

With this report, Quant IP assesses the competitive position of a company from a technological perspective.

Using forward looking patent data and Machine Learning, Quant IP uncovers strengths and weaknesses in the current technology portfolio, identifies all relevant technological competitors and benchmarks the company's technology portfolio accordingly.

Quant IP also identifies the technology trends with the most potential for disruption and quantifies the company's capabilities to manage them.

Competitive Technology Benchmarking Report

Company: ResMed, Inc.

Mockup Report

This document is a mock-up, the information displayed are meant to be examples. This report also has no affiliation to any companies mentioned in this report.

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ResMed

Competitive Technology Benchmarking Report

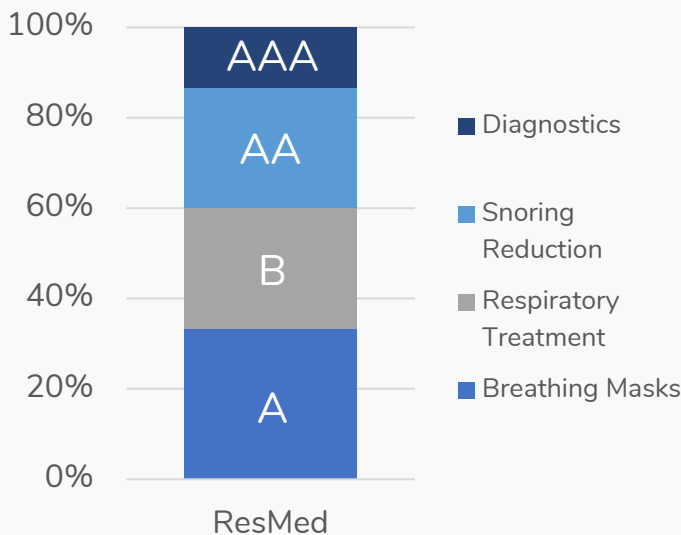
Executive Summary

ResMed's technology footprint is in the fields of **Diagnostics, Snoring Reduction, Respiratory Treatment and Breathing Masks**. The company's patent portfolio average quality rating is AA. That means, on average, ResMed's patents are **better than 85 percent** of comparable patents from competitors.

ResMed **ranks 4th in the Competitive Technology Benchmarking** with a competitive technology score of 86. ResMed scores well with its patent portfolio size and quality but needs to increase filing activity to score higher versus competitors with higher growth rates.

A **Technology Disruption Index of 45** indicates that ResMed is well suited to withstand disruptive technology forces. The company is well positioned overall to disrupt in the relevant technologies of Medicine Delivery and Simulators & Data Processing, although there is a low risk to be disrupted in the field of Medical Informatics.

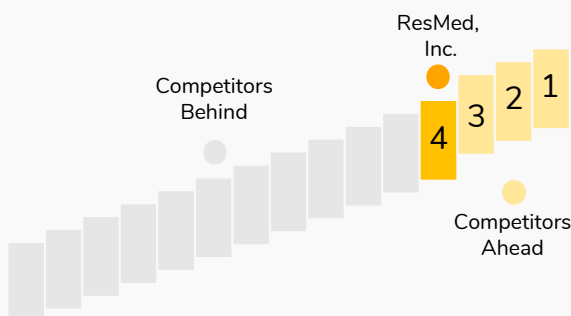
Technological Footprint



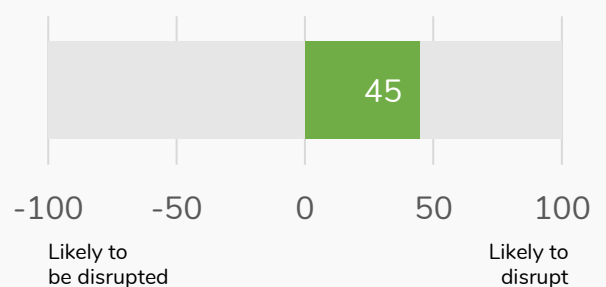
Average Patent Rating



Competitive Technology Benchmarking



Technology Disruption Index



- 1- Technology Portfolio Quality
- 2- Competitive Technology Benchmarking
- 3- Technology Disruption Index

Technology Portfolio Quality

Average Patent Portfolio Quality Rating

Quality Rating Distribution and Trends

Detailed Ratings for the most recent 20 inventions



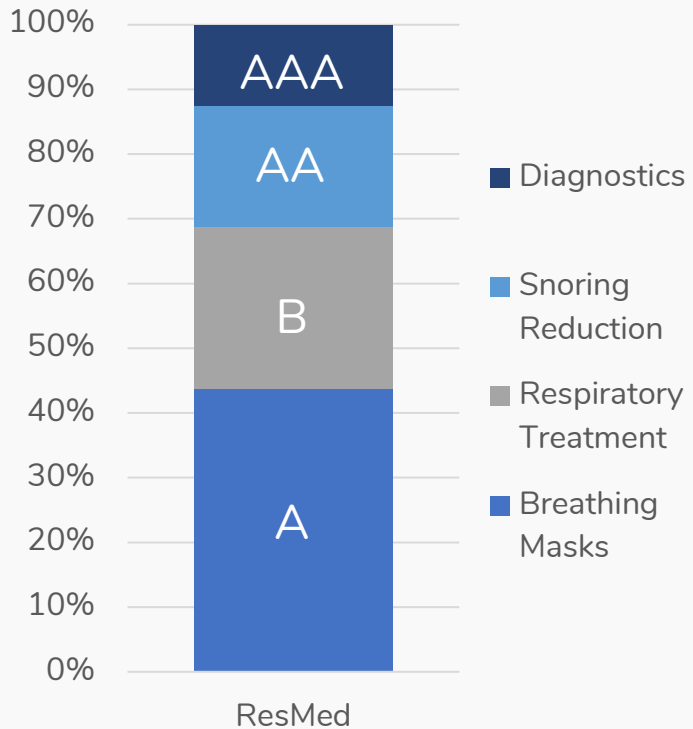
ResMed Patent Portfolio

Combining expert domain knowledge with machine learning, Quant IP created Quant IP Patent Rating, the first indicator built on predictions of future patent success and therefore applicable from the first day of publication (see appendix). Quant IP Patent Rating combines various indicators into one quality assessment quantifying the quality of a company’s patents and the whole portfolio.

Patent Portfolio Quality

- **Number of Filings in 20 years:**
7150
- **Number of active patents:**
4321
- **Growth Rate (last 12 months/last 60 months):**
12% / 18%

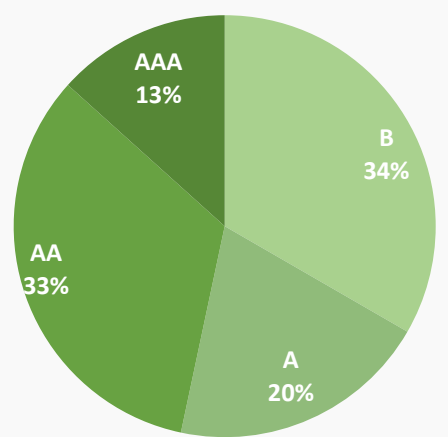
Technological Footprint



Average Patent Rating



Patent Rating Distribution

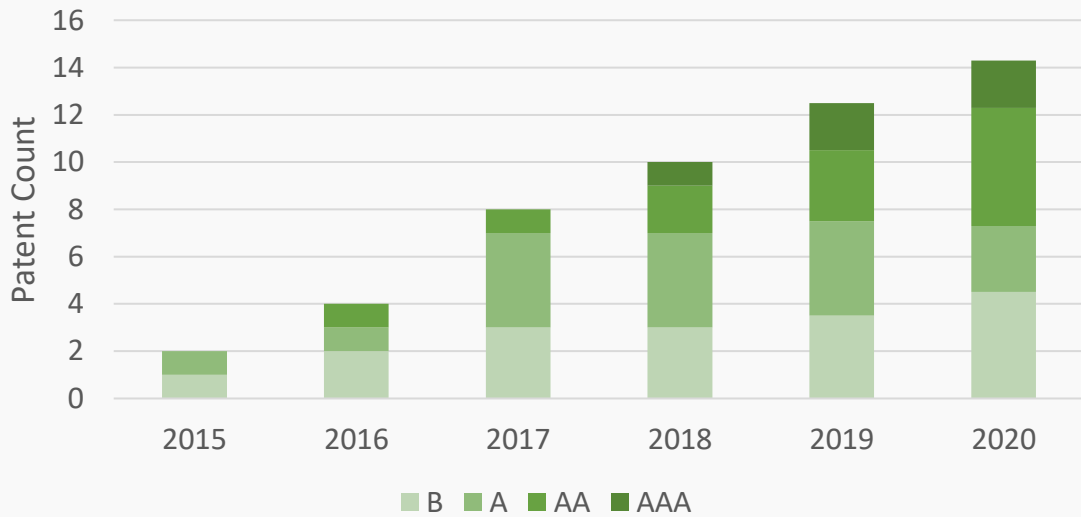




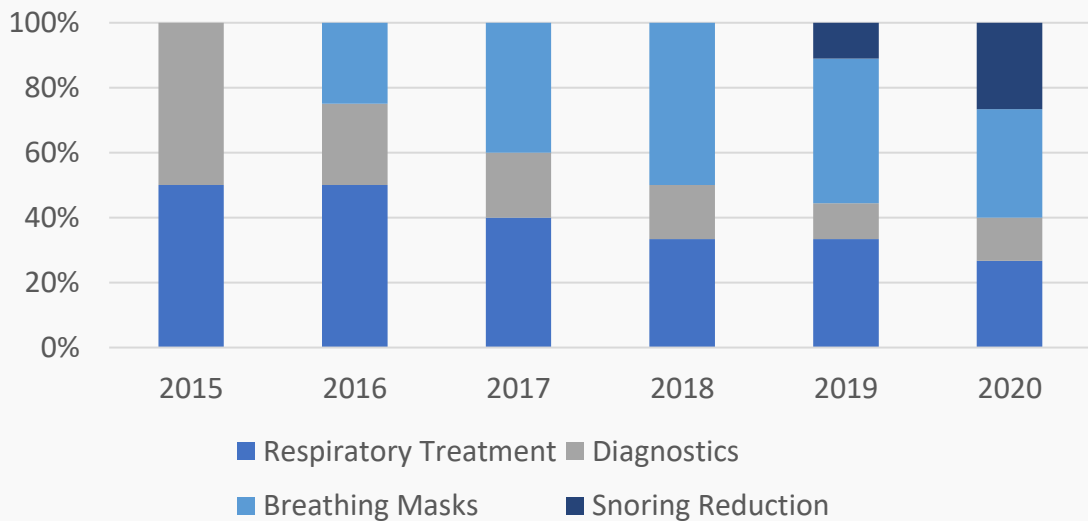
ResMed, Inc. (US7611521078)

Patent Quality

Patent Activity & Quality Over Time



Tech Footprint Over Time





ResMed, Inc. (US7611521078)

Rated Inventions Overview

Document	Document Title	Priority Date	QIP Quality Score*	Rating*
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	21.05.2020	<div style="width: 90%;"></div>	AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	13.05.2020	<div style="width: 75%;"></div>	AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	29.04.2020	<div style="width: 60%;"></div>	A
WO-2020130908-A1	Improved cable connector	02.04.2020	<div style="width: 20%;"></div>	B
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	30.03.2020	<div style="width: 90%;"></div>	AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	28.02.2020	<div style="width: 75%;"></div>	AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	02.01.2020	<div style="width: 60%;"></div>	A
WO-2020130908-A1	Improved cable connector	21.12.2019	<div style="width: 20%;"></div>	B
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	02.12.2019	<div style="width: 90%;"></div>	AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	29.11.2019	<div style="width: 75%;"></div>	AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	25.11.2019	<div style="width: 60%;"></div>	A
WO-2020130908-A1	Improved cable connector	17.09.2019	<div style="width: 20%;"></div>	B
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	17.09.2019	<div style="width: 90%;"></div>	AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	17.09.2019	<div style="width: 75%;"></div>	AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	01.09.2019	<div style="width: 60%;"></div>	A
WO-2020130908-A1	Improved cable connector	19.08.2019	<div style="width: 20%;"></div>	B
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	13.08.2019	<div style="width: 90%;"></div>	AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	05.06.2019	<div style="width: 75%;"></div>	AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	05.06.2019	<div style="width: 60%;"></div>	A
WO-2020130908-A1	Improved cable connector	26.05.2019	<div style="width: 20%;"></div>	B



ResMed, Inc. (US7611521078)

Rated Inventions Overview

Document	Document Title	Priority Date	QIP Quality Score	Rating
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	18.05.2019		AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	04.05.2019		AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	17.04.2019		A
WO-2020130908-A1	Improved cable connector	29.03.2019		B
EP-3711629-A1	Device with a drawer rail and a lighting device, drawer and furniture	19.03.2019		AAA
WO-2020127888-A2	Urban darkening skin composition and formulation	20.12.2018		AA
WO-2020128120-A1	Reduced-diameter cylindrical diaphragm assembly for hydraulic dampers with ...	21.12.2018		A
WO-2020130908-A1	Improved cable connector	21.12.2018		B

*Quant IP Quality Scores and Patent Ratings are predictive indicators that assess patent quality. You can find more on the appendix. The scores and ratings are given on an invention basis, considering all individual patents and patent applications filed in various countries regarding the invention .

- 1- Patent Portfolio Quality
- 2- **Benchmarking**
- 3- Technology Disruption Index

Competitive Technology Benchmarking

Identifying most relevant technology competitors
Comparing technology footprints and trends
Benchmarking according to size, growth and quality



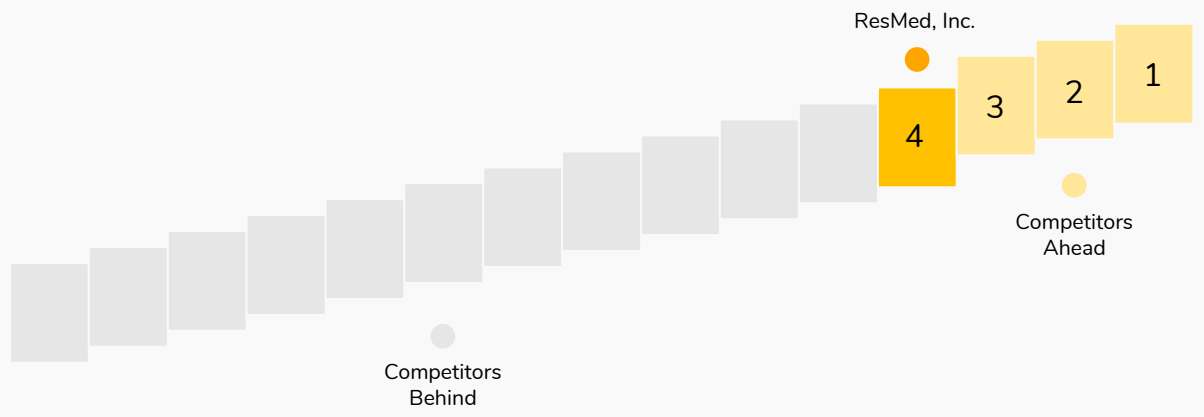
ResMed, Inc. (US7611521078)

Peer Group Overview



*Technological growth above is calculated through patent filing activity.

Rank in Technology Competition





ResMed, Inc. (US7611521078)

Benchmarking

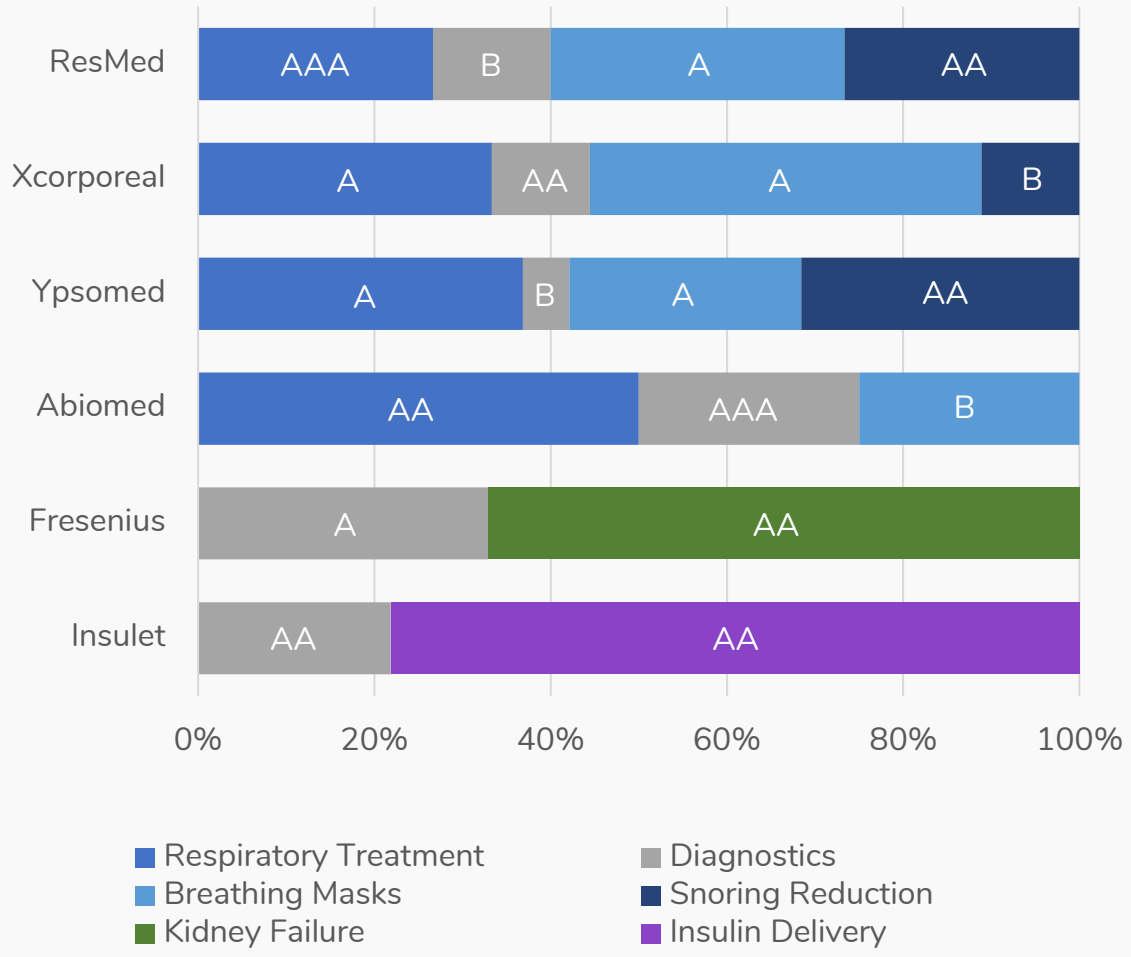
Company Name	Rank	Technology Competitive Score	Size	Absolute Growth	Relative Growth	Quality Score
Xcorporeal, Inc.	1	100.00	1235	1020	82.58	80.16
Insulet Corporation	2	97.18	488	154	31.56	91.13
Vapotherm, Inc.	3	89.14	236	99	41.95	87.72
ResMed Inc.	4	85.57	7150	1651	23.09	86.20
West Pharmaceutical Services, Inc.	5	82.69	1577	462	29.30	84.98
Fresenius Medical Care AG & Co. KGaA	6	79.16	12417	3132	25.22	83.48
Osprey Medical, Inc.	7	78.99	125	40	32.00	83.41
Repro Med Systems, Inc.	8	77.85	109	57	52.29	82.92
Ypsomed Holding AG	9	71.60	132	109	55	80.27
CardioGenesis Corporation	10	61.96	4	0	0.00	76.17
Abiomed, Inc.	11	60.88	2129	924	43.40	75.71
Horizon Medical Products Inc.	12	58.13	5	0	0.00	74.55
Retractable Technologies, Inc.	13	49.49	373	97	26.01	70.88
Asahi Intecc Co., Ltd.	14	47.84	1796	637	35.47	70.18
Med-Tech Solutions Inc.	15	42.10	2	0	0.00	67.74
REMSleep Holdings, Inc.	16	0.00	2	1	50.00	49.86



ResMed, Inc. (US7611521078)

Comparing Tech Footprints

Tech Footprint of Competitors



- 1- Patent Portfolio Quality
- 2- Benchmarking vs Technology Peers
- 3- **Technology Disruption Index**

Technology Disruption Index

Identifying technologies with high growth rates

Identifying technologies with high future growth rates

Identifying technologies with high impact

Benchmarking in technologies with high disruptive potential



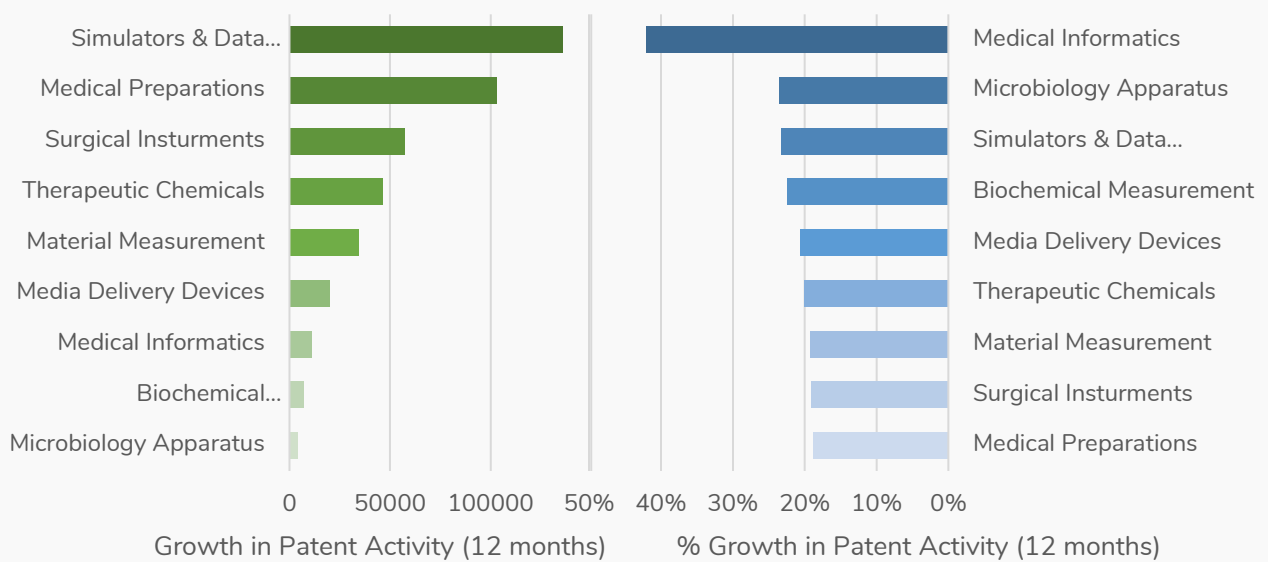
ResMed, Inc. (US7611521078)

Technology Disruption Index

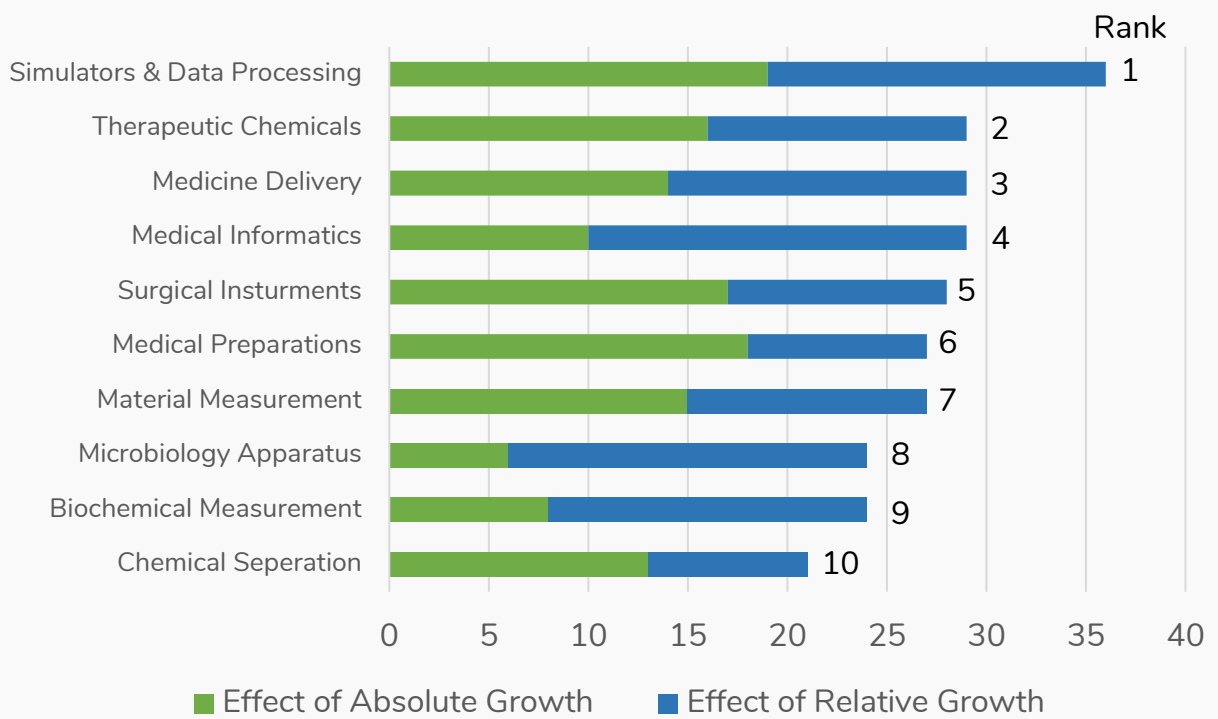
The Technology Disruption Index is an objective assessment of the company's ability to withstand or actively manage disruptive technology trends. After identifying the tech trends with the highest potential of disruption, strengths and weaknesses in those areas are uncovered and benchmarked.

Absolute Growth by Field

Relative Growth by Field



Combined Growth Index





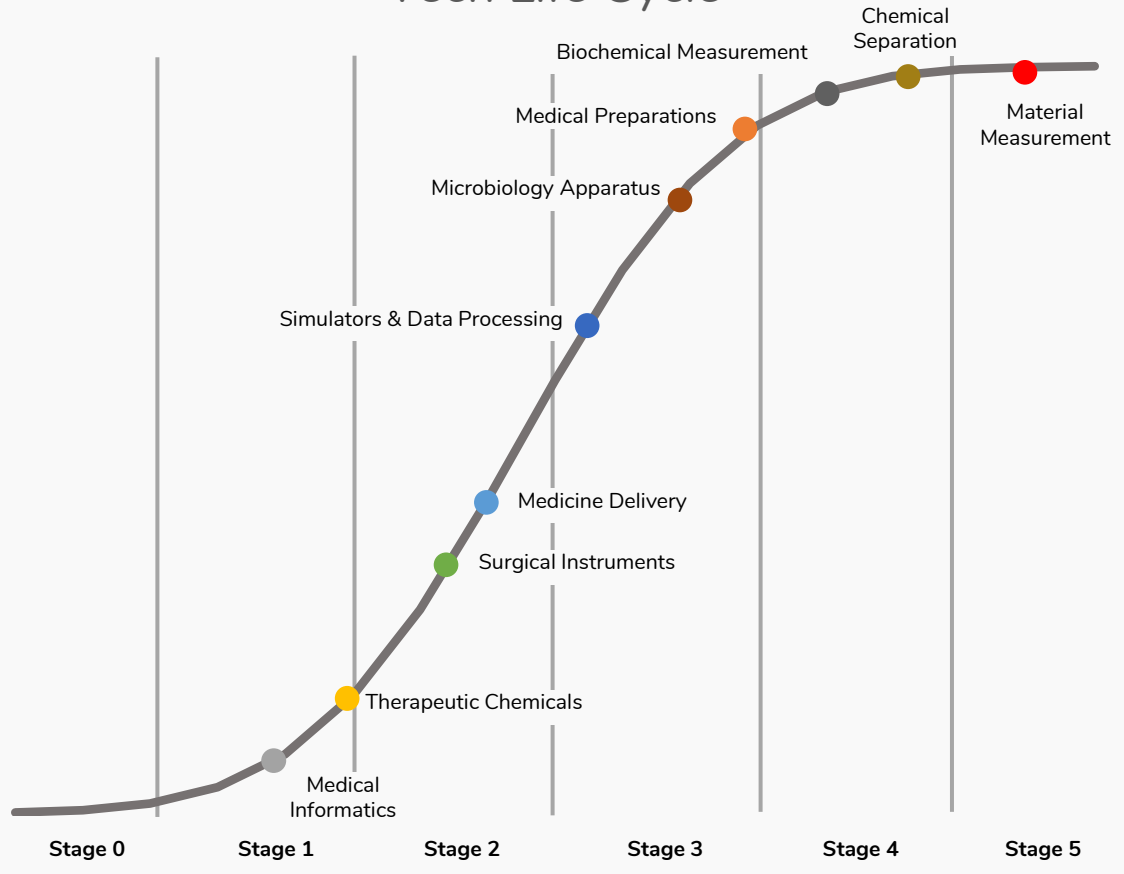
ResMed, Inc. (US7611521078)

Technology Disruption Index

Tech Cycle Analysis

Taking the most important technology fields by recent growth rates we use machine learning to predict the filing activity for the next years. By modelling the technology cycle of all growing fields, we identify the 5 with the highest probability of being at the start of a tech cycle and therefore showing highest projected growth rates.

Tech Life Cycle



	Medical Informatics	Therapeutic Chemicals	Medicine Delivery	Surgical Instruments	Simulators & Data Processing
Life Cycle Stage	1	1	2	2	3
	Microbiology Apparatus	Medical Preparations	Biochemical Measurement	Chemical Separation	Material Measurement
Life Cycle Stage	3	3	4	4	5



ResMed, Inc. (US7611521078)

Technology Fields Filter

Most important fields by recent growth and tech cycle position

Tech Field	Disruption Risk Rank	Life Cycle Stage	Size of Field (in Patents)	Absolute Growth (1y)	Absolute Growth Rank	Relative Growth (1y)	Relative Growth Rank
Simulators & Data Processing	1	3	583579	135925	1	23.3%	3
Medical Informatics	2	1	26095	10979	10	42.1%	1
Medicine Delivery	3	2	96840	19976	6	20.6%	5
Therapeutic Chemicals	4	1	230675	46335	4	20.1%	7
Surgical Instruments	5	2	301305	57608	3	19.1%	9
Medical Preparations	6	3	547813	102906	2	18.8%	11
Material Measurement	7	5	180152	34572	5	19.2%	8
Biochemical Measurement	8	4	31208	6992	12	22.4%	4
Microbiology Apparatus	9	3	18030	4255	14	23.6%	2
Chemical Separation	10	4	106027	19133	7	18.0%	12

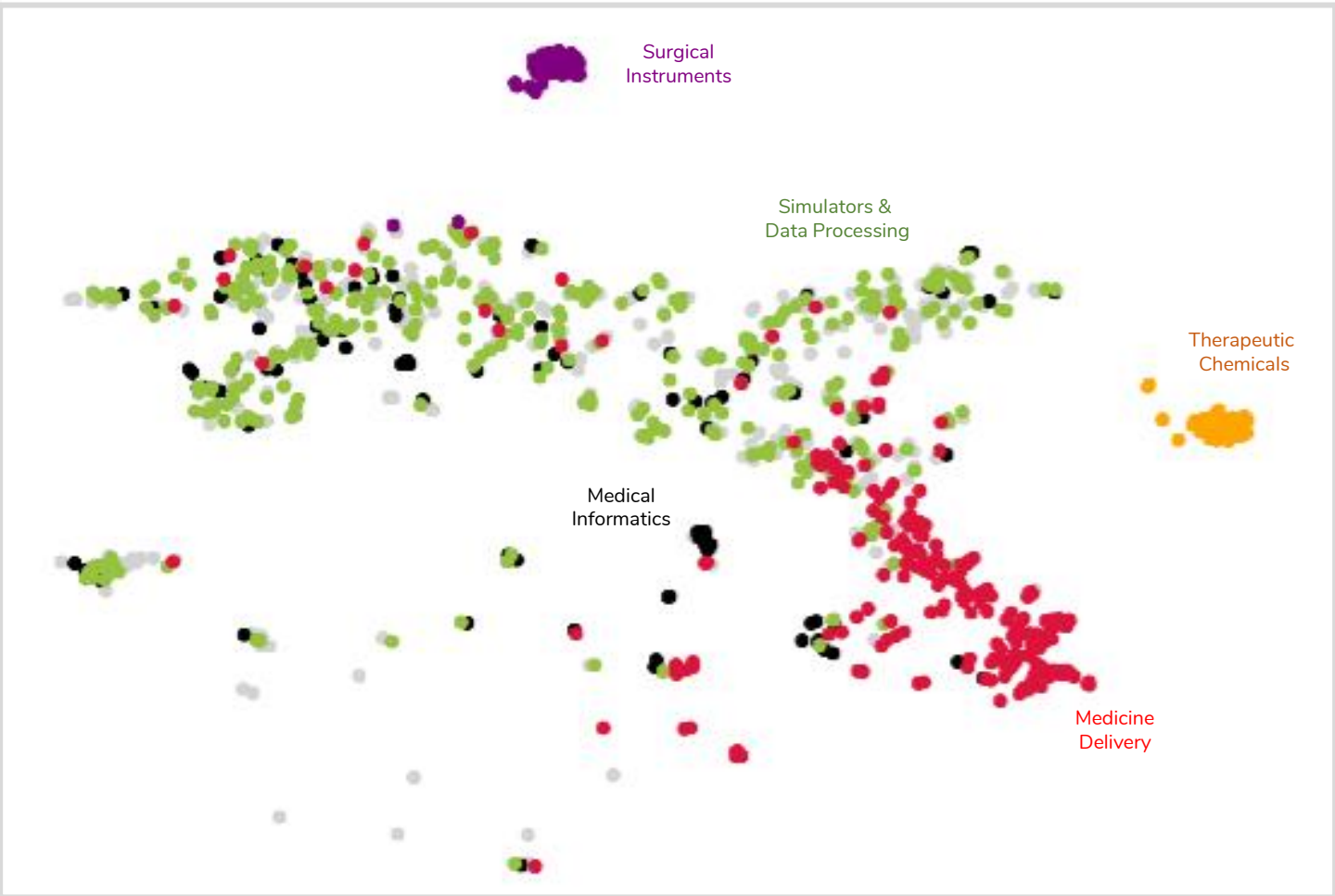
The 5 highlighted above are the fields with the highest growth and the earliest in their respective tech life cycles. They are therefore selected for further analysis for impact.





ResMed, Inc. (US7611521078) Technological Landscape - Overview

Mapping all inventions of ResMed Inc using a high-dimensional similarity analysis. The closer two inventions are, the more similar they are. For visualization, dimensions are reduced to two.



The technological fields that are found to be important in the previous sections are here mapped as a part of the impact analysis. You can see how relevant each field is to the technological portfolio of the company.

In the following pages, each field is examined in more detail.



ResMed, Inc. (US7611521078)

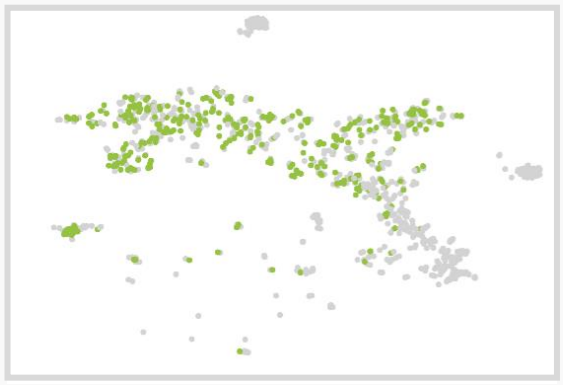
Impact Analysis

In these graphs, you can see how relevant each technological field is to the technological portfolio of the company.

In each graph, the dots are placed according to their similarity, with more similar patents being closer.

The **Impact Ratio** quantifies the importance of a technology for a company. The higher the ratio, the bigger the area covered by a technology relative to the total area of the patent portfolio.

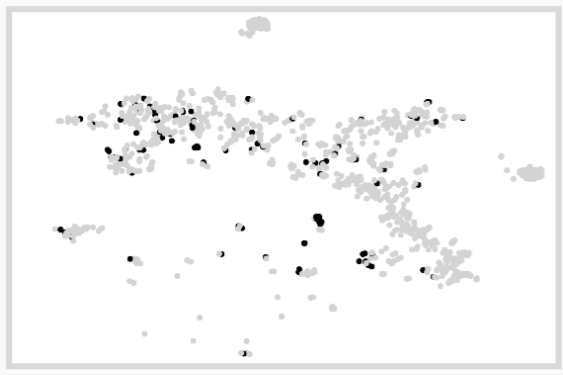
Simulators & Data Processing



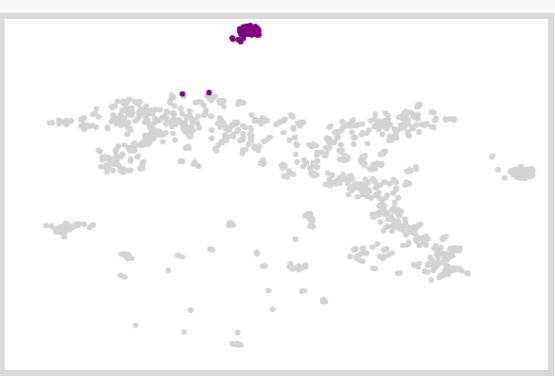
Medicine Delivery



Medical Informatics



Therapeutic Chemicals



Surgical Instruments



Technologies with most disruptive potential

	Simulators & Data Processing	Medicine Delivery	Medical Informatics	Therapeutic Chemicals	Surgical Instruments
Impact Ratio	85	75	70	10	5

High Growth

Early in Cycle

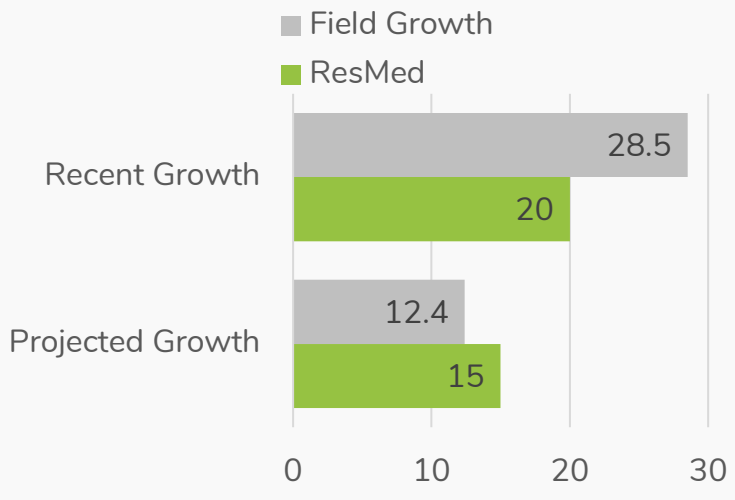
High Impact



ResMed, Inc. (US7611521078) Simulators & Data Processing- Field Analysis



Growth (%)



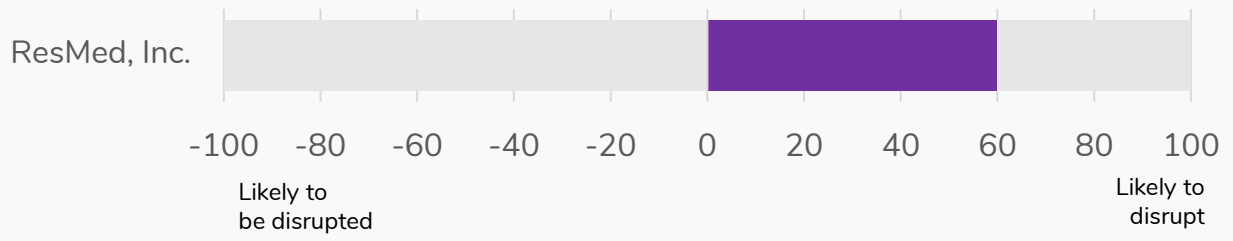
Size:

487
 Inventions
 (1.07% of the field)

Quality:

AA
 (Average Patent Rating)

Disruption Index in the Field

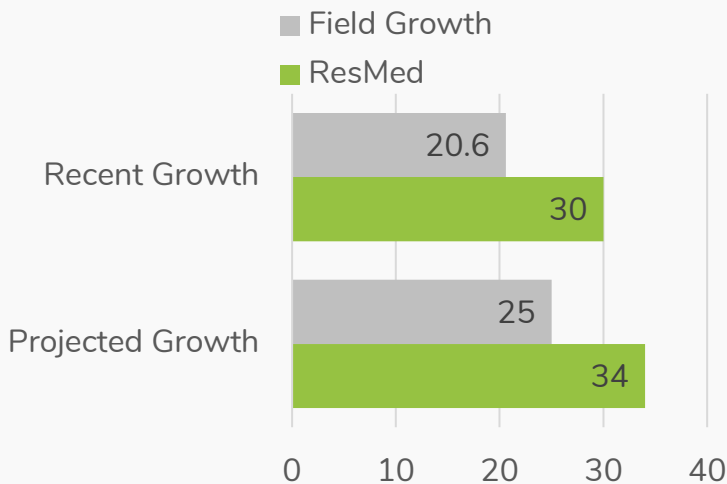




ResMed, Inc. (US7611521078) Medicine Delivery - Field Analysis



Growth (%)



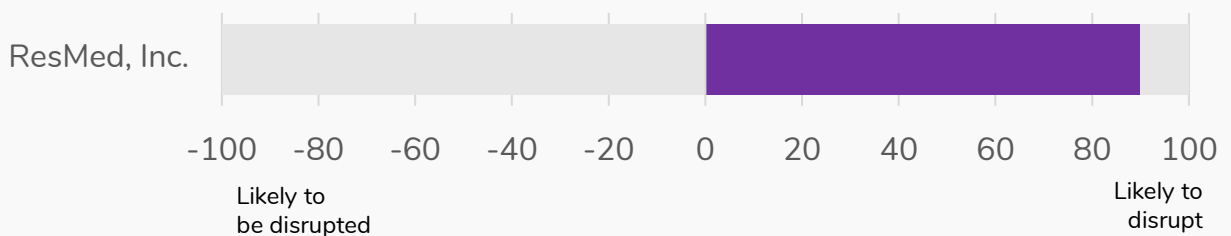
Size:

317
Inventions
(4.12% of the field)

Quality:

AAA
(Average Patent Rating)

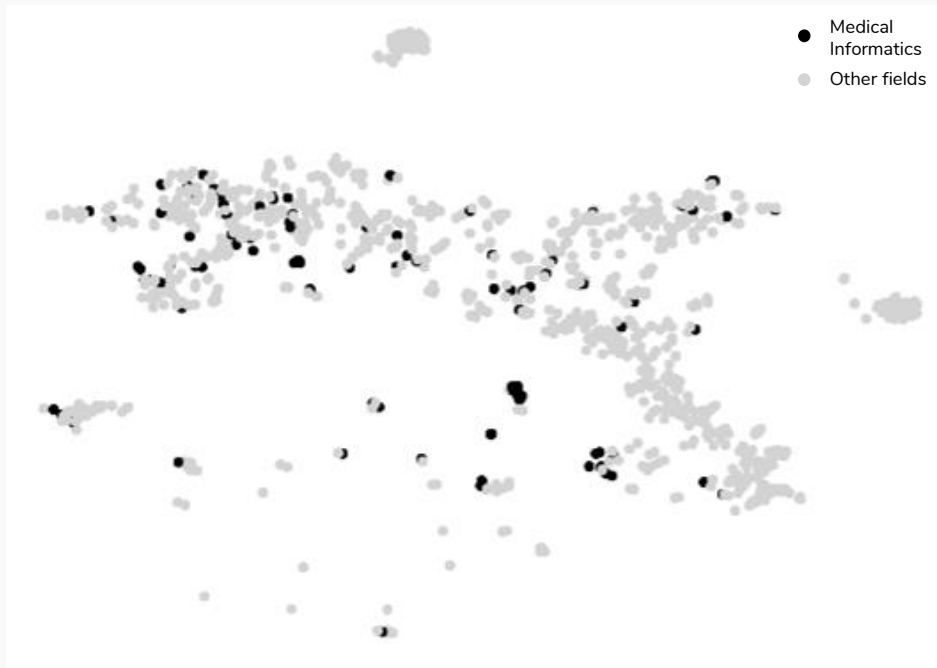
Disruption Index in the Field



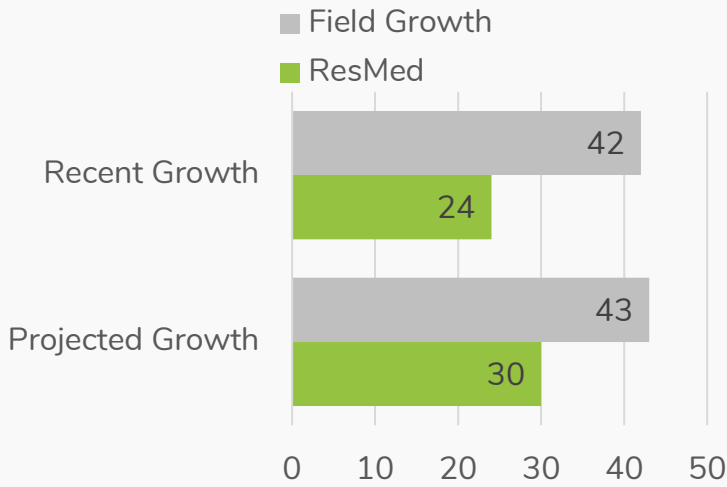


ResMed, Inc. (US7611521078)

Medicine Delivery - Field Analysis



Growth (%)



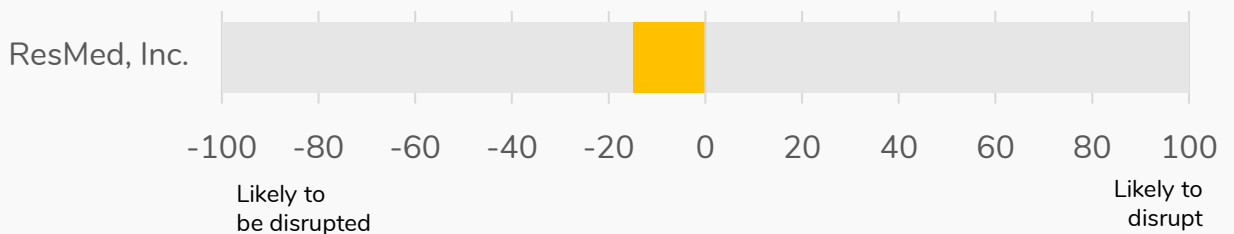
Size:

57
Inventions
(0.42% of the field)

Quality:

AA
(Average Patent Rating)

Disruption Index in the Field

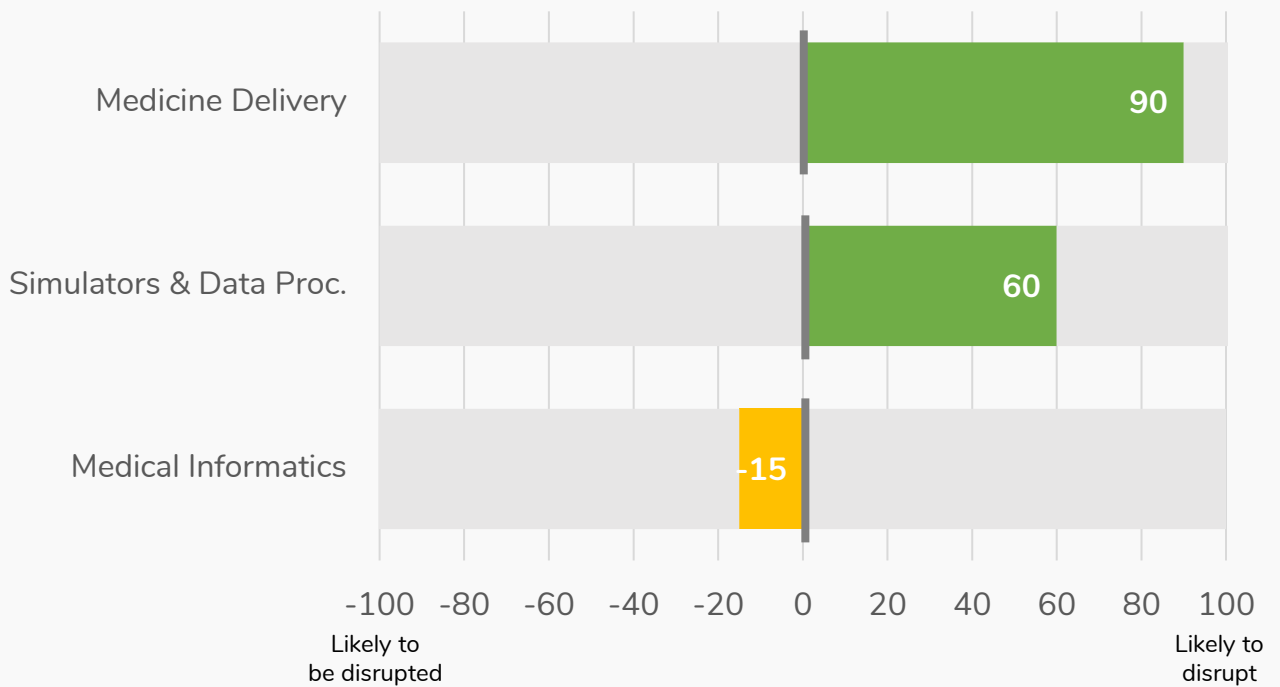




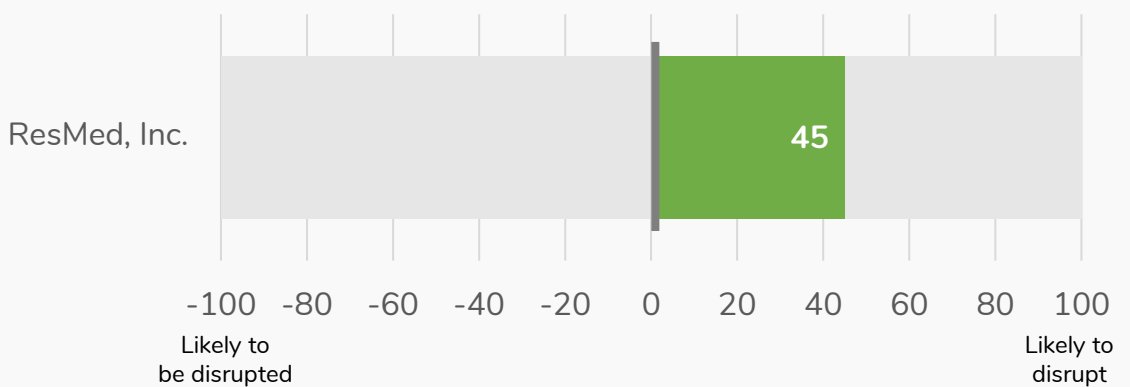
ResMed, Inc. (US7611521078) Technology Disruption Index

A technology disruption index of 45 indicates that ResMed is very well suited to withstand disruptive technology forces. The company is well positioned to disrupt rather than being disrupted in the relevant technologies of Medicine Delivery, Simulators & Data Processing, and Medical Informatics.

Disruption Indexes



Overall Disruption Index



Appendix

Quant IP Patent Rating



Quant IP Patent Rating is the first assessment of patent quality available at the time of publication. It takes a purely quantitative approach and is based on proprietary algorithms to predict patent success in three critical areas: grant status, market coverage and the quality of the innovative step.

Quant IP Patent Rating Criteria

- AAA – Top 10%
- AA – Top 30%
- A – Top 70%
- B – Bottom 30%

Rating percentiles are based on groups of similar patents.

We use IPC classification codes to determine groups of similar patents. The IPC classification scheme is developed and maintained by the European Patent Office and is the de-facto standard for patent classification and categorization.