differences, geographic and national access to the Internet and the ability to buy or not to buy technology mean that its impact can vary greatly depending on one's level of equity, fairness and convenience. These differences will determine how people take advantage of educational resources and interact with family and friends using technology as a tool" Toni Glover.

"While we may rejoice in the benefits of technology in the home, its proper use is based on assumed technical knowledge that some do not have. For senior citizens who are not 'digital natives' it may all seem 'very Martian' or even feel isolated in a world where many - but not all - are familiar with today's technology. This difference can also engender cultural isolation, as many cultural trends are transmitted and amplified by technology that some may not be able to use, or feel uncomfortable using" Samuel S. Visner.

One member of the PCI community told us that when his wife, an electrical engineer, suffered a brain injury, she went online to play memory games. She was trapped by a series of contests that sent her unwanted packets and up to 500 spam emails a day, with spam

calls every 5 minutes. This person suggests creating an alternative safe space where people can connect and engage based on mutuality, the ethics of cognitive-based empathy. A people-centred "Internet with purpose" is needed, a safe space for the young, the old and people with disabilities to connect. He fears for the 62% of older people who are on Facebook, who do not prioritise their safety.

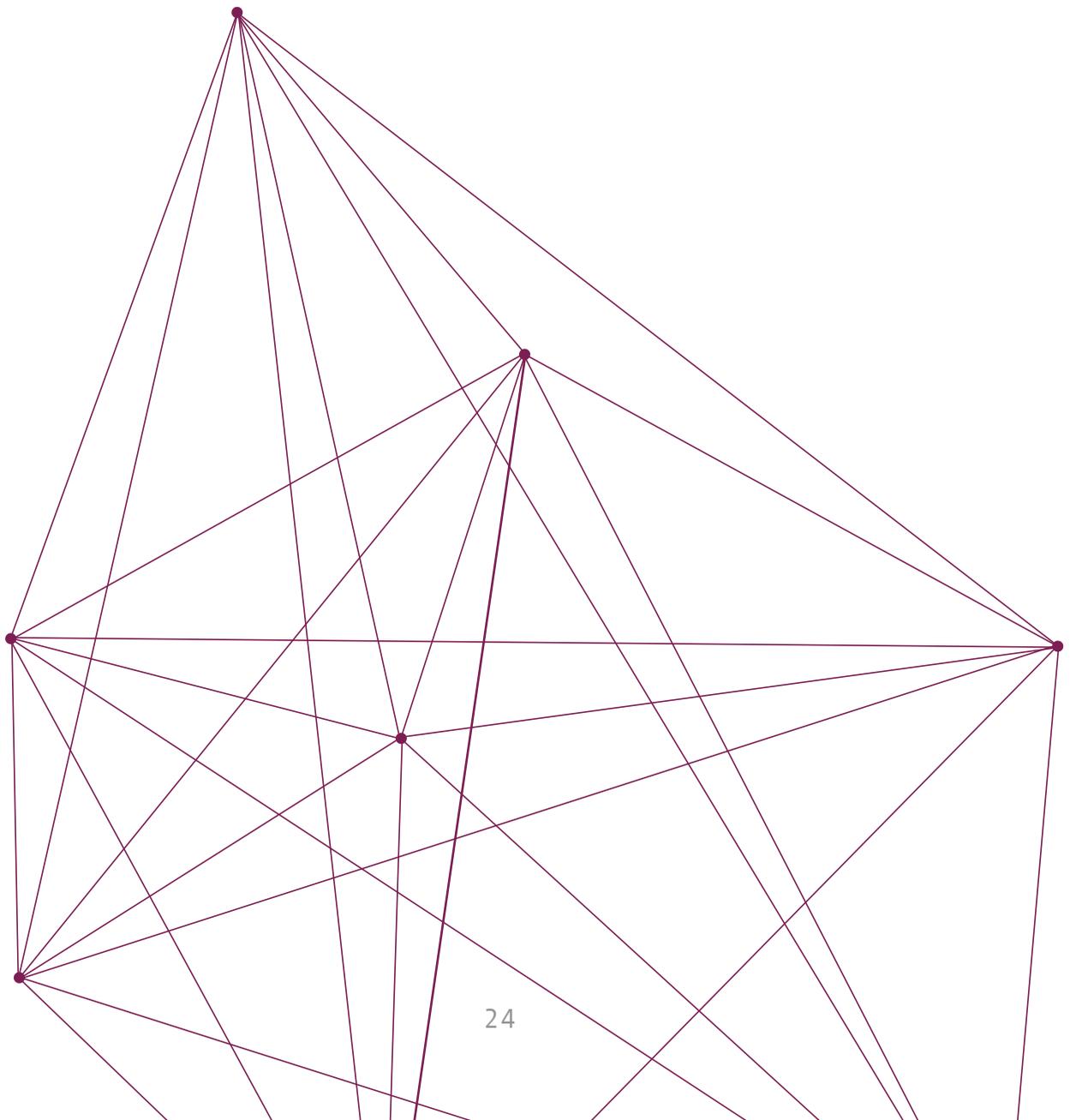
In the same vein, another member wonders "what happens to the billions of people on the planet who do not have access to technology, the Internet, electricity..." He also wonders what happens to people like his mother, who is 92 years old and can no longer use technology. He regrets that the digital divide is getting deeper every day.

"Augmented Reality (AR) will be the key to social intimacy at a distance, which the older generation needs in a profound way. A.R. will also enable a sense of comfort around technology in the home with voice-assisted devices, gesture recognition, gaze detection, step-by-step instructions, turn-by-turn directions and increased socialisation with our loved ones" Rich Green.

In short, our answer to do we really understand the impact of technolo-

gies on the home? is “not yet”. While accepting the benefits, we must bring technologies into the home with a spirit of open and cautious enquiry that prioritises ensuring that our way of living takes into account our impact on the present and future of people and our planet. My recommendation is to create Community Living Learning

Labs where scientists and our communities can together examine the impact of technology, not just in our homes, but throughout our lives, so that we better understand the unintended consequences of technology and prepare ‘safe spaces’ to enjoy the benefits without so many risks and dangers.





IGNACIO AIZPÚN

ATAM.
Madrid.

PEOPLE AND HABITATS

Ignacio Aizpún is CEO of ATAM, a private system of social protection for families in situations of disability and dependency. Aizpún reflects on the many possibilities that technology can bring to help vulnerable people.

All the organic molecules we know of are mostly made up of the same six elements: carbon, hydrogen, nitrogen, oxygen, phosphorus and sulphur. At the same time, we can consider that all living things on the planet share the same double replicative mechanism of DNA molecule and protein-catalysing enzyme. In turn, the same twenty amino acids constitute the proteins that make up almost all known living things. However, it is clear that there is a profound difference between a human being and a clam. The difference

lies not in the components but in the interrelationships of those components, that is, in the organisational pattern that determines the deployment of the organism and its interaction with the habitat. Humans have reached a unique level of sophistication and their achievements are unparalleled in nature because they have reached unequalled levels of complexity in the course of evolution.

According to some studies, two-thirds of the determinants of our state of health have to do with environmental conditions and our lifestyle, i.e. they depend on our relationship with the world. We are talking about a link with the habitat that is managed by our mind: the mechanism that controls our functional homeostasis.

This is the extraordinary impact that technology will have on our lives, particularly on the lives of those in the most vulnerable states of health. The technology will create a layer of monitoring of people and sensing of environments that will capture data about the state of the organism and the patterns that govern its interaction with the world. We will be able to move towards an understanding of the patterns that shape matter.

The key lies in the introduction of digital technology into our homes in a non-invasive way, so that we can obtain a myriad of data about the person, their activity and their context. This will need to be done while ensuring the physical, moral and informational integrity of each individual. The emerging technologies of the connected world and the exponential increase in our data computing capacity provide us with the appropriate technical tools to achieve this goal.

However, the creation of habitable, safe and healthy environments for human beings, respectful of the most fragile and guaranteeing people's integrity, requires action on a series of logistical and organisational elements. It will be necessary to deploy new models of personal autonomy support services, new care methodologies,

new operational systems, infrastructures, new working procedures, new training plans and a new culture that transcends the interpretation with which reductionist science impregnated the life and health sciences. In short, a new model of social organisation is required in accordance with the technological stage humanity is at. The good news is that this new model of entity is in the making. At every moment in its history, humanity finds the institutions it needs.



MEMÉ ALSINA

Quadriplegic
Barcelona.

BLESSED TECHNOLOGIES

Memé Alsina is the youngest of seven siblings and a quadriplegic since the age of two and a half. A virus affected her spinal cord and left her in a wheelchair. This changed her life and that of her family, but despite the difficulties, her attitude towards life has allowed her to move forward, study a career and work.

I always say that despite my situation I feel a lucky person, I have millions of reasons to be thankful every day and without a doubt one of the reasons that remind me that I should be thankful is having lived through this explosion of technological development.

I remember learning to use a typewriter as a child, but it was not something that excited me. Soon it was time to learn to use the first computers that arrived at home, I found it amazing to

be able to play those games that today, remembering them, seem to me to be from the Palaeolithic era but which I looked forward to with great excitement because they allowed me to spend a little time next to that screen.

Later came the world of the Internet connection; we waited nervously for six o'clock in the evening to arrive to hear that tone that would allow us to check our email or search for something in that new world that was beginning to open up. For me it meant a freedom I had never experienced before. Suddenly I could resolve doubts, write to people and play games. All of this without needing help, without having someone at my side looking out for me, and that was just the beginning. Since then, a world full of possibilities opened up for me, of new ex-

periences, of hope for a professional future. Because when you have a 99% disability, when even for the most basic things like drinking water or scratching yourself you need someone to help you, the world of technology is a vital element in your life.

I have never used many adaptations, a simple on-screen keyboard and a trackball are the tools that give me the freedom I find when I am at my computer. From the moment I am placed in front of this great ally, my laptop, I feel as if I can suddenly run or climb a mountain, I feel free with a million things to do, to explore and to know. I enjoy that intimacy that allows me to have everything just a click away. It's hard to explain, but for a person like me who can't do anything alone, to suddenly find that you can do everything is a very special experience.

I try to imagine for a moment my life without technology and a little shiver runs through me because now for me it is an essential element, it is a bridge to a much enjoyed freedom, they are wings that manage to lift me out of this wheelchair that has accompanied me for so many years, it is my ideal world without barriers.

And I take this opportunity to address all those who are dedicated to the

development of technology, please, keep us always in mind. When you design a new device or develop a game or create so many things out of nothing that we cannot imagine, do not forget those of us who can only move two fingers and we are also waiting for them. On many occasions, advances come along and people like me realise that no one stopped to think about how much they would enjoy and how much they would be excited about this novelty for those who encounter constant barriers in the real world. May technology not be just another barrier in this world, but may it help us to continue advancing and changing our lives forever.



NACHO GIL CONESA

Nachter, Influencer.
Valencia.

TECHNOLOGY, HUMOUR AND FAMILY, A GOOD BLENDING

Nacho Gil Conesa, better known as Nachter, has made technology and social networks his working tools. He publishes dozens of humorous sketches every day on different platforms that revolve around the home, relationships between siblings, and with the mother figure, on many occasions, as the protagonist. 10 millions followers on Tiktok, 2.6 million on Instagram and 2.2 million on Youtube.

My family would not be the same without technology. My father is -without a doubt- the one who started the computer and internet at home. He was fascinated by the world of computers

from an early age, when they were still complex machines to understand, where you could only see green letters on a black background. Even so, he saw enormous potential in this new world, a gamble that had a huge influence on my mother, my siblings and me.

From the time we were little, a huge computer always found a place in the house, as a cohabitant. What surprised my siblings and me most was the sound of Windows 98 switching on and off. He concentrated a lot on the computer, so it was best not to disturb him. For us, technology was a very serious world.

To our surprise, we began to see him laugh on occasion. After a laugh he would call us all and show us an email with a joke on a slide, funny videos, talented people, advertisements, and funny games.

From my father's hand we began to understand that technology was not what we thought it was. We soon discovered that surfing the internet was interesting and above all, it was fun. The humour that reached our screen was part of a vast sea that we could surf. Someone from far away was making jokes that reached our family. That's how I started making humour for the world, and little by little the rest of the members of my family followed me. I chose to make healthy, family hu-

mour, thinking that it wouldn't make anyone uncomfortable if it was shared between parents and children. Young people, especially pre-adolescents, consume a lot of videos on the internet and I wanted them to laugh in the same way as we have always done at home, with white humour. A humour in which we laugh at ourselves and our roles, at our absent-mindedness, our manias and the stories that happen to each one of us.

I used to make humour for 4 followers, now for millions, but who knows if anyone will remember me in two years. As for the rest, everything at home remains the same. In our case, technology, humour and family combine very well

FROM A

PRACTICAL

PRACTICAL

PRACTICAL

PRACTICAL

PRACTICAL

PRACTICAL

POINT OF VIEW



PATRICK SCANNELL

Technology Leader.
Washington DC.

TECHNOLOGY AND DISABILITY

Patrick Scannell has had a 25-year career developing and commercializing innovative technologies. He has led major transformative projects in a variety of tech categories, from the early days of the Internet to the Internet of Things, as well as next generation platforms including augmented reality. Over the last five years, Patrick has spent the majority of his time looking at the cumulative effects of technology on the human condition, and on human cognition specifically.

Human technology adoption, including in the home, is an immensely complex affair, and therefore has significant “unknowability”. While the definitions of complex vary, most differentiate it from complicated. A complicated system is one with many different parts with many interacting

degrees of freedom. Complicated systems can be modelled, understood, and predicted. A system is deemed complex when it can’t be modelled or predicted; it has emergent properties that can’t be understood. Home technology is increasingly complicated, complex, and constantly new, and frequently, disruptively new.

New technologies are developed to meet new needs or to serve new values. A microwave speeds up the cooking process, allowing for food to be prepared faster. The television provides entertainment, escape and information. The discrete values served by technology in our home now often serve an evolving and complex set of needs. A laptop is no longer just a productivity tool, and the smart phone is

no longer just for communications. Both serve a growing set of fundamentally human needs, including storing our most precious memories, connecting us with and representing those cultural aspects that we use to define our identity, educating us, and even serving the most basic of human needs via food delivery and dating sites. We have come to expect novelty and now depend on an increasingly refined and specialized list of content providers to meet our wide ranging tastes.

Technology takes investment, even on the adoption side. Every new “gizmo” or gadget needs to be learned, integrated into our home networks, and into our habits and lifestyle. Each one also has to be maintained to keep it operating, and constantly updated to keep it safe from an increasing number of external threats. Each new technology expands the threat surface of the home. This takes a growing amount of money, time and cognitive effort.

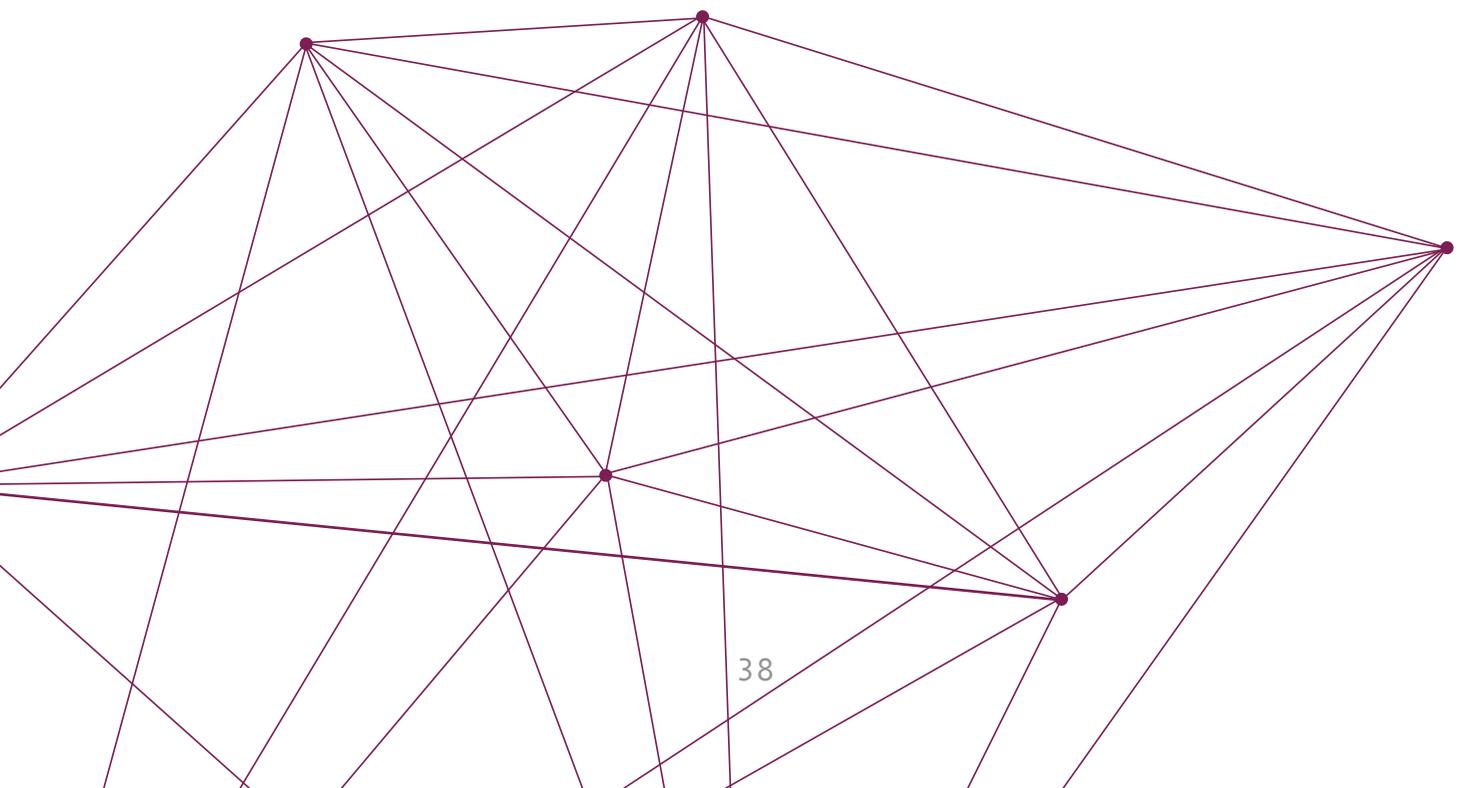
While technology becomes increasingly complex to meet our ever-growing needs, there is no sign that it leaves us better off overall. It allowed many (but not all) to maintain productivity and some semblance of education in new and unprecedented ways during the pandemic. And there is no doubt that technology provides for better objec-

tive circumstances most of the time, for most people. We may live longer, have better food, resources, and potential for productivity, but in America, as in other parts of the world, subjective measures of well-being, such as happiness, optimism for the future and trust in critical institutions are in the midst of long-term declines.

This is complex because there is a cascade of effects from the introduction of every new want and every new technology that we adopt to serve those wants. Those degrees of interaction have an emergent property: their effects on all of the other aspects of the home system cannot be modelled. Will video calls allow Mom to be recognized at work, getting that promotion she needs to meet the increasing cost of supporting the household? And if she gets that job, will that mean she is a better or worse mother - will she have to trade time with her family, or increased stress for that additional income? Will Tommy’s virtual schooling prepare him for college, or is he falling behind his peers? Does Suzie’s video game and social media habits teach her brain new skills, and allow her to connect to new people and information in useful ways, or distract her from real life, friends and a productive future that awaits her? What will happen to Grandpa’s quality of life as

he sits glued to one news platform and his increasingly polarized chat rooms? It's not possible to know the answers to these questions. The way they have been framed make it seem like we might guess where this is heading, but the very nature of the thing, its complexity, means we can't know.

Change is now so pervasive that we no longer have time or ability to adapt, assimilate and stabilize the new opportunities. Now instability is built in. What is needed is more work to understand this new territory and to create a map of how we can get to a more flourishing world for all.





ANNE ZAHRA

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HEAD AND HEART: NECESSARY IN HOME AUTOMATION

Anne Zahra is an Associate Professor at the Waikato Management School of the University of Waikato in New Zealand. She devotes her professional life to re-searching household work.

Using robots for housework, automating the cooking process and organising household chores on autopilot are not things of the future. Home automation has arrived and is becoming increasingly accessible and affordable. But we need to think about what they help us with.

Yes, cooking with a thermomix eliminates cooking on the cooker, reduces

the number of kitchen utensils needed and therefore the washing up after cooking. Moreover, if you can follow the simple and clear instructions, very little can go wrong, with the added advantage of having programmed recipes at your fingertips, however, the head is still necessary.

What healthy and nutritious recipes are suitable for my family and guests? What ingredients do I need? Who buys them and puts them in the fridge? Do I have the time to prepare and cook this particular recipe? Planning and organisation are still prerequisites that no one can do for you.

Home automation does not only require the brain, it also depends on our attitude and how we value the home, i.e. the heart.

OK, we have a thermo mixer, but among all the things I have to do today that demand my time, I have to want to prioritise cooking. Otherwise, the thermomix will sit on the kitchen bench and never get used. I will continue to resort to uber eats and/or packaged food from the supermarket. And this is where the heart comes in. Do I value cooking? Do I want to take care of myself and others with the help of my thermomix?

Another example is the robot Hoover that is finding its way into more and more households. The little robot cleans your floors, all floors, carpets and hard floors and even your stairs with its laser that can detect a change of surface. Sophisticated robots even mop floors and clean carpets. A great time saver, because the house is done while you walk the dog, play tennis or take your children to their after-school activities. However, I still have to think about the floors in my house, even if they are cleaned by a robot. How often do I have to vacuum? Which areas of the house need to be vacuumed most often? What is behind the different programmes for cleaning the

bathroom or kitchen floors? What are the limitations of the robot and where does the dirt accumulate? The robot, despite its complex programming, does not have a head for thinking. Nor does it have the heart to remind us that we are doing all this to take care of our family.

We are the people who, first and foremost by making hygiene and cleanliness a priority, set the robot to perform these tasks. And it is we who, with an intuitive heart, supervise all the household chores that are the hidden backbone of family life that make a house a home. Robots are here to stay, but for the moment, they have neither the head nor the heart to take care of the home and the family.



ENRIQUE ROJAS

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TECHNOLOGIES REQUIRE MATURITY

Enrique Rojas is a psychiatrist and Director of the Spanish Institute of Psychiatric Research. He uses everyday situations he often sees in Madrid to alert us to the fact that our relationship with screens requires maturity. He offers four pillars that we must cultivate in order to develop a proper attitude towards technology.

Modern technologies have brought us a great benefit as they facilitate communication in an extraordinary way. From mobile phones to social media, they allow us to communicate faster and more fluidly.

But legions of people do not know how to use these tools intelligently. As a psychiatrist, I see a lot of unhealthy behaviour in relation to mobile phones, for example. And this leads to lack of discipline, over-dependence and of course a certain addiction, which the sufferer denies. People who suffer

from addiction to these technologies do not accept this reality, which prevents them from modifying or working on this behaviour.

A common scene that I often see on the terraces of Madrid, the city where I live, is groups of young people sitting around without talking to each other, each one of them is devoted to his or her mobile phone. This is an essential misunderstanding. They meet to get together, but then they don't interact in person.

The good use of technology indicates maturity and psychological balance. Happiness, in a small way, means knowing how to govern these new technological means that are so useful. Happiness, in a big way, consists of having a life project based on four great pillars that are housed inside each one of us: love, work, culture and friendship.



MARTA SÁNCHEZ

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A SHARED CHALLENGE

Marta Sánchez is the Global Head of Retail Digitalisation and Distribution at Vodafone UK.

Before I started working in the telecommunications sector, I was quite pessimistic about the impact of technology on society. The data boom and the universalisation of the smartphone were turning us into always on. Personally, I was finding it difficult to separate my family and work life and perhaps because of this, I doubted the ability of each individual to set limits for themselves. Today, after more than a decade of being part of this world and having experienced from the inside very important milestones in the development of technology and communication (launch of 4G, 5G, high-speed

fibre...) my vision is more positive, but also much more aware of the magnitude of the challenge.

Digitalisation has transformed the way we communicate, how we learn, how we work. Technology has ceased to be the privilege of the advanced few to become an omnipresent and determining element in the way we live. Because of its social transcendence, the responsible use of technology is a central issue both for users and for the companies that are developing solutions and that cannot, and do not want to, remain on the sidelines of the growing concern among families.

All major technology companies have launched programmes to encourage

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the appropriate use of the internet, social networks, etc. among young people and are committed to maximising the positive impact of their products and services. Large companies in the ICT sector are revising their corporate strategies to clearly communicate their purpose as a company, their “raison d’être” and their goals for transformation and social impact.

The pace of change we have experienced over the last decade is not only not going to stop but will continue to accelerate. In a few years’ time, it is expected that there will be close to 50 connected devices per household. The demand for technology is accelerating and with it the number of developers dedicated to bringing to market solutions that are increasingly relevant to their users and more

robust from a security point of view. Companies are continually reinventing their design processes to better understand their customers and become more agile in responding to ever-changing demands. It is about being able to imagine what is not yet possible but could be; a process of continuous improvement and learning centred on the individual.

Increasingly connected individuals and households present new challenges for the future of families, but there have never been so many means available to prepare. There is a collective awareness of the risks inherent in the misuse of technology and a clear willingness on the part of developers to address them from the initial design process.

CLOSING REMARKS

I am delighted to commend to you this new communication report from the Home Renaissance Foundation. Our work on *The Home in the Digital Age*, supported by the Social Trends Institute, pioneered the now more widespread understanding of the home as the frontline of new technologies. In this report, the implications of increasingly digital homes are given voice through powerful and insightful testimonies. If the home is to be understood not just as another market, but as the place where life-long wellbeing is fostered, then we do well to take a discerning view of what comes through its doors - the challenges and the opportunities. We hope that this report will be a valuable resource for those working in this field, and for all with an interest in the fast-growing role of technology in the home. We hope too that it will be an even more vital reminder of the human work needed to engage with the challenges and to make the most of the opportunities on offer in our homes today.

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