



# Contents

	Executive Summary	4
Chapter 1:	Power It Yourself (P.I.Y)  Energy powered by smart tech	6
Chapter 2:	Balance and Being Physical and mental health-enhancing smart tech	11
Chapter 3:	Home Harmony Unobtrusive tech for stress-free and stylish living	14
Chapter 4:	Independent Futures Helping older adults and those with disabilities	17
Chapter 5:	Gourmet Cooking Consumers embrace low-intervention, high-reward cooking	21



## Foreword By James Kitto, Vice President, Head Of MX Division

There's never been a more revolutionary time for consumers to embrace the potential of connected living. Smart home technology is more sophisticated and innovative than ever, empowering people to save money and improve their lives.

At Samsung, we're constantly exploring what the smart home of the future could look like. With homeowners and renters looking to maximise the potential of their homes as we continue to make strides into an increasingly digital and automated world.

From automatic garage doors and motion sensors growing in popularity throughout the 70s, to today's seamless remote control and management of multiple connected devices via a single platform, the evolution of connected living continues at pace.

That is why we have taken our deepest dive into what the consumer is thinking and feeling by analysing the themes and trends within the current landscape, and I am now excited to launch Samsung's Untapped: The Home Tech Evolution Report.

Developed in partnership with TrendWatching, leaders in consumer trends and insights, our new report unearths the potential of connected living and the innovative ways it can transform our lives. Whether that's breaking down barriers around accessibility to enable people to live their lives, or helping people make

more informed cooking decisions thanks to increasingly sophisticated smart kitchen devices.

Driven today by the desire to help save money, reduce energy use and experience the ultimate in convenience and comfort at home, we know connected living is helping people do all of these things. Yet, many people still remain unaware of smart technology's true potential to help improve their lives.

Samsung has been working hard to change this with SmartThings: a key enabler in connected living for many years.

Today, SmartThings lets people connect, automate and manage their smart devices via one easy-to-use, award-winning app. Meanwhile, our connected SmartThings Energy function within the SmartThings app allows people to track, monitor and control their energy usage with just a few taps, empowering them to take control at a time when they need to most – helping customers to do the SmartThings.

I hope you find this report and its analysis of smart technology as interesting as I do. One thing's for sure; the possibilities and potential for connected living to keep transforming people's lives for the better have never been more evident or exciting.

**James Kitto**Vice President, Head of MX Division

# **Executive Summary**

The energy crisis has driven huge interest in alternative, cheaper and more environmentally friendly energy solutions, including smart energy technology to reduce and monitor energy consumption

- Analysts at TrendWatching predict the energy crisis could fast-track the green energy transition by five to ten years
- Investment in sustainable energy technologies such as heat pumps and solar panels is soaring
- For the first time in the UK, wind turbines generated more electricity than gas in Q1 2023
- The all-electric eco homes of the future will use heat pumps, solar panels, battery storage and electric vehicles to power them – which can all be controlled on our smartphones via the SmartThings Energy app

A positive home environment has never been more important - with physical and mental health-enhancing smart tech helping to create tranquil living spaces where consumers can relax and recharge

- Demand for tech that enhances health and wellbeing in the home will grow in the coming decade because of hybrid working, increasingly hectic lives and an uptick in anxiety
- With health and wellbeing apps expected to reach a projected market volume of £722.30m by 2027 in the UK, it's only a matter of time before consumers expect smart home devices to help boost their mood and wellbeing
- Expect smart mirrors that suggest workouts based on mental state and smart speakers that play music based on emotions due to today's booming emotion detection and recognition market

Smart home solutions can revolutionise the lives of older adults and those with physical and sensory disabilities, and amid a need for greater inclusivity, companies are rolling out more assistive tech

- Over three quarters (77%) of adults living with a physical or sensory disability use technology to help them with everyday tasks, but 48% say they face challenges in using technology
- With inclusivity front of mind, an increased appetite for smart home devices that offers greater access for all will shape a better, more hopeful future
- Looking ahead, synthesisers that can preserve the voice of consumers and headsets that allow those with severe motor impairments to communicate, will connect with smart home ecosystems.

# In order to streamline tech in our lives, there's demand for devices that deliver multiple services in a more intuitive and unobtrusive way to facilitate stress-free and stylish living

- Today's consumers are paradoxical: they seek tech-enabled superpowers around the house, but don't want their home or personal space feeling cluttered or dominated by technology
- The average person in the UK has access to more than nine connected devices.
   Consumers are increasingly looking to streamline and centralise
- New tech products challenge conventional design and are increasingly embedded in geometric forms, discreet interfaces and tactile materials that take inspiration from interior design
- The future will be fully hands-free, with gesture control, facial recognition and other biometric technologies that will enable touchless TVs, doorbells and washing machines

### Cooking technology is moving at pace and becoming smarter, sleeker and more energy-efficient, helping consumers create affordable and quality meals quickly

- More consumers are entertaining at home, with at-home dining skyrocketing due to reduced spending power
- Over half (51%) of UK consumers report it's harder to make healthy food choices as food costs rise, while the same number (51%) yearn for more innovative kitchen appliance technology
- Samsung's SmartThings app suggests recipes based on fridge contents and consumer needs, adding them to a meal planner to help consumers prep ahead
- AR glasses and VR headsets will guide people with intuitive and engaging stepby-step instructions, with consumes making meals in the metaverse and recreating them IRL

Methodology: Consumer Behavioural Qualitative Research was commissioned by Samsung UK & Ireland and conducted by Trend-Watching. Consumer Quantitative Attitudinal Research was commissioned by Samsung UK and Ireland and conducted by OnePoll. All future predictions have been researched and concluded by behavioural analysts TrendWatching.



Chapter 1: Power It Yourself (P.I.Y)

# Energy powered by smart tech

The ongoing energy situation has helped drive huge interest in alternative, cheaper and more environmentally friendly energy solutions, and 'going green' is an increasing priority for consumers. For many, it's now embedded in being 'house proud,' and has driven a focus on enhancing the home with smart energy technology.

At a macro level, investment in more sustainable energy technologies is soaring – it's expected to grow 24% in 2023, compared with the 15% growth in investment for fossil fuels, mainly driven by technologies

including solar panels, heat pumps and electric vehicles. Analysts predict the energy crisis could fast-track the green energy transition by five to ten years.

For the first time in the UK, in the first three months of 2023 wind turbines generated more electricity than gas. Multiple government funding initiatives will push clean energy technologies mainstream just as demand for alternative energy solutions reaches new heights; further driving consumer demand for smart devices to help monitor and reduce energy consumption.

### Why now?

The UK has pledged to reduce its greenhouse gas emissions to net zero by 2050 to meet its commitments under the 2015 Paris climate agreement. Three quarters (75%) of UK consumers believe that climate change is a serious problem, and 77% think they have a personal responsibility to do something about it.

Switching to lower carbon energy addresses two key considerations for many – the planet and the personal: it's a sustainable choice and it could save money. A growing number are willing to invest now for the future of their homes to make them more energy efficient and cost effective, at a time of rising energy bills.



### Soaring energy bills

Despite the wide media coverage of increased prices across the energy market and provision of government subsidies, two-thirds (69%) of UK consumers say their energy bills were higher than expected between October 2022 and February 2023. Three quarters (74%) always pay close attention to their latest household energy bill<sup>1</sup>, while 56% have purchased a gadget to help reduce energy – driven by fuel poverty and a desire to reduce their carbon footprint.

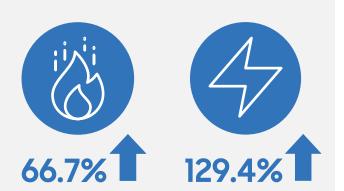
As a result, government funding and initiatives are helping drive consumer replacement of fossil fuel heating systems with heat pumps, reducing barriers to the rollout of low carbon technology in homes and businesses across the UK. This is accelerated by smart meter installation by cost-conscious consumers looking to technology to help them better monitor and regulate fuel consumption.

# Increasing energy costs fuelling new solutions



UK consumers paid around £500 more per person in 2022 in energy costs compared to pre-2020 figures (a rise of over £30 billion across the UK).

# Electricity and gas prices soar



Electricity prices in the UK rose by 66.7% and gas prices by 129.4% in the 12 months to March 2023.



#### Attitude shift

Consumers are becoming more familiar with – and receptive to – 'energy flexibility' through energy providers such as British Gas, OVO and Octopus Energy trialling discounted power move schemes which help manage demand, for example, by shifting usage to quieter times of the week.

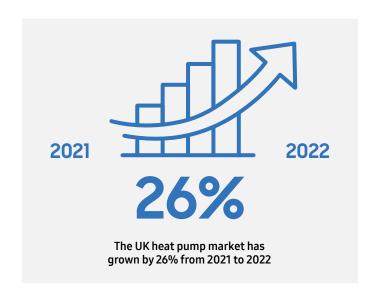
Consumers now rate homes with energy-efficient, sustainable features as more important than the size of the property. Smart home meters allow energy to be managed seamlessly, and with approximately 20.45 million installed between 2012 and March 2023, many could start to take advantage.

These attitude shifts are reflected in the take-up of heat pumps, as 91% of consumers are aware or have heard of this low carbon heating technology¹ and the UK market has grown by 26% in 2022 from 2021². The International Energy Agency (IEA) reported an 11% global increase in heat pump sales between 2021 and 2022, specifically in Europe, with a 49% growth in

air-to-water heat pump sales.

Interest in solar panels is going through the roof with 50,700 installed between Jan and March 2023 in the UK, double the period in 2022 and the highest level since 2015.

Over the past 12-18 months, 27% of UK adults are positively open to considering an alternative heating/energy source such as having solar panels installed.<sup>3</sup>



<sup>&</sup>lt;sup>1</sup> Samsung Climate Solutions Trend Study H1 2023

<sup>&</sup>lt;sup>2</sup>BSRIA data

<sup>&</sup>lt;sup>3</sup> Consumer Quantitative Attitudinal Research was commissioned by Samsung UK and Ireland and conducted by OnePoll. OnePoll surveyed 2,000 representative UK adults between 6th June and 9th June 2023.'



### Getting smart in saving energy in the home

Measurable energy aims to eliminate wasted energy in buildings with smart sockets that can identify the devices plugged in, monitor their use and automatically turn them off when not in use, potentially reducing electricity bills by at least 20%.

Samsung partnered with Q Cells,

one of the world's largest solar panel manufacturers, to provide 'zero energy home' solutions allowing homeowners to produce and store their own energy and reduce energy consumption through more efficient devices. Together, they are

working towards new solutions in which Samsung's SmartThings Energy service is connected to Q Cell's solar modules and energy storage systems.

The Anker PowerHouse 767 is a portable app-controlled power station that incorporates GaN (GaNPrime) technology and can be charged with solar panels, delivering emergency power during blackouts or be used as a power source when living off-grid. Similar products include the EcoFlow DELTA Pro Portable Power Station.



### Gearing up for future electric cars

Electric vehicle (EV) charging solutions company Easee has launched the Equalizer: a smart device that can charge EVs using solar power. Research by EV charge point monitor, Zap Map and Good Energy, shows that EV drivers are seven times more likely to have solar panels installed in their home than other drivers.

Energy software platform Kaluza with Volkswagen, OVO Energy and Indra, has launched INFLEXION, a vehicle-to-everything (V2X) bidirectional charging program that allows drivers to power their homes using their EV, as a backup power source during outages and sell surplus energy back to the grid.



## Getting even smarter in the home

Samsung is very conscious of the priority of cutting down energy usage and bills. Its SmartThings Energy empowers users to set financial budgets, which alerts them if they go over, removing the guesswork usually associated with energy bills and arming consumers with the information they need to make better, informed energy decisions.

Users can connect to their smart meter to see their actual energy usage and connect compatible devices to get a more detailed view of how much specific appliances cost to run in the home.

And when used with Samsung's broad range of intelligent devices, the service can be optimised further while activating AI Energy Mode, which ensures that their compatible Samsung devices automatically run at optimal energy levels, so they don't use more than they need to.

It also has the technology to help consumers switch to smart, low-carbon heating systems. Its range of air source heat pumps can be installed with domestic hot water tanks and work with the SmartThings app for more sustainable and efficient forms of heating.

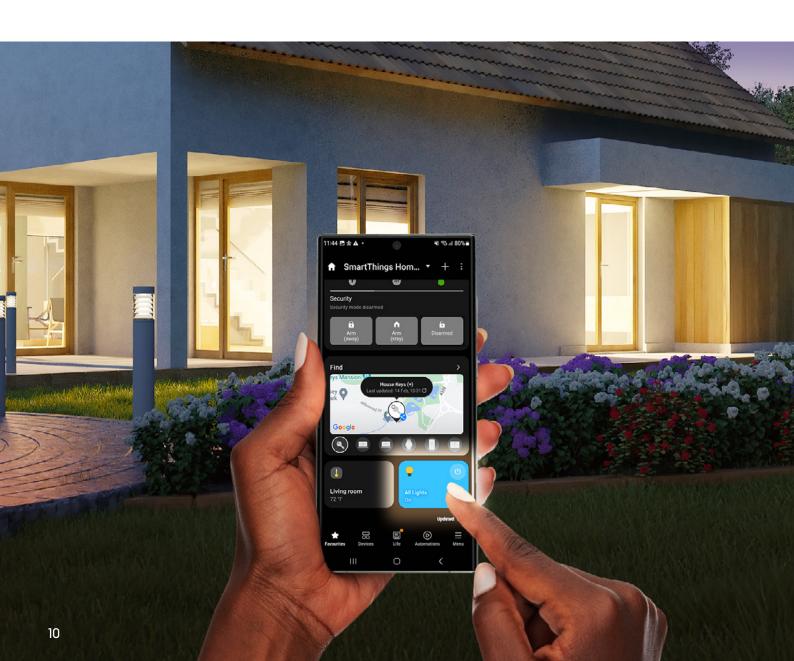
#### What's next?

As consumers become increasingly confident with alternative energy solutions, demand will increase: 53% of UK consumers believe homes will be majority powered by solar energy in 50 years, while 70% of heating industry professionals think air source heat pumps will be commonplace in UK homes as early as 2025-30.

But encouraging and ensuring transformation to more long-term sustainable forms of energy is not straightforward. Lower-income consumers are currently at a disadvantage in investing in some of the solutions, as there can be costs associated with reducing

carbon emissions at home. The demand is certainly there  $-\underline{40\%}$  of UK consumers are considering purchasing energy-efficient solutions – but for this to be successful, the understanding and processes to access government support must be simplified.

The future is exciting as our homes increasingly move towards fully electric solutions powered by renewable energy. The all-electric eco homes of the future will use electric heating sources to power homes and electric vehicles, all will be manageable via smartphones helping consumers to run their homes more efficiently.



# Physical and mental health-enhancing smart tech as the backdrop to the home

As the home becomes a greater focal point of consumers' lives – due to a host of factors, including the new norm of hybrid working – many are ensuring their home environment is more conducive to good health and wellbeing and want to create tranquil living spaces that allow them to relax and recharge.

Demand for technology that enhances health and wellbeing in the home will grow in the coming decade. A quarter of UK adults (24%) have invested in technology to monitor their stress levels.<sup>1</sup>

These caring devices will go beyond providing health metrics and instead actively enhance wellbeing and create a living space conducive to balance and equilibrium.

A positive home environment has never been more important to enhance both physical and mental health and facilitate a lifestyle of greater peace and harmony.

### Why now?

## Home as sanctuary

Consumers face many societal challenges and uncertainties. This is taking a toll on mental health: 60% of UK adults experience anxiety that interferes with their daily lives. Hardly surprising then that the home is fast becoming a personal sanctuary, a space offering respite from a sometimes overwhelming world outside. Smart devices that enhance security, aid relaxation or holistically improve health are increasingly important due to these factors.

## Appetite for Smart Technology in the home



57% of those surveyed in the UK agreed that Smart Technology makes working from home easier. <sup>2</sup>

<sup>&</sup>lt;sup>1</sup> Consumer Quantitative Attitudinal Research was commissioned by Samsung UK and Ireland and conducted by OnePoll. OnePoll surveyed 2,000 representative UK adults between 6th June and 9th June 2023.

<sup>&</sup>lt;sup>2</sup> Samsung Climate Solutions Trends Study H1 2023

#### Self-care in a crisis

Reduced disposable income also affects UK citizens' physical health, and many are experiencing poorer quality sleep and exercising less often. The challenges of pursuing a healthier lifestyle include tiredness and a lack of motivation; consumers will appreciate devices that support wellbeing through movement and better sleep.

#### Financial strain affects health

30%

have experienced poorer quality sleep since the cost-of-living crisis started in 2022. 12%

are exercising less often since the cost-of-living crisis.

Barriers to changing diet and activity

**40%**Women

29% Men

Report feeling too tired.

#### Tracking's evolution

Digital fitness and wellbeing apps – expected to reach a projected market volume of £722.30m by 2027 in the UK – help consumers to manage their physical and mental health. The scope of these apps is evolving beyond basic step counts and heart rate monitoring to deliver more complex metrics, ranging from menstrual cycles to glucose monitoring. With on-the-go health analysis already the norm, consumers will expect that their home environment also seamlessly monitors and helps improve their mental and physical health.

#### **Innovations**



# In the right mood for quality sleep

Smart devices are being developed to support mood, wellbeing and quality sleep. Nanoleaf, for instance, is developing smart switches which adjust automatically to an individual's lighting preferences, setting the mood and regulating users' circadian rhythms.

The bedside device Hatch Restore 2 has light settings to combat Seasonal Affective Disorder (SAD) and soothing audioscapes and inspirational meditations accessible by phone.

Samsung's updated One UI 5 software will provide more accurate exercise

monitoring and sleep quality metrics, initially on Galaxy Watch 4 and 5.

Consumers can now switch off from their devices with the help of Samsung's SmartThings, if it senses the wearer is asleep it automatically turns devices off. In taking control of a home environment, SmartThings provides the technology to enhance wellbeing and a healthy lifestyle by adjusting mood through music and TV, regulating lighting, and even opening and closing window blinds at set times.



### The gym-at-home supporting physical health

Physical health and wellbeing are a significant focus for smart devices, enabling consumers to work out at home. Vault, for instance, is a smart fitness mirror from the fitness brand NordicTrack, with a concealed camera that analyses the form, with tips for improvement showing on the mirror's screen.

Technogym Run features on-demand instructor-led sessions, tracking metrics and consolidating results in a Technogym Live app. BHOUT's smart boxing bags, launching this year, feature sensor tracking

and computer vision to monitor performance, improve technique and avoid injuries.

Samsung has announced the launch of its new app partner, Les Mills, a platform creating life-changing fitness experiences. The new offering will give consumers free access to fitness classes exclusive to Samsung Health via the Samsung Hub. The classes are exclusively free to new and existing Samsung customers and are available on 2020-2023 TV models. The classes will be refreshed throughout the year for customers looking to upgrade their fitness routine.

#### What's next?

There is a massive appetite for connected living in the UK compared with Europe, with interest the highest in the UK at 61%.<sup>1</sup>

Products that can automatically detect and boost the user's mood can help elevate people's mindset and will further drive interest in smart tech. The global emotion detection and recognition market is predicted to reach US\$ 103.1 billion by 2030, and devices like the

Happy Ring which provides continuous feedback and tips for overall wellbeing, are making their way to the market.

It's only a matter of time before consumers expect their smart homes to provide similar mood boosting features. That could mean smart mirrors that suggest workouts based on the user's mental state or smart speakers that play music based on emotions.



<sup>1</sup> Samsung Climate Solutions Trends Study H1 2023

# Unobtrusive tech for stress-free and stylish living

Consumers want tech-enabled superpowers, but they want to retain style and warmth in their homes. Discrete smart devices that offer multiple services allows users to stay connected, save time, and more, whilst not compromising on the look and feel of their oasis. When polled, 34% of UK consumers say they want their tech to have multi-functional purposes.<sup>1</sup>

And although the majority (58%) agree that on balance, digital technologies have made their lives better, they're gravitating towards unobtrusive technology that doesn't infringe on their personal space. Within this context, demand for smart home devices that deliver

services in more intuitive and discreet ways will continue to grow.

Tech is a way of life: 80% of people in the UK say they cannot imagine life without the internet (vs the global average of 71%). But, while tech is becoming more dominant in the home, it doesn't mean it has to dominate attention. New products challenge the conventional design and materiality of technology and define an upgraded vision for seamless smart home devices. Tech today is increasingly embedded in geometric forms, discreet interfaces and tactile materials that fix tech clutter and take inspiration from interior design.

### Why now?

#### Invisible tech

Consumers don't want technology to infringe on their lives; they want it to serve a purpose when needed. Intelligent assistants are just one example of frictionless, invisible apps that have permeated the daily lives of consumers. While the need for immersive technologies is shifting from entertainment to utility, advances in extended reality will only further heighten this expectation.

## Seeking the simple life

Consumers today are gravitating towards a more simplistic lifestyle: they desire a better work-life balance – and are prioritising spending time with loved ones. In this current climate, values are shifting towards experiences over material goods. To fit in with this ethos, consumers want hidden interfaces that support everyday needs but don't overpower the landscape of their home.

<sup>&</sup>lt;sup>1</sup> Methodology: Consumer Quantitative Attitudinal Research was commissioned by Samsung UK and Ireland and conducted by OnePoll. OnePoll surveyed 2,000 representative UK adults between 6th June and 9th June 2023



88% of UK employees have experienced at least some level of burnout over the last two years.

# 77%

77% of UK consumers are interested in using AR to interact with a product before buying. The average person in the UK has access to more than nine connected devices.

#### Retro renaissance

The term 'smart home' brings to mind futuristic TV series Black Mirror that was infused with innovative futurgazing technology. Still, the majority (59%) of UK consumers are nostalgic for times past, and design preferences skew towards vintage, rather than futuristic. Pinterest noted an 850% increase in searches for 'Eclectic interior design vintage,' with 'Antique room aesthetic' surging by 350%. Indeed, consumers want all the benefits of a smart home, but they don't want it to look like mission control!

#### **Innovations**



### Sleek furnishings with sound

As part of their ongoing collaboration, IKEA and Sonos released the SYMFONISK floor lamp speaker in December 2022. The wireless speaker can be synced with other Sonos devices to provide 5.1 level surround sound, and blends stylishly into the home making the most out of consumer living spaces.



# Natural wood control panel for ambient intelligence

For stress-free digital living at home, the mui Board comprises a wooden board fitted with touchscreen technology mounted on the wall. The control panel can be synced with Alexa, Philips Hue lighting and Sonos speakers, and includes built-in wellness features such as breathing exercises. When not in use, the digital interface disappears leaving a simple wooden band that blends naturally into the home.



# Touchscreen refrigerator to order groceries

Samsung's latest fridge, the Bespoke Family Hub Plus, features a 32-inch screen that lets consumers watch TikTok videos, place grocery orders via Amazon and stream music<sup>2</sup>. When not in active use, virtual art can be displayed using Samsung's Bespoke Atelier app, while a Google Photos integration allows for the presentation of personal photos. It can be synced with any SmartThings compatible device.



# Design studio unveils stylish smart tech

London-based design studio Layer developed six connected products for Deutsche Telekom with discreet interfaces that seamlessly blend into the home. The router has a mirror-polished finish, for example, while the mesh repeaters are made of natural wood. The concept

debuted at Milan Design Week in 2022.



# TV with unique ability to disguise itself as art

With the press of a few buttons, Samsung's mounted The Frame can go from streaming Netflix to displaying wall art<sup>3</sup>. Thanks to the super thin gapless design, matte display and picture frame border, homeowners can now make use of what would otherwise be blank space and accentuate a room's décor with photos and artwork. Comsumers can style The Frame their way, with over 40 interchangeable bezel styles in various colours to work with any decor.



# PC-less productivity with the M8 Smart Monitor

For those who prefer a smart monitor to watch and work, switching between working from home and chilling from home has never been easier. The Samsung M8 Smart Monitor features a stylish design and allows users to connect to various IT devices through the upgraded Smart Hub, as well as enjoy a variety of streaming services, including Netflix, Amazon Prime Video and Disney+. Available in Warm White and Spring Green to suit any surrounding.

#### What's next?

Current digital assistants and smart home devices that can be controlled by voice command set expectations for a fully hands-free future. Gesture control is already a feature of the Galaxy Watch 5, and Hyundai recently unveiled a handle for vehicles that allows users to open and close the car door with simple hand gestures. In the coming years, facial recognition and other biometric technologies will take design to new levels. For example, touchless doorbells, ovens and washing machines.

Apps like WeChat and Revolut give users access to several services in one place – and familiarity with these apps will create expectations that smart devices also offer multiple functions and services. Samsung's new Matter functionality is ushering in a new era of interoperability, allowing for seamless control of all Matter-compatible devices via the SmartThings app.



By 2027, more than 50% of the global population will be daily active users of multiple superapps, according to Gartner.

Prioritising more seamless experiences in a hyper-connected era, Samsung Calm technology is paving the way forward for bringing calm to the connected world. The end goal will see technology working in the background without distractions to help facilitate a lifestyle of greater peace and harmony.

<sup>&</sup>lt;sup>1</sup> Available currently in Korea and the US only.

<sup>&</sup>lt;sup>2</sup>Requires internet connection

<sup>&</sup>lt;sup>3</sup> Requires internet connection

# **Chapter 4: Independent futures**

Helping older adults and those with disabilities

# Helping older adults and those with disabilities

Connected living is increasingly helping older adults and those with physical or sensory disabilities live more independently. High-profile tech companies are rolling out more assistive tech, setting an expectation for all brands to level up amid rising consumer demand for inclusivity.

Smart home solutions can revolutionise the lives of those with disabilities. But there's room for improvement, and the world at large is on a journey to understand and meet diverse needs, learning to champion different experiences and perspectives.

With inclusivity more front of mind than ever before, an increased appetite for smart home devices that allow greater independence with increased accessibility will shape a better, more hopeful future.

As one of the world's largest technology brands, Samsung strives to lead from the front to pioneer positive change. Valuing humanity above all else, it's taking action to educate and engage the industry, to drive awareness of inclusivity and accessibility and to ensure progress in the assisted tech field.







Today: more than 2.5 billion people globally need one or more assistive products.

By 2050: this will increase to more than 3.5 billion, with many needing two or more assistive products.

#### Why now?

# **Under pressure**

The UK's ageing population is putting increasing pressure on society, and the NHS is using technology to augment care, paving the way for greater assistive home technology. Innovations from leading tech companies are helping to support, such as Home healthcare provider Cera, who are working with the NHS to provide home visits that use data analytics collected via its app to predict patient deterioration and anticipate hospitalisation.



2021: 18.6% of total population was 65 years or older.

#### A need for greater connection

Loneliness is prevalent among people with long-term illnesses and disabilities, while changing family structures mean solo living is rising among the elderly. Families are using tablets and other devices to keep in touch with older relatives. Newer technologies such as smart lamps can monitor sleep; and other physiological sensors can measure physical movement and routines. Internet use among these groups is rising, building their confidence in using such assistive devices.

Loneliness amongst the elderly is a significant issue. Research on behalf of Ofcom suggests devices such as smart speakers are giving people with disabilities not just greater independence but also companionship. A number of participants mentioned that having a speaker was like having a friend, and good for combating loneliness.



People with long term illnesses or disabilities = far more likely to say they feel lonely than others (13% vs. 3%).

According to Age UK, more than 2 million people in England over the age of 75 live alone, and more than a million older people say they go over a month without speaking to a friend, neighbour or family member.

2013: 29%

2020: 54%

Recent internet users, 75 years and over. Nearly doubled since 2013.

Recent internet users, adults with disabilities.

2019: 78% (10 million)

2020: 81% (11 million)

2011: 52%

 $\rightarrow$ 

2019: 83%

Internet use in the 65-74 age group is increasing.

# Accessibility is a necessity

Amid the challenges of a society with diverse needs, it's essential to develop connected home products that simplify daily tasks and can be customised to individual needs. Small changes can increase independence and add a layer of convenience and security.

77%

77% of adults living with a physical or sensory disability use technology to help them with everyday tasks (such as answering the door).

48%

BUT ... Almost half (48%) say they face challenges in using new technology that a non-disabled person might not.

#### **Innovation**

- Samsung recently announced a new feature called Relumino Mode for its new smart TVs. The feature will be available on some new Smart TVs launched in 2023. The Relumino Mode helps people with vision impairment to see the content more clearly by enhancing contrast, adjusting brightness, improving colours and sharpening the content so that it comes across as more clearly for people living with a visual impairment.
- Smart companions for older adults Sentai syncs with a smart speaker so
   users can set reminders for daily tasks
   such as taking medication, and learns
   and adapts to user behaviour, alerting
   carers if it notices anything unusual.
- Smart cane aid for the visually impaired

   the WeWalk smart cane vibrates
   when it detects potential obstructions.

   The aim is to add computer vision,
   which will allow the cane to read road
   signs, and facial recognition.
- In 2022, Samsung funded a visually impaired graduate as part of its Solve for Tomorrow programme who created an idea called My Vision, a device that brings together AI, GPRS and LiDAR to create a new innovative walking cane.

- Samsung funded her to take this idea to the next level.
- Samsung SmartThings allows you to manage multiple connected devices from one app, via your smartphone. Examples include being notified if a family member needs help, creating movement sensors, controlling lights and monitoring daily routines through product notifications e.g., checking if the fridge has been opened.
- Help with hearing Amazon has partnered with implantable hearing solutions provider Cochlear so that people with hearing loss can stream sound directly to their Cochlear hearing implant via the open-source Audio Streaming for Hearing Aids (ASHA) protocol.
- The Galaxy Watch3, Galaxy Watch4, Galaxy Watch5, and Galaxy Watch Active2 have a special feature that will send out an SOS if it ever detects a hard fall. That way, you'll be the first to know if your family or friend gets into trouble and needs your help.
- Ring doorbell synced with your Samsung TV, removing the need to get up and go to the door, if it's a nuisance caller or the wrong house.

#### What's next?

Smart home products should continue to be designed in collaboration with the individuals that will be using them, along with caregivers, parents and therapists. If these devices don't meet user's real-world requirements, they won't offer true independence.

There's no one-size-fits-all solution for

older people or those with disabilities. Small improvements can make a big difference in the lives of these individuals but they will want to use technology to improve their day-to-day, not change their life to fit around the technology. Microsoft's mix-and-match computer accessories let users customize their

mouse and keyboard shortcuts and are a great example of giving people with disabilities easier ways to work.

Technological advancements could revolutionise care: researchers are developing in-home devices that monitor the severity and progression of diseases such as Parkinson's. By continuously monitoring a patient's gait speed, the system can assess the severity of the condition and the patient's response to medication between visits to the doctor's.

And tech goes beyond tracking health conditions and reducing visits to the GP. Acapela Group has developed a voice synthesiser that can preserve the voice of individuals with conditions that impact speech, while the Cognixion ONE headset helps individuals with severe motor impairments to communicate via a non-invasive brain-computer interface. Devices like these could connect with smart home ecosystems, offering up previously unimagined independence.

### **Chapter 5: Gourmet Cooking**

# Consumers embrace low-intervention, high-reward cooking

The kitchen, the home's beating heart, has seen some of the most significant technological advances in recent years, unlocking a wealth of opportunities to help elevate culinary skills from the most novice cook to a budding professional chef.

Technology has turned us into a nation of chefs: 62% of the UK have been increasing their culinary skills in the kitchen with the help of technology.<sup>1</sup>

Cookery technology is moving at pace, and devices are becoming more innovative, sleeker and energy-efficient – sure to satisfy half (51%) of UK consumers who yearn for more innovative tech regarding kitchen appliances.

Due to multiple factors, including reduced disposal spending power, more people are entertaining at home, and the communal meal remains one of the most important aspects of family life. In addition, at-home dining has skyrocketed as the new friendship social. The ability to create affordable and quality meals quickly – leaving more time to spend with loved ones – appeals to many, and technology helps them achieve this.

#### Why now?

## Easy does it

When it comes to cooking at home, ease (43%) and simplicity (41%) are two of the top priorities for UK consumers. 51% report it's harder to make healthy food choices as food costs rise – many look to return to scratch cooking to feed hungry mouths at home.<sup>2</sup>

#### Eat well for less

Rising energy prices and the cost-of-living crisis have prompted many to switch up their behaviours at home. From only using half of the oven to investing in an air fryer, people are more conscious than ever of their energy consumption in the kitchen.

Studies show that food cooked using an air fryer requires minimal added fat, making it both convenient and healthier. Samsung ovens such as the Series 7 Bespoke AI Oven have the Air Fry feature (i.e. air fryer built in) and are revolutionising the healthy meal prepping experience. Through its powerful and intelligent AI Pro Cooking technology, it produces delicious meals that cater to users' dietary requirements.

<sup>&</sup>lt;sup>1</sup> Consumer Quantitative Attitudinal Research was commissioned by Samsung UK and Ireland and conducted by OnePoll. OnePoll surveyed 2,000 representative UK adults between 6th June and 9th June 2023.

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When it comes to cooking quality, the Bespoke AI<sup>™</sup> Oven also has the Air Sous Vide feature, an innovation that provides more tender and tastier cooking by accurately sensing the temperature and keeping it even over a long period. This means everything is cooked thoroughly, wherever placed in the oven.

#### Smart cooking tech

Smart cooking devices assist in making meals tailored to individual needs, which will be especially useful for those cooking for others, as it will allow home chefs to recreate restaurant-quality meals.

With today's smart technologies, consumers can be alerted when their food is running low in the fridge, automatically set the oven to come on and set it to operate at two different temperatures.

Samsung has a robust suite of appliances and devices with these capabilities that can easily be synced via the SmartThings app.

#### **Innovations**



# Platform captures ultimate chef know-how

CloudChef, a new company aiming to create a 'Spotify for food,' have launched a cloud software platform that captures culinary masterpieces and makes them widely available. First, chefs cook in sensor-laden 'capture kitchens' which closely monitor their process. The data is then encoded and used to control appliances in remote kitchens, enabling people around the world to recreate restaurant-level meals in any CloudChef enabled kitchen to impress their guests.



# Smart appliance makes mixing 'a piece of cake'

The Profile Smart Mixer developed by GE Appliances is causing a stir with its voice control capabilities, guided recipes and a Wi-Fi enabled auto-sense fixer that can determine when mixing is complete.

According to the company, this allows anyone to master the most complex recipes with confidence.



# Livestream food in the latest smart oven

People can now livestream their bakes at home with the interactive Samsung Series 7 Bespoke Al Oven and watch their food cook in real-time via the Samsung SmartThings app<sup>1</sup>. Featuring an internal camera, it also alerts users if dishes are in danger of burning, and allows them to prepare healthy steamed dishes at the same time, at different temperatures, through its Dual Cook Steam function. A handy feature for when cooking for a while and want to check in on progress when away from the kitchen, or when you don't want to spoil your creation by opening the oven door - such as baking a soufflé or those all-important Yorkshire puddings.

<sup>&</sup>lt;sup>1</sup> Requires internet



#### The hub of the home

The Samsung Family Hub is equipped with SmartThings Cooking, which enables a seamless grocery shopping experience and generates weekly meal plans with personalised recipes. They are easy-to-follow and tailored for different dietary requirements, such as vegan, vegetarian or gluten-free. It will suggest recipes based on what ingredients you already have and send cooking instructions straight to your oven. In addition, recipes

can be read out to you to free up your hands whilst prepping.

But it doesn't end here, it also helps to organise your family's schedule and lets you see who's at the front door by syncing your Ring doorbell with your Samsung fridge or TV. And with the View Inside internal camera, you can see exactly what you have from your phone enabling you to grab more eggs on the way home if required!

#### What's next?

Future-gazing into a world where immersive tech will leap from entertainment to the kitchen next: AR glasses and VR headsets will guide people with intuitive and engaging step-by-step instructions that will assist in feeding a crowd.

It's not a stretch to imagine making recipes in virtual worlds such as the Metaverse and preparing them in real life at home.

Kittch and Qualcomm have already collaborated to develop AR glasses that bring this one step closer to reality, using gesture and eye tracking so users can effortlessly follow interactive recipes without needing to touch their phones. With only (28%) of Brits saying they would feel 'very confident' cooking without a guide, this cutting-edge technology will appeal to those who lack confidence in the kitchen.



