VISION FOR A WASTELESS FUTURE

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It's about People not Waste

Our World is Reshaped

A Wasteless Future is realistic

But it will not come Automatically

Heading towards a Waste Crisis...

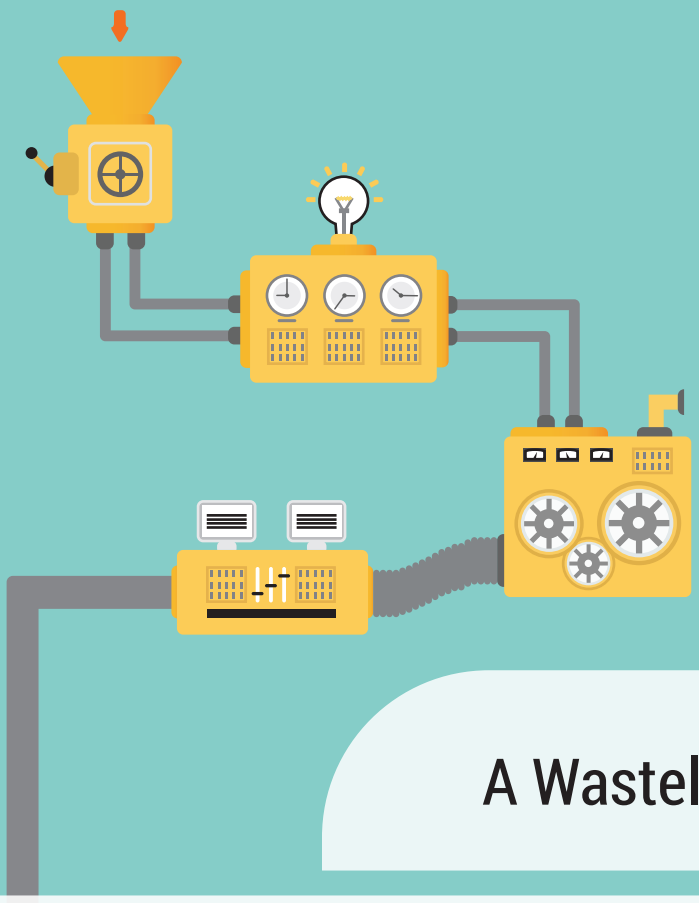
Time for a Systemic Shift

The Future is shaped by us...

Let's Surf on the tsunami of Change

Our World is Reshaped

Just spend 10 minutes and research the technological advances around the world. Robots, drones, driverless cars, 3D printers, deep learning machines, utilization of planetary resources, super and nanomaterials, artificial intelligence in your pocket (through your mobile), the Internet of Things, extra sensitive sensors. A new world is emerging in the midst of an ongoing global financial crisis. The 4th industrial revolution is developing faster than any previous industrial shift. New industrial sectors are already emerging and some of the old ones are struggling to survive. New business models are shaped and the continuously connected human beings redefine the social context of the modern world. The pace of technological change is exponential and governments, regulators, municipalities and citizens are hardly capable of adapting their operations and lives to the new landscape. We are living in the era of the biggest, the fastest and the most game-changing transformation of our human societies. It is not difficult to feel the new, unimaginable opportunities for making sustainability a cornerstone of each and every industrial sector.



A Wasteless Future is realistic

The impact on the waste management and recycling industry is going to be ubiquitous. Certain waste streams, like e-waste, will be easily reduced or even eliminated. Waste treatment facilities will be perfectly optimized, in a short time and with fewer trial-error costs than today. New landfill sensors, already under development, will allow better control of the degradation processes and the related environmental impacts. New hybrid collection models based on the interaction between sensors, mobile phones and vehicles will gradually remove the traditional centralized collection services. Driverless collection of recyclables will not be that difficult in certain parts of the world. And if you imagine a drone delivering your supermarket supplies to your window and taking back your recyclables, you are probably close to a reality that is on the way. It is clear: technologically speaking, a Wasteless Future is more realistic than ever. With the right use of the so-called exponential technologies(artificial intelligence, digital manufacturing, robotics, driverless cars, drones etc.) humanity has the opportunity to resolve many of its current devastating problems, including the problems related to waste management and recycling. We are able to close the dumpsites that serve almost half of the planet's population. We are able to manufacture new products with minimum environmental impacts and introduce a wasteless life style. We are able to close the loops in many crucial and most importantly, hazardous materials and manage the emerging resource scarcity in many of them. We are able to provide sound waste management and advanced recycling systems everywhere on the planet. We are also able to provide food and water to the hundreds of millions that still suffer from hunger and do not have access to safe water.

But it will not come Automatically

Unfortunately, although technologically we are able to do all of the above, as the history of humanity has demonstrated, technological applications are framed by the social context. There is no doubt that the 4th industrial revolution will reshape social relations and organizational structures, and that social relations and cultural practices will ultimately revolve around the technological and economic base of any given society. However, the exponential technology developments and applications will not be neutral, their benefits will not be equally shared and the global, regional, local and social power relations will finally shape their consequences. Instead of technological determinism, we have to think that the relationship between technology and society cannot be reduced to a simplistic cause-and-effect formula. Social circumstances alone select which technologies are adopted, and as a result no technology can be considered "inevitable" solely on its own merits. Technology and culture are not neutral and when knowledge comes into the equation, technology becomes implicated in social processes. The knowledge of how to create and enhance technology, and of how to use technology, is a socially bounded knowledge. Still, a Wasteless Future is more realistic than ever, not only technologically but also because there is a growing global consciousness of environmental problems, as the recent agreement on Climate Change in Paris proved. We have come a long way towards understanding the health and environmental risks posed by inappropriate waste management. From London's Black Plague to the current Zika virus, we have realized the importance of waste management for the quality of life in each and every city. The recent publication of the Global Waste Management Outlook report highlights that the international community is beginning to understand waste as a global challenge, rather than a local one. We have even made waste management an integral part of resource management, and scientists have started to outline the global material flows, in an unprecedented move to view our planet as an interconnected waste and recycling service area. However, a serious Waste Crisis, especially in the developing world, seems closer to reality than ever.

Heading towards a Waste Crisis

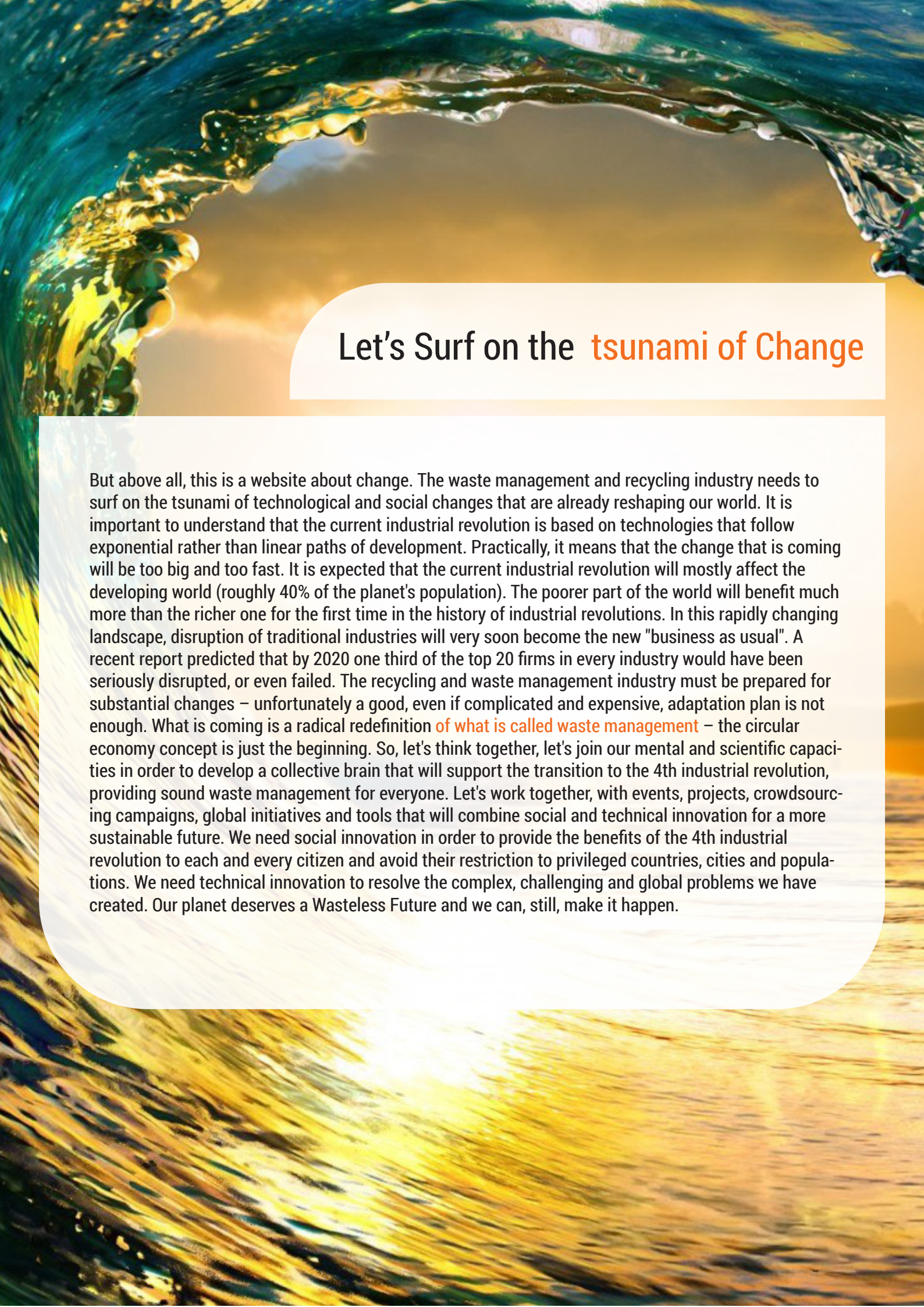
As I am writing this piece, right now, I am watching a video on CNN International. The video concerns a huge fire in Mumbai's Deonar dumpsite. Actually, the smoke emitted is so thick that it has blotted out the sun. The fire is so big and intense that it is also visible from space, according to NASA's released satellite images. It seems that the footprint of inappropriate, unsound waste management on our planet is definitely visible from space. And I wonder why it is still not that obvious to our decision makers, mayors, politicians and international stakeholders. I wonder why they tend to ignore or completely underestimate the huge environmental and health impacts of the dumpsites, the loss of valuable resources, the environmental degradation and its links to poverty and human rights. Well, they can't say that they don't know. All the data available shows that we are heading towards a substantial increase in the waste generated worldwide. But the most important increases will be realized in the developing world, where urbanization runs faster than Usain Bolt. The Waste Atlas report on The 50 biggest dumpsites of the world documented that those 50 dumpsites serve a population similar to France's (65 million people) and they have roughly 500 million tons of waste in place. The recent ISWA Wasted Health: The tragic case of dumpsites report mentions that the health impact of dumpsites is worse than malaria in India, Indonesia and the Philippines. Of course, many developing countries have made good progress in collection coverage and controlled disposal since 1990, and some of them have developed good recycling rates. But still, the major problem remains. Due to the rapid urbanization wave (estimated at 250-300,000 people per day) and the gradual increase of the income per capita in the developing world, the waste generation rate is rising much faster that our capacity to deliver solutions. We have to face an inconvenient truth. Although it is clear that as the developing countries get richer, we will have more waste-related infrastructure, the expected growth of waste volumes will certainly create thousands of new dumpsites. There are cities, especially in Africa and South–East Asia, where the waste quantities are almost doubled in 10 years, while we need at least 4-7 years to develop a simple sanitary landfill. So by the time it has finished, it will be outdated in terms of its annual capacity.

Time for a Systemic Shift

Closing the dumpsites and substituting them with even a simple system consisting of a well-run sanitary landfill and a basic recycling scheme is a substantial change. It certainly requires an alternative disposal site, investments and technical know-how. But, if the system is going to be viable, it requires much more than that. It requires the development of appropriate human resources and capacity building procedures to ensure proper operation and control of the sanitary landfill. It requires planning and legal, institutional and administrative reforms, appropriate policies and financial incentives. It also requires resolving complex social issues like finding alternatives for informal recyclers. So, this is a systemic shift, a serious social, political, economic and technical intervention. Without such a systemic shift, we have seen many cases where a dumpsite is closed with a lot of fanfare and immediately a new one opens to replace the closed one. At the beginning of 2010, I wrote an article in Waste Management World, titled Waste Management 2030+ . In this article I stated that "…our waste management systems and our market conditions, even in their best form, are incapable to handle the growing waste generation that is coming globally. And unless a new paradigm of global cooperation and governance will be adopted, a tsunami of uncontrolled dumpsites will be the prevailing waste management method". Speaking frankly, the request for a new global cooperation paradigm that will shift the poorest countries out of their poverty traps and help them create sound waste management systems is much more desperate now (and definitely it is not exclusively about waste). We desperately need to reform the patterns of international cooperation, in order to manage the emerging global challenges and avoid a wasteful future for billions of people. We know very well what will happen if we do not find a way to cooperate and manage the emerging waste crisis. We will live in a future where oceans will be richer in plastics than in fish, as recent studies have already shown. We will watch the rapid increase of the e-waste streams that end, legally or illegally, at Indian and Chinese villages and transform them to horrific dumpsite towns. We will see more videos with huge dumpsite fires that will be visible from space and will poison hundreds of thousands people and hectares of land. We must be sure that any fences and migration control will not stop the health impacts posed by dumpsites in the current interconnected world, where 100,000 flights take off each and every day carrying 8-9 million people. Those of us that live in the western and developed world have the option to pretend that dumpsites and their impacts are invisible. But we will find them back in the imported food, in the plasticization of fishes, in the dioxins emitted during dumpsite fires, in the methane emissions and most importantly, we will remember them freaking out every time we need to deal with a global pandemic that spreads rapidly worldwide.

The Future is shaped by us

A Wasteless Future is more realistic than ever but still, our world is heading towards a waste crisis that will mostly affect the developing world. Does it seem crazy? Well, certainly it is no crazier than the fact that a third of the world's entire food supply - or enough to feed 3 billion people – could be saved by reducing waste; and this would still leave enough surplus for countries to provide their populations with 130 per cent of their nutritional requirements. On the dark side of the moon, despite our ability to identify the quantity and quality of water on Mars, we are still incapable of providing access to safe water to roughly 700 million people (1 to 10). Hunger is still a vast reality for 11-12% of the Earth's population. If we discuss the bright and the dark side of the future in more detail, then it will become obvious that there is a serious possibility that things are not as bad as they seem. They can certainly be improved, but they can also worsen. Between the bright and the dark side, there is a huge grey area in which the future will be shaped. Strange, but true: the color of the future is grey and it will be shaped by your personal and collective contribution, too! Well, this is a website about our walk on the grey line of the future of waste management and recycling. It is a website that deals with waste management and recycling from a global point of view, trying to identify practical and realistic ways that will allow us to move closer to a bright future than to the dark side of the moon. We need to change our point of view on many of the current waste management and recycling challenges, including the circular economy narrative. We have to deal with the globalization footprint on each and every local waste management system . We have to understand the global challenges involved in recycling and the need to address them in innovative ways that will definitely extend beyond national borders. We must replace the traditional technocratic approaches to waste management and integrate them into a broader understanding that considers waste management systems as social outputs that create social, economic, and spatial impacts.



Let's Surf on the tsunami of Change

But above all, this is a website about change. The waste management and recycling industry needs to surf on the tsunami of technological and social changes that are already reshaping our world. It is important to understand that the current industrial revolution is based on technologies that follow exponential rather than linear paths of development. Practically, it means that the change that is coming will be too big and too fast. It is expected that the current industrial revolution will mostly affect the developing world (roughly 40% of the planet's population). The poorer part of the world will benefit much more than the richer one for the first time in the history of industrial revolutions. In this rapidly changing landscape, disruption of traditional industries will very soon become the new "business as usual". A recent report predicted that by 2020 one third of the top 20 firms in every industry would have been seriously disrupted, or even failed. The recycling and waste management industry must be prepared for substantial changes – unfortunately a good, even if complicated and expensive, adaptation plan is not enough. What is coming is a radical redefinition of what is called waste management – the circular economy concept is just the beginning. So, let's think together, let's join our mental and scientific capacities in order to develop a collective brain that will support the transition to the 4th industrial revolution, providing sound waste management for everyone. Let's work together, with events, projects, crowdsourcing campaigns, global initiatives and tools that will combine social and technical innovation for a more sustainable future. We need social innovation in order to provide the benefits of the 4th industrial revolution to each and every citizen and avoid their restriction to privileged countries, cities and populations. We need technical innovation to resolve the complex, challenging and global problems we have created. Our planet deserves a Wasteless Future and we can, still, make it happen.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FUTURE
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