Tony Seba
A Morning With Tony Seba

A technology disruption is when new products or services create new markets and destroy existing ones.

All of the new disruptions have at the heart of them information technology. It's the conversion of technology that creates major disruptions.

One thing the mainstream media misses is that it's not just the disruption that is important, it's the new space that it opens up.

The establishment almost never sees it. Entrepreneurs do. And they improve the technology driving down costs until they rupture the system. That means old rules don't apply anymore. That's where we are in energy and transportation.

The technology cost curve of an Ion battery went from $500/KWh to now less than $50/kWh. Now that the price has fallen dramatically, the disruption can follow in the 2020s.

For example, why did the smart phone start in 2007. That was the year that previous disruptions opened up the new space. Apple and Google, two companies that never built a phone, saw it. No one else did.

S curves always happen in technology disruption. It starts out slowly increasing, then shoots up in a short window, and then levels off... creating an S shape.

Take the car for example. Market share of the car market went from 11% to 81% of transportation in 10 years.

Today, conventional forecast estimates are always off. They are below reality by 20% or 30%.

Old disrupters won't likely be new disrupters. Because once they change a market, they just tweak it. They don't change the system again.

The market the car created was 100x bigger than the market for the horse. So a disruption isn't a one-to-one substitution. It creates ripple effects that start new markets.

Today, the cost of electric vehicles has fallen from $80K in 2014 to below $30k in 2020. Now that these EVs are cost effective compared to gas cars, that's the disruption point. Tony expects that cost to drop to $10k to 2025. China's Geely already has an EV priced at $9,200.

EV is not a one-to-one substitute. EV cars can go a lot further than gas vehicles. Hertz offered to buy 100,000 Teslas by next year. Amazon plans to have 100,000 EV vans on the road by 2025.

Transportation as a service (TAAS) is the second level of disruption. These are services owned by fleets instead of individuals.

All you need is one platform to achieve autonomous vehicles. Tony predicts that by 2030, 95% of passenger cars will be electric. U.S. vehicle fleet shrinks by 80% by 2030.

EVs also could affect construction because 30% of land in the U.S. is parking. With vehicles as a service, we won't need that parking.

Moving on to disruption of energy…

The cheapest energy ever is now solar. The total cost of solar is cheaper than the operating cost of everything else -- coal, nuclear, oil & gas.

The number of new projects waiting on interconnection is 90%. Batteries are 98% of storage projects in que. So these are the only ones with extreme growth.

Meanwhile, the cost of these energies and sources are still falling. Can we run a power system on 100% solar, wind, batteries? Tony shows that with cost lowering, we can do it relatively quickly. And we can save energy that we couldn't with the old types of energy.

We could create double the amount of energy with this new system thanks to days of battery storage. One to four days of battery storage is enough for a new system… not full seasons.

In the 1970s, we would kill 20,000 animals for one pound of insulin. Now we use precision fermentation to create human insulin. This is the conversion of biotech and information technology.

Tony sees disruption in the dairy industry as well. 3% of Milk is protein… the rest is water. Precision fermentation could create these proteins and make this old model obsolete. The cost parity to do this with animal proteins will happen in 2024. That's when people competing in the space will have to change to this new method to stay relevant.

This will help disrupt cosmetics, materials, health, and food sectors. Tony claims **Dairy will be bankrupt by 2030**.

Today, 40% of America's land is farmland. What happens to all that land when we don't need the old dairy industry.

Tony thinks we can cut emissions by 90% by 2035. We are in the fastest, deepest transformation for humanity in the past 10,000 years.