
TECH CATALYST
HARNESSING THE POSITIVE POWER OF EMERGING TECH FOR THE ENVIRONMENT AND SOCIETY
forum for the future

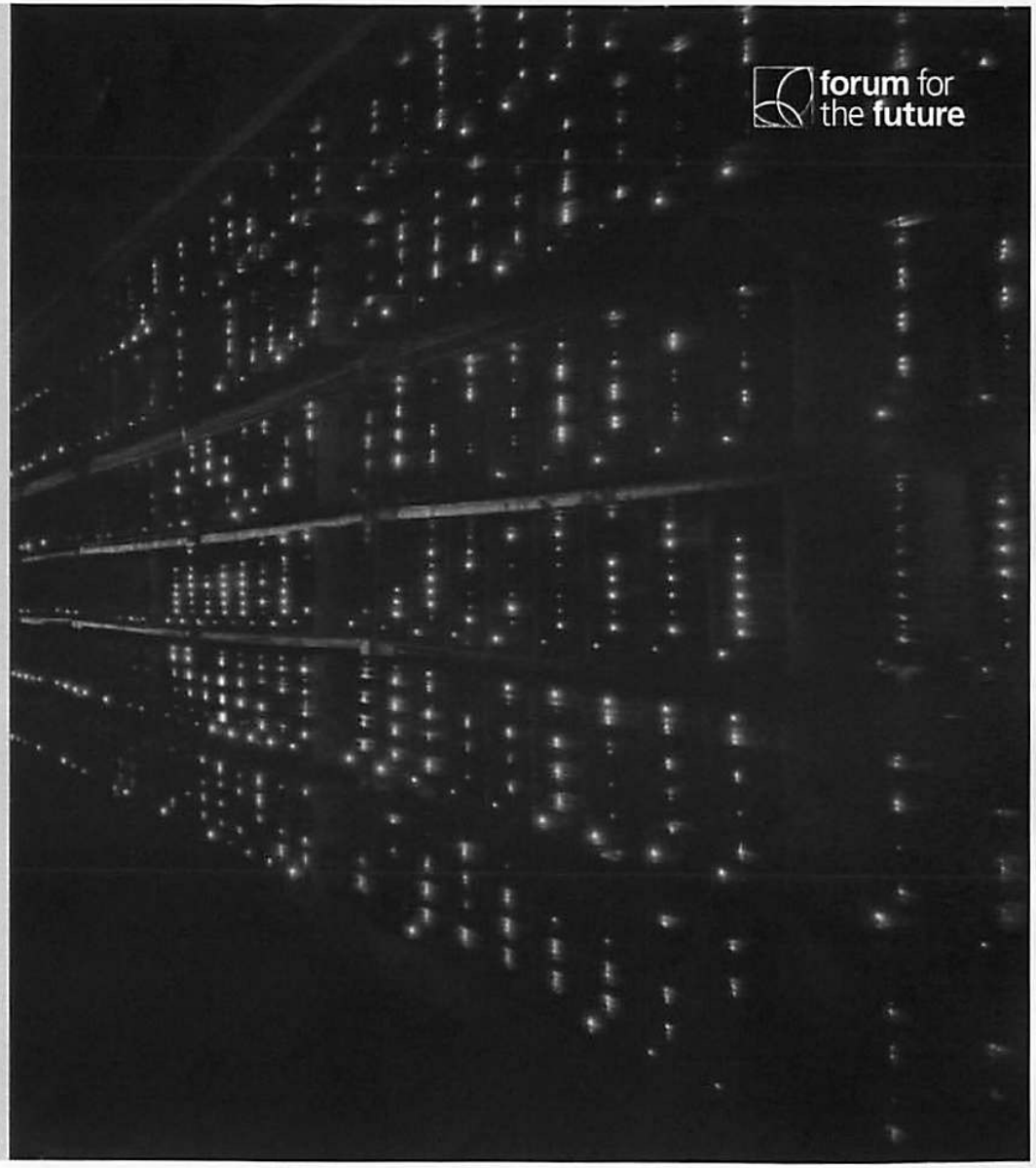
WHY?

NEW TECHNOLOGIES SUCH AS THE INTERNET OF THINGS, BLOCKCHAIN, BIG DATA, SYNTHETIC BIOLOGY, TARGETED SOCIAL MEDIA, AUTOMATION AND ARTIFICIAL INTELLIGENCE WILL HAVE FAR REACHING CONSEQUENCES ON OUR SYSTEMS.

We can see the impacts of new tech solutions in the expansion of the e-health market; the discourse about automation and the future of work; how Blockchain is disrupting financial institutions; and big data's use in changing social opinion during elections. These technologies are creating both opportunity and risk around the sustainability challenges we are trying to tackle at Forum for the Future.

Major shifts and disruptions happen when **'big picture' pressures** like changing political values or major technological improvements combine with **niche innovations,** like blockchain or electric cars, to disrupt **business as usual.** Technology is at the heart of disruption right now – it is both reshaping the social landscape and providing multiple niche innovations.

By 2020 it is projected that 56% of the global population will be connected to the internet. Cisco suggests that there will be 200 billion connected objects by then, the equivalent of 26 digitally per human. It is changing how we live and work as individuals, and how we interact socially and culturally. It is even having an impact on who has political power, and how that power is used.




forum for
the future
OUR VISION: TECH FOR SYSTEM CHANGE
OUR VISION IS FOR THE DISRUPTION DRIVEN BY TECHNOLOGY TO BE POSITIVE FOR SOCIETY AND THE ENVIRONMENT - TAKING OUR FOOD, ENERGY AND OTHER SYSTEMS IN A SUSTAINABLE DIRECTION.

forum for the future

AT FORUM, WE ARE EXPLORING THREE KEY QUESTIONS:

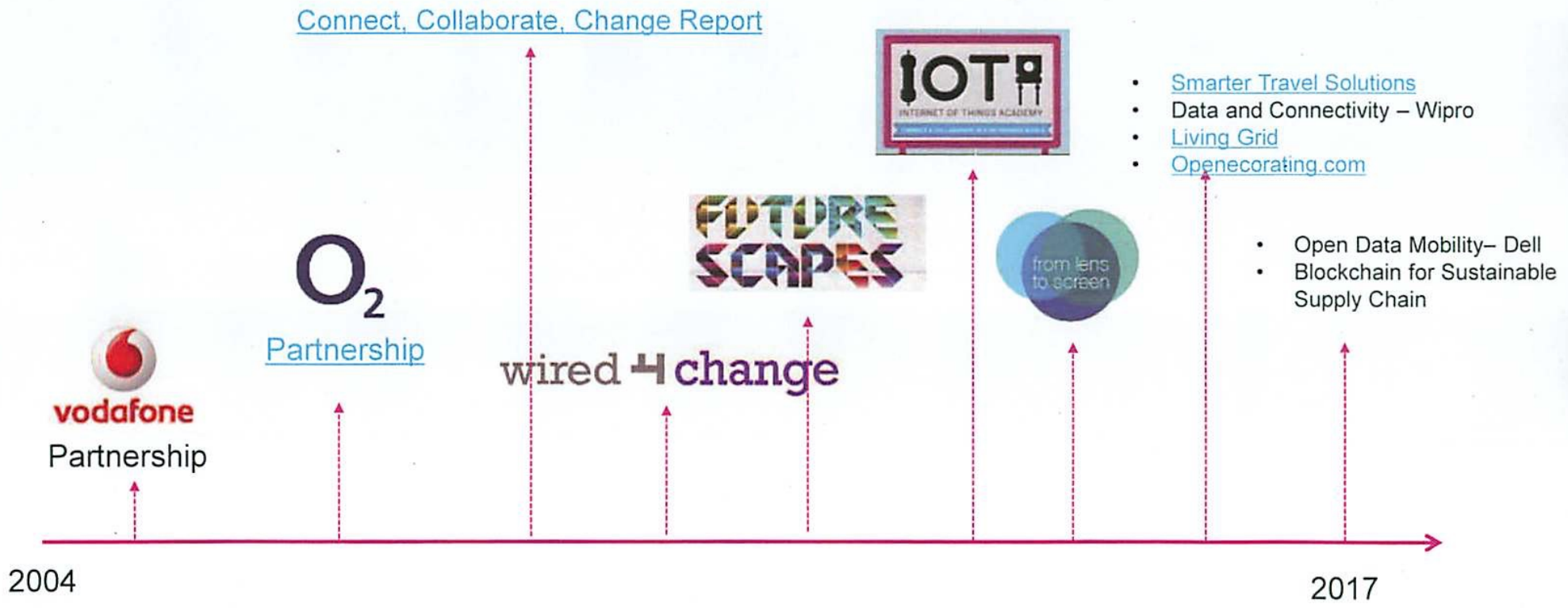
HOW MIGHT TECHNOLOGY ACCELERATE SOLUTIONS TO SPECIFIC SUSTAINABILITY CHALLENGES?

HOW MIGHT WE HARNESS SPECIFIC TECHNOLOGIES LIKE BLOCKCHAIN AND AI FOR SUSTAINABILITY?

HOW MIGHT WE UNDERSTAND THE DOWNSIDES AND UNINTENDED CONSEQUENCES OF NEW TECHNOLOGIES AND PROACTIVELY MANAGE THEM?

FORUM HAS A TRACK RECORD OF APPLYING TECHNOLOGY TO SUSTAINABILITY

forum for the future



WE TAKE A SYSTEMIC VIEW ON TECHNOLOGY

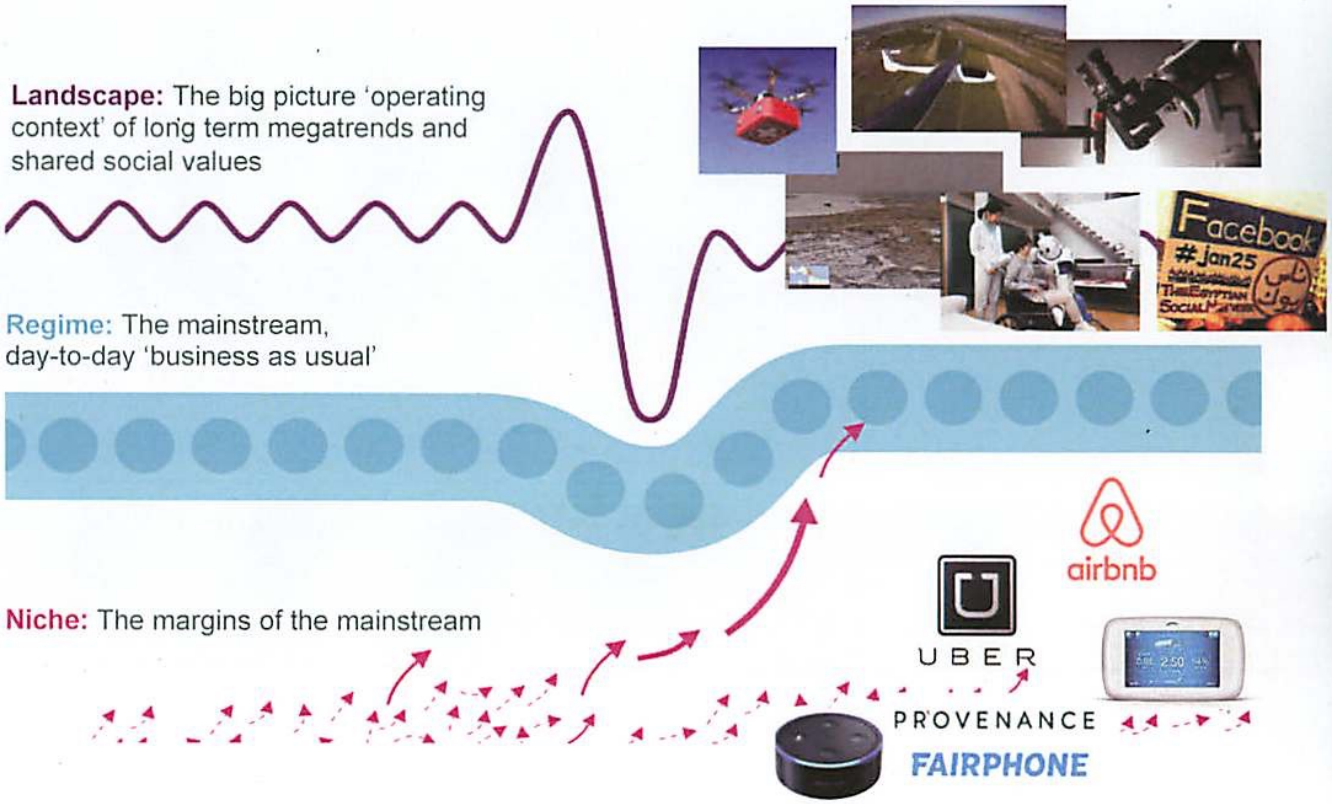
A SYSTEM PERSPECTIVE ON THE POTENTIAL OF TECHNOLOGY TO BE A DISRUPTIVE FORCE FOR GOOD

forum for the future

Forum for the Future uses the multi-level perspective (Geels)14 to describe how major shifts and disruptions happen. When "big picture" pressures, like changing political values or major technological improvements, combine with niche innovations, like blockchain or sharing models, business as usual (see Regime on infographic) is open to change.

Emergent technologies such as Blockchain, IoT, A.I are at the heart of this system change right now – they are disrupting industries, reshaping the social landscape and providing multiple niche innovations. They are changing how people live and work, and how they interact socially and culturally. They are even having an impact on who has political power, and how that power is expressed.

For this to be a positive disruption that grows economies and takes the world's food, energy and other systems in a sustainable direction, we need to harness these technologies to drive better business, social and environmental outcomes, and address any downsides that come with them.



WHAT WE DO IN TECH
TO REINVENT THE WAY THE WORLD WORKS

forum for the future

1

Technology accelerating solutions to specific sustainability challenges

2

Disruptive tech innovation that may change the world: Explore and analyse the potential of specific technologies for system change

3

Understanding the downsides and unintended consequences of new technologies and ways to manage them.

forum for the future

TECHNOLOGY PROJECTS TODAY

1.TECHNOLOGY ACCELERATING SOLUTIONS TO SPECIFIC SUSTAINABILITY CHALLENGES

Living Grid

Our Living Grid project aims to re-envisage the energy system of the future, to one that renews itself, based on living systems design. We're bringing together corporate energy users with other stakeholders to design a system that works for users and the environment. Technology partners Open Energi and Smartest Energy are helping us to prototype new ways of balancing energy across the system.

Value: TBC

forum for the future

TECHNOLOGY PROJECTS TODAY

2. DISRUPTIVE TECH INNOVATION THAT MAY CHANGE THE WORLD: EXPLORE AND ANALYSE THE POTENTIAL OF SPECIFIC TECHNOLOGIES FOR SYSTEM CHANGE

We are working with Wipro Digital on the **sustainability potential of the Internet of Things**, data and connectivity for sustainability – identifying opportunities, barriers, and ways forward for business.

We are researching the systemic barriers and opportunities of **open data mobility solutions with Dell**, with a view to identifying ways to scale the best solutions.

With our partners Telefonica and FirstGroup to develop a truly game changing integrated transport project. **The Smarter Travel Solution** (STS) will bring the entire management and completion of a journey, or all your mobility needs, under one umbrella, supporting and engaging with the user from first thought through to arrival in a "one screen journey".

We are running a series of events focused on **blockchain** and looking to bring together those with sustainability challenges and experts in the technology to co-create new ways forward.

forum for the future

TECHNOLOGY PROJECTS TODAY

3. TECHNOLOGY WITHIN LIMITS. UNDERSTANDING THE DOWNSIDES AND UNINTENDED CONSEQUENCES OF NEW TECHNOLOGIES AND WAYS TO MANAGE THEM.

At Forum we are scoping a project to understand the impacts of technology and how they can be mitigated. Technology with impunity will not meet the needs of the vulnerable or the environment. Finding collective ways to address these impacts are critical as we accelerate towards the vast opportunities.

Open Eco Rating – our new web tool that rates the environmental and social impacts of mobile phone production and use - looks at growing sustainable innovation across mobile technologies and informing consumers about these impacts.

Forum set up a multi-stakeholder workshop exploring **new collaborative solutions for e-waste**. We are looking for a host for the next session and it may turn into a working group over time.

We worked with the UK Biotechnology and Biological Sciences Research Council and Friends of the Earth UK to identify the risk profiles from novel biotechnologies and developed a deliberation aid to help users make decisions about their application, taking multiple different stakeholder perspectives into account.

OUR TECH CATALYST TEAM

forum for the future

James Goodman, Director of Futures and Projects

James leads Forum for the Future's use of trends and foresight. This includes their futures and strategy work with business, their collaborative futures processes with sector coalitions, the Futures Centre online futures platform and The Long View, a compendium of futures insight for sustainability published annually. He set up Forum's futures practice in 2006 and developed many of the approaches we still use, leading a team of 'sustainable futurists' across four international offices. He also works with system change process, innovation and corporate sustainability strategy, using techniques such as scenario building, visioning and horizon scanning to motivate and inspire people to take the decisions that will bring a sustainable future into being. James joined Forum for the Future in 2001, and before that was a senior researcher at an international market research company. He holds a First Class degree in History from the University of Manchester and is a published poet.

Rodrigo Bautista, Principal Change Designer (US)

Rodrigo is an award winning designer from ICSID and AIGA. Through his work in many different industries, including media, technology, design, healthcare and telecommunications, Rodrigo has learned different methodologies that now help him tackle projects that vary in scale and scope. Rodrigo has worked with and for Sony, Ecover, Rockefeller Foundation, Novelis, Plan C, Fab Lab Network, America Movil, Leo Burnett, Liverpool and Kimberly Clark. He uses people-centred design and future scenarios to generate concepts for services, products and businesses models that will lead industries and change systems.

Contact: r.bautista@forumforthefuture.org

Michaela Rose, Senior Strategist (UK)

Michaela has been advising multinational partners such as 3M, Sky and Telefonica O2. She has been involved in the development of various impact tools and frameworks such as the online tool Open Eco Rating, which compares the environmental and social impact of mobile phones; the Additive Manufacturing Toolkit and the Circular Business Model toolkit. She manages multi-stakeholder projects and the creation of thought leadership reports such as the Vision 2030: A connected future report and the Lens to screen report. Michaela graduated with an MSc in Environmental Technology at Imperial College London. Her previous roles include; Innovation and Environment strategist at business consultancy Kjaer Global, and Strategic Planning Assistant at communication agency TBWA. She studied a Masters in Innovation Management and received an undergraduate degree in Strategic Planning and Communication from the University of Arts Berlin.

Contact: m.rose@forumforthefuture.org

George Harding-Rolls