Global Self-Service Kiosks Market, Forecast to 2022

Customer Engagement and High Customer Satisfaction are the Key Factors that will Lead to Growing Adoption of Self-service Kiosks

Global Measurement & Instrumentation Research Team at Frost & Sullivan

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Key Findings

- The self-service kiosks market had a revenue of \$8,916.8 million and registered total shipments of 2,277,523 units in 2017.
- The market is mature and will witness revenue and unit shipment CAGRs of 3.0% and 4.7%, respectively, between 2017 and 2022.
- Retail, Transportation & Logistics, and Hospitality are the key vertical markets with revenue contributions of 22.6%, 17.7%, and 14.5% respectively.
- Check-out/Check-in and ticketing are the biggest applications, and accounted for respective market shares of 32.2% and 22.1% in 2017.
- In terms of form factor, the most commonly used kiosks are the ones that have 12-32 inch screens. This form factor accounted for 67.6% of the total market share in 2017.
- North America (NA) and Europe, Middle East and Africa (EMEA) are the biggest regional markets. NA had 38.6% of the market share with a revenue of \$3,438.7 million in 2017; while EMEA held a 35.9% share with revenue of \$3,201.1 million.

Market Engineering Measurements

Total Self-Service Kiosks Market: Market Engineering Measurements, Global, 2017

Market Overview				
Market Stage	Market Revenue	Units/Volume	Average Price Per Unit	Market Size for Last Year of Study Period
Mature	\$8,916.8 M	2,277,523	\$3,915.13	\$10,359.9 M
	(2017)	(2017)	(2017)	(2022)
Unit Shipment for Last Year of Study Period	Base Year Market Growth Rate	Compound Annual Growth Rate	Customer Price Sensitivity	Degree of Technical Change
2,867,165	2.8%	3.0%	6	5 👚
(2022)		(CAGR, 2017–2022)	(scale:1 [low] to 10 [high])	(scale:1 [low] to 10 [high])
Market Concentration	Base Year Market Growth Rate–Unit Shipment	Compound Annual Growth Rate–Unit Shipment	Number of Competitors	
5.5%	3.7%	4.7%	About 100	
(market share held by top 10 companies)		(CAGR, 2017–2022)	(active market competitors in base year)	For a tabular version,
Decreasing	Increasing 🏤			<u>click here</u>

CEO's Perspective

Kiosk manufacturers need to focus on enhancing the user experience with 3D content and explore various ways to engage the end users.

The design of kiosks is changing drastically and screens are getting slimmer and bigger. Kiosks with screen size 20 inches and above and up to 40 inches are key growth markets.

Mobile-based operating system (OS) offers better user experience than Windows-based OS.

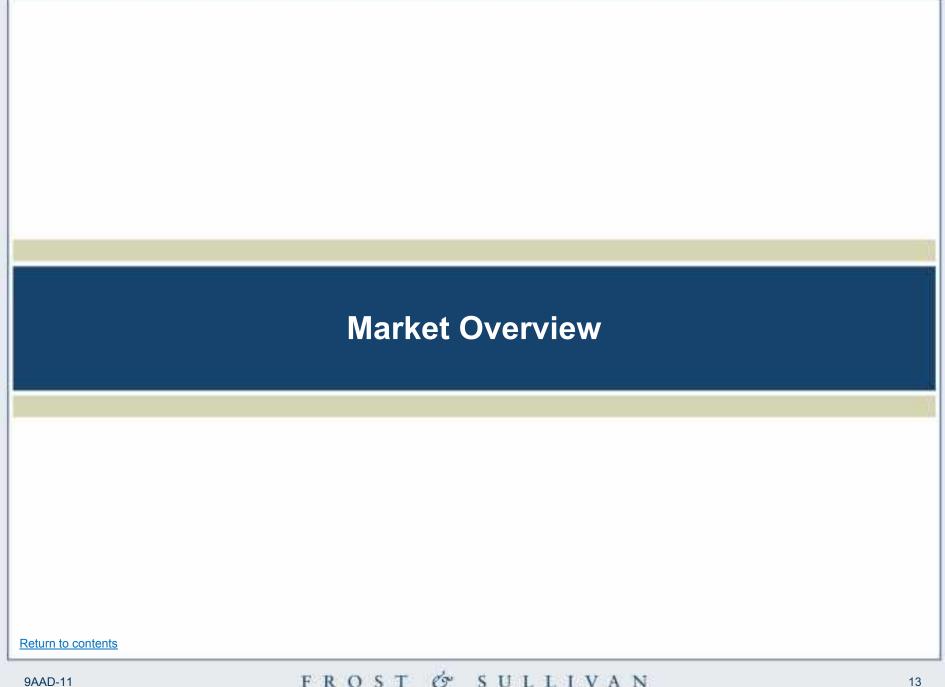
Check-out/Check-in and ticketing applications will drive market growth and should be the point of focus for kiosk manufacturers.

The market is fragmented and small-sized companies tend to partner with system integrators to offer kiosk solutions at competitive price points.



Source: Frost & Sullivan

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Market Definitions

Scope			
Geographic Coverage	Global		
Study Period	2014–2022		
Base Year	2017		
Forecast Period	2018–2022		
Monetary Unit	US Dollars		



Self-Service Kiosk: An unmanned system with specialized hardware and software that provides users access to information and applications for communication, commerce, entertainment, and education.

Regions

NA: United States and Canada

Latin America (LATAM): Central America, Caribbean, South America

Europe: Western Europe, Central Europe, and Eastern Europe, Russia

Middle East & Africa (MEA)

Asia Pacific (APAC): East Asia, South Asia, Southeast Asia, and Oceania

Market Definitions (continued)

Self-Service Kiosks Market

Region	Form Factor	Applications	Vertical Market
North America	 Up to 10-inch display 	Check-out/Check-in	 Retail
Latin America	 10-12 inch display 	 Card Printing/ 	 Hospitality
• EMEA	 12-32 inch display 	Renewal	 Manufacturing
• APAC	 >32 inch display 	 Information 	 Government
		 Photo/Printing 	Healthcare
		 Product Rental 	 Transportation &
	• Financial	 Financial 	Logistics
		 Ticketing 	 Education
		 Others (for example, email, gaming, Internet, office applications) 	Professional Services

Key Questions this Study will Answer

Is the market growing, how long will it continue to grow, and at what rate?

What are the product types that will grow at a faster rate?

Which applications offer high growth opportunities?

What vertical markets have high demand and will offer high growth opportunities?

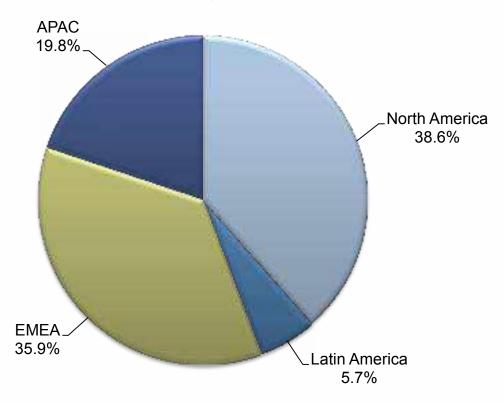
What are the regional and market trends?

Are the vendors in the space ready to go it alone, or do they need partnerships to take their businesses to the next level?

Market Segmentation

Key Takeaway: Growing demand from the APAC region will create opportunities for market participants.

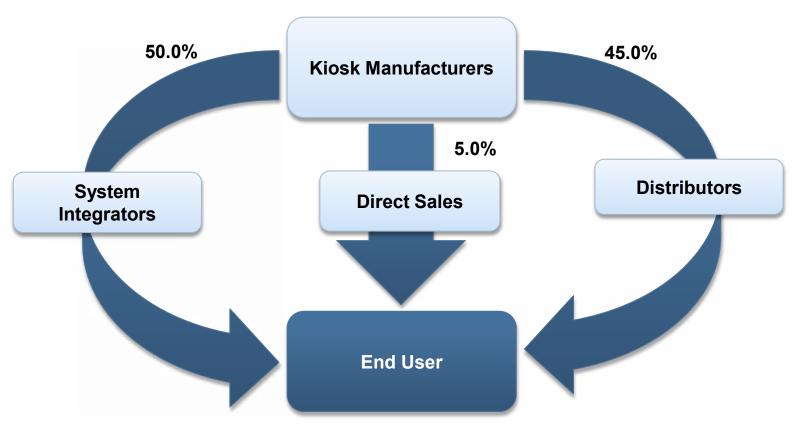
Total Self-Service Kiosks Market: Percent Revenue Breakdown by Region, Global, 2017



Market Distribution Channels

Key Takeaway: A strong network of system integrators and distributors is the key requirement for growth.

Total Self-Service Kiosks Market: Distribution Channel Analysis, Global, 2017





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Market Drivers

Total Self-Service Kiosks Market: Key Market Drivers, Global, 2018–2022

Drivers	1-2 Years	3-4 Years	5 th Year
Strong growth in key verticals retail and hospitality drive the market	Н	Н	н
Technology advancements make the kiosks more attractive	н	Н	н
Competitive pricing is making the kiosks more affordable	Н	н	н
Improved customer service driving companies to install kiosks	Н	Н	Н
Growing smart cities will demand more kiosks	Н	Н	н

Impact Ratings: **H** = High, **M** = Medium, **L** = Low

Drivers Explained

Strong Growth in Key Verticals Retail and Hospitality Drive the Market

Retail and hospitality verticals are the key growth drivers for self-service kiosks. Industry participants are looking for ways to achieve improved customer service/satisfaction and self-service kiosks allow them to serve customers better by cutting down on long queues and waiting times. Kiosks also enable customers to have a personalized experience and choose from a wide range of services/products at their own convenience. Rising competition has led companies to offer a wide range of applications in their kiosks. For example, the latest retail kiosks have functions like coin hoppers, bill acceptors, and card readers.

Technology Advancements Make the Kiosks More Attractive

Advanced technology, such as touchscreen interface, enhances the user experience. Kiosks are now being used in a variety of applications such as 3D kiosks, multi-touch and gesture tracking, social media integration, mobile interactivity, "human kiosks", and iPad-embedding, among others.

Competitive Pricing is Making the Kiosks More Affordable

Declining hardware prices are lowering the overall cost of the kiosks. Software business models are also changing, with Software-as-a-Service (SaaS) increasingly becoming popular, thereby bringing down the cost of software. This, coupled with improved Internet connectivity, is making kiosks more popular and affordable.

Drivers Explained (continued)

Improved Customer Service Driving Companies to Install Kiosks

Self-service kiosks increase the overall customer experience by drastically cutting down waiting times in long queues, thus making them increasingly popular. Self check-out systems also help in proper resource utilization, increased productivity, and reduced costs. Hence kiosks are increasingly being integrated with other media such as point-of-sale (PoS) systems, enterprise software applications, inventory, order management, data mining, and so on.

Growing Smart Cities will Demand More Kiosks

Interactive touchscreen kiosks will witness growth as the number of smart cities is growing worldwide. Smart cities will use self-service kiosks for applications such as tourist information, way finding, interactive advertisements, and online shopping, among others.

Market Restraints

Total Self-Service Kiosks Market: Key Market Restraints, Global, 2018–2022

Restraints	1-2 Years	3-4 Years	5 th Year
Growing use of smartphones and tablets is leading to lesser dependence on kiosks for certain applications	M	M	L
Initial high costs of investments is a hindrance for small-sized companies	M	L	L

Impact Ratings: **H** = High, **M** = Medium, **L** = Low

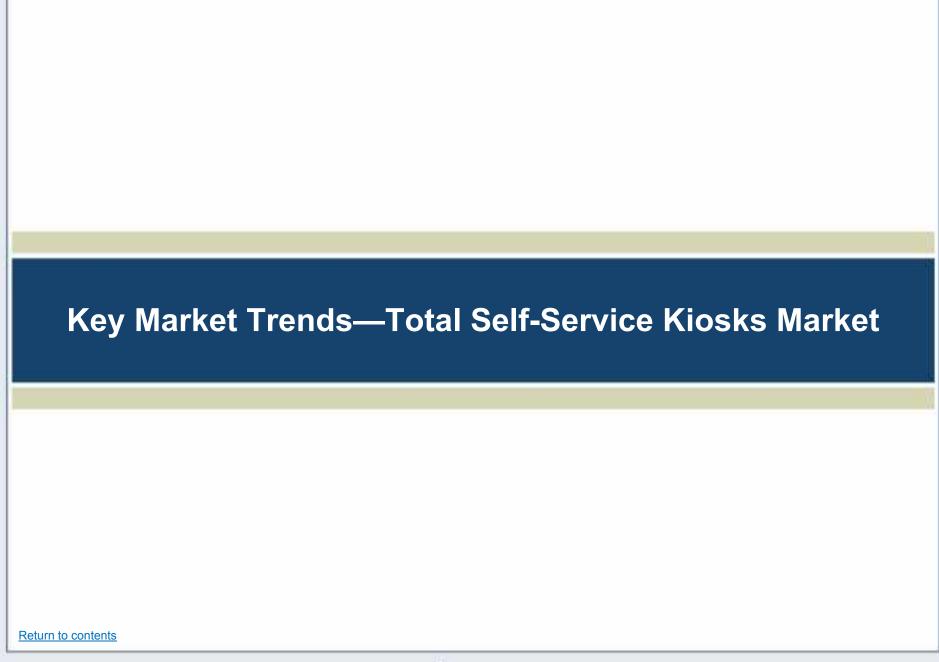
Restraints Explained

Growing Use of Smartphones and Tablets is Leading to Lesser Dependence on Kiosks for Certain Applications

Increasing use of smartphones and tablets is leading to increased online transactions. Self-service kiosk machines are being replaced by tablets in various industries.

Initial High Costs of Investments is a Hindrance for Small-sized Companies

Although the prices of kiosks are coming down, the initial investments are still quite high, which deters small- and medium-sized companies from investing in these systems.



Key Market Trends

- Kiosks are increasingly adopting mobile architecture as it is best suited for 3D content. Latest kiosks are adopting iOS or Android operating systems to provide the best 3D experience to users.
- Kiosks are increasingly moving away from transaction based offerings and focusing more on providing an enriched customer experience. Companies are exploring newer ways to engage customers and give them something that they didn't know existed or they required.
- Kiosks are also getting extremely slim. The latest kiosks are just displays mounted on stands. The growth prospects lie in slimmer devices and touchscreens.
- Most kiosks being developed and installed now are all-in-one systems. This kind of kiosks will witness rapid growth.
- Tablet computers are growing fast and replacing self-service kiosk machines. Tablets are sleek, handy, and compact as compared to the heavy and bulky kiosk machines and these factors favor their adoption.
- Different industries are expected to adopt tablets to replace kiosks and save significantly on costs.
- In terms of operating systems, Android devices are more popular than iOS.
- Mobile solutions based kiosks allow companies to measure customer experiences by tracking delivery time, feedbacks, and customized surveys, and also enhance the end-user experience.
- Companies are increasingly running tailored campaigns on kiosks and, with the help of data analytics, are now able to study the consumer behavior of end users.



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Market Engineering Measurements

Total Self-Service Kiosks Market: Market Engineering Measurements, Global, 2017

Market Overview

Measurement Name	Measurement	Trend
Market stage	Mature	-
Market revenue (2017)	\$8,916.8 M	
Market size for last year of study period (2022)	\$10,359.9 M	A
Base year market growth rate	2.8%	
Compound annual growth rate (CAGR, 2017–2022)	3.0%	-
Average Price Per Unit (2017)	\$3,915.13	
Customer Price Sensitivity (scale:1 [low] to 10 [high])	6	•
Degree of Technical Change (scale:1 [low] to 10 [high])	5	
Unit Shipment (2017)	2,277,523	A
Unit Shipment for last year of study period (2022)	2,867,165	
Base year market growth rate	3.7%	A
Compound annual growth rate (CAGR, 2017–2022)	4.7%	_
Number of competitors (active market competitors in 2017)	About 100	٠
Market concentration (base year market share controlled by top 10 competitors)	5.5%	•

Forecast Assumptions

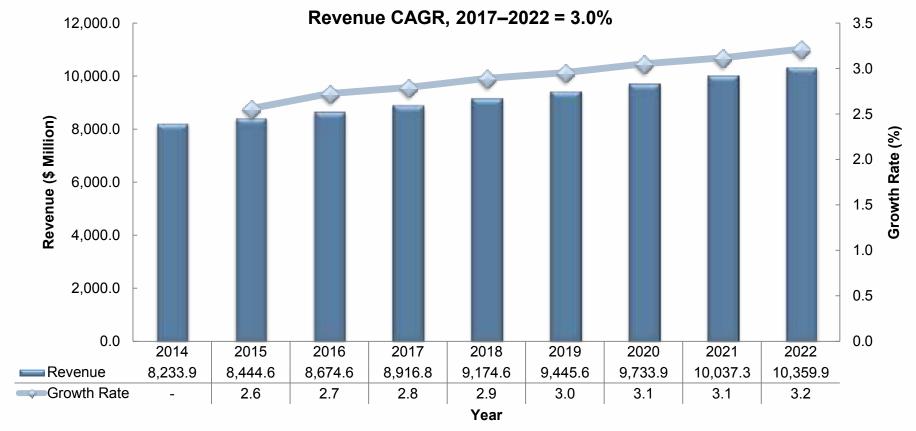
This forecast has been developed based on the following:

- Historical and present trends in the self-service kiosks market
- Historical and present trends in verticals such as retail, hospitality, manufacturing,
 government, healthcare, transportation & logistics, education, and professional services.
- Historical and present trends in NA, LATAM, Europe, MEA, and APAC.
- Macroeconomic trends in the regions.
- The effect of current global economic situations on the market.
- Investments made and growth projections of end-user markets during the forecast period.

Revenue Forecast

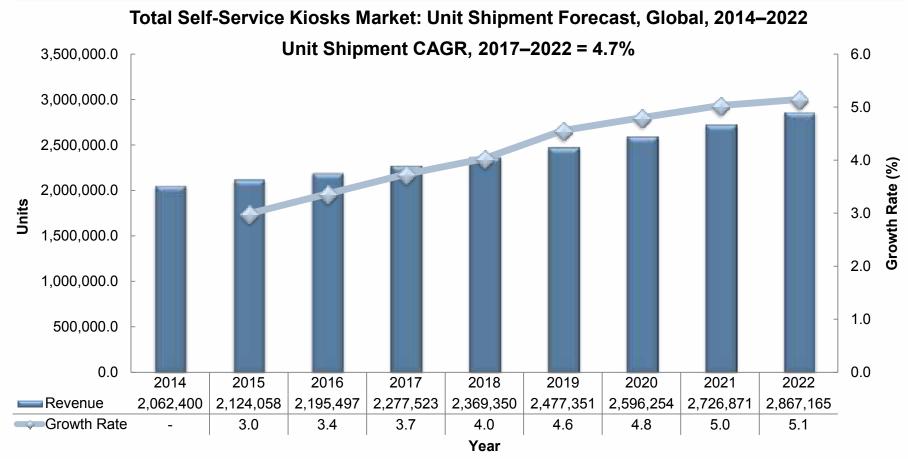
Key Takeaway: Growing demands from the retail, hospitality and other sectors will result in steady growth during the forecast period.





Unit Shipment Forecast

Key Takeaway: High volume growth is expected in regions such as NA, Europe, and Asia.



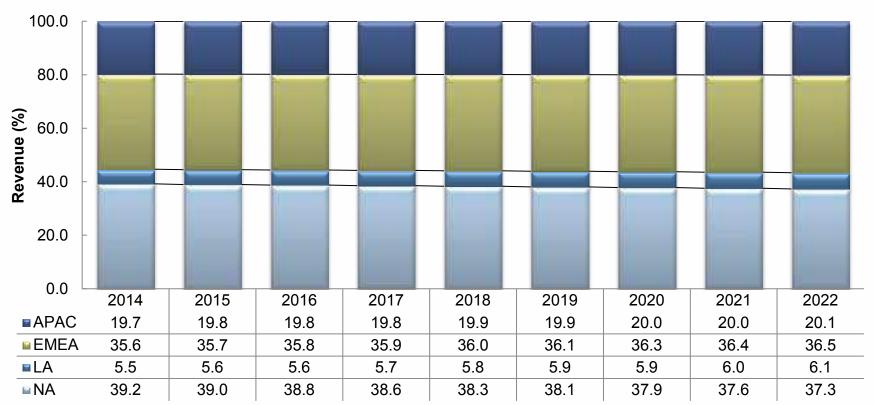
Revenue and Unit Shipment Forecast Discussion

- The global self-service kiosks market generated a revenue of \$8,916.8 million in 2017. The total units shipped in the year was 2,277,523.
- The revenue is expected to grow at a CAGR of 3.0% between 2017 and 2022, while unit shipment should expand at a CAGR of 4.7% during the same period.
- Retail was the biggest end-user vertical for self-service kiosks in 2017, contributing revenue of \$2,011.8 million and unit shipments of 518,564. This vertical is expected to present an opportunity size of \$2,346.9 million and unit shipments of 679,741 in 2025.
- Transportation and logistics and hospitality were the other two major revenue contributors in 2017 at \$1,577.6 million and \$1,288.7 million and shipments of 403,195 and 336,772 units respectively.
- Check-out/ Check-in application was the biggest revenue contributor in 2017, at \$2,870.4 million, and saw total shipments of 733,144 units.
- Ticketing was the other big application with a revenue of \$1,968.2 million and unit shipments of 502,782.
- In terms of form factor, kiosks with 12-32 inch displays were the most used, and generated a revenue of \$6,027.7 million and unit shipments of 1,370,524 in 2017.
- The >32 inch display size kiosks were the other popular form factor and generated a revenue of \$1,647.8 million in 2017 and unit shipments of 400,160.
- NA was the biggest regional market and contributed a revenue of \$3,438.7 million in 2017. EMEA ranked second, at \$3,201.1 million.

Percent Revenue Forecast by Region

Key Takeaway: NA and EMEA regions will drive growth in the short and medium terms.

Total Self-Service Kiosks Market: Percent Revenue Forecast by Region, Global, 2014–2022



Year

Revenue Forecast by Region

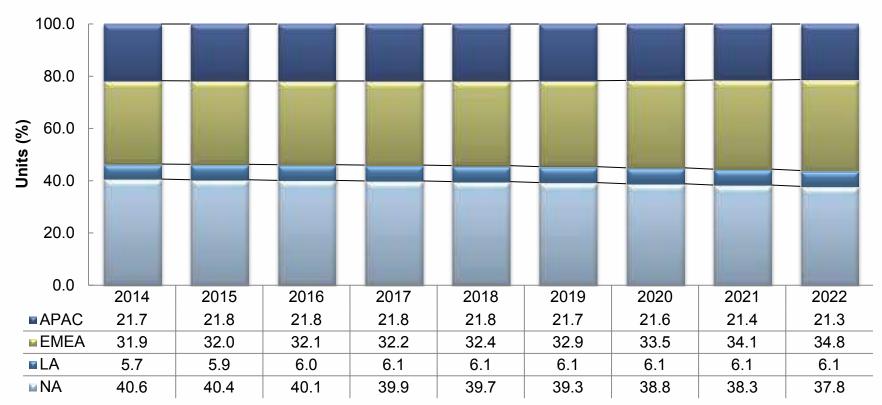
Total Self-Service Kiosks Market: Revenue Forecast by Region, Global, 2014–2022

Year	North America (\$ Million)	Latin America (\$ Million)	EMEA (\$ Million)	APAC (\$ Million)
2014	3,231.2	450.3	2,929.4	1,622.9
2015	3,292.2	469.6	3,014.4	1,668.4
2016	3,364.6	488.4	3,104.8	1,716.7
2017	3,438.7	508.8	3,201.1	1,768.2
2018	3,517.7	530.3	3,303.5	1,823.1
2019	3,598.7	553.1	3,412.5	1,881.4
2020	3,685.0	576.9	3,528.5	1,943.5
2021	3,773.5	602.2	3,652.0	2,009.6
2022	3,867.8	628.7	3,783.5	2,079.9
CAGR (%)	2.4	4.3	3.4	3.3

Percent Unit Shipment Forecast by Region

Key Takeaway: EMEA will drive the market, registering the highest growth in volumes.

Total Self-Service Kiosks Market: Percent Unit Shipment Forecast by Region, Global, 2014–2022



Year

Unit Shipment Forecast by Region

Total Self-Service Kiosks Market: Unit Shipment Forecast by Region, Global, 2014–2022

Year	North America	Latin America	EMEA	APAC
2014	837,900	118,500	658,300	447,700
2015	857,476	125,400	678,707	462,474
2016	881,016	132,000	703,819	478,661
2017	909,043	138,251	733,380	496,850
2018	939,911	144,866	767,849	516,724
2019	972,935	151,819	814,688	537,909
2020	1,008,037	159,259	868,457	560,502
2021	1,045,088	167,062	930,117	584,603
2022	1,084,327	175,081	998,016	609,741
CAGR (%)	3.6	4.8	6.4	4.2

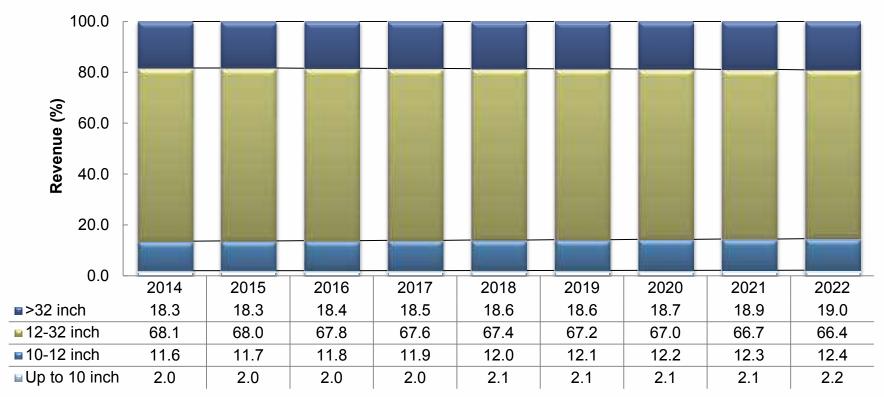
Revenue and Unit Shipment Forecast Discussion by Region

- NA is the biggest market for self-service kiosks and will continue to be so in the short, mid, and long terms. The region accounted for 38.6% of the global market revenue in 2017.
- EMEA, the second biggest region, held a 35.9% revenue share in 2017.
- NA has a high adoption rate for self-service kiosks. Retail, transportation & logistics, healthcare, hospitality, and government are some of the key verticals that have adopted self-service kiosks and driving growth in this market.
- In EMEA, Europe is the biggest market for self-service kiosks. Most Western European countries use kiosks in verticals like retail, hospitality, transportation & logistics, healthcare, and so on.
- The Middle East is increasingly adopting self-service kiosks and is a fast-growing market. Africa is a comparatively smaller market; however, it offers opportunities for self-service kiosk manufacturers.
- APAC, another fast-growing market, contributed 19.8% of the revenues in 2017. There is a high demand
 for self-services in countries like Japan, Australia, China, Korea, Taiwan, Singapore, and so on. India is
 a growing market and will offer growth opportunities in the mid and long terms.
- Latin America is the smallest market, with a 5.7% revenue share in 2017. The region, however, is expected to witness the highest revenue CAGR of 4.3% between 2017 and 2022.

Percent Revenue Forecast by Form Factor

Key Takeaway: End users are increasingly looking for kiosks with bigger screen sizes.

Total Self-Service Kiosks Market: Percent Revenue Forecast by Form Factor, Global, 2014–2022



Year

Revenue Forecast by Form Factor

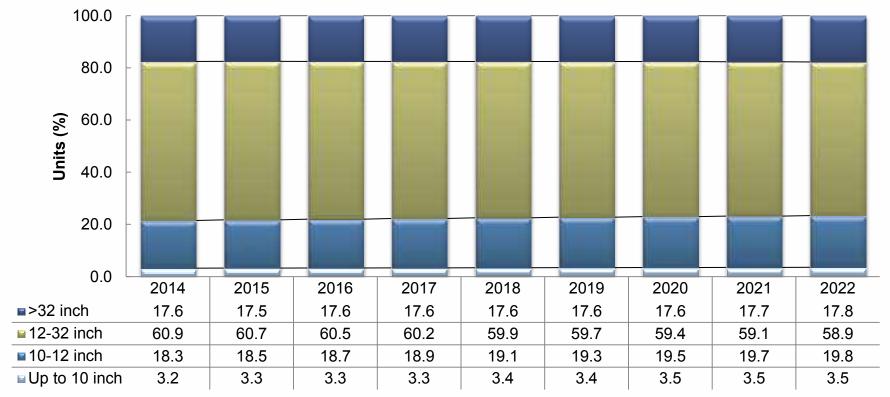
Total Self-Service Kiosks Market: Revenue Forecast by Form Factor, Global, 2014–2022

Year	Up to 10 inch (\$ Million)	10-12 inch (\$ Million)	12-32 inch (\$ Million)	>32 inch (\$ Million)
2014	164.7	955.1	5,607.3	1,506.8
2015	168.9	988.0	5,742.3	1,545.4
2016	173.5	1,023.6	5,881.4	1,596.1
2017	180.1	1,061.1	6,027.7	1,647.8
2018	188.1	1,100.9	6,183.7	1,701.9
2019	196.5	1,142.9	6,347.5	1,758.8
2020	205.4	1,187.5	6,521.7	1,819.3
2021	214.8	1,234.6	6,694.9	1,893.0
2022	225.8	1,284.6	6,879.0	1,970.5
CAGR (%)	4.6	3.9	2.7	3.6

Percent Unit Shipment Forecast by Form Factor

Key Takeaway: Kiosks with screen sizes 12-32 inch and 10-12 inch will witness high volume deployments.

Total Self-Service Kiosks Market: Percent Unit Shipment Forecast by Form Factor, Global, 2014–2022



Year

Unit Shipment Forecast by Form Factor

Total Self-Service Kiosks Market: Unit Shipment Forecast by Form Factor, Global, 2014–2022

Year	Up to 10 inch	10-12 inch	12-32 inch	>32 inch
2014	66,385	376,654	1,257,024	362,337
2015	69,063	392,571	1,290,013	372,410
2016	72,102	410,603	1,327,321	385,470
2017	75,823	431,017	1,370,524	400,160
2018	80,059	453,506	1,419,298	416,487
2019	84,803	478,780	1,477,977	435,792
2020	89,961	506,254	1,542,923	457,116
2021	95,560	536,062	1,612,941	482,308
2022	101,757	568,056	1,688,017	509,335
CAGR (%)	6.1	5.7	4.3	4.9

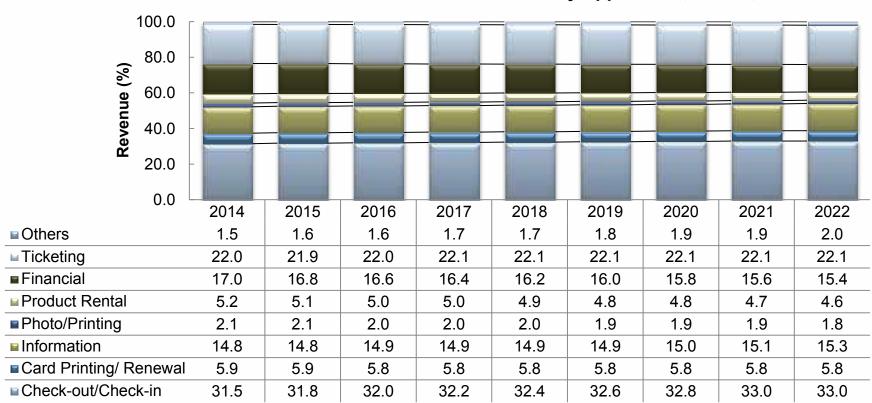
Revenue and Unit Shipment Forecast Discussion by Form Factor

- Self-service kiosks with 12-32 inch screen sizes are the most preferred and held 67.6% of the market share in 2017.
- End users are increasingly looking for kiosks with bigger screens that can display high-quality content, so as to have better customer engagement.
- The retail and hospitality end-user sectors are increasingly adopting kiosks with displays greater than 32 inches for certain applications in order to offer better customer engagement and experience.
- Kiosks with 10-12 inch screen sizes are popular in application areas such as restaurants, financial transactions, and ticketing.

Percent Revenue Forecast by Application

Key Takeaway: Check-out/check-in and ticketing are the key growth drivers.

Total Self-Service Kiosks Market: Percent Revenue Forecast by Application, Global, 2014–2022



Year

Key: Others include email, gaming, internet, office applications

Revenue Forecast by Application

Total Self-Service Kiosks Market: Revenue Forecast by Application, Global, 2014–2022

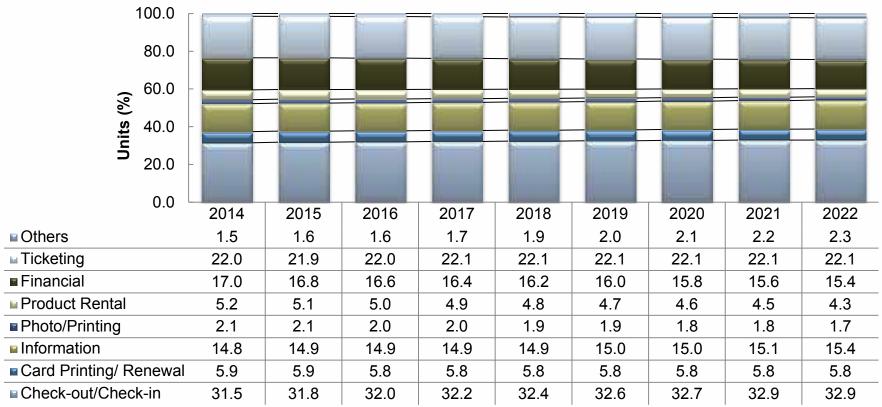
Year	Check-out/ Check-in (\$ Million)	Card Printing/ Renewal (\$ Million)	Information (\$ Million)	Photo/ Printing (\$ Million)	Product Rental (\$ Million)	Financial (\$ Million)	Ticketing (\$ Million)	Others (\$ Million)
2014	2,593.7	486.6	1,220.3	172.9	428.2	1,399.8	1,809.0	123.5
2015	2,685.4	495.7	1,254.0	174.6	433.1	1,417.4	1,853.4	130.9
2016	2,775.1	505.8	1,288.9	176.2	438.3	1,439.6	1,911.2	139.4
2017	2,870.4	517.3	1,327.6	178.1	443.9	1,462.0	1,968.2	149.1
2018	2,971.9	532.4	1,369.0	180.2	449.9	1,486.0	2,026.1	158.9
2019	3,079.1	547.6	1,409.9	182.8	456.7	1,511.1	2,088.6	169.8
2020	3,193.8	565.7	1,454.7	185.6	463.9	1,538.4	2,149.8	182.0
2021	3,305.3	582.8	1,511.3	190.6	473.6	1,567.9	2,212.1	193.8
2022	3,411.3	603.3	1,578.7	194.3	482.2	1,598.6	2,282.5	209.1
CAGR (%)	3.5	3.1	3.5	1.8	1.7	1.8	3.0	7.0

Key: Others include email, gaming, internet, office applications

Percent Unit Shipment Forecast by Application

Key Takeaway: Check-out/check-in applications will witness high volume deployments in the short and mid terms.

Total Self-Service Kiosks Market: Percent Unit Shipment Forecast by Application, Global, 2014–2022



Year

Key: Others include email, gaming, internet, office applications

Unit Shipment Forecast by Application

Total Self-Service Kiosks Market: Unit Shipment Forecast by Application, Global, 2014–2022

Year	Check-out/ Check-in	Card Printing/ Renewal	Information	Photo/ Printing	Product Rental	Financial	Ticketing	Others
2014	649,656	121,888	305,648	43,310	107,245	350,608	453,109	30,936
2015	675,332	124,682	315,423	43,910	108,947	356,528	466,193	33,041
2016	702,481	128,110	326,444	44,306	110,305	364,148	483,807	35,895
2017	733,144	132,181	339,414	45,003	112,297	373,015	502,782	39,688
2018	767,027	137,334	353,948	45,808	114,496	383,194	523,285	44,257
2019	806,626	143,331	370,831	46,665	116,885	395,796	547,941	49,277
2020	850,145	150,601	390,053	47,544	119,471	409,914	573,620	54,905
2021	897,467	157,897	412,955	48,461	121,902	425,413	602,472	60,303
2022	944,487	166,986	440,211	49,400	124,547	442,098	633,756	65,680
CAGR (%)	5.2	4.8	5.3	1.9	2.1	3.5	4.7	10.6

Key: Others include email, gaming, internet, office applications

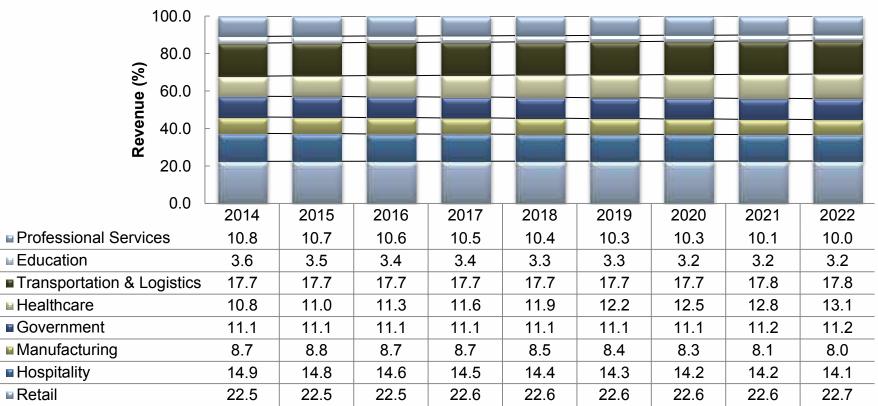
Revenue and Unit Shipment Forecast Discussion by Application

- Check-out/Check-in is the biggest application for self-service kiosks and held 32.2% of the market share in 2017. Revenue for this application is expected to grow at a CAGR of 3.5% between 2017 and 2022.
- Ticketing, the second biggest application of self-service kiosks, accounted for a 22.1% revenue share in 2017. Revenue for this application is expected to witness a CAGR of 3.0% over 2017-2022.
- Financial and information are the other bigger applications for self-service kiosks. These
 applications
 are widespread across verticals and offer growth opportunities. The growth of smart cities
 and urban infrastructure is leading to the growth of information kiosks worldwide.
- Revenue for the financial application is expected to witness a CAGR of 1.8% between 2017 and 2022.
- The information application is likely to see a revenue CAGR of 3.5% over the same period.

Percent Revenue Forecast by Vertical

Key Takeaway: Retail is the global growth engine for self-service kiosks.

Total Self-Service Kiosks Market: Percent Revenue Forecast by Vertical, Global, 2014–2022



Year

Revenue Forecast by Vertical

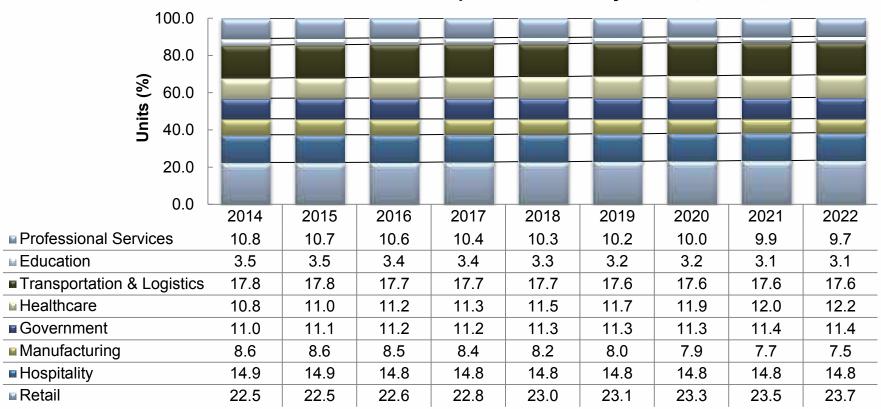
Total Self-Service Kiosks Market: Revenue Forecast by Vertical, Global, 2014–2022

Year	Retail (\$ Million)	Hospitality (\$ Million)	Manufacturing (\$ Million)	Government (\$ Million)	Healthcare (\$ Million)	Transportation & Logistics (\$ Million)	Education (\$ Million)	Professional Services (\$ Million)
2014	1,852.6	1,225.6	720.2	909.8	889.3	1,453.3	292.3	890.7
2015	1,902.6	1,246.0	739.2	935.7	929.6	1,491.3	295.6	904.7
2016	1,955.7	1,263.4	757.9	962.5	980.8	1,533.3	298.9	922.0
2017	2,011.8	1,288.7	771.4	991.7	1,034.6	1,577.6	302.5	938.5
2018	2,071.6	1,318.1	783.9	1,021.1	1,092.6	1,624.8	306.4	956.2
2019	2,134.7	1,351.1	794.4	1,052.0	1,153.6	1,674.1	311.0	974.8
2020	2,201.7	1,386.3	804.8	1,085.0	1,218.6	1,726.4	316.3	994.8
2021	2,272.2	1,423.4	814.9	1,119.8	1,287.6	1,781.6	321.9	1,015.8
2022	2,346.9	1,463.7	829.4	1,157.2	1,355.4	1,840.9	328.0	1,038.5
CAGR (%)	3.1	2.6	1.5	3.1	5.5	3.1	1.6	2.0

Percent Unit Shipment Forecast by Vertical

Key Takeaway: Retail and transportation & logistics verticals will see high volume growth.

Total Self-Service Kiosks Market: Percent Unit Shipment Forecast by Vertical, Global, 2014–2022



Year

Unit Shipment Forecast by Vertical

Total Self-Service Kiosks Market: Unit Shipment Forecast by Vertical, Global, 2014–2022

Year	Retail	Hospitality	Manufacturing	Government	Healthcare	Transportation & Logistics	Education	Professional Services
2014	464,678	306,987	177,095	227,455	223,692	366,503	72,877	223,112
2015	478,688	316,474	181,733	235,987	233,057	377,200	73,920	227,000
2016	496,509	325,132	186,805	245,479	244,800	389,447	75,158	232,168
2017	518,564	336,772	190,628	256,165	257,895	403,195	76,575	237,731
2018	543,932	350,187	194,606	267,454	272,427	418,616	78,203	243,924
2019	573,396	366,413	199,026	280,513	289,140	436,956	80,339	251,569
2020	605,879	384,117	203,872	294,639	307,716	457,410	82,654	259,967
2021	641,591	403,571	209,140	310,065	328,166	479,790	85,244	269,303
2022	679,941	424,487	216,449	326,544	348,615	503,888	88,015	279,225
CAGR (%)	5.6	4.7	2.6	5.0	6.2	4.6	2.8	3.3

Revenue and Unit Shipment Forecast Discussion by Vertical

- Retail is the biggest vertical market for self-service kiosks, with its revenue contribution valued at \$2,011.8 million, and accounted for a 22.6% market share, in 2017.
- Transportation & logistics is the second biggest vertical market that uses self-service kiosks. In 2017, this vertical had a revenue share of 17.7%, contributing \$1,577.6 million.
- The other big verticals hospitality, healthcare, and government accounted for 14.5%,
 11.6%, and 11.1% of the revenue share, respectively, in 2017.
- The hospitality vertical is expected to witness a revenue CAGR of 2.6% between 2017 and 2022.
- Healthcare is likely to grow at a CAGR of 5.5%, and the government vertical at 3.1%, over the same period.

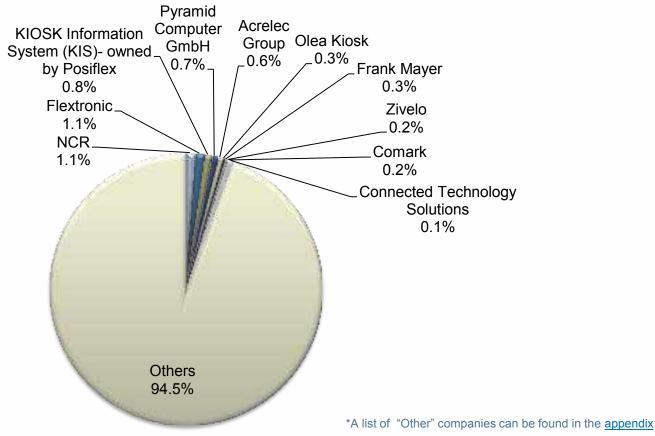


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Market Share

Key Takeaway: The market is fragmented and competitive.

Total Self-Service Kiosks Market: Percent Revenue Breakdown by Company, Global, 2017



 $n = \sim 100$

Market Share Analysis

- The top 10 participants contributed 5.5% of the total market revenue in 2017. NCR and Flextronic were the market leaders in 2017 with \$100.0 million revenue each.
- Kiosk Information Systems (KIS), owned by Posiflex is known for its self-service check-outs and earned a revenue of \$75.0 million.
- European companies Pyramid Computers and Acrelec Group had had 2017 revenues \$65.0 million, and \$55.0 million respectively.
- Olea Kiosks and Frank Mayer generated a revenue of \$25.0 million each in 2017.
- Zivelo, acquired Oak Labs in 2018. Zivelo's revenue is 2017 was \$20.0 million.
- Comark is known for its industrial computers and display solutions, and earned a revenue of \$15.0 million in 2017.
- Connected Technology Solutions had a revenue of \$12.0 million in 2017.

Total Self-Service Kiosks Market: Company Revenues of Top 10 Participants, Global, 2017

Company	Revenue (\$ Million)
NCR Corp	100.0
Flextronic	100.0
KIS	75.0
Pyramid Computers	65.0
Acrelec	55.0
Olea Kiosk	25.0
Frank Mayer	25.0
Zivelo	20.0
Comark	15.0
Connected Technology Solutions	12.0

Competitive Environment

Total Self-Service Kiosks Market: Competitive Structure, Global, 2017

Number of Companies in the Market	About 100
Competitive Factors	Performance, Form Factor, Cost, Design, Service & Support
Key End-user Groups	Retail, Hospitality, Manufacturing, Government, Healthcare, Transportation & Logistics, Education, Professional Services
Major Market Participants	NCR, Flextronic, Kiosk Information System (KIS)- owned by Posiflex, Pyramid Computer GmbH, Acrelec Group, Olea Kiosk, Frank Mayer, Zivelo, Comark, and Connected Technology Solutions
Market Share of Top 10 Competitors	5.5%
Other Notable Market Participants	Meridian Kiosks, Phoenix Kiosk, Slabb Kiosk, RedyRef, Qwick Media, Peerless, Turnkey, Southern Kiosk
Distribution Structure	Direct Sales, Distributors, System Integrators
Notable Acquisitions and Mergers	KIOSK Information Systems was acquired by Posiflex in 2016. Zivelo acquired Oak Labs in 2018.



Growth Opportunity for Self-Service Kiosk Manufacturers—Customer Engagement is the Key

Applicable Segments

North America

Latin America

EMEA

APAC

Vision Transformation

Megatrends Impact

Disruptive Applications

Business Models

Current Offerings

New Capabilities

Value-add Services

Vertical Integration

Geographic Expansion

Partnerships

Investment / M&A

Context and Opportunity



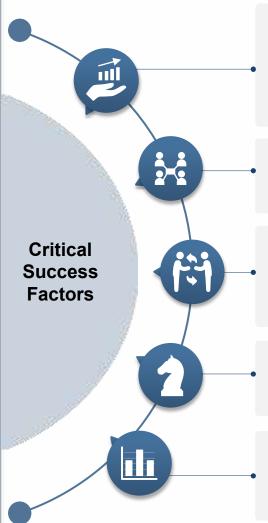
- Business models across industry verticals are rapidly changing with growing digitization and proliferaton of Internet of Things (IoT).
 Companies are increasingly adopting technology to enhance customer value and experience.
- Increasing penetration of smartphones and tablets in business applications is disrupting the fixed kiosks market.
- The self-service kiosks market is witnessing the entry of new players and small device manufacturers.
 The key growth strategy for such companies is to partner with system integrators, display manufacturers, and distributors.

Call to Action



- Kiosk manufacturers need to focus on developing kiosks that have a sleek design, contain advanced software solutions, have wireless and IoT connectivity, and offer innovative content for customer engagement.
- Kiosk manufacturers need to increasingly adapt and develop portable tablet-based kiosks in order to offer mobility and flexibility to end users.
- Growth opportunities exist for system integrators and display manufacturers. Kiosk companies are increasingly looking to partner with system integrators and display manufacturers for installations.

Strategic Imperatives for Self-Service Kiosk Manufacturers



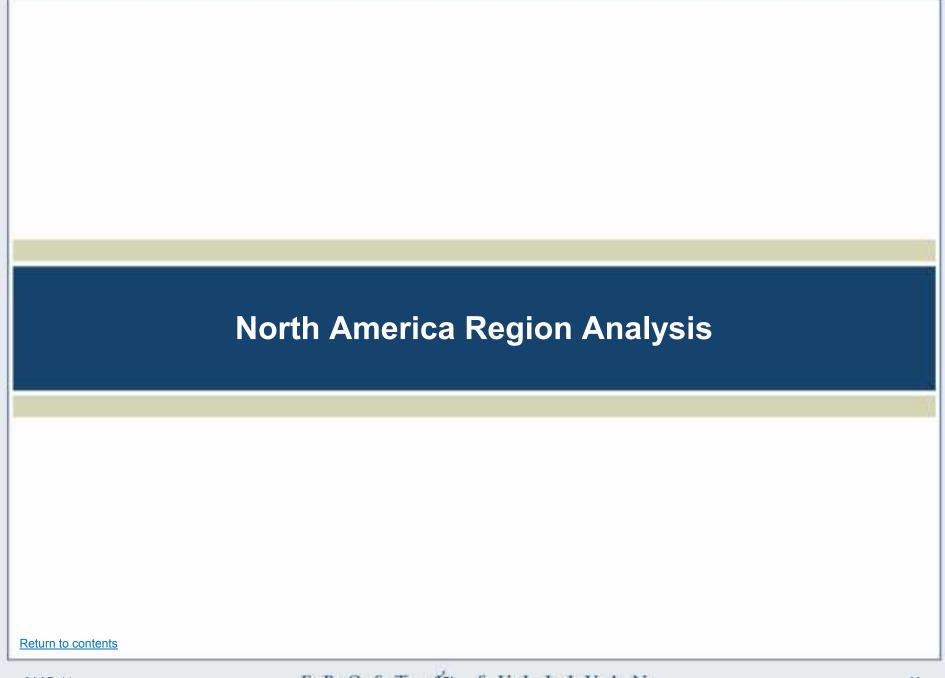
Kiosks with larger displays are a key growth area. Constantly evolving technology is also a factor driving the adoption of bigger screens. End users are looking for an enhanced experience and hence bigger screens are in demand. Most popular screen sizes are 12-32 inch and greater than 32 inch. In some cases, the screen sizes go up to 84 inches.

All-in-one kiosks will offer growth opportunities in the short, medium, and long terms.

Customer engagement with 3D content and high-quality visual effects will be the key to growth. Kiosk manufacturers should adopt Android-based operating systems and advanced software solutions to design content for different applications.

Check-out/check-in and ticketing are the fastest growing applications and offer high growth opportunities for kiosk manufacturers.

Kiosk manufacturers need to focus of industry verticals like retail and transportation & logistics as they offer immense growth opportunities across regions during the forecast period.



North America—Key Findings

Key Takeaway: The NA region is the biggest market for kiosks and influences the global market.

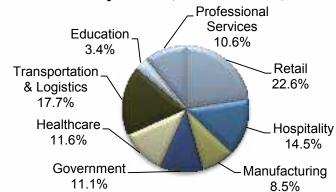
Important Segment Characteristics

Factors	Assessment	Trend
Opportunity size (\$ M)*	3,867.8	A
Primary needs	Retail, Hospitality, Manufacturing, Government, Healthcare, Transportation & Logistics, Education, Professional Services	_
Price sensitivity	5	•
Purchase influencers	Performance, Quality, Design, Form Factor, Cost	_
Distribution structure	Direct, Distributors, System Integrators	_
Demand for innovation	7	9

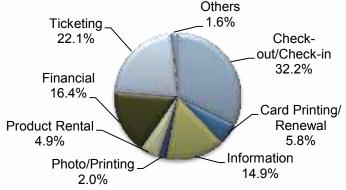


Key: Others include email, gaming, internet, office applications *Opportunity size is comprised of 2022.

Self-Service Kiosks Market: Percent Revenue Breakdown by Vertical, North America, 2017



Self-Service Kiosks Market: Percent Revenue Breakdown by Application, North America, 2017



Market Engineering Measurements

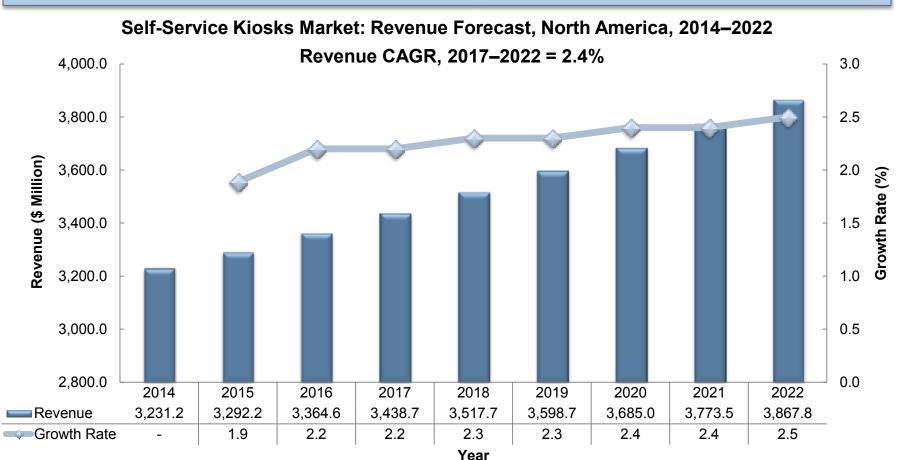
Self-Service Kiosks Market: Market Engineering Measurements, North America, 2017

Measurement Name	Measurement	Trend
Market stage	Mature	-
Market revenue (2017)	\$3,438.7 M	
Market forecast (2022)	\$3,867.8 M	A
Base year growth rate	2.2%	•
Compound annual growth rate (CAGR, 2017–2022)	2.4%	_
Unit shipment (2017)	909,043	
Unit shipment forecast (2022)	1,084,327	A
Base year growth rate	3.2%	
Compound annual growth rate (CAGR, 2017–2022)	3.6%	_
Price sensitivity (scale of 1 to 10, low to high)	5	•
Number of competitors (active market competitors in base year)	About 100	٠
Degree of competition (scale of 1 to 10, low to high)	7	
Degree of technical change (scale of 1 to 10, low to high)	5	A

Decreasing Stable Increasing

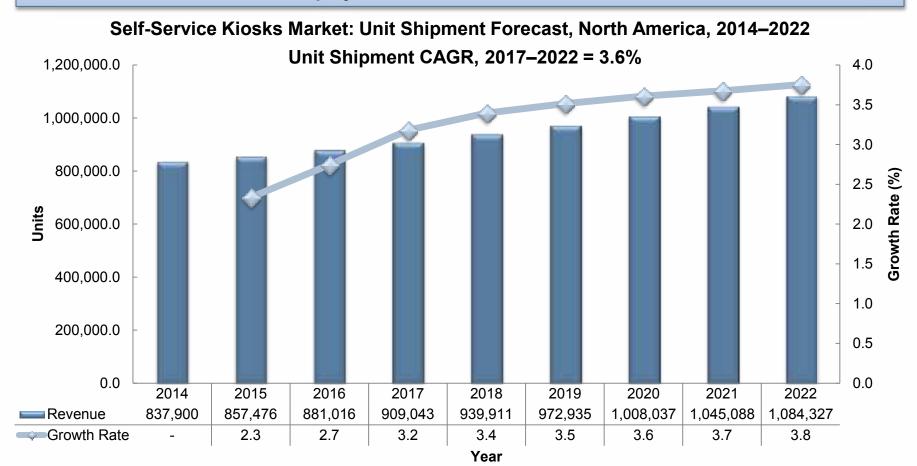
Revenue Forecast

Key Takeaway: Continued demand from the retail, hospitality, healthcare, and government verticals will sustain the growth momentum.



Unit Shipment Forecast

Key Takeaway: Engaging content on display is making kiosks more popular and driving deployments across vertical markets.



Revenue and Unit Shipment Forecast Discussion

- NA is the biggest regional market for self-service kiosks with a fair adoption rate across all vertical markets.
- The market had a revenue of \$3,438.7 million and shipments of 909,043 units in 2017.
- Revenue in this market is expected to expand at a CAGR of 2.4% between 2017 and 2022 and reach \$3,867.8 million by 2022.
- The unit shipment is forecast to grow by 3.6% between 2017 and 2022 to 1,084,327 in 2022.
- Retail is the biggest vertical market in NA using self-service kiosks and contributed a revenue of \$776.1 million in 2017.
- Transportation & logistics is the second biggest vertical market and had a revenue contribution of \$608.6 million in 2017.
- In terms of applications, most self-service kiosks are used for check-out/check-in, which contributed a revenue of \$1,106.9 million in 2017.

Revenue Forecast by Form Factor

Key Takeaway: Bigger screen sizes with entertaining content are the key for market growth.

Self-Service Kiosks Market: Revenue Forecast by Form Factor, North America, 2014–2022

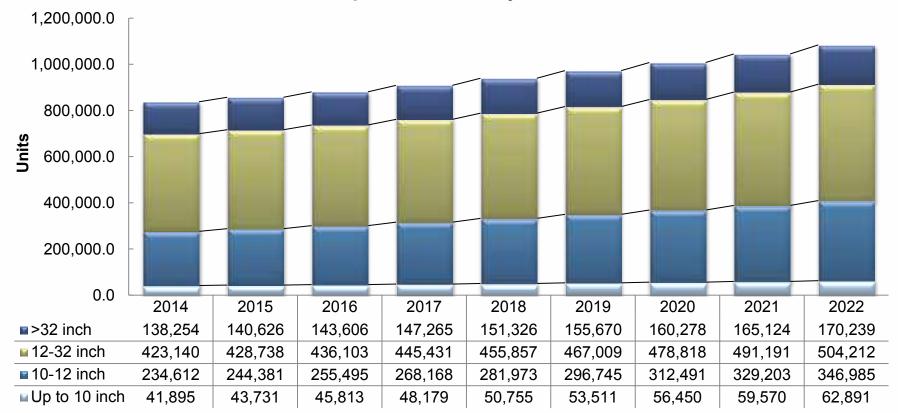


Year

Unit Shipment Forecast by Form Factor

Key Takeaway: Technology advancements in displays allow display manufacturers to offer high-end screens at competitive prices, resulting in a greater demand for 12-32 inch screen sizes.

Self-Service Kiosks Market: Unit Shipment Forecast by Form Factor, North America, 2014–2022



Year

Revenue Forecast by Application

Self-Service Kiosks Market: Revenue Forecast by Application, North America, 2014–2022

Year	Check-out/ Check-in (\$ Million)	Card Printing/ Renewal (\$ Million)	Information (\$ Million)	Photo/ Printing (\$ Million)	Product Rental (\$ Million)	Financial (\$ Million)	Ticketing (\$ Million)	Others (\$ Million)
2014	1,017.8	191.0	478.9	67.9	168.0	549.31	709.9	48.5
2015	1,046.9	193.3	488.9	68.1	168.9	552.60	722.6	51.0
2016	1,076.3	196.1	499.9	68.3	169.9	558.53	742.1	53.4
2017	1,106.9	199.4	512.0	68.7	171.1	563.94	760.4	56.3
2018	1,139.4	204.0	524.9	69.1	172.4	569.87	778.6	59.5
2019	1,172.8	208.4	537.7	69.6	174.0	575.78	797.7	62.7
2020	1,208.8	213.8	552.1	70.1	175.7	582.23	815.7	66.4
2021	1,244.3	218.3	569.6	70.8	177.7	588.66	834.6	69.6
2022	1,275.8	224.1	591.7	71.5	179.8	595.64	855.6	73.7
CAGR (%)	2.9	2.4	2.9	0.8	1.0	1.1	2.4	5.5

Key: Others include email, gaming, internet, office applications

Unit Shipment Forecast by Application

Self-Service Kiosks Market: Unit Shipment Forecast by Application, North America, 2014–2022

Year	Check-out/ Check-in	Card Printing/ Renewal	Information	Photo/ Printing	Product Rental	Financial	Ticketing	Others
2014	263,939	49,520	124,177	17,596	43,571	142,443	184,087	12,569
2015	272,677	50,334	127,335	17,727	43,982	143,930	188,201	13,291
2016	281,925	51,448	131,007	17,747	44,119	146,249	194,426	14,096
2017	292,712	52,815	135,447	18,005	44,850	149,083	201,131	14,999
2018	304,531	54,609	140,329	18,330	45,750	152,266	208,118	15,978
2019	317,177	56,430	145,454	18,673	46,746	155,670	215,759	17,026
2020	330,636	58,809	151,272	19,028	47,775	159,270	223,103	18,145
2021	344,683	60,852	157,808	19,387	48,778	163,034	231,212	19,334
2022	357,609	63,944	165,827	19,761	49,802	166,986	239,795	20,602
CAGR (%)	4.1	3.9	4.1	1.9	2.1	2.3	3.6	6.6

Key: Others include email, gaming, internet, office applications

Revenue Forecast by Vertical

Self-Service Kiosks Market: Revenue Forecast by Vertical, North America, 2014–2022

Year	Retail (\$ Million)	Hospitality (\$ Million)	Manufacturing (\$ Million)	Government (\$ Million)	Healthcare (\$ Million)	Transportation & Logistics (\$ Million)	Education (\$ Million)	Professional Services (\$ Million)
2014	727.0	481.0	282.6	357.1	349.0	570.3	114.7	349.6
2015	741.7	485.8	286.0	364.8	362.8	581.4	115.2	354.5
2016	758.7	491.6	289.2	373.5	381.2	594.9	116.1	359.5
2017	776.1	498.4	292.0	382.7	399.8	608.6	116.9	364.0
2018	794.7	505.9	294.9	391.9	420.4	623.3	117.8	368.8
2019	814.0	513.5	297.6	401.2	441.5	638.4	118.8	373.7
2020	834.7	521.7	300.3	411.2	464.0	654.5	119.8	378.9
2021	855.8	530.1	302.7	421.5	487.5	670.9	120.8	384.2
2022	878.0	539.1	305.1	432.4	513.0	688.5	121.8	389.9
CAGR (%)	2.5	1.7	0.9	2.5	5.1	2.5	0.8	1.4

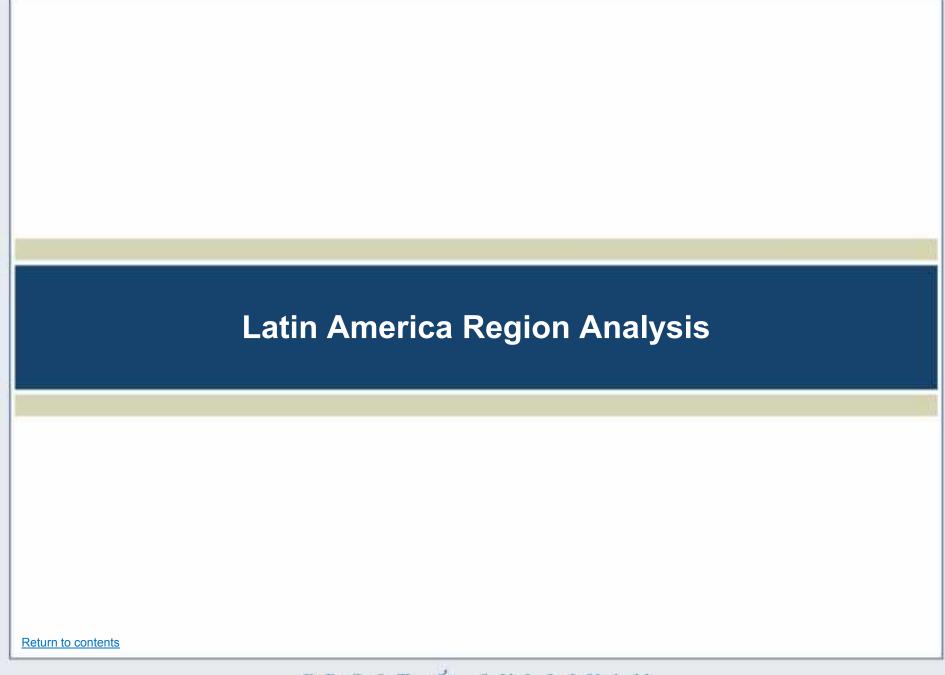
Unit Shipment Forecast by Vertical

Self-Service Kiosks Market: Unit Shipment Forecast by Vertical, North America, 2014–2022

Year	Retail	Hospitality	Manufacturing	Government	Healthcare	Transportation & Logistics	Education	Professional Services
2014	189,165	124,721	69,989	92,148	91,446	150,378	29,407	90,645
2015	193,327	129,585	70,339	95,650	93,733	153,521	29,589	91,732
2016	200,093	134,639	70,761	99,571	96,263	157,047	29,808	92,833
2017	209,698	140,024	71,256	103,853	99,151	160,973	30,047	94,040
2018	221,022	145,625	71,826	108,215	102,324	165,320	30,317	95,263
2019	233,178	151,596	72,472	112,760	105,599	170,114	30,620	96,596
2020	246,236	157,812	73,125	117,383	109,189	175,388	30,957	97,949
2021	260,271	164,440	73,710	122,196	112,901	180,825	31,329	99,418
2022	275,367	171,346	74,299	127,206	116,853	186,611	31,736	100,909
CAGR (%)	5.6	4.1	0.8	4.1	3.3	3.0	1.1	1.4

Forecast Discussion

- NA is the biggest global market for self-service kiosks and will continue to dominate throughout the forecast period.
- The United States has a significant adoption level of self-service kiosks. Leading global players are headquartered in the region, influencing the market globally.
- However, regional players are increasingly dependent on component and display manufacturers outside the region, particularly APAC.
- Retail, hospitality, transportation & logistics, and healthcare verticals are the key growth areas.
- The government vertical in the region also has a high presence of kiosks across applications.



Latin America—Key Findings

Key Takeaway: The region is slowly adopting self-service kiosks across verticals and will offer growth opportunities in the mid and long terms.

Important Segment Characteristics

Factors	Assessment	Trend
Opportunity size (\$ M)*	628.7	A
Primary needs	Retail, Hospitality, Manufacturing, Government, Healthcare, Transportation & Logistics, Education, Professional Services	-
Price sensitivity	6	▼
Purchase influencers	Performance, Quality, Design, Form Factor, Cost	_
Distribution structure	Direct, Distributors, System Integrators	-
Demand for innovation	6	•

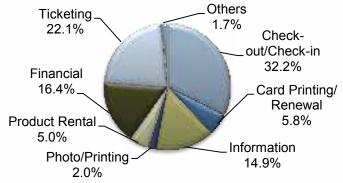


Key: Others include email, gaming, internet, office applications

Self-Service Kiosks Market: Percent Revenue Breakdown by Vertical, Latin America, 2017



Self-Service Kiosks Market: Percent Revenue Breakdown by Application, Latin America, 2017



^{*}Opportunity size is comprised of 2022.

Market Engineering Measurements

Self-Service Kiosks Market: Market Engineering Measurements, Latin America, 2017

Measurement Name	Measurement	Trend
Market stage	Growth	_
Market revenue (2017)	\$508.8 M	
Market forecast (2022)	\$628.7 M	A
Base year growth rate	4.2%	A
Compound annual growth rate (CAGR, 2017–2022)	4.3%	-
Unit shipment (2017)	138,251	
Unit shipment forecast (2022)	175,081	A
Base year growth rate	4.7%	▼
Compound annual growth rate (CAGR, 2017–2022)	4.8%	-
Price sensitivity (scale of 1 to 10, low to high)	6	•
Number of competitors (active market competitors in base year)	About 100	•
Degree of competition (scale of 1 to 10, low to high)	7	A
Degree of technical change (scale of 1 to 10, low to high)	5	A

Decreasing Stable Increasing

Revenue Forecast

Key Takeaway: Retail and hospitality verticals will drive market revenues.

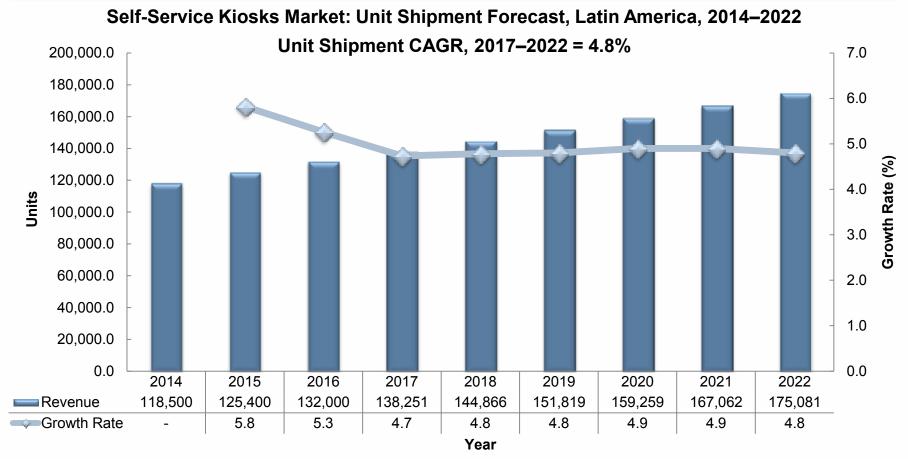


Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan

Year

Unit Shipment Forecast

Key Takeaway: Unit shipments will witness a steady growth during the forecast period.



Revenue and Unit Shipment Forecast Discussion

- Latin America is a growing market for self-service kiosks and is witnessing increasing adoption across verticals.
- The market had a revenue of \$508.8 million and unit shipments of 138,251 in 2017.
- The revenue is expected to grow at a CAGR of 4.3% between 2017 and 2022 to \$628.7 million market by 2022.
- The unit shipment is forecast to grow by 4.8% over the same period and reach 175,081 in 2022.
- Retail is the biggest vertical market for self-service kiosks in the region and contributed a revenue of \$114.8 million in 2017.
- Transportation & logistics is the second biggest vertical and had a revenue of \$90.1 million in 2017.
- In terms of applications, most self-service kiosks are used for check-out/check-in applications which contributed a revenue of \$163.8 million in 2017.

Source: Frost & Sullivan

Revenue Forecast by Form Factor

Key Takeaway: Retail and hospitality are the key growth verticals and are increasingly adopting bigger screen sizes for offering a better engagement and experience to customers.

Self-Service Kiosks Market: Revenue Forecast by Form Factor, Latin America, 2014–2022

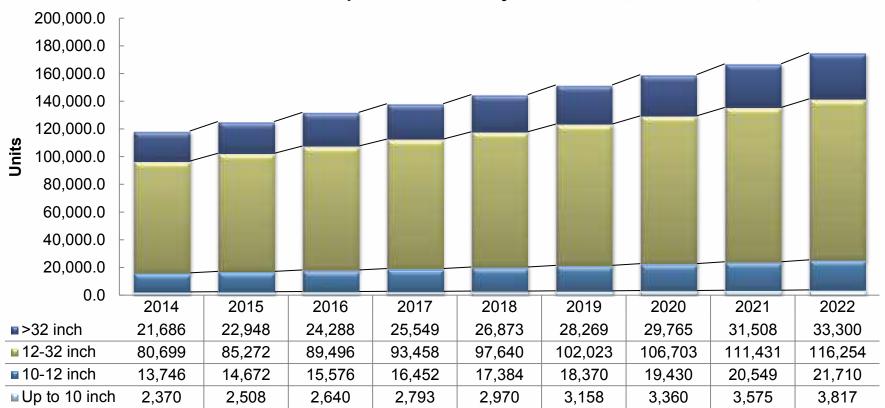


Year

Unit Shipment Forecast by Form Factor

Key Takeaway: Retail and hospitality verticals will drive the growth in unit shipments.

Self-Service Kiosks Market: Unit Shipment Forecast by Form Factor, Latin America, 2014–2022



Year

Revenue Forecast by Application

Self-Service Kiosks Market: Revenue Forecast by Application, Latin America, 2014–2022

Year	Check-out/ Check-in (\$ Million)	Card Printing/ Renewal (\$ Million)	Information (\$ Million)	Photo/ Printing (\$ Million)	Product Rental (\$ Million)	Financial (\$ Million)	Ticketing (\$ Million)	Others (\$ Million)
2014	141.8	26.6	66.7	9.5	23.4	76.6	98.9	6.8
2015	149.3	27.6	69.7	9.7	24.1	78.8	103.1	7.3
2016	156.3	28.5	72.4	9.8	24.7	81.1	107.8	7.8
2017	163.8	29.6	75.6	10.1	25.3	83.4	112.6	8.4
2018	171.8	30.8	79.0	10.3	25.9	85.9	117.4	9.0
2019	180.6	32.4	81.0	10.9	26.8	88.5	122.9	10.0
2020	189.9	34.2	82.6	11.6	27.7	91.3	128.4	11.1
2021	193.5	36.5	86.7	14.3	30.6	95.9	130.9	13.9
2022	201.1	38.9	89.6	15.5	32.1	99.3	136.1	16.1
CAGR (%)	4.2	5.7	3.5	9.0	4.8	3.5	3.9	13.8

Key: Others include email, gaming, internet, office applications

Unit Shipment Forecast by Application

Self-Service Kiosks Market: Unit Shipment Forecast by Application, Latin America, 2014–2022

Year	Check-out/ Check-in	Card Printing/ Renewal	Information	Photo/ Printing	Product Rental	Financial	Ticketing	Others
2014	37,328	7,003	17,562	2,489	6,162	20,145	26,034	1,778
2015	39,877	7,361	18,622	2,592	6,432	21,049	27,523	1,944
2016	42,240	7,708	19,628	2,659	6,610	21,912	29,130	2,112
2017	44,517	8,032	20,599	2,738	6,821	22,673	30,589	2,281
2018	46,937	8,417	21,628	2,825	7,051	23,468	32,077	2,463
2019	49,493	8,806	22,697	2,914	7,294	24,291	33,668	2,657
2020	52,237	9,237	23,857	3,006	7,644	25,163	35,248	2,867
2021	55,099	9,673	25,226	3,099	7,852	26,062	36,960	3,091
2022	57,741	10,137	26,775	3,191	8,229	26,963	38,719	3,327
CAGR (%)	5.3	4.8	5.4	3.1	3.8	3.5	4.8	7.8

Key: Others include email, gaming, internet, office applications

Revenue Forecast by Vertical

Self-Service Kiosks Market: Revenue Forecast by Vertical, Latin America, 2014–2022

Year	Retail (\$ Million)	Hospitality (\$ Million)	Manufacturing (\$ Million)	Government (\$ Million)	Healthcare (\$ Million)	Transportation & Logistics (\$ Million)	Education (\$ Million)	Professional Services (\$ Million)
2014	101.3	67.0	39.4	49.8	48.6	79.5	16.0	48.7
2015	105.8	69.3	41.3	52.0	51.7	82.9	16.4	50.2
2016	110.1	70.8	43.1	54.2	55.2	86.4	16.9	51.8
2017	114.8	73.2	44.4	56.6	59.0	90.1	17.3	53.4
2018	119.7	75.9	45.6	59.1	63.1	94.0	17.8	55.2
2019	124.4	78.9	46.8	61.8	67.5	97.8	18.8	57.1
2020	129.0	81.9	48.1	64.6	72.1	101.6	20.2	59.2
2021	134.0	85.2	49.6	67.6	77.0	105.8	21.6	61.4
2022	139.3	88.7	51.6	70.7	81.6	110.2	22.9	63.7
CAGR (%)	3.9	3.9	3.1	4.5	6.7	4.1	5.8	3.6

Unit Shipment Forecast by Vertical

Self-Service Kiosks Market: Unit Shipment Forecast by Vertical, Latin America, 2014–2022

Year	Retail	Hospitality	Manufacturing	Government	Healthcare	Transportation & Logistics	Education	Professional Services
2014	26,663	17,639	10,365	13,094	12,798	20,915	4,207	12,819
2015	28,253	18,503	11,029	13,894	13,794	22,146	4,389	13,392
2016	29,766	19,129	11,653	14,652	14,916	23,338	4,554	13,992
2017	31,203	19,876	12,060	15,387	16,037	24,470	4,701	14,516
2018	32,725	20,731	12,443	16,138	17,239	25,670	4,853	15,066
2019	34,261	21,666	12,801	16,939	18,524	26,891	5,083	15,655
2020	35,985	22,679	13,144	17,785	19,907	28,239	5,256	16,264
2021	37,782	23,738	13,496	18,675	21,381	29,648	5,445	16,899
2022	39,613	24,840	14,012	19,591	22,754	31,097	5,635	17,540
CAGR (%)	4.9	4.6	3.0	4.9	7.2	4.9	3.7	3.9

Forecast Discussion

- Latin America is a small market for self-service kiosks. Increasing urbanization and a growing middle class will drive the adoption of self-service kiosks during the forecast period.
- Countries such as Brazil, Argentina, and Mexico are witnessing increased adoption of self-service kiosks in their retail and hospitality industries.
- Transportation & logistics is another growth sector for self-service kiosks.
- Different government departments and agencies are also adopting self-service kiosks for enabling a better access to their growing population.

Source: Frost & Sullivan

EMEA Region Analysis Return to contents

EMEA—Key Findings

Key Takeaway: Europe is the dominant market in the EMEA region driving growth.

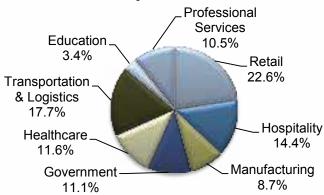
Important Segment Characteristics

Factors	Assessment	Trend
Opportunity size (\$ M)*	3,783.5	A
Primary needs	Retail, Hospitality, Manufacturing, Government, Healthcare, Transportation & Logistics, Education, Professional Services	_
Price sensitivity	5	▼
Purchase influencers	Performance, Quality, Design, Form Factor, Cost	_
Distribution structure	Direct, Distributors, System Integrators	_
Demand for innovation	7	•

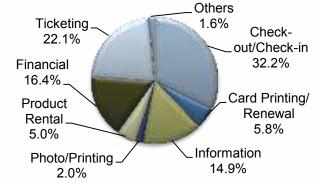


Key: Others include email, gaming, internet, office applications

Self-Service Kiosks Market: Percent Revenue Breakdown by Vertical, EMEA, 2017



Self-Service Kiosks Market: Percent Revenue Breakdown by Application, EMEA, 2017



^{*}Opportunity size is comprised of 2022.

Market Engineering Measurements

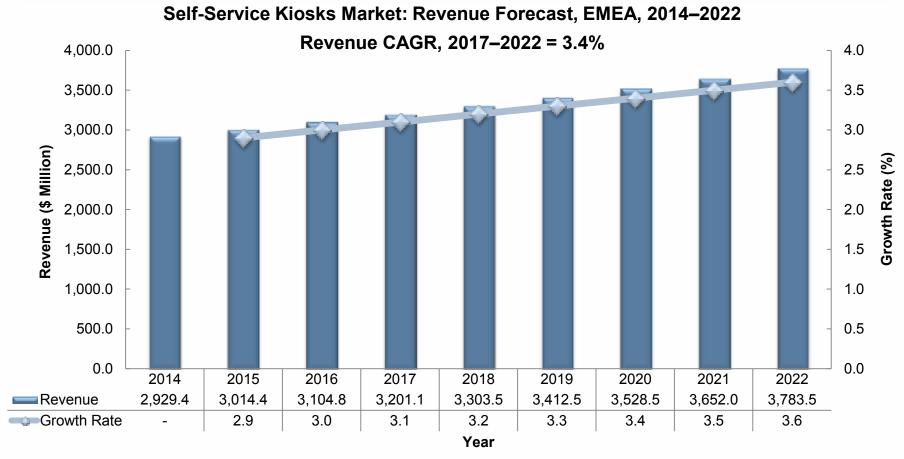
Self-Service Kiosks Market: Market Engineering Measurements, EMEA, 2017

Measurement Name	Measurement	Trend
Market stage	Mature	-
Market revenue (2017)	\$3,201.1 M	A
Market forecast (2022)	\$3,783.5 M	A
Base year growth rate	3.1%	A
Compound annual growth rate (CAGR, 2017–2022)	3.4%	-
Unit shipment (2017)	733,380	A
Unit shipment forecast (2022)	998,016	A
Base year growth rate	4.2%	A
Compound annual growth rate (CAGR, 2017–2022)	6.4%	-
Price sensitivity (scale of 1 to 10, low to high)	5	▼
Number of competitors (active market competitors in base year)	About 100	•
Degree of competition (scale of 1 to 10, low to high)	7	A
Degree of technical change (scale of 1 to 10, low to high)	5	A

Decreasing Stable Increasing

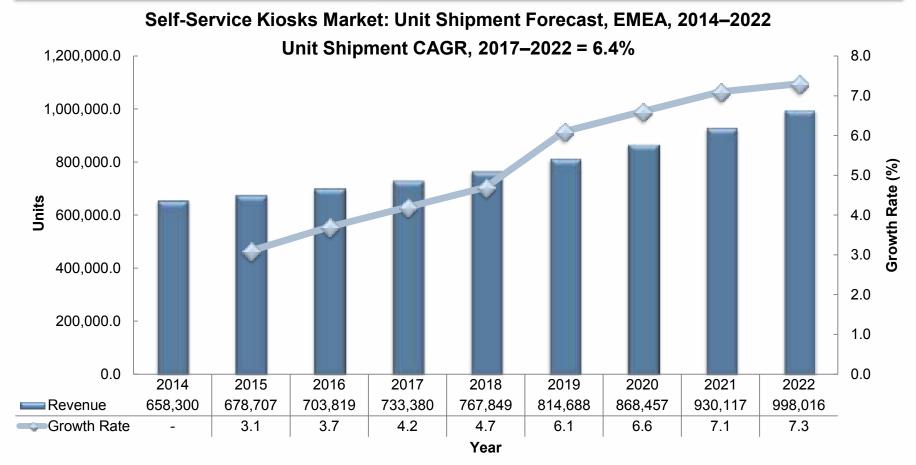
Revenue Forecast

Key Takeaway: Revenue growth will primarily come from the retail, hospitality, healthcare, and transportation & logistics verticals.



Unit Shipment Forecast

Key Takeaway: Increased deployments in the Middle East and Europe will lead to high volume growth in this market.



Revenue and Unit Shipment Forecast Discussion

- EMEA is the second biggest market for self-service kiosks and sees widespread adoption across industry verticals.
- This market had a revenue of \$3,201.1 million and unit shipments of 733,380 in 2017.
- The revenue is expected to expand at a CAGR of 3.4% between 2017 and 2022 and reach \$3,783.5 million by 2022.
- The unit shipment is forecast to grow by 6.4% over the same period and reach 998,016 in 2022.
- Retail is the biggest vertical market in EMEA for self-service kiosks and contributed a revenue of \$722.5 million in 2017.
- Transportation & logistics is the second biggest vertical market and contributed \$566.6 million in 2017, or a 17.7% revenue share.
- In terms of applications, most self-service kiosks are used for the check-out/check-in application which accounted for a revenue of \$1,030.4 million in 2017.

Source: Frost & Sullivan

Revenue Forecast by Form Factor

Key Takeaway: Technology advancements in displays allow display manufacturers to offer high-end screens at competitive prices, leading to a greater demand for 12-32 inch screen sizes.

Self-Service Kiosks Market: Revenue Forecast by Form Factor, EMEA, 2014–2022

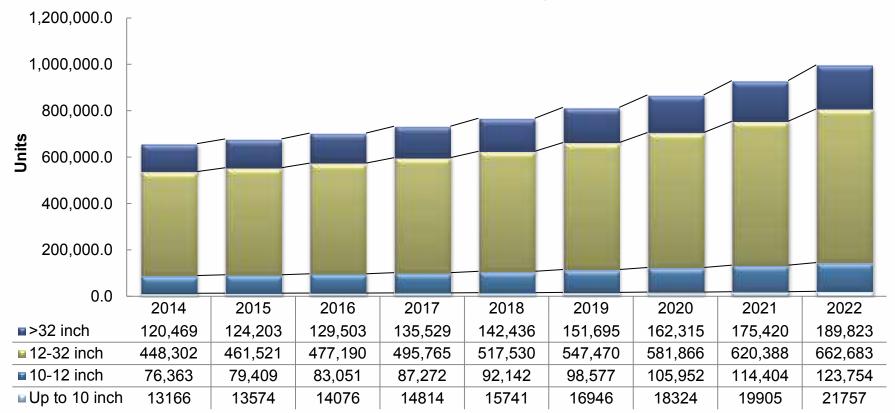


Year

Unit Shipment Forecast by Form Factor

Key Takeaway: Bigger screen sizes with entertaining content are the key for market growth.

Self-Service Kiosks Market: Unit Shipment Forecast by Form Factor, EMEA, 2014–2022



Year

Revenue Forecast by Application

Self-Service Kiosks Market: Revenue Forecast by Application, EMEA, 2014–2022

Year	Check-out/ Check-in (\$ Million)	Card Printing/ Renewal (\$ Million)	Information (\$ Million)	Photo/ Printing (\$ Million)	Product Rental (\$ Million)	Financial (\$ Million)	Ticketing (\$ Million)	Others (\$ Million)
2014	922.8	173.1	434.1	61.5	152.3	498.0	643.6	43.9
2015	958.6	176.9	447.6	62.3	154.6	506.0	661.6	46.7
2016	993.2	181.0	461.3	63.1	156.9	515.1	684.8	49.3
2017	1,030.4	185.6	476.6	64.0	159.4	524.6	707.9	52.5
2018	1,070.1	191.7	492.9	64.9	162.0	534.9	731.2	55.9
2019	1,112.3	197.7	510.0	65.9	164.7	545.8	756.6	59.5
2020	1,157.6	204.9	528.8	66.9	167.6	557.8	781.2	63.8
2021	1,204.6	211.6	551.6	67.9	170.6	569.9	808.1	67.7
2022	1,248.5	219.8	579.3	69.0	173.6	583.3	837.4	72.6
CAGR (%)	3.9	3.4	4.0	1.5	1.7	2.1	3.4	6.7

Key: Others include email, gaming, internet, office applications

Unit Shipment Forecast by Application

Self-Service Kiosks Market: Unit Shipment Forecast by Application, EMEA, 2014–2022

Year	Check-out/ Check-in	Card Printing/ Renewal	Information	Photo/ Printing	Product Rental	Financial	Ticketing	Others
2014	207,365	38,906	97,560	13,824	34,232	111,911	144,629	9,875
2015	215,829	39,840	100,788	14,031	34,812	113,923	148,964	10,520
2016	225,196	41,074	104,632	14,177	35,404	116,808	155,295	11,235
2017	236,211	42,672	109,336	14,361	35,971	120,337	162,327	12,164
2018	248,987	44,816	114,844	14,577	36,546	124,596	170,224	13,258
2019	266,055	47,719	122,263	14,810	37,167	130,817	181,133	14,724
2020	285,720	51,236	130,961	15,047	37,836	138,082	193,076	16,498
2021	307,962	55,052	141,646	15,303	38,480	146,296	206,974	18,405
2022	330,877	59,518	154,360	15,563	39,134	155,427	222,441	20,695
CAGR (%)	7.0	6.9	7.1	1.6	1.7	5.3	6.5	11.2

Key: Others include email, gaming, internet, office applications

Revenue Forecast by Vertical

Self-Service Kiosks Market: Revenue Forecast by Vertical, EMEA, 2014–2022

Year	Retail (\$ Million)	Hospitality (\$ Million)	Manufacturing (\$ Million)	Government (\$ Million)	Healthcare (\$ Million)	Transportation & Logistics (\$ Million)	Education (\$ Million)	Professional Services (\$ Million)
2014	659.1	436.0	256.2	323.7	316.4	517.0	104.0	316.9
2015	679.1	444.8	265.1	334.0	331.6	532.3	105.5	321.9
2016	700.1	449.9	274.1	344.6	350.8	548.9	107.1	329.1
2017	722.5	460.2	279.2	356.3	371.3	566.6	108.8	336.1
2018	746.3	472.8	283.8	368.0	393.1	585.4	110.7	343.6
2019	771.9	487.3	287.0	380.5	416.3	605.4	112.6	351.5
2020	799.2	502.8	290.4	393.8	441.1	626.7	114.7	359.9
2021	828.3	519.3	294.0	407.9	467.5	649.3	116.9	368.9
2022	858.9	537.3	301.5	423.0	491.9	673.5	119.2	378.4
CAGR (%)	3.5	3.1	1.5	3.5	5.8	3.5	1.8	2.4

Unit Shipment Forecast by Vertical

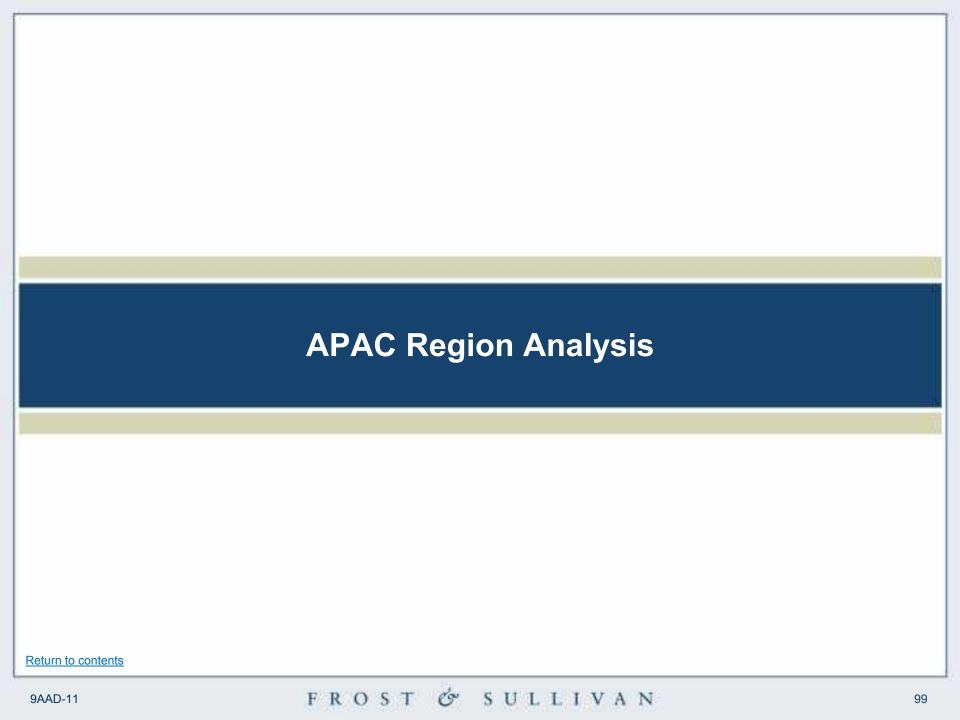
Self-Service Kiosks Market: Unit Shipment Forecast by Vertical, EMEA, 2014–2022

Year	Retail	Hospitality	Manufacturing	Government	Healthcare	Transportation & Logistics	Education	Professional Services
2014	148,118	97,988	57,581	72,742	71,096	116,190	23,370	71,215
2015	152,913	100,146	59,691	75,201	74,658	119,860	23,755	72,484
2016	158,711	101,997	62,134	78,124	79,532	124,435	24,282	74,605
2017	165,524	105,438	63,972	81,625	85,072	129,808	24,935	77,005
2018	173,457	109,884	65,953	85,538	91,374	136,063	25,723	79,856
2019	184,282	116,337	68,515	90,838	99,392	144,526	26,885	83,913
2020	196,705	123,755	71,474	96,920	108,557	154,238	28,225	88,583
2021	210,951	132,263	74,874	103,894	119,055	165,375	29,764	93,942
2022	226,550	141,718	79,542	111,578	129,742	177,647	31,438	99,802
CAGR (%)	6.5	6.1	4.5	6.5	8.8	6.5	4.7	5.3

Forecast Discussion

- Western Europe already has a significant presence of self-service kiosks across vertical markets. There is also a growing interest in Eastern Europe and the Middle East.
- Africa has a negligible presence of self-service kiosks., The region will witness slow growth in the short and medium terms. It will nevertheless offer opportunities in the long run.
- Retail, hospitality, transportation & logistics, healthcare, and government are the key verticals that use self-service kiosks for various applications.
- End users are increasingly adopting kiosks with bigger displays for better customer engagement and experience. Screen sizes of 12-32 inches, and >32 inches are the most popular form factors.

Source: Frost & Sullivan



APAC—Key Findings

Key Takeaway: The AAPC region sees increasing demand for self-service kiosks.

Important Segment Characteristics

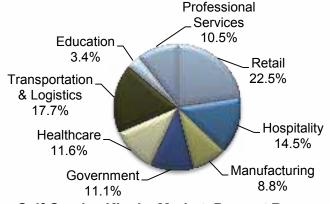
Factors	Assessment	Trend
Opportunity size (\$ M)*	2,079.9	A
Primary needs	Retail, Hospitality, Manufacturing, Government, Healthcare, Transportation & Logistics, Education, Professional Services	-
Price sensitivity	6	▼
Purchase influencers	Performance, Quality, Design, Form Factor, Cost	_
Distribution structure	Direct, Distributors, System Integrators	-
Demand for innovation	7	•



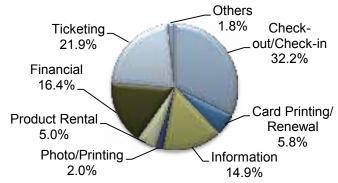
Key: Others include email, gaming, internet, office applications

*Opportunity size is comprised of 2022.

Self-Service Kiosks Market: Percent Revenue Breakdown by Vertical, APAC, 2017



Self-Service Kiosks Market: Percent Revenue Breakdown by Application, APAC, 2017



Market Engineering Measurements

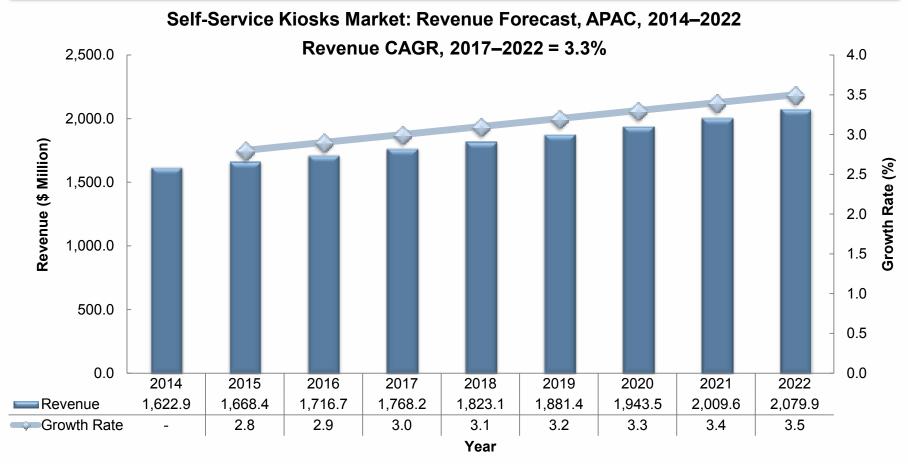
Self-Service Kiosks Market: Market Engineering Measurements, APAC, 2017

Measurement Name	Measurement	Trend
Market stage	Mature	-
Market revenue (2017)	\$1,768.2 M	A
Market forecast (2022)	\$2,079.9 M	A
Base year growth rate	3.0%	A
Compound annual growth rate (CAGR, 2017–2022)	3.3%	-
Unit shipment (2017)	496,850	
Unit shipment forecast (2022)	609,741	A
Base year growth rate	3.8%	
Compound annual growth rate (CAGR, 2017–2022)	4.2%	_
Price sensitivity (scale of 1 to 10, low to high)	6	V
Number of competitors (active market competitors in base year)	About 100	•
Degree of competition (scale of 1 to 10, low to high)	7	
Degree of technical change (scale of 1 to 10, low to high)	5	A

Decreasing Stable Increasing

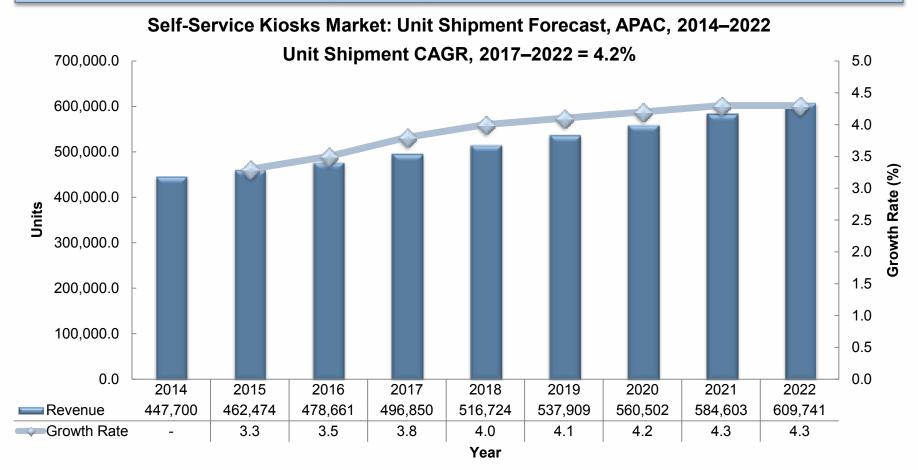
Revenue Forecast

Key Takeaway: The region offers high growth opportunities for kiosk manufacturers.



Unit Shipment Forecast

Key Takeaway: Countries in the region are increasingly adopting self-service kiosks, leading to high volume growth in the market.



Revenue and Unit Shipment Forecast Discussion

- APAC is increasingly accepting self-service kiosks and the adoption is growing across industry verticals.
- The APAC market had a revenue of \$ 1,768.2 million and unit shipment of 496,850 in 2017.
- Revenue is expected to grow at a CAGR of 3.3% between 2017 and 2022 to \$2,079.9 million in 2022.
- Unit shipment is forecast to grow at 4.2% over the same period to 609,741 in 2022.
- Retail is the biggest vertical market for self-service kiosks in APAC and contributed a revenue of \$398.4 million in 2017.
- Transportation & logistics is the second biggest vertical and accounted for \$312.3 million in revenue.
- In terms of applications, most self-service kiosks are used for the check-out/check-in application which contributed a revenue of \$569.4 million in 2017.

Source: Frost & Sullivan

Revenue Forecast by Form Factor

Key Takeaway: Retail and hospitality are the key end users and demand bigger screen sizes for offering a better user experience.

Self-Service Kiosks Market: Revenue Forecast by Form Factor, APAC, 2014–2022

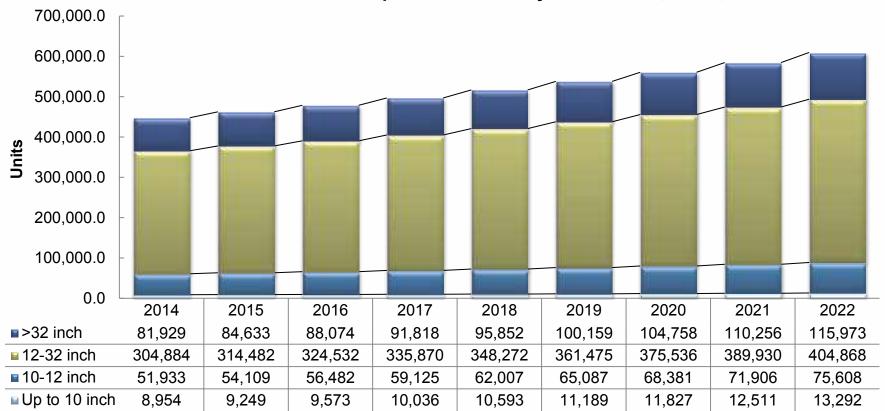


Year

Unit Shipment Forecast by Form Factor

Key Takeaway: Growing middle class and urbanization in the region are driving a high volume growth for self-service kiosks.

Self-Service Kiosks Market: Unit Shipment Forecast by Form Factor, APAC, 2014–2022



Year

Revenue Forecast by Application

Self-Service Kiosks Market: Revenue Forecast by Application, APAC, 2014–2022

Year	Check-out/ Check-in (\$ Million)	Card Printing/ Renewal (\$ Million)	Information (\$ Million)	Photo/ Printing (\$ Million)	Product Rental (\$ Million)	Financial (\$ Million)	Ticketing (\$ Million)	Others (\$ Million)
2014	511.2	95.9	240.5	34.1	84.4	275.9	356.6	24.3
2015	530.5	97.9	247.8	34.5	85.6	280.0	366.2	25.9
2016	549.4	100.3	255.3	34.9	86.8	285.0	376.4	28.8
2017	569.4	102.7	263.5	35.4	88.1	290.0	387.3	31.9
2018	590.7	105.9	272.2	35.9	89.6	295.3	399.0	34.5
2019	613.3	109.1	281.3	36.5	91.2	301.0	411.3	37.7
2020	637.5	112.7	291.1	37.0	92.9	307.1	424.5	40.7
2021	662.8	116.4	303.4	37.6	94.8	313.5	438.5	42.6
2022	685.9	120.4	318.1	38.3	96.7	320.3	453.4	46.8
CAGR (%)	3.8	3.2	3.8	1.6	1.9	2.0	3.2	8.0

Key: Others include email, gaming, internet, office applications

Unit Shipment Forecast by Application

Self-Service Kiosks Market: Unit Shipment Forecast by Application, APAC, 2014–2022

Year	Check-out/ Check-in	Card Printing/ Renewal	Information	Photo/ Printing	Product Rental	Financial	Ticketing	Others
2014	141,026	26,459	66,349	9,402	23,280	76,109	98,360	6,715
2015	146,949	27,147	68,677	9,561	23,721	77,627	101,505	7,287
2016	153,120	27,880	71,177	9,723	24,172	79,180	104,956	8,452
2017	159,705	28,661	74,031	9,898	24,655	80,922	108,735	10,244
2018	166,572	29,492	77,147	10,076	25,149	82,864	112,866	12,558
2019	173,901	30,377	80,417	10,268	25,677	85,019	117,381	14,870
2020	181,553	31,318	83,963	10,463	26,216	87,399	122,194	17,396
2021	189,723	32,320	88,275	10,672	26,793	90,021	127,326	19,473
2022	198,260	33,387	93,248	10,886	27,382	92,722	132,801	21,056
CAGR (%)	4.4	3.1	4.7	1.9	2.1	2.8	4.1	15.5

Key: Others include email, gaming, internet, office applications

Revenue Forecast by Vertical

Self-Service Kiosks Market: Revenue Forecast by Vertical, APAC, 2014–2022

Year	Retail (\$ Million)		Manufacturing (\$ Million)	Government (\$ Million)	Healthcare (\$ Million)	Transportation & Logistics (\$ Million)	Education (\$ Million)	Professional Services (\$ Million)
2014	365.2	241.6	142.0	179.3	175.3	286.4	57.6	175.6
2015	375.9	246.2	146.7	184.9	183.5	294.6	58.4	178.2
2016	386.7	251.1	151.6	190.2	193.6	303.1	58.8	181.6
2017	398.4	256.9	155.8	196.1	204.4	312.3	59.4	185.0
2018	410.9	263.5	159.7	202.1	216.0	322.1	60.1	188.6
2019	424.3	271.5	163.0	208.5	228.3	332.5	60.8	192.5
2020	438.7	279.9	166.0	215.4	241.4	343.7	61.7	196.7
2021	454.1	288.8	168.6	222.8	255.6	355.6	62.6	201.3
2022	470.7	298.6	171.2	231.1	268.9	368.8	64.1	206.5
CAGR (%)	3.4	3.1	1.9	3.3	5.6	3.4	1.5	2.2

Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan

Unit Shipment Forecast by Vertical

Self-Service Kiosks Market: Unit Shipment Forecast by Vertical, APAC, 2014–2022

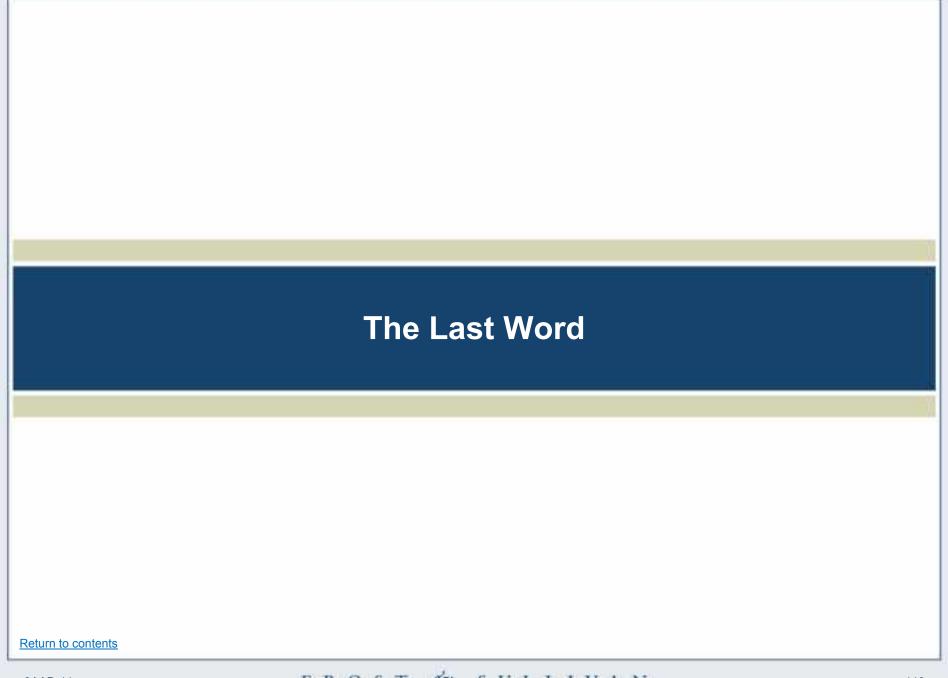
Year	Retail	Hospitality	Manufacturing	Government	Healthcare	Transportation & Logistics	Education	Professional Services
2014	100,733	66,640	39,160	49,471	48,352	79,019	15,893	48,433
2015	104,195	68,240	40,674	51,242	50,872	81,673	16,187	49,391
2016	107,938	69,367	42,257	53,131	54,089	84,627	16,514	50,738
2017	112,139	71,432	43,340	55,299	57,635	87,942	16,893	52,169
2018	116,728	73,946	44,383	57,563	61,490	91,563	17,310	53,739
2019	121,675	76,813	45,238	59,977	65,625	95,425	17,751	55,405
2020	126,954	79,871	46,129	62,552	70,063	99,545	18,216	57,171
2021	132,588	83,131	47,061	65,300	74,829	103,942	18,707	59,045
2022	138,411	86,583	48,596	68,169	79,266	108,534	19,207	60,974
CAGR (%)	4.3	3.9	2.3	4.3	6.6	4.3	2.6	3.2

Note: All figures are rounded. The base year is 2017. Source: Frost & Sullivan

Forecast Discussion

- APAC is home to a growing middle class and witnesses increasing urbanization. Two of the biggest global economies and populations—China and India—offer immense growth opportunities for kiosk manufacturers in the region.
- Countries like Japan, Korea, China, Taiwan, Singapore, and China already have a significant presence of self-service kiosks across sectors. India is increasingly shifting toward the adoption of these kiosks and will offer growth in the long run.
- Growth in the retail and hospitality industries in the region and the increasing number of smart cities will create opportunities in the check-out/check-in, ticketing, and information applications for kiosk manufacturers.
- The APAC region is also the hub of electronics manufacturing and cheaper display technology, and kiosks providers opting for kiosks with bigger display sizes.

Source: Frost & Sullivan



The Last Word—3 Big Predictions

All-in-one kiosk will be the key growth area in the medium to long term. Kiosks with up to 10 inch displays and 10-12 inch displays will face strong competition from smartphones and tablets or tablet kiosks.

Check-out in retail and ticketing applications will drive the market growth and should be the point of focus for kiosk manufacturers.

Larger screens, sleeker design, interactive 3D content, and innovative ways to engage customers will be the key differentiators in the highly competitive and fragmented market.

Source: Frost & Sullivan

3

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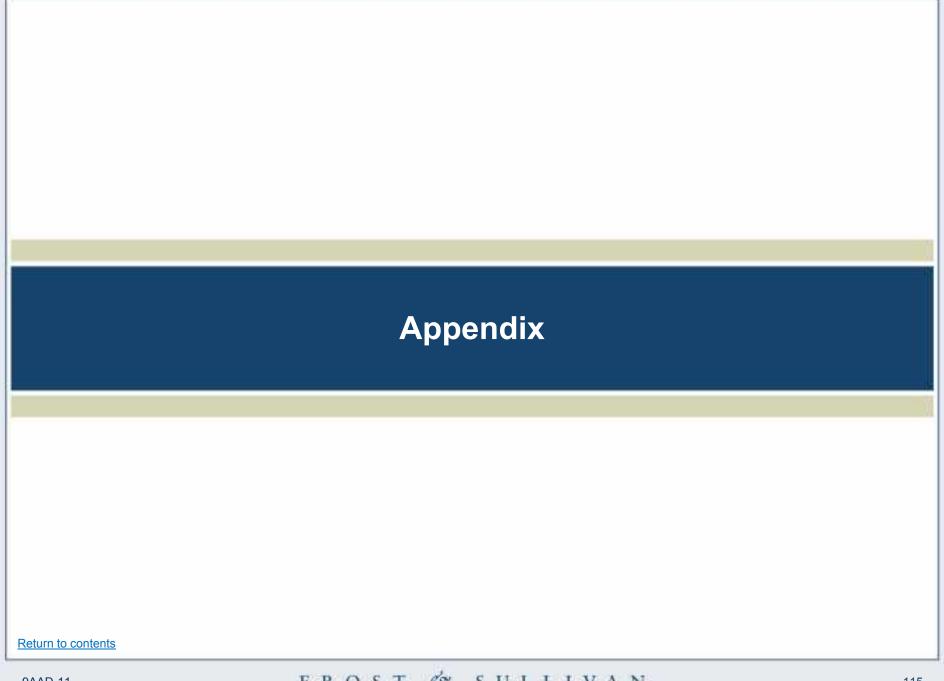
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Partial List of Companies Interviewed

This list also includes the list of companies in "Others"

- Diebold Nixdorf
- IBM
- Kiosk Information Systems
- Fujitsu/ PFU
- Eastman Kodak Company
- Meridian/ KING Products
- Zebra
- Olea Kiosks
- NeoProducts
- Fujifilm
- Lucidiom
- TIO Networks
- DynaTouch
- SeePoint
- Friendlyway AG
- IER Group
- Phoenix Kiosks
- Advanced Kiosks

- Outerwall
- Photo Finale
- Rosendahl Conceptkiosk
- TravelersBox
- Glory Limited
- OKI
- Hitachi
- GRGBanking
- Nautilus
- RedyRef
- Kontron
- TCN
- Honeywell
- Unicum
- King Star
- Optical Phusion
- Zivelo
- Panasonic System Communications

- Frank Mayer
- ELO
- Nautilus Hyosung
- Embross
- Box Technologies
- Flextronics
- Advanced Kiosks
- Fabcon Creative
- ADUSA
- Advantech
- Qwick Media
- Transaction Network Services
- RedyRef
- Peerless-AV
- Source Technologies
- Palmer Digital Group
- Southern Specialties

Source: Frost & Sullivan

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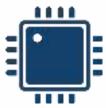
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