

A NEW WORLD GEOGRAPHY

by Michele Buono

With the assistance of Andrea De Marco and Filippo Proietti

MILENA GABANELLI IN THE STUDIO

To kick us off, today's investigation is dedicated to the large-scale intercommunicating urban systems which are giving rise to a new continent, changing geography as we know it. In this new scenario, the real battle is in the hands of the mayors. In order to understand the situation better, we need to look at the key numbers: more than 4 billion people (of the 7 billion who occupy our planet) live in big cities, and of the 73 trillion dollars in global GDP, 58 trillion is produced in these. Big cities equal concentration, and generate ideas, but they also pose a host of problems: pollution, traffic, transport, and pockets of exclusion. However, they can also become the solution, provided that we take the resources that these cities offer and connect them to one another, enabling them to function as a platform. This trend is gaining momentum, and certainly not as a result of any sense of evangelistic spirit, but simply because it is beneficial to us all. Over to Michele Buono.

MICHELE BUONO, OFF SCREEN

I met Malin Bey in Brooklyn, and for him, this was a story about boxing.

MALIN BEY

Work on that combination! Thip, Superman...Boom! Yeah, that's it! I don't do things for money. If my students didn't have a penny, I'd train them for free, in their backyard, in the park - as long as they turn up on time to training! A thousand dollars for a match, I take two hundred if they win, a hundred if they lose. No, it's not about the money for me.

MALIN BEY

We offer internet to the whole neighbourhood, from inside these vans.

MARK

Great.

MALIN BEY

Come in. What's your name?

MARK

Mark.

MALIN BEY

I'm Malin, but everyone calls me Ali.

MICHELE BUONO, OFF SCREEN

The new continent isn't on the geographical map. It is composed of the cities of the world, which connect with one another to exchange ideas, projects and money, and to give shape to another nation.

LAURA COSA - IMPACT HUB TURIN

Here in Turin, we are creating a community - we already have several dozen members, and we are connecting to others via our global network.

MICHELE BUONO, OFF SCREEN

The distance between us is decreasing, and in this day and age, the concept of being born in the wrong part of the globe is becoming outdated.

DAUDI WERE - USHAHIDI NAIROBI

Our platform was created in Nairobi. It's called Ushahidi, which means "witness." We have links with a hundred and sixty countries worldwide, and our employees work across ten different time zones.

YAMINA DJACTA – U.N. HABITAT PROGRAMME DIRECTOR

Innovation, progress and economic prosperity are all created in urban systems.

MICHELE BUONO, OFF SCREEN

The United Nations deals with countries, but when direct relations are being established between Nairobi, Milan, Turin, New York and Paris, are the countries themselves still involved?

YAMINA DJACTA - U.N. HABITAT PROGRAMME DIRECTOR

The countries are still involved on some level, because the gaps still need to be bridged. In the past, economic growth has not involved all tiers of the population, whether in developing or developed countries. If you leave someone behind, the system doesn't work.

MICHELE BUONO, OFF SCREEN

New York: resources, infrastructure and businesses are its assets, and the Economic Development Corporation is responsible for making a success of these.

GIANLUCA GALLETTA - DIRECTOR OF INTERNATIONAL AFFAIRS, NYCEDC (2014-07/2016)

We try to act as catalysts for various areas of the private sector.

MICHELE BUONO, OFF SCREEN

A hundred years ago, a railway line ran above the city, on the west side of Manhattan, because there were too many horses and carriages on the streets. Then cars arrived, which put an end to this outdated form of transport, and to the railway too.

RENZO PIANO – ARCHITECT

There are these black holes, which are precisely what allow the city to grow and evolve. We simply need to make good use of the land.

GIANLUCA GALLETTA - DIRECTOR OF INTERNATIONAL AFFAIRS, NYCEDC (2014-07/2016)

For example, we have been extensively involved in helping to construct the Whitney Museum, something quite famous ... ah, the High Line, the High Line was designed and built by us.

MICHELE BUONO, OFF SCREEN

The High Line is what the old railway has become: a large elevated public park. At the entrance, Renzo Piano has designed the Whitney Museum of American Art, as part of the regeneration project for this area. The market has taken note. Work is now starting on the Hudson Yards complex: offices, apartments, shops, a hotel, a public

school and, above the old rail yards, wide open spaces which will be open to everyone.

RENZO PIANO – ARCHITECT

The idea of a city continuing to extend outwards is just untenable, from all perspectives - public transport, schools, services, garbage collection - it just doesn't work anymore, this sprawling dispersion.

MICHELE BUONO, OFF SCREEN

Five million people a year visit the elevated park, representing big business for the shops and businesses in neighbourhoods below. Meanwhile, in eastern Manhattan, things are picking up below street level.

MYPHUONG CHUNG - COMMUNITY BOARD 3 NEW YORK

The site is underground, which is a bit of a challenge, but we wanted to see what we could do.

MICHELE BUONO, OFF SCREEN

Once a railway terminal, the site had abandoned for more than fifty years. Today, the economic development agency corporation decided to turn it into the first underground public park in the world.

MYPHUONG CHUNG - COMMUNITY BOARD 3 NEW YORK

The government has promised to protect vulnerable groups of people from the inevitable rise in real estate prices following the redevelopment. Meanwhile, local businesses have been given the opportunity to get involved with the project, and ultimately, all local business will benefit from the increase in visitors.

MICHELE BUONO, OFF SCREEN

In practice, this garden will be used to grow vegetables, courtesy of a cutting-edge system which brings natural sunlight into the space. It is an experiment in recovering and re-purposing unused spaces.

Elvis Presley passed through the Brooklyn Army Terminal, together with innumerable soldiers and military supplies. It was once the biggest military procurement base in the US, surrounded by warehouses, refineries and shipyards. Then, one day, it was all over, and lay empty for 20 years, until it was purchased by the City of New York.

MARK JOSEPH - DESIGNER

It was a real stroke of luck for us, because it allowed us to keep our business in New York.

MICHELE BUONO, OFF SCREEN

A host of incentives, support and advice services are being launched, for all the various businesses due to settle in the old terminal.

MARK JOSEPH - DESIGNER

Having our production facility, warehouse and commercial offices under one roof at a competitive price has enabled us to grow, and we've now started working in Europe, Israel, Australia and New Zealand too.

MICHELE BUONO, OFF SCREEN

Along with traditional manufacturing activities, this site is also home to financial offices, scientific research and biotechnology laboratories and art studios.

CHELSEA ESCHER - CHASHAMA

Rent is 10 dollars per square metre on average, pretty inexpensive given the location. There are also several communal areas, along with advisory services which can assist in setting up exhibitions and events.

EVA CRAMER – PRESIDENT OF BIOBAT

When your business is based around producing devices, you have to design them, and the artists based here are a great help in creating designs for our new products.

MICHELE BUONO

What are the advantages of working in a place like this for a research institute?

EVA CRAMER – PRESIDENT OF BIOBAT

This site is a free zone, and as such, we don't pay taxes, and neither does the business incubator company behind the biotechnological companies we work with. This system has attracted many companies here, working closely with the university, which in turn has proved to be an economic engine in its own right.

CHRIS ANASTASI – IRX THERAPEUTICS

We are working to develop a drug to improve the immune response of people affected by cancer. We have decided to transfer our business here, because New York is a great place for biotechnology companies: it is home to fantastic research institutes, and there's access to risk capital.

MICHELE BUONO, OFF SCREEN

What does the city and the US as a whole gain from these investments?

EVA CRAMER – PRESIDENT OF BIOBAT

Employment. The creation of these spaces attracts companies, which provide good jobs. Eventually, they also improve the neighbourhoods which surround them, and restaurants and shops begin to pop up.

MICHELE BUONO, OFF SCREEN

Workers are needed here, and the Employment Agency has an open door into the Brooklyn Army Terminal.

KAREN MIRKO - WORKFORCE 1 BROOKLYN

We try to direct people looking for work, and help them to plan their careers, to write their CVs and to prepare for interviews with companies.

BILL DE BLASIO - MAYOR OF NEW YORK

We have a single goal: to create work for the citizens of New York. Quality jobs that are well paid!

MICHELE BUONO, OFF SCREEN

Unemployment is down, but the gaps need to be bridged, in everyone's interests. Anyone who understands this is investing privately in this project, like Columbia, for example, a leading private university which is astronomically expensive to attend. It needs a new site, and has chosen an ethnically diverse neighbourhood with a low-income population.

RENZO PIANO - ARCHITECT

This idea has taken shape slowly, little by little, as we have attempted to understand what the university should be, what a campus for the new century should look like, without separating it from the community. In any case, the fact that Harlem was the community in question was key - it's one of the richest and most diverse areas, as well as one of the most complex.

MICHELE BUONO, OFF SCREEN

How will this university not be separated from the community of Harlem?

KENDALL DOERR -ARCHITECT AT RENZO PIANO'S STUDIO, NEW YORK

Because it's a sort of campus with no gates, with shops on the ground floor, where people from the neighbourhood can take a walk, and go shopping, mingling with students and professors.

MICHELE BUONO, OFF SCREEN

But what if once they had finished strolling and shopping, the kids of Harlem decided they wanted to get a degree from Columbia?

MAXINE GRIFFITH - GOVERNMENT & COMMUNITY AFFAIRS, COLUMBIA UNIVERSITY

Many of our teachers are helping public schools and libraries in the area, and courses and college tutors are free for everyone. We have also channelled several million dollars into providing scholarships for local kids. If they get into Columbia, they won't have to worry about how much it costs. For us, it's an investment.

MICHELE BUONO, OFF SCREEN

The Mayor's office for public-private partnerships. Here, they work to provide all inhabitants with the same opportunities.

MICHELE BUONO

What financial instruments do you use?

GABRIELLE FIALKOFF - SENIOR ADVISOR, STRATEGIC PARTNERSHIPS, NYC MAYOR'S OFFICE

There's a fund, called the Mayor's fund, which is financed by donations that come from the private sector. We often use this, alongside other public funds.

MICHELE BUONO, OFF SCREEN

The fund intervenes to support social housing and health care for all, and to fill the gaping holes in the education system.

GABRIELLE FIALKOFF - SENIOR ADVISOR, STRATEGIC PARTNERSHIPS, NYC MAYOR'S OFFICE

We have invested 81 million dollars of both public and private donations in the "Computer Science for All" project, which isn't just focused on teaching children how to programme, but also addresses the ways in which technology can be applied in subjects such as art, maths or social studies. This will provide our young people with a better chance of getting a well-paid job.

BILL DE BLASIO - MAYOR OF NEW YORK

Hey guys, remember now, you've got to set a good example for the whole city. What are you learning?

STUDENT

HTML and CSS, Mr. de Blasio, and lots of other programmes.

MICHELE BUONO, OFF SCREEN

What motivates the private sector to invest in social impact projects?

GABRIELLE FIALKOFF – SENIOR ADVISOR, STRATEGIC PARTNERSHIPS, NYC MAYOR'S OFFICE

They know that there's a close relationship between economic growth and social policy.

MICHELE BUONO, OFF SCREEN

They go all over town in these vans, taking computers, an internet connection and advice to those who need them most.

MALIN BEY

Some people hand out food, others give out medicines. I give out internet access. Today, a lady came to ask us for help in submitting her certification for public housing. She had tried to do it on her own, with her computer, but she couldn't work it out, so she came to me, and within half an hour, we had it done and dusted. She shed a tear - seriously. She said to me "I tried so hard to do it myself." She had no money to give me a tip, so she brought me a plate of Spanish stew. Because she was happy. And in the evening, I get the kids off the street. Forward with a double jab, a little push with your right arm, and a low kick to the other side. Show him how to do it. That's Muhammad Ali, all the great champions have trained here.

MICHELE BUONO, OFF SCREEN

Capannori, near Lucca. The mayor has put all of the municipal services online. Then he wondered, are all of my citizens able to connect to the internet and access these?

LUCA MENESINI - MAYOR OF CAPANNORI (LUCCA)

Then, the risk was that we'd created the app, we'd launched this service, but our citizens weren't ready for it.

MICHELE BUONO, OFF SCREEN

He sent everyone a letter, the gist of it was: "If you don't know how to get by on a computer or on the internet, give us a call and we'll come to your home."

CAPANNORI CITIZEN

I rang, and I said, if you've got someone who could come and explain it to me, I'd be really grateful.

LUCA MENESINI - MAYOR OF CAPANNORI (LUCCA)

The turning point was when we decided to approach young people, and ask them if they wanted to get involved in a project like this one.

VOLUNTEER 1

Who else is there to make their skills and knowledge available, if not us?

MICHELE BUONO, OFF SCREEN

They're volunteers. They split the area between them, offering digital assistance to those who request it. House by house.

VOLUNTEER 2

Click twice, and hold your finger on...

MICHELE BUONO, OFF SCREEN

Mrs. Nabila is a translator of Arabic, French and Italian. Her problem was getting used to writing on her computer, switching from right to left to left to right.

NABILA

Now I find it easier to write from right to left, it's more straightforward. More time...it takes me less time now.

MICHELE BUONO, OFF SCREEN

Nabila also helps refugees who have been housed in the area.

NABILA

Now, I do a bit of research for them, I print the odd thing and take it back to them, maybe things written in French and Arabic. Every day I do something little for them, take them something, and work continues.

LUCA MENESINI - MAYOR OF CAPANNORI (LUCCA)

A close community is a stronger community - a community that can seize opportunities, and develop and build on these so that they become opportunities for growth from an economic perspective too, with an impact on the local macroeconomic context.

CAPANNORI CITIZEN

Essentially, the issue is that I always want to get online, to look at my pension stuff too, and to buy the odd thing on the internet, no? On one of the online stores, like Amazon. I set up a Facebook profile, too!

LUCA MENESINI - MAYOR OF CAPANNORI (LUCCA)

Everyone's got a television, and everyone can access a TV channel, so they can participate, share in a sentiment or an idea. But when this idea is launched into the digital universe, not everyone can access it. And so there's the question of access to information, let's say, access to knowledge which contributes to the growth of a community.

MILENA GABANELLI IN THE STUDIO

Sure, Capannori isn't exactly New York, and it's not Milan either, but it's a starting point for inclusion, and it wasn't even necessary to organise courses - which of course cost money - only to discover, perhaps, that the elderly don't attend them. But this mayor of a small town, with very little money, had one key thing: a goal - something he had in common with De Blasio, the Mayor of New York. Both men used the resources they had - gleaned from property and from taxes - and focused these on social policies, overhauling neighbourhoods in bad shape and creating new infrastructure, in order to attract high-tech firms to spaces that would never have been given a second glance if the environment surrounding them had remained run-down and bleak. Mayor De Blasio was appointed in 2014. In two years, private sector employment has grown by 7.5%. The city's GDP has increased by 3.1 trillion dollars, and municipal revenue is up 8%. We're talking big numbers here, because this macro-area is extremely well connected. Sure, not all of the city's problems have

been resolved, but social tensions have certainly decreased, along with the serious crime rate. So, instead of businesses competing between themselves, why don't we try to create macro-areas too, with more clout? What are we missing? After all, we have a great education system, a great welfare system, and no shortage of ideas. So for example: what would happen if Milan, Turin or Genoa adopted this system?

MICHELE BUONO, OFF SCREEN

Let's try to imagine Milan, Turin and Genoa as a single urban system that shares all of its resources.

ANDREA ROLANDO - URBAN PLANNING DEPARTMENT, POLYTECHNIC UNIVERSITY OF MILAN

First and foremost, it's one of the best areas in the world in terms of infrastructure. We have railway connections on a number of levels, the hub, and the airport - one of the key airports in the country. Two railway stations, at Porta Susa and Porta Garibaldi, just 40 minutes from each other. Genoa will probably even be included in this process of urban re-polarisation and spatial organisation.

MICHELE BUONO, OFF SCREEN

Porta Genoa in Milan, a former industrial area. Ansaldo was based here, manufacturing transformers and railway equipment. Now, the area belongs to the City and has become a place where the ideas of young researchers are transformed into businesses. The Cariplo Foundation has also invested in it. How much?

CARLO MANGO - CARIPLIO FOUNDATION

Ten million euros over three years of investment.

MICHELE BUONO

To do what - what was the objective?

CARLO MANGO - CARIPLIO FOUNDATION

Ten thousand job opportunities across all the old trades which, thanks the advent of digital technology, have been given new life - new trades which are asserting themselves on the labour market, via the digital world.

MICHELE BUONO, OFF SCREEN

At this point, a number of other companies decided to get involved, from Fastweb and Terna to Novartis and Microsoft.

FABIO SANTINI - MICROSOFT ITALIA

On the one hand, we support Italian companies, allowing them to innovate through start-ups, finding new ideas, new mechanisms, new businesses, and on the other, we can help those start-ups to find the right path, as an industry leader, providing a few suggestions.

MICHELE BUONO, OFF SCREEN

Even a high school class that has invented an app to share car rides can learn about how to build a business.

ILARIA DE VITTORI - TRANSFERS

Anyone can potentially start a business - it's not just something that rich people can aspire or afford to do.

CRISTINA TAJANI - COUNCILLOR FOR WORK AND ECONOMIC DEVELOPMENT FOR MILAN

As part of our local government plan, spaces of this type, incubator companies too, are assimilated with other services from an urban planning perspective, bringing a host of benefits in terms of volume and more, a school or a hospital for example.

MICHELE BUONO, OFF SCREEN

The City of Milan creates a register, and new spaces begin to take shape. Talent Garden is a network. With a pass, users can go wherever they need a workplace: from Rome to Milan to Genoa, across the rest of Europe and in New York.

MASSIMO TEMPORELLI- THE FABLAB

If I go to a given city, I have a fixed place to work, and more importantly, a place to network with local entrepreneurs - not something to be sniffed at.

DAVIDE DATTOLI – TALENT GARDEN CO-FOUNDER

While members of the Talent Garden across various countries total 1,300, the number of those involved in some way is actually much greater - from those responsible for building these spaces, to the people adjusting the light bulbs and ensuring that these services operate better and better every day.

MICHELE BUONO, OFF SCREEN

A place where manufacturing can be performed in the heart of the city.

MASSIMO TEMPORELLI – THE FABLAB

The idea is that young people fresh from the design schools, the Polytechnic University, the European Institute of Design, Naba and so on come here to grow and develop their businesses for a market that is just waiting for them to arrive.

MICHELE BUONO, OFF SCREEN

Turin. Public investment in the regeneration of the industrial suburbs is attracting more and more private investment, with a focus on the renovation of the old factories that have been closed for many years - now, these spaces are home to an array of companies run by young people.

GIANFRANCO PRESUTTI - PUBLIC SECTOR EXECUTIVE, CITY OF TURIN

The public role is a directing role, serving as a partner to private entities and working with them to co-design the initiatives that we are seeing, before implementing these.

MICHELE BUONO, OFF SCREEN

The goal is to even out the differences between the suburbs and the centre.

LAURA COSA - IMPACT HUB TURIN

Like in most suburban neighbourhoods, these areas are typically plagued by a number of social issues. Solutions to these issues need to be put forward, and anyone who has a good idea here can export that idea abroad. Similarly, anyone who has a good idea abroad may be contacted, with a view to replicating that idea here in Turin.

MICHELE BUONO, OFF SCREEN

The Brodolini Foundation does its bit to coordinate activities and initiatives, striving not to leave anyone out.

FABIO SGARAGLI - BRODOLINI FOUNDATION

Anyone who doesn't come from a wealthy family, anyone who lives far away from city centre communities - they're the ones who don't speak the language. They're the ones who have never travelled, who have never seen the world, and have never seen that these things exist.

MICHELE BUONO, OFF SCREEN

New businesses have planted urban vegetable gardens on the terrace, opened a museum, and transformed an abandoned workshop into a bar with a kitchen.

ANNA ROWINSKY – SU MISURA COOPERATIVE, TURIN

He's on a sponsored work placement, he's been with us for a month or so.

SPONSORED EMPLOYEE

I've already learned how to make coffee, how to serve people.

MICHELE BUONO, OFF SCREEN

There's a jazz school, a bakery, an array of artists and artisan producers, and even a radio station that broadcasts from the bar, which serves as a public info point for the neighbourhood.

CHIARA MOSSETTI – SU MISURA COOPERATIVE, TURIN

They ask questions about housing, how to find a house, they ask about how to go it alone, how to go into business, about work.

ADVERT

In Milan, zone 7. A crazy undertaking in a wonderful place.

MILENA GABANELLI IN THE STUDIO

But where is this wonderful place in Milan's zone 7, and what goes on there? We've seen this in Milan and Turin too, a number of small developments have been cropping up with various similarities with the projects in New York, transforming dead space into living areas, as we will also see in Genoa. In short, this is the right path towards a single system that can be engaged through even the smallest of actions. The City of Milan is launching a fund-raising campaign through an online platform and is asking its citizens one question: We want to re-purpose that space there, are you interested? If you are, you put in what you can - even if it's just a euro. If lots of people respond, it means that there is interest, in which case the Municipality of Milan will contribute the rest.

MICHELE BUONO, OFF SCREEN

In Milan, this civic crowd-funding drive is designed to directly involve citizens in reconquering spaces in the city through a fund-raising platform, encouraging them to donate, even just a euro.

NICOLA LENCIONI – EPELA

If the project doesn't achieve its minimum threshold of 50%, it will be left to fall by the wayside, not properly shared, or poorly structured, or not really wanted by the people who live here.

MICHELE BUONO, OFF SCREEN

There is a seventeenth-century farmhouse still standing between the buildings of San Siro, and a social entrepreneurship has asked citizens to turn it into a space for everyone, as if it were their own home.

ILARIA MORGANTI – MARE CULTURALE URBANO ART STUDIO

We have collected around 15,000 euros through the platform, for a project that will cost 28,000 euros.

MICHELE BUONO, OFF SCREEN

The City is stumping up the rest of the money for the project.

RENATO GALLIANO – PUBLIC SECTOR EXECUTIVE, CITY OF MILAN

This means that individual people believe in this project, and the government is able to provide the other half of the funding, whilst involving the entire city, which has sprung into action, giving us the resources we need.

ANDREA CAPALDI – MARE CULTURALE URBANO ART STUDIO

The most exciting thing about this square - this space that's becoming a square - is that it's already turning into a meeting place for people of different ethnic backgrounds and of different ages - it's totally intergenerational.

RENZO PIANO – ARCHITECT

Today, it's not as if the government can build more cities - they can't, they mustn't, they can't allow for new suburbs to be built. On the contrary, they need to transform suburbs into city, urbanising these and making them their own.

MICHELE BUONO, OFF SCREEN

Sesto San Giovanni, an urban area of Milan. Here, steel was once produced, but Falk put out the last few furnaces more than twenty years ago. Renzo Piano is redesigning the area: a public park, new homes, schools, businesses and "Health City", with a hospital and a medical research centre.

CARLO MASSEROLI – CEO OF MILANOSESTO

First of all, there are going to be 3,000 people moving here to work, the people who will be working in the two hospitals every day. It represents a superb opportunity for anyone: from restaurant owners to shopkeepers, companies building offices, people who want to come here to live. I also think that near the hospital, there could be a major satellite activity, with a start-up connected to the pharmaceutical system.

MICHELE BUONO, OFF SCREEN

Seventy percent of the works are designed as public spaces, and the entire project is funded by a private entity.

ROBERTA PASINETTI – HEAD OF TRANSFERS, UNITED RISK

This is a former industrial area, so the soil is contaminated with all sorts, from heavy metals to hydrocarbons and asbestos.

MICHELE BUONO, OFF SCREEN

Control centres, GPS, cameras and sensors, all destined to ensure that the land is being reclaimed properly, according to regulations.

CARLO MASTRANGELO – MANAGING DIRECTOR, UNITED RISK

With this system, we can create an almost three-dimensional reconstruction of the journey the earth takes, from the moment that works start until the end of the project.

MICHELE BUONO, OFF SCREEN

But anti-mafia certification isn't enough to win bids.

ENRICO FEDRIGHINI – LEGALITY CONTROLLER, UNITED RISK

A commission of inquiry, open source models, authorisations, certifications, checks to ensure that all of the certifications and legal requirements are being fulfilled, or to see whether any legal proceedings are currently underway. We need to gain a comprehensive overview in order to be able to assess the risk index.

MICHELE BUONO, OFF SCREEN

So environmental safety and no crimes that could lead to a building site being seized.

CARLO MASTRANGELO – MANAGING DIRECTOR, UNITED RISK

The ability to demonstrate that we are in fact able to contain, or to manage the risks associated with such a complex project, is obviously a key element that encourages prospective investors, both in Italy and abroad, to place their trust in us.

MICHELE BUONO, OFF SCREEN

Looking at Genoa, we see an industrial system in crisis and a port that is no longer what it once was. Jobs are being lost. Further up into the hills, there's a research institute which looks at the physics of materials, neuroscience, nanotechnology, artificial intelligence and robotics.

SIMONE UNGARO – CEO, ITALIAN INSTITUTE OF TECHNOLOGY

This is the result of all of the expertise that we have acquired in robotics, put to work in the rehabilitation field: a robot hand that has been transformed into a prosthetic human hand.

MICHELE BUONO, OFF SCREEN

The research into the motor intelligence of robots is at the heart of the design of a machine for human rehabilitation.

SIMONE UNGARO – CEO, ITALIAN INSTITUTE OF TECHNOLOGY

The robotic system, which is designed to walk about, has been applied to a structure created to help people who have lost the use of their legs following a spinal injury, restoring their mobility.

MICHELE BUONO, OFF SCREEN

A pharmaceutical company is investing ten million euros into the project, to support the industrial development of this technology.

SERGIO DOMPÉ – CHAIRMAN OF DOMPÉ PHARMACEUTICALS

We plan to maintain a very strong presence in Genoa for many reasons, not least because the beating heart of this initiative is here in Genoa. In the near future, this could be a global company employing 3-4 thousand people.

MICHELE BUONO, OFF SCREEN

In the neuroscience department, this researcher just wanted to take a closer look at the nervous system.

ANDREA ANTONINI – RESEARCHER, ITALIAN INSTITUTE OF TECHNOLOGY

I carried out immediate testing using the micro-optics that I was developing for neuroscience, and realised that it actually worked.

MICHELE BUONO, OFF SCREEN

A start-up incubator company from Milan immediately saw the potential of the pocket microscope, and created Blips.

ANDREA ANTONINI – RESEARCHER AT THE ITALIAN INSTITUTE OF TECHNOLOGY

This is a microscope ... here, in my hand, I have a microscope. Essentially, these are films that adhere electrostatically to the flat glass on the camera of any smartphone, transforming your mobile into a portable microscope.

MICHELE BUONO, OFF SCREEN

This allows researchers to carry out analyses in any situation, and send the files to a specialised centre. To launch production of this ingenious device, the incubator company is seeking funding on Kickstarter, the American crowd-funding platform.

JOHN DIMATOS – KICKSTARTER

Blips immediately found support across all continents, because it's a product that the market has been waiting for, for quite some time. And we're proud to have contributed to its spread.

MAURIZIO MARANGHI – CEO, ATELLANI

We ended up on 70 US networks - when we first came up with it, our plan was to sell around 500 lenses, but now, a total of 10 thousand have been sold. The company was contacted by the University of California and by a major New York hospital, Mount Sinai, and both are interested in talking to the Bill & Melinda Gates Foundation, probably with a view to taking it to Africa.

MICHELE BUONO, OFF SCREEN

An autonomous space module with two men on board, capable of exploring asteroids near Earth would serve as an ideal testing ground for future missions to Mars. It's one of the projects currently being developed at the specialist Alta Scuola Politecnica further education institutes in Milan and Turin.

MARIO CALDERINI – DIRECTOR, ALTA SCUOLA POLITECNICA

From a distance, the world sees this system as unique, we can't distinguish the subtle differences from 100 km away. If we consider these two institutes together, we imagine them, we see them as a centre of engineering, industrial design and architectural knowledge, which can compete with any other establishment of its kind in the world.

MICHELE BUONO, OFF SCREEN

Let's try to connect it all up. In the areas of Milan that were formerly given over to Expo, a new technical institution will be built for the study of life sciences, led by the Institute of Technology in Genoa. This centre will be at the heart of the fight against cancer and neurodegenerative diseases, mapping the genome across as many people as possible.

ROBERTO CINGOLANI – SCIENTIFIC DIRECTOR, ITALIAN INSTITUTE OF TECHNOLOGY

Applying what is known as precision medicine, or in other words, medicine that is tailored to the patient, to his or her genetic profile and lifestyle, allows us to make predictions. We then need to reorder this enormous body of information - we're potentially talking about millions of citizens here - in order to be able to correlate events, situations and information that a doctor could never find with a small sample group of 10-20 patients... That's what we call big data analysis, isn't it? Seriously big data analysis.

MICHELE BUONO

Is this something that can be set in motion?

GIOVANNI AZZONE - DEAN, MILAN POLYTECHNIC UNIVERSITY

The project could attract experts from the world of scientific research and also from the world of education. The Milan universities are capable of drawing in brilliant minds from around the world, which would then innervate the human capital in our industrial system.

ERICA CORTI – MILAN CHAMBER OF COMMERCE

Our intention is to move our Innovhub, which consists of five experimental research stations working in four areas - fuels, oil, food and technology - because at that point, it will become an exceptional centre of innovation and excellence.

MICHELE BUONO, OFF SCREEN

One might think that a technopole of humanoids in Genoa should be linked to that dedicated to actual humans in Milan?

ROBERTO CINGOLANI – SCIENTIFIC DIRECTOR, ITALIAN INSTITUTE OF TECHNOLOGY

Indeed, without a doubt. These two centres share a common DNA from a cultural point of view, and aside from this, I am certain that a number of technologies could be shared between the two: imaging technologies which are then used for diagnostics, technologies used on materials that can also be incorporated into kits, which in turn are used in the medical field. That is, the ability to build interdisciplinary laboratories where people with totally different cultural backgrounds can get together and talk, people who look far into the future, towards a project that seems equally far away...

MICHELE BUONO, OFF SCREEN

What if all the universities in the region and the two polytechnic universities came together?

MARIO CALDERINI – DIRECTOR, ALTA SCUOLA POLITECNICA

I think we would have a system functioning as one, singing from the same song sheet, so to speak, in terms development opportunities, up there with the places we often cite as being pinnacles of innovation and excellence: Silicon Valley, Cambridge and others.

MILENA GABANELLI IN THE STUDIO

So against this backdrop, it's not so crazy to say "instead of Expo, there'll be the tecnopole - the infrastructure is already there, companies, come and invest here, employ staff and we'll give you a tax break for a few years, with clear agreements on give and take." For the state, this is an investment that is then recovered, from

employment and from the profits that are generated. This sort of thing happens everywhere, from New York to the small German town of 50,000 inhabitants that we're about to see, which was so overwhelmed by its 120 million euro debt that it didn't know where to go next. Usually, in these situations, the mayor ups the taxes. However, the mayor of this small German town decided to do something else altogether.

MICHELE BUONO, OFF SCREEN

Near Düsseldorf, on the Rhine river, lies Monheim. On his election as mayor of the city, Daniel Zimmermann immediately struck a deal with the city council, designed to attract more taxpayers and lower taxes. And so, the hunt for companies began.

DANIEL ZIMMERMANN – MAYOR OF MONHEIM

Lots of companies arrived - indeed, it was such a success that at the beginning of 2012, we managed to reduce the tax rate by a third, and the revenue has increased from 20 million a year to 200 million today... we've cleared our debt.

MICHELE BUONO, OFF SCREEN

This is the effect of the arrival of three hundred new businesses, a dozen of which are among Germany's biggest players.

DANIEL ZIMMERMANN – MAYOR OF MONHEIM

We used our new-found profits to invest in improving the lives of our citizens and in modernising the city. We also bought back the municipal utilities that the City of Monheim had been forced to sell during the crisis period.

MICHELE BUONO, OFF SCREEN

MEGA is now one hundred percent owned by the City of Monheim. It distributes energy. The new investment is in fibre-optic cables and high-speed internet.

CHRISTOF MIKAT – TML

It's certainly a great advantage, because for people like us who build industrial machines, data transfer is growing every year, and we'd reached the limit.

UDO JURKENBECK – MEGA

For industries, it's crucial to have an adequate network, which will satisfy citizens too. Everything you need to make a city attractive, and to create jobs.

MICHELE BUONO, OFF SCREEN

In the town of Monheim there is an office dedicated to fulfilling the requests of businesses, both old and new. What are they asking for?

ESTELLE DAGHEROTH – PUBLIC SECTOR EXECUTIVE, CITY OF MONHEIM

Mainly for assistance with bureaucratic processes: from renting an office to constructing a new building, to how to start a company.

MICHELE BUONO, OFF SCREEN

How long does it take you to respond to an email from a company?

ESTELLE DAGHEROTH – PUBLIC SECTOR EXECUTIVE, CITY OF MONHEIM

An hour during office hours, or otherwise, later the next day.

MICHELE BUONO, OFF SCREEN

How long does it take to get a business license?

DANIEL ZIMMERMANN – MAYOR OF MONHEIM

Two or three days.

MICHELE BUONO, OFF SCREEN

Authorisation for an industrial plant or building renovation?

ESTELLE DAGHEROTH – PUBLIC SECTOR EXECUTIVE, CITY OF MONHEIM

Five-six weeks. Elsewhere, this takes 5 to 6 months.

BERNHARD DOHMANN – JENOPTIK

We are here in Monheim because the local authorities provided us with superb support.

MICHELE BUONO, OFF SCREEN

They come from Düsseldorf. The company builds speed detectors and road traffic safety systems.

BERNHARD DOHMANN – JENOPTIK

And then we realised that for a company like ours, an environment where numerous technology companies are coming to set up shop is an enormous advantage.

MICHELE BUONO, OFF SCREEN

There's Bayer, the American company Ecolab - with seven hundred new employees - and UCB, a pharmaceutical research and production company from Belgium.

PETER MITTERHOFER – MANAGING DIRECTOR, UCB

The tax benefit we received was crucial: it allowed us to step up investment in research and development, as well as increasing the number of students who come to train here. We pay them, and we hired a number of them afterwards.

MICHELE BUONO, OFF SCREEN

The City of Monheim is now in the black, and can even afford to fund free nursery schools.

MOTHER FROM MONHEIM

I only pay a contribution of 35 euros per month for the canteen.

ANE JOBE – HEAD OF MAX & MORITZ NURSERY SCHOOL

The side effect is that the number of children attending increases - we had 120 last year, and more teachers too. We also have an art school and a music school. The City decided to invest heavily in education.

MILENA GABANELLI IN THE STUDIO

It all seems like a bit of a fairy-tale - some might say that it's all very well, but Monheim is a small town: all it takes is one good policy and the whole place is transformed. But the principle of finding the right policy applies everywhere, even for the most problematic and sprawling suburbs, like those in Paris. Here, once again, the City has invested heavily, there are a fair few public policies, and yet unemployment, and all that goes with it, remains a major issue. Then at a certain point, a private company comes along, with no desire to rescue anyone - the sole aim is to do business, so it opens a centre and says, right guys, you want work? Here's a few

tips... So what we see here is obviously only on a small scale, but it does give us an idea of how things work in the world today.

MICHELE BUONO, OFF SCREEN

The "banlieue" are the suburbs just outside Paris, beyond the ring road.

VOICE OFF SCREEN

Hey, get out of here with that camera!

DRIVER 1

Relax, they're asking me questions about my job...

I was saying that it's already difficult to find work if you don't have much in the way of an education, and then if you say you come from a certain suburb, and have a certain type of name, that's when it becomes a real problem. But if you're an entrepreneur, you can call yourself what you like, there's no discrimination: it's just us, the customers and the car. I'm a driver, and I'm the boss of my own company.

MICHELE BUONO, OFF SCREEN

Uber is an app that connects drivers and passengers. It was created in San Francisco, and when it arrived in Paris, it had just one practical issue to address - not solving social problems, but simply recruiting drivers. So the company opened a centre in the banlieue.

UBER DRIVER 1

500 people come every day, and we check whether they meet the requirements, and if they have the documents they need to drive on the road.

UBER DRIVER 2

They want to know how to get a professional driver rental licence, how to rent a car, and set up on their own.

DRIVER 1

I was born in Paris myself, but my family is from Senegal. I work for myself now, and after expenses, I take home around three thousand euros a month. And if I wake up tomorrow and I have nothing, it will be my fault, and I'll know that I got it wrong.

EMMANUEL COMBE – VICE-PRESIDENT, FRENCH COMPETITION AUTHORITY

Where public policy failed, the market succeeded. If you look at the drivers, they live in the suburbs, they're often immigrants, 75 percent of them are under 40, and don't have much of an education - in other words, accessing the world of work was tricky for them. In the end, Uber said: you can do it - just get a car and go. It gave them back their pride. It's allowed them to escape the world of making do, of odd jobs and unemployment.

DRIVER 2

It's everyone's dream, from when they're little: to have a nice car, dress well ... to have a personality, basically.

MICHELE BUONO, OFF SCREEN

Akim is Algerian; he lives with his parents, and the idea of being able to contribute to household expenses and also put something aside seems unreal to him.

DRIVER 2

I meet so many professionals, I have a good relationship with them, and if I can set up my own business, I know that I'll have a good basis to start from.

EMMANUEL COMBE – VICE-PRESIDENT, FRENCH COMPETITION AUTHORITY

It wouldn't have been possible without smartphones and geolocation - symbolically as well as physically, geographical and social barriers are falling away before our eyes, young people in the suburbs have physical contact with people and worlds that they would never have encountered in the past.

DRIVER 3

I arrived in France from Comoros when I was very small. My father cleaned hotel rooms, and my mother was a waitress. Now, my customers are stars, singers, actors, sports personalities. I've figured it all out - I prefer paying more for a luxury car, this is a Jaguar, it brings in more work, and at the end of the month, after I've paid all my expenses, I take home 2400 euros, that's plenty for me. We're here, sir.

MILENA GABANELLI IN THE STUDIO

The Uber service isn't the one that's been abolished, and the French anti-trust organisation confirms this - it's all high-end and above board. The moral of the story is that in these run-down suburbs, where the population is largely outside of the market, in and out of prison etc., only work can bring inclusion and dignity. This is just a small example of what we saw, but it shows how quickly and easily the social scale can be ascended. Now, if we're talking about climbing the ladder, Africa is the suburb of the world. How can we include the people on this continent? By giving them a chance... they're beginning to make inroads, but no-one at home can help.

EUGENE MUTAI - ANDELA NAIROBI

My name is Eugene, I studied programming on an old Nokia phone, I had nothing else. I went through a bad period. I lived on the street, then I discovered Facebook and the internet, and today I am part of Andela, here in Nairobi.

JOSHUA MWANIKI - ANDELA NAIROBI

He's a really intelligent guy, and several companies are courting him, but he has decided that before going anywhere else, he wants to improve his skills, with a view to becoming an expert in his field - he wants to do great things.

MICHELE BUONO, OFF SCREEN

Andela is a non-profit organisation. Here, every month they select no more than ten children of the two thousand who present themselves, to teach them programming and then insert them into the global network, which provides services to companies worldwide.

JOSHUA MWANIKI - ANDELA NAIROBI

The course lasts four years and when we get to a level of skill and expertise that allows us to seize every opportunity with both hands, Africa will really change.

MICHELE BUONO, OFF SCREEN

Meanwhile, Nairobi has earned the nickname Savannah Valley.

ERIK HERSMAN - BRCK

Thanks to number of good universities, and to the Ministry of Communications, which has pushed hard for tax free mobiles, and a submarine communications cable to increase connection speed. The conditions have been created to accommodate companies like Google, Microsoft, Intel and Airtel.

MICHELE BUONO, OFF SCREEN

The system is like the one we have seen in Milan, Turin and New York. As soon as the ball is rolling, investors and businesses come flooding in.

BRIAN BETT - ILLUMINUM GREENHOUSES

We make low-cost greenhouses equipped with sensors that can automatically control the temperature, humidity and state of soil, providing regular irrigation. Via their smartphones, farmers can follow all of the processes remotely, and take action if necessary.

KENNEDY KIRUI - NAIROBI HUB

The Institute for Agricultural Research promotes this kind of project, combining modern technology with a traditional sector. When they started out there were just two of them, and now the company employs six core staff in Nairobi and fifteen in the field.

MICHELE BUONO, OFF SCREEN

The platform is called Ushahidi, which in the local language means witness. It is able to collect, analyse and display data such as phone calls, emails, social media - testament, in other words, of an event in a given place.

DAUDI WERE - USHAHIDI

This is the data we collected during the earthquake in Nepal. There are 84 reports, each of these has been sent by someone who was on the scene. They are divided into categories: those in need of supplies, damage reports and requests for help. And there's a monitoring system to help us understand which are the most urgent.

MICHELE BUONO, OFF SCREEN

Since 2008, Ushahidi has been used more than a hundred thousand times in a hundred and sixty countries, in public health emergencies, natural disasters and political and social campaigns, allowing information to be collected from the ground.

DAUDI WERE - USHAHIDI NAIROBI

What we are creating in Nairobi, in terms of innovation, cannot remain confined to this city. We are doing all we can to help this to spread to wherever it is needed in the world.

MICHELE BUONO, OFF SCREEN

And that's precisely what they have done, it's called "Brick".

ERIK HERSMAN - BRCK

Here, there isn't electricity everywhere, and the same applies to internet connections. With this device, which is equipped with antenna, car batteries, solar panels and a sim card, internet connections are provided wherever they are needed.

MICHELE BUONO, OFF SCREEN

They launched this message from Nairobi through the New-York based company Kickstarter, the largest fund-raising platform in the world, and have received support from ordinary people from all over the world.

JOHN DIMATOS - KICKSTARTER

It's extraordinary to witness this sense of empathy developing between different communities - they may not have the same issues as those in Nairobi, the place for which the product was created, but suddenly, by supporting the same project, they share a bond.

MICHELE BUONO, OFF SCREEN

BRCK has garnered 170,000 dollars in donations worldwide, enough to commence production, and to focus on another project: education, internet access, and tablets made specifically for kids.

ERIK HERSMAN - BRCK

They are designed and assembled here in Nairobi. We've already sent them to 11 countries in Africa. Each kit contains 40 tablets, all of which are wireless, and these rely on BRCK, which acts as a server. Even if you are disconnected from the rest of the world, you can access the same content, the same school syllabus, as children living in the more connected areas of the planet. We're extremely proud of this product.

MILENA GABANELLI IN THE STUDIO

And so are we! Everyone who has donated to the project, whether 5 dollars or 50, in Sydney, New York, Milan or Sasso Marconi (Guglielmo Marconi's hometown, which suffers from poor levels of connectivity) did so because they believed in the project and thought it was worth seeing through. Not necessarily to help children in Nairobi, which continues to be surrounded by shanty towns, but throughout Africa - we see signs of projects being set in motion by far-sighted ministers and officials, who have paved the way with good education and good universities. So much so that now Facebook founder Mark Zuckerberg and the Bill Gates Foundation are investing in these projects - not for philanthropic reasons, but because they see a potential market. Now, who could be more interested in the development of Africa than us - a process which is set to be long and all-encompassing? "They need to develop over there, in their own country", we say, but if there's no personal profit in it for us, it's all just talk.