

European Social Innovation Competition

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I/we enter the competition as:*	An individual
If you're a representative, please name the organisation/company	Private
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Website	http://www.spawhe.eu
Project Name *	MARINE FLOATING PUMPING STATIONS FOR ARTIFICIAL WELLING (MFPSAW)
Tweet your idea! *	The food and carbonates that serve to fight hunger and global warming are in deep water. MFPSAW raises them to the surface.
Choose the field to which your idea relates mainly: *	Climate and environment
Provide a summary of your idea, highlighting how it solves a social need or societal issue. *	<p>This idea is the subject of italian patent application N.CE2014a000011 dated 03 - 09 " 2014, The inventor thinks that state of art in the exploitation of marine resources has been conditioned by the hard access to the deep of the seabed. The phenomenon of the descending and ascending marine currents, known as "down and upwelling" , (where it happens) produces wealth and well-being even though, unfortunately, it happens naturally in a very small part of the world, because it need that many factors have to coincide like the intensity of winds and their direction or the structure of the continental slope. Some scientists have tried to fertilize the oceans by using iron sulphate that improve the phitoplancton production but the experiments, in addition to being expensive, presented many ethical, biological and sanitary implications due to the toxicity that this product may cause in the marine environment (fish production). The solution that w e propose it's ideal because it plays artificially the natural system. By using unsinkable floating systems and a right interpretation of hydraulic principles, we can create and re-produce this phenomenon in all oceans far away from the coast, where do not occur wave motions that would destroy the plants.</p>
Explain why your idea is innovative in the context and in the country where it will be implemented. Alternatively, if your idea is based on an existing concept, explain how your idea differs from this. *	

Apart venturi pump, invented by Physicist John Venturi lived from 1746 to 1822, no applications are known to have tried to raise this way the nutrients and carbonates from the seabed, although the applications of this system are many but generally used in small applications, especially for the determination in water flows percentages of gas and chemical elements. In this case however, the pipes must be large, stiffened with tie rods that connect to the upper platform, which must be anchored to the seabed, that to overcome the compensation line of the carbonates, below which the same are definitely solubilized, you must descend at least 4000 m. In these deep do not worry the hydrostatic pressure acting on the tube descent and ascent which is offset since the tube full and completely immersed in water. Instead worries the unitary stress on the section of the pipe due to the weight of the pipe itself as depth increases, so it is necessary to realize the tie rods which support the individual pipe sections from the upper platform, but these rods also serve to stiffen the structure against the decline that can be induced currents and by physical stress due to large cetaceans.

Describe clearly how your idea is expected to have an impact. *

This idea can have a huge impact large amount of feeding it can produce in view of the growth of world population and the development of employment for construction of floating platforms and the birth of immense work activities in great ocean surface. But you can also hypothesize artificial islands with ground water desalination plants reported and homes to house the workers engaged in fishing and fish processing. Obviously these islands will also become tourist. But above all we must not neglect the great contribution that can give MFPSAW bringing to the surface a greater amount of carbonates, whereas the oceans with the advent of the industrial age and the release of greenhouse gases into the atmosphere from PH average 8.25 are dropped to the current PH 8.1 which represents a loss of alkalinity by about 30% whereas the curve acidification is logarithmic. Considering also that the first part of the curve is almost horizontal, losing another 30% of alkalinity will be at a rate much higher than the previous year, if we do it to create systems that combat the phenomenon in the oceans, as MFSAW and others on the ground described in other tabs of the competition.

Indicate at what scale your idea will operate initially and how it could be implemented at a larger scale in your country or in Europe in the future *

The realization on large-scale of marine pumping stations suspended by floating platforms for artificial welling it is essential to combat global warming and to increase sustainable food production, given that desertification advances at a rate of 12 000 km² per year. Will need establish rules and international regulations that must fill out the existing ones for the exploitation of the territorial waters and established rules and signals for navigation surface and underwater. To support the load of the columns of tubes suspended to platforms, it is necessary to provide the construction of floating platforms equipped as towable yard, which are mounted in the shipyards over to another floating platform. The upper platform must be equipped with large hydraulic cylinders, intermediate floors and many structures with electric winches on the whole perimeter which perform the handling ropes that support the load together with the hydraulic cylinders when mounting and is lowered into the water. After assembly, the upper platform releases the load on the lower platform and empty rooms watertight flotation. The lower platform, which supports the system adjusts the level of buoyancy entering compressed air in sealed rooms after the top one was released and moved by a tug.

Specify how your idea could be sustained over the next three years. *

Probably, in three years it will realize only prototypes of MFPSAW to show the efficiency of the whole world and create the basis for agreements and international regulations that go in the direction of environmental protection, industrial development alimentary of the oceans, which inevitably will also lead the creation of artificial islands and other activities that do not exist today. Carbonates raised from the sea bed are focused on very high pressure, when they come to the surface, are diluted in water, of course, increasing the pH slightly. So we can combat ocean acidification realizing many stations floating but simultaneously with the carbonates are dissolved also other carbonic nutrients so it is expected the development of phyto plankton that will enable the development of zooplankton and hence food production. Directly related to this invention is connected to another tab of the competition titled "floating ponds for chemical precipitation of oceanic calcium carbonate (FPPCC)" which will solve many problems economic, technical and environmental issues in many human activities.