

Interview Shai Agassi

'Electric cars are the best option'

| by Hans Verwijs

Mr Agassi, Better Place has grown from an idea into a worldwide company in just a few years. When did you first think of starting an electric vehicle company?

'I was posed an interesting question at the World Economic Forum in 2005 – how do you make the world a better place by 2020? I think I took the question a little too seriously, and started thinking about what type of shift needed to happen to do that, and I kept coming back to oil and the question, how do you run a country off oil?

From there I began researching all the different aspects, but came to the conclusion that the largest impact on reducing our oil consumption was personal transportation. So then I began to evaluate every type of alternative fuel, and after months and months of research, I realised electric cars were the best option. With EVs (electric vehicles, ed.), we aren't waiting for some great technological breakthrough, we don't need to build an entire grid, and it all exists today. We simply need to connect that last foot, from the grid to the curb, so drivers can plug in.

I realised that the key to making EVs a reality was to ensure a network of charge spots, battery switch stations and the services to accompany this infrastructure was in place before electric cars actually arrived on the market. We launched the company in October of 2007, to make sure that would be case.'

The order of introduction is first Israel, then Denmark, and you mentioned Australia as a next step. Not the US or Japan, the big players in the auto industry. Why not?

'We've announced six markets so far, Israel and Denmark are our first two markets, and they will be set to support mass volume of EVs in 2011. Australia, California, Hawaii and Ontario are the other four markets and they will be ready to support mass market EV in 2012. So you see, we really are looking at the US. As for Japan, although we've no formal agreement with them, we were the only foreign company invited by the Japanese government to participate in an EV study in May 2009, where we demonstrated our battery switch technology for the very first time. As for the initiators in the auto industry, Renault-Nissan under Carlos Ghosn has a tremendous first-mover advantage when it comes to electric vehicle design and development. They were the first major automobile manufacturer to come up with a dedicated EV strategy and a commitment to mass produce electric cars rather than trials or pilot projects. I'm very encouraged by what I see, as many automakers are now moving in the direction of EV, but if you're asking who has the clear lead, it's Renault-Nissan.'

The European Commission has set ambitious targets for reducing emissions. Given that Better Place offers a solution in this regard, one would expect it to be discussing its strategy at a Eu-



'Our goal is for more electric cars than conventional cars to be sold worldwide by 2020'

European level. However it seems that your partners are individual countries. In what way is the Commission aiding you in your ambitions? Do you feel that Brussels' ambitions are sufficiently backed up by action?

'The European Commission plays an important role in the future of European transport. We recently started a dialogue with Commission officials which we hope to further intensify over the next couple of months. Better Place welcomes the EU's ambitious plan to reduce emissions, including the idea of a possible future transport and climate change package that would address the issue of emissions from road transport. In addition, we welcome the fact that the European Commission considers the electrification of transport as one of the priorities of the Community's Research Programme.' 'Europe needs a regional, top-down approach to electrification to ensure seamless roaming from one country to the next. As such, we should avoid national policies that could lead to locking in to non-compatible systems. At the same time, I would encourage the EU to further analyse regulatory options that would ensure climate change initiatives in road transport, and push for a shift towards the mass introduction of electric vehicles.'

Your activities require large amounts of capital. In Denmark €103 million, in Israel \$200 million. With so far no payback for your investors. When will they start seeing returns?

'We're executing against our business and financial goals, but have not disclosed specific details on profitability timelines.'

You work closely with Renault-Nissan. It seems imperative, though, to get other car manufacturers on board to achieve standardization on battery size and protocols. How do you plan to do this?

'Battery switch is a logical and efficient way to extend the range of EVs and we expect wide adoption over time. While standardization won't happen overnight, our initial OEM (original equipment manufacturers, ed.) partners are developing vehicles with switch technology and helping efforts in standardization. Renault-Nissan is leading the way and we remain confident others in the industry will participate.'

It seems that you prefer existing car manufacturers. What role, if any, do newcomers play in your strategy? For example BYD, Think, Detroit Electric, Tesla, Duracar, Proton Electric?

'Our goal is to scale EVs to the mass-market, and to get there you need to be able to produce electric cars at high volume over relatively short periods of time. Now, starters like Tesla, Think and others have done a great job of producing great cars for specific markets, but at present they don't have the volume

capabilities that a major manufacturer such as Renault-Nissan has. We'd like nothing more than to see these companies produce in large volumes, as that takes us one step closer to the mass market, but at this time it's really only the major OEMs who have that type of production capability.'

Will PHEV (Plug In Hybrid Electric Vehicles) fade away? Do you regard PHEV as competition for your plans, since they don't need switch stations?

'PHEV is the step between ICE (internal combustion engines, ed.) and full electric vehicles, but we believe over time battery electric cars will dominate the market. I want to be clear on what we do: we do not make electric cars, so we don't compete with any automakers. We provide the network and infrastructure to make the EV driving experience more convenient than today's gasoline experience. In fact it's our goal to support any car with a plug on our network eventually, but our focus remains on the battery electric car with switchable battery, as we believe that offers the most compelling consumer experience.'

Do you see the switch station being overtaken by ultra fast charging in the future?

'We're focusing on all aspects of convenience, including charge time, as part of the overall driver experience. The technology to charge an EV battery from empty to full in the same time (or less) required to refill a gas tank is in early stages of development. Current challenges for the use of so-called fast charging include battery chemistry and lifecycle degradation as well as the readiness of most electric grids to supply the high level of intermittent power required by a large number of fast-charge users. With further advances in battery development and reinforcement of the electric grid, we can look forward to a range of new approaches to reduce charge times.'

The leadership you have on board is impressive. What do you think was the most convincing argument for them to join Better Place?

'Thank you, I'm extremely proud of the team we have built at Better Place, which has some of the world's brightest business leaders. Each of these individuals has been extremely successful in their careers, and I don't want to speak for them, but my guess is that they see a real opportunity to create meaningful and lasting change in the economy and the environment by helping reduce our dependence on oil.'

What is your personal ambition as regards market share of the global car market within, let's say, five years' time?

'Our goal is for more electric cars than ICE cars to be sold worldwide by 2020.' ■