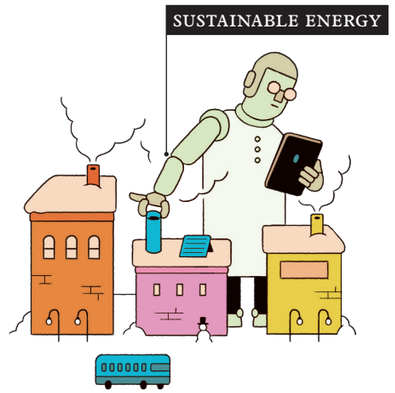


B

LAB CITIES/GLOBAL

Test match

The need to trial initiatives in our cities has never been greater – and finding the right test bed is key. These experiments, from air mobility in Singapore to co-ordinated transport services in Pittsburgh via a technology hub on the fringes of Kigali, could soon be fixtures in urban centres worldwide.

Illustration *Giacomo Gambineri*

1. Singapore

Sky's the limit

Singapore's innovation-led economy, efficient regulatory system and pro-business environment have attracted ambitious urban air mobility (UAM) companies to its skies. Industry players that have set up base in the city include aerospace juggernaut Airbus, as well as German aviation start-up Volocopter, whose flying taxi took a 1.5km, two-minute maiden demo flight over Singapore's Marina Bay in 2019. Volocopter is working with Grab, Southeast Asia's leading ride-hailing provider, to identify suitable routes and landing sites in the region. It aims to begin commercial flights within the next five years.

While shore-to-ship drone delivery services have taken off in Singapore this year (with local start-up F-drones making sorties to ships anchored off the island), over-land deliveries are still being trialled. Airbus, which has been in Singapore for 40 years – and which has just inked a memorandum of understanding with its Civil Aviation Authority – will work with the authority to accelerate development in this area by UAM operations.

The city-state sees mobility as a key growth sector for the future. "We are partnering with companies to address future mobility needs and to drive innovation in emerging areas including on-road autonomous vehicles and urban air mobility," says Yuan Chun Ling, Singapore's Economic Development Board's vice-president and head of mobility. "A vibrant mobility ecosystem creates exciting opportunities for companies and talent." With support from its government, Singapore looks set to be the perfect launch pad. — YX

2. Helsinki

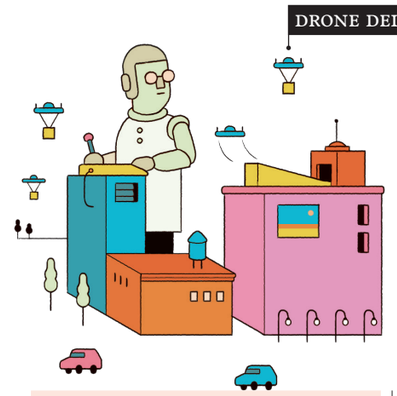
Heated exchange

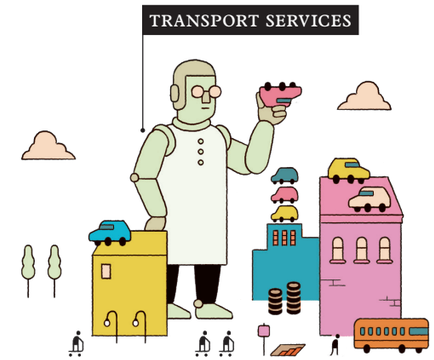
Helsinki has a problem: it wants to be carbon neutral by 2035 but currently half of the city's heating comes from burning coal. To find a way out, the city is promising a €1m reward to anyone who has a solution. "With the Helsinki Energy Challenge we hope to find game-changing solutions to urban heating that have the potential to be implemented in Helsinki but that can benefit other cities too," the city's mayor, Jan Vapaavuori, tells MONOCLE.

Helsinki is open to all kinds of proposals: one solution or several complementary ones; technological or even non-technological innovations; system-level changes or upgrades to the current heating platforms. In addition to the hefty reward, the winner will get to work with the City of Helsinki on implementing the plan.

The project is the latest way in which the Nordic capital of 650,000 people is seeking to tackle modern-day challenges. In recent years, Helsinki has emerged as one of the leading laboratory cities for new ways of organising issues such as urban mobility and energy. The city boasts more than 500 start-ups, tech-savvy inhabitants and a vibrant technology ecosystem that supports a strong culture of innovation. "Helsinki is small enough for tests to be conducted quickly and large enough for meaningful, scalable results," says Vapaavuori. "We have an open and participatory culture, combined with world-class education and high-tech expertise."

When it comes to energy solutions such as heating, Helsinki's cold climate (temperatures can drop to minus 20C) and extreme conditions make it a useful place to test new technologies. If it works here, surely it can work anywhere. — PB





3. Kigali, Rwanda

Africa's new testing ground

Becoming a trailblazer in technology has become so significant for Rwanda that the government created a city for it. Kigali Innovation City (KIC), a technology hub on the outskirts of the capital, is one of the most advanced in Africa: a focal point for incubators, university campuses, future offices and housing. The hub has put hi-tech, innovation and talent development on the frontline.

"KIC is cultivating a critical mass of pan-African and entrepreneurial talent," says Tesi Rusagara, the venture's managing director. "Our anchor universities have 35 African countries represented in Rwanda and this number grows year on year." Mobilising start-ups is also top of the government's agenda. A national start-up act is being drafted and two incubator programmes for tourism and educational technology have been launched in Rwanda. Jon Stever, co-founder and managing director at i4Policy, a social start-up that contributes to shaping public policy, puts it concisely. "The future is being reimagined here. Rwanda is embracing the fourth industrial revolution," he says.

Rwanda's eagerness to become the launchpad for technology in Africa, and a testing ground for products, is a drawcard for global innovators. US drone delivery service Zipline partnered with the Rwandan government to test drone deliveries after being denied testing in other markets. The results were life-changing: when testing the delivery of blood to rural areas, the transit time dropped from four hours to just 25 minutes. Local innovators are also gaining traction: take DMM Hehe, a female-founded software development firm, and Ampersand, a company that builds electric motorcycles. "Rwanda is emerging as a 'proof-of-concept' destination," says Rusagara. — MHO

4. Turin, Italy

Putting the 'lab' in lab city

Turin might have a long history as an industrial centre and linchpin of Italy's automotive industry but times have changed. "I think I'm an example of the transition of this city," says Belgian car designer Lowie Vermeersch, who has long called the northwestern hub home and set up Granstudio in 2011. Its aim? "Approaching the mobility field from a fresh point of view," he says, adding that Turin is the perfect spot to tap into a network of know-how that isn't stuck in the past. Vermeersch currently oversees the design and development of electric urban mobility brand Komma, headquartered in Lugano.

Turin's quality of life, coupled with its embrace of technology, is making it an attractive prospect for international companies. And the city's Torino City Lab, which opened in 2018, is a declaration of intent. Acting as the city's innovation arm, the lab is working to position Turin as a hub for emerging technologies, from artificial intelligence to cybersecurity. In the past two years, it has generated more than 50 innovation projects, attracted some 60 global partners and run more than five national challenges for innovators. "The need to combine the local and the international are, in our opinion, key elements to solidifying the innovation backbone of the city," says Marco Pironti, Turin's deputy mayor for innovation. — EJS

5. Pittsburgh, USA

Bringing people together

In recent years, cities around the world have been deluged with technology-driven transport services and, more often than not, governments are reduced to managing competition between start-ups in a chaotic market. To mitigate this scenario, Pittsburgh has initiated Move 412, which involves government bodies, private businesses, academic institutions and non-profits – together known as the Pittsburgh Mobility Collective – co-ordinating transport services across the city. On board are companies offering bicycle-sharing, scooter-renting and car-pooling.

The intention is for Pittsburghers to be able to use a single app to make a "multi-modal" journey – say, riding a scooter to the bus stop, taking a bus downtown, then completing the last leg on a bike share. The app in question will be Montréal-based Transit, which provides real-time data on public-transport systems. "Cities have taken different approaches to new mobility," says Stephen Miller, Transit's communications lead. "Some have taken a hands-off approach, while others have a permit process where they select companies to offer services. Pittsburgh has instead asked companies to work together and help the city achieve its goals."

Among those objectives is social mobility. The city hopes that Move 412 will be a particular boon to historically underserved communities and people without vehicles. And the city hasn't stopped there. In 2019 it published a "Pittsburgh principles" order on the safe testing of autonomous vehicles. Currently four companies are on-road testing in 32 neighbourhoods. — HRS