

The background features a person's hands typing on a laptop keyboard. Overlaid on this are several semi-transparent data visualization elements: line graphs with multiple data series, bar charts, and a world map. A 'Technology Innovation SYSTEM' interface is visible in the top left, listing 'Innovation Branding Solution Marketing Analysis Ideas Success Management'. The overall aesthetic is dark and tech-oriented.

THERE'S NEVER BEEN A BETTER TIME

to shape the future





INTRODUCTION

Cisco CREATE (Collaborative Research and Emerging Technologies) focuses on finding effective and innovative technology-based solutions to some of the most pressing real world challenges of today.

Through undertaking a range of varied projects ranging from smart cities to natural disaster frameworks, our bleeding-edge collaborative research plays a vital role in Cisco UK & Ireland's Innovation programme.

CREATE acts as a hub for trailblazing applied research, with a focus on technologies and market opportunities surrounding digitisation and the IoT technology model.

Home to close-to-market research and proof of concept initiatives, delivered through a co-innovation model, the primary role is to grow and develop meaningful and implementable UK-based innovation.

For more information on Cisco CREATE and some of our projects visit **cisco.co.uk/businessinnovation**

THE TEAM

The Cisco CREATE team is made up of a group of leading innovators, industry experts, developers and researchers who work on a variety of exciting projects, from inception through to reality, throughout the UK.

It takes different perspectives to envision the future, so we collaborate with industry partners, start-ups, government, research institutions and universities.

We're building on the ideas and creativity of UK talent to develop technology solutions that add value to the UK: be that public sector, businesses or citizens.

OUR PROJECTS



CONSERVE



The Contingency Operations for Strategic Infrastructure and the Vulnerable (CONSERVE) project is building a system that will help authorities, emergency services and citizens respond more effectively to flooding and other emergencies.

By pooling data held by public sector agencies and private operators, CONSERVE will obtain a view of risks and failures across water, energy and transport systems.

An incident occurred recently in a large city where a water purification plant broke down. The access road was iced over and un-gritted, as it was not on the local authority plan, and therefore the engineers struggled

to reach the facility and the city ran out of clean water. This issue could have been averted with full mapping of key infrastructure and interdependencies between city and infrastructure operators.

CONSERVE is initially being developed for Glasgow where Cisco's virtualisation solution will collect data from the City Observatory and Scottish Water, and send actionable information to first responders via mobile apps. If successful, CONSERVE will create a first-of-its-kind service for other cities to build on, as climate change and rapid urbanisation significantly increase the risk of flooding and damage in cities across the globe.

SWIFT



The Superfast-WiFi-In-carriage-for-Future-Travel (SWIFT) project aims to deliver high quality and high-speed WiFi broadband to rail carriages.

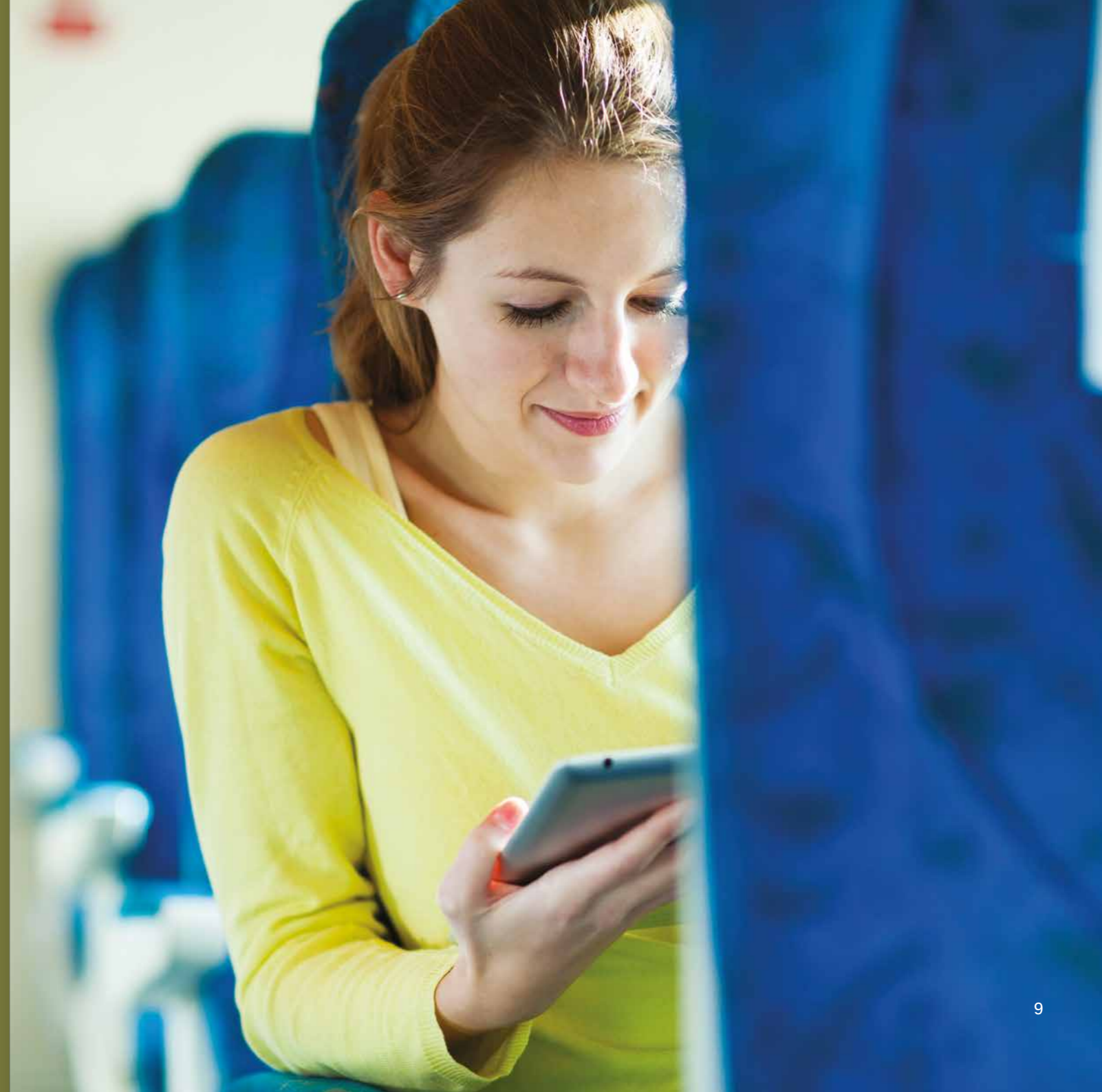
It's clear that this state-of-the-art offering will improve the experience of passengers accessing the Internet. Perhaps more significantly still, it has the potential to completely disrupt the traditional business models of train operators and offer new commercial opportunities for retailers too.

Current levels of WiFi service on UK trains generally leave passengers feeling frustrated, but CREATE has proved in a lab environment that this does not need to be the case.

Through the use of trackside backhaul nodes in a real-life environment, SWIFT will deliver a service comparable to the best Wi-Fi hotspots and completely transform our experience of train journeys.

By attracting more Wi-Fi users, SWIFT's advanced analytics will deliver new insights into passenger sentiment and customer profiling. Non-intrusive apps will allow the delivery of customer-tailored incentives and rewards to passengers, and also enable the provision of personalised travel information and timely updates on travel disruptions not achievable with current on-train Wi-Fi.

The SWIFT proposition will also include tools for proactive train management through real-time feedback and incident reporting, and allow integration with online services in stations to create a unified experience for passengers across their entire journey.





aSSURE



In our increasingly connected world, security is a growing issue. And with the Internet of Things (IoT) becoming a reality rather than a pipe dream, we're seeing new business models, technologies and architectures which in turn create new vulnerabilities and threat vectors.

In response to this trend, CREATE is developing an innovative framework from the ground up that will allow different approaches to security based on the class of device being connected.

From ATMs to water meters, IoT devices range in their levels of sophistication. CREATE is working to develop industry-wide models that are tested and verified to provide the security assurance to enable a high level of trust in IoT solutions.

This exciting and important project will address a critical barrier to IoT adoption by helping to strengthen data security for both businesses and consumers.

CityVerve



CityVerve will show how a large scale city-wide deployment of IoT will be transformative for citizens, city planners and businesses alike. This breathtakingly exciting project will use Manchester's world-renowned innovation corridor as a ground-breaking test bed for Smart Cities; rewriting the rules of what a truly connected community can look like. The project will see everyday objects being dynamically networked in order to share their data, enabling a living, breathing city. CityVerve will tackle contemporary challenges to realise the radical opportunities that a new IoT infrastructure can bring to people's everyday lives.

With specific focus on Health & Social Care, Energy & Environment, Transport & Travel, and Culture & Public Realm, this UK city demonstrator project has been designed in

response to the specific opportunities and challenges of Manchester. Yet, the results and learnings generated will resonate with towns, cities, sectors and economies right across the UK and beyond. It all starts here.

The project aims to demonstrate how creating a smart and connected city can realise significant improvements across the board; be it the environment, unlocking new economic opportunities or delivering more efficient and effective services such as transport, healthcare and energy.

Putting people at the heart of developing a smarter city is paramount and the CityVerve partners will be focused on making this project a genuine 'game-changer' that is of immense importance for Manchester but also provides a blueprint for replicability elsewhere.



FUTURE FOCUS

As you'd expect from an innovation team, we're seriously passionate about emerging technologies and macro trends. In fact, we're constantly reviewing them to identify where our co-innovation efforts can add value next. Here are three tech areas in which we see serious potential to disrupt and transform, and which are more than likely to be focus areas for us for the future:

Proximity



Real-time location awareness has the potential to create significant value for individuals, retailers, and the public sector. Often, however, organisations only have a view of individuals in their physical or virtual space. This is set to change, as the spread of location-aware technology, such as Wi-Fi and BLE Beacons, creates amazing opportunities to provide intelligent hyperlocal services offering consumers the perfect cocktail of relevance and timing, be it retail offers, information or transport updates.

Blockchain



This technology has the potential to disrupt many sectors, with financial services top of a long list. However, there remain some fundamental challenges in creating a Blockchain framework that resolves current scalability and governance obstacles. As this technology continues to mature we'll finally see the disruption of industries (so far) relatively untouched by digitisation, such as accountancy and law.

Virtual, Augmented and Mixed Reality



The world of 3D is coming to the enterprise. While many still associate these technologies with entertainment industries like gaming and film, there's huge potential for disruptive uses in nearly all parts of the economy and society. The scope ranges from engineering, architecture and design and teaching, to medical diagnosis and treatment to name a small handful. We're entering an era where tapping into the critical visual tools of our minds to improve thinking, working and learning will become a day-to-day reality.



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