R³ : SIS

Reset
Rethink
React

Samsung Innovation Strategy for the Post-Pandemic Era

Samsung Confidential

Think Tank Team

How to read this?

2020 has redefined what normal means for consumers, organizations, and nations. The shock caused by COVID-19 and contemporaneous geopolitical events have sharply changed the velocity of many transformations already underway, both social and technological. Some trends have accelerated, while others have slowed or even reversed course. These in turn have led to a unique set of opportunities that have the ability to redefine the winners and losers in the coming decade. Our goal is to understand and project both ongoing and future changes to propose a unique **Samsung Innovation Strategy (SIS)** for consumer-oriented technologies.

Content

We examine

business areas through the TTT Lens -
a multidisciplinary methodology.
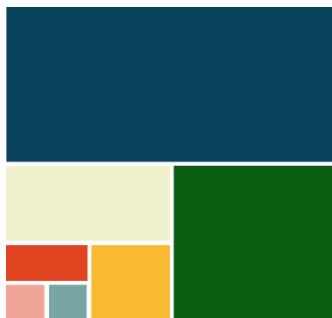
Evolution of the Status Quo
Mega changes accelerated by the pandemic

Disparate Responses
Inhomogeneous global response

Before and After COVID-19
Five major areas impacting consumers

We discover

unique opportunities by identifying gaps
in emerging technology fields.
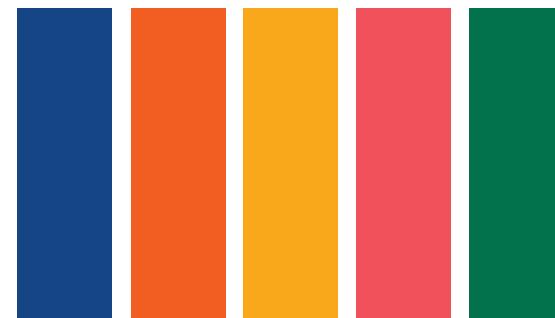
Changes
Accelerated changes and gaps in the field

Responses
Reaction to changes and evolution of habits

Opportunities
Directional vectors to consider for growth

We build

Spark projects - basis of tentpole
products and technologies.

TTT Way & Sparks
Lenses, additional avenues, and TTT Sparks

Reacting Now
Need to act now to lead the competition

Conclusion
Moving forward with R³ methodology

Reset
Rethink
React

The world was primed for great political, societal, and economic changes even prior to the pandemic. COVID-19 is the well-placed first domino that fell to initiate a chain reaction in transition. Some industries were impacted more than others – air travel, hospitality, ride sharing, urban mobility, just to name a few. Others became significantly more relevant for individuals and corporations – teleconferencing, health sciences, device security, etc.

These rapid global transitions triggered evolutionary changes in the everyday lives of billions of people, which in turn cascaded to further transitions feeding from those changes.

Leading in an ever-changing world requires us to reset our own expectations and tendencies to seek steady-state "normals," to rethink emerging needs and opportunities, and then react predictively and boldly with new products and services. We call this methodology **R³**.

R³:SIS examines the ongoing interplay between catalysts and changes, and reactions to those changes. We identify new prospects for Samsung based on detailed market analyses, and use the R³ methodology to propose solutions to seize these opportunities, both as Samsung organization, and through the TTT Lens of disruptive innovation.

Evolution of the Status Quo

Under the prior sense of normalcy, the world was already on the verge of change prior to the pandemic, with strong momentum towards deglobalization, regulation, an economic downturn, and the rise of new powers combined with saturating markets for top technology players. COVID-19 has changed the course of this transition impacting not only health, but also politics, technology, macroeconomics, and financial markets. Many flourishing industries were hit hard by the pandemic, whereas certain steady-state players became more relevant and primed for real-life impact. These changes manifest macro and microeconomic impacts as well as sociological changes in the near to mid-term.

We expect repeated major changes to happen in consumer lifestyles and preferences. To lead in the time of constant evolution, we must understand that these changes are an ongoing process, and not a one-time effect. R^3 tells us that we should focus on predicting changes that will survive multiple evolutionary iterations of transitioning lifestyles and needs.

The best indicators of future consumer trends are the changes already occurring in their daily lives. Every nation had its own unique COVID-19 response, yet people all around the globe shared oddly similar experiences. In the light of recent changes, we identified five major areas of impact to consumer's daily lives: Communication, Food, Retail, Entertainment, and Wellbeing.

Constant change gives rise to new opportunities that many corporations, old and new, are poised to capture. Samsung has a strategic advantage to become a market leader in all five areas if research and development is aligned to create value for consumers.

At TTT, we create entry points that allow Samsung to discover unique positions in the market. **TTT is building the necessary core competencies to develop strategic advantages for the next chapter of Samsung in all five areas.**

Biweekly confirmed COVID-19 cases

Biweekly confirmed cases: The cumulative number of confirmed cases over the previous two weeks.
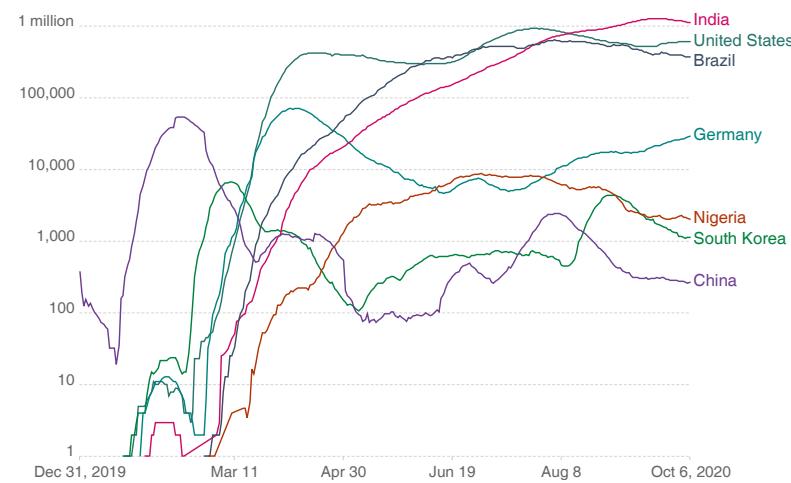
Source: European CDC – Situation Update Worldwide – Last updated 6 October

Collapse of the sharing economy

▎Ride-sharing companies were rendered instantly obsolete.

▎Companies like Uber and Airbnb are scrambling to create new strategies.

Collapse of tourism, healthcare, supply chain

▎Global travel restrictions put a stop to international tourism.

▎Trade events ceased to exist as we knew them.

Divergence of financial markets and real economy

▎Layoffs and bankruptcies affected supply and demand of real goods.

▎The capital markets have become completely unsynchronized with real economy, setting the stage for massive instability.

Change in modes of employment

▎Employers worldwide switched to remote working models.

▎Essential workers in health and retail kept on working in the frontline at great risk.

Significant drop in urban density

▎The urban landscape saw the greatest change in decades as density plummeted.

▎Empty commercial buildings slashed tax revenues.

Deepened social divide, fiscally and culturally

▎The wealthy accumulated more wealth.

▎Poverty rates increased for the first time since 1998.

Nonuniform vulnerability to health risks

▎Certain groups, such as elderly and homeless, turned out to be more vulnerable.

▎Young individuals' resistance to disease let them take over the day-to-day work.

Disparities in the response to COVID-19

▎Economically developed nations were expected to outperform others in response to COVID-19.

▎This was ultimately not the case.

Disparate Responses

In an unexpected side-effect of the decay of preexisting global order, the response to COVID-19 was strongly inhomogeneous. Each country created its own policy response, leading to highly variable results in terms of pandemic containment.

As of Fall 2020, European countries have started seeing an increase in daily new confirmed cases due to the relaxation of containment measures. China has been one of the first countries that gradually removed the mobility and activity restrictions. Countries who were less strict with the prevention measures in the earlier phases of the pandemic

are still experiencing high numbers of infection rates, and trending towards increased restrictions. In total, the wide-ranging responses have led to an unstable global gap in policies impacting major sectors such as travel, tourism, food, education, research, health care, and more. It is expected that some of the policy responses will remain in place well past the deployment of a viable vaccine.

COVID-19 Containment and Health Index, Oct 17, 2020

This is a composite measure based on eleven policy response indicators including school closures, workplace closures, travel bans, testing policy and contact tracing, rescaled to a value from 0 to 100 (100 = strictest). If policies vary at the subnational level, the index is shown as the response level of the strictest sub-region.

No Data

0

100

Real GDP Growth

🇨🇳 1.2   🇳🇬 -3.4   🇺🇸 -5.3

🇮🇳 1.9   🇧🇷 -5.9   🇩🇪 -7

🇰🇷 -1.2

Annual Percentage Change (IMF)
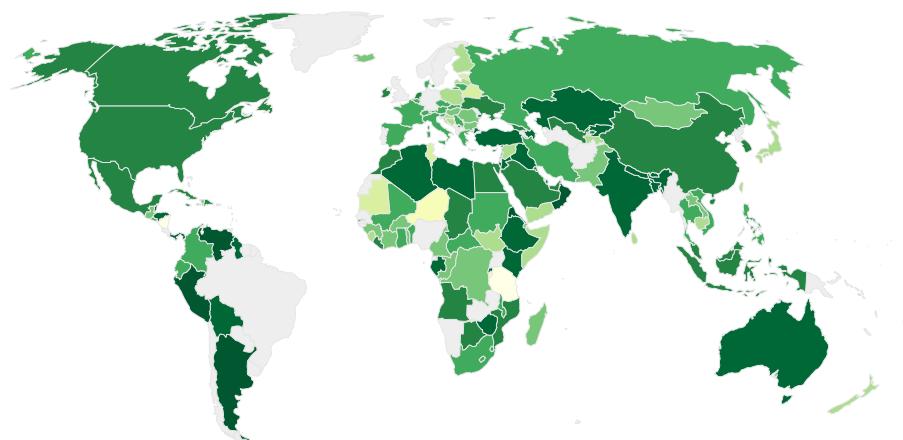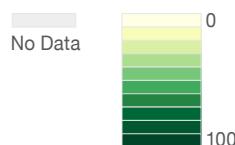
Source: Hale, Webster, Petherick, Phillips, and Kira (2020). Oxford COVID-19 Government Response Tracker

Before
COVID-19

After
COVID-19

|	Before COVID-19	After COVID-19	Category
Grandparents	Visit grandparents in person	Have frequent and extended video calls	**Communication**
Work	Attend meetings with colleagues in the office	Take video calls and using remote collaboration tools	
Lunch	Grab lunch at a restaurant together with coworkers	Cook at home using delivered meal kits	**Food**
Groceries	Stop by at the supermarket multiple times a week	Receive online grocery delivery at the doorstep	**Retail**
Movie	Go to the movie theater with friends	Co-watch remotely on streaming platforms	**Entertainment**
Doctor Visit	Wait in the lobby for the doctor's appointment	A virtual doctor visit via video conferencing	**Wellbeing**
Gym	Go to the gym for a yoga class	Use smartphone apps for online yoga classes	

01 Communication

The transition from handshake to video calls
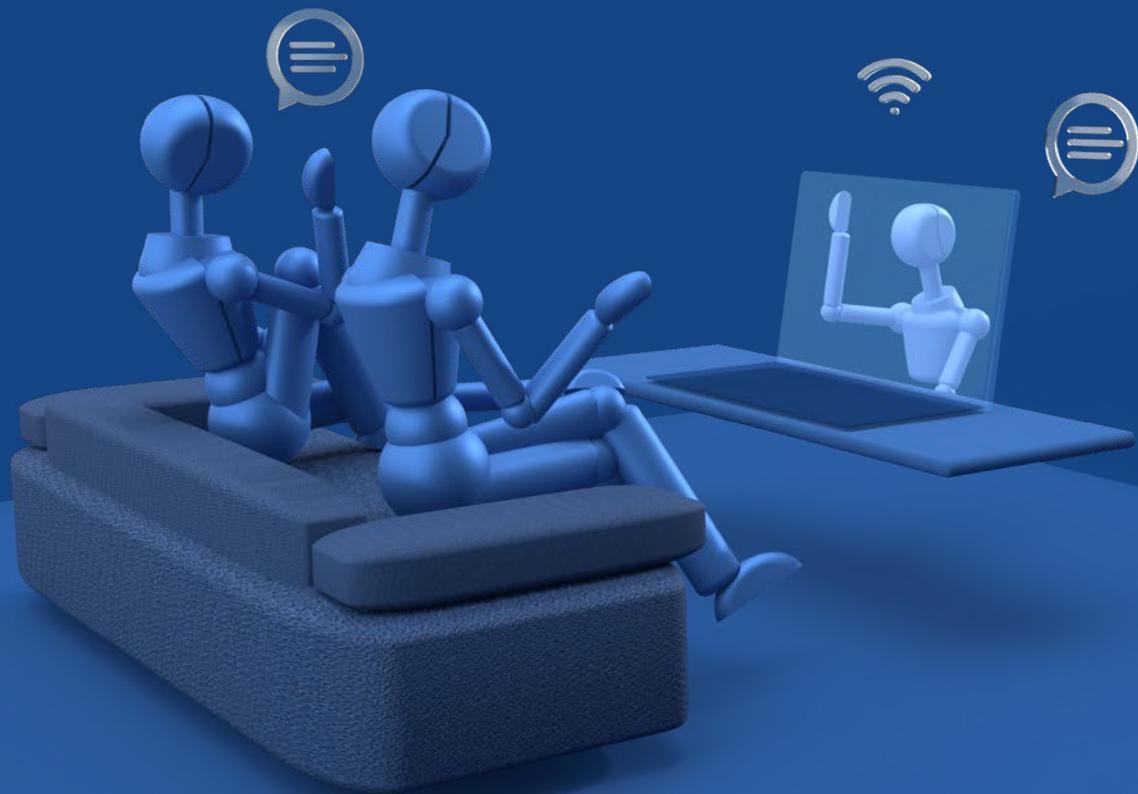
Background

▎ New challenges and demands on existing communication tools and methods were already proliferating.

▎ An aging population and distributed families stimulated a need for new ways of staying in touch.

▎ New hiring models and team structures have reshaped the future of the workplace.

Changes

Accelerated Changes

❚ The pandemic accelerated this socio-technological trend at a global level and made users reprioritize some solutions over others.

❚ Working from home became a temporary norm that will remain more prevalent even post-pandemic.

❚ The majority of business and interpersonal interactions are now happening online on via virtual tools.

Gaps

❚ Existing solutions are a short term stop-gap, increasingly falling short of consumer's expectations.

❚ Videoconferencing fatigue has led to increased stress and dysphoria.

❚ In spite of the obvious need, there has been a lack of innovation in field.

❚ Students of all ages rely on existing communication tools to continue studies. Many still feel discomfort in using online meeting tools due to their lack of realism and suboptimal one-to-many interaction support.

Technologies that can overcome ==communication barriers== have become increasingly important.

Responses

Reaction

Face-to-face communication is fundamental and hard to replace. It is fair to say that people would prefer to meet family, friends, and colleagues in person as soon as possible. In an ideal world, many workers would still prefer face-to-face meetings with colleagues – not only in search of increased productivity but also due to the positive feelings that come from sharing a space with others.

Evolution

Consumers will not completely discard the lockdown habit of 'jumping on a video call' and connecting with their friends, family and coworkers. The increase in remote working that began before the pandemic will only continue into the future. Employers will reconsider their workflows that accommodate the new norm of flexible work. Communication tools will penetrate into every household and extend connectivity between locations and across generations. Online events and remote group activities will grow as technology evolves to allow new forms of remote presence. Remote communication and presence solutions will increase in importance in our daily lives.

DAU of Zoom reached **770K** in the UK **in May 2020** (37K in Jan 2020)[1]

62% of US workers started **WFH**[2]

WHO recommended staying in touch with seniors through **social media** and **videoconference**[3]

1. Statista, Joseph Johnson, "Daily active users (DAU) of the Zoom App", May 2020.
2. Gallup, Jim Harter, "How Coronavirus Will Change the 'Next Normal' Workplace.", May 2020.
3. World Health Organization, "Mental health and psychosocial considerations during the COVID-19 outbreak.", March 2020.

Opportunities

▍ Simplify experience for existing tools.

▍ Enable high-quality video and audio through hardware and software.

▍ Create smooth orchestration of multiple devices for enriched communication.

▍ Address the need for stable high-speed internet connection.

▍ Support different communication styles and methods.

▍ Extend existing products with new communication features.

▍ Build cybersecurity for safer remote work, health, and education.

▍ Offer products for lower-income families that enable remote experiences for all.
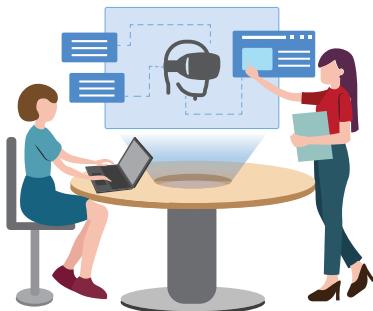
Reduced mobility has extended communication beyond the smartphone and has created emerging consumer needs that are the key to these new opportunities.

TTT Way

We develop a wide range of communication solutions to accommodate the world's rapidly changing communication needs.

Lenses

▍ How can we experience being present with our families and friends remotely?

▍ What are the right tools to improve the quality of communication?

▍ How can we enable connectivity while maintaining full privacy?

▍ How can we address the differences in communication based on the context?

Additional Avenues

▍ 5G technology to enable reliable and fast access to data

▍ Un-exhaustive UX design for telecommunication platforms

▍ Multi-purpose devices, e.g. using a tablet as a secondary laptop display

▍ Camera and display technologies for realistic communication

▍ Satellite technology to provide global internet coverage

Sparks

Working better from home or anywhere

Solutions to push the limits of existing devices and help users reach higher productivity levels.

▎ **Ultra-light AR HMD-based virtually extended workspaces.**

Product Ready

Remove every constraint and distraction

No display, no bezel, no keyboard – these constraints become the basis of new interaction experience.

▎ **New camera and display technologies to improve remote communication.**

Prototype ETA 2020

The comfort of family, even when they are far away

Designing ways for users to feel the comfort and warmth that the presence of friends and family brings.

▎ **Turn existing consumer devices into portals providing remote awareness.**

R&D Phase

02 Food

New paradigms around food, cooking, and kitchens

Background

▍ How food is purchased has been changing prior to COVID-19. Online shopping and meal kits have been growing rapidly.

▍ Siloed food value chain enabled cheap but unhealthy food to be distributed globally.

▍ High-income groups are increasingly consuming locally sourced, organic, and healthier foods.

Changes

Accelerated Changes

▎ Bulk purchasing has helped consumers minimize the number of trips to the store.

▎ With the closure of restaurants, home cooking has become more of a daily routine, and time in the kitchen has become a regular activity for many people.

▎ Increasingly, people have started to see cooking as a fun way to escape from the 'lockdown' routine.

▎ Ghost kitchens and food delivery services have experienced higher adoption.

▎ Luxury food consumers are increasingly switching to comfort food for convenience regardless of its health status.

▎ Demand for small kitchen appliances has increased as home-cooking has replaced eating out.

Gaps

▎ People, who are now doing much more home-cooking, are looking for ways to make this more efficient.

▎ Many people who are forced to home-cook are hampered by lack of experience in cooking.

▎ Existing ways of following recipes are often not very user-friendly.

▎ With kitchens becoming more necessary and food storage becoming more important, smarter storage systems which keep more food fresh, for longer, are needed.

Solutions that help users simplify the food supply and preparation processes are becoming more important in daily life.

Responses

Reaction

COVID-19 has forced the closure of many restaurants, and those which have reopened are serving at a limited capacity. The majority of people hesitate to dine at a restaurant. People look forward to dining out as before, but this will not happen until a vaccine is successfully deployed to the majority of the population.

Evolution

It is likely that, even after the lockdown is lifted, the increase in home-cooking will become permanent, and food and meal delivery services will remain popular and engrained options. Restaurants will normalize different methods for access to their services. Due to the increase in home-cooking and changes in eating behavior, cooking will not only be about having a meal. Kitchens will play a more important part in our lives than they did before the pandemic. Consumers will continue to find pleasure in their kitchens and will seek to improve this experience.

54% of US consumers are **cooking more**[1]

46% of US consumers are **baking more**[1]

42% sees **minimizing trips to food store** as a cooking priority[2]

1. Hunter, "Food Study 2020 Special Report", April 2020.
2. The Food Industry Association: FMI, "US Grocery Trends Study", June 2020.

Opportunities

▌ **Expand the smart kitchen experience with appliances that are truly smart, not simply connected.**

▌ **Design content creation and experience platforms for recipe sourcing, access to community knowledge, etc. in order to reinforce the sense of cooking as a shared experience.**

▌ **Enable higher levels of efficiency and convenience in the kitchen.**

▌ **Build a new kitchen ecosystem focused on food rather than appliances.**

▌ **Integrate solutions for smooth operation, not merely connectivity.**

▌ **Create essential kitchen infrastructure for homes, businesses, and ghost kitchens.**

▌ **Minimize and redirect food waste in commercial and home kitchens.**

▌ **Support distribution, storage, and consumption of lab-grown products.**

▌ **Design space-efficient and functionally effective kitchens, appliances, cooking tools and accessories.**

Kitchens and food are once again central to life, which provides a unique opportunity to reinvigorate a slow-moving segment by rethinking functions such as storage, cleaning, cooking, procurement, and more.

TTT Way

We build **assistive kitchens** with new tools and appliances that operate efficiently and create joyful experiences.

Lenses

▮ What missing components can make our kitchens smarter?

▮ What are the kitchen tasks that users want to offload?

▮ What are the tasks that users enjoy doing in the kitchen?

▮ Can we improve appliances that fail to serve the newly-discovered needs?

▮ How can we enable greater efficiency and planning in kitchen operations?

Additional Avenues

▮ Fusing advanced technologies such as computer vision into kitchen appliances to enable sophisticated features

▮ New kitchen infrastructure for further automation of tasks

▮ User-friendly content creation and consumption in the kitchen

▮ Going above and beyond the traditional product design with new displays and interactive surfaces

Sparks

A new tool for the kitchen

Offload dull kitchen tasks and focus on the fun parts instead.

▌ SMB robot arm suited to new food preparation norms and pressure for operational efficiency.

📦 Product Ready

New cooking technology

There has never been a device that can cook two things at once to different levels.

▌ Heat or cook different items on the same plate to varying levels by peering into the food to determine how it should be heated.

Chicken
Medium-well
350°F

Soup
Warm
250°F

Vegetable
Broil
150°F
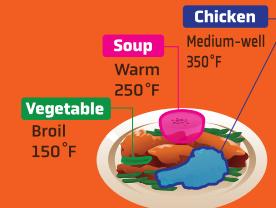
🔌 Prototype ETA 2020

A new take on urban gardening

The tools to eat better at home, even in small apartments in urban areas.

▌ A step toward a self-sustainable kitchen that grows greens indoors and keeps them fresh for longer.

📦 Product Ready
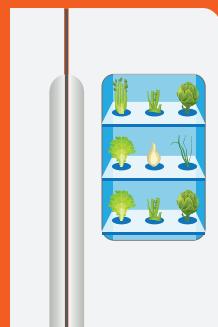
A little help reading and making recipes

Video-based recipes are growing in popularity despite a mediocre user experience.

▌ Technology that understands recipe videos and extracts the steps to help you hit every necessary step.

Ingredients

🍎 2 Apples

🟢 Green Pea

🐟 Mineral Fish

🟣 1/2 On

🔌 Prototype ETA 2021
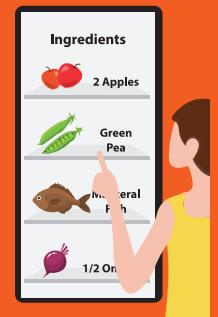
03

Retail

Rebuild retail experiences online and offline

Background

▎ The retail sector was searching for ways to increase personalization and efficiency.

▎ In-store retail technologies such as grab-and-go and order pickup were brought to life in pilot locations.

▎ Online retail has already achieved mass adoption and has been trying to expand to new markets.

Changes

Accelerated Change

▍ Consumers adopted new purchasing behaviors early in the pandemic.

▍ The majority switched to bulk purchases reduce trips to the store.

▍ New and existing consumers utilized various new methods of obtaining groceries such as curbside pickup, in-store pickup, and doorstep deliveries.

▍ Retailers and grocers experienced significant labor shortage and had to accommodate constantly changing public health regulations.

Gaps

▍ Although online shopping eliminates health risks, human involvement still poses vulnerabilities.

▍ Unmanned delivery systems fell short on the promise to become a game changer due to limitations in technology.

▍ Home shopping limits how well users can experience the products before making the purchasing decision.

▍ Retailers are finding new ways to accommodate health regulations, but this is still making it harder for many of them to survive.

Technology that overcomes the new constraints in retail is crucial for customers to access to and retailers to offer products and services.

Responses

Reaction

Online shopping has increased drastically with the enforcement of major scale lockdowns. Shipping costs and supply chain stress has increased significantly. Retailers tried to offer contactless payment methods but the transition was ineffective in many places. Many retailers failed to provide end-to-end contactless experience. Although retailers are trying to maintain hygiene standards, overall success in providing safe shopping experience is hard to assess.

Evolution

Retail operations and consumer purchasing habits are intimately tied to the future development of the disease. However, it is fair to say that consumers will stick with different methods of obtaining groceries and subscription models simply due to their exposure to these options and convenience factors. Following the mitigation of public health risks, retailers will drop some of the current limitations. New payment models that are introduced during the pandemic will stay. New retail models such as micro-fulfillment hubs, cashier-less checkouts will get even more popular.

17% of users switch stores based on **hygiene concerns**[1]

Buy Online Pickup In-store grew **28%** YoY in February (18% in January)[1]

218% Instacart download growth in March[2]

1. Mckinsey, "Adapting to the next normal in retail", May 2020.
2. TechCrunch, Sarah Perez, "Grocery delivery apps see record downloads amid coronavirus outbreak", March 2020.

Opportunities

▎ Support consumers in feeling safe while shopping in-person.

▎ Assist retailers in sustaining efficient operations with new tools and services.

▎ Enable customers to have a better online shopping experience and be better able to experience new products remotely.

▎ Automate 'last mile' delivery with a new generation of logistics.

▎ Provide cross-platform, end-to-end, contactless experience for the customer.

▎ Invest in retail infrastructure for smoother automation, powerful computation, and local experiences.

▎ Build solutions that accurately forecast consumer demand in this more uncertain world.

▎ Move the needle on the same-day-delivery challenge.

The death of traditional retail does not obviate the need for experiencing products, and multimodal and accessible hybrid online-offline future for retail is all but certain.

TTT Way

We enable safe and convenient retail with automation, new interaction modalities, and frictionless remote experiences.

Lenses

▐ How can consumers safely receive products at home without human interaction?

▐ How can we improve the online shopping experience for traditionally in-person products?

▐ How can we help retailers to accommodate new regulations and offer new delivery and shopping experiences?

▐ How do we enable contactless solutions that work with many vendors?

▐ What technologies can reduce retail-based human-to-human transmission?

Additional Avenues

▐ 5G technology to enable reliable and fast connection for local experiences

▐ Autonomous mobility technology for last-mile delivery

▐ Easy and simple user experience design for ordering, payment, delivery

▐ New supply chain models that enable personalized made-to-order products

Sparks
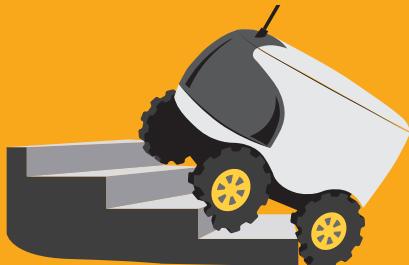
Mobility beyond flat ground

Create a mobile platform that can traverse rough roads and navigate steps.

▍**Indoor/outdoor robotic platform that converts easily between efficient rolling and tank-like obstacle-climbing without additional infrastructure.**

📦 **Product Ready**

New user interaction technology

A touchless solution to use kiosks and interactive displays using personal devices.

▍**Simple retrofitting technology allows existing kiosks to become touchless information hubs.**

📦 **Product Ready**

Customer engagement monitoring

How can we get the same analytics that we have online?

▍**Ability to monitor store traffic and customer interaction while ensuring full privacy.**

🔘 **R&D Phase**

04 Entertainment

A new era for personal entertainment and media consumption habits

Background

▌ Entertainment started merging online and offline experiences into a new hybrid typology.

▌ Online entertainment witnessed the proliferation of direct-to-consumer streaming services.

▌ As e-sports continued growing in popularity, gaming began driving hardware specs.

Changes

Accelerated Change

▮ Lockdowns forced social events, such as conferences, concerts, and theater shows to go online.

▮ People switched to virtual events and streaming content due to increased physical separation.

▮ Major music bands held virtual concerts, and major conferences moved online.

▮ Demand for high-performance gaming equipment increased rapidly.

▮ Legacy hobbies such as playing an instrument, reading books, gardening, etc. saw an immense surge. Sharing of such activities online became common.

Gaps

▮ Despite a rapid switch from offline to online, separate consumption lacked the visceral aspects of a shared experience.

▮ Many users had to deal with a poor quality experience due to hardware, bandwidth, or software limitations.

▮ Non-tech-savvy groups had trouble connecting to different platforms.

▮ Existing platforms had difficulty transitioning from B2B to B2C focus.

▮ Lack of established time to wind down due to working from home caused severe fatigue among the users.

Solutions that address the challenges of media access, consumption, and creation are becoming increasingly important for the overall experience.

Responses

Reaction

People started consuming more content due to restrictions on mobility and social gatherings as well as temporary loss of employment. Consumers diversified their subscription services. Currently, various services and platforms are adapting to different usage scenarios and remote-live performances. Media producers are transitioning slowly to the concept of exhibitions and shows without an audience. Libraries and other establishments are attempting to democratize free access in an online-only realm.

Evolution

We expect to see the majority of users balancing their digital lives in a better way as in-person entertainment events return. Regardless of easing lockdown regulations, entertainment will remain a mix of real and virtual. However, there will be some reduction in consumption and a rise in the consolidation of services. Rapidly-adopted digital tools and content platforms will keep their places in users' daily lives. People will create, share and enjoy the entertainment content more easily, seamlessly and virtually. The home has become the new art gallery, concert hall, museum, library, atelier, and more. Consumers will want creation and consumption tools to match these needs.

Time spent online increased by **215%** (March YoY) in the US[1]

In March 2020 **internet traffic** from video games was up by **75%**[2]

Oculus announced **$300M** non-ad revenue in Q1 2020[3] (80%up YoY)

1. Nielsen, "COVID-19: Tracking the Impact on Media Consumption", June 2020.
2. CBInsights, "24 Industries & Technologies That Will Shape The Post-Virus ....", June 2020.
3. The Verge, "Oculus sales spiked in the lead-up to Half-Life: Alyx", April 2020.

Opportunities

▮ **Build solutions, both hardware and software, that can validate authenticity and fact check content.**

▮ **Enhance existing solutions with media consumption focused features.**

▮ **Address gamers with powerful tools.**

▮ **Build seamless multi-device experiences for the home.**

▮ **Make it easy to access personalized content in shared devices, enabling the personalized content generation.**

▮ **Improve AR and MR devices for the experience beyond reality.**

▮ **Provide solutions for user to access local news and experiences.**

▮ **Develop new service models to bring creators and consumers together in novel ways.**

Entertainment has temporarily become solitary, but customers are hungry for high-performance approaches to entertainment that transform it back into a multi-generational and inclusive experience.

TTT Way

We build for a ubiquitous entertainment to share in and enjoy with new devices, novel form factors, and various access methods.

Lenses

▌ How can we enable digital communal entertainment together and remotely?

▌ How can we achieve better content delivery on existing devices?

▌ How can we improve the entertainment experience on shared devices?

▌ What type of features we can add to enable unwinding and non-addictive entertainment?

Additional Avenues

▌ Seamless connectivity with advanced security across devices

▌ High quality mobile content consumption experience at anytime and anywhere

▌ Access to personalized content on shared devices

▌ New and better tools for an immersive entertainment experience

▌ 5G and telecommunication technologies for fast and low latency connection

▌ Attractive devices for gamers by improving performance and usability

Sparks

Hyper-personalized content

Use a shared device like a fully-personalized portal to your media contents and interactive experiences.

▌ **Enable users to instantly access personalized content on shared devices at a touch.**

📦 Product Ready

A device to play on, together

Play together and share in the experience with loved ones without compromising on fun and quality.

▌ **New shared device and form factor for families and friends to work/play together.**

📦 Product Ready
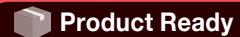
New kids' device for fun and care

Learn, play, consume, and create content on a device built just for kids under the supervision of their parents.

▌ **Interactive TV for Kids with kid-friendly design and features offer access to safe education and entertainment content.**

📦 Product Ready
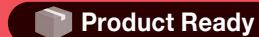
Big screen from a tiny wearable

Extend the screen but also make it private, and bring personalized immersive portable displays to reality.

▌ **Light head-mounted display devices that connect to a mobile device or TV and provide a 145-inch view.**

🛰 Prototype ETA 2021
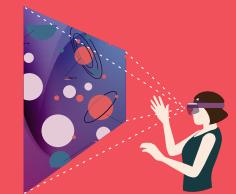
05 Wellbeing

Comprehensive always-on care for physical and mental wellness
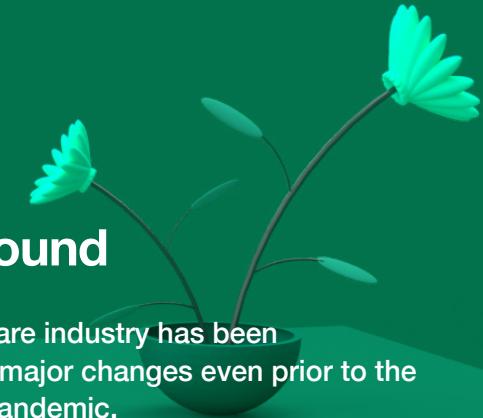
Background

- The healthcare industry has been undergoing major changes even prior to the COVID-19 pandemic.

- Big technology companies are becoming ambitious players in the market.

- Health and fitness are becoming our society's newest status symbol.

Changes

Accelerated Changes

▎ The home has become the focal location of physical and emotional health care.

▎ More people have started purchasing home fitness equipment. Dumbbells, weight plates, and fitness benches have seen a rapid rise in demand.

▎ Healthcare providers have offloaded minor issues to virtual healthcare systems.

▎ Telehealth services, patient tracking, live fitness and coaching solutions were well received by consumers.

▎ With COVID-19, "health from home" became a reality and many consumers had their first remote doctor visit.

Gaps

▎ People have switched to in-home fitness and have faced challenges in accessing personalized advice and coaching.

▎ While remote therapy sessions have been adopted by many and was effective for minor issues, a better medium is needed.

▎ There is no effective solution for those suffering from disconnectedness, loneliness, and isolation.

▎ Many suffer from claustrophobia by staying indoors for extended periods.

▎ Social isolation has vastly increased mental distress, especially among elderly and single-person households.

Addressing the immediate wellbeing needs with technology and policy-making is critical for the overall livelihood of the society.

Responses

Reaction

COVID-19 forced us to move our activities indoors. Fitness instructors moved their services online, as well as doctors and therapists. For those with minor issues, this was a boon, and many were introduced to and accepted telehealth and tele-activities. However, for more serious issues, there was no panacea. Mental health issues skyrocketed due to increased isolation which will leave a long-term detrimental impact on people.

Evolution

Consumers will value the convenience of accessibility for care from home for most minor issues going forward. As health risks are mitigated, gyms, fitness studios, wellness visits to doctors, and more will start attracting customers again. Traditional services will adopt online touchpoints and offer hybrid solutions. Research on creating a healthy, sanitary, peaceful indoor environment will be more important than ever. Better solutions will be developed to address the myriad mental health issues triggered by isolation. Wellbeing will be spread across many aspects of life.

Mental distress rose to **27.3%** in April 2020 in the UK[1] (from 19.9% in 2018-19)

Equipment sales grow by **170%** during coronavirus lockdown[2]
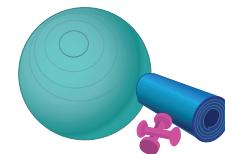
61% of patient appointments conducted via **telemedicine** (Only 2% before COVID-19)[3]

1. Pierce, Matthias et al. "Mental Health Before and During the COVID-19 Pandemic", July 2020.
2. PR Newswire, "Impact of COVID-19 on Fitness Equipment Markets - Online", May 2020.
3. Ipsos, Reena Sangar, Emma Middleton, "The Time is Now", July 2020.

Opportunities

- Build consumer-level home health infrastructure as a continuum from home to the doctor's office.

- Bring medical-grade health solutions to consumers for everyday at-home use.

- Create a healthy indoor environment to help consumers relax and regenerate.

- Develop scalable services and logistics models to enable personalized medicine, drug packaging, and distribution.

- Address the significant negative impact of social media on mental health.

- Build solutions to provide contentment and peace.

- Provide lower-cost access to health care delivery, offering the benefits of retail and neighborhood clinics.

- Automate tasks to allow health care workers to be more efficient and responsive benefits of retail and neighborhood clinics.

Wellbeing has become an urgent need for everyone regardless of income, location, or time. This opens up new avenues for making mind-body wellbeing technology and services accessible to all.

TTT Way

We create always-on health through advanced technology by addressing both mental and physical wellbeing.

Lenses

▌ What are the tools and services we can build to improve fitness at home?

▌ How can we respond to emergencies faster such as falls, stroke, etc.?

▌ How can we address the loneliness that many people young and old suffer from?

▌ How can we make this new multitude of cramped indoor experiences feel more expansive?

Additional Avenues

▌ Easy access to wellness content and services from TV or mobile

▌ Wearable devices to monitor health and emergency situations

▌ Developing edge solutions to monitor indoor wellness

▌ Remote presence solutions help people who suffer from loneliness

▌ Technologies to bring the sense of being outdoors to indoors

Sparks

Not just light, but atmosphere

Many have tried to build artificial suns, but we instinctively know that atmosphere and shadow is what makes light beautiful and relaxing.

❚ Ambiance created from shadow and light, designed to bring a sense of calming space which can soothe emotional distress and sadness that come with staying indoors – and treat mood disorders in a new way.

🔌 **Prototype ETA 2021**

See to the skin, and beneath

Technology that looks at and into the body in new ways to provide users with more insights about their health.

❚ Miniaturized tissue scanner that can peer between cells to tell you more about how your body is doing.

🔌 **Prototype ETA 2021**

Caring from a far

Though we live more apart today, our hearts are always close to our elders. How can we put our minds at ease about their wellbeing?

❚ Elderly caregiving made easier using RF sensors to easily monitor elderly indoors and get alerted in emergencies.

💡 **R&D Phase**

Reacting Now

2020 has been a great accelerator for change. Global economic volatility, emerging conflicts and alliances, changing population and risk-taking mindsets are all impacting consumer needs and preferences. Samsung, as a market leader, has the great advantage of having the right resources to be competitive. **However, our leadership position is also under threat due to the changing landscape.**

Samsung should start building for the coming changes, acquire expertise in advanced technologies, and build value-adding products to capture the competitive advantage in the new order.

While there is certainly uncertainty ahead, we must prepare our strategy before the uncertainty can resolve to gain the most advantage from this moment. **Samsung has the ability to gain a strong position in the five major areas outlined here – communication, food, retail, entertainment, and wellbeing.**
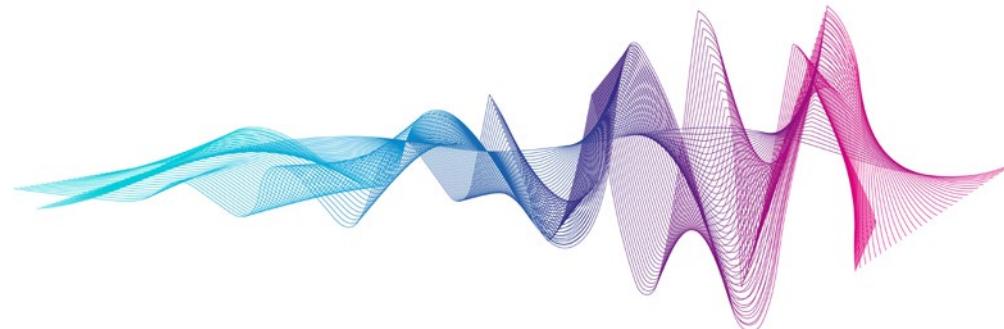
"Success today requires the agility and drive to constantly rethink, reinvigorate, react, and reinvent."

Bill Gates

Communication
The transition from handshake to video calls

We develop a wide range of communication solutions to accommodate rapidly changing communication needs.

Food
New paradigms around food and cooking

We build assistive kitchens with new tools and appliances that operate efficiently and create joyful experiences.

Retail
Rebuild retail experiences online and offline

We enable safe and convenient retail with automation, new interaction modalities, and frictionless remote experiences.

Entertainment
A new era for personal entertainment habits

We build for a ubiquitous entertainment to share in and enjoy with new devices, novel form factors, and various access methods.

Wellbeing
Comprehensive always-on mental and physical care

We create always-on health through advanced technology by addressing both mental and physical wellbeing.

Reset, Rethink, React.

Conclusion

R³:SIS rejects the concept of a "new normal" because, along with many industry leaders, we expect the signature of the next decade to be disruptive change. We do not face a straightforward, linear process of incremental adjustments, but a chaotic process driven by significant and fast-changing requirements of daily life.

TTT's mission is to identify and study new opportunities for Samsung. To that end, we examined each business area to identify key questions and new possibilities. We further evaluated these options through the TTT lens – a multidisciplinary approach aimed at identifying gaps in the technology.

Our unconventional and responsive R&D approach highlights strategic and near-term positions for Samsung. We have already begun to build the Spark projects that will be the basis of tentpole technologies which could give Samsung a strategic advantage in an uncertain future.

In this moment of transition towards a completely new strategic context, we believe that we must plan, not for stability, but instability – to Reset, Rethink, and React – and to give Samsung an elevated level of leadership in consumer electronics.
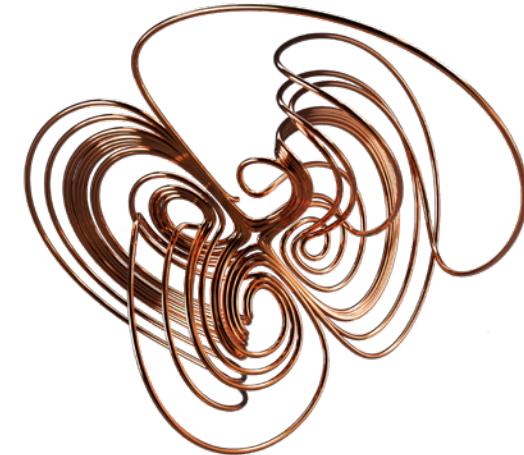
The coming decade will be characterized not by linear social dynamics, but by chaotic convergence to attractors.

"With its intriguing double-lobed shape and chaotic dynamics, the Lorenz attractor has symbolized order within chaos"
Stewart, I. The Lorenz attractor exists. Nature 406, 948–949 (2000).

Think
Tank
Team

Think
Tank
Team