



TSSG



Post-Covid 19 Industry Insights

Report 2020



Waterford Institute of Technology
INSTITIÚID TEICNEOLAÍOCHTA PHORT LAIRGE



**ENTERPRISE
IRELAND**
where innovation means business



Ireland's European Structural and
Investment Funds Programmes
2014-2020
Co-funded by the Irish Government
and the European Union



European Union
European Regional
Development Fund

ABOUT THIS REPORT

This Post-Covid 19 Industry Insights Report was created for the Telecommunication and Software Systems Group in the Waterford Institute of Technology in 2020 by Carol Faughnan, Business Development Executive of the Enterprise Ireland Technology Gateway.

The Technology Gateway at TSSG is a strategic partnership between WIT and Enterprise Ireland to offer technical expertise and funding supports to SMEs. The TSSG Tech Gateway team, led by Miguel Ponce De Leon, have their finger on the pulse regarding the current situation with Irish Companies as well as insights emerging through academic research.

Our aim is that this report helps Irish Companies to see some clarity and vision and to continue to grow, and even flourish during and post the Covid-19 pandemic.



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THE ECONOMIC PICTURE

Covid-19 has led to a recession to the like which has not been seen since the Global Depression in the 1930s.

Global

Euromonitor International has published a baseline forecast for global real GDP growth in 2020 in the 4.0% to -1.5% range.

Euro-Zone

EC Summer 2020 report for the Euro-zone, states "All in all, real GDP is projected to contract by 8½% in 2020, while the economy is expected to grow by 6¼ % in 2021, on the back of the pent-up domestic demand release and the global post-crisis recovery.

Ireland

In terms of the fund's outlook for Ireland, it expects the economy to contract by 6.8 per cent this year, before bouncing back strongly next year, growing by 6.3 per cent against a euro-zone average of 4.7 per cent. (Irish Times)



KEY FINDINGS

- The economic and consumer landscape sees new values and spending criteria with the closure of non-essential retail and manufacturing facilities.
- Rising trend for hometainment. eCommerce accelerating with a major shift to online shopping.
- Health concerns take centre stage to be the main driver of premiumisation and a new focus on mental wellbeing, favouring functional, mood-boosting items.
- Companies will also face consumer demand for altruism over profit and a championing of local causes and tailored local supply



Agriculture, Food and Nutrition

Severly Affected

The coronavirus hit Irish goods exports in February, severely impacting the food industry as exports dropped by almost €2.2 billion. CSO figures show goods exports fell by 16 per cent to €11.6 billion. However, post Covid trends will see an increase in local buying, for convenience as well as wellbeing as sales rise in the demand for immune boosting functional products, e.g. pre-/pro-biotics for gut health and mood food for mental wellbeing that can be delivered locally.



Grant Thornton

According to Grant Thornton, The agricultural and food industry has been thrust into action with 36% Irish food and agricultural companies now looking at realizing efficiencies to enable agility though embracing new technologies.



World Farmers Organisation

The World Farmers Organisation have also analysed how digital solutions can help with post-covid impact on farmers & farming activities to:

- **Reduce costs and predict production patterns**
- **Plan production activities**
- **Communications & operations**
- **Online sales and promote local**
- **To create more transparent markets**



TSSG



TELECOMMUNICATIONS SOFTWARE & SYSTEMS GROUP



TSSG INSIGHTS

TSSG as a leader in Horizon Europe with Ag and food companies recognises the trends and difficulties in the Eurozone from Agri providers. Reporting the following trends:

- **Difficulty finding seasonal workers leading farmers to consider robotics for harvesting.**
- **Trend towards local, nutritious and quality food.**
- **Imbalance in demand / supply of food is leading producers to consider transparency in the supply chain.**
- **Tracking and tracing products is more important than ever with tighter border controls.**
- **Decline in Ag-tech in the Developing world**

Similarly on the Global platform, IbisWorld in Australia report mixed effects on export markets for Australian meat and dairy products which household brands benefiting most. Smaller producers that normally sell their produce to food-service businesses and at fresh produce markets could encounter difficulty in accessing retail and wholesale markets, which typically favour large-scale producers. Agricultural exporters also faced risks from declining air cargo traffic, which raised freight costs for highly perishable goods. In April 2020, the US Federal Government announced a \$110.0 million freight subsidy to reduce shipping costs and support exporters. Trade tensions between Australia and China are also affecting agricultural exports, with China limiting beef imports and imposing heavy tariffs on Australian barley in May 2020.

TALK TO TSSG ABOUT A SOLUTION FOR YOUR AGRI BUSINESS



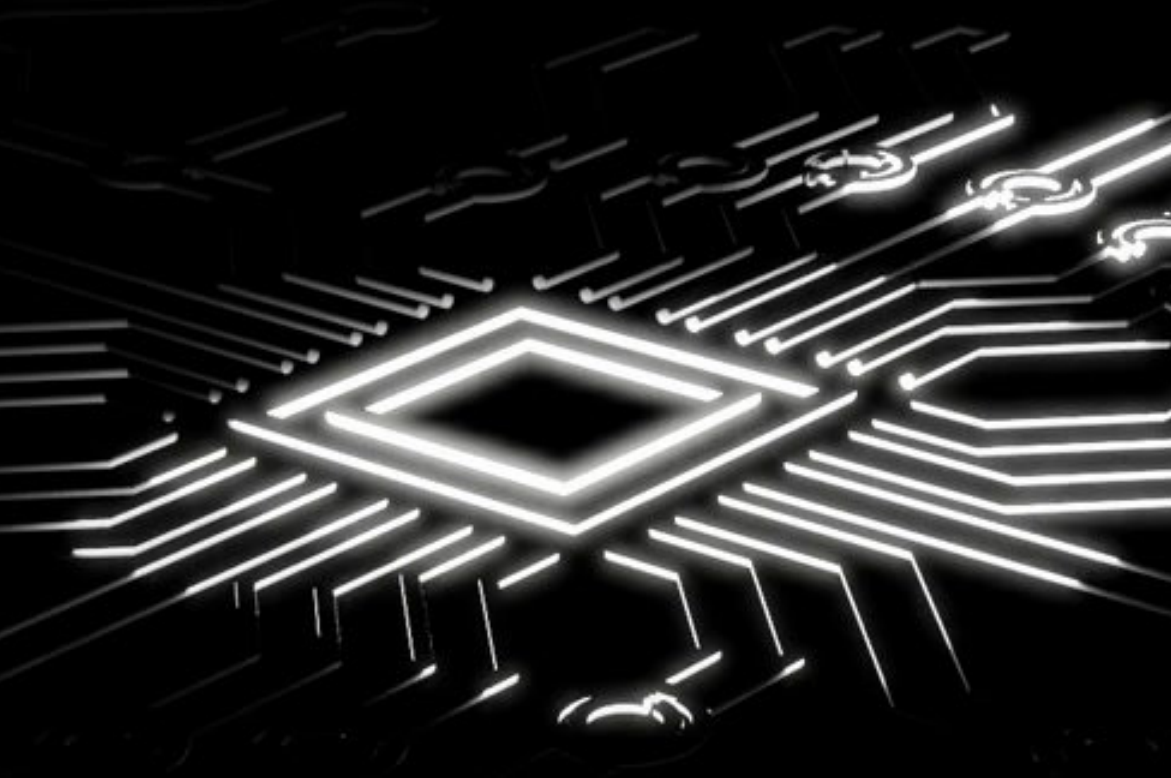
Telecommunications Services



TELECOMMUNICATIONS

MODERATELY AFFECTED BY COVID-19

Telecommunications networks rely far more heavily on technology, rather than labour. The greatest potential risk for the industry during and post-covid is a shortage of labour for repairs, which could render elements of a network inoperable. However, even in an extreme scenario, disruptions to telecommunications networks remain unlikely. Other restrictions include more stringent rules for accessing public sites such as Watertowers, Masts, and County County sites.



THE PANDEMIC HAS BEEN A WAKE-UP CALL TO CLOSE THE DIGITAL DIVIDE.

Traffic jumped by as much as 60% in OECD countries. As of 2020, 45% of the global population did not have access to the internet but in the light of the pandemic, demand for high speed broadband and communications services is soaring.

By 2030, 77% of the global population will have access to the internet

Fuelled also by the fact that operators all around the world have also joined the fight against COVID19. Many, including Deutsche Telekom, Telia and Telenor, are collaborating with national authorities to use aggregated and anonymised movement data to anticipate the spread of coronavirus. AT&T, which provides voice services in more than 200 countries and 34,000 Wi-Fi hotspots, initiated measures to ensure connectivity. It offered schools 60 days of unlimited data for laptops, tablets and hotspots. It kept public Wi-Fi hotspots open to those who need them through June 2020. (Euromonitor International)



THE SUSTAINABILITY & ENERGY MARKET



BADLY AFFECTED

Covid-19 will pause the development of the sustainability trend within the consumer sector, but it will not halt it. They highlight that the short-term pause in the development of the sustainability trend will be driven by consumers placing their focus on hygiene and health, resulting in greater demand for disposable products and a roll back of some sustainable policies. (Fitch Solutions)



Post covid attention will shift back to ethics and moral values

No negative impact is expected in the war against waste in the long run. Pre-COVID-19 focus on zero waste and circular economy will continue long term, with more safety measures and regulations in place to ensure the security of reusables and refillable products. During the pandemic some airlines, coffee chains and train companies have banned the use of reusable containers to prevent contagions during the outbreak. Refill is a nationwide scheme providing a network of points offering the public free tap water in the UK. Refill app enables consumers to find water on the go, listing public fountains and local businesses offering free water refill. (Euromonitor International)



MANUFACTURING AND SUPPLY CHAINS

WORST AFFECTED BY COVID-19

The mobility, industrial and manufacturing spaces remain among the most affected by shutdowns related to the COVID-19 pandemic. Major delays in electronic supplies are affecting the value chain; manufacturers expect delays in shipments of finished products.

Post Covid-19 will experience capacity constraints, storage and warehousing space constraints, high delivery costs, and border delays.



Research highlights that problems with the will taper as digital strategies are put in place....

- Look for the best-fit solutions in the customer value chain.
- Build capabilities and flexible capacity to align service offerings with customer expectation. (Digital Strategy)
- Strengthen regional and global links through collaboration.
- Engage with customers regularly and offer cost-effective solutions.
- Proactively interact with carriers for updates on port congestion and timing of vessel arrival.



HEALTHCARE AND PHARMACEUTICALS



High Impact on Healthcare

"The need for medical device, personal protective equipment, and pharmaceutical goods distribution and associated value-added services is expected to spike among governments and healthcare institutions because of increasing pressure on nations' health systems."
(Frost & Sullivan)

HEALTHCARE ISSUES

- Cancelled Doctors Appointments
- Mental Health Issues
- Missing Vaccines risking outbreaks of infectious diseases such as Measles
- General health and well-being not a priority over Covid-19

Health Innovation Hub Ireland's COVID-19 Solutions Portal has captured nearly 200 innovations. Working with our government partners- DBEI, DoH, HSE and EI many of these solutions have now been implemented to support healthcare during the pandemic.



“What we’ve seen in Ireland is that people generally have really taken on board the nature of the collective action problem that we’re in at the moment,”

Shane Timmons, from the Behavioural Research Unit at the Economic & Social Research Institute (ESRI).



**The following Case Studies show how business
across different sectors are using tech
to beat post covid fatigue**



WHAT DO BUSINESSES FOCUS ON? MOVING FORWARD GLOBALLY WITH...



REMOTE MONITORING

Using tools to digitalise and promote automation



REMOTE LEARNING

Versatile communication tools and



PROXIMITY PAYMENTS

Commercialisation Strategy

FOOD AND AGRI GO DIGITAL

USING MORE MOBILE APPLICATIONS



GOMEAT

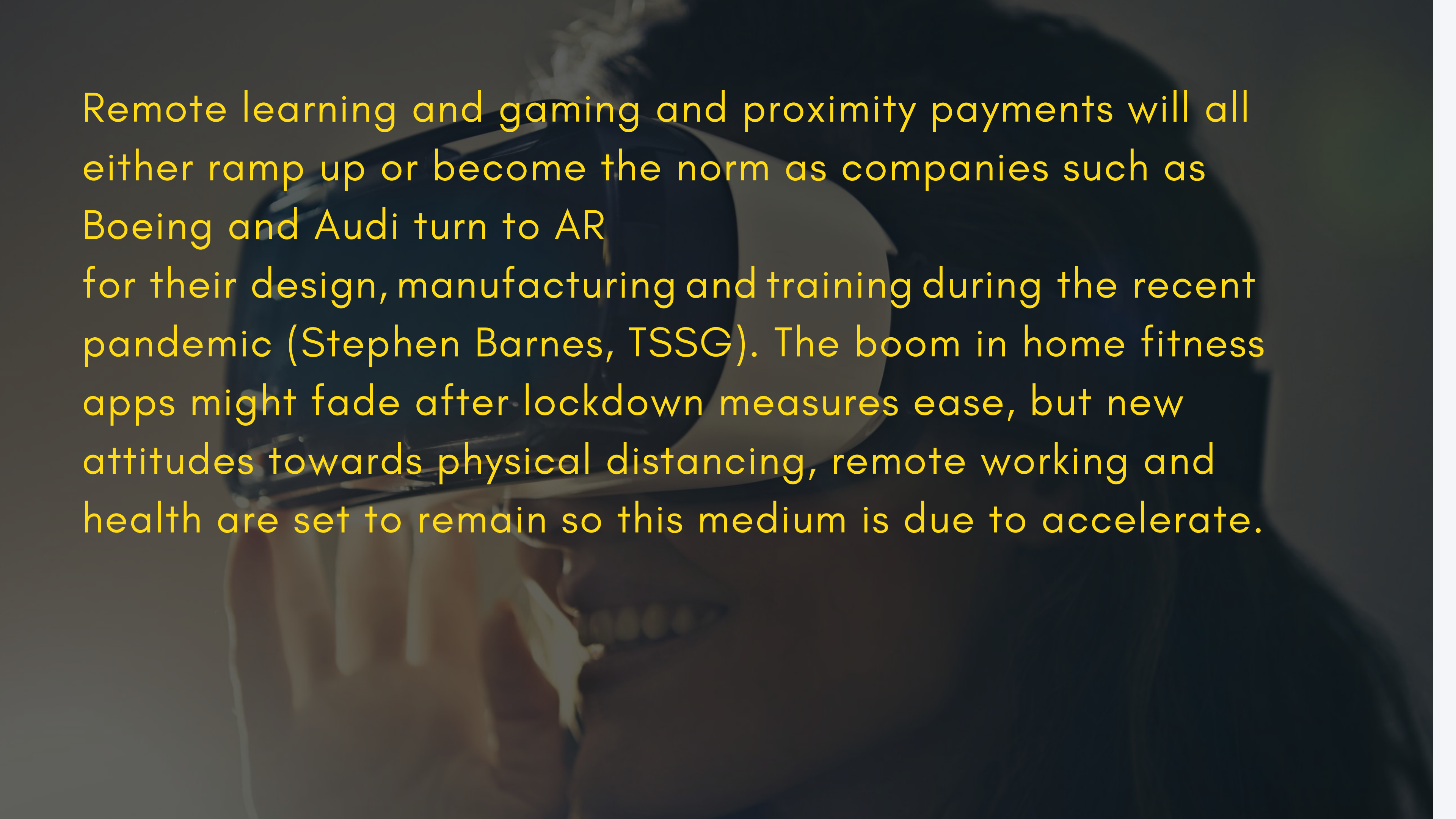
Meat delivery company in the US, GoMeat whose smartphone app allows consumers to order meats from neighbourhood stores has needed to launch a fundraising campaign to allow it to urgently scale up to meet surging consumer interest when the app had a significant upswing in the number of downloads since the Corvid-19 outbreak.



THE 'TRY BEFORE YOU BUY' MODEL

USING AR/VR



A person wearing AR glasses, with a hand holding a controller in the foreground. The background is dark and blurry, suggesting an indoor setting. The text is overlaid on the image in a yellow font.

Remote learning and gaming and proximity payments will all either ramp up or become the norm as companies such as Boeing and Audi turn to AR for their design, manufacturing and training during the recent pandemic (Stephen Barnes, TSSG). The boom in home fitness apps might fade after lockdown measures ease, but new attitudes towards physical distancing, remote working and health are set to remain so this medium is due to accelerate.

KOHL'S AUGMENTED REALITY VIRTUAL CLOSET

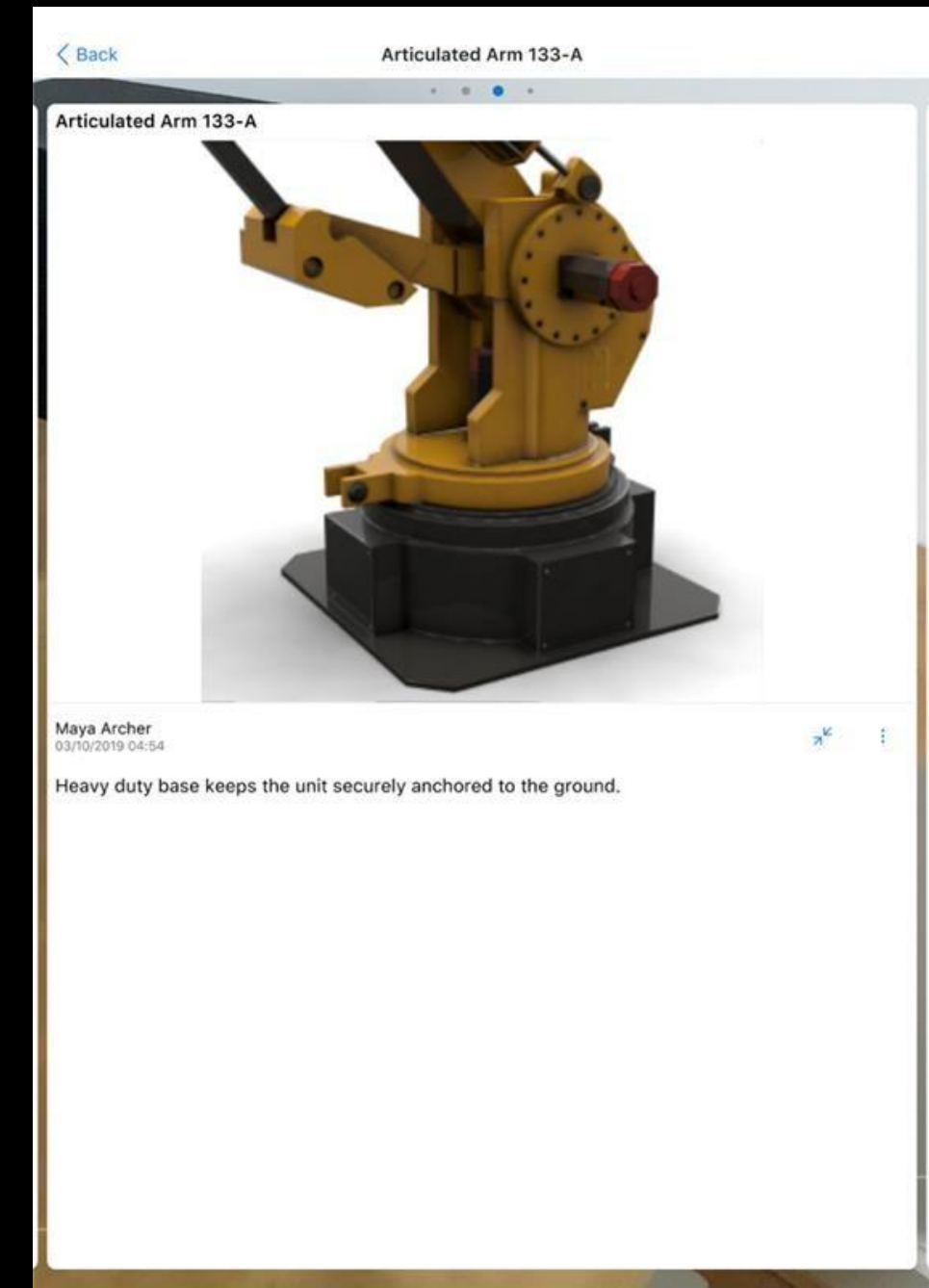
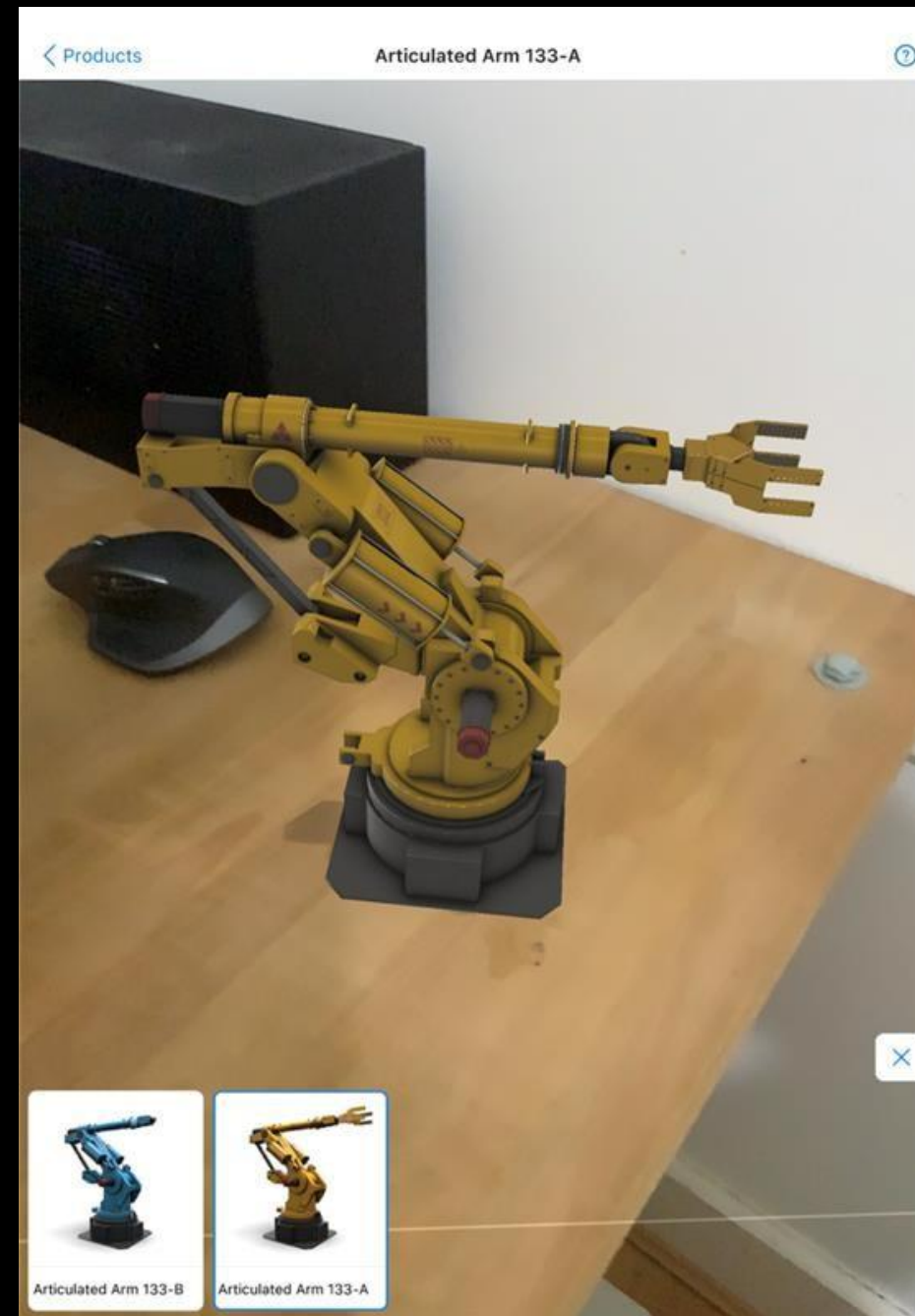
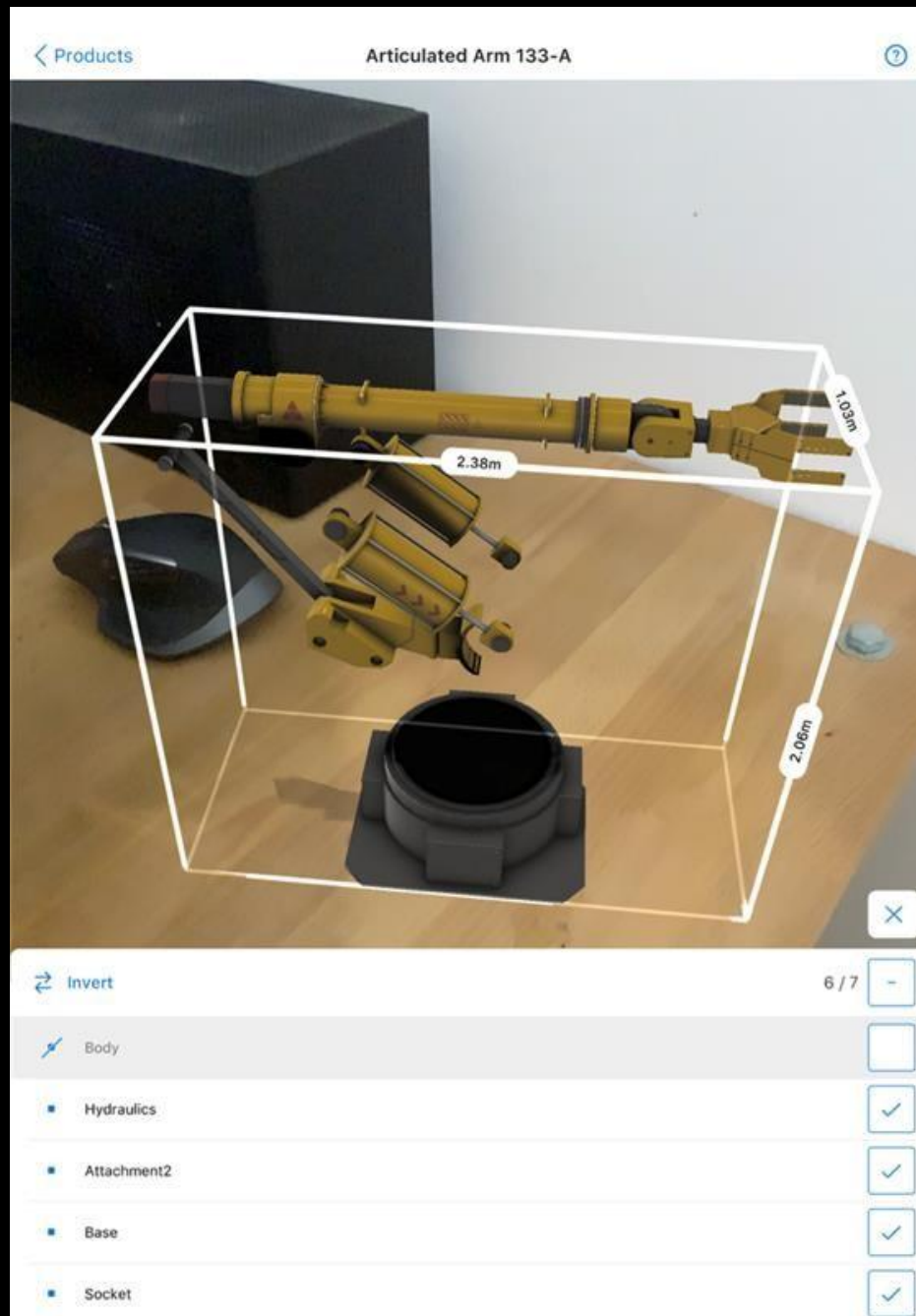
US department store chain Kohl's launched an augmented reality virtual closet in partnership with Snapchat. The technology allows users to browse Kohl's clothes from home and make purchases without leaving the messaging app. VR and AR experiences existed before COVID-19 but are gaining momentum as brands and retailers seek new ways to deliver easy shopping, and a personal touch to consumers. The tremendous acceleration of digitalisation is here to stay. The VR, AI and live-streaming technologies adopted by brands and retailers during store closures are set to be used on a much larger scale after the crisis.



IKEA PLACE uses AR



AR Prototypes for Remote Design Consultations



ARTIFICIAL INTELLIGENCE (AI)



Hi, these are popular at this restaurant



Bacon Egg & Cheese Biscuit



Hotcakes



Coffee



Hash Browns

MC DONALD'S

AI-Powered Digital Menu Boards

Make

McCafé



Coffee
@ 1.00 | 0 Cal

Iced Caramel Macchiato
@ 3.39 | 250 Cal

Now

AI-POWERED DIGITAL MENU BOARDS

In 2019, McDonald's acquired artificial intelligence start-up Dynamic Yield to provide digital menu boards at its drive-throughs that use machine learning to give consumers suggestions based on customer preference, time of day, and popularity. They also acquired Apprente, a voice-automation start-up, in order to integrate voice-ordering into its drive-through experience. In the US -which accounts for over half of McDonald's global sales -drive-through traffic has held up well during the COVID-19 pandemic by integrating AI into their drive-through service.

BLOCKCHAIN





"Blockchain innovation could be a game changer in the future of supply chain management, providing transparency on the transaction process, and offering more flexibility in the order management, a functionality clearly needed post COVID-19".

According to the IFA the use of Blockchain in the agri food chain is inevitable for:

- Tracking and Tracing for improved logistics
- Promote transparency in the food chain
- Recording management of certificates inter-regionally
- Improving data sharing & trust
- Credit & Financing
- Decreasing transaction fees
- Enhance insurance & indemnity



IFA

Beefing Up Blockchain. How Blockchain can Transform the Irish Beef Supply Chain

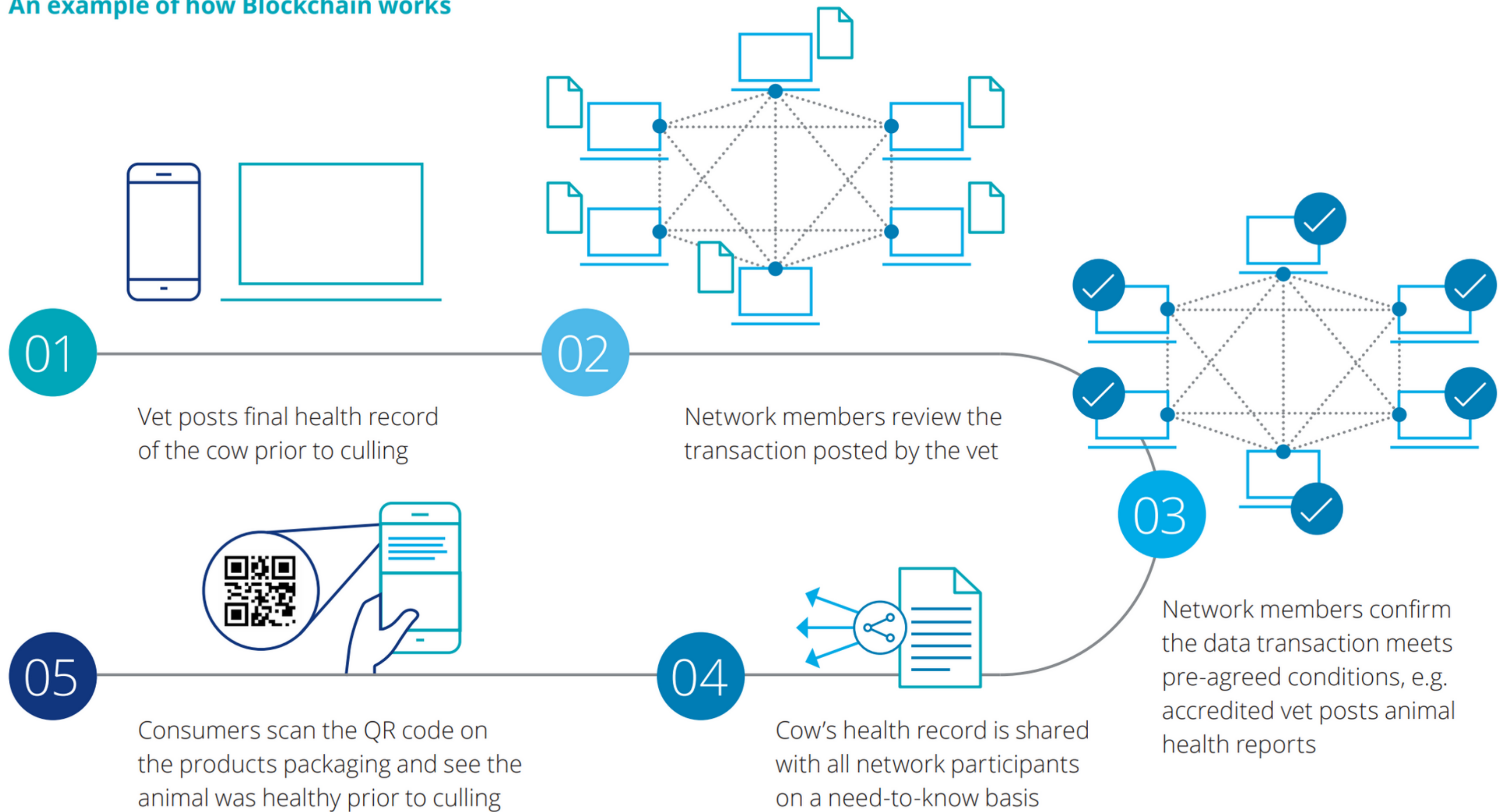
- Tracking and Tracing for improved logistics
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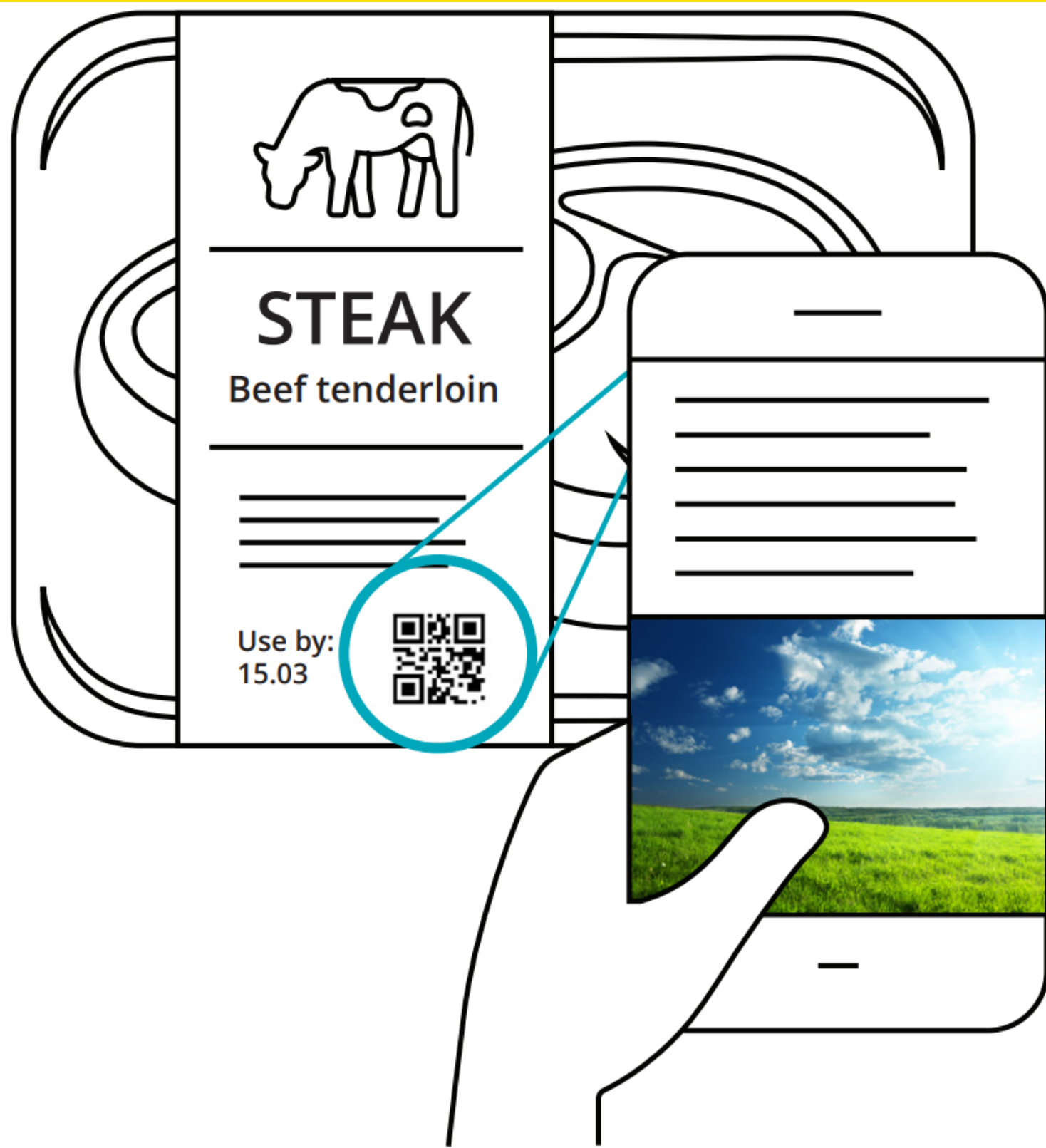
Deloitte.



Beefing Up Blockchain
How Blockchain can
Transform the Irish Beef
Supply Chain

An example of how Blockchain works





Blockchain Model

QR codes located on product packaging give the consumer access to the information stored on the Blockchain through an augmented reality experience. This provides consumers with product information that aligns with evolving purchase drivers and consumer trends.

The consumer will be able to use their smart mobile device to scan a QR code which will provide them with detailed information about the product's journey to the shelf.

To align with the growth of online retail a hyperlink can be added to webpages. This will enable consumer access to the information stored on the Blockchain to enable informed purchase decisions.

Deloitte: Beefing Up Blockchain | How Blockchain can transform the Irish Beef Supply Chain

WEARABLES

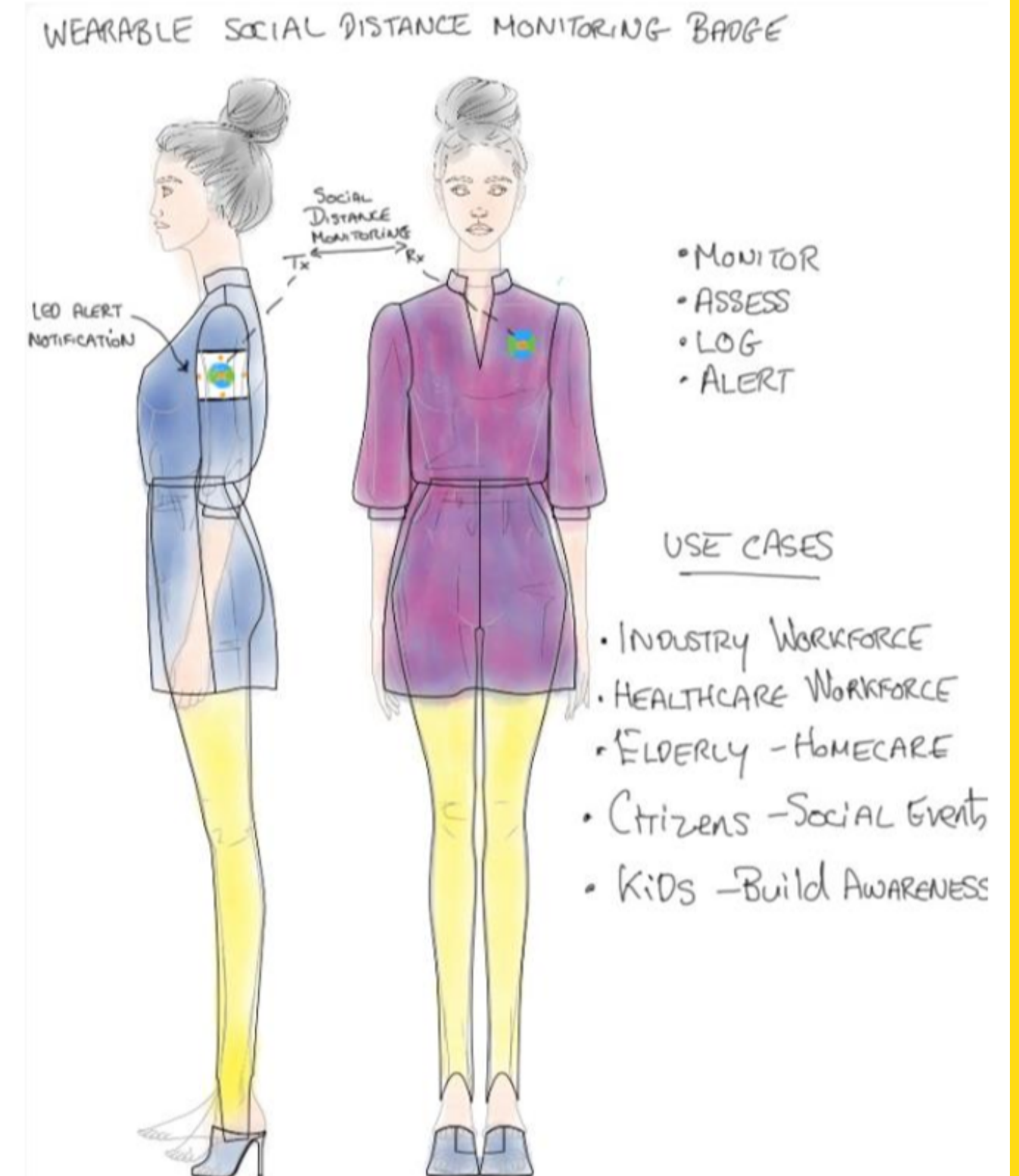
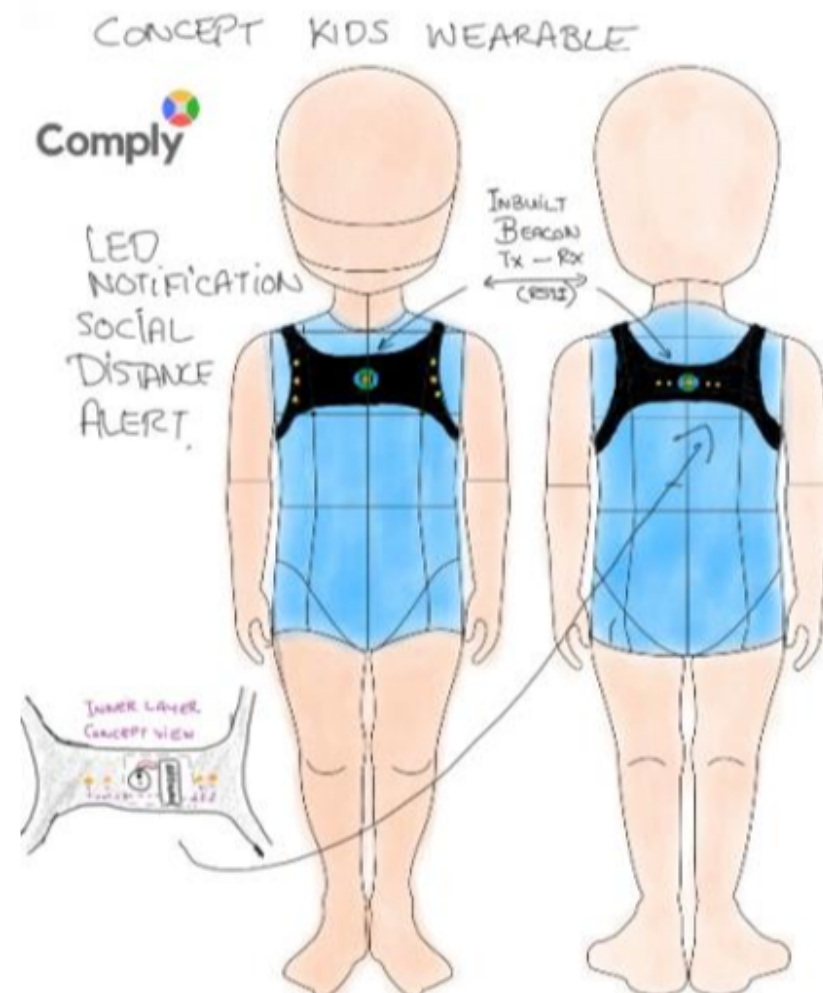
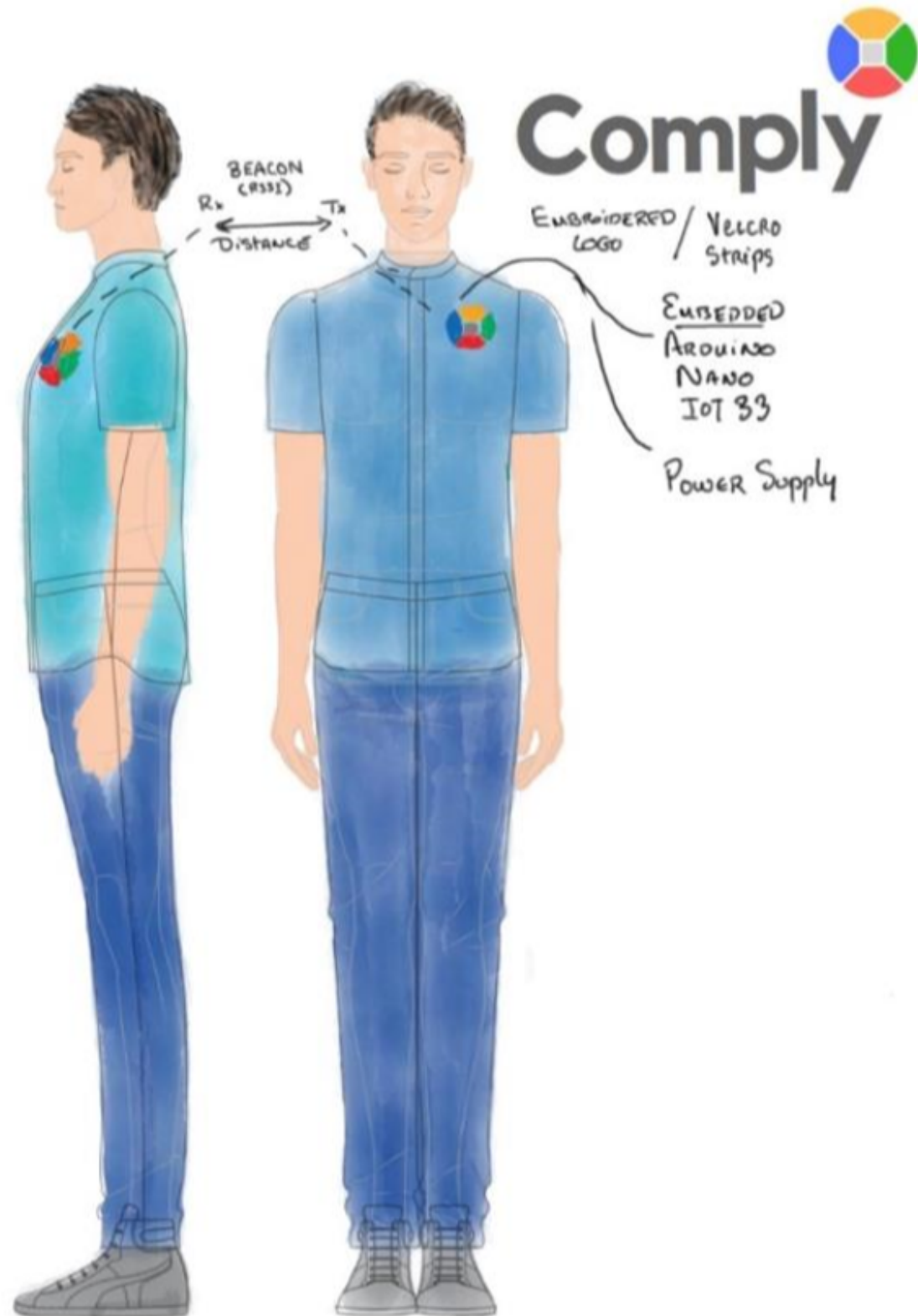




Wearables that can scan for other wearables around it and monitor how close they are on the increase to gather patient data and monitor behaviour in public spaces for the protection of citizens.

Comply SFI, EI, IDA Ireland COVID-19 Rapid Response Funding Call Submission by TSSG

Initial Basic concept Designs of COMPLY wearable



WHAT SHOULD BUSINESSES FOCUS ON?

- Accelerate the Digital
- We are all Health Players now
- Corporate Altruism
- Supply-Chain & Pricing
- Hometainment



CONCLUSION

New values are giving rise to agile innovation: The speed of disruption caused by COVID-19 highlights the importance of businesses being agile and flexible, to be able to innovate to meet dynamic demands brought about by interruptions, disruptions as well as rapidly changing consumer needs and habits. Leading to more sustainable, healthier, and “less is more” approach to consumption. Brands and retailers will need to invest in technology from ecommerce, and digital payments through to AI. Blockchain and VR -to attract consumers with new needs, habits, and concerns in a post-lockdown world.



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GET TO KNOW US



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