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| **2023 MEMS INDUSTRY COMMERCIALIZATION REPORT CARD** |
| SUBJECT / YEAR | **1998** | **1999** | **2000** | **2001** | **2002** | **2003** | **2004** | **5005** | **2006** | **2007** | **2008** | **2009** | **2010** | **2011** | **2012** | **2013** | **2014** | **2015** | **2016** | **2017** | **2018** | **2019** | **2020** | **2021** | **2022** | **2023** |
| 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 | B-  | B |   |
| Marketing | C- | C | C+ | C+ | C+ | C | C | C+ | C+ | C+ | C+ | C | C | C+ | C+ | B- | B- | B | B | B | B | B- | B- | C+ | B- |   |
| 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+ | C  | C+ |   |
| 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 | B-  | B |   |
| Established Infrastructure | C+ | B | B+ | A | A | A | A | A- | A- | A- | B+ | B+ | A- | A- | A- | A- | A- | A- | A- | A- | A- | A- | B+ | B-  | B |   |
| 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 | B-  | B- |   |
| 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 | C- | B- |   |
| 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+ | C | C+ |   |
| Profitability | C- | C- | C- | C- | C- | C- | C- | C | C+ | C | C- | D+ | D | C- | C | C+ | C+ | C | C- | C- | C | C | C+ | C | C |   |
| Industry Roadmap |   | B- | B | B+ | A- | A | A | B | B- | C+ | C- | C- | C | C | C | C+ | B- | C+ | C | C- | C | C | C | C  | C |   |
| Industry Association |   |   |   | B | B+ | B+ | B+ | B | B | B+ | B | B | A- | B+ | B+ | B+ | B+ | B+ | A- | B+ | B- | B- | B- | C+ | B |   |
| Standards |   |   |   |   | C | B- | B- | B- | C+ | C | C | C | C+ | C | C | C+ | B- | C+ | C- | C- | C- | C | C | C- | C |   |
| Employment |   |   |   |   |   | C | C | C+ | C+ | C+ | C | C- | C | C+ | C+ | C+ | B- | B- | B | B | B | B | B | B-  | B- |   |
| Cluster Development |   |   |   |   |   | B | B+ | B+ | B | B- | C+ | C+ | C+ | C | C+ | C+ | B- | C+ | B- | C+ | C+ | C+ | C+ | C  | C+ |   |
| **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-** | **C+** | **B-** |  |