

How did COVID-19 impact the MEMS Industry Commercialization Report Card?

November 10, 2021 by Randy Frank

The MEMS Industry Commercialization Report Card has been conducted annually since 1998 by Roger Grace, President of Roger Grace Associates. Using a Delphi approach by soliciting input from a limited number of industry insiders and experts, the report provides valuable insight into the MEMS industry. Responses that he received for the 2020 report card took the impact of COVID-19 into account. While some past MEMS bubble bursts, such as bioMEMS and optical telecom use of MEMS technology, have made investors wary, there are new market opportunities for large volume applications emerging in automotive, consumer (mobile phones), point-of-care diagnostics, wearables, environment/infrastructure monitoring and the internet of Things (IoT).

In spite of COVID-19 in 2020, the overall grade remained at B-, a consistent grade since 2014, demonstrating the continuing maturing of the MEMS industry. However, there were some changes from 2019, specifically:

- R&D decreased from B+ to B
- Marketing research decreased from B- to C+
- Infrastructure decreased from A- to B+
- Profitability increased from C to C+
- Venture capital (VC) creation increased from C- to C.

The 14 scorecard categories and their respective grade over time are shown in the figure below:

2020 MEMS COMMERCIALIZATION REPORT CARD																								
SUBJECT / YEAR	98	99	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Δ
R&D	A	A	A	A	A	A-	A-	A-	A-	A-	B+	B	B	B+	B	B	B	B	B+	A-	A-	B+	B	-1
Marketing	C-	C	C+	C+	C+	C	C	C+	C+	C+	C+	C	C	C+	C+	B-	B-	B	B	B	B	B-	B-	0
Market Research	C	B-	B-	B-	B	B	B+	B-	B	B	B	B+	A-	B	B-	B-	B-	C+	C+	B-	B-	B-	C+	-1
Design For Manufacturing	C+	B-	B	B	B	B	B	C+	B-	B	B+	A-	A-	B+	B-	B	B+	A-	A-	A-	B+	B	B	0
Established Infrastructure	C+	B	B+	A	A	A	A	A-	A-	A-	B+	B+	A-	B+	-1									
Management Expertise	C	C	C+	C+	C+	C+	C+	B-	B-	B	B	B	B	B	B	B	B	B	B	B	B	B	B	0
Venture Capital Attraction	C	B-	B+	A	C	C-	C	C+	C+	C	C-	D	D+	D+	D+	D+	D	D	D	D+	C-	C-	C	1
Creation Of Wealth	C	B-	B+	A	C	C-	C-	C-	C-	C	C-	D+	C-	C+	C+	C+	B-	C+	C+	C+	C+	C+	C+	0
Profitability	C-	C-	C-	C-	C-	C-	C-	C	C+	C	C-	D+	D	C-	C	C+	C+	C	C-	C-	C	C	C+	1
Industry Roadmap	INC	B-	B	B+	A-	A	A	B	B-	C+	C-	C-	C	C	C	C+	B-	C+	C	C-	C	C	C	0
Industry Association	INC	INC	INC	B	B+	B+	B+	B	B	B+	B	B	A-	B+	B+	B+	B+	B+	A-	B+	B-	B-	B-	0
Standards	INC	INC	INC	INC	C	B-	B-	B-	C+	C	C	C	C+	C	C	C+	B-	C+	C-	C-	C-	C	C	0
Employment	INC	INC	INC	INC	INC	C	C	C+	C+	C+	C	C-	C	C+	C+	C+	B-	B-	B	B	B	B	B	0
Cluster Development	INC	INC	INC	INC	INC	B	B+	B+	B	B-	C+	C+	C+	C	C+	C+	B-	C+	B-	C+	C+	C+	C+	0
Overall Grade	C+	B-	B	B	B-	B	B	B	B-	B	C+	C+	B-	B-	B-	B	B	B-	B-	B-	B-	B-	B-	0

ROGER GRACE ASSOCIATES
MARKETING CORSELL

In 2020, COVID-19 positively impacted venture capital creation because (VCs) interest in MEMS was rekindled in-part due to COVID diagnostics. In addition, government funding of medical devices surged as special purpose acquisition company and IPOs increased.

Other (negative) COVID implications include lower R&D due to working from home that negatively affected progress for new technologies and products. Marketing and marketing research suffered due to the elimination of travel which impacted in-person meetings and conferences. In infrastructure, supply chains were severely challenged and under-performed.

In addition to the positive impact on VC interest, profitability improved due to work force reduction, reduced overhead and reduced R&D and marketing expenditures. With recent surges in COVID cases in Q3 of 2021, expectations for the Report Card in 2021 are for similar findings.

Those interested in the entire findings of the 2020 Report Card should visit Roger Grace Associates.