天风证券 TF SECURITIES

特斯拉（TSLA.O）2020Q1 季报点评

证券研究报告
2020 年 05 月 21 日

产销创Q1新高，国产供应带来毛利率改善，预计全年销量同比正增长

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事件：北京时间 4 月 30 日，特斯拉（TSLA.O）发布了 2020 年第一季度财务报告：Q1 实现营业收入 59.9 亿美元，同比上升 31.8%；营业利润 2.8 亿美元，环比下降 21.2%；毛利 12.34 亿美元，同比增长 118.12%；净利润 0.68 亿，同比-110.19%，主要系 2019Q1 为负；归母净利润 0.16 亿美元，环比下降 84.8%。

点评：
降本效果明显，毛利大幅提升，汽车业务毛利率表现亮眼。特斯拉 2020Q1 实现毛利 12.34 亿美元，同比上升 118.1%，环比下降 11.29%。毛利率有明显改善，毛利率为 20.62%，同比增加 8.16 个百分点。主要是汽车业务毛利提升，汽车业务毛利率为 25.55%，同比增加 5.39 个百分点；主要原因是上海工厂产量提升，国产化成本降低，盈利能力提升。总成本 47.51 亿美元，同比上升 19.5%，环比下降 20.72%；汽车业务成本同比+28.51%，环比下降 22.56%。

一季度销量创纪录，Model 3 热销，Model Y 交付提前，Cybertruck 订单超 60 万辆。根据财报显示，特斯拉 2020Q1 实现交付 88496 辆，同比上升 40.5%，销量创第一季度新高，其中 Model 3&Y 交付 76266 辆，同比上升 49.8%；预计 2020 年销量会在 Model Y 和上海超级工厂的推动下继续上升；Model S 和 X 交付量 12230 辆，交付同比+1.1%。预计特斯拉 2020 年全球销量约为 50-60 万辆，2021 年约为 90 万辆。Model Y 从 1 月开始生产，交付提前至 3 月。Cybertruck 的预订量已超过 60 万辆，并且有望在明年推出之前达到 100 万辆，在疫情期间，订单量仍会每天增加 1000 个新订单。

疫情影响下产量持续扩张，产能布局全球化拓展。2020Q1 产量 102672 辆，同比增长 33.2%，创一季度新高。其中 Model 3&Y 产量 87282 辆，同比上升 38.7%，Model S&X 产量 15390 辆，同比上升 8.8%。美国 Fremont 工厂方面，Model Y 在 3 月底开启交付，产量超过第一季度上海工厂产量。Model 3 和 Y 总年产能达到 40 万辆，预计 2020 年产能达到 50 万辆；上海工厂方面，随着零部件国产化提升将会带来毛利率的改善，2020 年二期工厂投产，产能持续爬坡。预计 Model 3 产量在 2020 年中达到 4000 辆/周，年产能达到 20 万辆；Model Y 预计 2021 年开始交付，未来预计 Model 3 和 Model Y 产能持平；柏林-勃兰登堡工厂即将动工建设，第一批车辆交付预计在 2021 年开始。

自动驾驶性能持续提升，Model Y 续航里程极值突破 500 公里。截至目前，特斯拉汽车已经在自动驾驶模式下行驶了超 30 亿英里。随着自动行驶里程呈现指数级增长，也为特斯拉汽车数据库的神经网络增加了更多数据。车辆搭载的 FSD 即将推出的功能包括判断交通路口信号灯的颜色，视觉识别范围进一步扩大，覆盖地面湿滑状况，天气状况及分别车道。从续航里程来看，由于 Model Y 全轮驱动工程的持续进展，该车型的最大续航里程已提高至 505 公里，远超福特 Mach E、奔驰 EQC 等同类型竞品，进一步提升其在纯电 SUV 领域的领先地位。

电池日活动临近，新电池技术备受关注。受疫情影响，原定于 4 月中旬举行的特斯拉电池日被推迟到了五月中下旬。在这次电池日活动上，马斯克将着重介绍电池技术而不是动力系统。马斯克表示这天将是特斯拉历史上最激动人心时刻之一。其很有可能公布其在 Roadrunner 项目上的进展，包括 Jeff.D 的研究成果、Maxwell 的技术应用。2019 年以来，特斯拉在自主电池研发上动作不断。2019 年 2 月，特斯拉以 2.18 亿美元的溢价收购了 Maxwell。Maxwell 的干电极以及超级电容技术不仅能延长电池寿命，还能简化制造过程。特斯拉 Model 3 目前的电池级能量密度为 210 Wh/kg，电池组级能量密度为 275 Wh/l。Maxwell 声称其专利的干电池电极可以产生

超过 300wh /kg 的能量密度，增加 42.8%。计划的能量密度超过 500wh /kg，将比特斯拉目前的电池增加 138%。同时，与最先进的湿式电极相比，这种干电极方法可以降低 10%到 20%的成本。2019 年 10 月，特斯拉已经收购了专门生产电池制造设备的 Hibar Systems。2020 年 2 月，特斯拉宣布将在 Fremont 建设一条电池生产试验线。种种迹象都显示出，特斯拉正在朝自研电池方向努力。

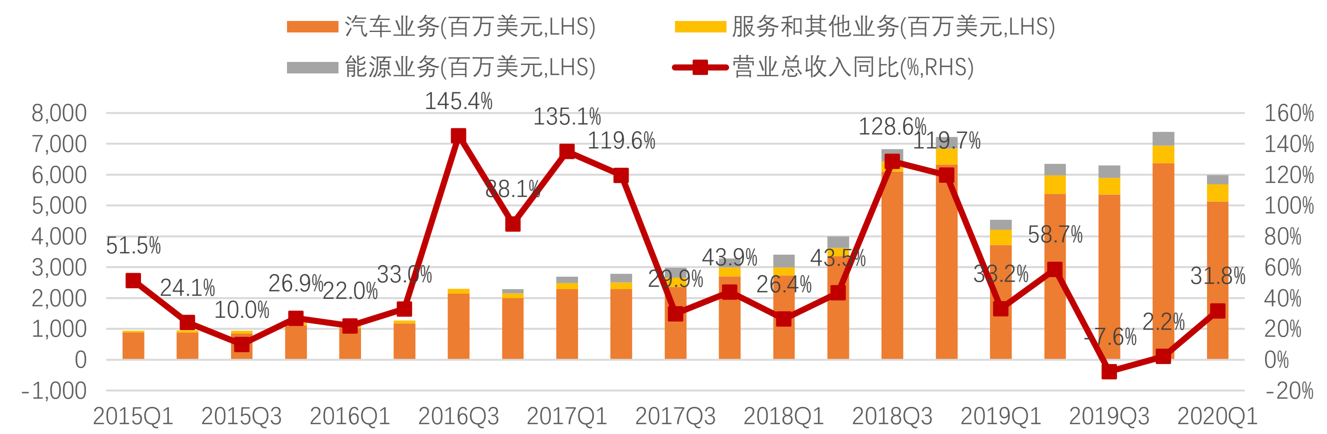
零部件国产化率提升，带来供应链投资机遇。2019 年 12 月 30 日，特斯拉高层在国产 Model 3 交付仪式上表示，目前下线车辆的零部件国产化率达到 30%，明年年中可达 80%，年底实现全国产化。推荐:常熟汽饰、宁波华翔、国内电池龙头企业、科达利、旭升股份、拓普集团、岱美股份、三花智控、均胜电子、文灿股份、新泉股份，银轮股份、恩捷股份。

特斯拉官宣与 CATL 和 LG 合作，动力电池国产供应链受益。特斯拉单车价值量拆分,电池系统占比最大,约 38.6%。国内龙头电池企业和 LG 成为公司在动力电池领域的新合作伙伴，LG 国产化供应链受益企业包括：电解液—新宙邦、天赐材料，隔膜—恩捷股份，正极材料—当升科技、杉杉股份、容百科技。

投资建议：给予持有评级

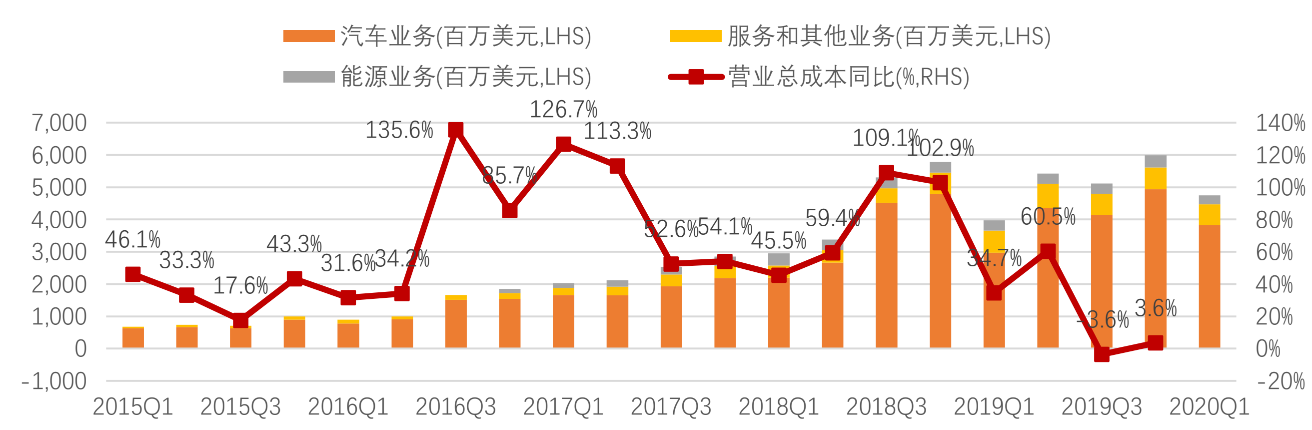
风险提示：经济持续低迷，强有力的竞争对手，需求不及预期，疫情影响复工

图 1：特斯拉分业务收入及总收入同比



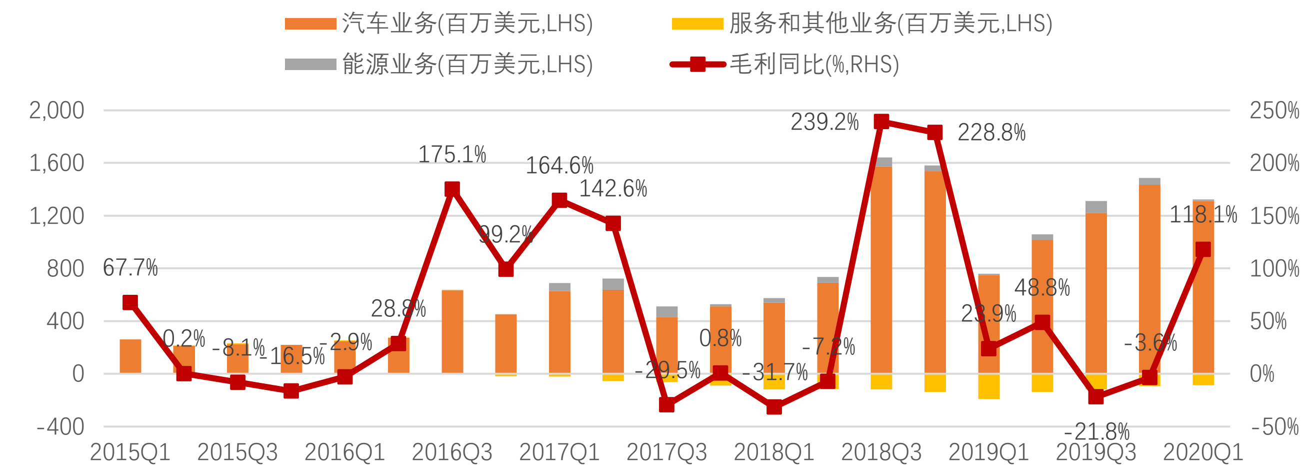
资料来源：公司公告、天风证券研究所

图 1：特斯拉分业务成本及同比



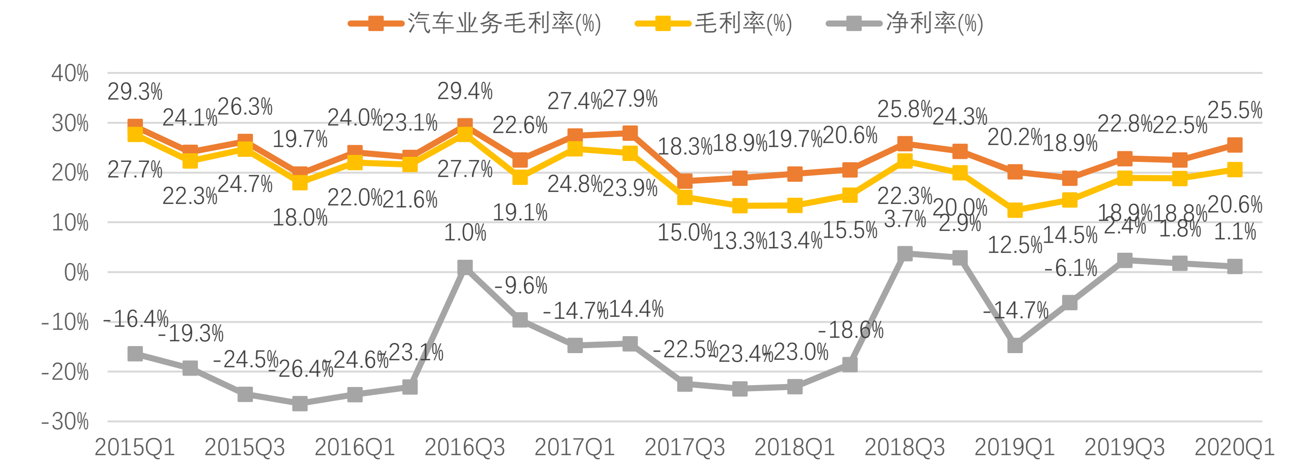
资料来源：公司公告、天风证券研究所

图 2：特斯拉分业务毛利及同比



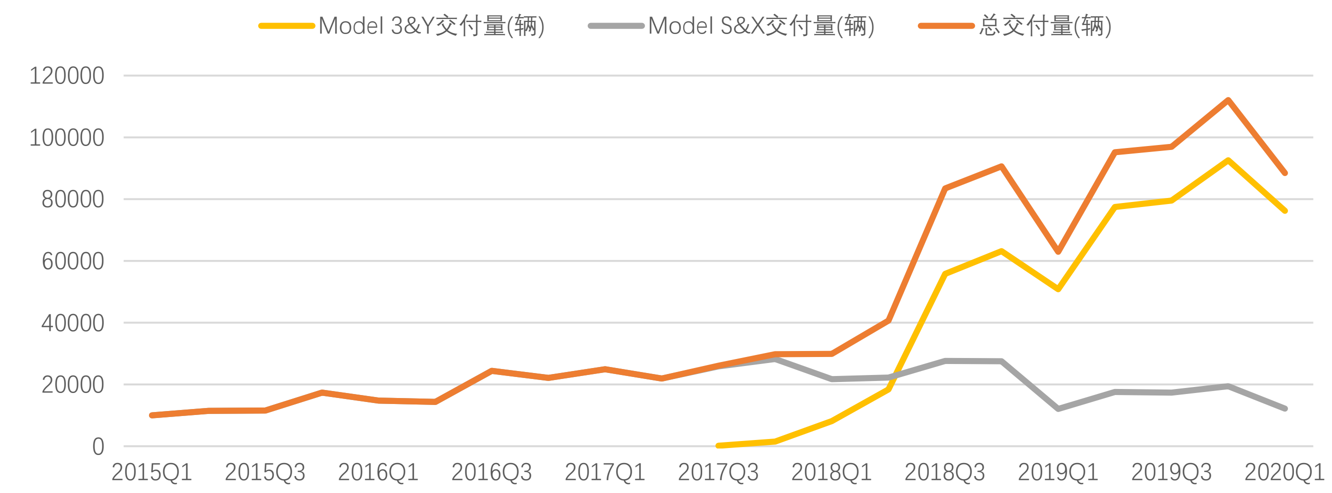
资料来源：公司公告、天风证券研究所

图 4：特斯拉毛利率，净利率及汽车业务毛利率



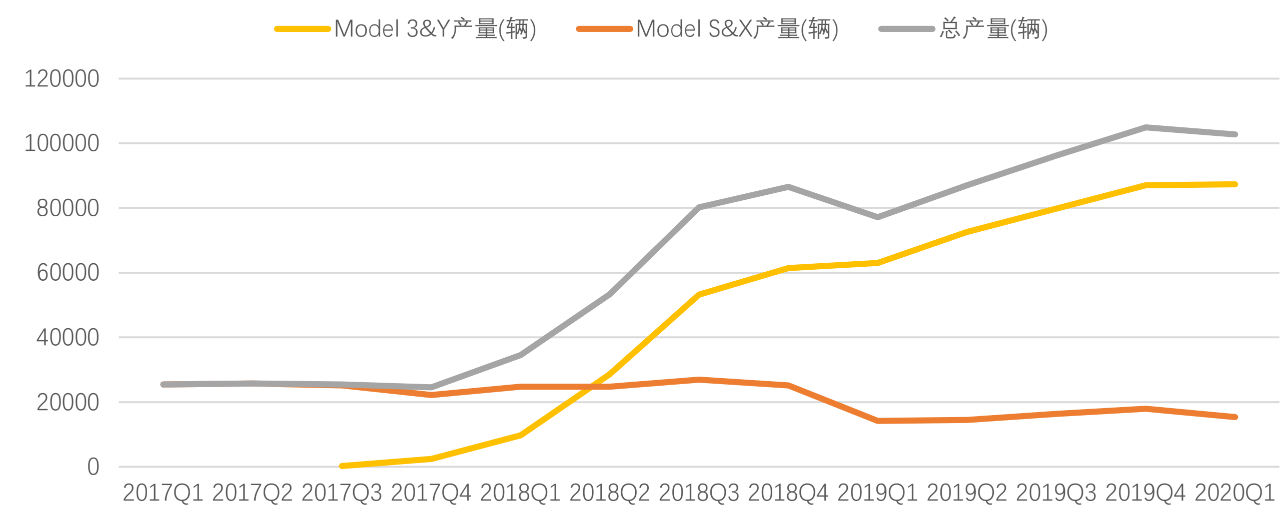
资料来源：特斯拉财报、天风证券研究所

图 5：特斯拉分车型交付量



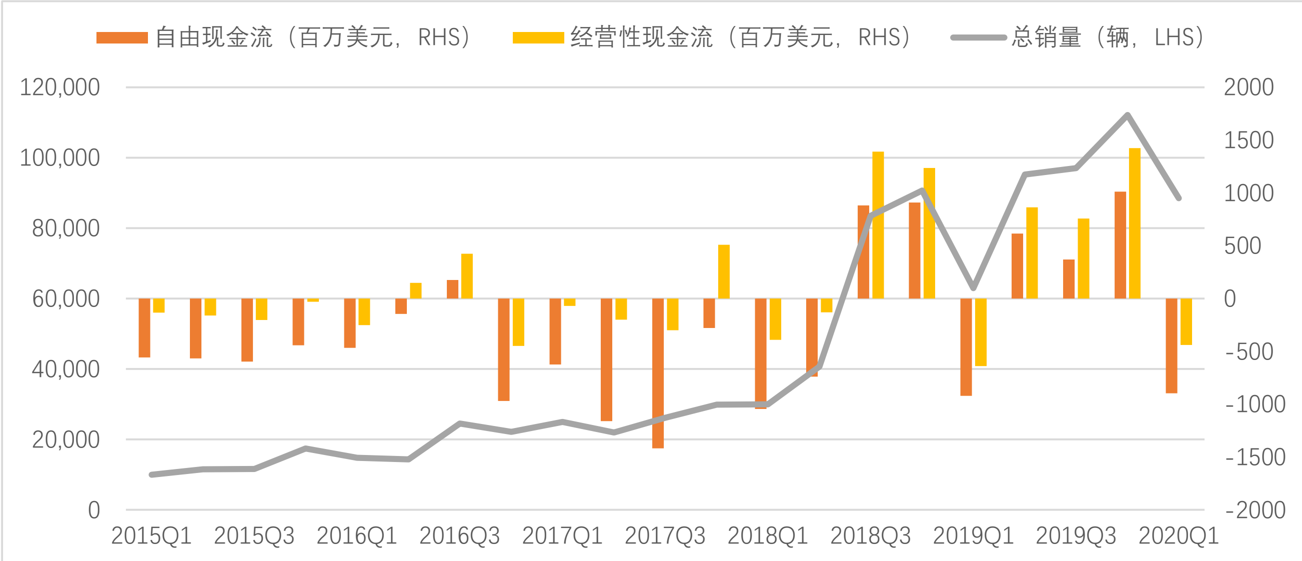
资料来源：特斯拉财报、天风证券研究所

图 6：特斯拉分车型产量



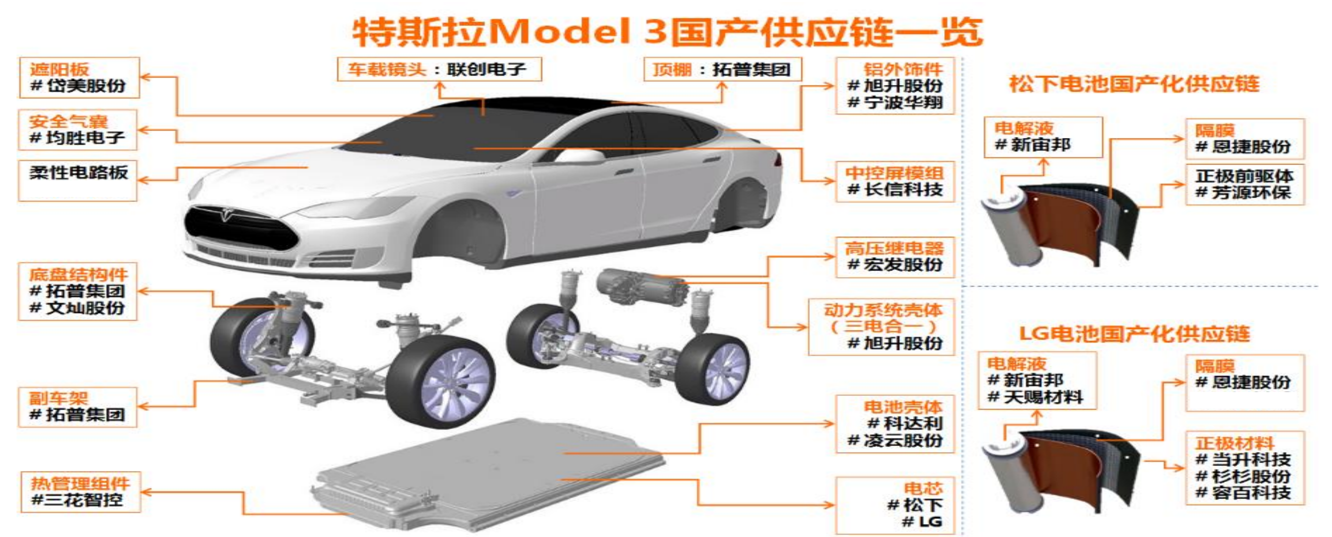
资料来源：特斯拉财报、天风证券研究所

图 7：特斯拉总销量，自由现金流，资本性支出及经营现金流



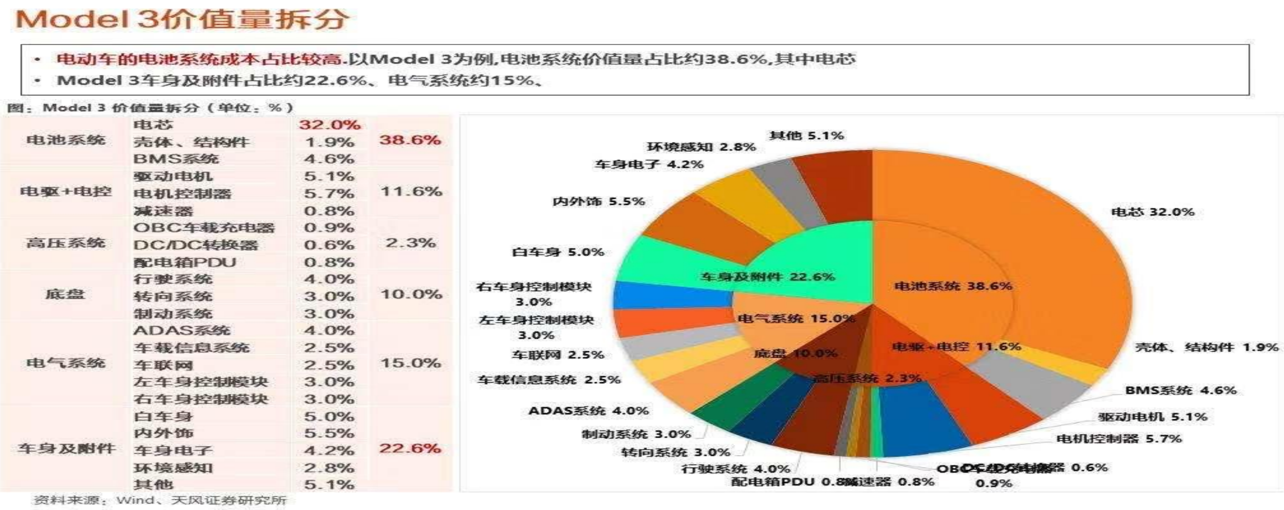
资料来源：特斯拉财报、天风证券研究所

图 8：特斯拉国产供应链一览



资料来源：wind，天风证券研究所

图 9：Model 3 价值量拆分



电池系统	电芯	32.0%	38.6%
	壳体、结构件	1.9%	
	BMS系统	4.6%	
电驱+电控	驱动电机	5.1%	11.6%
	电机控制器	5.7%	
	减速器	0.8%	
高压系统	OBC车载充电器	0.9%	2.3%
	DC/DC转换器	0.6%	
	配电箱PDU	0.8%	
底盘	行驶系统	4.0%	10.0%
	转向系统	3.0%	
	制动系统	3.0%	
电气系统	ADAS系统	4.0%	15.0%
	车载信息系统	2.5%	
	车联网	2.5%	
	左车身控制模块	3.0%	
	右车身控制模块	3.0%	
车身及附件	白车身	5.0%	22.6%
	内外饰	5.5%	
	车身电子	4.2%	
	环境感知	2.8%	
	其他	5.1%	

资料来源：wind，天风证券研究所

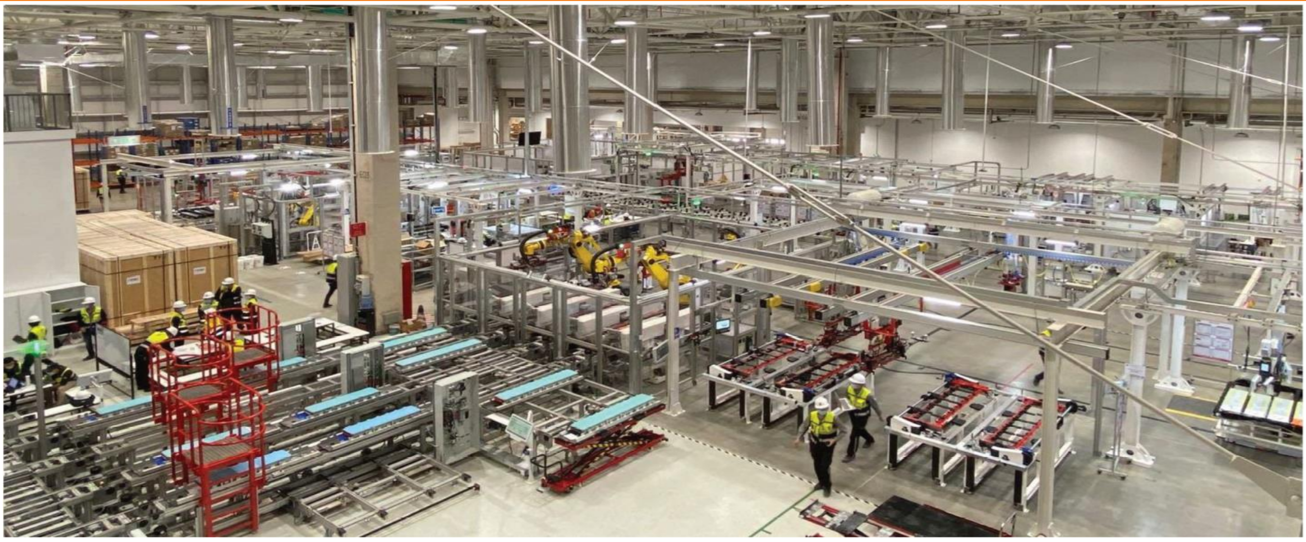
图 10：上海 Model Y 工厂建设

资料来源：特斯拉官网、天风证券研究所

图 11：上海电池包工厂

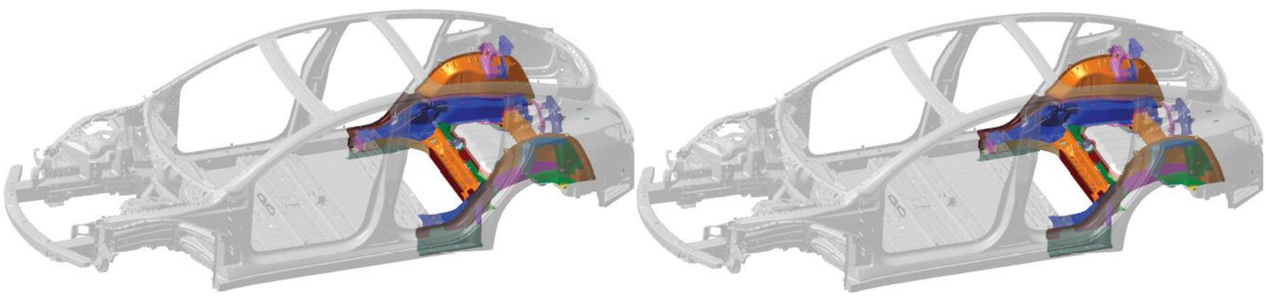
资料来源：特斯拉官网、天风证券研究所

图 12：上海电池包、模组产线



资料来源：特斯拉官网、天风证券研究所

图 13：简化车辆结构和制造



资料来源：特斯拉官网、天风证券研究所

特斯拉会议纪要：

主旨演讲：

1、虽然受到新冠疫情影响，一季度表现依然强劲，首次在一年的一季度取得盈利

2、Model Y 已经开始量产，生产爬坡速度超过 3 年前的 Model 3，目前已开始盈利

3、Model Y 引入革命性的两件式铸造以及新型热泵

4、Model S 和 X 的行驶里程进一步提高，达到 400 英里

5、复工以后会在 Fremont 和上海全力发展 Model Y 业务

6、上海工厂生产的 Model 3 的利润率显著提高，几乎与 Fremont 生产的 Model 3 相当

7、尽管第一季度产生了与停工有关的费用，但所有的汽车产品毛利率（不包括监管信贷的影响）仍然保持强劲。

8、在线订单数量依然乐观

提问环节：

1、会在今年年底将 FSD 升级作为一项付费订阅项目。FSD 会为客户带来很大的回报，客户不会后悔订阅。

2、Tesla 将在 5 月 1 日宣布降低标准系列 Model 3 的价格，以符合中国政府的补贴政策

3、新冠疫情使 Tesla 更加关注其成本结构并提高公司的效率

4、线上购车模式为客户减轻了看车的烦恼，简便快捷。

5、电池日活动可能在五月第三周举行，地点在德州或者加州

6、Tesla 每季度都在更新 FSD 的功能，并将递延收入确认为收入
7、马斯克认为特斯拉年销量复合增长率会超过 40%
8、三个月之内会宣布下一个 Giga 工厂的计划，未来五年新建的 Giga 工厂会比现在的总量要多
9、特斯拉将在同一 Giga 工厂内设立尽可能多和相似的产品线，并实现尽可能多的垂直集成，这样可以显着提高效率
10、年底之前，Solar Roof 将每周安装 1000 顶，未来潜力大
11、特斯拉空气过滤系统在汽车行业内处于顶尖位置
12、一季度部分无法交付的车辆将在二季度交付，这对提高公司流动性很有帮助
13、马斯克对湾区工厂停产表示担忧，认为居家隔离令限制了人们的自由
14、马斯克认为美国应该大力投资新基建领域
15、Model Y 的边际成本正在不断降低中，未来将与 Model 3 持平
16、电芯在电动车成本中的地位非常重要，特斯拉将与多方合作降低电池成本
17、与松下的关系依然很牢固
18、自动出租车业务有希望明年在部分市场开始运营
19、去除信贷、疫情、Model Y 投产因素，今年利润预计会有较大的增长

特斯拉电话会议详细纪要内容：

2020Q1 整体经营情况总结：

伊隆·马斯克 Elon Musk (特斯拉 CEO)：

谢谢！尽管在最后几周遇到了许多挑战，我们第一财季仍然表现强劲。这是我们第一次在季节性疲软的第一季度实现了正的 GAAP 净收入。即使在面临多重挑战的情况下，我们依然实现了 20%的汽车毛利率，不包括监管信贷，包括 2 种主要产品的爬坡量产。我们显然在这里学到了很多。在 3 年前的 Model 3 爬坡量产之后，我们的新产品运行得更快，并开始更早地盈利。在第一季度，相比于 Model3，我们在 Fremont 生产了更多的 Model Y。到目前为止，Model Y 在第一季度的爬坡生产速度甚至超过 Giga 上海工厂。更令人惊讶的是，在其他方面，我们已经提前完成了本就提前了的计划。最令人吃惊的是，Model Y 在第一季度的生产中就已经开始盈利了，这是我们过去的产品从未实现过的。

Thank you. So Q1 ended up being a strong quarter despite many challenges in the final few weeks. This is the first time we have achieved positive GAAP net income in a seasonally weak first quarter. Even with all the challenges, we achieved a 20% automotive gross margin, excluding regulatory credits, while ramping 2 major products. What we've learned from this is that -- we've obviously learned a lot here. For all -- after the Model 3 ramp from 3 years ago, our new products get -- run faster and become profitable sooner. In Q1, we produced more Model Ys in the first quarter than Model 3s in Fremont in the first 2 quarters. Thus far, the Model Y ramp has been even faster than the Giga Shanghai ramp in Q1. Most surprisingly, as otherwise, we are ahead of the schedule that we were ahead of already. Most surprisingly,
Model Y was profitable already in its first quarter of production, something we haven't achieved with any products in the past.

关于自动驾驶，我们于 3 月向“抢先体验”用户和所有具有完全自动驾驶包的美国客户发布了交通信号灯和停车标志的新软件更新。我们的车将不会自动在每个停车标志或交通信号灯处停车，直到驾驶员确认才继续前进。我应该说汽车实际上不止能做到这些，但我们只是关闭了我们感觉到的不错的功能 我们认为这可能是一项安全改进。

Regarding Autopilot, we released a new software update for traffic lights and stop signs to Early Access Users in March and to all U.S. customers with Full Self-Driving package just last week. Our cars will not automatically stop at each stop sign or traffic light until the driver gets a confirmation to proceed. I should say that the car is actually cable much more than this, but we are only closing functionality that we feel quite good about and where we feel it is probably a safety improvement.

目前，我们每个月都从超过 100 万个交叉路口收集数据。 随着越来越多的人获得更新以及越来越多的人再次开车，这个数字将成倍增长。 不久， 我们将每月从超过 10 亿个交叉路口收集数据。

We are collecting data from over 1 million intersections every month at this point. This number will grow exponentially as more people get the update and as more people start driving again. Soon. we will be collecting data from over 1 billion intersections per month.

所有这些-对。 所有这些确认都在训练中。 从本质上讲，驾驶员去驾驶并且采取行动是有效地标记-他们驾驶时的标记现实，使它们变得越来越好。 我认为这是其他任何人都没有的优势，而且从字面上看，我们比每个人的总和还要多。 我认为这很难完全理解。 我说拥有与 Google 竞争的搜索引擎非常困难，因为每个人都在不停地训练 Google

All of those -- right. All of those confirmations are training [indiscernible]. Essentially, the driver went driving and taking action is effectively labeling -- the labeling reality as they drive and making them better and better. I think this is an advantage that no one else has, and we're quite literally on magnitude more than everyone else combined. I think this is difficult to fully appreciate. The reason I say it's very difficult to have a search engine that competes with Google because everyone is training Google all the time with

因此，所有这些确认都在训练中，并且某些汽车将能够在没有确认的情况下穿越交叉路口并转弯。 我们非常有信心，到年底，大多数时候都可以在没有任何干预的情况下从您的家到办公室开车。我们几乎已经可以通过领先的 AlphaZero 驾驶汽车来做到这一点。

So all those confirmations are training [indiscernible], and certain cars will be able to drive through an intersection without a confirmation as well as to make turns. And we really feel we're -- I feel extremely confident that it would be possible to do a drive from your home to your office most of the time with no interventions by the end of the year. So this is -- we can almost do this already with the leading-edge [AlphaZero] driving the car.

让我们来看看。 在其他技术领域，我们再次增加了 Model S 和 X 的行驶里程，这次是 Model S 达到 391 英里，Model X 达到 351 英里。实际上，我们说的是，实际上 Model S 的续航里程为 400 英里。 但是，不幸的是，当我们进行了上一次 EPA 测试时，测试员离开了，车门打开了，车上的钥匙也开了。 因此，整个夜里汽车实际上进入了等待驾驶员模式，损失了其行驶里程的 2%。 所以这次测试的结果为 391 英里。 当 EPA 重新开放进行测试后，我们将重新进行测试，实际上，我们有信心使用 Model S 达到 400 英里或更大的行驶距离。但是要明确的是，Model S 在过去 2 个月-过去 2 个月中 Model S 的真实续航里程已经为 400 英里了。

So let's see. On other technology fronts, we increased the range of model s and X yet again, this time to 391 miles for Model S and 351 miles for Model X. Actually, we said that, actually, the model -- the real Model S range is 400 miles. But when we did the last EPA test, unfortunately, [ATA] left, the car door opened and the keys in the car. So the car ended this overnight. And so the car actually went into waiting for driver mode and lost 2% of its range. And as a result, the pilot 391 test. As soon as the EPA reopens for testing, we will redo the test, and we're actually confident that we will achieve a 400-mile-or greater range with the Model S. But to be clear, the Model S, for the past 2 months -- the true range of the Model s for the past 2 months has been 400 miles.

当然，我们不止于此。我们期待着随着时间的推移继续努力以扩大续航里程，并改善操控加速度以及使特斯拉与众不同的所有小细节。

对于 Model Y，我们引入了革命性的两件式铸造-我们正在进行铸造，今年晚些时候将要进行单件铸造，这意味着基本上将车身的后三分之一铸造为一体。这么复杂的流程以前从未完成过。实际上，甚至没有任何东西可以与 Model Y 的 2 件式铸件相提并论。因此，我们确实在推动汽车结构工程和制造领域的发展。我对这种方法感到非常兴奋，因为它可以使我们减轻汽车的重量并改善 NBH。从本质上讲，它在各方面都更好。

我们还为 Model Y 引入了革命性的新型热泵，使汽车具有更大的续航里程。因此，尽管它是更大的汽车，而且重量更大，Model Y 的行驶里程与 Model S 相当，比我估计的 Model 3 型车要好一些。而热泵是其中的关键因素。在低温行驶时尤其出色。因此，到目前为止，我们从 Model Y 的客户那里得到的反馈一直是积极的。我们有信心该产品将成为我们有史以来最畅销的产品。

And of course, we're not stopping there. We're looking forward to continuing pushing for improved range over time and improving handling acceleration and all the little details that make Tesla special.

For Model Y, we introduced a revolutionary 2-piece -- we're [underway casting] that we are going to be making a single-piece casting later this year, meaning like essentially the rear third of the body is cast as a single piece, which is no casting of the size of complexity has never been done before. In fact, there isn't even anything that is on par with the 2-piece casting for the Model Y. So we're really pushing the envelope on vehicle structural engineering and manufacturing. I'm very excited about this approach as it allows us to reduce the weight of the cars and improve NBH. It's better in every way,

essentially.
We also -- for Model Y, we also introduced a revolutionary new heat pump, which allows the car to have a higher range. So Model Y has remarkable range on par with [indiscernible], slightly better than, I guess, the Model 3 and just despite being a bigger car that weighs more. And the heat pump is a key contributor to that. It is especially excellent at low-temperature driving. So -- and the feedback we're getting from customers who have received the Model Y thus far has been universally positive. We're confident this product will be our best-selling product ever.

因此，总而言之，展望未来，我想这是前瞻性声明。当复工时我们绝对会继续在柏林 Giga 和上海 Giga 以及在弗里蒙特继续全速发展 Model Y。随着时间的推移，中国和欧洲的本地化生产将带来成本的降低，使我们的产品更具竞争力。 尽管许多其他公司正在削减投资，但我们却相反。 我们绝对会大力研发新产品并扩大公司规模。 我们非常期待明年某个时候成为一家真正的全球性制造商，在北美，中国和欧洲拥有主要工厂，每年的产能超过一百万辆。 因此，有很多值得期待的事情，我们迫不及待地想告诉您将会发生什么。 谢谢。
So in conclusion, and just to -- looking forward, I guess this is a forward-looking statement. We are absolutely continuing our Model Y capacity expansion at full speed at both Giga Berlin and Giga Shanghai and here in Fremont when they will let us continue. Localized production in China and in Europe will bring the costs , making our products even more competitive over time. While many other companies are cutting back on investment, we are doing the opposite. We're absolutely pedal to the metal on new products and expanding the company. And we're really looking forward to being in, sometime next year, a truly global manufacturer with major factories in North America, China and Europe and a capacity of well over 1 million units a year. So there's a tremendous amount to look forward to, and we can't wait to tell you what's going to happen. Thank you.

扎卡里·柯克霍恩 Zachary Kirkhorn（特斯拉 CFO）
我为特斯拉团队在过去的一个季度中取得的成就感到非常自豪。 有几件事要强调，并补充到埃隆刚才提到的内容中。正如 Elon 所说，我们成功地推出，提高并证明了 Model Y 的盈利能力。这提前于我们原本的计划。 Model Y 是我们自 2017 年 Model 3 以来的第二次大规模产品发布，这证明了我们在成本控制和提升效率方面取得的进展。此项目第一季度的盈利性很难被低估。自去年第四季度以来，我们在上海工厂生产的 Model 3 的利润率显著提高，几乎与 Fremont 生产的 Model 3 相当。 尽管该工厂尚未满负荷运行而且经历了 2 月初的停产。 我们还根据路线图宣布了 Model 3 的长距离和高性能版本，这将对中国的 ASP 产生积极影响。
I'm very proud of the accomplishments of the Tesla team this past quarter. A few things to highlight and add to what Elon just mentioned.
We successfully launched, ramped and demonstrated profitability of the Model Y, as Elon mentioned, significantly ahead of schedule. This is our second large-scale product launch since Model 3 in 2017, and it's evidence to the progress we've made on cost control and ramp efficiency. It's hard to understate the significance of demonstrating profitability of this program in its first quarter of production.
Our Shanghai Model 3 margins improved dramatically since Q4 of last year, nearing equivalents of Model 3s built in Fremont. This is despite not yet running at full capacity while also managing through the production shutdown in early February. We also announced a long range and performance variant of Model 3 for our road map, which will positively impact ASPs in China.

在订单价格方面，我们并未因第四季度末政府激励措施到期而受到很大影响。实际上，我们以有史以来最高的积压退出了本季度。借助这些成就，我们能够实现有史以来的第一次第一季度盈利。尽管第一季度产生了与停工有关的费用，但所有的汽车产品毛利率（不包括监管信贷的影响）仍然保持强劲。我们将继续在运营支出效率、服务和其他利润方面取得进步。我们的能源业务也受到第一季度限制性关闭的影响。我们还经历了与第三版 Solar Roof 相关的预期上市效率，这影响了整体盈利能力。
正如我之前提到的，我们预计监管信用销售即我们向其他汽车制造商销售的信用通常会随着时间增长。从 Q1 相对于去年 Q4 的增加可以看出这一点。并且请注意，大多数信贷收入在第一季度都没有贡献给现金流，这反映在资产负债表上的应收账款中。
On order rates, we did not experience much of an impact related to the expiration of government incentives at the end of Q4. In fact, we exited the quarter with our highest-ever backlog yet again. Aided by these accomplishments, we are able to achieve our first-ever Q1 profit. Automotive gross margin, excluding the impact of regulatory credits, remained strong for all

products despite charges taken in Q1 associated with production downtime. We continue to make progress on OpEx efficiency as well as our service and other margins. Our energy business was impacted as well by shutdown activities in Q1 limiting deployments. We also experienced expected launch efficiencies associated with our third version of the Solar Roof, which impacted overall profitability.

As I've noted before, we expect regulatory credit sales, which our credits we sell to other carmakers to generally increase with time. This can be seen by the increase from Q1 relative to Q4. And note that most of the credit revenue did not contribute to cash in Q1, and it's reflected in the accounts receivable on the balance sheet.

由于突然停止生产和交付业务，我们所有产品的季度末存货暂时增加，影响了我们的自由现金流量。如果没有发生这些中断，我们将会达到创纪录的季度交付量和强劲的自由现金流。

正如 Elon 所提到的那样，我们需要保持正轨以实现我们的长期计划和技术路线图。近期，我们正在采取一系列行动。上海和柏林的 Model Y 正在按计划进行，我们正在提高 Fremont 的 Model Y 和上海的 Model 3 的产能。

近期，我们的上海工厂将继续运营，为公司的现金流量和盈利能力带来不断的增长。在 Fremont，我们正在努力尽快恢复生产。我们还将继续交付第一季度末无法交付的汽车。第一季度末，我们的车辆库存余额增加了 14,000 辆，这不利于第一季度的自由现金流，但对第二季度会有所帮助。请注意，Fremont 的 Model Y 和上海的 Model 3 最重要的方面之一是通过本地生产和交付车辆大大改善了现金转换周期。

Our free cash flows were impacted by the temporary increase in end of quarter inventory for all our products resulting from the abrupt suspension of production and delivery operations. Had these interruptions not occurred, we were pacing towards a record quarter of deliveries and strong free cash flows.

As Elon mentioned, it is extremely important that we remain on track to achieve our long-term plans and technology road map. We are taking the near-term actions required to continue those investments. Model Y in Shanghai and Berlin are proceeding as planned, and we're making progress on improving capacity for Model Y in Fremont and Model 3 in Shanghai.

In the near term, our Shanghai factory remains operational, contributing an increasing level of cash flows and profitability to the company. In Fremont, we're working towards restarting production as soon as that's possible. We are also continuing to deliver cars that we were unable to deliver at the end of the first quarter. Our vehicle inventory balance increased by 14,000 units at the end of Q1, which was a headwind to free cash flows in Q1, but it's helpful in Q2. Note that one of the most important aspects of Model Y in Fremont and Model 3 in Shanghai is the dramatically improved cash conversion cycle by locally producing and delivering vehicles.

尽管全球许多地区的销售和交付业务已经暂停，我们的客户也不能在订购之前体验产品，但我们仍然收到许多在线订单。但是，不可避免地，Fremont 工厂的长期停工将影响我们的近期财务业绩，我们将需要确认何时能将产量提高到先前水平。更广泛地说，我们将继续致力于确保现金流量得到适当管理。营运资金管理，尤其是原材料库存，是这段时间管理我们现金流量的最重要的单一杠杆。特斯拉团队在这里做得很好。我们还采取了消除或减少非关键性支出和可选投资的措施，同时继续提高整个企业的效率。

总体而言，我们已对 2021 年之前的许多情况进行了建模，并感到满意的是，我们有足够的流动性来充分开展最重要的长期投资。需要特别注意的是，特斯拉仍然是一家非常灵活和充满活力的公司，而去年我们为提高成本效率和生产力所做的大量工作对此有所帮助。而且我们有能力根据需要快速调整我们的支出和计划。

因此，再次感谢特斯拉团队在第一季度的成功，下面我们将转到 Q&A 环节。

While sales and delivery operations have paused in many areas of the world, we are still receiving many online orders despite an ability for our customers to experience the product prior to ordering. However, unavoidably, the extended shutdown in Fremont will have an impact on our near-term financial performance, and we will need to work through how quickly we'll be able to ramp production to prior levels. More broadly, we remain focused on ensuring our cash flows are managed appropriately. Working capital management, in particular, raw material inventory is the single most important lever in managing our cash flows during this time. The Tesla team has done a great job here. We've also taken actions to eliminate or reduce noncritical expenses and optional investments while continuing to drive efficiencies throughout the business.

Overall, we've modeled many scenarios into 2021 and remain comfortable that we have sufficient liquidity to proceed fully with our most important, long-term investments. Important to note that Tesla remains an extremely agile and dynamic company, and this is aided by the substantial work we've done over the last year to improve our cost efficiency and productivity. And we have the ability to quickly adjust our spending and planning as required.

So thank you again to the Tesla team for success in Q1, and we will turn to questions.

Q&A：

Q:

Martin Viecha（投资者关系高级总监）：

我们将接受由 Safe Technologies 编制的机构投资者提出的第一个问题。

机构投资者的第一个问题是："尽管大多数车辆都配备了必要的硬件，但大多数特斯拉车主尚未购买或体验 FSD。您可以利用哪些杠杆来加快 FSD 采用速度并加深数据优势？例如，您是否可以考虑提供 FSD 作为高级订阅？"

The first question from institutional investor is, "Most Tesla owners have yet to purchase or experience FSD despite most vehicles having all the necessary hardware. What levers could you pull to accelerate adoption and deepen your data advantage? For example, could you consider offering FSD as a premium subscription?"

A:

Elon R. Musk

我认为可能会在今年年底之前提供"完全自动驾驶"作为订阅服务。但，我应该说，购买 FSD 作为一种选择仍然有意义，因为我们认为购买 FSD 是未来的一项投资。 我们有信心，这笔投资将为消费者带来回报，造福于消费者。 我认为，购买 FSD 的选择是人们不会后悔的事情。

I think we will offer Full Self-Driving as a subscription service, but it will be probably towards the end of this year. I should say it will still make sense to buy FSD as an option as, in our view, buying FSD is an investment in the future. And we are confident that it is investment that will pay off to the consumer -- to the benefit of the consumer. In my opinion, buying FSD option is something people will not regret doing.

Zachary Kirkhorn

同意。 从财务上讲，将您的 FSD 前期购买滚动为车辆贷款或租赁是每月最便宜的计划，此外，您还保留了增值的选择价值，时间。 因此，我们确实了解到，一些车主和已租用车辆的客户并未购买该选装套件。 因此，这将使这些客户能够随着时间的流逝分配 FSD 或订阅的成本。

Agree. And financially, rolling the upfront purchase of your -- of the FSD option into a loan in the vehicle or a lease is -- will be the least expensive plan on a monthly basis to own, plus you preserve the option value of increased value of time. So we do understand that some customers who have ownership or have leased their vehicles did not purchase that option front. And so this will enable those customers to spread out the cost of ownership of FSD or subscription over time.

Elon R. Musk

是的，一点没错。 如您所愿，我们的总体目标是在最大程度上提高客户满意度曲线下的面积。 我们认为，这就是所有公司都应该尝试做的事情。 这就是长期价值创造和忠诚度的原因-客人的忠诚度。 因此，我们的目标始终是为客户做最好的事情，并且我们相信，如果我们这样行事，那么客户对我们也会有同样的态度。

Yes, absolutely. As you may like, at a high level, our overall goal is to maximize the area under the curve of customer happiness. That is our goal. And we think that, that's the kind of thing that all companies should try to do. And it's what results in long-term value creation and loyalty -- the guest loyalty. So our goal is always really to do the best thing for the customers, and we're confident that if we behave like that, the customers in turn will behave the same way to us.

Q:

Martin Viecha

投资者的第二个问题是："中国最近宣布了其资产净值补贴计划的变更，这使得特斯拉汽车无法从补贴中受益。特斯拉在何种程度上可以降低中国的制造成本并将这些节省的成本转嫁给买家，以便他们能够 有资格获得补贴？"

The second question from investors is, "China recently announced changes to its NAV subsidy program that disqualifies

Tesla vehicles from benefiting from the subsidies. To what extent is there room for Tesla to lower manufacturing costs in China and pass those savings to buyer so they can qualify for the subsidy?"

A:

Elon R. Musk:

是。 因此，我们在降低中国生产成本方面正取得快速进展。 实际上，我们很高兴在这次电话会议上宣布，我们将在中国时间明天基本上降低标准系列 Model 3 的价格。而且价格会低于补贴限额。 我们有信心，Model 3 仍将是提供良好的毛利率。

Yes. So we are making rapid progress on lowering the production costs in China. And we're actually excited to announce on this call that we will be reducing the price of the standard range Model 3 basically tomorrow, China time. So the day after tomorrow, California time, but tomorrow, China time. And there'll be a price below the subsidy limit. And we feel confident that, that will still be a vehicle that delivers a good gross margin.

Zachary Kirkhorn

是。 就制造成本而言，第一季度在上海生产的汽车的成本已经低于在弗里蒙特生产的 Model 3 的成本，而且仍有大量的成本削减机会。 因此，第二季度将发生并持续到年末的较高产量所降低的固定成本尚未完全体现在供应链上。 因此，尽管许多供应链都已本地化，但它并不完整，那里还有其他机会。 因此，除了 Elon 在标准版车型上提到的降价幅度，我们仍将继续降低价格并扩大利润率-降低成本并扩大利润率。

Yes. And on the manufacturing cost portion of the question, the cost of vehicles produced in Shanghai in Q1 is already lower than the cost to produce the Model 3 in Fremont, and there's still significant opportunity left to take costs out. So fixed cost absorption from higher production volumes, which are occurring in Q2 and will occur through the rest of the year, were not fully localized on the supply chain yet. And so while a lot of the supply chain is localized, it's not complete, and there's additional opportunities there. And so we'll continue to bring the price down and expand margin -- costs down and expand margin even with this reduction in price that Elon mentioned on the standard range version of the vehicle.

Q:

Martin Viecha

下一个问题是："安迪曾经说过，危机改善了大公司。特斯拉以哪种方式改进了-或有望从新冠疫情改进？"

The next question is, "Andy [indiscernible] once said that great companies are improved by crises. In which way has Tesla improved towards -- or is expected to improve coming out of COVID-19?"

A：

Elon R. Musk

好吧，新冠使我们更加关注我们的成本结构并提高了公司的效率。 在危机中，关于我们的核心信念以及我们想做什么，总是要这样做。 我们得出的结论是，尽管有风险，但实际上我们会继续迅速扩张，继续投资于未来和新技术。 我们已经与一些关键投资者进行了交谈，他们也支持这种方法。 因此，我认为未来显然是不确定的。 这是一条坎坷的道路。 但我认为长期前景非常好。 你们要添加什么吗？

Well, it has caused us to look closely at our cost structure and to be more efficient as a company. That's one always has to do that in a crisis and about our core beliefs and what do we want to do. And we came to a conclusion that at the right [indiscernible] was actually to continue to expand rapidly, continue to invest in the future and in new technologies, even though it is risky. And we've talked to some of our key investors, and they support that approach as well. So I think that there's clearly an uncertain future ahead. It's a bit of a bumpy road. But I think the long-term prospects are extremely good. Anything you guys want to add?

Zachary Kirkhorn

我同意埃隆。 对关键项目的优先级排序将使我们能够对它们进行更高效，更快速的执行，我认为这很好。 我要补充的另一点是，改善客户体验并使之尽可能地数字化一直以来都是我们的愿景。

I agree with Elon. The prioritization on the key projects will enable us to execute more efficiently and faster on them, which I think is great. The other one that I would add is it's always been our vision at Tesla to improve the customer experience and make that as digital as possible.

Elon R. Musk
是的，非接触新交付。
Yes. Touchless delivery.

Zachary Kirkhorn
移动服务非接触式销售一直是我们非常关注的事情，并取得了很大进展。
So touchless delivery. Mobile service touchless sales has been something that we've been very focused on and made a lot of progress on.

Elon R. Musk
是。 特斯拉是您唯一可以在手机上不到 5 分钟的时间里就订购的汽车。所有的文件和手续都会送到您家里。可以说，毫不费力。
The Tesla is the only car that you can literally order -- in less than 5 minutes on your phone, you can order a car and have it delivered to your doorstep with all the paper and everything done. That's it. Effortless.

Zachary Kirkhorn
是的，很多客户都是这么做的。
And many customers do that。

Elon R. Musk
客户们正在这样做。 实际上，其中很大一部分只是试图与人们交流，这是您可以做的，因为通常来说，买车是很痛苦的-对于大多数人来说，他们宁愿去看牙医而不是买新车。 当购买新车的典型零售体验比做完根管令人们更痛苦时，那么您必须说-购买一辆特斯拉就像从 Apple App Store 或从 Apple 商店、Amazon 订购商品一样简单。 然后，如果您手够快的话，我想您大概可以在 90 秒内订购一辆汽车。
And they're doing it, yes. In fact, a big part of it is just trying to communicate to people that this is something you can do because normally, buying a car is quite a pain -- for most people, they would rather go to the dentist than buy a new car. Actually, my dentist is very -- but it's really like quite an arduous thing. When the typical retail experience for buying a new car is more painful to people than having a root canal done, then you have to say, well -- and for Tesla, it is completely as easy as ordering something from the Apple App Store or something on Amazon and -- except it's a car. Yes. All right. And then if -- if you really went fast, I think you could order a car probably in 90 seconds. So...

Martin Viecha
机构投资者的下一个问题是："您能从特斯拉为提高能量密度、制定时间表而采取的步骤来简要介绍一下电池日吗？"
The next question is from institutional investor is, "Can you give us a brief preview of the Battery Day by generally highlighting steps Tesla is taking to improve self energy density and time line for introduction?"

Elon R. Musk
是。 实际上，我们现在不想抢占电池日的时间。 我们想在那个日期留下令人振奋的消息。 我认为这将是特斯拉历史上最激动人心的日子之一，我们只是在努力寻找合适的时机。 我们认为大概是 5 月的第三周。 没有确切的日期，但我们认为这可能是正确的时机。举办地可能在加利福尼亚州或德克萨斯州。

Q：
Martin Viecha
好的。 机构投资者的最后一个问题是："能否请您谈谈商店的开发以及完全自动驾驶的商业化方面的进展？您到目前为止已确

认多少收入？

Okay. And the last question from institutional investors, "Could you please update on progress stores development and commercialization of Full Self-Driving? How much revenue have you recognized so far?"

A：

Zachary Kirkhorn

与完全自动驾驶的财务状况只有几件事。 目前在北美，它的售价为 7,000 美元。 我们将其中大约一半作为收入，另一半作为递延收入。 这与将随时间发布的功能相关。 我们的递延收入余额持续增长。 略高于 6 亿美元。 因此，随着我们在每季度发布新功能，我们将计算这些新功能的价值，并将其从递延收入中释放到该季度的财务中。 然后是汽车，一旦一个新功能发布，我们就可以确认该收入。 因此，我们减少了延期的金额，并且可以在期间内确认该收入。 所以我的意思是，随着功能套件的推出，随着时间的推移，这将是最强大的毛利率杠杆之一。

So just a couple of things on the financials for Full Self-Driving. So currently, in North America, it's sold for $7,000 as an option. We take roughly half of that as revenue, and the other half of it goes into deferred revenue. That's associated with features that will be released with time. Our deferred revenue balance is continuing to grow. It's a little bit over $600 million. And so as we release features with time, at the end of every quarter, we take a look at what features have been released associated value, and then we can release that from the deferred revenue into our financials for that quarter. And then cars going forward, once the feature is released, we can recognize that revenue. So we reduce the amount of deferral, and we can recognize that revenue within period. So I mean this is one of what we think will be one of the most powerful gross margin levers with time as the feature suite is rolled out.

Elon R. Musk

当然。 那里还有大量尚未开发的潜力，客户可以升级以打开自动驾驶仪-基本自动驾驶仪或完全自动驾驶。 这样一来，我们就可以像订阅一样简单地进行购买，像我们之前提到的那样在年底之前实现。 因此，那只是许多尚未开发的潜力。 显然，这不属于递延收入线，但是我们认为很大一部分递延潜力确实很重要，很可能会实现。

Absolutely. There's also a tremendous amount of untapped potential in the   out there that could upgrade to turn on Autopilot -- basic Autopilot or Full Self-Driving. And that's something we will enable just as simple in our purchase or, as we talked about earlier, just towards the end of the year, as a subscription. So that's just a lot of untapped potential there. That's not in the deferred revenue line, obviously, but it's certainly a great deal deferred potential that we think is a large portion, which is likely to reach fruition.

Q:

Martin Viecha

谢谢。 现在让我们来看看零售商投资者的问题。 第一个问题是，“埃隆曾提到过特斯拉 50%的销量复合年增长率目标。这是否与特斯拉未来 5 至 10 年的目标相符？到 2025 年将达到 400 万辆， 到 2030 年投放车辆超过 2000 万辆。实际是否达到了 40%或更高？”

Thank you. And now let's go through the questions from retail investors. Question number one, "Elon has mentioned a 50% compound annual growth target for Tesla in the past. Is this still in line with Tesla's ambitions for the next 5 to 10 years? This would be 4 million vehicles in 2025 and more than 20 million vehicles in 2030. Is 40% or more realistic target?"

A:

Elon R. Musk

好吧，总是很难预测宏观形势会怎样。 我认为人们不会预料到新冠肺炎疫情的出现。 因此，我认为在没有任何东西的情况下，会发生一些大规模的不可抗力事件，但相当大的可能性销量增长率会是 40%，可能是 40%。如果它低于 40%，我也会感到非常震惊。

Well, it's always difficult to predict what the macro situation is going to be. I think people [indiscernible] would have predicted the unexpected roundhouse that COVID came up with it sort of came out of nowhere. So I think in the absence of something, some massive force majeure events, but quite massive,I think, 40% is the likely number. It's possible that is 40%. I would be very shocked if it's less than 40%, even with force majeure [indiscernible] Model 3.

Q:
Martin Viecha
好的。 零售商投资者的下一个问题。 “您什么时候宣布下一个 Giga 工厂？未来五年您计划建造多少 Giga 工厂？”
Okay. The next question from retail investors. "When will you announce the next Giga? How many Gigas do you have planned for the next 5 years?"

A:
Elon R. Musk
我认为我们可能会在一个月后宣布下一个 Giga。最快下个月。 那不是一个预测。 只是说。 那是-可能会发生。 肯定会在 3 个月内，可能在 1 个月内。 新 Giga 将会在美国。关于 5 年内将有多少，我现在不知道这个数字是多少。 但我猜比现在的总数还多。
I think we will announce the next Giga possibly as soon as a month. We may not -- as soon as next month. That's not a prediction. Just saying. That's -- that could happen. It will certainly be within 3 months and possibly 1 month. And that would be in the U.S. So as for how many will be in 5 years, I'm not -- I don't know right now what that number would be. I guess several more than there are today. But I'm not sure what exactly it would be in 5 years, but some number more than today.

Zachary Kirkhorn
我还要补充一点，我们的 Giga 工厂规模越来越大了。还有一个工厂可以生产多种产品。 因此，我们最终建立的 Giga 工厂的绝对数量可能会减少，但每个工厂都更大。 这是我们的信念，即在一个工厂内拥有尽可能多和相似的产品线，并在同一设施内实现尽可能多的垂直集成，这样才能显着提高效率。
I'll also add that our Gigas have gotten bigger. Yes, with multiple products as well. And so the absolute number of Giga factories we may ultimately build might be less, but each one is larger. And that's under our belief that just significant efficiencies by having as much as possible and similar product lines under the same roof and as much vertical integration as possible all in 1 facility.

Q:
Martin Viecha
谢谢。 下一个问题是：“您能为我们提供有关 Solar Roof 投产的最新消息吗？目前每周可以安装多少个？到 2021 年底的安装目标是什么？
Thank you. The next question is, "Can you give us an update on Solar Roof ramp? How many are you currently able to install per week? What is your installations target for the end of 2021?

A:
Elon R. Musk
实际上，在 COVID 之前，我们已经开始使用 Solar Roof 了，但是新冠疫情的出现使我们只能暂停安装，许可证也无法取得。许可证办公室关闭。并且如果无法获得许可，那么我们将无法实际进行安装。但我认为 Solar Roof 的长期趋势非常好，而且我有信心说，在接下来的一年之内-甚至在年底之前，我们都会以每周 1,000 个的速度进行安装。安装是最困难的部分，不过已经是春天了，冬天我们很难再满是冰雪的屋顶上进行安装。实际上，我们已经证明了“Solar Roof”能够达到每周 1,000 顶的安装能力。所以这不是问题。我们正在建立安装的团队，建立第三方渠道安装队伍，即屋顶行业安装队伍。在内部，我们希望至少有 1,000 个 Solar Roof 的安装团队，并且能够在一周或不到一周的时间内安装完成一面屋顶，这样我们每周可以安装 1000 个屋顶。我们看到需求量很好。生产也很良好。因此，所有的问题都集中在了安装和安装培训上。屋顶行业中非常多的公司集团也将安装 Solar Roof，我认为这将使我们每周的扩展规模超过 1000。在北美以外，我们也看到了很多客户对我们的产品感兴趣。因此，我们希望这是一种国际化的产品，实际上，中国在屋顶太阳能上有极大的兴趣。因此，随着时间的推移，我们相信这将对公司来说是非常重要的产品。
We were actually gaining interest momentum with the Solar Roof before COVID, but COVID essentially shut us down, both from the ability to install and the ability to get permits. The permit offices were closed. And we're sheltering places, [11]

places. So we obviously cannot install and the -- if you can't get permits, then you can't physically do it. It's basically impossible. So -- but I think the long-term trend for Solar Roof is extremely good, and I'm confident that, let's say, within the next, I don't know, year -- maybe even by end of year, we should be installing at a rate of 1,000 a week. That's not in the middle

of winter or something, like taking seasonality -- allowing for seasonality, where it's hard to install on roofs that are covered in snow and ice. But like in a, say, spring, I think it's installing, which is the hard part. We actually have demonstrated the ability to hit 1,000 a week gross build] rate for the Solar Glass Roof already. So that's not a problem. It's building out the installed teams, building up the third party channel installers, the roofing industry installers. And internally, we want to have at least 1,000 Solar Roof install teams with -- and taking a week or perhaps a little less than a week to do an install, which gets you 1,000 a week roof installations. We see demand is good. Production is good. So it's really all about the install and then like also build out the training, the very diverse group of companies in the roofing industry to also install Solar Roof that I think will allow us to scale far beyond 1,000 a week. We're also seeing a lot of interest outside of North America. So we expect this to be a product that is international。

Q：

Martin Viecha

下一个问题是：“您能否详细说明特斯拉进入住宅和/或商用 HVAC 市场的计划？您能否提供系统运行方式的一些基础知识？您还会考虑热泵热水器市场吗？”

Thank you. The next question is, "Can you elaborate on Tesla's plan to enter the residential and/or commercial HVAC market? Can you provide some basics of how your system will work? Will you consider the heat pump water heater market as well?"

A:

Elon R. Musk

好吧，正如我在 Twitter 上说的那样，我个人非常高兴建立气体 HVAC 系统，该系统还具有医院级的颗粒过滤功能，基本上具有过滤功能，可以过滤出病毒，细菌，花粉，真菌并中和特定碱性气体。 这些都是我们在汽车上实现的所有目标。 实际上，我不知道是否有很多人意识到这一点，但是 Model S 是世界上仅有的内置医院手术室级重型过滤器的汽车。它们非常大。 所以我们汽车产品中只有低到惊人的颗粒数。

Well, as I said on Twitter, I'm personally extremely excited to build [indiscernible] gas HVAC system that also has sort of hospital-grade particle filtration, basically have a filtration that filters out viruses, bacteria, pollen, fungi and also neutralizes specific alkaline gases that is quiet and efficient. And these are all things we've achieved in our cars. In fact, I don't know if a lot of people realize, but the Model S are the only cars in the world that have a hospital operating room-grade heavy filters built in. They're very big. So -- but you can get to a particle count that is insanely low with our cars.

Zachary Kirkhorn

Model 3 和 Y 拥有 15 还是 16 个净化器

And 3 and Y have like [Merv] 16 or 15 capable filter.

Elon R. Musk

据我所知，它们（过滤系统）比任何其他汽车都要好。 它们虽然没有手术室里的那么好，但是比其他任何普通汽车都要好。 而且，我们将继续改善 3 和 Y 的过滤条件。即使在正常的日常生活中，它们实际上也会对健康产生很大影响。 它减少了颗粒数量，并减少了过敏和各种各样的事情。 的确，今后即使在没有新冠疫情的情况下，空气质量也非常重要。

因此，商业化 HVAC 的想法真是令人兴奋。 然后，HVAC 也能用于冷凝水和热水器。

They're way better than any other cars to the best of my knowledge. They're not quite as good as possible operating room, but they are extremely good, way better than any other normal car. And we're continuing to improve the filters on 3 and Y. These actually have a big effect on health even in normal just day-to-day living. It's reducing particle count and [indiscernible] on allergies and all sorts of things. So it's really -- air quality is incredibly important even in non-COVID situations going forward.

So taking all those things that we've [indiscernible] to how HVAC would be and commercial HVAC would be is just very exciting. And then you've got -- if you're condensing water, like what [indiscernible] water source, if you have water, you possibly could then heat the water and have a water heater as well.

Zachary Kirkhorn

是。 如果需要，可以将其用作热源，而不是在天气真的很冷或很热的情况下使用。 有很多选择。

Yes. Use it as a heat source if you need it instead of the [indiscernible] when the [indiscernible] is really cold or the other way around. So lots of options.

Elon R. Musk

因此，我们将确保这些产品会供世界各地的 Cybertruck，Semi，Roadster 和 Gigafactories 使用，以及 Model Y，Autopilot 和 Solar Roof 和 ...

It could be a hell of a product. So we just have to -- [indiscernible] Tesla [indiscernible] on the product front. So we're going to make sure we got a lot of items in the [fire] here for new products with the Cybertruck, Semi, new Roadster and the Gigafactories in various parts of the world and Model Y, Autopilot and the Solar Roof and...

Zachary Kirkhorn

新科技

New technologies.

Elon R. Musk

对，就是这样。 Powerwall，PowerPack，Megapack。 至少到 2020 年，我们看到固定存储的巨大需求超出了我们的供应能力。

Yes, exactly. Powerwall, PowerPack, Megapack. We are seeing tremendous demand for stationary storage, more than we can supply, at least for 2020.

Q:

Martin Viecha

谢谢。 零售商的最后一个问题是：“特斯拉什么时候才能开始收购 Hornsdale Power Reserve 之类的公用事业并提供贷款，而不是将其出售给电池存储？特斯拉购买更大的工厂并进行转换是否有意义？

Thank you. And the last question from the retailers, "When will Tesla start acquiring utilities like Hornsdale Power Reserve and lending instead of selling them battery storage? Does it make sense for Tesla to buy bigger plants and convert them?"

A：

Elon R. Musk

好吧，我们还没有真正考虑过。这不是不可能的。 我们的总体目标是帮助加速可持续能源的到来。 而其中的三个要素之一是可持续发电，那么您必须存储电力，固定存储。 然后，您要拥有可持续发电的三个要素，然后必须存储电力固定存储，然后必须进行电力运输。 因此，我们没有具体的市场份额目标或类似目标。 只是在一定程度上我们可以加快可持续能源的出现，我们认为这对世界是根本的好处，我们希望尽快做到这一点。 但是，正如您所说的那样，市场份额增长本身并不是目标。 可持续能源发生的速度越快，世界就会越好。

Well, we haven't really thought about that yet. It's not out of the question, but our brand is full. Excuse me, sir. [indiscernible]. That's not out of the question. Our overarching goal is to help accelerate the advent of sustainable energy. And the 3 elements of that are sustainable power generation, then you've got to store the power, stationary storage. And then you've got the 3 elements of that are sustainable power generation, then you've got to store the power stationary storage, and then you've got to have electric transportation. So -- and we don't have, like, say, specific market share goals or anything like that. It's just to the degree that we can accelerate the advent of sustainable energy, we think that's a fundamental good for the world, and we want to do that as fast as possible. But it's not, like you said, market share growth is a goal in and of itself. It's just the faster this happens, the better the world will do.

Martin Viecha

非常感谢你。 我认为现在我们可以回答分析师的问题。

Thank you very much. And I think now we can move to analyst questions.

Q:

Adam Michael Jonas（摩根士丹利，研究部门）

希望大家安全健康。 我有一个问题，一个跟进。 我要指出的是，我以前有做过根管，我同意，埃隆。 这比买车要轻松得多。

I hope everyone's safe and healthy. I got one question, one follow-up. And I'd point out, I've had a root canal before, and I would agree, Elon. It was less painful than buying a car.

实际上，这是一个大问题。 这是个大问题。 不同的对话。 扎克（Zach），首先，您是在 4 月底实时更新公司流动性吗？ 在某些情况下，一些公司已经竭尽全力给它一点颜色（变得好看一些）。 我只想给你一个镜头，我得到了跟进。

It's a big problem, actually. It's a big problem. Different conversations. Zach, first for you, any real-time update on company liquidity at the end of April? Some companies have, given the circumstances, gone out of their way to give a little color on that. I just want to give you a shot at that, and I got a follow-up.

A:

Zachary Kirkhorn

是。 这是一个不错的问题。 我没有任何其他颜色可以提供。 因此，第一季度末的现金和现金等价物为 81 亿美元，我们对其进行了非常紧密的管理。 正如我在开幕词中提到的，我们确实增加了第一季度末无法交付的车辆库存。 因此，我们将在 4 月份之前完成这些交易，这对于提高流动性很有帮助。 而且，由于我们一直在研究流动性，因此在接下来的 18 个月中一直在研究这一问题。 流动性起伏不定。 目前，由于我们没有生产，所以我们还有第一季度的应付款。 但是在接下来的几个月中，我们很快就会解决这一问题，然后在应付账款上就会出现缺口，因为我们没有任何要进入的部分。因此它确实会上下波动。 但是，从长远的眼光来看，这就是我们目前的管理方式，我们对公司的流动性状况感到非常满意。

Yes. It's a fair question. I don't have any additional color to provide. So $8.1 billion in cash and cash equivalents at the end of Q1, we're managing it very closely. As I mentioned in my opening remarks, we do have an increase in inventory of vehicles that we were unable to deliver at the end of Q1. So we're making progress delivering those through April, which is helpful for liquidity. And as we've been looking at liquidity, we've been looking at this over the next 18 months. And there's ups and downs to the liquidity. Currently now, as we're not producing, we still have payables from Q1 that we're paying off. But then in a couple of months, we'll quickly be through that, and then we'll have a gap in payables because we don't have any parts coming in. So it does go up and down a little bit. But in looking at the long term horizon, which is how we're managing it right now, we feel pretty comfortable with the liquidity position of the company.

Elon R. Musk

是。我应该说，我们对湾区无法生产感到担忧，应将其确定为严重风险。目前，我们只有 2 家汽车制造厂，上海有 1 家，湾区有 1 家，而湾区生产我们的绝大多数汽车，包括所有的 S 和 X，以及大部分的 3 和 Y。坦白说，我认为强制居家隔离是可怕和错误的。这不仅会对特斯拉造成伤害，还会对任何其他公司造成极大伤害。尽管特斯拉将度过难关，但许多小公司却不会。许多人穷尽一生所要做的事毁于一旦。我们将有很多供应商处于困难时期，尤其是小型供应商

Yes. I should say we are a bit worried about not being able to [indiscernible] production in the Bay Area, and that should be identified as a serious risk. We only have 2 car factories right now, 1 in Shanghai and 1 in the Bay Area, and the Bay Area produces the vast majority of our cars, all of S and X and most of the 3 and all of the Y. So the extension of the [shelf] in place or, frankly, I would call it, forcibly imprisoning people in their homes against all their constitutional alliance, my opinion, breaking people's freedoms in ways that are horrible and wrong and not why people came to America or bought this country with a buck, excuse me. Triple -- but outrage -- systems outrage. So -- but it will cause great harm, not just to Tesla, but to any companies. And while Tesla will weather the storm, there are many small companies that will not. And all peoples --

everything people have worked for their whole life is going to get -- is being destroyed in real time. And we're going to have many suppliers - or have many suppliers that are in super hard times, especially the small ones, and it's causing a lot of strife to a lot of people.

Q:

Adam Michael Jonas

在这一点上，埃隆，您提到为建设国家付出生命的人们。许多人对当前美国的经济状况与历史做了很多比较。在 1930 年代初期，罗斯福开始一系列新交易和基础设施项目，或者在第二次世界大战后艾森豪威尔（Eisenhower）颁布了《美国公路法》(US Highway Act）和肯尼迪•肯尼迪（JFK）发起了阿波罗计划（Apollo Program）。 可以说，这显然是受冷战影响的，您从中受益，而我们的太空计划也从中受益。 您对危机后的美国[立法者]会传达什么信息，特别是有关电动汽车基础设施、可持续交通和可再生能源的措施？ 我想知道您是否认为这是危机制造的机会，而所有的损失和生命损失没有白费。

Elon, on that point, you mentioned people that gave their lives to build the country. My fault for you on this. There have been a lot of comparisons drawn to the state of the U.S. economy in the early 1930s when Roosevelt began a series of new deals and infrastructure projects or post-World War II when Eisenhower launched the U.S. Highway Act and JFK launched the Apollo Program, which you could say was influenced by the Cold War, clearly, and you benefited from and our space program benefited from. What would be your message to U.S. [lawmakers] coming out of the crisis, specifically around EV infrastructure and a chance to kind of work with taxpayers to support sustainable transport and renewable energy? I'm wondering if you see this as a chance to make the crisis and all the loss and lives lost not be in vain.

A:

Elon R. Musk

我认为现在是时候投资国家基础设施了。我们有很多崩溃的高速公路和桥梁。坦率地说，当我访问中国时，我发现他们的基础设施比我们的基础设施要好得多。这很棒。欧洲拥有更好的基础设施。美国差劲的基础设施包括公路和高速公路如今已是不争的事实，这实在令人很难过。而且，在很多情况下，我们的机场很尴尬。所以，这不仅仅是金钱问题。这是意志的问题。有时，我们在这些事情上花了很多钱，但是我们从中获得了什么呢？所以，是的，我们确实需要考虑的是未来的运输方式，而不是过去的运输方式。如果是 1920 年，您是要投资于蒸汽机还是发动机？显然不是蒸汽机。因此，现在是时候考虑未来了，并问：“侵犯人民权利是否正确？”就像现在发生的一样。我认为人们对此会非常生气，也非常生气。如果有人想留在自己的房子里，那就太好了。应该允许他们呆在房子里，不要强迫他们离开。但是要说他们不能离开家，如果他们离开了就会被捕，这是法西斯主义者。这不是民主的。这不是自由。人们失去了他们的自由。

I think it's high time we invested in infrastructure in this country. We have a lot of a crumbling highways and bridges. And frankly, when I visit China, I see their infrastructure as being much better than ours. It's great. Europe has better infrastructure. It's really quite sad that U.S. infrastructure [indiscernible] roads and highways is where it is today. And our airports, in a lot of cases, are an embarrassment. So -- and it's not just a question of money. It's a question of will. Sometimes, we spend a lot of money on these things, but what are we gaining for it? So -- and yes, we really need to be thinking about what is the transportation of the future, not the transportation of the past. If this was 1920, do you want to be investing in steam engines or in [indiscernible] engines? Obviously not steam engines. So this is the time to think about the future and also to ask, "Is it right to infringe upon people's rights?" as what is happening right now. I think the people are going to be very angry about this and are very angry because somebody should really -- if somebody wants to stay in their house, that's great. They should be allowed to stay in the house, and they should not be compelled to leave. But to say that they cannot leave their house, and they will be arrested if they do, this is fascist. This is not democratic. This is not freedom. People [indiscernible] their freedom.

Q:

Emmanuel Rosner（德意志银行，研究部门）

关于 Model Y 的问题。我希望您能详细说明在如此低的销量下毛利率已经为正的驱动因素。 其中有多少是与 Model 3 有共性的，我们还应考虑其他哪些因素？ 对于 Model Y 的最终毛利率您有什么看法？

Question on Model Y. I was hoping you can elaborate a little bit more on the drivers of how the gross margin is already positive at such low volume. How much of it is a function of the commonality with the Model 3, what other factors should we think about? And what does that mean for the [ampler] for the eventual gross margin on Model Y?

A:

Zachary Kirkhorn

当然。我对于 Y 有一些想法。首先是它确实具有更高的 ASP。因此，在收益方面，它的平均售价要高于 Model3。我们开始交付的是更高（Performance）版本的汽车。这样有助于创造一些利润。随着发布更多的变体，随着时间的流逝，我们将拥有更多的稳态组合。但这类似于我们两年前在 Fremont 推出 Model 3 时所拥有的 ASP 轨迹。

在成本方面，我认为您说到了重点。Y 和 3 共同点是巨大的。这很重要。除此之外，Y 的制造过程也与 Model 3 非常相似。我们在弗里蒙特（Fremont）以及上海都有 Model 3 的使用经验。这也有助于我们利用现有工厂中已经有的劳动力和知识。支持和发布产品的生态系统就在那里。我们仍有很多机会继续节省汽车成本。相对于我们的目标，我们在第一季度生产的车辆数量非常有限。

Sure. A couple of thoughts there for Y. The first is it does carry a higher ASP. So on the revenue side, it carries a higher ASP than Model 3. And the deliveries that we started with were of the higher ASP versions of the cars. So we started with deliveries of performance initially. And so that helps create some of the margin. And that will come down with time as more variants are released, and we have more of a steadystate mix. But it's similar to the ASP track that we had with Model 3 when we launched that product in Fremont 2 years ago.

On the cost side, I think you hit on a couple of the buckets. The commonality is huge. It's very important. And in addition to that, manufacturing processes are very similar to Model 3 as well. And so we have experience with that both with Model 3 in Fremont and then as well in Shanghai. And it helps to have an existing factory with existing workforce and knowledge here as well. So the ecosystem to support and launch the product is there. There remain a lot of opportunities to take -- continue to take costs out of the car. And the number of vehicles that we built in the first quarter is quite limited relative to our goal.

Elon R. Musk

很好。 我们从汽车中节省成本，并使产品更好。我们想降低汽车的成本，弄清楚如何使它更轻，更简单。 因此，我们希望汽车逐步改进，同时逐步降低成本。 但是对于 5 人座的 Y 型车，我们预计一旦达到 10,000 或 20,000 辆或类似的产品，该车的边际成本就可以与 Model 3 相提并论。

It's good. We take costs out of the car and to make the product better. So it's tax. It's not make the product worse. It's -- and if we can take costs out of a car, make it worse, we want to take costs out of the car, figure out how we can make it lighter and simpler. And so it's -- want the car to just incrementally improve as well as incrementally lowering costs. But for a 5-seater Model Y, we expect marginal costs of that car to be comparable to the Model 3 once we have reached, say, 10,000 or 20,000 units or something like that and have

Q:

Benjamin Joseph Kallo(贝尔德，研究部门)

只是想知道电芯策略。 在里诺，电芯显然在那里组装。 同时，您也在上海和德国购买电池。那么，您如何看待未来呢？ 然后，您能谈谈瑞穗先生和董事会成员的增加以及将其加入董事会的过程吗？

Just wondering about the cell strategy. In Reno, you have, obviously, integrated there. But you're buying cells, I think, in Shanghai and then what we think in Germany. And so how are you looking at that going forward? And then can you just talk about Mr. Mizuho and that Board addition and kind of the process with adding him to the Board?

Zachary Kirkhorn

当然。 从销售的角度来看，与我们过去的所有合作伙伴一起合作，我们只是在寻找具有竞争力的技术和具有竞争力的价格。 我认为我们将在“电池日和投资者日”上会谈论更多的有关这一点的信息，例如我们将如何与供应商合作。 是的，我的意思是我们没有限制于某个产品。 我们只是试图找到最适合产品的电芯。

还有另一个关于董事会的问题吗？

Sure. From a sales perspective, with all the partners we've had historically in the future, we're just looking for competitive technology and competitive pricing. I think we'll talk a little bit more about this on Battery and Investor Day like how we're approaching all of it. But yes, I mean we don't have like 1 model we're restricting ourselves to pursue. We're just trying to find what's best for the products and -- in the long run.And then the other question about the Board?

Benjamin Joseph Kallo
是。 我在问瑞穗先生是否进入董事会，其背后的流程以及他为董事会带来的好处。
Yes. I was asking about Mr. Mizuho entering the Board and kind of the process behind that and what he brings to the Board.

Elon R. Musk
显然，他在全球最高水平的投资方面拥有丰富的经验，并且在日本养老基金方面做得很好，日本养老基金是世界上最大的基金。总体而言，这些年来与瑞穗先生的对话主要是洞悉证券（全球证券市场）的运作方式以及他的看法。似乎他对如何使未来更美好具有深刻的哲学理解。 他分享了我们对环境的看法，是一个非常明智，聪明的人，他为董事会带来了很多东西，我认为许多人对此也普遍认可。
I think we all need to go. And obviously, he brings tremendous amount of experience investing at the highest levels in the world and has done great work as -- at the Japan Pension Fund, which is the largest fund of any kind in the world. And generally, the conversations over the years is just churning incredible insight into how the securities -- the global security markets work and what he thinks it is, whether [indiscernible]. It just -- it seems like he has a strong philosophical understanding about how to make the future better. And he shares our view regarding the environment and just a very sensible, smart person who brings a lot to the Board and I think is generally recognized as such by many people.

Benjamin Joseph Kallo
我猜想是与松下的关系疏远了，这种关系进展如何？ 关于将瑞穗先生带入董事会是否有任何通读？
I guess leaking into the Panasonic relationship, maybe just how is that relationship going? And is there any read-through on bringing him to the Board?

Elon R. Musk
不，我认为松下已经做到了。 我的意思是我与松下首席执行官关系很好。 我们定期一对一的会面。 这样关系就很牢固。 只是瑞穗先生会为董事会带来更多更广泛的全球战略观点。
No. I think this has got [indiscernible] through with the Panasonic [indiscernible]. I mean I have a great relationship with Panasonic's CEO. We meet regularly one on one and total time. And so that relationship is strong. Just he'd bring more of a broader and a global, strategic view to the Board.

Q：
Gene Munster（Loup Venture）
祝贺今年取得的进展。 Elon，您在去年年底谈到了完全自动化。 我希望您能阐述一下 Tesla Network 应用程序的推出策略，以及在自动出租车阶段之前的情况。 随着时间的流逝，您是否打算逐步采用具有自主能力的路线来接管人类路线？或您如何看待此事？
Congratulations on the progress. Elon, you talked about full autonomy by the end of the year. I would love for you to walk through the rollout strategy of the Tesla Network app and how that's going to look prior to the robo taxi stage. Are you going to gradually take over human routes with autonomous capable routes over time? Or how do you see that playing out?

A:
Elon R. Musk
好吧，它已经发挥了作用，我们将发布越来越多的功能。是的，在我们发布任何功能之前，它都经过了广泛的测试。首先，我们有一个模拟团队，我认为它对现实世界有很好的模拟。因此，我们通过电池测试和模拟来进行任何更改。然后，我们实际上有一个全球质量保证团队。我是全球质量检查小组的成员之一。我们测试了真实世界中的表现，即真实世界模拟，这是因为世界非常复杂。然后我们将其发布给公司内部的 Beta 测试人员；然后到更大的受众，包括公司外部的人员；然后交给抢先体验

特斯拉车主；最后，广泛发布。因此，这些事情经历了许多阶段。因此，到即将在美国广泛发行时，它已经经历了所有这些阶段。而且，处于早期阶段的软件比人们所看到的要先进得多。因此，需要经历一个非常严格的安全流程。

Well, it's pretty much going to play out as it has played out, which we'll release more and more functionality. Yes, before we release any functionality, it goes through extensive testing. First, we run -- we have a simulations team that has, I think, a very good simulation of the real world. So we run any changes through battery tests and simulation. Then we have a global QA team, which I'm on, actually. I'm one of -- on the global QA team. And we test the releases in the real world, the [indiscernible] real-world simulation, which is -- which are very many because the world is very complex and where -- and then we release it to a small group of private beta testers within the company; then to a larger audience, including people outside the company; then to Early Access Tesla owners; and then finally, a broad release. And so there are many stages that these things go through. So by the time something is being -- going to wide release into the U.S., it has gone through all of those stages. And the software that's at the very early stage is much more advanced than what people are seeing. So just going to go through a very rigorous safety process.

因此，从本质上讲，我们需要弄清楚并处理复杂的交叉路口，善于处理复杂的交叉路口以及诸如繁忙的购物中心，停车场或办公园区之类的事情，或者特殊事件和体育赛事。这些都是特别困难的情况。但这一切都表现的很好。水盘工程团队是我们的一个非常有才华的团队，而我与该团队紧密合作。我们每周开会一次，不过现在我们很难召开面对面会议。因此，我对自己的位置，前进的方向有深刻的了解。我觉得我们有很大的发展动力，并且到年底我们将拥有新的功能。现在，在释放该功能之后，还有另外一步，那就是一旦将其发布为某种类型的人为核心的自动驾驶技术（在驾驶员的监督下），就可以提高其可靠性。然后，我们将可靠性不断提高到不再需要驾驶员监督的程度。而且，我们向监管机构提供了大量数据，向他们表明情况确实如此。然后据推测，监管机构将根据其管辖范围，批准无人驾驶的自动驾驶汽车。显然，我们无法准确地预测监管批准过程，因为这是我们无法控制的。但是对于其余部分，我对我们的成果感到非常满意。

So essentially, we need to figure out, get very good at complex intersections, get very good at complex turns in intersections and things like busy malls, in a parking lot or office park or special events and sporting events, that kind of thing, when those eventually come back. Those are extra hard cases. But it's all acting very well. If you like, the water pallets engineering team is -- we just have an extremely talented group, and I'm deeply involved with the team. So we talk every week and meet every week when we can as now physical meeting is difficult. So I have quite a deep understanding where we are, where we're headed. And I feel like we have a tremendous amount of momentum, and we'll have the functionality [indiscernible] by the end of the year. Now after that functionality is released, there's still another step, which is to improve the reliability of it once it is released to kind of core self-driving with the human -- supervised by the driver. And then we keep improving the reliability to a point where it no longer needs to be supervised by the driver. And we provide a vast body of data to regulators to show them that this is the case. And then presumably, the regulators, depending on which jurisdiction it is, would give approval for the autonomous cars that can drive with no human onboard. Obviously, the regulatory approval process that's [indiscernible] for us to predict with accuracy because it's out of our hands. But for the rest of it, I feel very good about where we are.

Gene Munster

特斯拉的网络应用有时会在明年上半年发布吗？ 有希望吗？

To summarize, we want -- we're going to give owners full autonomy, some level of that by the end of the year. When a human is in the loop, Tesla Network app sometime, is it first half of next year? Would that be the hope?

Elon R. Musk

你是说无人驾驶可以实现吗？

Do you mean like when a car can kind of drive with no person?

Gene Munster

我的意思是，是否会有一个观察的人与 Tesla Network 应用程序一起使用，那真的会成为 2021 年的一部分吗？ 那是希望吗？

With a person -- a person who observes, would that be with the Tesla Network app, that would be really part of the year of 2021? Is that the hope?

Elon R. Musk
如果将其描述为一种希望，那我认为可以这么说。
If described as a hope, I would say that, that's probably a fair description.

Gene Munster
好的。 然后将其带到最终阶段，即机器人出租车阶段。 目前高层的监管态度还是一个未知吗？如果您要对此进行猜测，我们将在什么时候开始看到自动出租车？

Elon R. Musk
好吧，我认为在我看来是有可能的。 我可能是错的。 如您所见，我们在某些领域处于领先地位，而在其他领域却处于落后地位。因此当我做出猜测时，我给出的猜测是个中间值。 如果这是正态分布，我会给您[50]个百分位数，而不是[3 个段]乐观或悲观。 因此，这必然意味着至少一半的预测是错误的，而一半则是正确的。 所以，我的猜想也许是正确的，但可能需要数周到数月的时间，在某些情况下需要数年。 但是我相信，正如我曾经说过的所有事情都会实现，它可能会迟到，但是它肯定会实现。因此，我总是坚持到底。 所以，我认为明年我们可以看到正在运行的自动出租车。 不是在所有市场，而是在某些市场。
Well, I think it's quite likely, in my view, organic. I could be wrong. I'm -- as you see, because we are ahead in some areas, and we're behind in others, because I -- when I give a guess, I give the guess that I think is the likely midpoint, not the point with lots of margin. If this is normal distribution, I'd give you the [50] percentile, not the [3 segment] optimistic or pessimistic. So then that necessarily means at least half of predictions will be wrong and half will be right. Yes. I think -- or it might be right but offset by a few weeks to a few months, in some cases, of years. But I believe as everything I've ever said would come through -- did come through, it may come through late, but it did come through. So functionality is not my strong suit, but I always come through in the end. So -- and I think we could see robo taxis in operation with the network fleet next year. Not in all markets, but in some.

Q：
Pierre C. Ferragu（New Street Research LLP）
有一个关于毛利率的问题。 我知道您在第一季度的出色表现。 有 3 个推动因素，当然是信贷的顺风车以及 Model Y 的投产。即使收支平衡，平均毛利率也可能下降。 当然 Fremont 的工厂也关闭了。 这可能产生额外的费用。 因此，当我查看毛利率如何连续变化（不包括这三个变动部分）时，我觉得您的汽车毛利率可能会连续上升。 因此，我想与您确认该估计是否合理。然后我将对能量存储进行跟进。
One on gross margin, first. I know your impressive performance in Q1. So there are 3 moving parts, the tailwind from credits, of course; the Model Y ramping. Even if it broke even, it probably took average gross margin down. And of course, you had like Fremont being closed, shut down the last week of the quarter. It probably was the sort of an extra cost. And so when I looked at how gross margin evolved sequentially, excluding these 3 moving parts, I felt like your auto gross margin could have been up like a couple of points sequentially. So I wanted to check with you if that estimate would make sense. And then I will have a follow-up on energy storage.

A：
Zachary Kirkhorn
连续的市场改善-利润率改善
Sequential market improvement -- margin improvement

所以您提到的 3 件事。我在这里很难听到完整的问题，因为我们的会议室中存在一些网络问题。我会在这里尽力而为。因此，当我们查看保证金时，我们只是像您一样查看信用，所以我同意这一点。我也同意 Model Y 的增长，降低了整体毛利率。现在它低于总体平均水平，不过会随着时间的推移而增加。上海和弗里蒙特的停工也给利润带来压力。上海的利润率也低于平均水平。尽管它正在快速增长并接近 Model 3，但仍低于平均值。因此，我认为您的问题是，如果您要消除这些因素，那么毛利率是否会随之增加。我还没有具体计算出来，但是我认为您的直觉是正确的。正如我所提到的，我们看到了整体毛利率的增长。

特别是，尽管 S 和 X 的销量略有下降，固定成本摊销额较高，但其毛利率仍在继续提高。因此，我们的产品和在 ASP 方面和降低成本方面都取得了良好的进展。而且我认为，一旦克服了这些低效率问题，我们的产能和毛利率会进一步提高。因此我们可以分散固定成本并继续减少我们的产品的成本，我们对前进的道路感到非常乐观。

So the 3 things that you mentioned, I had a little bit of a hard time hearing the full question here because we're having a bit of network difficulty in the room. I'll do my best here. So when we look at margin, we just look at credits as you have, so I agree with that. Model Y ramping, bringing down overall gross margin, I agree with that as well. So it was lower than the overall average, and that will increase with time. And shutdown and efficiencies in both Shanghai and in Fremont also weighed on margin. And the Shanghai margin was below the average as well. Even though it's increasing quickly and approaching Model 3, it still is below the average. And so I think the sentiment of your question was if you were to remove those factors, was there a sequential increase in gross margin. I haven't specifically calculated that, but I think your intuition is right. We saw strength in gross margin across the board, as I mentioned. And in particular, S and X gross margins continue to improve despite slightly lower volumes there and higher fixed cost amortization. So there's good progress happening, both on the ASP side and the cost reduction side, for our products and production. And I think this also lends itself to the power of the gross profit contribution to the company once we get through these inefficiencies, we get them on up and running again, we increase capacity so we can spread out fixed costs and continue to execute on cost reductions on our products, we feel very optimistic about that path going forward.

Pierre C. Ferragu

如果您能很好听我的话，我对能量存储也有些疑问。 我想-我不记得了-我认为从我刚接到电话的第一时刻起，您就一直提到储能需求总是超过供应，而且您的订单量超出了您的能力 。 因此，我想会出现该业务的拐点，这将取决于您增加电池制造能力等更多制造能力。 在高层次上，您如何根据时间轴来考虑拐点？

And I had a quick follow-up on energy storage, if you can hear me well. I think like -- I can't remember -- I think from the very first days I heard you on the call, you've always mentioned that demand for energy storage is always outstripping supply, and you have more orders than you can make. And so I'm kind of thinking there will be -- there should be an inflection point in that business at some point, and it's going to be driven by your ability to add much more manufacturing capacity like battery manufacturing capacity. And at a high level, how are you thinking about that inflection point in terms of time line?

Zachary Kirkhorn

就时间轴而言，我认为我们与合作伙伴以及内部合作伙伴都在努力寻找一种方法，从根本上降低新销售能力的投资成本，因为当您看车时，车辆产品 ，除了电芯外，车辆中还有很多东西。 当您查看储能产品时，实际上只是电芯。 因此，要真正发展储能业务，关键在于电池投资。 这就是我们一直关注的重点。 我认为不要付出太多，但这将是我们在电池投资者日上要解决的问题之一。 当我们将其放在重要位置时，扩展该业务将变得容易得多。

In terms of time line, I think what we've been doing with both our partners and internally is looking a how to reduce the -- fundamentally the cost of investments in new sales capacity because when you look at a car -- a vehicle product, there's a lot of things in the vehicle besides the cells. When you look at an energy storage product, it's really just the cells. And so to really grow the energy storage business, it's all about cell investments. And so that's what we've been focused on. And I think not to give too much away, but that will be one of the things we address in Battery Investor Day is how we're focused on that. And when we have that in the place we want, it will be a lot easier to scale that business.

Martin Viecha

非常感谢各位提出的所有问题。 今天的电话会议就到此结束了，我们将在 3 个月后再次与您联系。 非常感谢，祝各位都有美好的一天。

Thank you very much for all your great questions. Unfortunately, this is all the time we have today, and we'll speak to you again in 3 months' time. Thank you very much, and have a good day.

来源：https://ir.tesla.com/events/event-details/tesla-inc-q1-2020-financial-results-and-qa-webcast

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		持有	预期股价相对收益-10%-10%
		卖出	预期股价相对收益-10%以下
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