Advantage through *futures*.

TJC.

Beyond the ordinary...

Our approach to Futures is based on proven and established tools from the Futures Toolkit that we have enhanced with the latest scientific research in psychology and neuroscience. Our approach to each assignment is bespoke, working with you in a partnership that meets your immediate needs while equipping you with techniques you can use without us over the longer term.

People are at the heart of TJC. Our team has unrivalled expertise and experience drawn from careers in government, academia and industry, and we work closely with a wide network of specialist partners.

Our expertise

TJC conceived of, and leads, the Accelerated Capability Environment (ACE) for the Home Office. ACE provides for the innovation, development and rapid translation of powerful, creative ideas to practical future solutions which deliver evidenced results.

Our Futures thinking is a key component of the commissions ACE delivers for customers across central government and the wider public sector.

Our team are veterans of the public sector and have served in central and local government, national agencies and front-line services in the UK and overseas. They have succeeded by tackling old problems in new ways, gaining deep experience applying a wide-range of techniques to explore 'future worlds' that provide an evidence base for far-reaching policy, strategy and capability decisions.

CASE STUDY

A novel workforce assessment battery for a leading global consultancy

What was the challenge?

A global consultancy contracted our Chief Scientific Officer to create the first multi-skill (intelligence, personality social skill) assessment tool for workforce planning.

How did we approach it?

The latest scientific approaches were combined with the Government's Futures Toolkit. A **full review of the academic literature** according to gold-standard PRISMA guidelines was performed. A **qualitative** review, drawing out themes and future directions, was followed by a **quantitative meta-analysis** which established the strength of evidence across scientific studies. A **Delphi** approach included the world's leading experts in several rounds of discussion, and produced a final ranking of options. The highest-ranking options were used as a focus for Driver Mapping and to identify **Axes of Uncertainty. Our novel and proprietary evidence-based Bayesian variant on the Dialogue technique was also deployed**.

Procedures To Analyse Outputs: The quantitative literature review provides statistical information **allowing uncertainty (and therefore confidence in conclusions) to be quantified**. This highly technical information was communicated to the client in multiple ways. Numerical information showing the confidence indicated by the statistics was conveyed to highly numerate client teams. Other teams were given a summary of what the data indicated, and to what degree of certainty.

To help the **client understand the nature of change, why it is happening and how to monitor it**, several procedures were employed. First, client sector experts were taken through the processes that had generated the outputs from the futures work to acquire an understanding of the strengths and weaknesses of each technique and the package as a whole. Second, a novel 'condensed replay' technique was used for key decision-makers to understand not only the **Drivers of Change** related to the future of workplace assessments, but also the Futures process itself. This experiential programme equipped **key decision makers with an advanced understanding of change, its drivers, and how to monitor subsequent change**.

What was the outcome or impact of the work?

The work employed Futures thinking, based on rigorous scientific, industry and academic expertise to develop a completely novel workforce assessment tool, which spanned more competencies than any that had gone before it. The tool was a genuine co-creation between TJC staff and the client.

Geoff B
Chief Scientific Officer

Skills and capabilities

Novel adaptations of futures techniques to incorporate latest scientific findings. Skilled communicator with over 20 years' experience of teaching and training. Coaching and leadership development, expert in influence and persuasion.

Experience

Geoff is Professor of Cognitive Neuroscience at the University of Oxford. He is the author of approximately 200 peer-reviewed papers with 18,000 citations on all aspects of social interaction and how it is impacted by neurodiversity and mental health. He has over 20 years of formal lecturing experience, and 13 years of corporate training and leadership development. He is a World Association of Business Coaches accredited coach and has worked with senior individuals across various industries. He was named one of the UK's most Innovative Thinkers by HR magazine; this is reflected in his unique approach to futures thinking which adapts standard techniques to include the very latest in scientific research.

Additionally, TJC has developed novel approaches to Futures Thinking derived from the very latest psychology and neuroscience work pioneered by our Chief Scientific Officer (Professor Geoff Bird, TJC and University of Oxford), and we provide specific examples below where they have been used to great effect.

Our expertise in training, coaching and facilitating is a core TJC strength that we use to enable you to use our novel Futures tools for yourself after our work with you ends.

CASE STUDY

Support of a tech start-up in the healthcare field

What was the challenge?

The project adopted a futures framework to assist a healthcare technology start-up select new technology, tests, and data science methods to develop wearable technology and associated algorithms.

How did we approach it?

Use of statistics and data science to measure technologies for policy purposes and economic appraisal: A large part of the requirement of this project was to use advanced data reduction techniques **(Factor Analysis, Principle Component Analysis, Non-Negative Matrix Factorisation)**, machine learning tools **(k-means cluster analysis, random forests, neural nets)** in order to evaluate the reliability and validity of various wearable sensors and algorithmic methods of obtaining physiological data. Furthermore, techniques from analyses of neuroscience data (e.g., **Phase Locking Value**) were re-purposed to analyse the results of bespoke tests to produce new analysis strategies. The above was underpinned by a Literature Review, Delphi approach, Driver, and SWOT Analysis techniques.

What was the outcome or impact of the work?

The use of this framework led to the start-up developing and patenting some of the leading algorithms to measure heart-health related variables from wearable technology. They developed a world-leading test of interoception, the ability to perceive the internal state of one's own body, which is thought to be a fundamental component of physical and mental health. The test they developed is not only the most accurate test in the world, but the only test able to be delivered outside a lab/clinical environment through the use of wearable technology. These achievements led to the start-up being acquired for tens of millions of pounds.

CASE STUDY

An innovative future infrastructure for wastewater-based epidemiology

One of the projects within an overarching wastewater programme focused on artificial intelligence and machine learning. TJC worked with one of the UK's leading data science companies to develop advanced machine learning to help the NHS make robust, proactive decisions. The aim of our project was to prove the hypothesis that wastewater-based epidemiology (WBE) data is a helpful signal to NHS's Early Warning System (EWS) forecasts. The NHS's EWS is a world-class, AI-powered demand forecasting system. The EWS is used by over 1,000 NHS staff. During the COVID pandemic, the EWS generated 3-week forecasts for every English NHS hospital for the expected number of COVID-19 admissions as well as the demand for mechanically-ventilated beds. TJC's experts piloted the addition of innovative WBE data signals into the NHS demand forecasting tool. This work provided evidence for COVID pandemic policymaking at a challenging time.

The project outcomes were a machine learning model to infer the number of cases in a geographical area from wastewater measurements as well as external data sources; and a data feed to be consumed by downstream software applications i.e. EWS. Machine learning modelling converted wastewater measurements (e.g. viral load) into quantities directly relevant to public health management (e.g. number of cases). In order to achieve this translation, several factors needed to be compensated for (e.g. intense rains can dilute the viral load in the sewer).

Our experience

TJC is synonymous with innovation. ACE's record in deriving and implementing practical future solutions to deliver evidenced results is unrivalled across government.

ACE has rapidly, flexibly and iteratively applied ground-breaking science & technology to dozens of diverse, critical public missions. These include:

– **Contributing to the reduction of violence against women and girls**

– **Maritime situational awareness**

– **Online harms and child sexual abuse and exploitation**

– **Cyber crime and cyber security**

– **Modern slavery and human trafficking**

– **Critical national infrastructure threats**

– **Implementation of new data-oriented investigatory powers**

– **Use of artificial intelligence to drive NHS efficiency and improve patient outcomes**

– **Supporting the response to the Covid-19 pandemic**

CASE STUDY: Anonymity

TJC worked with law enforcement organisations to explore the challenge of anonymity through three future factors that contribute to change: privacy awareness; GDPR drivers and industry response; and, high-end criminal demand for obscuring identity. Our approach included desk-based research, network interviews, ecosystem mapping, and facilitated workshops to deliver the current state of the art, simulated future systems, and a proof tree.

CASE STUDY: Digital identity

The Office of the Chief Scientific Advisor (OCSA) asked ACE (TJC) to research the predicted exponential change in the data and digital identity currently used in everyday life. The OCSA wants to understand the changes in this environment to be able to plan and respond to the risks more effectively. We are bringing together expert, academic and industry insight to understand how digital identity will change to better inform HMG to understand the full scope of the risk and consider a set of aligned mitigations now for future endeavours.

CASE STUDY: Telecoms 5G

TJC selected and implemented a FutureWorldsTM (PA Consulting) approach to think creatively about future digital communications and the potential impact on law enforcement operations. We explored multiple future scenarios providing a mechanism to explore and develop an ambition and vision, to identify strategic options, prioritise change, and make it happen. The FutureWorldsTM approach isn't about prediction, it's about provocation and exploration, a collaborative process that makes it possible to explore uncertainty and challenge assumptions, generating a shared understanding of how a company, market, or business might evolve.

Paul M
Chief Technology Officer

Skills and capabilities

Technical leadership, IT strategy, systems engineering, enterprise architecture, and solution architecture. Paul defines and delivers large, complex leading-edge technology-enabled transformation programmes in government, telecommunications and utility sectors.

Experience

Paul currently provides technical leadership and assurance across multiple innovation and proof of concept data-enabled solutions in partnership with multiple HMG departments, working with industry and academia partners to facilitate innovative thinking, fast-paced problem solving and rapid proof of concept delivery. Previously Paul has provided strategic direction and delivery leadership across the largest UK government technical change programmes. He has also provided specialist technical support to HMG policy teams and helped shape the UK's investigatory powers legislation.

Achievements

ACE won the national award for Innovation at the Civil Service Awards in 2021.

In 2023 the Organisation for Economic Cooperation and Development's (OECD's) Observatory for Public Sector Innovation (OPSI) singled out ACE from 1084 innovative initiatives in 94 countries, as the global leading example of public administration transformation to help nations better prepare for the future.

ACE has been cited by Professor Dame Fiona Murray CBE to senior delegates of the Cabinet Office's National Leadership Centre as a case study which should be replicated across UK government. Professor Murray is Associate Dean for Innovation at the Massachusetts Institute of Technology (MIT) Sloan School of Management and a member of the Prime Minister's Council for Science and Technology.

TJC developed a novel model of engagement and immersive delivery called Impact Lab to convene stakeholders from the public, private and third sector around some of the most complex challenges facing society such as bringing justice for victims of rape and serious sexual offenses and modern slavery.

2021
Innovation
at the Civil
Service
Award

CASE STUDY

Safer world for womankind

What was the challenge?

In June 2021, the Government published the End-to-End Rape Review following a string of high profile rape and serious sexual offenses across the UK, including the murder of Sarah Everard by a serving Met Officer. Whilst the government understood its responsibility for keeping women and girls safe on our streets and online, it also recognised the need to involve industry and the third sector, who are key stakeholders in keeping the British public safe. TJC designed a cross-sector engagement approach to identify actionable insights that would move the dial towards a safer world for womankind.

How did we approach it?

TJC recognised the political and emotional sensitivities of bringing the public, private and third sector together to discuss such an emotive topic. An approach was devised to create a safe space for open, candid and progressive discussion which maximised and benefited from the power of the diverse perspectives. TJC delivered a one-day event that combined **policy workshops** to understand the complexity of the landscape with **collaborative industry consultation** sessions to determine actionable insights. The day was focused on predefined **scenarios** based on a woman's typical day, including travel, workplace and domestic settings. These were brought to life to enrich the discussion and ensure proposed solutions would deliver impact in the context of reality.

What was the outcome?

This collaboration event was the catalyst to a series of proof of concepts that addressed some of these challenges around violence against women and girls (VAWG). A number of the tools developed as a result of this work have gone on to support victims of rape. The event also opened up a progressive dialogue between stakeholders that had traditionally been fractious.

Toby J
CEO

Skills and capabilities

Toby is a public servant, innovation practitioner, strategist and entrepreneur. He is a deep technologist, obsessed by what science & technology could in the future achieve for public good.

Experience

Toby, a former UK senior civil servant, leads HMG's transformation of mission-led innovation for security, safety, justice, health, transport and defence. He co-founded ACE, the UK's Accelerated Capability Environment, a Home Office-sponsored partnership between industry, academia, the third sector and government, to exploit advances in science, digital technology and data. He has 25 years of industry and public sector experience in the national security and resilience sector, combined with public policy development including legislation for investigatory powers and telecommunications regulation and compliance.

Jennifer W
Director

Skills and capabilities

Jen is a subject matter expert and accomplished practitioner of change and innovation in the safety and national security sector.

Experience

Jen has 15 years' experience leading some of the UK's most complex and strategically significant relationships which informed and managed threat to the UK and UK interests; she has built trusted, influential relationships with senior sponsors in government departments, national agencies and policing; worked in the national security behavioural science units and prison/NHS maximum security psychological intervention teams; and continues to practically apply behavioural science research and her knowledge of psychology to complex, operational environments to drive transformation, modernisation and improve operational response.

Beyond ACE, the TJC team have led Futures work on new forms of personnel assessment for sector-leading pharmaceutical and management consultancy firms. Our experts in policy stress-testing and in artificial intelligence maintain watching briefs/horizon scanning for new techniques and approaches in both fields, including the field of future thinking.

Science-driven Futures tools

We have used scientific research to improve our Futures tools with the application of Bayesian statistics to integrate predictions. Bayes theory, which describes the mathematically-optimal way to combine uncertain information, is ideally suited for Futures work.

For example, one of our approaches relies on the ability of groups of humans to perform an approximation of Bayesian integration simply by communicating their confidence in an honest fashion. The first demonstration of this was provided by Bahador Bahrami and colleagues (Science, 329, 5995). Providing certain principles are upheld, one can create novel versions of Delphi and Dialogue methods that allow for Bayesian integration. These innovative techniques add only a tiny time premium to the standard methods, but generate a substantial improvement in accuracy, making for a big increase in value for money.

CASE STUDY

The Future of NHS Leadership

What was the challenge?

This project involved provision of **services to describe alternative futures for NHS Leadership**. The challenge was to map out potential futures and **to test policies for their suitability, reliability, and rigorousness**. These had to be communicated to NHS leaders, and training designed and delivered based on a **SWOT** analysis of potential Futures.

How did we approach it?

A wide range of Future thinking techniques were used including **Driver Mapping, Trend Analysis, Delphi and Dialogue** techniques. There was, in addition, specific emphasis on **Forecasting, Scenario planning, Visioning and Road Mapping**. The work also required an **understanding of the difference between corporate and public sector strategy and decision making in the policy process, and the delivery cycle of public bodies**.

Road Mapping was especially useful in determining how topic-relevant inputs combine (via **Drivers**) over time, in particular around the provision of reward and feedback by NHS Leaders. To date policies have separated these issues, with financial rewards assumed to be the key **Driver** of performance and the key **Trend** to monitor. Our work highlighted that motivation is not just extrinsic (e.g., Financial), but also intrinsic (e.g., a sense of mastery and competence). It led to suggested changes to policy and processes and a focus on immediacy of feedback while downplaying Annual Performance Reviews. A development of standard **Visioning** approaches was used to outline the ideal results and assess the **Suitability and Rigorousness** of the suggested policy changes against the outcome of the Visioning process. Finally, using **Questions** and **Persona** techniques (informed via Delphi and Dialogue techniques), qualitative reviews of planned policy changes were undertaken to examine how they would impact multiple stakeholders.

What was the outcome?

This work led to the provision of new training approaches for NHS leaders on a variety of leadership challenges facing the NHS. This included training around reward and feedback; ways of establishing a learning environment focused on doing more with less; stress and mental health; and novel approaches to individual and group decision-making.

Frank D
Policy
Specialist

Skills and capabilities

Policy and Strategy development, implementation, and evaluation. Stakeholder interviews and workshop facilitation, particularly with hostile audiences. International engagement. Crisis response.

Experience

Frank has 13 years' experience of policy and strategy development in Whitehall in social, energy, justice and national security. He has operated at all stages of the policy development cycle and can synthesise complex and contradictory evidence into clear and action orientated adviceand improve operational response stakeholder.

Our partners

One of the benefits of being a small, nimble SME is that we can innovate at pace, putting together a Futures approach that meets your needs in tight timescales. Our resilience and scale is greatly enhanced by our Futures Framework partners Cityforum (a global public policy business) and Plexal (a recognised leader in government innovation). Our partners provide us with immediate reach to more than 500 specialist organisations. Coupled with our proven agile project methodology, we will explore, apply and stress test innovative futures hypotheses within weeks, where necessary.

Plexal is the innovation company solving society's challenges through collaboration with government, startups and industry. Plexal delivers projects for key government departments and global tech companies including the National Cyber Security Centre (NCSC), Department for Digital, Culture, Media & Sport, Amazon Web Services and IBM. It operates the NCSC For Startups programme and the London Office for Rapid Cyber Advancement (LORCA) accelerator.

CASE STUDY

Privacy enhancing technologies for public good

What was the challenge?

Our team member, Plexal, worked with the Information Commissioner's Office (ICO) to accelerate the adoption of Privacy Enhancing Technologies (PETs) in UK industry. PETs help organisations build trust and unlock the potential of data by putting data minimisation and data protection by design into practice, but the use of PETs to date has been poor. The ICO worked with Plexal to conduct market analysis to understand what is preventing organisations from using PETs, to inform co-designing a policy which would generate widespread PET adoption in the UK market.

How did we approach it?

Plexal followed a three-stage approach. First, **market analysis**: this work focused on desk research to assess the PETs market, coupled with **stakeholder interviews** to understand industry's barriers to PETs adoption. Second, **facilitated industry consultation**: a series of three stakeholder engagement workshops, with a focus on PETs in the healthcare sector. These were convened to validate the identified barriers and explore potential opportunities for the ICO to promote PETs adoption. The consultation was conducted with 100+ industry, academe and public sector representatives. Third, legal analysis: an independent **legal analysis** to examine cases specific to this topic and explore how new policy and regulation could promote PETs adoption.

What was the outcome or impact of the work?

The design of three novel tools was proposed that the ICO could use as solutions to overcome common barriers to future PETs adoption. Fourteen evidence-based, implementable recommendations were developed, with a deep-dive of five of the most impactful, which detailed estimated cost and benefits, as well as the associated risks.

Sam B
Innovation Lead, Plexal

Skills and capabilities

Government policy & strategy, qualitative and quantitative analysis, science communication, stakeholder management

Experience

Sam leads Plexal's Futures and Foresight activity, enabling clients to anticipate and prepare for future trends, risks and opportunities; he also leads the Mission Technology Integrator (MTI) with IBM, which aims to conduct research and develop Proof of Concepts (PoCs) to solve mission-critical challenges for public sector security and defence clients. Prior to joining Plexal, Sam spent four years in the Civil Service working across many key scientific disciplines and policy areas including epidemiology, future of transport, weather & climate, life sciences, behavioural sciences, and national security.

plexal

Cityforum, is an influential independent policy analysis and public debate organisation, with 30 years of working across fields including security, defence, policing, crime and justice, critical national infrastructure, cyber, privacy, health and social care, transport, financial services, regulation and energy.

Cityforum specialises in hosting events on a range of economic, technological and social policy themes which draw on its global network of leaders and experts.

Z/Yen is the City of London's leading commercial think-tank, founded to promote societal advance through better finance and technology. Z/Yen 'asks, solves, and acts' on strategy, finance, systems, marketing, science, and intelligence projects in a wide variety of fields.

TJC has strong, established links with government departments here in the UK, but also in the US, Singapore and Australia, as well as with private industry. Our close, specialist links with the private sector span from AI start-ups to Alphabet's DeepMind and as far as frequent involvement in the Financial Times Innovative Lawyers Award.

CASE STUDY

Scenario planning – The Future of UK Fraud

What was the challenge?

A UK government department asked Z/Yen to conduct a 'futures study' on fraud as it affects individuals and consumers, i.e., large-scale, high-volume, automated fraud, where technology can make a difference. The time horizon was roughly a decade ahead, but the study needed to be completed in haste, two weeks from commissioning to completion. The output of this study provided four scenarios for readers taking a considered, forward-looking perspective on threats and opportunities.

How did we approach it?

The methodology included **open-source desk research** and **stakeholder interviews** leading to the identification of a set of trends. Four scenarios were created and tested against the trends, against **Dator's scenario classifications, and against Adams' risk/reward typologies. Five 'future narratives'** were compiled and contrasted with the scenarios.

The **trends, scenarios and narratives** were used to elicit feedback in a questionnaire and an online webclave. A **viable systems approach** was used to **model two systems**, the criminal system and the anti-fraud authority system, and then used to identify explorations for tackling fraud over the next ten years. These explorations, along with the scenarios, were used to set out a handful of 'challenge' themes as suggestions to guide the anti-fraud agenda over the next decade.

What was the outcome or impact of the work?

The final **foresight report** delivered by Z/Yen significantly informed the HMG's 10 year Fraud Strategy. It was shared internally with relevant officials and comments made. The finished report was sent to the No.10 Policy Team.

A sanitised version of the report, with HMG prior approval, was distributed through the Z/Yen website and via a regular newsletter to Z/Yen's extensive private mailing list. Within the first week it was downloaded 600 times.

Michael M
Chairman,
Z/Yen Group

Skills and capabilities

Michael is a qualified accountant; securities professional; computer specialist; and management consultant, educated at Harvard University and Trinity College Dublin with his PhD from LSE.

Experience

Michael co-founded Z/Yen, the City of London's leading think-tank, promoting societal advance through better finance and technology. Z/Yen is renowned for its Global Financial, Green Finance, and Smart Centres indices. Michael is a Fellow of Goodenough College, Honorary Fellow of King's College London, Visiting Professor at UCL's Bartlett School, and Alderman of the City of London for Broad Street. He was Sheriff of the City of London 2019-2021.

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How TJC works

Our vision

Tobias Jones Consulting Limited (TJC) is a UK-based professional services business established in 2009. TJC has a proven focus on innovation across the digital and data sectors. As such, TJC enables clients to tackle their toughest challenges by utilising our diverse and specialist skills to deliver innovative, valuable outcomes that have enduring impact, including the provision of expert legal guidance. TJC not only provides practical assistance on the changes and processes required but delivers on the same.

Our values

TJC is synonymous with innovation: the rapid translation of powerful ideas to practical solutions which deliver results. We do this by putting our three business values at the heart of everything we do: our unrelenting focus on achieving business impact; our pride in the reputation of our clients and of our work; and, above all, a fundamental awareness that to understand problems, build workable solutions and achieve results, we must begin with people. People are everything.
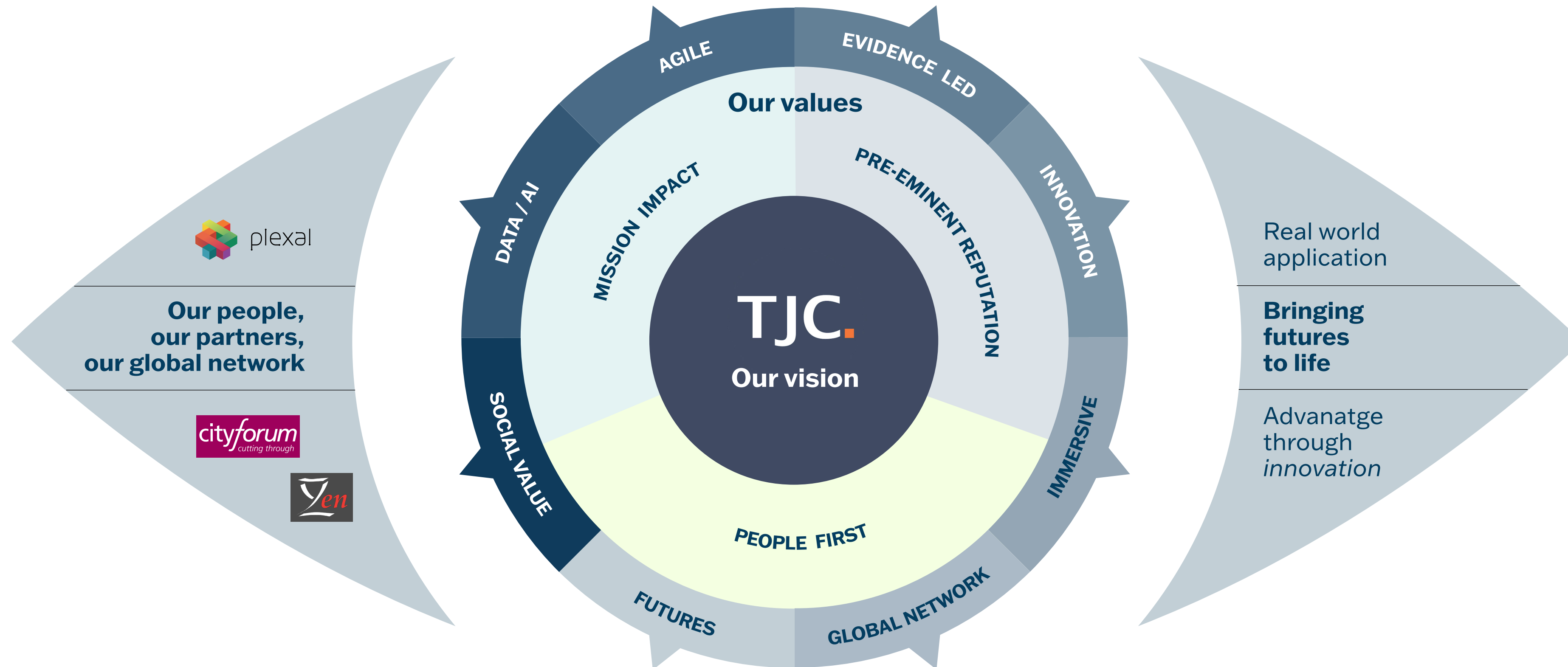
Our people

At the core of TJC's culture is the value it places on People and Innovation – this feeds through to our work – we deliver differently. These values inform how we build our teams – we value diversity of experience and see different ways of thinking and approaching problems as key strengths. This means that fostering an environment that creates opportunities for different kinds of people is core to our mission success.

Find out more about the team on the TJC website

Our partners

We foster this environment within TJC and throughout our supply chain and shape the business environment in which we operate. We seek partners and subcontractors who share our approach. We support entrepreneurs and starts ups, including through our partnerships with Plexal, Cityfroum and Z/Yen.

Our values

AGILE

EVIDENCE LED

DATA / AI

MISSION IMPACT

PRE-EMINENT REPUTATION

INNOVATION

TJC.

Our vision

SOCIAL VALUE

IMMERSIVE

PEOPLE FIRST

FUTURES

GLOBAL NETWORK

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Our people, our partners, our global network

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Real world application

Bringing futures to life

Advanatge through *innovation*

Your mission-critical advantage
Our world-class experts and applied science

TJC.

Tobias Jones Consulting Limited

Registered in England and Wales under number 7101851
Cyber Essentials Plus Certified

Registered Office
Epsilon House
The Square
Gloucester Business Park
Brockworth, Gloucester
GL3 4AD

London Office
Plexal
The Press Centre, Here East
Queen Elizabeth Olympic Park
London
E20 3BS