

688396.SH

1

41.56

51.73

2020-06-04

IDM

3 6 1 8

1 8

IDM

MOSFET

19Q4

IGBT

12

2020~22

SiC GaN

EPS

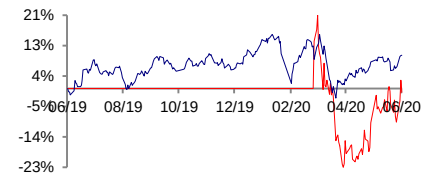
0.45/0.65/0.69

2021 80 PE

51.73 / “ 1”

5

/	1215.93/237.14
/	50533/9855
/	50.99/32.38
30 /	23.37/948.88
3 /6 %	-11.71/-1.07



SAC S0260514050002



021-60750532



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SAC S0260519060001



SFC CE No. BFS478



021-60750632



gfwangliang@gf.com.cn

	2018A	2019A	2020E	2021E	2022E
	6,271	5,743	6,346	6,857	7,231
%	6.7	-8.4	10.5	8.0	5.4
EBITDA	1,500	983	1,166	1,361	1,333
	429	401	548	786	837
%	511.0	-6.7	36.8	43.4	6.5
EPS	0.52	0.48	0.45	0.65	0.69
P/E	-	-	85.23	59.43	55.82
P/B	-	-	4.54	4.24	3.97
EV/EBITDA	-	-	35.40	29.74	29.72

688396.SH : 2020-02-20

IDM

021-60750632

wangzhaoguang@gf.com.cn

					.....	5
		IDM+			.....	5
					.....	9
2019	2020				.....	10
	2019			Q1	.....	10
	Q	4			.....	12
				2020Q1	.....	13
		/			.....	17
					.....	17
					.....	18
					.....	20
					.....	20
		SiC	GAN	IGBT	.....	21
					.....	21
	12				.....	22
					.....	23
					.....	25

1		5
2		6
3		8
4		9
5		11
6		11
7		11
8		11
9		12
10		12
11		12
12		12
13	η	13
14	η	13
15	η	13
16		14
17		14
18		14
19		14
20		15
21		15
22		15
23		15
24		16
25		16
26		16
27		16
28		16
29	2017	17
30		17
31	2014-2021	18
32	2014-2021	18
33	2018	18
34		20
35		20
36	η	20
37	SiC	21
38	GaN	21

1		6
2	IC	7
3		7
4		7
5		9
6	2018	10
7		19
8		19
9		21
10	η	23
11		24

IDM+

IDM

1

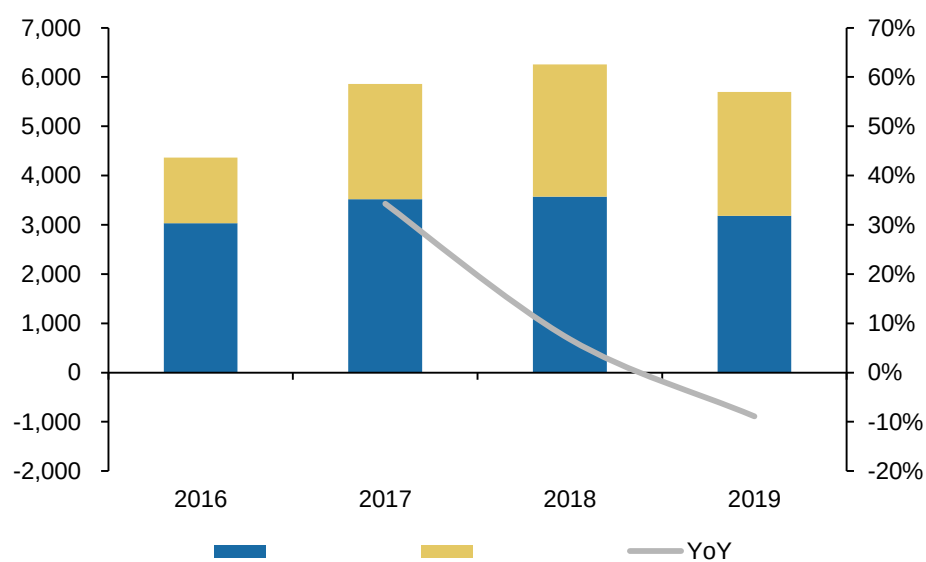
3 6

2 8

2

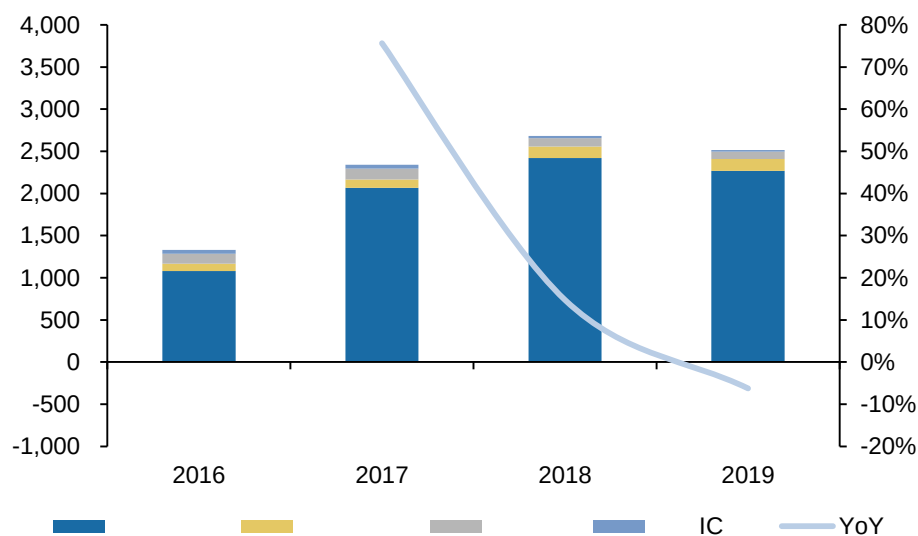
IDM

1

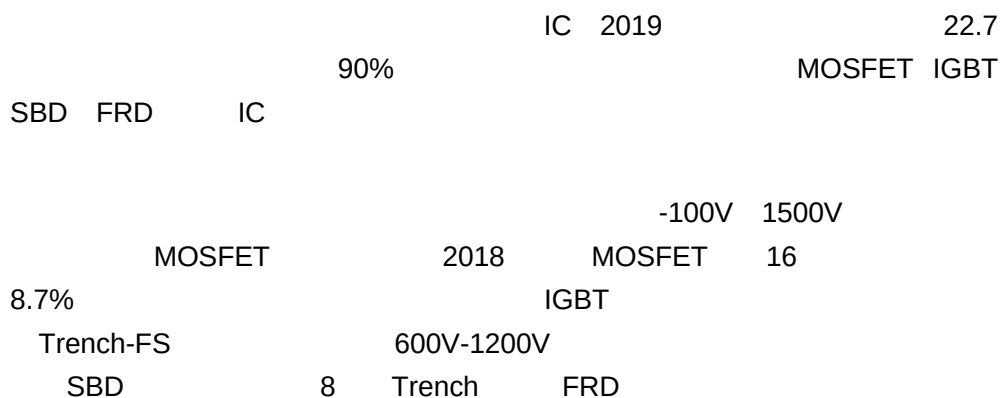


1.

2



1



1

MOSFET	MOS	MOS	MOS	MOS
IGBT	600V-1200V		-100V-1500V	
SBD	45V-150V	SBD	SBD	200mA-30A
FRD	200V-6500V			

IC IC IC AC-DC LED IC IC BMSIC
IC IC IC BCD CMOS

2 IC

AC-DC		
LED IC		
BMSIC		
IC	78 1117	100mA-1A
IC		100W
IC		
IC	AB D	5mW-50W

2

MEMS 2019
1.39 5.5%

3

MEMS		

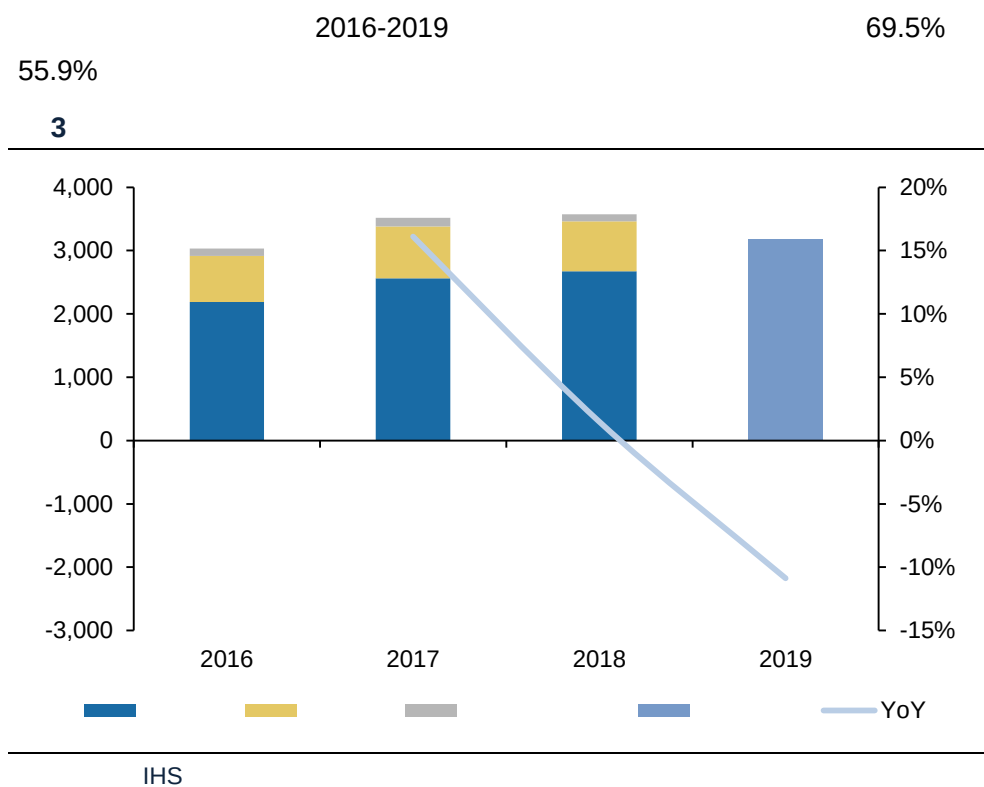
3

MCU MCU MCU 2019
FlashCMOS 0.90 3.6% OTP MTP
4 8 16 32 CPU

4

MCU	MCU PC MCU	
MCU	MCU MCU	
MCU	8 16 32 CPU	

2.



1 8 3 6

73 247 6

1 8 60

IC

62

50 m 12

FC

PEPINNOVATION

2.4

27%

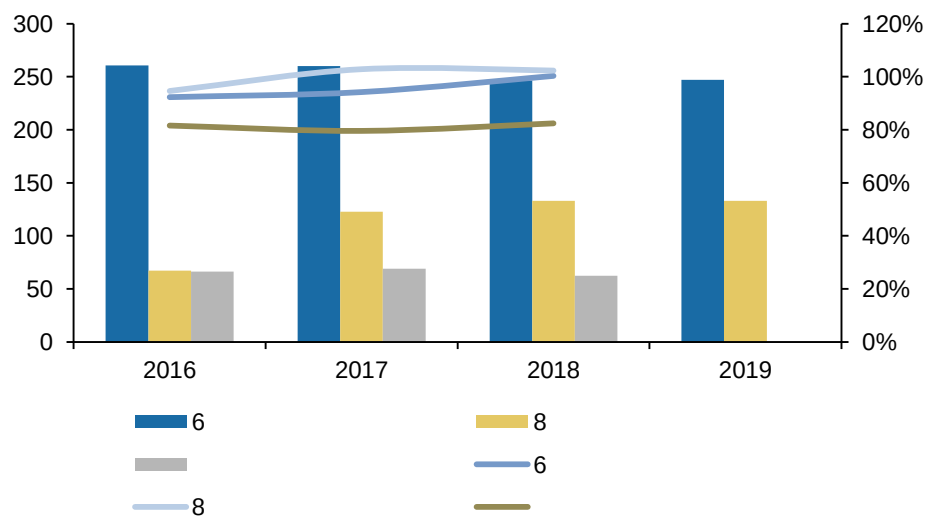
2018

5

			2018
	3 6	Analog BCD MEMS DMOS PowerDiscrete	247
	1 8	Advance BCD Analog DMOS	73
	1 8	MOS MOS MOS SBD	60
			199
		QFP QFN PQFN FC-QFN TSSOP SSOP	62
		MSOP IPM	69
			2.4

8 6
2018 8 6 0 80%

4



2018

IDM

IHS Markit

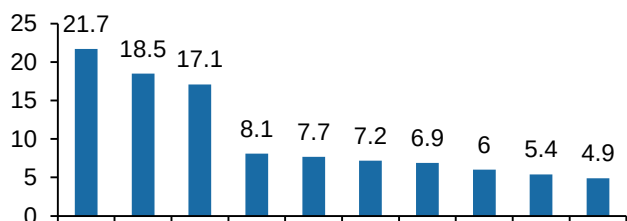
2018

MOSFET
MOSFET

6 2018

		2018	
1		509	
2		248	
3		239	
4		225	
5		111	
6	()	107	
7		92	
8		66	
9		65	
10		63	IDM

4 2018



5 2018 MOSFET

IHS

2019

2020

2019

Q1

2019

57.43

8.4%

MOS

2020

13.82

16.5%

19Q4

2019Q1 2020Q1

11.86 14.54 14.92 16.11

13.82

19Q1

19Q2

19Q4 20Q1

2019

-4.1% -25.8%

2019

IC

-10.9%

-6.2% 0.9% -9.6% -35.1%

IDM

2019

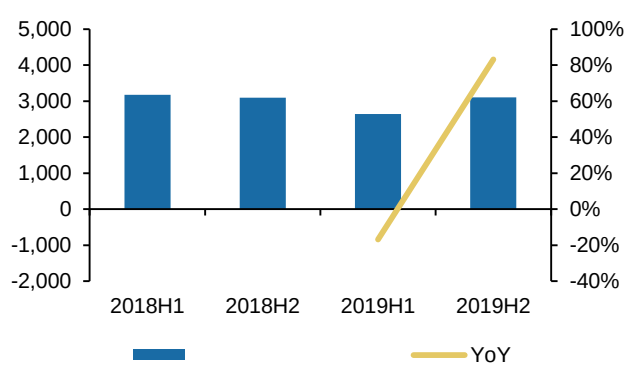
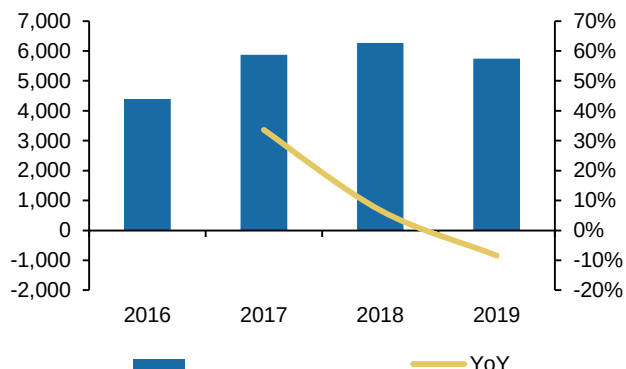
2020

Q3

5G

5

6

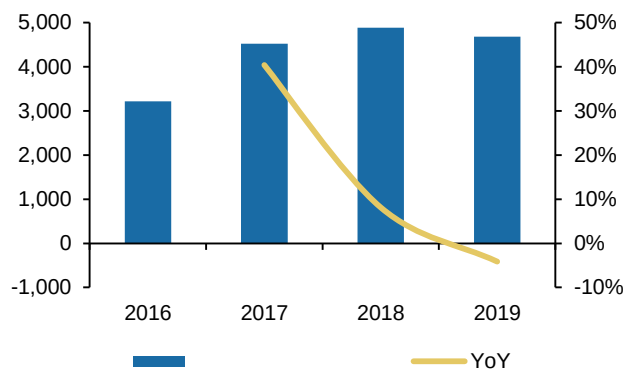
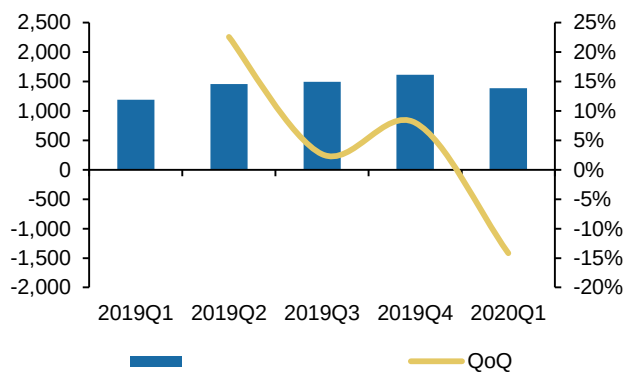


Wind

Wind

7

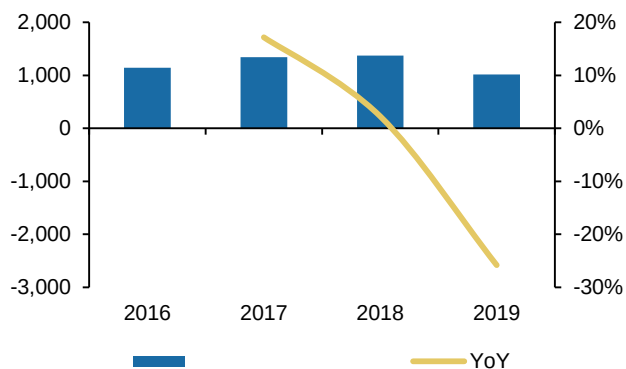
8



Wind

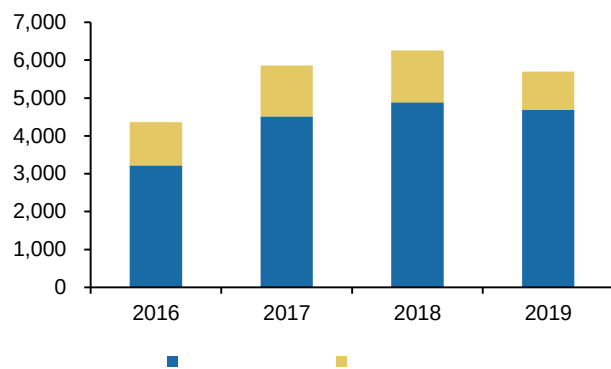
Wind

9



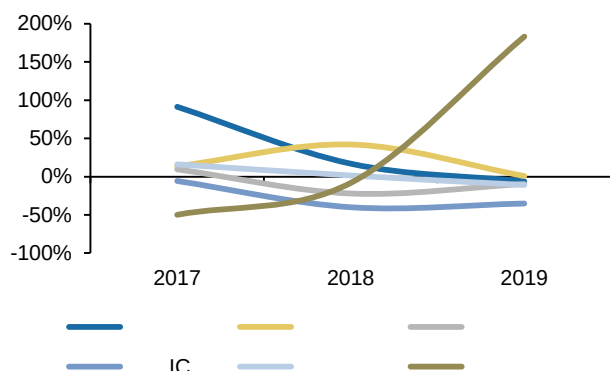
Wind

10



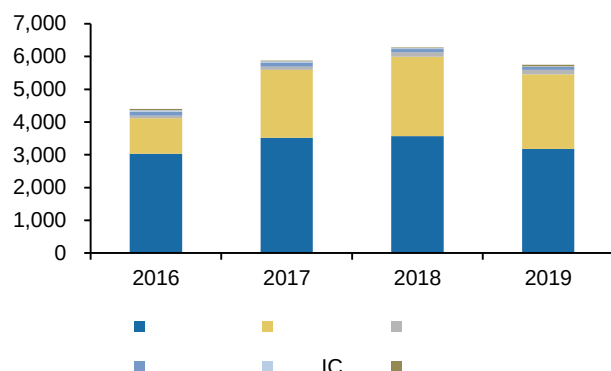
Wind

11



Wind

12



Wind

η

4

2019	η	22.8%	2.36pct	2016-2018	η
2019	η			MOS	η
2020Q1	η	24.9%	8.72pct		0.90pct
			Q4		
2019Q1	η	16.2%	24.3%	25.4%	
24.0%	24.9%	2019Q1	η		η
			IC	η	
2018	40.4%	30.9%	2019	43.4%	47.6%
η	2019				

bare wafer

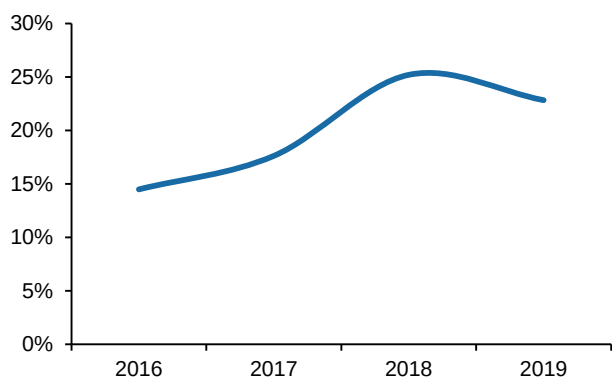
η

13

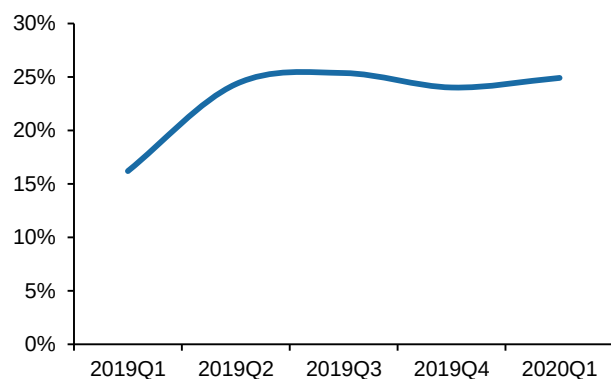
η

14

η



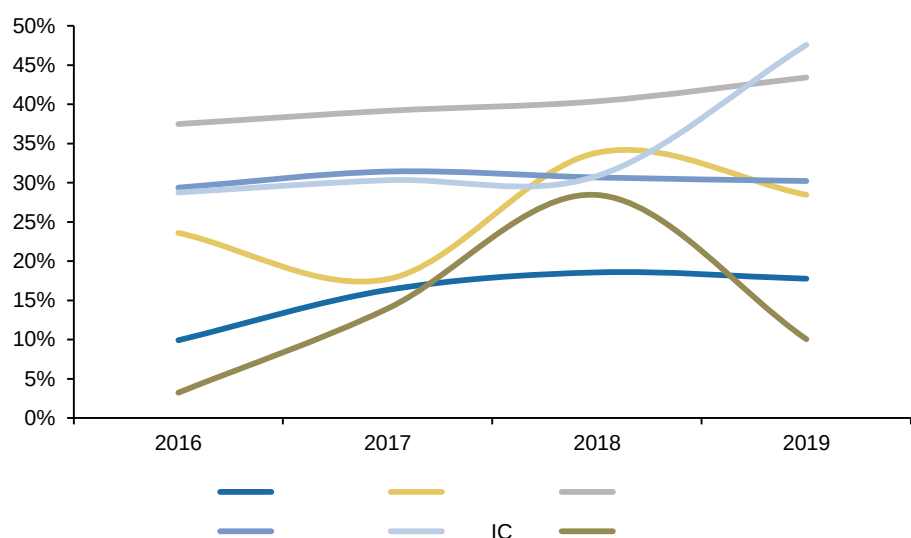
Wind



Wind

15

η

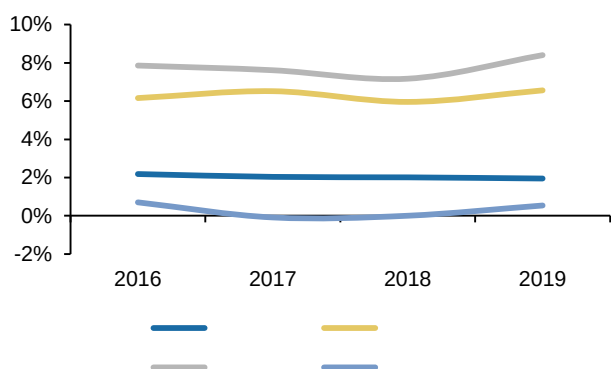


2020Q1

		2016-2019			
6~8%		2%		2019	
		1.95%		6.56%	
8.40%	0.54%	-0.06pct	0.60pct	1.23pct	0.54pct
2019		2018		2019	

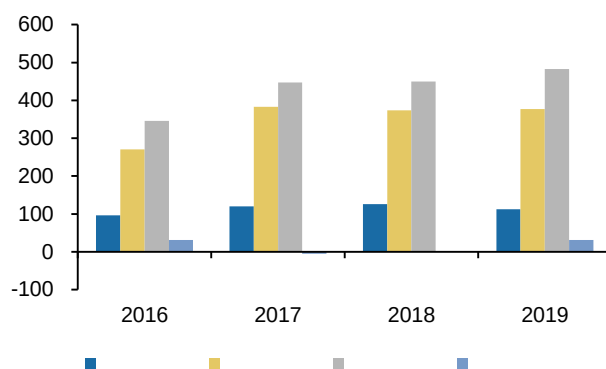
	2019	7878
3032	38.5%	2020Q1
	1.71%	6.29%
	7.72%	0.53%
2019	4.01	6.68%
	2020Q1	
1.14	450.41%	

16



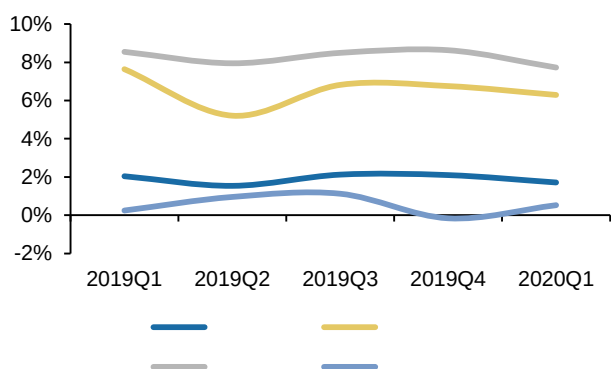
Wind

17



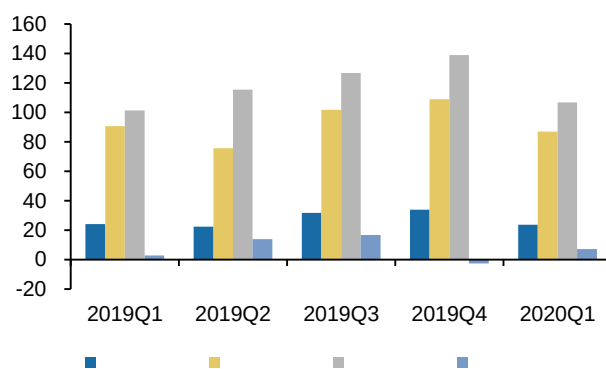
Wind

18



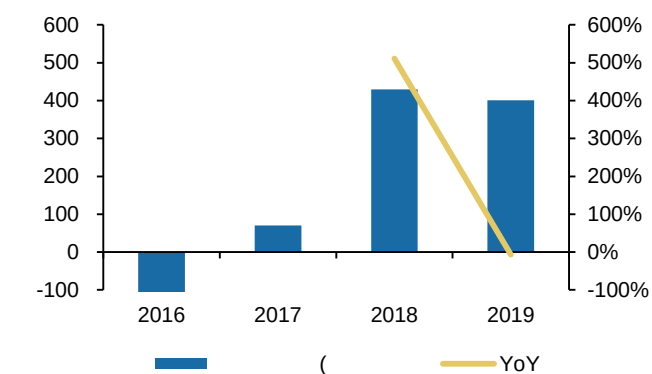
Wind

19



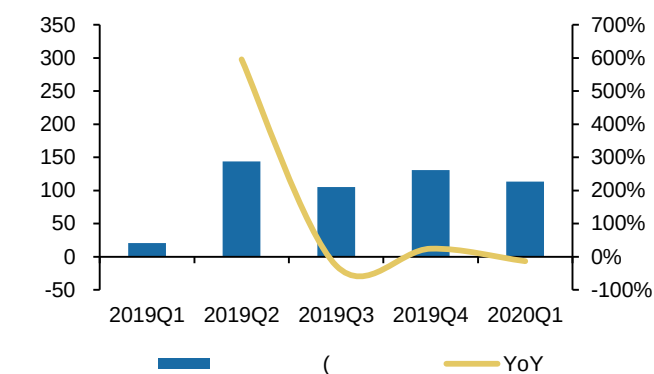
Wind

20



Wind

21

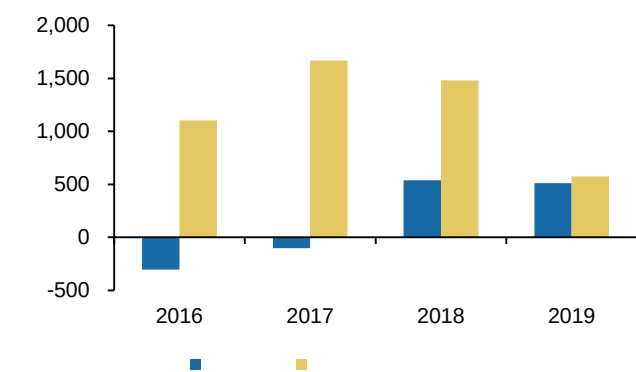


Wind

2019

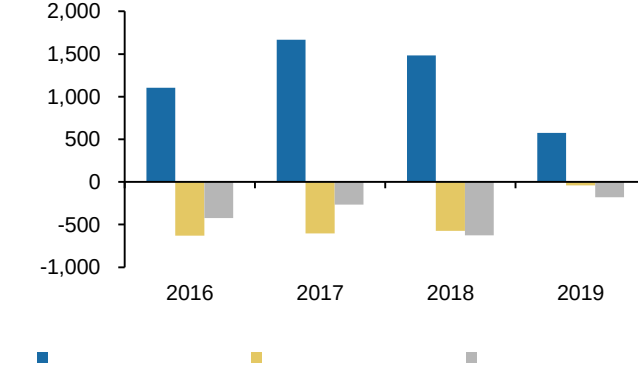
2019	61.13%	2019	92.92%	2019	5.76	2019	112.46%
2018		2020Q1	2.71	2019	71.33%		
2019	1.37	2019	6.12	2019	12.47%	2020Q1	
2019	10.95	2019	7.25				

22



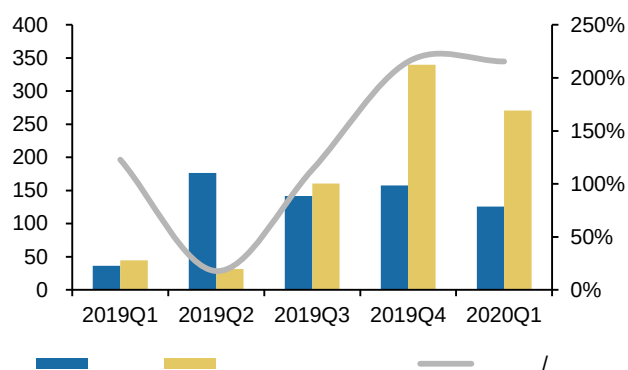
Wind

23



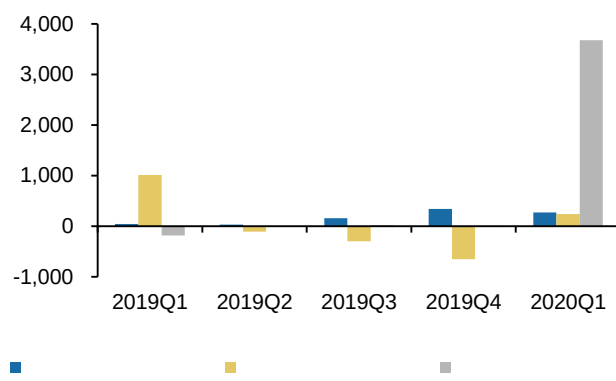
Wind

24



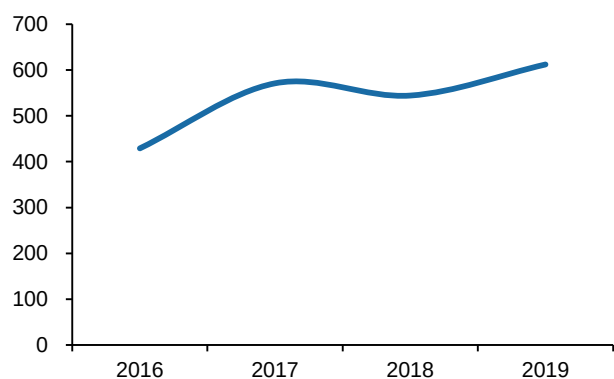
Wind

25



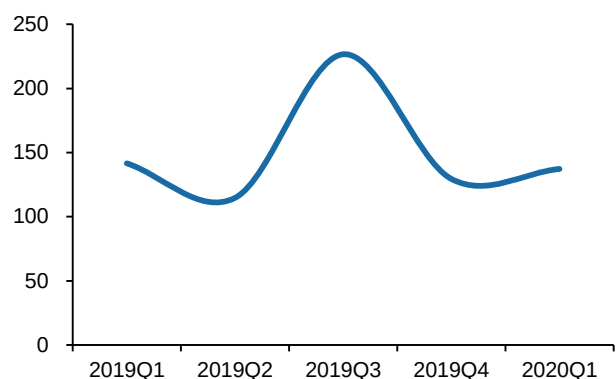
Wind

26



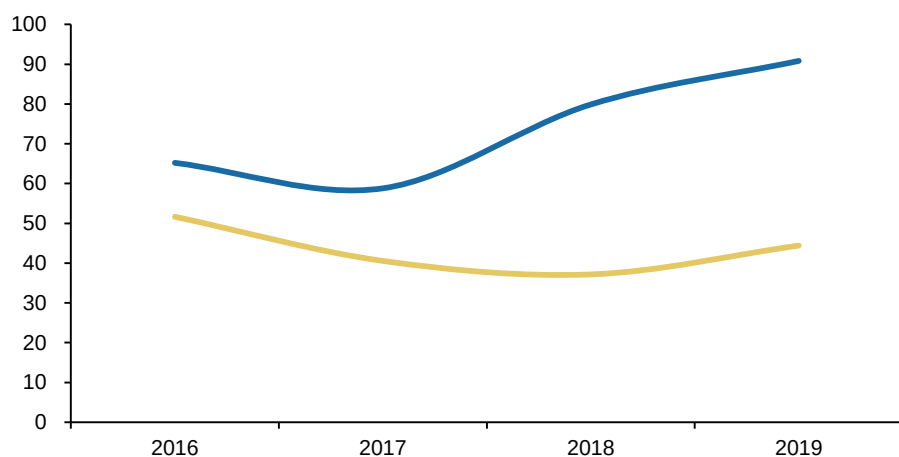
Wind

27



Wind

28

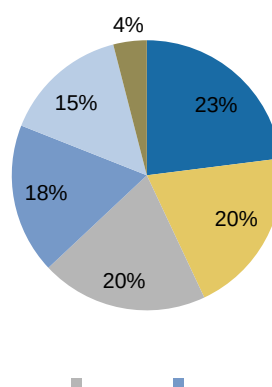


Wind

/

IHS 2017 23% 18% 20% 20%

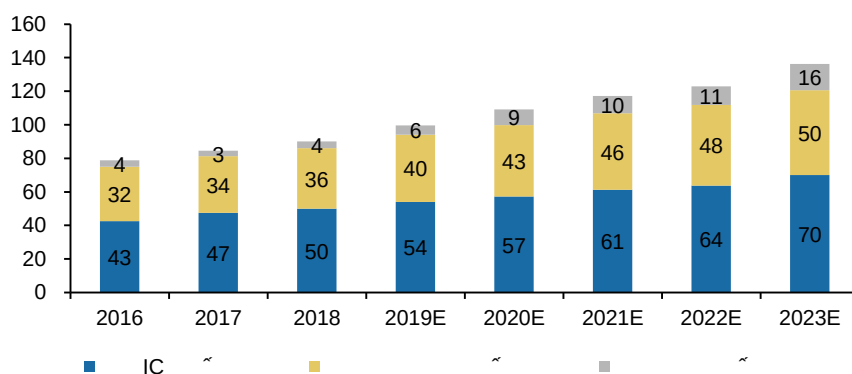
29 2017



IHS

MOSFET 2016 2023 8% IGBT

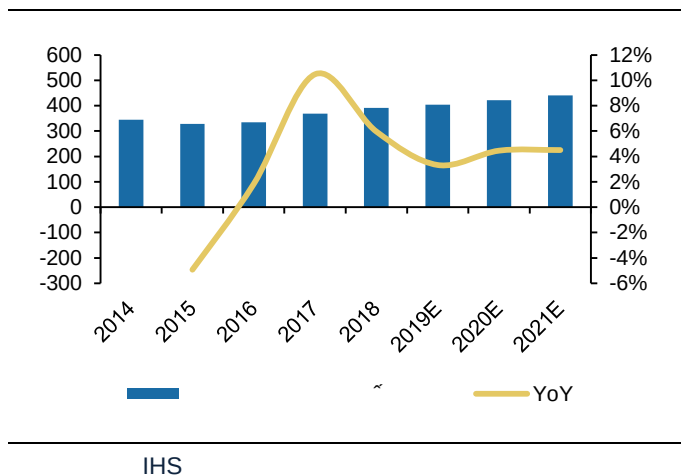
30



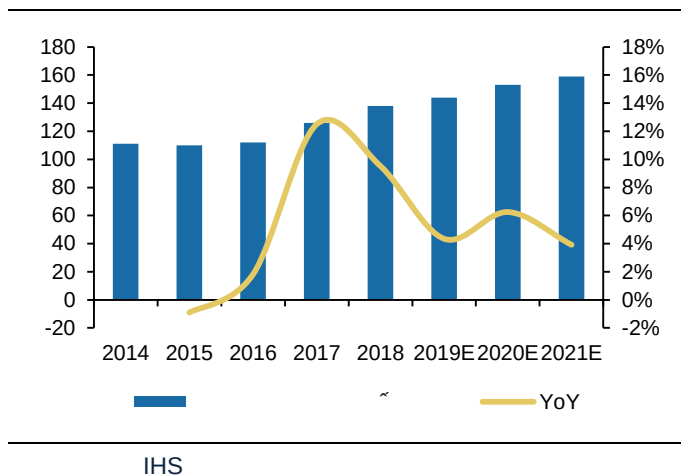
IHS

IHSMarketit 2018 391 ~ 2021
441 ~
2018 4.1%
138 ~ 9.5%
35% 2021
159 ~ 4.8%

31 2014-2021

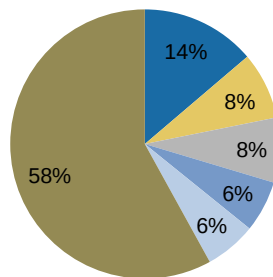


32 2014-2021



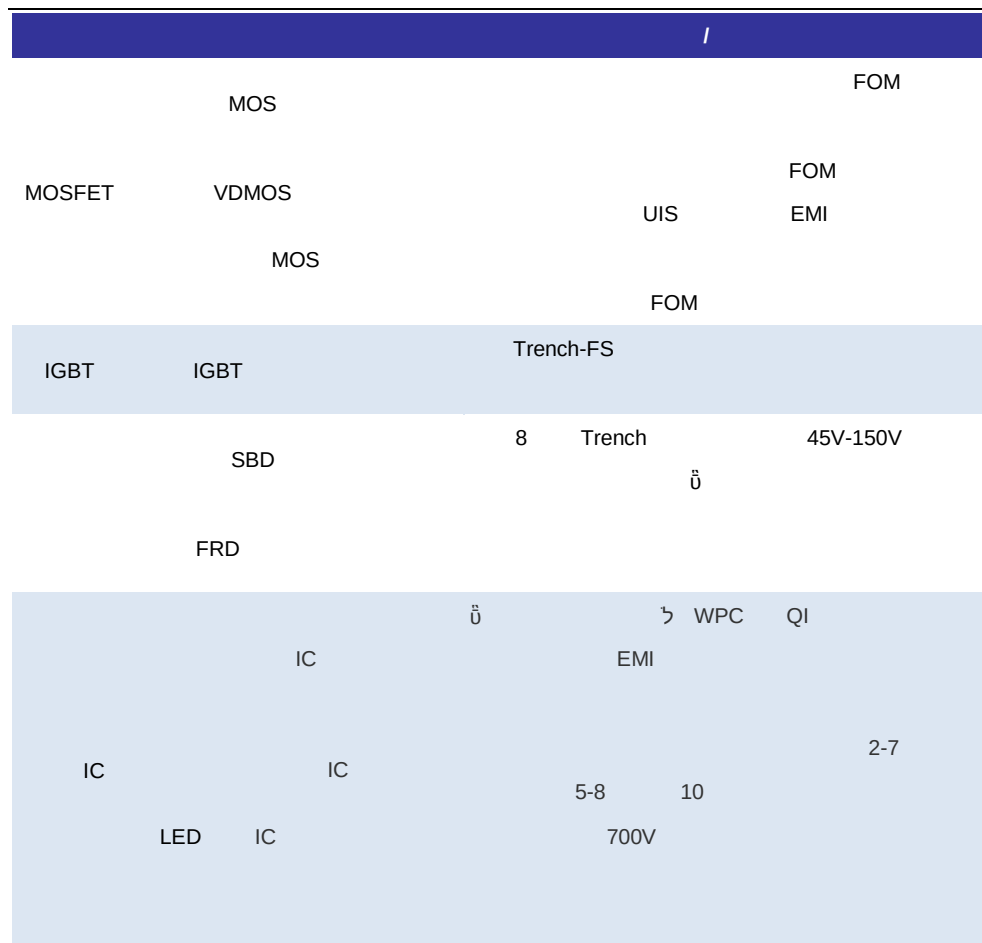
2018 IHS 391 ~ 2021
42% 14%
35% ~
138 ~
2018 Dialog

33 2018



IHS ~ Dialog

7



8

GaN	GaN GaN	35
SiC	SiC SiC JBS MOSFET	29
IGBT	TRECH-FSIGBT IGBT	20
IPM	600V 1200V IPM IC	43
MOS		19
MOS	MOS	31

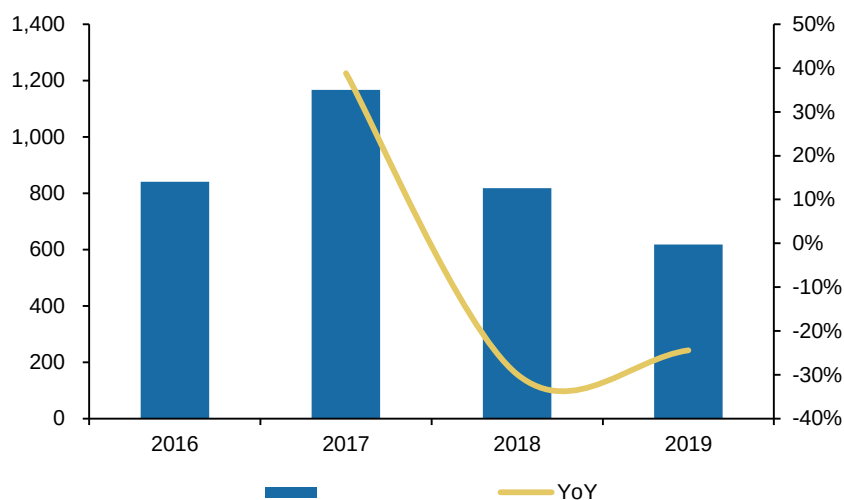
2017-2019 2019

8 3 5-6 2019

8 20

2-3

34

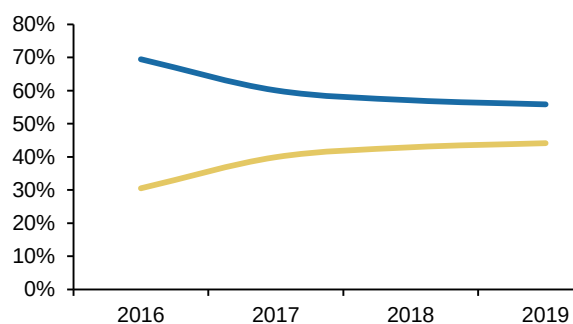


η

2016 30.5% 2019 44.1%

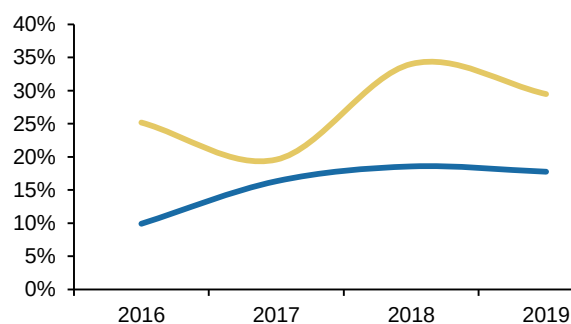
IDM

35



Wind

36



Wind

SiC GaN IGBT

SiC GaN

SiC GaN

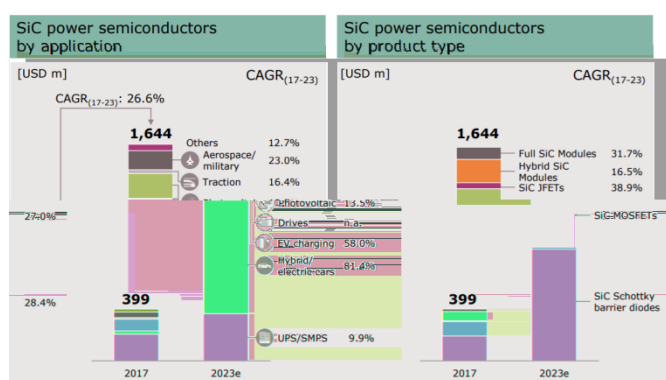
6

IGBT

9

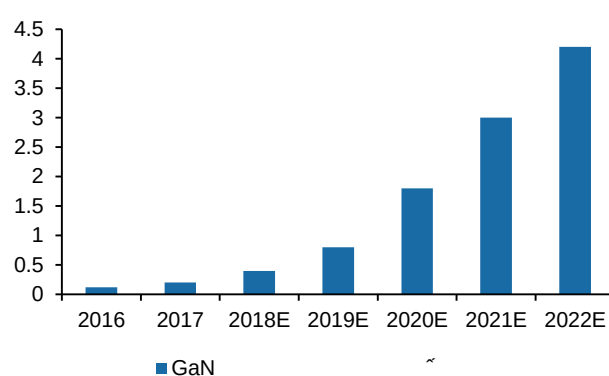
eV	K
1.1	1221
0.7	1678
1.4	1511
3.05	2826
3.4	1973
6.2	2470
5.5	3800
3.37	2248

37 SiC



IHS

38 GaN



Yole

2018 35%

12

8 6
12 2018
90nm
8 12

IDM

IC

10	η	2016	2017	2018	2019	2020E	2021E	2022E
		4,397	5,876	6,271	5,743	6,346	6,857	7,231
	YoY		33.6%	6.7%	-8.4%	10.5%	8.0%	5.4%
	η	3,760	4,840	4,690	4,431	4,659	4,814	5,114
		14.5%	17.6%	25.2%	22.8%	26.6%	29.8%	29.3%
		3,032	3,520	3,572	3,184	3,400	3,474	3,347
	YoY		16.1%	1.5%	-10.9%	6.8%	2.2%	-3.7%
	η	2,731	2,945	2,909	2,618	2,612	2,617	2,523
		9.9%	16.3%	18.6%	17.8%	23.2%	24.7%	24.6%
		2,188	2,563	2,674	2,255	2,480	2,554	2,427
	YoY		17.2%	4.3%	-15.7%	10.0%	3.0%	-5.0%
	η	2,016	2,152	2,153		1,860	1,865	1,771
		7.8%	16.1%	19.5%		25.0%	27.0%	27.0%
		729	820	786	809	800	800	800
	YoY		12.4%	-4.2%	3.0%	-1.1%	0.0%	0.0%
	η	625	683	666		656	656	656
		14.3%	16.8%	15.3%		18.0%	18.0%	18.0%
		114	136	112	120	120	120	120
	YoY		19.2%	-17.9%	7.2%	0.0%	0.0%	0.0%
	η	90	111	90		96	96	96
		21.6%	18.8%	19.5%		20.0%	20.0%	20.0%
		1,332	2,339	2,683	2,516	2,907	3,342	3,844
	YoY		75.6%	14.7%	-6.3%	15.5%	15.0%	15.0%
	η	996	1,881	1,771	1,774	2,011	2,161	2,555
		25.2%	19.6%	34.0%	29.5%	33.0%	35.0%	35.0%
		1,081	2,069	2,419	2,269	2,623	3,016	3,469
	YoY		91.3%	16.9%	-6.2%	15.6%	15.0%	15.0%
	η	826	1,702	1,600	1,623	1,836	1,961	2,324
		23.6%	17.7%	33.8%	28.5%	30.0%	35.0%	33.0%
		85	97	138	139	160	184	211
	YoY		13.6%	42.0%	0.9%	15.0%	15.0%	15.0%
	η	53	59	82	79	88	101	116
		37.5%	39.2%	40.4%	43.4%	45.0%	45.0%	45.0%
		116	128	99	90	103	119	137
	YoY		9.5%	-22.1%	-9.6%	15.0%	15.0%	15.0%
	η	82	87	69	63	72	83	96
		29.4%	31.4%	30.7%	30.2%	30.0%	30.0%	30.0%
IC		49	46	28	18	21	24	27
	YoY		-5.7%	-40.0%	-35.1%	15.0%	15.0%	15.0%
	η	35	32	19	9	14	17	19
		28.8%	30.3%	30.9%	47.6%	30.0%	30.0%	30.0%
		33	17	15	44	40	40	40
	YoY		-49.9%	-8.2%	183.1%	-8.3%	0.0%	0.0%
	η	32	14	11	39	36	36	36
		3.2%	14.0%	28.4%	10.0%	10.0%	10.0%	10.0%

2019

Q4

[illegible]

11

股票		Y				X			
		2019	2020E	2021E	2022E	2019	2020E	2021E	2022E
300661.SZ	217.25	1.70	1.71	2.43	3.28	128	127	90	66
603290.SH	147.34	1.13	1.09	1.49	2.09	131	135	99	70
						129	131	94	68
Wind				Wind		2020/6/3			

			5	
2016	2018	439,676.33	587,558.97	627,079.65
2018			WSTS	2019
		13.3%		

		2016	2017	2018	2019	1-6	
		117.14	143.25		147.06		148.18
	9.06	13.09	9.15	3.58			
20.62%	22.28%	14.60%	13.54%	13%			3.46
	4.47	4.50	2.17				7.86% 7.61%
7.17%	8.22%	7%					

		5				
2016	2017	2018	2019	1-6		114,525.11
	134,183.29	137,193.96	50,043.33			
	26.25%	22.90%	21.93%	19.05%	5	
	5					

5

IHS Markit 2018

12	31	2018A	2019A	2020E	2021E	2022E
		5,106	5,092	10,276	11,223	12,213
		1,538	1,931	6,951	7,768	8,617
		1,177	1,058	1,166	1,257	1,326
		1,181	1,055	1,109	1,146	1,217
		1,211	1,049	1,051	1,052	1,053
		4,886	5,003	4,928	4,953	5,038
		0	82	82	82	82
		3,898	3,816	3,776	3,836	3,956
		351	489	439	389	339
		294	275	290	305	320
		343	341	341	341	341
		9,992	10,095	15,204	16,176	17,251
		4,654	1,979	2,081	2,154	2,279
		0	0	0	0	0
		916	960	1,015	1,055	1,120
		3,737	1,019	1,066	1,099	1,159
		318	1,726	1,726	1,726	1,726
		0	1,506	1,506	1,506	1,506
		0	0	0	0	0
		318	220	220	220	220
		4,972	3,704	3,807	3,880	4,004
		830	830	1,216	1,216	1,216
		6,021	5,450	9,426	9,426	9,426
		-3,049	-1,225	-727	-1	766
		4,148	5,423	10,284	11,010	11,777
		872	968	1,113	1,286	1,470
		9,992	10,095	15,204	16,176	17,251

12	31	2018A	2019A	2020E	2021E	2022E
		1,482	576	1,255	1,425	1,467
		538	512	694	959	1,021
		953	709	570	470	410
		-95	-715	-81	-87	-47
		87	69	73	83	83
		-575	-41	-495	-495	-495
		-533	-611	-495	-495	-495
		0	-82	0	0	0
		-42	652	0	0	0
		-627	-180	4,260	-113	-123
		0	1,480	0	0	0
		85	0	386	0	0
		-712	-1,660	3,873	-113	-123
		317	374	5,020	817	849
		1,200	1,517	1,931	6,951	7,768
		1,517	1,891	6,951	7,768	8,617

12	31	2018A	2019A	2020E	2021E	2022E
		6.7%	-8.4%	10.5%	8.0%	5.4%
		1376.1%	-18.4%	61.4%	38.2%	6.5%
		511.0%	-6.7%	36.8%	43.4%	6.5%

12	31	2018A	2019A	2020E	2021E	2022E
		6,271	5,743	6,346	6,857	7,231
		4,690	4,431	4,659	4,814	5,114
		85	66	76	82	87
		126	112	127	137	145
		374	377	381	384	383
		450	483	508	549	578
		0	31	-14	1	12
		-72	-37	-20	-30	-30
		0	0	0	0	0
		11	0	0	0	0
		586	478	771	1,065	1,134
		5	28	0	0	0
		591	506	771	1,065	1,134
		53	-6	77	107	113
		538	512	694	959	1,021
		108	112	146	173	184
		429	401	548	786	837
EBITDA		1,500	983	1,166	1,361	1,333
EPS		0.52	0.48	0.45	0.65	0.69

		25.2%	22.8%	26.6%	29.8%	29.3%
		8.6%	8.9%	10.9%	14.0%	14.1%
ROE		10.4%	7.4%	5.3%	7.1%	7.1%
ROIC		6.7%	3.5%	4.2%	5.8%	5.6%
		49.8%	36.7%	25.0%	24.0%	23.2%
		99.1%	58.0%	33.4%	31.6%	30.2%
		1.10	2.57	4.94	5.21	5.36
		0.83	2.01	4.38	4.65	4.80
		0.63	0.57	0.42	0.42	0.42
		10.42	7.05	7.05	7.05	7.05
		5.31	5.44	5.72	5.98	5.94
		0.52	0.48	0.45	0.65	0.69
		1.79	0.69	1.03	1.17	1.21
		5.00	6.54	8.46	9.05	9.69
P/E		-	-	85.23	59.43	55.82
P/B		-	-	4.54	4.24	3.97
EV/EBITDA		-	-	35.40	29.74	29.72

2019

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