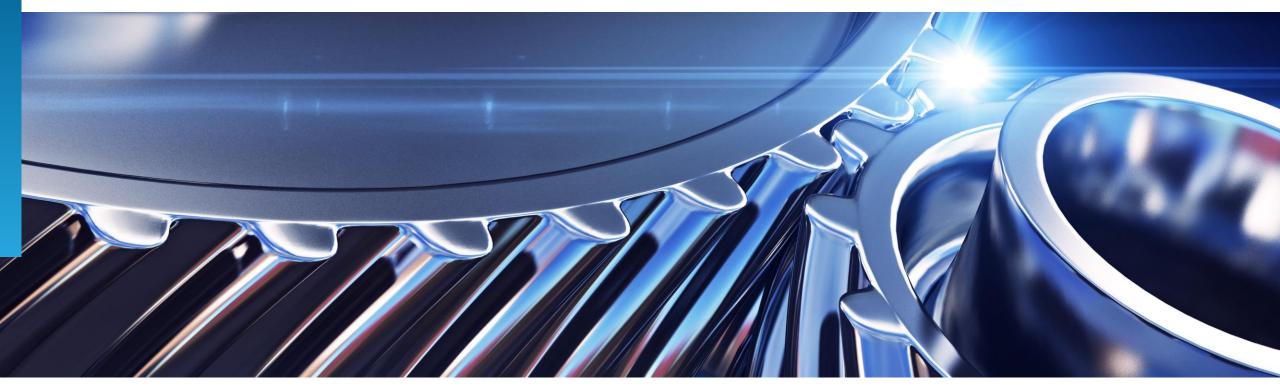


Leading the Pack: Trends for the Top 200 Engineering Research & Development (ER&D) Enterprises

January 2021: Complimentary Abstract / Table of Contents



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Contents

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Background and scope of the research

Background of the research

- The end of 2019 saw outbreak of the COVID-19 pandemic, which would go on to cause drastic changes in the lives of people and the ways businesses operated across 2020. With people forced to stay indoors for large parts of the year, businesses have digitized their offerings and workstreams in order to stay relevant
- Enterprises across industries have had to adjust their Engineering Research and Development (ER&D) spending, prioritize investment areas, and concentrate spending on these themes ER&D has taken on greater significance as enterprises are now competing to capture a share of the consumer's wallet in the midst of an economic downturn
- This research was conducted across eight verticals for enterprises featuring in the top 200 ER&D spend list, by factoring in their ER&D spend growth trends and key investment areas over the last year
- The report looks at the key themes that will continue to drive enterprise ER&D spend in the near future and provides a timeline of investments that enterprises have made over the previous year. The report also provides insights into ER&D spend intensity (ER&D spend as a percentage of revenue) for enterprises across verticals
- The focus of this research is only on business-financed ER&D spend. It excludes non-ER&D spend (e.g., clinical ER&D expenditure in pharmaceuticals and biotechnology, and molecular development ER&D expenditure in chemicals) as well as government-sponsored ER&D spend
- Enterprises that do not specifically report their ER&D expenses in their annual reports have been excluded from this analysis. Enterprises cutting across these eight industries have been featured under the industry where the proportion of ER&D spend is the highest

Scope of this report:





Industry

Market trends across eight industries: software, automotive, aerospace and defense, semiconductors, telecom service providers, telecom equipment providers, consumer electronics, and medical devices

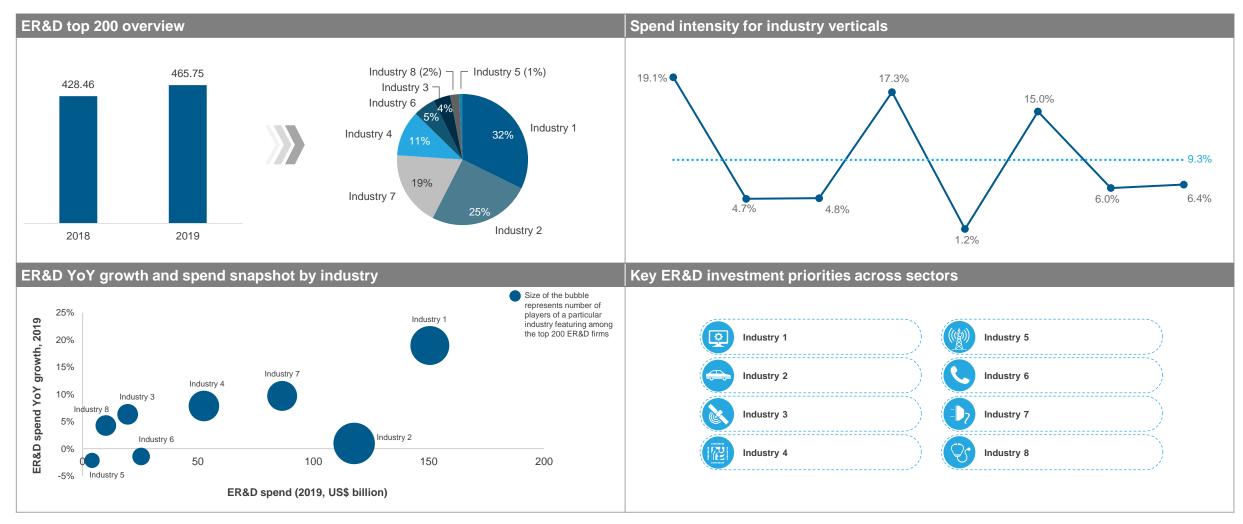


Summary of key messages

- Enterprises in the ER&D top 200 across eight verticals spent US\$465.7 billion on ER&D in 2019, an increase of 8.7% from 2018
- The ER&D top 200 enterprises spent an average of 9.3% of their revenue on ER&D. While enterprises from the semiconductors and software products verticals had an average spend intensity of over 17%, automotive, telecom service providers, and aerospace and defense enterprises registered an ER&D spend intensity of less than 5%
- In 2019, software products recorded the highest ER&D spend (US\$149.9 billion) at a growth rate of 19%, the fastest among all verticals. The consumer electronics vertical was the only other vertical that recorded a double-digit growth rate in 2019
- Enterprises across all eight verticals continued to increase spending on digital engineering and products leveraging AI, ML, IoT, etc., to develop next-generation smart solutions for customers
- The COVID-19 pandemic has had a varied impact on industries there has been a marked decline in ER&D spending in verticals such as automotive and aerospace, whereas enterprises from the semiconductor and software products have increased ER&D spending
- Shifting ER&D priorities due to the pandemic offers a great opportunity to service providers
 to engage with enterprises and pitch for new workstreams, leveraging cost optimization
 themes such as vendor consolidation and revenue-/risk-sharing engagement models



This report includes ER&D spend analysis along with insights on key investment priorities for enterprises across eight key industries



Research calendar

Engineering services

		Published Planned Current release
Flagship Engineering Services reports		Release date
Verification & Validation Engineering Services PEAK Matr	ix® Assessment	January 2020
Industry 4.0 Services PEAK Matrix® Assessment: The Tra	nsformational Leap in Cyber-physical Convergence	September 2020
Semiconductor Engineering Services PEAK Matrix® Asses	ssment	Q1 2021
Software Product Engineering Services PEAK Matrix® Ass	sessment	Q1 2021
Thematic Engineering Services reports		Release date
Global Services Market Pressing Issues in 2020: Enterpris	ses Engineering Perspective	February 2020
Digital Engineering: An Opportunity Unparalleled		February 2020
Engineering ER&D (ER&D) in 2020: Who Will Move My C	heese?	February 2020
A Framework-driven Approach for Verification and Validat	on (V&V) of IoT Systems	May 2020
The Future of Mobility – on the Cusp of the Electrification	Revolution	May 2020
Engineering the 5G World		June 2020
Engineering Services Skills Handbook: Preparing for the N	lext Wave of Growth in Global ER&D	July 2020
Leading European Locations for Global Delivery of Engine	ering Services	October 2020
Cloud Engineering – The Center Stage of Global ER&D		November 2020
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Digital Twins and their Adoption Across Industries		Q1 2021

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