

THE DAILY CHECK-IN WITH GOLDMAN SACHS

GUEST: CHRIS BUDDIN, CO-HEAD, AUTO TECH BANKING

HOST: LIZ BOWYER, GLOBAL HEAD OF BRAND AND CONTENT STRATEGY

RECORDED: MARCH 5, 2021

Liz Bowyer: Hi Chris.

Chris Buddin: Hi Liz.

Liz Bowyer: You run the Automotive Technology business for our Investment Banking Division. And you've called auto tech the greatest industrial revolution of our time. What do you mean by that?

Chris Buddin: So, when I think of, and I've covered the auto tech space or the technology side of automotive for over a decade, when I first started doing it and it was, you know, a dabbling of electrification in vehicles, it was interesting. And the potential was significant. Now, you know, a decade later and seeing how much maturity has happened in the electric side of the automotive technology landscape, and on the software and sensor side of automotive technology, it's pretty clear to me that the next several decades is going to be a transformation to electrification in the global mobility landscape.

And that is significant in a couple of different ways. One, you know, moving to electrification is not an overnight thing. It's going to happen over 20 - 30 years, purely because the scale of manufacturing for batteries, the manufacturing for the way the new vehicles are going to be designed, the-- just the amount of vehicles that get sold on an annual basis, it's a huge transformation just for electrification.

But I think, you know, as a very, very nice byproduct of moving that way, it's a dramatic reduction in carbon emissions. And it's going to have a much more meaningful impact just on the health of the globe as opposed to even just a transformation to electrification.

Liz Bowyer: So, take us through at a high level how you think about auto tech and what it includes.

Chris Buddin: Yeah. So, the way we cover it is we cover the whole mobility landscape. And so, what auto tech means to me is not just vehicle electrification, not just the improvements to infotainment inside the car, not just the improvements to safety

through sensors in the vehicle itself, and not just, you know, how you access mobility as an individual. All of that is absolutely inside the way we think of automotive technology. But it also includes things that, maybe, we haven't even seen or haven't been meaningfully demonstrated yet. But the advent of autonomy in mobility and the ability to deliver goods, not just people, but goods in an autonomous and extremely efficient way also falls into that category. So, it's a very holistic coverage for automotive technology.

Liz Bowyer: So, to that end, Goldman Sachs recently announced a joint venture to cover auto tech. How will it work?

Chris Buddin: Yeah, this is exciting. So, we're combining our best practices of technology and our best practices of industrial to properly cover this space. So, I-- the future of mobility is not just software improving the automobile. It's also not just a manufacturing element. But it's important to have both. And so, we're marrying the best of our tech, the best of our industrials to look at the sector.

And so, what do I mean by that? The vehicle of the future is a collection of battery technology, it's a collection of software, it's a collection of networking elements in the vehicle. And it all has to be packaged and manufactures on a global scale with precision manufacturing. Our industrial clients are excellent at manufacturing on a global scale. Our technology clients are excellent in developing software and thinking about the future. This is the marriage of the two. And I think this is what's going to present the best products going forward.

Liz Bowyer: So, Chris, from your seat in investment banking, describe what the strategic landscape for auto tech looks like right now.

Chris Buddin: So, it's funny you ask that question because ten years ago, obviously, we were super excited about the emerging technologies around something, you know, a company like Tesla. And Tesla is bringing electrification to market. But it's a company that's so much more.

So, you know, you think about back then it was, is EV going to be relevant? There's range anxiety. Am I ever going to want to buy a car? Are people going to want to buy a car? Over that decade, you know, Tesla has created, I think, one of the most sophisticated products built around not just an electric vehicle, but around a complete technological platform. Right?

Which includes high end sensing, really high-powered compute, a very efficient electric power train. And it's more than just an electric car.

And the future of that car for, you know, mobility in general and where our coverage landscape is going to go, is an internal vehicle that is a moving compute platform that can do more than it does today. Push button to get the performance you want. You know? A high-end video gaming platform in the vehicle. All of this around an architecture that's going to be electric, because pairing that much compute power on an electric power plane-- power train is very important. So, this all comes back to why I think this is one of the biggest industrial transformations of our time.

The more interesting piece is the companies are seemingly small until they're large. And what do I mean by that? I mean is there are far more mature businesses in this landscape that have low levels of revenue or low levels of earning because they're developing really impactful technologies for large scale deployments. And they look mature as a technology company or as an industrial company. But they may look immature on a revenue standpoint. So, our coverage is pretty wide amongst large cap companies and startups, or what we would call startups in this space.

Liz Bowyer: And what about SPACs which have been so popular in the auto tech space?

Chris Buddin: The emergence of SPACs, and as, you know, people can look, it's been very targeted toward automotive technology, is exactly the solution to what I'm talking about. Mature businesses addressing a very large market opportunity that have an immature financial profile. And what the SPACs are doing and why it's a very good product for this sector is they're capitalizing these capital-intensive businesses, allowing them to scale up this mature technology to address, again, one of the largest industrial transformations of our time. Really huge market opportunities. So, we cover all the way from the startups to the mature companies in that regard.

Liz Bowyer: So, talk a little bit more about the mature companies. We have obviously seen a lot of enthusiasm around Tesla and some other companies. But not as much around the efforts of some of the traditional auto makers, which are also evolving towards electric vehicles. Talk about those dynamics.

Chris Buddin: Yeah, I wouldn't call the traditional automotive motor makers out yet. They definitely have a lot of history. And they have a lot of things they have to work through over the next multiple decades. Right? I do think the internal combustion engine is going to be minimized over the next few decades. And that is the-- that is how they build their businesses around it.

But they have-- when we talked about the JV between tech and industrials, what they have is the industrial side, like, nailed. They are the best manufacturers. They have the best supply chains, the best global scale. They will build the tech side, no doubt in my mind. They will do it. And I expect them to do it. So, I wouldn't count them out yet. I think they will be very prominent competitors in the future of mobility going forward.

Liz Bowyer: So finally, Chris, looking out over the next year and beyond, what's your outlook for auto tech?

Chris Buddin: I have a hard time looking one year ahead. I mean, it really is five, ten, 15 years of amazing excitement ahead of us. So, here's how I think about it. The constraints of growth in this sector are mainly going to be restrained by the amount of capacity in the market. So, can we build enough global battery manufacturing capabilities to supply these new vehicles? Not everybody's going to have Tesla-like success, right? But there are going to be a lot of new, amazing companies that emerge in this sector around electrification, around sharing, around autonomous mobility, both for people and goods. There are so many exciting things going on, so many mature products that I think in five years we're going to look back and say, "Of course this is going to happen." Where right now it may seem like the future, you know, in three to five years of moving around without a driver in the car going from A to B, it sounds potentially scary. It sounds potentially daunting. But I think we'll have a look back in five years and say, of course this is a no brainer. It's a much more efficient, affordable way to travel. Electric makes sense. It's an efficient form of transportation. And it's-- it's good for the globe.

Liz Bowyer: Thanks Chris. It was great talking with you.

Chris Buddin: Thanks Liz.

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