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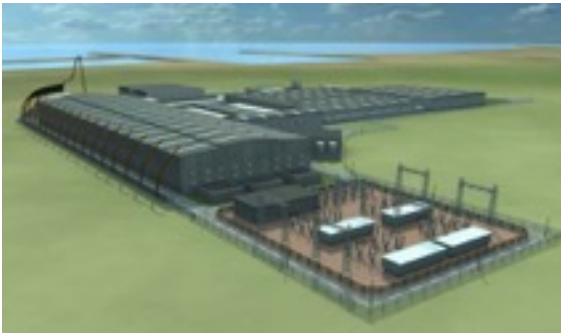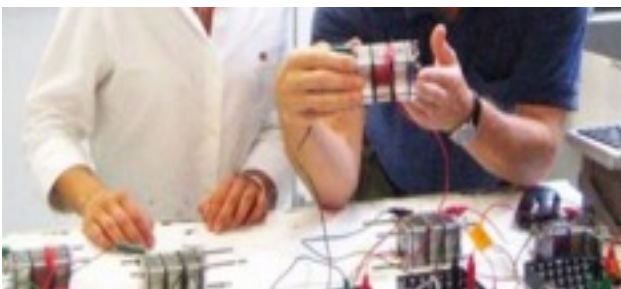
SensBrain

Water desalination for industrial application is one of the most critical problem in the energetic field, and not only, from a lot of time. Sea water in fact, constitutes the largest asset in terms of water source on our planet. In the last years, in particular, due to the growth of the oceans level, usage of sea water is a must before than a need.

Based on that, different solutions have been used for this scope, form the most classic membranes (reverse osmosis) to the most innovative ideas (algae, etc.). Develop ideas on these old and well optimized tools is quite difficult, also due to the high-tech involved. What we want and what the planet is requiring us, is to reduce the energetic waste. Nowadays, sensors and variegate control systems are able to optimize the changing of the membranes and reduce as much as possible the costs in terms of maintenance and energy. Fortunately, science is curious and constantly evolves. New researches in fact, are looking at innovative solutions like natural bacteria able to desalinate sea water producing electric energy at the same time (Penn State University). It could be a revolutionary invention in this field opening the doors at new scenarios. For sure, also this innovative idea has weaknesses to be improved and our personal scope is in fact to maximize the efficiency on this new tools which will be the next future of the energy industry. Also

this system uses different chambers, with specific membranes. At the moment, what we know, is just how it works, but nothing about its efficiency in terms of time and maintenance. How you can imagine, a good system needs to be well balanced, so a strategy for its control has to be implemented. With the objective to do it perfect or almost, we are focusing our ideas on what could be considered an appropriate control system. Sensors and predictive models are running in our minds as possible development.

The human mind is able to go over the bounds, and some really bizarre ideas are coming out to support the topic. The last one, which maybe can arouse your laughs, is an "intelligent drop" to be inserted in the cycle to pass throughout the system, capturing the necessary data which need to be analyzed. The obvious scope is to check the performance of the system having the due information with extreme precision and detail. Where, why, when and how something is failing means to know, control and plan the while lifecycle and manage it at the best. It is exactly what we want, what is required.

How to to and

a drop can give us the due info? How can it interact with the system? It will be possible manage this drop? What will be its application in other fields? Is the technology ready support this idea? Can it really substitute the already existing control systems? These other important questions need answers and by next June we would like to try to do it.

Scientists already say that water has a memory. We want to use it, hoping water has a really good memory!