# Service innovation in 21st century cities

Livework Insight on service innovation Erik Roscam Abbing



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# Introduction

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### Introduction: On Service Innovation

### Service design works. It's a proven way of creating customer experiences, in almost any business or social context you can name.

It's a process that's dramatically improved people's lives, not to mention the health of businesses and the quality of collaboration between them.

Livework believes that people deserve better services, and that design is the best way to create them. But the world is getting more complex, people's expectations never stop climbing, and thinking outside the box is no longer enough. We need new boxes, new services, that answer today's unmet needs, and tomorrow's too.

This takes us a step beyond service design, into a new category of problem-solving: service innovation. If service design is improving the way checkout works at the supermarket, service innovation is redesigning the store so that checkout is no longer necessary and store staff can focus on servicing customers. It means questioning the assumptions that went into previous solutions,

proposing new ones that work at a system level, and addressing the problem underlying the problem.

Thinking outside the box is no longer enough. We need new boxes, new services, that answer today's unmet needs, and tomorrow's too.

If this all sounds uncomfortably ill-defined, that's because the crucial problems of the new century are just that. The purpose of service innovation is to tackle them boldly, because the comfortable, well-constrained ones have already been solved. It's how we help the world face challenges that sometimes seem unsolvable.



## Wicked Problems and the Modern City

# When we talk about uncomfortable, ill-defined problems, we're actually revisiting an idea that's been around for a few decades: the concept of a 'Wicked Problem'<sup>1</sup>.

Prof. Kees Dorst, of the University of Technology in Sydney, has made an academic pursuit out of examining problems that defy traditional solutions. His book "Frame Innovation" lays out four key traits that make a problem "wicked"<sup>2</sup>:

- It's open or ill-defined, with fuzzy boundaries or none at all that make it difficult to say what is and is not part of the problem;
- 2. It's **complex**, having many different working parts, so that changing one thing automatically changes several other things;
- It's dynamic: in a constant state of flux, so that by the time you've worked out a solution to a part of the problem, the problem itself has shifted enough to make the solution irrelevant;
- 4. It's **networked**: it affects and is affected by a number of different external elements (people, organisations, resources, etc.).

Traditional problem-solving methods are poorly suited to solve problems like these. The logic-oriented, one-piece-at-a-time methodology of management, business and engineering depends on clear definitions and boundaries. The mindset of service innovation – co-creation, integrated perspectives, constant iteration and prototyping – is much better suited to tackle wicked problems. Over many years of trying to solve wicked problems, we've found one environment that generates them more than any other: cities. Urban environments, with their complex regulation, constant motion, and interacting power structures, are perfect incubators for wicked problems. They're also the proving grounds where humanity is going to succeed or fail in its biggest challenges in the 21st century, and that makes them deserving of special attention.



# Cities in the 21st Century

### Here's the reality of global urbanisation, according to United Nations<sup>3</sup> data and projections:

- 55% of the world's population lives in urban areas today; by 2050 that proportion will rise to 68%;
- Urbanisation, combined with overall population growth, could add another 2.5 billion people to urban areas by 2050 the equivalent of building 180 new cities the size of Tokyo;
- Nearly 90% of this increase is expected to happen in Asian and African cities.

The mind-blowing rate of urbanisation poses many challenges, but they ultimately boil down to just one question: how do we live together in a way that brings wellbeing and prosperity to all, while leaving the planet in good condition for subsequent generations?<sup>4</sup> If that's not a wicked problem, nothing is!

These challenges deserve our attention and effort. And in all modesty, we know that our service knowledge and design experience can contribute significantly to their

We believe cities and their residents deserve better innovation and more effective experimentation than city planners and developers are currently able to deliver. solutions. We believe cities and their residents deserve better innovation and more effective experimentation than city planners and developers are currently able to deliver.



### Tackling Wicked Urban Problems

The challenges of the 21st century city aren't ill-defined because people aren't trying, but because there's no singular problem to define.

The moment you reach in with your spanner, whatever you've fixed causes something else to break or fall out of alignment.

Consider this example: If a client asks us "how can we design innovative services for transitioning to sustainable energy" we may select a more concrete entry point to the challenge such as "how do you lower the barriers for households to install solar panels on their roof?" But solving that wicked problem may entail making it easier to finance, install, use and maintain solar panels, and getting people to understand, share, and store the energy they produce. We've just created seven new ill-defined service innovation challenges through a single framing.

And keep in mind, sustainable energy is only one of many wicked urban problems - issues like education, housing, social equity and transportation may have even more moving parts, and higher stakes if they go wrong.

To try and get a handle on the unique wickedness of urban problems, we've identified a handful of themes that have recurred in our work over the past 10 years. We've also pinpointed specific sectors within cities where they tend to manifest, and where our innovation work has had the most impact.

Here, we'll focus on three of each: not a complete selection by any means, but representative of the areas where the challenges are the most pressing and where our attention is welcomed most.





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### Three Themes

These themes have recurred in our work over the past 10 years as strong manifestations of wicked problems in cities. The three themes interact with and strengthen each other. They require a collaborative, exploratory yet pragmatic approach that we'll discuss in the following pages.



#### SUSTAINABILITY AND CIRCULARITY

Cities threaten air and water quality, energy availability and waste management. But they also offer huge opportunities for circular system design. The UN's 11th sustainable development goal is to make cities and human settlements inclusive, safe, resilient and sustainable.

#### PARTICIPATIVE ECOSYSTEMS

Increasing numbers of urban citizens want to get involved in local government, and take an active role in improving living conditions. These participative ecosystems present great opportunities for community-building and empowerment, but also demand new models of engagement.



#### HUMANISING TECHNOLOGY

Smart city policies and agendas are largely focused on technology and what it could do rather than what citizens need. We see an emerging need for a more human, bottom-up approach to urban technology, that empowers citizens to increase wellbeing, safety, health, and inclusion.



# Theme 1: Sustainability and Circularity

Cities are responsible for the majority of global energy consumption (75%), greenhouse gas emissions (55%), and waste, which is projected to grow faster than the population by 2050.<sup>5</sup>

This presents a complex challenge. If cities continue to simply be organisms that consume energy and expel garbage and CO2, they won't last into the next century. To be sustainable, they must become carbon neutral, energy neutral and waste neutral - which requires dramatic improvements in energy production and emission reduction. This may just be the city's biggest assignment to date.

#### PROMISING DEVELOPMENTS, BUT DO THEY SCALE?

The good news is that we're starting to see change, in baby steps on the fringes of the city, but with promise to move into the mainstream. Dutch cities, for example, are witnessing a wave of smart, eco-minded redevelopments, such as ReGen villages in Almere<sup>6</sup>, the Buiksloterham circular living lab in Amsterdam<sup>7</sup>, and Rotterdam's Blue City<sup>8</sup>, a 1980s swimming pool repurposed to host a cooperative of eco-minded entrepreneurs.

Such projects are often initiated by informal groups of optimistic, energetic individuals, driven by belief and entrepreneurial spirit. This has upsides in terms of commitment and vision, but it's hard to scale. Livework often advises larger corporate clients to partner with smaller grassroots startups, in order to combine drive and vision with scalability and rigour.



#### RELATIONSHIPS ARE A SUSTAINABILITY ISSUE

Meanwhile, larger companies often find that sustainability efforts touch more than just their emissions and energy use. They can also fundamentally change how the company interacts with customers, how they build relationships, and how they create and deliver value. Organisations tend to direct their greatest sustainability efforts toward technical and material challenges, but relationships between stakeholders — including suppliers, retailers, customers, and logistical/financial partners — are often more crucial to success. These relationships must be designed.

Think of the service innovation in car sharing, for example: car sharing implies a shift from product to service that reduces energy consumption and carbon emissions as well as urban chaos. It's a great example of how service innovation may contribute to sustainability. But it's also a good example of how challenging design for sustainability actually is: While a lot of work currently goes into the design of cleaner engines, access technology and user apps, we think not enough design work goes into the actual big human shift that is taking place.

The car manufacturer must shift from selling a product to creating access to it. This requires a redesign of fundamental business models and organisational culture. The customer must shift from car owner to car sharer. This requires a redesign of behaviours around ownership, care, and status. These shifts will require many different parties to collaborate in a way that lets all stakeholders benefit: municipalities, citizens, car suppliers, platform owners, legislators etc.

Doing all this well requires insight into human motivations, both on an individual and a collective level. And it requires the ability to design for adoption, design for behaviour change, and finally, design for ecosystems. In all these areas we can, and want to contribute, because we believe they will be crucial for sustainaility and circularity in 21st century cities.



### Theme 2: Participative Ecosystems

For both public and private sector organisations, it's now commonplace to co-create with customers and stakeholders.

This can bring fresh ideas and new perspectives to complex challenges, and eases adoption later on: people are far more likely to embrace a design solution that they helped create. But in most cases co-creation is still initiated and managed by the organisation, not the customer.

At the same time, institutional distrust and omnipresent digital technology has allowed savvy consumers to take the reins themselves, and start organising what used to be organised for them. In these cases, the customers or citizens become the entrepreneurs, initiators, programme managers and negotiators. They own the process and content, involving the municipality or market as they see fit. In Rotterdam, notable examples include the Delfshaven Cooperatie,<sup>9</sup> Wolfpack's Grassroots Business lab,<sup>10</sup> and the Rotterdams Woongenootschap.<sup>11</sup> In New York City, the High Line<sup>12</sup> has achieved legendary status, and, despite discussions about the pros and cons of gentrification, has paved the way for bottom-up urban transformation around the globe.

#### PARTICIPATORY ECOSYSTEMS FACE UNIQUE CHALLENGES

Although we're optimistic about these initiatives and the economic activity they represent, there are emerging challenges:

#### Exclusivity

Grassroots neighbourhood initiatives, micro-enterprises and collaborative practices are predominantly run by collectives of white, highly educated middle-class citizens. They tend to enjoy governmental access, have time to volunteer, and speak with a loud voice. While the participants themselves aren't to blame, this fact raises questions of how to engage socio-economically challenged residents, who may stand to benefit most from participative ecosystems.

#### Scalability

Another issue is that grassroots initiatives are notoriously hard to scale, often remaining small and benefitting their initiators and direct surroundings only. Because of the initiators' enormous personal commitment, an initiative's success can't just be copied and scaled. The moment a government body steps in with the intention of duplicating success, its soul is stripped away. What's left doesn't scale.

#### Scepticism

The people leading this ground-up development often have little faith in what they see as the 'old, capitalist economy', making them sceptical of project developers, banks, construction companies and other incumbents. This brings two downsides: Grassroots initiatives lack the resources large corporations bring. And large corporations have much to learn from the initiatives, about tuning their brand image, and thinking strategically about economic and social realities. Both groups may need help finding each other and creating terms of engagement that safely and fairly govern the collaboration.

Livework sees tackling the above 3 issues as our main task when working in participatory ecosystems.







# Theme 3: Humanising Technology

Technology is fundamental to the city, from the energy systems that fuel it, to the mobility and data networks that connect it.

In tomorrow's city, Artificial Intelligence transforms job markets,<sup>13</sup>robots clean the sewers and smart energy grids trade kilowatts for cryptocurrency. These are near certainties, and they're coming in years, not decades.

#### POWER DYNAMICS

Technology has the potential to strengthen economies, draw communities closer, empower learning and cure diseases, but it also brings unintended consequences. Data is used to put crooks in powerful positions. One Bitcoin transaction consumes as much energy as an average American household does in 16 days,<sup>14</sup> and I'm not entirely sure the creators of Fortnite have good intentions when they draw my kids in with their highly addictive content.

Despite these doubts, there's nothing inherently evil about technology. It simply extends the abilities of whoever uses it, regardless of intentions. When technology becomes invasive, unsustainable or exclusive, it's often because of a power imbalance. If we controlled the data that Facebook currently holds, it wouldn't be sold to third parties without our permission. If banks were transparent and cooperatively-owned, we wouldn't need cryptocurrencies. If CO2 were taxed commensurate with its impact, airlines would invest in alternative fuels. Only when power is distributed does technology behave as it should.



#### WITH GREAT TECHNOLOGY COMES GREAT RESPONSIBILITY

Perfectly distributed power is as unrealistic as any sci-fi dystopia, but everyone working with technology has a responsibility. They must challenge the powers, and work to make technology more pro-human, not the other way around.

Humanising technology means designing,

commercialising and using technology responsibly, making it as useful, meaningful, accessible, distributed and transparent as possible. Most of the tech we use today is very much the product of private, for-profit companies, but a number of initiatives and organisations point the way to a more distributed future: Creative Commons, Arduino, and Fairphone, OpenMotors, the Asilomar Principles and the Open Data Commons to name a just few. Humanising technology also means asking some bold questions when designing services:

- 1. If data will be owned by a central party, what would sharing it bring us in terms of partnerships and joint value creation?
- 2. If privacy is at risk, how would we feel if it were our own? And how can we respect each individual's right to their privacy?
- 3. If a solution involves technology that consumes resources or has a large carbon footprint, do we really need it? What are the alternatives, and what advantages do they offer?

Perfectly distributed power is as unrealistic as any sci-fi dystopia, but everyone working with technology has a responsibility.





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### Three Sectors

We've pinpointed three sectors within cities where the themes of the previous pages tend to manifest, and where our innovation work has had the most impact. These sectors are starting to converge, and even overlap. All three are in flux, responding to rapidly changing human needs, technologies, business models, and legislation.



#### MOBILITY

The way we move around in urban environments is changing rapidly, because it has to: concerns about congestion and air pollution, have been met by new technologies, new work habits and the sharing economy. Designing mobility that takes these human needs into account is one of the great challenges of the next century.

#### ENERGY

The energy transition is more than just a gradual shift to more sustainable sources. It also radically affects how cities are built and governed, and how citizens interact with technology, government, and businesses. In the future, we will both generate and use energy, so we all store and pay for it collectively.

#### HOUSING

Perhaps the largest challenge of all is how to house the 2.5 billion new urban residents projected to arrive in the next 30 years. It's a challenge of circularity and sheer industrial scope, but also of addressing people's needs for stability, inclusion and affordability.



## Sector 1: Mobility

Mobility is shifting rapidly, and a new, more versatile landscape is emerging, giving rise to some major service innovation challenges:

#### **ELECTRIC MOBILITY**

By 2030, there will be 125 million electric vehicles on the world's roads, but while in 2019 batteries and charging facilities are more reliable and available than ever, adoption still depends on tax breaks and infrastructure improvements. Electric cars still need to transition from high tech gadget to reliable transportation for the masses, and even in 2030, gas and diesel vehicles will still outnumber electrics. In China, heavy investment <sup>15</sup> in electric mobility has stimulated adoption, but 1.6 million Chinese citizens still die prematurely each year from air pollution.<sup>16</sup> In the big cities of other emerging markets, progress is even slower. It's unlikely electric mobility will make a significant dent in the damage already done by decades of reliance on fossil fuels.

#### **AUTONOMOUS DRIVING**

Level 1 and 2 autonomous driving now come as standard in most production vehicles, and levels 3+ are moving rapidly from experimental to pilot stage. Accidents involving autonomous vehicles have created major setbacks, but the road toward full autonomy seems inevitable. From a service designer's perspective, the media focus on sensor technology and 5G infrastructure is interesting, but misses the human side of the equation: the challenges of technology adoption, required behaviour change, and the complexities of urban design that accommodates autonomous driving in shared spaces. In our experience, its success will ultimately hinge not on technology, but people's willingness to embrace it and adjust to it.



#### SHARED MOBILITY

New generations ascribe less status to automobile ownership than ever before, while being offered an increasing amount of alternative mobility options. For private cars, as with many other high-cost items, the burden of ownership (fuel, taxes, devaluation, parking, maintenance, insurance, etc.) is rapidly outgrowing the benefits. Our work in the car-sharing space has made it clear that there are several types of human needs that must be balanced: functional (a solid digital infrastructure), emotional (making people feel at home in a car that isn't theirs) and social (designing for trust in P2P networks).

#### LAST MILE SOLUTIONS

Mobility is more than just cars. Public or semipublic transport plays a dynamic and growing role in addressing urban mobility challenges, and its resolution is increasing, from high-volume long-distance offers to individual last mile solutions. Bike sharing schemes are certain to play a role, but free-floating experiments in cities around the world have shown how hard it is to combine their flexibility with fleet management and profitability.

#### MULTI-MODAL TRANSPORT HUBS

Mobility means more than just how people move around - it's also how human flows are connected to their various needs throughout the day. Integrated urban design can do a lot to reduce needs for transportation in the first place, including the use of 'smart' technologies, and the rise of urban areas where mobility, housing, working and recreation are combined into high-quality hubs.

Mobility means more than just how people move around - it's also how human flows are connected to their various needs throughout the day.



## Sector 2: Energy

Livework's involvement in the energy sector has shifted in recent years. From redesigning traditional energy provider customer journeys like moving house or changing energy plans, to more innovative work.

In 2019 we help energy companies cater to demands for electric mobility, local autonomous grids and renewable energy sources. This brings some major service innovation challenges:

#### **DEMAND-BASED TO SUPPLY-BASED**

Traditional fossil fuel-based energy companies can adjust their supply by simply increasing or decreasing production. But as energy production becomes more decentralised, and relies more on volatile and unpredictable sources like wind and sun, the situation becomes more complicated. When supply can't keep up with demand, stored energy or auxiliary sources are needed. When demand can't keep up with supply, surplus energy needs to be stored, efficiently and safely. Just 'selling' locally generated surplus energy back to the net is a poor solution, because it doesn't motivate supply-based behaviour, e.g. using more energy when more is available (washing clothes when the sun shines) and less when it's not. It pushes the problem away to some centralised net operator, who then faces the problem of storing huge surpluses of megawatts at high costs.

We see huge opportunities in new business models and service ecosystems that motivate energy-efficient behaviour, from producers and consumers, whether they're businesses or private citizens.



#### **GREEN ENERGY TRANSITION IN OLDER BUILDINGS**

Cooking and heating in Dutch homes is most commonly done with natural gas. But problems with earthquakes caused by mining and the carbon footprint of fossil fuels have set in motion a campaign to move the Netherlands toward renewable energy. This is fine for new homes, where infrastructure is adapted to this paradigm shift, but households in older buildings face huge costs to adapt their homes. It's still unclear how this shift will be financed and when it will take place. The so-called 'power to gas' is one possible solution, where energy from renewable sources like sun, wind, and tides is stored in gas form. This would enable households to keep using their 'old' natural gas infrastructure but with environmentally friendly gas, also solving the issue of storing surplus solar energy.

#### TRANSITIONING THE ROLE OF ENERGY COMPANIES

In this more sustainable future, energy companies are not just producers and distributors, but intermediaries between producers and users, where private households and companies can play both roles. This rearrangement opens up the market for new players who are good at playing platform roles and have access to large groups of customers. Will you get an energy discount from Google if you allow their ads through your smart home system?

#### **ELECTRIC MOBILITY**

From an energy perspective, the electric car is a possible solution for decentralised energy storage. Every electric vehicle has a battery, and taken together, a city's electric cars form a smart, mobile power grid, that just might offer a solution to green energy surplus on windy, sunny days.

We see huge opportunities in new business models and service ecosystems that motivate energyefficient behaviour.



## Sector 3: Housing

Our recent work in housing has shown that it's a category ripe for human-centred innovation, but it brings challenges of its own:

#### DIFFERENT WAYS OF LIVING

Where the single household home was once the standard, we now see many variations. Properties are modified for use by many individuals or families, with shared living and kitchen spaces. In some cases, third parties undertake the projects, and rent them out to groups (one example is the Collective, who offer 'private en-suites with beautiful shared spaces and a programme of inspiring events, all included in one monthly bill'). Cross-generational solutions are also becoming more common, where families house parents in their home or backyard flats, to stay close and save on elder care costs. But elderly citizens may also choose to live in groups of their own, where they enjoy shared care facilities as well as each other's company. Add shorter stay and more flexible building concepts to the mix, and it's no surprise that companies like Airbnb and IKEA are entering the housing market.

#### DIFFERENT FORMS OF FINANCING

Home financing used to be divided into relatively simple categories: privately owned, privately rented, mortgaged, or rented with various forms of social subsidy. Today, many new forms are emerging. Equity release constructions, for example, allow homeowners to turn the increased value of their property into cash, which they can use to pay mortgage installments. Crowdfunded developments make 'the crowd' the property owner and creditor, while subscription-based constructions allow renters to pay for their home and the surrounding services (heat, cleaning, mobility, etc.) in simple monthly installments.

![](_page_21_Picture_6.jpeg)

#### INTEGRATION OF HOUSING WITH WORK

While electric mobility can significantly reduce a city's carbon footprint, it's even more effective to stop commuting altogether. Leaving home en masse to fight traffic every day is no longer strictly necessary, as more and more freelancers are able to work from home or nearby co-working spaces. Powerful connectivity solutions further enable distance working, making it more pleasant and effective. At Livework, we often have group meetings with up to 10 people from 10 different homes. These used to be a messy series of people losing connections, but improved bandwidth and communication tools are starting to solve this.

### INTEGRATION OF HOUSING WITH ENERGY GENERATION

Increasingly, homes are equipped with solar panels, effectively becoming little energy factories. This poses challenges for the power grid and for surplus energy storage, as discussed in the previous chapter.

#### UBIQUITOUS, SEAMLESS, SMART TECHNOLOGY

While 'smart' technologies increasingly appear in Western homes, many are simply gadgets waiting for a problem to solve. Google's Sidewalk Labs<sup>17</sup> initiative in Toronto uses a collaborative, participatory approach to placemaking that holds promise, but the data ownership model is ominous. Putting our money where our mouth is, Livework is collaborating with our partner Wolfpack<sup>18</sup> on a humanising smart agenda that puts technology to use solving real human needs in the home, neighbourhood and city. See the Humanising Technology chapter of this paper.

#### THE SERVICED HOME

One alternative vision is to focus the home on the essentials (eating, sleeping, relaxing), while other chores like washing and cooking are outsourced, outplaced or shared. This leads to interesting value propositions where new architectural archetypes (like the popular "tiny house") are developed in combination with a service ecosystem that replaces many traditional home functions.

![](_page_22_Picture_8.jpeg)

![](_page_23_Picture_0.jpeg)

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#### Example initiatives combining themes and sectors

![](_page_24_Figure_1.jpeg)

There are numerous examples of great service innovations where various combinations of the three themes are applied in one or several sectors. These are just some examples of companies we have worked with or initiatives we admire. Blue city is bringing circularity to the energy and food market, BMW and Heijmans are co-operating to build sustainable energy, mobility and housing propositions. Regen Villages is creating sustainable housing solutions. We worked with Ford to build participatory mobility services. We partner with ING to look at smart, participatory, sustainable housing solutions. Amsterdam and

Royal HaskoningDHV worked with Livework to use smart technology to design participatory mobility solutions. Our partner Wolfpack is running BlockLab to use smart block chain technology to build new energy grids. Blijstroom enables households to subscribe to shared solar panels and benefit from their energy without the hassle of owning them.

What will your next service innovation be?

### Summary: Key Challenges and Opportunities

### Looking at these themes and sectors, it's clear that they fascinate and challenge us because they often overlap.

Global cities face their biggest challenges where sustainability, participation, and human technology come together at the intersection of energy, housing and mobility.

We see this up close in examples like Rotterdam's Stadstimmerhuis.<sup>19</sup> There, a partnership between BMWi, the electric sub brand of BMW and building company Heijmans has resulted in a new building designed by Rem Koolhaas. It's equipped with solar panels that feed surplus energy into shared electric BMW i3's - which are included in the tenants' service contracts.

We also see it in the huge redevelopment Rotterdam is facing in Feyenoord City, the future borough in Rotterdam that involves a new soccer stadium for one of Rotterdam's soccer clubs Feyenoord as well as around 2000 new homes. It aspires to create a new borough that will contribute to Rotterdam's resilience, circular economy agenda and smart city ambitions by rebuilding a part of the city that is now occupied by industry and warehouses. It promises to transform the lives of current and future inhabitants, entrepreneurs, pioneers and Feyenoord fans but it will require a bottom up, collaborative and -yesdesignerly approach to realize these goals.

Integrative, holistic approaches like these demand a design approach that goes further than traditional service design practise. Taking inspiration from Richard's Buchanan's great work on the Four Orders<sup>20</sup> of design, we can think of a similar structure for designing for the 21st century city, which can be summed up in 4 areas of expanding focus.

Integrative, holistic approaches like these demand a design approach that goes further than traditional service design practise.

![](_page_26_Picture_0.jpeg)

![](_page_26_Picture_1.jpeg)

#### FOCUS: DESIGN FOR CUSTOMER CENTRIC SERVICES

Shaping the interactions between customers and touchpoints. Including multidisciplinary touchpoint design, design for lifecycles and journeys, and the organisational blueprints that enable these services.

#### FOCUS: DESIGN FOR HUMAN CENTERED TECHNOLOGY

Shaping the relationship between people and technology. Including designing for the natural adoption and ethical usage of new technology. This also includes data governance and the design of behavioural rules for artificial intelligence. Understanding human needs and how technology can meet them.

![](_page_26_Picture_6.jpeg)

#### FOCUS: DESIGN FOR POSITIVE BEHAVIOUR

Shaping the relationship between people and their goals. Including positive behaviour change and inclusivity. This builds on a deep psychological understanding of human behaviour and motivation, and empowers people to do not only what's best for them but also for their environment.

![](_page_26_Picture_9.jpeg)

#### FOCUS: DESIGN FOR ECO-SYSTEMS

Shaping the relationship between people, organisations and their environments. Including the design of partnerships in value networks. This acknowledges that co-creating value requires new rules about business models, intellectual property and legal structures. It also requires trust, entrepreneurship and optimism. The first focus area is our bread and butter, and the second and third are becoming increasingly so. The fourth is firmly on our agenda because we believe that the ability to design eco-systems is the key to sustainable, inclusive cities. We're in the process of forming partnerships with city pioneers, companies and municipalities to actively experiment with eco-systems that have the potential to change their cities. This can be a slow process, but we are constantly energised by our partners' eagerness, their hunger to bring positive change, and their belief in experimentation and the design process.

We're deeply excited about what lies ahead. 21st century cities deserve our attention and focus, and we are preparing for the massive, wicked, complex challenges they pose.

Design was never meant to be easy, but we don't have to go at it alone. 21st century cities deserve strong partnerships, so we invite you to join us in building and participating in networks of citizens, agencies, entrepreneurs, academics, local government, builders and technology providers. We've already begun, and we're seeing the first results. It gives us a feeling of deep pride to be part of something as big and important as the transformation of cities for the next generations.

If reading this paper has sparked your interest in participating or contributing, please do reach out. We need all the vision, creativity, entrepreneurship and perseverance we can get, and all help is welcome. It's people who make cities, after all.

#### **Erik Roscam Abbing**

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And a big thank you to all the pioneers in cities across the globe who get up every morning to make their city a better place to live for generations to come.

![](_page_28_Picture_4.jpeg)

#### Erik Roscam Abbing

(1969) is group director innovation at Livework. In this role he's responsible for developing the Livework service innovation offer as well as making sure our knowledge,

methodologies and tools remain at the cutting edge of service design. Erik holds a master degree in Industrial Design Engineering from the Delft university of Technology and a master degree in Design Management from Nyenrode University. Erik is the founder of Zilver Innovation which joined the Livework family in 2016. Erik is a frequent lecturer on service innovation and design thinking and the author of Brand Driven Innovation. Contact him at erik@liveworkstudio.com.

#### Livework studio

Designs better services since 2001.

The clue is in the name: Livework. We improve the way people live and work. We do this by designing services that are better for the people who use and deliver them.

We work across any and all fields and industries. We haven't met a challenge yet where our approach isn't applicable. What we learn in healthcare, we apply in manufacturing. Every client we work with gets the same attention to detail and commitment to achieving the best outcomes.

We have studios in Rotterdam, London and Sao Paulo and have a multidisciplinary team of service designers, systems thinkers, business designers, researchers and consultants. Within our own knowledge institute, called Livework Insight, we combine our experience in practice with knowledge from the academic world to continuously integrate new trends and developments in service design.

Visit us at www.liveworkstudio.com.

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### Get in touch

#### London

+44 (0)20 7377 9620 contact@liveworkstudio.com

118 Commercial St. E1 6NF London, England

#### Rotterdam

+31 (0)10 465 43 44 contact@liveworkstudio.com

Spaces, Hofplein 20 3032 AC Rotterdam, Netherlands

#### São Paulo

+55 (11) 3063 1925 contact@liveworkstudio.com

live|work

Rua Haddock Lobo, 585 01414-001 São Paulo, Brazil