

NTI-100 2019 World Top PCB Makers (unit: US\$ million)/ 2018 data adjusted with 2019 Exchange Rates

Rank	Maker	Country	2018	2019	Growth	Brief Explanation
1	ZD Tech*	Taiwan	3,831	3,887	1.46%	Expanding a buying Boardtek (Oct 2020)
2	TTM Technologies	USA	2,847	2,689	-5.55%	Sold Mobility related business to AKMMeadville
3	Unimicron	Taiwan	2,450	2,668	8.90%	IC substrate expansion \$800?
4	Nippon Mektron	Japan	2,700	2,597	-3.81%	Heavy dependennce on smartphone hurts
5	Mflex (Dongshan Prec)	China	1,652	2,115	28.02%	Mflex+Multek (Multek is expanding)
6	Compeq	Taiwan	1,634	1,816	11.14%	No. 2 plant in Chingqing will be operational at year end
7	Tripod	Taiwan	1,685	1,760	4.45%	Xiantao plant expanding
8	Shennan Circuit	China	1,129	1,523	34.90%	New IC substrate plants in Wuxi
9	HannStar	Taiwan	1,399	1,395	-0.29%	HannStar Board_GMB+Elan
10	Samsung E-M	S. Korea	1,273	1,386	8.88%	Shut down Kunshan HDI plant
11	KBC PCB Group	China	1,250	1,234	-1.28%	Several makers under the wing such as Elek & Eltec
12	Ibiden	Japan	1,064	1,213	14.00%	\$1.2 billion IC substrate expansion (2020-2021)
13	Wus Group	Taiwan	971	1,193	22.86%	Is it a Taiwan maker or Chinese maker? Maybe Chinese
14	Young Poong Group	S. Korea	1,273	1,149	-9.74%	Interflex is recovering
15	AT&S	Austria	1,150	1,119	-2.70%	\$1.3 billion investment in 5 years
16	Meiko	Japan	1,091	1,060	-2.84%	Trying to expand market horizon
17	Nanya PCB	Taiwan	932	1,005	7.83%	IC substrate for high-end servers doing well
18	Fujikura	Japan	1,120	956	-14.64%	More than 90% revenue copmes from overseas
19	Daeduck Group	S. Korea	836	920	10.05%	Strong in IC substrate and high-end MLB
20	Kinwong	China	709	914	28.91%	New plant in Zhuhai
21	Simmtech	S. Korea	864	858	-0.69%	Includes Eastern in Japan and Xian plant
22	Flexium*	Taiwan	866	843	-2.66%	Apple, Apple, Apple
23	CMK	Japan	828	758	-8.45%	Heavy dependence in automotive
24	Shinko Denki	Japan	690	748	8.40%	High-end IC substrates like Ibiden
25	Unitech	Taiwan	632	725	14.72%	50%+ comes from Rigid-Flex PCB
26	Kinsus	Taiwan	767	722	-5.87%	IC substrate, contact lens
27	T.P.T.	Taiwan	746	702	-5.90%	PC Motherboard and LCD driver circuits
28	Sumitomo Denko	Japan	831	671	-19.25%	What went wrong?
29	LG Innotek	S. Korea	661	616	-6.80%	Shutting down HDI & regular PCB plants
30	Gold Circuit	Taiwan	666	615	-7.66%	Currently, string with PC motherboards and tablets
31	Chin Poon	Taiwan	653	578	-11.48%	Automotive dependence is hurting

32	BH Flex	S. Korea	659	562	-14.72%	Three plants in Vietnam (north of Hanoi)
33	Victory Giant	China	477	561	17.61%	HDI plant added
34	Career*	Taiwan	502	551	9.76%	24% of the share is now owned by HannStar Board
35	Shenzhen Fast Print	China	501	549	9.58%	China, USA and UK
36	Shenzhen Suntak	China	527	515	-2.28%	New Plant in Zhuhai
37	Kyocera PCB	Japan	550	500	-9.09%	A bit of guess
38	SI Flex	S. Korea	472	462	-2.12%	Only in Vietnam, S. Korean plants are shut down
39	Murata	Japan	505	450	-10.00%	MetroCirc, LCP based multilayerflex boards
40	DG Shengyi Electronics	China	294	447	52.00%	A new plant in Ji'An and a new plant in Dongguang (HDI)
41	Dynamic	Taiwan	421	443	5.26%	Taiwan plant was shut down
42	Isu-Petasys	S. Korea	481	439	-8.73%	Two groups and a US plant
43	Founder Tech	China	353	438	24.01%	Inlcuding ACCESS (nw plant in Nantong)
44	Ellington	China	480	434	-9.58%	Automotive and motherboards
45	Nitto Denko	Japan	373	397	6.43%	HDD suspension specialist
46	Bomin	China	281	385	37.01%	
47	Kyoden	Japan	405	377	-6.22%	Japan and Thailand (collaboration with APEX)
48	KCE Electronics	Thailand	419	374	-10.74%	Heavy dependence on automotive, trying to diversify
4	Wuzhu	China	368	357	-2.99%	Shenzhen, Meizhou, Dongguang & Gangzhou (new)
50	Xiamen Hongxin	China	325	355	9.23%	FPC specialist
51	Olympic	China	306	343	12.09%	Smart factory expanding
52	Hitachi Chemical	Japan	384	337	-12.24%	Bought by Showa Denko and removed Tokyo Exchange
53	APEX	Taiwan	361	336	-6.93%	Thailand APEX 2 expanding with a new plant
54	CCTC	China	356	334	-6.18%	Not much expansion
55	Aoshikan	China	323	328	1.55%	Know to process large panels
56	Gul Technologies	Singapore	338	316	-6.51%	A small hicupp
57	Redboard	China	280	310	10.71%	HDI and Rgid-Flex
58	CEE PCB	China	251	303	20.72%	Absorbed
59	Guangdong Xinda	China	287	295	2.79%	CPCA data
60	Sun & Lynn	China	268	291	8.58%	Company report
61	Sanmina	USA	280	280	0.00%	Two plant in US, a plant in Singapoer & a plant in Wuxi
62	ASE	Taiwan	255	260	1.96%	IC substrate plants in Kaoshiung and Shanghai
63	APCB	Taiwan	289	256	-11.42%	Emphasis in Thailand
64	Boardtek	Taiwan	246	241	-2.01%	Being purchased by Zhen Ding Technology (ZDT)
65	AbonMax (Palwonn)	Taiwan	234	240	2.56%	Not sure, very shadowy maker (Shenzhen & Suzhou)

66	MFS	Singapore	238	240	0.84%	New plant in
67	DAP	S. Korea	261	232	-11.11%	Have not visited for many years, HDI board maker
68	STEMCO	S. Korea	199	231	16.08%	COF specialist, JV between Samsung & Toray
69	Shirai Denshi	Japan	253	230	-9.09%	VISPER AVI is slow (not included)
70	AKM	China	177	217	22.60%	Paid \$550 million to TTM to get Mobility business
71	Guangzhou Jun Ya	China	162	212	30.84%	CPCA data
72	Ichia*	Taiwan	234	201	-14.10%	Not doing well in recent years
73	Kunshan Huaxing	China	195	199	2.05%	CPCA data
74	Fujitsu	Japan	233	197	-15.45%	Wild guess
75	Delton	China	138	192	39.13%	Not sure about 2018 revenue
76	Guangzhou Kingshine	China	173	192	10.98%	CPCA data
77	Guangdong Chaochua	China	201	191	-4.98%	CPCA data. Makes laminates as well
78	Circuitronics	China	192	180	-6.25%	Wild Guess
79	Somacis	Italy	177	180	1.69%	Dongguang plant expanding
80	Würth Elektronik	Germany	172	179	4.07%	Steady
81	Kyosha	Japan	193	174	-9.84%	A new plant near Hanoi, Vietnam
82	SZ Sandeguan Prec. Ckt	China	192	173	-9.90%	CPCA data
83	Liang Dar	Taiwan	176	171	-2.84%	Two plants in Kaoshiung and a plant in Dongguang
84	OKI PCB Group	Japan	166	167	0.60%	OKI Printed Circuits and OKI Circuits
85	Shenzhen Sunshine	China	163	166	1.84%	High-end products. Owns a small shop in Germany
86	BYD	China	156	163	4.49%	Wild guess based on 2018 data
87	Huading Group	China	154	162	5.19%	CPCA data
88	SZ Jove Enterprise	China	131	161	22.90%	CPCA data
89	Onpress	China	166	160	-3.61%	Gold plating & automotive
90	Lead-Tech	China	173	159	8.09%	Four plants in China one making COF
91	Daisho Denshi	Japan	168	156	-7.14%	Daisho never laid off employees even during hard time
92	Ji'An Mankun	China	148	155	4.73%	From a friend
93	Tai Hong Ind	Taiwan	180	150	-16.67%	Wild guess. China plant shut down.
94	Tigerbuilder	China	145	150	3.45%	Changing market direction
95	3Win Group	China	141	147	2.25%	Wild guess. Its website does not work.
96	Hyunwoo	S. Korea	127	145	14.17%	Do't know this kaer well.
97	Mutual Tceh	Taiwan	136	144	5.88%	TSE
98	Amphenol PCB Div	USA	130	140	7.69%	Nashua (NH), Guangzhou (FPC) and UK (Invotec)
99	Kunshan Wanzhen PCB	China	131	138	5.34%	CPCA data

100	Guangzhou GCI	China	126	138	9.52%	CPCA data
101	Schweizer	Germany	140	135	-3.57%	Annual report, automotive 70%
102	Brain Power	Taiwan	98	128	30.61%	Plant only in China
103	Jiangsu Suhan	China	135	128	-5.19%	CPCA data
104	QDOS	Malaysia	101	128	26.73%	From a friend, FPC and IC substrate
105	KSG	Germany	172	127	-26.16%	From a friend
106	Zhuhai Kingsun PCB	China	120	125	4.17%	CPCA data
107	Changzhou Haihong	China	138	122	-11.59%	CPCA data
108	Changzhou Aohong	China	138	122	-11.59%	CPCA Data
109	Yihao Circuit Tech	China	112	120	7.14%	Data from NEPCON Japan 2020
110	Summit Interconnect	USA	60	120	100.00%	KCA, Marcel & StreamCircuits
111	New Flex	S. Korea	168	118	-29.76%	FPC specialist
112	Kunshan Hua Zhu	China	114	116	1.75%	CPCA data
113	SDG Precision Tech	China	109	114	4.59%	CPCA data
114	CHPT	Taiwan	106	109	2.83%	World largest IC probe card maker
115	Jiangxi Liangyi Elec.	China	94	109	15.96%	CPCA data
116	Camelot Electronic Tech	China	89	107	20.22%	CPCA data
117	StaRiver (Galaxy)	China	86	107	24.42%	Three plants
118	Dongguang Hongyuen	China	99	105	6.06%	High-end PCB
119	HT (HeTon) Electronics	China	99	103	4.04%	CPCA data
120	SZ Xinyu Tengyue Elec.	China	93	101	8.60%	CPCA data
121	Yamamoto Mfg	Japan	126	100	-20.63%	Wild guess
122	Deweibao(HK) Elect.	China	92	100	8.70%	CPCA data
	Total Top 122 Makers		60,647	62,237	2.62%	

(N.T. Information Ltd)