

## Makr Shkr by Carlo Ratti and MIT Senseable City Lab

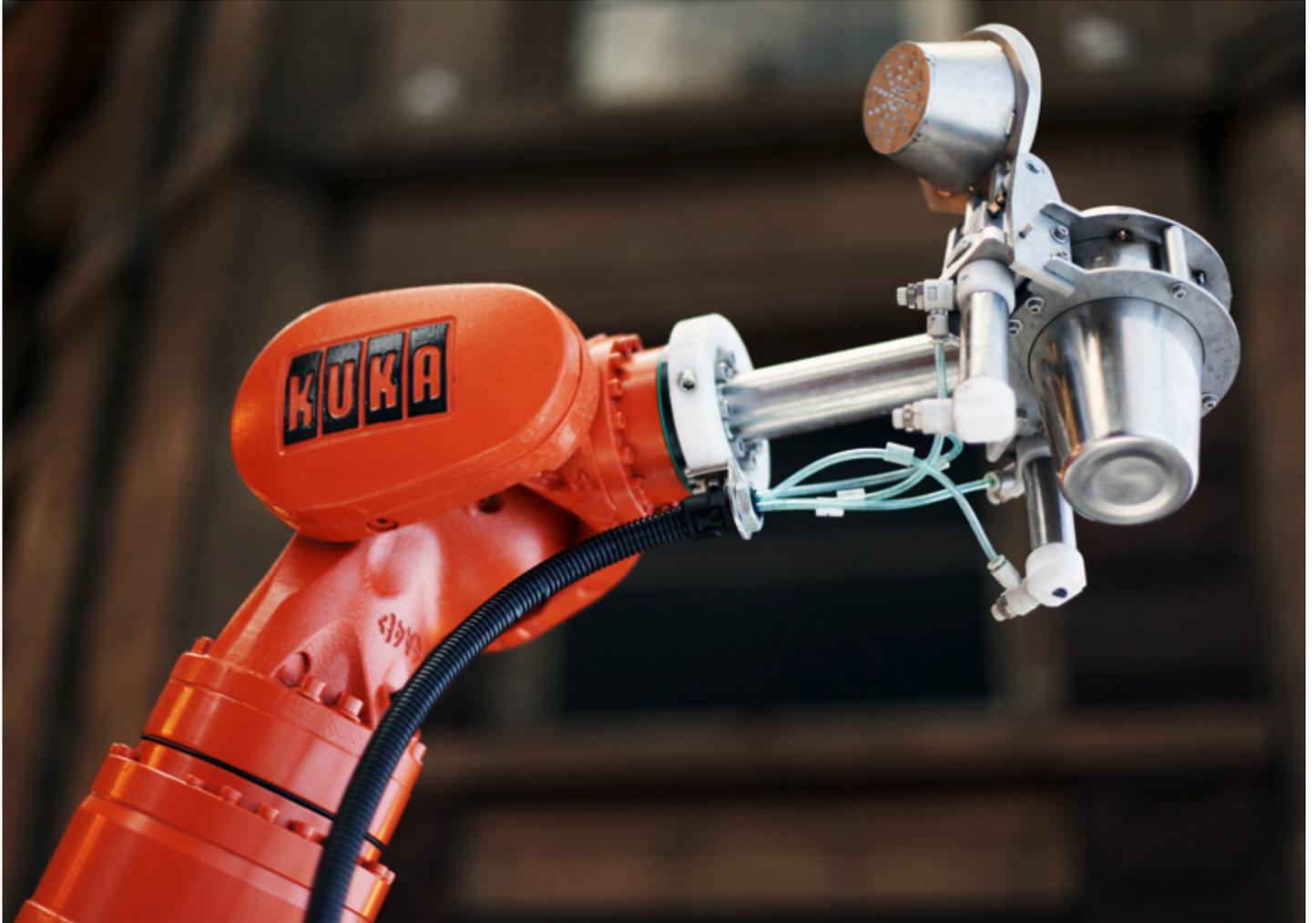
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**Milan 2013:** Italian architect Carlo Ratti and his team from the Massachusetts Institute of Technology installed three robotic bartenders in Milan last week (+ movie).

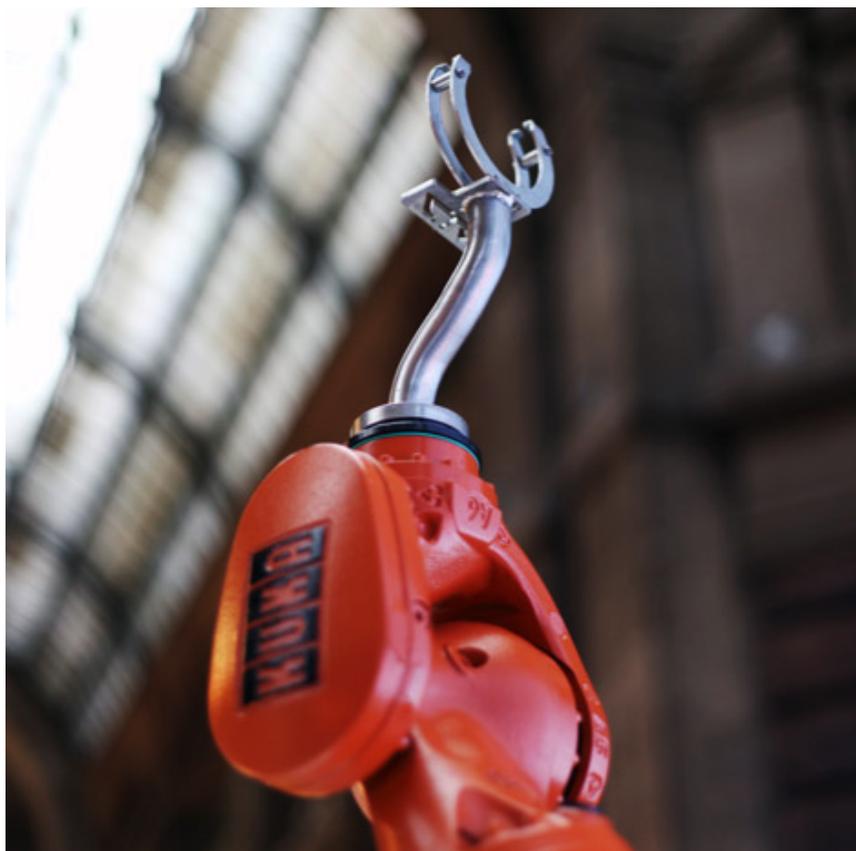
Ratti and the researchers and engineers at MIT's [Senseable City Lab](#) collaborated with [The Coca-Cola Company](#) and rum makers [Bacardi](#) to create Makr Shkr, a bar staffed by three robotic arms that mix customised drinks.

*Above: movie by [MyBossWas](#)*

Visitors to the Galleria del Corso were invited to download an app to their smartphone or tablet and create their own recipe

before sending it to the robots to be mixed up.

"The number of combinations is almost infinite, especially if we take into account the machine's precision of measurement," said Yaniv Jacob Turgeman, project leader at Senseable City Lab.



The designers also programmed the robots' gestures by filming ballet dancer Roberto Bolle in action and using data from his movements.

The prototype Makr Shkr was being previewed ahead of its official launch at [Google's developer conference](#) in California next month.



At last year's [Istanbul Design Biennial](#), Ratti programmed a printer to write out and continually update the Wikipedia entry for [Open Source Architecture](#) on the wall of the Adhocracy exhibition.

We've featured lots of robots on Dezeen, including [a robotic arm that wound 60 kilometres of carbon and glass fibre filaments into a pavilion](#) and [a robotic 3D printer that creates architecture from sand](#) – see [all robots](#).



Other installations in Milan this year included [Jean Nouvel's vision of future office environments](#) and [a courtyard filled with rotating cork platforms by Ronan and Erwan Bouroullec](#) – see [all stories about design at Milan 2013](#) .

Here's some more information from the designers:

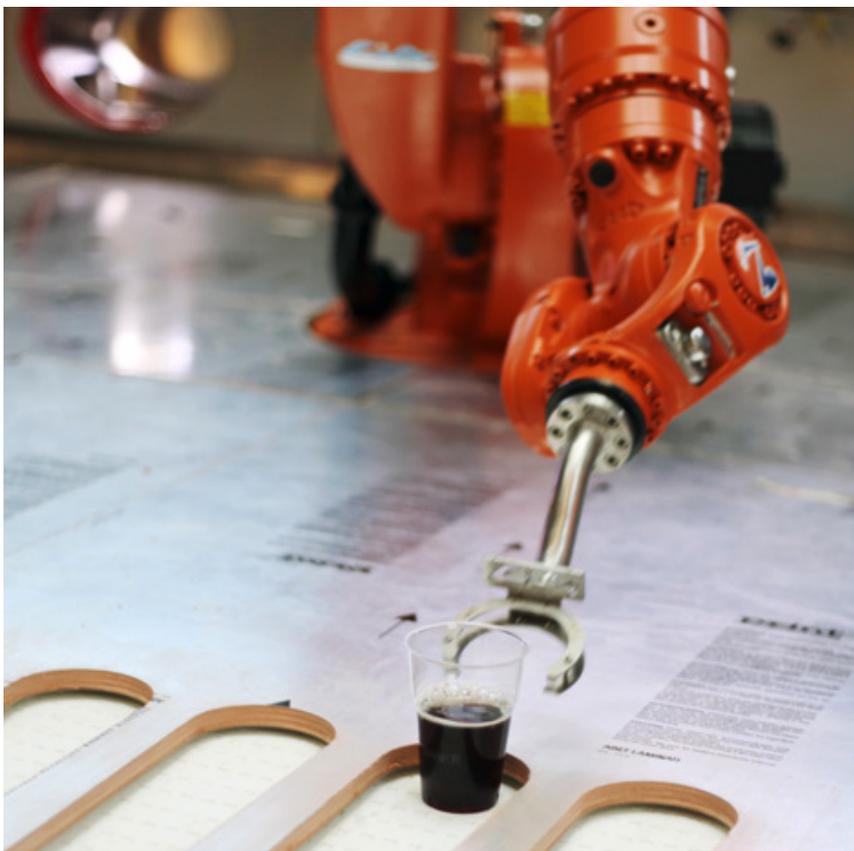
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Researchers and engineers at MIT Senseable City Lab, Cambridge, in collaboration with The Coca-Cola Company and Barcardi rum, have designed a robotic bar, capable of preparing approximately one googol (equal to 10 power 100) crowd-sourced drink combinations. The project, called "Makr Shagr", was developed with the endorsement of "World Expo Milano 2015 – Energy for Life. Feeding the Planet", and will be tested during Milan Design Week (April 9-14th, 2013) before being unveiled in its final form at Google I/O in San Francisco (on May 15th, 2013).



"Digital technologies are changing the interaction between people and products," says Carlo Ratti, director of the MIT Senseable City Lab and the design practice carlorattiassociati, Turin. "This is what we would like to do with Makr Shagr, as part of exploring the Third Industrial Revolution paradigm. People are given the power to invent their own drink recipes and digitally controlled machines make these recipes into reality. We can then enjoy the results of their production - sharing our experience and opinions with friends." Ratti adds, "Makr Shagr aims to share this new potential - design-make-enjoy - with everyone in just a few minutes: the time taken to prepare a new cocktail."

Users will download an app on their handheld devices and mix ingredients as virtual barmen. They can gain inspiration by viewing other users' recipes and comments before sending in their drink of choice. The cocktail is then crafted by three robotic arms, whose movements reproduce every action of a barman - from the shaking of a Martini to the muddling of a Mojito, and even the thin slicing of a lemon garnish. Roberto Bolle, étoile dancer at La Scala in Milan and Principal Dancer with the American Ballet Theatre, along with Italian director and choreographer Marco Pelle, inspired the gestures of the robots. Roberto Bolle's movements were filmed and used as input for the programming of the Makr Shagr robots.



The system also leverages the revolutionary, touchscreen-operated beverage dispenser, Coca-Cola Freestyle, which offers more than 100 brands at the push of a button. “Coca-Cola Freestyle represents innovation at its best, combining revolutionary technology and inspired design to deliver unprecedented choice to consumers,” said Jennifer Mann, VP and General Manager, Coca-Cola Freestyle, The Coca-Cola Company. “This collaboration is another way we continue to find new ways to bring co-creation and social sharing to the next level.”

In Makr Shagr, the social connections woven through co-creation and the relationships between ingredients and people are shown on a large display positioned behind the bar. Consumers can also share these connections, along with recipes and photos on various social network platforms.



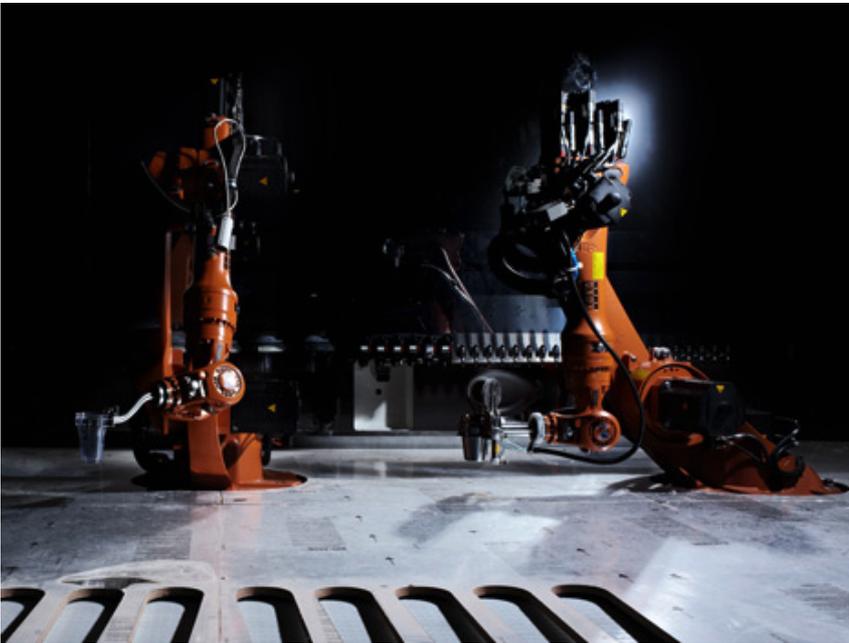
“Pioneering spirit has been at the heart of BACARDÍ since its earliest days, starting with a revolution in rum-making to inspiring today’s most drunk cocktails, first of which is the Mojito. This project embraces the same ambition,” said Giorgio Bertolo, BACARDI Marketing Manager, Italy & France “and we are proud to partner with Coca-Cola, once again, in this cocktail making innovation, as we did in 1900 with the invention of the Cuba Libre. Furthermore, this project is an experiment from the digital world asking people to step out and connect in a real human experience around a drink, exactly as we aim to facilitate with our cocktails.”

"Leveraging the great energy of this global design event, we are excited to explore new dynamics of social creation and consumption." says Yaniv Jacob Turgeman, project leader from MIT Senseable City Lab. "We've all been the home bartender at one point, and it's a lot of fun mixing for oneself or one's friends. Here the number of combinations is almost infinite, especially if we take into account the machine's precision of measurement. With a domain of limitless possibility, the magic moment will be watching the formation of a bottom-up bar culture as we close the loop between co-curation and co-production in real time."



Makr Shagr can mix both non-alcoholic and alcoholic drinks. The digital design system monitors alcohol consumption and blood alcohol levels by inputting basic physical data, something beyond what a traditional barman can do. Makr Shagr promotes responsible alcohol consumption by allowing people to self-monitor their drinking. A contribution is asked for drinks being produced by the Makr Shagr, with any gain generated from the project - after production costs - being donated to the Politecnico di Torino for a student fellowship on the Third Industrial Revolution.

A press preview will be held on Tuesday, April 9th at 6pm - Terrazza Martini, 7 Piazza Armando Diaz, Milan. The public opening will follow at 8pm - Galleria del Corso, Milan. Makr Shagr will be in action everyday until April 14th, from 1pm until 11pm.



Project concept and design by MIT Senseable City Lab.

Implementation by carlorattiassociati | walter nicolino & carlo ratti.

Main partners: Coca-Cola and BACARDÍ rum.

Technical partners: Kuka, Pentagram, SuperUber.

Media partners: Domus, Wired.

Event in collaboration with Meet the Media Guru and endorsed by Comune di Milano, World Expo Milano 2015 – Energy for Life. Feeding the Planet.

Video by MyBossWas.