**Newsletter** | April 2020

## CURA – transforming shipping containers into Intensive Care Units (ICUs)


MIT students, together with researchers at the Senseable City Lab, are collaborating with CURA (Connected Units for Respiratory Ailments), an open source design initiative to turn shipping containers into ICUs. A parametric configurator helps cities to optimize the use of available areas to arrange the necessary number of CURA pods. The project starts with 7 case-studies across the world, ranging from Boston to Stockholm, Jakarta and Mombasa. CURA was started out of the need to develop quick-to-deploy solution to expand the healthcare infrastructure to treat patients infected by COVID-19. The first CURA pod has just been installed at a COVID-19 makeshift hospital in Turin, Italy.

## Autonomous boats transform waste collection in Amsterdam


Roboat is a fleet of self-driving boats, which are being developed as part of a research collaboration between MIT and the AMS Institute. They are being piloted in Amsterdam, a city of iconic canals and historic architecture, which attracted over 18 million tourists in 2019. In addition to people and freight transportation, the latest Roboat will be tested for waste collection—an age-old issue that can be solved with technology and design. Called Waste Streams, it is a flexible system that allows for trash pick up where and when needed, both for residents and hotels.

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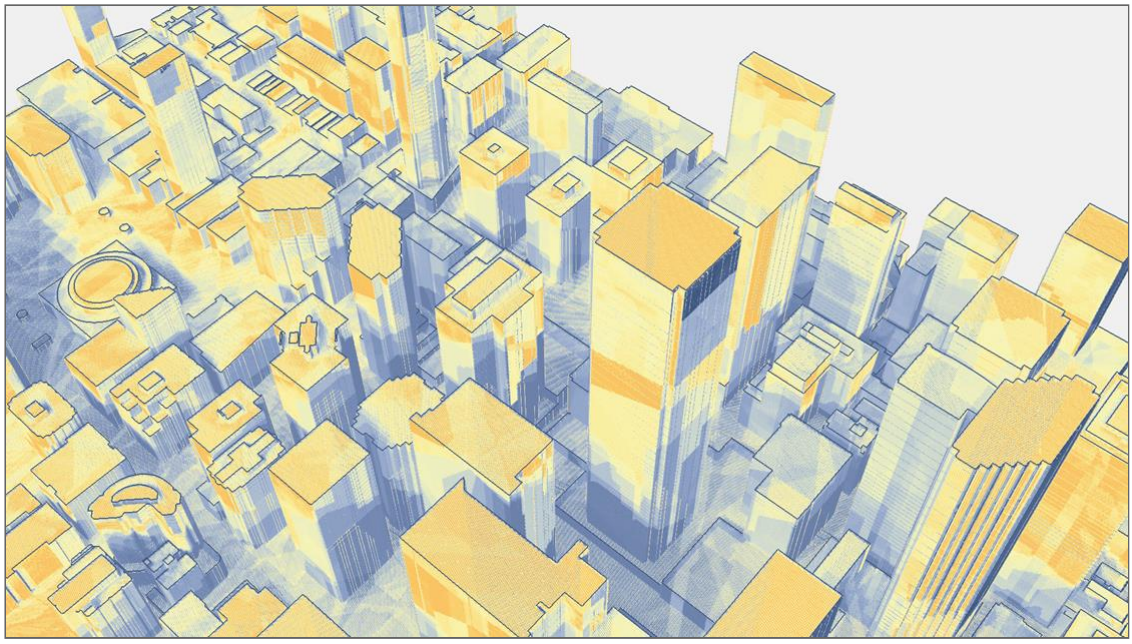
**The power of solar**



The Solar Cities project investigates the potential for exploiting solar energy over the three dimensions of a city: roofs, façades and ground. Lab researchers, in collaboration with SMART—Singapore-MIT Alliance for Research and Technology, propose a model to fully assess the spatiotemporal variation in the solar potential of ten cities. A paper just published in the journal Renewable Energy and Sustainable Cities and Society shows that cities with high density of tall buildings possess larger degrees of untapped solar potential.

The model can be used to support citizens and local governments better harvest the energy resources around them.

## News And Media

- Join us on Wednesday, May 6 at 11AM EST for Senseable City Lab's first webinar: How office design is changing. Leveraging Big Data collected on the MIT campus, the Lab's Director, Carlo Ratti, and researcher Martina Mazzarello will discuss how the usage of office space is changing.
- Tom Benson presents at the Smart City Summit, discussing innovative ways to utilize sensors to improve city living
- As less people commute to work due to COVID19, Priyanka deSouza speaks on WGBH and with the Boston Globe on the decreasing amount of air pollution and Senseable City Lab's effort in combatting this.
- The Guardian, CBC, The Print, and DesignBoom discuss how CURA could make a difference during the COVID-19 pandemic.
- ArchDaily's interviews Carlo Ratti on his role during the outbreak and the long term changes the world may see in architecture.
- BBC features Underworlds, highlighting the role technology is playing in monitoring COVID-19 spread: "A city built for a pandemic would likely be filled with hidden sensors to help map the spread of disease".
- In the LSE blog, Priyanka deSouza reviews the book "Breathtaking: Asthma Care in a Time of Climate Change".
- Our paper combining low-cost air-quality monitors with satellite data is open for comments in the journal Atmospheric Measures Techniques. The research, led by Prianka, is a collaboration between MIT, Harvard, and NASA.
- How 5G can drive smart cities? Minimum Fleet is discussed in Usbek & Rica about how 5G can drive smart cities and autonomous vehicles.
- We "need to meet essential but partially conflicting needs: security and freedom, privacy and access to data", says Carlo Ratti in an interview with Phys.Org on the use of tracking technologies during the COVID19 crisis.
- Routledge Companion to the Smart Cities publishes Fábio Duarte, Lenna Johnsen, and Carlo Ratti chapter about how Roboat trigger us to reimagine urban infrastructure through design and experimentation.
- Join Priyanka on May 5, 2020 9:45-11:00 AM ET as she speaks about the benefits of moving to zero-emission electric buses in Cambridge, based on our measurements in Cambridge. Password for the event is 512115.

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This newsletter was brought to you by the hardworking researchers of the:

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