

Daniel Research Group

Understanding the Future

The United States AI Enabled Personal Computing Devices Market Size and Ten-Year Forecast November 2024

Our Approach

The Daniel Research Group's EquilibriumSolver (EQS) is a forecasting methodology and application that utilizes a combination of long-term market trends, current unit shipments and revenue data, and analyst assessments of influencing economic, demographic, and market factors. The purpose of the EQS is to generate forecasts that are highly predictive by incorporating both mathematical calculations and insights from external sources.

The **EQS** algorithm considers variables such as Total Available Market (TAM), Penetration, Density, and Replacement Rate trends, as well as actual reported year-to-date data on unit shipments and revenue. Additionally, it incorporates the insights and expertise of our analysts regarding the magnitude and direction of major causal factors influencing the market.

By leveraging this comprehensive set of inputs, the **EQS** algorithm calculates forecasts for key variables and metrics. The algorithm aims to converge on the most likely forecast for each variable based on the provided input data and parameters. The resulting forecasts are expected to be both mathematically consistent and aligned with the narrative developed from external data, information, and analysts' knowledge and insights.

In summary, the core algorithm of the **Daniel Research Group's EquilibriumSolver** is designed to generate highly predictive forecasts by considering a wide range of factors and data, resulting in forecasts that are mathematically sound and consistent with the overall market narrative.

The AI Opportunity

The eventual realization of the AI potential for AI devices is dependent on the development of applications for existing and new use cases that can be implemented on the AI devices, as well as the required support services. The revenue potential for these applications and services is significantly larger than the that for the devices themselves.

The Total Available Market for these applications and services is the number of owner/users that already have AI devices (the Penetrated Total Available Market) and the number of these devices in use (the Installed Base). Developers and marketers of those applications and services will need to have an accurate estimate of size of the Total Available Market and its growth.

The availability of cloud-based AI use cases and applications is expanding, as is the availability of personal devices capable of supporting resident AI applications and agents. Still, the question remains, why would users choose a resident AI application rather than a cloud based one. **DRG** has identified three primary reasons

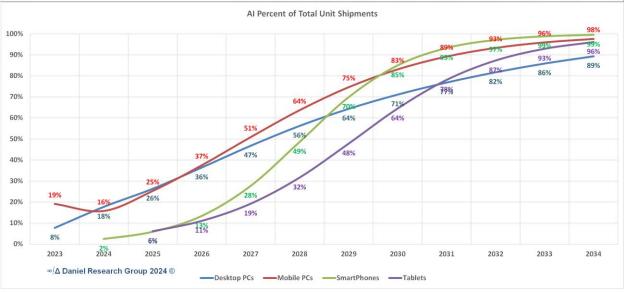
- Resident Data For availability, privacy, or security concerns, all or some of the required data only resides on the user's device and/or its attached external storage devices. DRG had development a preliminary use case taxonomy for these AI Device Resident applications or agents
 - a. Task Automation
 - b. Process Automation
 - c. Research
 - d. Content Creation
 - e. Entertainment
- 2. **Vendor Preferred Business Model** Application and Agent developers/marketers prefer to sell resident installable products rather than cloud-based services
- 3. **Users Have No Choice** eventually all available devices will be able to support AI devices.

The **DRG EQS** models will produce the most accurate forecast of the size and growth of the AI Device market by product, segment, and form factors. **DRG** will be updating our AI Device forecasts frequently as actual Unit Shipment data becomes available, and use case segmentation becomes clear.

AI Market Penetration Charts

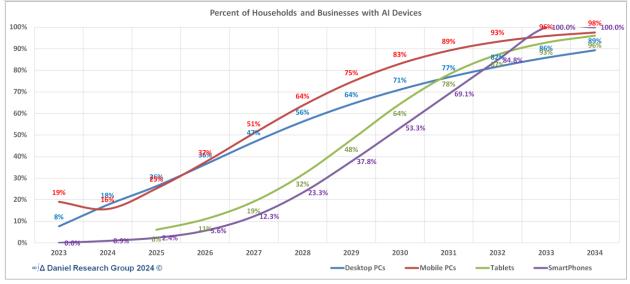
AI Percent of Unit Shipments

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Desktop PCs	8%	18%	26%	36%	47%	56%	64%	71%	77%	82%	86%	89%
Mobile PCs	19%	16%	25%	37%	51%	64%	75%	83%	89%	93%	96%	98%
SmartPhones		2%	6%	13%	28%	49%	70%	85%	93%	97%	99%	99%
Tablets			6%	11%	19%	32%	48%	64%	78%	87%	93%	96%



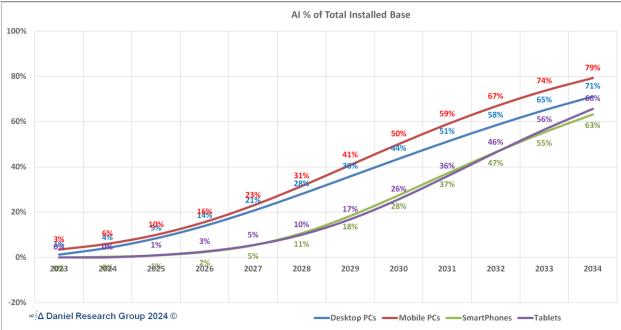
AI Market Penetration of Households and Businesses that own the Device

	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Desktop PCs	2.2%	3.7%	5.7%	8.2%	11.5%	15.6%	19.4%	26.1%	31.9%	39.2%	48.1%	58.7%
Mobile PCs	0.9%	2.6%	6.1%	13.6%	19.7%	27.1%	35.6%	44.5%	53.5%	61.9%	69.3%	75.7%
SmartPhones		0.9%	2.4%	5.6%	12.3%	23.3%	37.8%	53.3%	69.1%	84.8%	100.0%	100.0%
Tablets			0.9%	7.7%	17.8%	36.3%	55.8%	76.3%	91.2%	96.5%	98.6%	99.5%



AI Percent of Installed Base

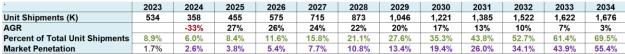
	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Desktop PCs	1%	4%	9%	14%	21%	28%	36%	44%	51%	58%	65%	71%
Mobile PCs	3%	6%	10%	16%	23%	31%	41%	50%	59%	67%	74%	79%
SmartPhones		0%	1%	2%	5%	11%	18%	28%	37%	47%	55%	63%
Tablets			1%	3%	5%	10%	17%	26%	36%	46%	56%	66%

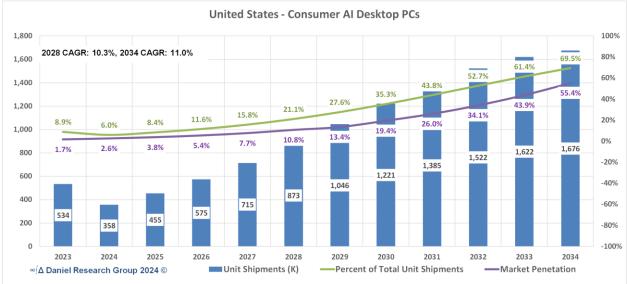


Forecast Tables and Charts

Desktop PCs

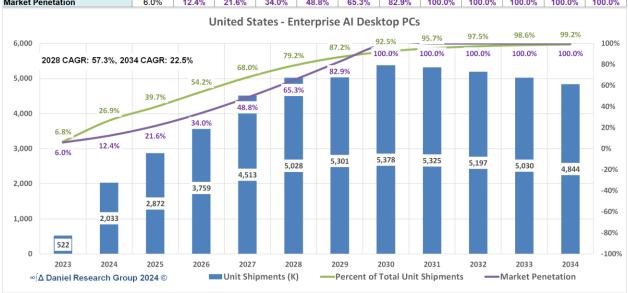
Consumer





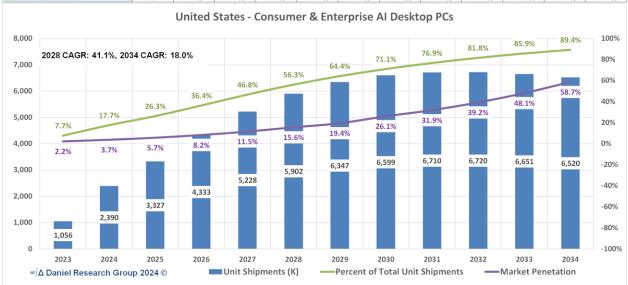
Enterprise





Total

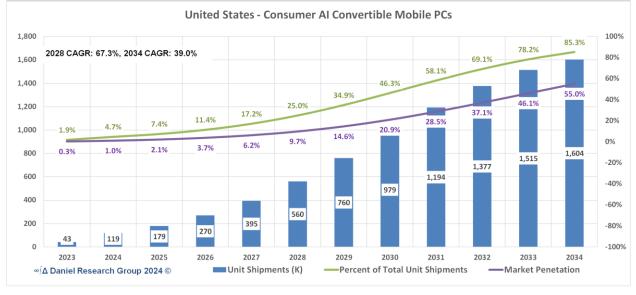




Mobile PCs

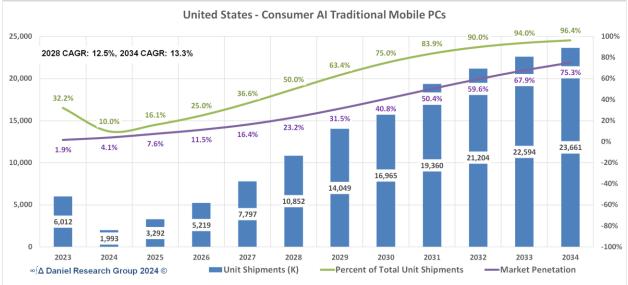
Consumer Convertible

,	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	43	119	179	270	395	560	760	979	1,194	1,377	1,515	1,604
AGR		179%	50%	50%	47%	42%	36%	29%	22%	15%	10%	6%
Percent of Total Unit Shipments	1.9%	4.7%	7.4%	11.4%	17.2%	25.0%	34.9%	46.3%	58.1%	69.1%	78.2%	85.3%
Market Penetation	0.3%	1.0%	2.1%	3.7%	6.2%	9.7%	14.6%	20.9%	28.5%	37.1%	46.1%	55.0%



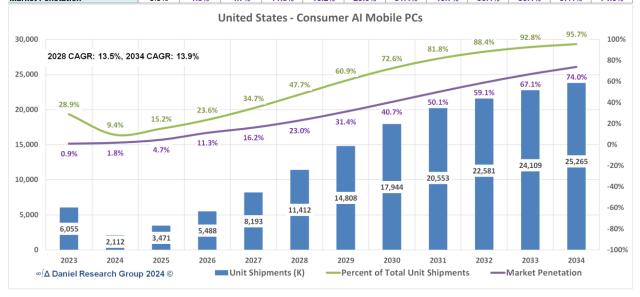
Consumer Traditional





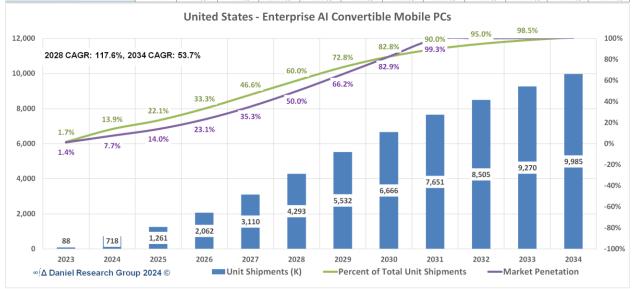
Consumer Total

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	6,055	2,112	3,471	5,488	8,193	11,412	14,808	17,944	20,553	22,581	24,109	25,265
AGR		-65%	64%	58%	49%	39%	30%	21%	15%	10%	7%	5%
Percent of Total Unit Shipments	28.9%	9.4%	15.2%	23.6%	34.7%	47.7%	60.9%	72.6%	81.8%	88.4%	92.8%	95.7%
Market Penetation	0.9%	1.8%	4.7%	11.3%	16.2%	23.0%	31.4%	40.7%	50.1%	59.1%	67.1%	74.0%



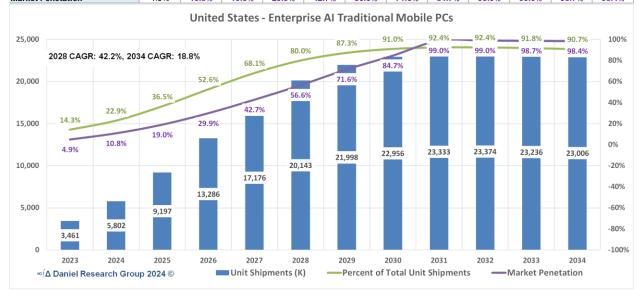
Enterprise Convertible

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	88	718	1,261	2,062	3,110	4,293	5,532	6,666	7,651	8,505	9,270	9,985
AGR		716%	76%	64%	51%	38%	29%	21%	15%	11%	9%	8%
Percent of Total Unit Shipments	1.7%	13.9%	22.1%	33.3%	46.6%	60.0%	72.8%	82.8%	90.0%	95.0%	98.5%	101.1%
Market Penetation	1.4%	7.7%	14.0%	23.1%	35.3%	50.0%	66.2%	82.9%	99.3%	100.3%	100.5%	100.7%



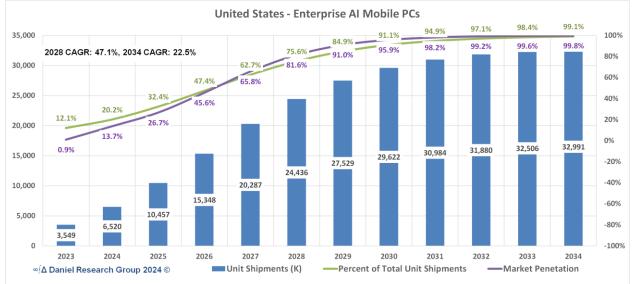
Enterprise Traditional

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	3,461	5,802	9,197	13,286	17,176	20,143	21,998	22,956	23,333	23,374	23,236	23,006
AGR		68%	59%	44%	29%	17%	9%	4%	2%	0%	-1%	-1%
Percent of Total Unit Shipments	14.3%	22.9%	36.5%	52.6%	68.1%	80.0%	87.3%	91.0%	92.4%	92.4%	91.8%	90.7%
Market Penetation	4 9%	10.8%	19.0%	29.9%	42 7%	56.6%	71.6%	84 7%	99.0%	99.0%	98.7%	98.4%



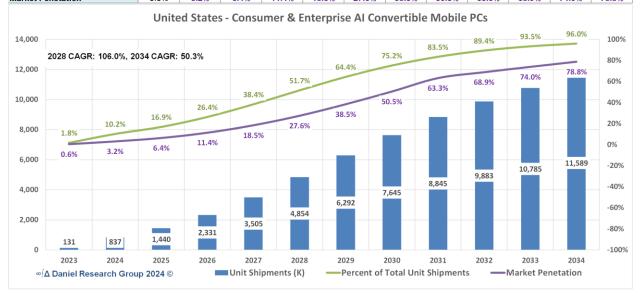
Enterprise Total





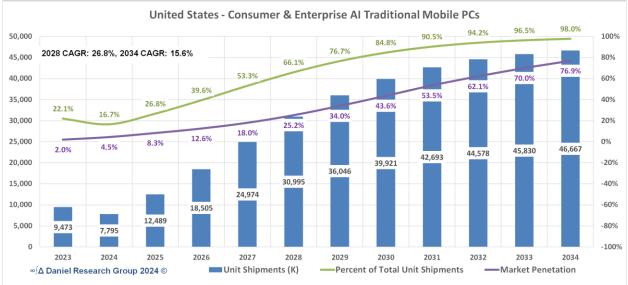
Convertible Total

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	131	837	1,440	2,331	3,505	4,854	6,292	7,645	8,845	9,883	10,785	11,589
AGR		540%	72%	62%	50%	38%	30%	22%	16%	12%	9%	7%
Percent of Total Unit Shipments	1.8%	10.2%	16.9%	26.4%	38.4%	51.7%	64.4%	75.2%	83.5%	89.4%	93.5%	96.0%
Market Penetation	0.6%	3 2%	6.4%	11 4%	18.5%	27.6%	38.5%	50.5%	63.3%	68.9%	74.0%	78.8%

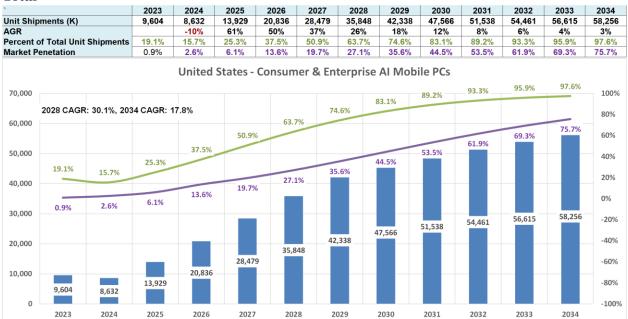


Traditional Total





Total



Unit Shipments (K)

Percent of Total Unit Shipments

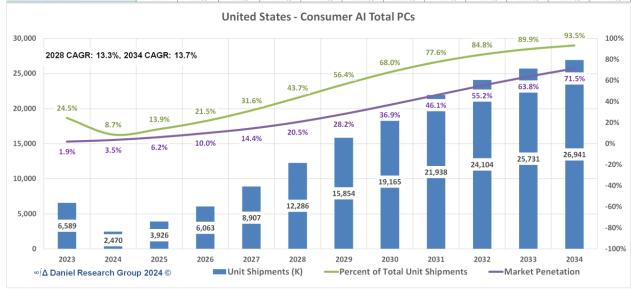
Total PCs (Desktops and Mobile PCs)

Consumer

∞ Δ Daniel Research Group 2024 ©

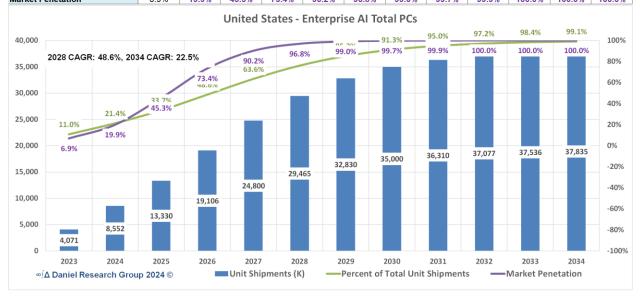
-Market Penetation

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	6,589	2,470	3,926	6,063	8,907	12,286	15,854	19,165	21,938	24,104	25,731	26,941
AGR		-63%	59%	54%	47%	38%	29%	21%	14%	10%	7%	5%
Percent of Total Unit Shipments	24.5%	8.7%	13.9%	21.5%	31.6%	43.7%	56.4%	68.0%	77.6%	84.8%	89.9%	93.5%
Market Penetation	1.9%	3.5%	6.2%	10.0%	14.4%	20.5%	28.2%	36.9%	46.1%	55.2%	63.8%	71.5%



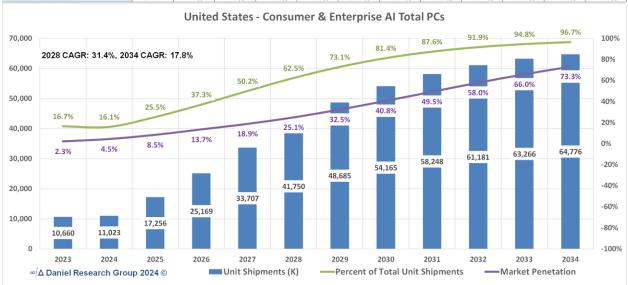
Enterprise

,	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	4,071	8,552	13,330	19,106	24,800	29,465	32,830	35,000	36,310	37,077	37,536	37,835
AGR		110%	56%	43%	30%	19%	11%	7%	4%	2%	1%	1%
Percent of Total Unit Shipments	11.0%	21.4%	33.7%	48.6%	63.6%	76.2%	85.3%	91.3%	95.0%	97.2%	98.4%	99.1%
Market Penetation	6.9%	19.9%	45.3%	73.4%	90.2%	96.8%	99.0%	99.7%	99.9%	100.0%	100.0%	100.0%



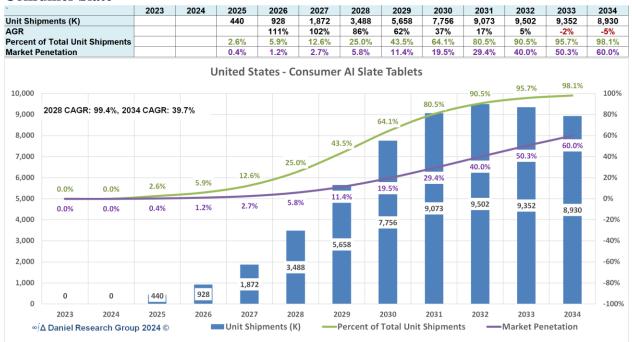
Total





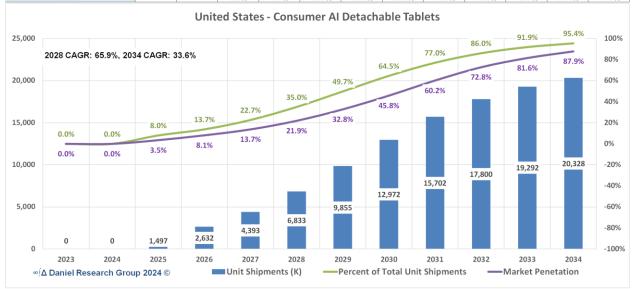
Tablets

Consumer Slate



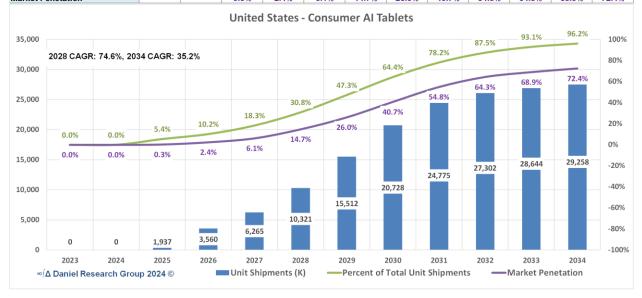
Consumer Detachable

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			1,497	2,632	4,393	6,833	9,855	12,972	15,702	17,800	19,292	20,328
AGR				76%	67%	56%	44%	32%	21%	13%	8%	5%
Percent of Total Unit Shipments			8.0%	13.7%	22.7%	35.0%	49.7%	64.5%	77.0%	86.0%	91.9%	95.4%
Market Penetation			3.5%	8.1%	13.7%	21.9%	32.8%	45.8%	60.2%	72.8%	81.6%	87.9%



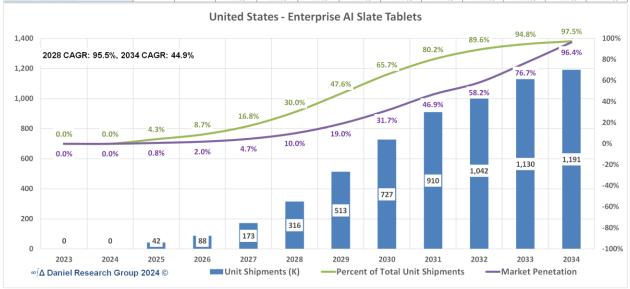
Consumer Total

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			1,937	3,560	6,265	10,321	15,512	20,728	24,775	27,302	28,644	29,258
AGR				84%	76%	65%	50%	34%	20%	10%	5%	2%
Percent of Total Unit Shipments			5.4%	10.2%	18.3%	30.8%	47.3%	64.4%	78.2%	87.5%	93.1%	96.2%
Market Penetation			0.3%	2 4%	6.1%	14 7%	26.0%	40.7%	54.8%	64.3%	68.9%	72.4%



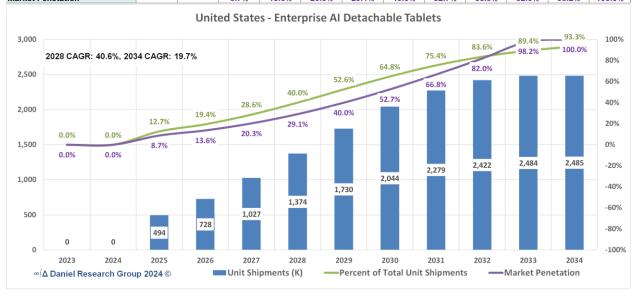
Enterprise Slate

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			42	88	173	316	513	727	910	1,042	1,130	1,191
AGR				107%	98%	83%	63%	42%	25%	14%	8%	5%
Percent of Total Unit Shipments			4.3%	8.7%	16.8%	30.0%	47.6%	65.7%	80.2%	89.6%	94.8%	97.5%
Market Penetation			0.8%	2.0%	4.7%	10.0%	19.0%	31.7%	46.9%	58.2%	76.7%	96.4%



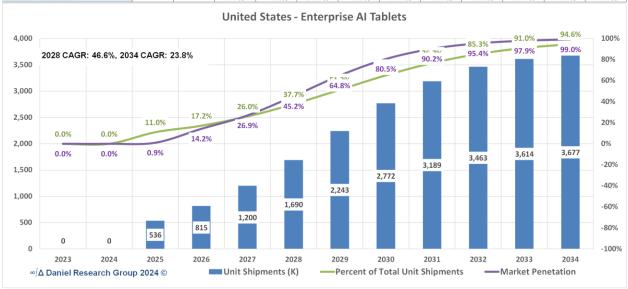
Enterprise Detachable

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			494	728	1,027	1,374	1,730	2,044	2,279	2,422	2,484	2,485
AGR				47%	41%	34%	26%	18%	11%	6%	3%	0%
Percent of Total Unit Shipments			12.7%	19.4%	28.6%	40.0%	52.6%	64.8%	75.4%	83.6%	89.4%	93.3%
Market Penetation			8 7%	13.6%	20.3%	29.1%	40.0%	52 7%	66.8%	82.0%	98.2%	100.0%



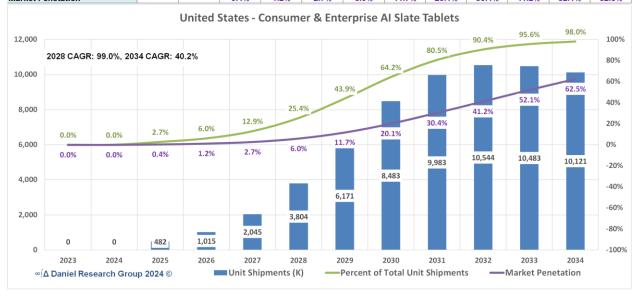
Enterprise Total

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			536	815	1,200	1,690	2,243	2,772	3,189	3,463	3,614	3,677
AGR				52%	47%	41%	33%	24%	15%	9%	4%	2%
Percent of Total Unit Shipments			11.0%	17.2%	26.0%	37.7%	51.3%	65.0%	76.7%	85.3%	91.0%	94.6%
Market Penetation			0.9%	14.2%	26.9%	45.2%	64.8%	80.5%	90.2%	95.4%	97.9%	99.0%



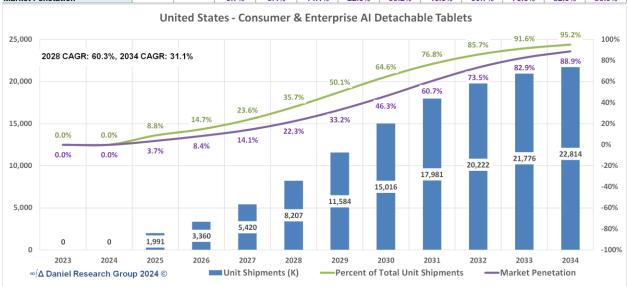
Total Slate

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			482	1,015	2,045	3,804	6,171	8,483	9,983	10,544	10,483	10,121
AGR				110%	101%	86%	62%	37%	18%	6%	-1%	-3%
Percent of Total Unit Shipments			2.7%	6.0%	12.9%	25.4%	43.9%	64.2%	80.5%	90.4%	95.6%	98.0%
Market Penetation			0.4%	1 2%	2 7%	6.0%	11 7%	20.1%	30.4%	41.2%	52 1%	62.5%



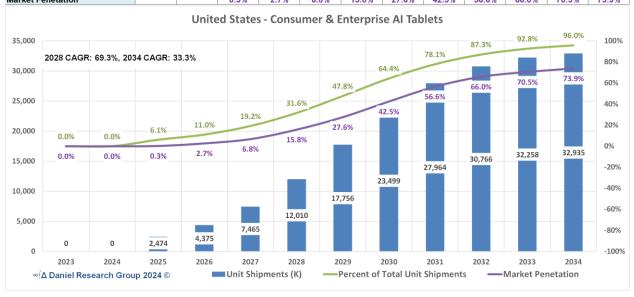
Total Detachable

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			1,991	3,360	5,420	8,207	11,584	15,016	17,981	20,222	21,776	22,814
AGR				69%	61%	51%	41%	30%	20%	12%	8%	5%
Percent of Total Unit Shipments			8.8%	14.7%	23.6%	35.7%	50.1%	64.6%	76.8%	85.7%	91.6%	95.2%
Market Penetation			3.7%	8.4%	14.1%	22.3%	33.2%	46.3%	60.7%	73.5%	82.9%	88.9%



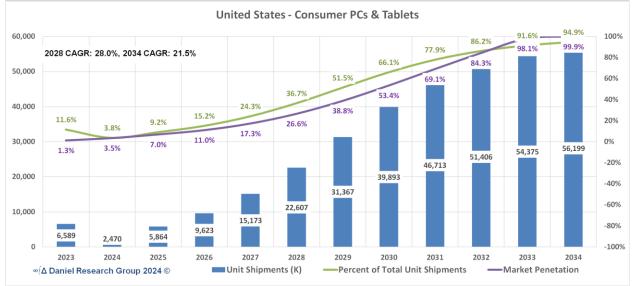
Total Tablets

,	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)			2,474	4,375	7,465	12,010	17,756	23,499	27,964	30,766	32,258	32,935
AGR				77%	71%	61%	48%	32%	19%	10%	5%	2%
Percent of Total Unit Shipments			6.1%	11.0%	19.2%	31.6%	47.8%	64.4%	78.1%	87.3%	92.8%	96.0%
Market Penetation			0.3%	2 7%	6.8%	15.8%	27.6%	42 5%	56 6%	66.0%	70.5%	73.9%



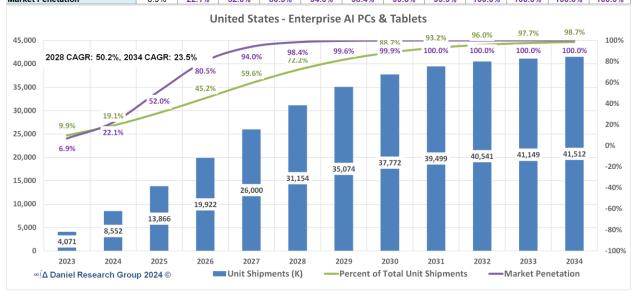
PCs and Tablets Consumer

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	6,589	2,470	5,864	9,623	15,173	22,607	31,367	39,893	46,713	51,406	54,375	56,199
AGR		-63%	137%	64%	58%	49%	39%	27%	17%	10%	6%	3%
Percent of Total Unit Shipments	11.6%	3.8%	9.2%	15.2%	24.3%	36.7%	51.5%	66.1%	77.9%	86.2%	91.6%	94.9%
Market Penetation	1.3%	3.5%	7.0%	11.0%	17.3%	26.6%	38.8%	53.4%	69.1%	84.3%	98.1%	99.9%



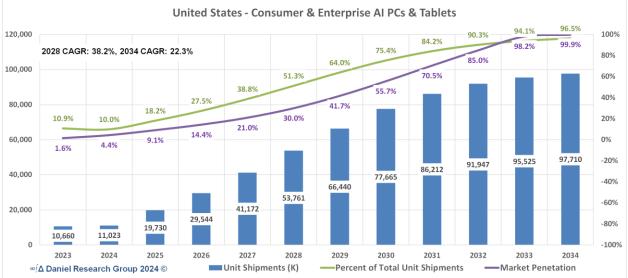
Enterprise

,	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	4,071	8,552	13,866	19,922	26,000	31,154	35,074	37,772	39,499	40,541	41,149	41,512
AGR		110%	62%	44%	31%	20%	13%	8%	5%	3%	2%	1%
Percent of Total Unit Shipments	9.9%	19.1%	31.2%	45.2%	59.6%	72.2%	81.8%	88.7%	93.2%	96.0%	97.7%	98.7%
Market Penetation	6.9%	22 1%	52.0%	80.5%	94.0%	98 4%	99.6%	99.9%	100.0%	100.0%	100.0%	100.0%



Total

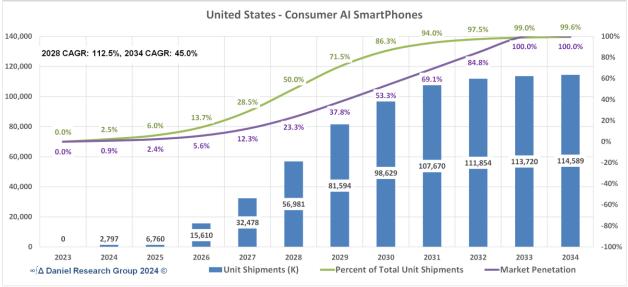




Smartphones

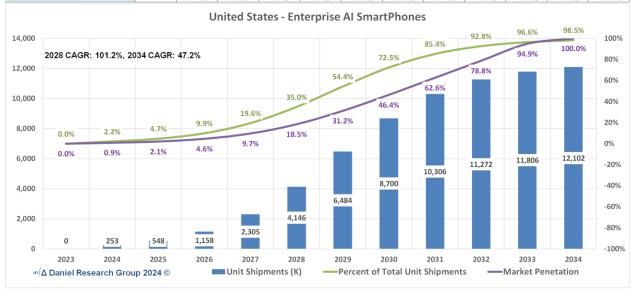
Consumer

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)		2,797	6,760	15,610	32,478	56,981	81,594	98,629	107,670	111,854	113,720	114,589
AGR			142%	131%	108%	75%	43%	21%	9%	4%	2%	1%
Percent of Total Unit Shipments		2.5%	6.0%	13.7%	28.5%	50.0%	71.5%	86.3%	94.0%	97.5%	99.0%	99.6%
Market Penetation		0.9%	2.4%	5.6%	12.3%	23.3%	37.8%	53.3%	69.1%	84.8%	100.0%	100.0%



Enterprise

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)		253	548	1,158	2,305	4,146	6,484	8,700	10,306	11,272	11,806	12,102
AGR			117%	111%	99%	80%	56%	34%	18%	9%	5%	3%
Percent of Total Unit Shipments		2.2%	4.7%	9.9%	19.6%	35.0%	54.4%	72.5%	85.4%	92.8%	96.6%	98.5%
Market Penetation		0.9%	2.1%	4.6%	9.7%	18.5%	31.2%	46.4%	62.6%	78.8%	94.9%	100.0%



Total

20,000

0

2023



Total Personal Devices (PCs, Tablets, and Phones) Consumer

16,768

2026

34,783

2027

Unit Shipments (K)

2028

2029

2030

Percent of Total Unit Shipments

2031

2032

2033

-Market Penetation

3,050

2024

∞∫∆ Daniel Research Group 2024 ©

7,308

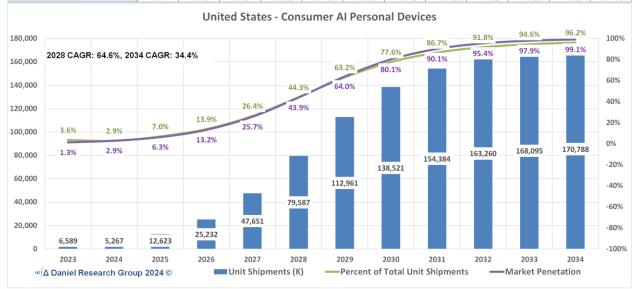
2025

-80%

-100%

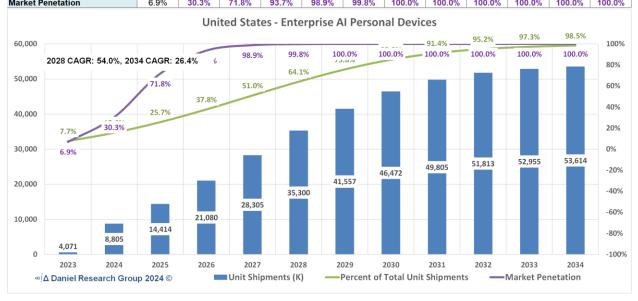
2034

`	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	6,589	5,267	12,623	25,232	47,651	79,587	112,961	138,521	154,384	163,260	168,095	170,788
AGR		-20%	140%	100%	89%	67%	42%	23%	11%	6%	3%	2%
Percent of Total Unit Shipments	3.6%	2.9%	7.0%	13.9%	26.4%	44.3%	63.2%	77.6%	86.7%	91.8%	94.6%	96.2%
Market Penetation	1.3%	2.9%	6.3%	13.2%	25.7%	43.9%	64.0%	80.1%	90.1%	95.4%	97.9%	99.1%



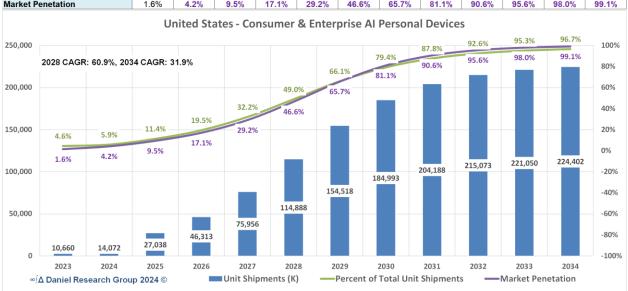
Enterprise

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	4,071	8,805	14,414	21,080	28,305	35,300	41,557	46,472	49,805	51,813	52,955	53,614
AGR		116%	64%	46%	34%	25%	18%	12%	7%	4%	2%	1%
Percent of Total Unit Shipments	7.7%	15.6%	25.7%	37.8%	51.0%	64.1%	75.8%	85.0%	91.4%	95.2%	97.3%	98.5%
Market Penetation	6 0%	30 3%	71.8%	93 7%	98 9%	99.8%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%



Total

•	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034
Unit Shipments (K)	10,660	14,072	27,038	46,313	75,956	114,888	154,518	184,993	204,188	215,073	221,050	224,402
AGR		32%	92%	71%	64%	51%	34%	20%	10%	5%	3%	2%
Percent of Total Unit Shipments	4.6%	5.9%	11.4%	19.5%	32.2%	49.0%	66.1%	79.4%	87.8%	92.6%	95.3%	96.7%
Market Penetation	1.6%	4.2%	9.5%	17.1%	29.2%	46.6%	65.7%	81.1%	90.6%	95.6%	98.0%	99.1%



About Daniel Research Group

Daniel Research Group is a market research and consulting firm primarily servicing technology clients. Our focus is developing custom market models and forecasts. We support clients three ways.

- 1. We work independently or collaboratively with the client's own analysts to **produce custom** technology product/service **market models and forecasts.**
- 2. We work collaboratively with the client's own analysts to **design and develop the modeling applications** that they will use to develop their own market models and forecasts.
- 3. We **train client's analysts** in the theory and practice of technology market modeling and forecasting.

Most of our work utilizes the inventory of proprietary methodologies and algorithms that we have developed over more than 35 years. We have built technology forecasting market models for many major technology vendors, market research firms, and industry organizations. While our core competency is forecasting, our subject experience covers the entire technology and technology-enabled product/service landscape. We also support our engagements with traditional qualitative and quantitative research, as well as tactical and strategic consulting services.

Stephen J. Daniel - President

With over four decades in the Information Technology Industry, Mr. Daniel has developed a unique blend of Market and Technology experience coupled with a deep understanding of Market Research Methodology. His primary strength is in understanding the decision-making context within which the results of his research will be applied. This is manifested by his ability to design and execute studies that precisely meet client objectives in a timely fashion and at reasonable costs.



Mr. Daniel received his BS in Finance from Northeastern University and earned an MBA in Quantitative Analysis from New York University. He is a member of the American Statistical Association, American Economic Association, The Market Research Association of America, the American Marketing Association, National Association for Business Economics, and the Qualitative Research Association of America.

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