

2021 GLOBAL HIGH TECH & EMERGING MARKETS

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Industry: Printing

Equipment Code: 10075

© Barnes Reports

2021

- *Market Reports*
- *Industry Trends*
- *Demographic Data*

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Regional Markets

Country Name	Country Code	Country Name	Country Code
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Australia	AUS	Philippines	PHL
Austria	AUT	Poland	POL
Bangladesh	BGD	Puerto Rico	PRI
Belgium	BEL	Romania	ROU
Brazil	BRA	Russian Federation	RUS
Canada	CAN	Saudi Arabia	SAU
Chile	CHL	Singapore	SGP
China	CHN	South Africa	ZAF
Czech Republic	CZE	Spain	ESP
Denmark	DNK	Sweden	SWE
Egypt, Arab Rep.	EGY	Switzerland	CHE
Finland	FIN	Thailand	THA
France	FRA	Turkey	TUR
Germany	DEU	United Arab Emirates	ARE
India	IND	United Kingdom	GBR
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Korea, Rep.	KOR		
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Users' Guide

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

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About this Report

This report covers the global forecast for extreme ultraviolet lithography (euvi) produced in the extreme ultraviolet lithography (euvi) industry.

More than 140 countries are featured in this report as well as global and regional summaries. Estimates on equipment or material sales (product shipments value) are published for six historical years and two forecast years. Product shipments include the total value of all products produced and shipped by all producers. For selected products, this can represent value of receipts, value of production, or value of work done.

These estimates product shipment values are also considered "market potentials" because the calculations assume efficient, free markets. Estimates can vary in countries with inefficient, closed markets with such issues as oppressive regulations and tariffs, black markets, and political problems impacted a regular business cycle.

Published annually, this report provides a unique and accurate estimate on market sizing for this equipment/material using a proprietary economic model that integrates historical trends (horizontal analysis) and longitudinal analysis of incorporated industries (vertical analysis).

Product shipments value are presented in US Dollars and local currency units for historical and forecast years.

Regional summaries include North America, Europe, Asia-Pacific, Latin America, Africa, and Middle East. Percent shares are presented for each region as a share of the global market.

Product shipments values are also broken down by related costs, such as cost of materials, cost of fuels/electricity and value added, as well as capital expenditures, such as expenditures on buildings, machinery, vehicles and computers.

This report does not list key players/companies in the market but focuses on a top-down and outlook view of the market despite the existing and entering of market companies.

Users' Guide

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Users' Guide

Barnes Reports is a leading publisher of industry studies on U.S. and global industries and forecasts sales and employment demographics. As a way of making the most of this information, we have included a few suggestions and tips to aid users in processing and using this information.

Managers, planners, and market researchers use this information for a variety of activities:

- Sizing markets and segments – You can estimate the size of the regional markets you sell in and your company's market penetration into that market. You can do the same with the market segments in which you participate.
- Sales territory potential – You can estimate your market penetration and also the market potential in any regional area or market segment.
- Sales forecasting – With the estimates on the size of the industry, market researchers supporting a sales force can then estimate and forecast the future size of the industry.
- Advertising strategies – You can use this information for forecasting and estimating sales potential and target advertising campaigns.
- Competitive analysis – You will use the information to locate your possible competitors (if it is not already known), to estimate their size, growth and strengths and weaknesses and to see what market segments in which they participate.

We recognize that many managers today are asked to provide detailed analysis of their markets, sales territories, distribution channels, and product placements. We have organized these reports in a logical format making your market analysis and research tasks easy to accomplish.

Definitions & Methodology

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Industry: Printing

Definitions

This market comprises establishments primarily engaged in manufacturing print products with Extreme UV lithography which is a next generation lithography technology that uses the smallest wavelength to create circuits with small features and obtain an output with better resolution. Lithography is used to print complex patterns that define integrated circuits onto semiconductor wafers. EUV lithography (EUVL) is one of the leading next generation lithography (NGL) technologies. Discharge-produced plasma (DPP) and laser-produced plasma (LPP) are the prominent technologies used to produce high power EUV radiation.

The factors that drive the market growth include the growing need for the trend of miniaturization and reduction in process complexity and cost. However, high price of EUV lithography systems may restrict the growth of the EUV lithography market. To produce high power EUV radiation, discharge-produced plasma (DPP) and laser-produced plasma (LPP) are the noticeable technology used.

Definitions & Methodology

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

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Methodology

Barnes Reports' Global Manufacturing & Markets report series provide estimates of the size and characteristics of the largest equipment, materials and consumables by manufacturing industries in the largest 140 global countries. These estimates are produced by a proprietary economic model that is based on a number of sources and factors:

1. The size of U.S. manufacturing equipment, materials and consumables from the U.S. Economic Census over the last twenty years.
2. Estimate current and forecast size of U.S. equipment, materials and consumables using regression analysis.
3. Adjust estimates and forecasts using the most current U.S. manufacturing industry data and trends. This adjustment adds vertical (industry) analysis to the forementioned horizontal (trend) analysis.
4. Global estimates use trend GDP data and the ratio of manufacturing industries to GDP by country from World Bank databases to compare U.S. versus global countries size and trends.

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2021 GLOBAL MANUFACTURING SECTOR FORECAST

The global economic forecast for 2021 is the comparatively weak with the on-going COVID-19 crisis. Barnes Reports is forecasting 3.2 percent GDP growth from 2020 to 2021 globally. GDP forecasts for the largest countries include 3.5 percent for the United States, 6.5 percent for China, 7.5 percent for India, -0.5 percent for Japan and 1.5 percent for Germany.

The global manufacturing sector forecast for 2021 will be slightly lower than the growth in GDP. Barnes Reports is forecasting 1.0 percent manufacturing sector growth from 2020 to 2021. The transportation manufacturing subsector will experience the highest growth of 2.0 percent.

A subsector that is trailing the sector average forecast growth from 2020 to 2021 is machinery manufacturing (-1.0 percent).

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
311	Food and beverage manufacturing	5,659,000	1%
325	Chemical manufacturing	4,572,000	1%
332	Fabricated metal product mfg.	1,925,000	-1%
333	Machinery manufacturing	1,933,000	-1%
334	Computer and electronic product mfg.	1,903,000	2%
335	Electrical equip., appliance mfg.	724,000	0%
336	Transportation equipment mfg.	6,196,000	2%
339	Miscellaneous manufacturing	850,000	-1%

The largest subsector in the manufacturing sector is the transportation equipment manufacturing subsector (6.2 trillion for 2021).

Political Issues

Political issues in the United States in 2020 are still undecided at the time of the publication of this report. Barnes Reports is making the assumption that Joe Biden will become President although recounts and law suits are underway. If Biden is President, Barnes Reports is predicting a divided U.S. government with the Republicans holding the Senate.

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The Biden campaign has promised higher taxes for corporations and rolling back tax cuts from the Trump administration such as income taxes and overseas repatriated money taxes. The Biden campaign did not make promises regarding reimposing deregulated rules for manufacturers, however, most Democrat administrations do impose regulations on businesses which will lower business confidence and profits.

The U.S. relationship with China (the largest importer for manufactured goods) will mirror pre-Trump relations with no tariffs on Chinese goods and the continued import deficit under the Biden administration. Therefore, any new interests or projects that were considered with Trump tariffs to make U.S. manufacturers more price-competitive will be stopped such as appliances, steel products, furniture, and electronics.

Finance Issues

While top investors say that the U.S. stock market likes a divided government, Barnes Reports is forecasting an initial surge in the stock market after the election to new highs, but it will pullback if the Biden administration is able to pass new business regulations, restrictive environmental laws, and/or new corporate taxes and many investors will take earnings out of the market.

Capital equipment spending by businesses in other sectors, a key driver of manufacturing profitability, has been dropped off rapidly due to the undercertainty of the COVID virus. Equipment investment growth accelerated to 4.8 percent during 2017 in the United States according to the U.S. Census and Barnes Reports is forecasting -5.0 percent for 2020 and 2021.

Interest rates have been at the lowest rates in decades with the COVID virus. Barnes Reports is forecasting that the interest rates will remain at these low rates until either the housing market sales reach 2008 highs or inflation from stimulus spending raises gas, energy and/or food prices to 2019 levels.

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Labor Issues

The U.S. labor market is recovering from the COVID virus, but it has a long way to go before it reaches average levels of 5-6 percent. The concern is that more stimulus spending will make it difficult for employers to find qualified workers again as it did in June-July of 2020. Barnes Reports is forecasting limited stimulus spending and a drag from more restrictive northern states.

More open states such as Florida, Texas, and other southern and midwestern states will boost the employment rate as those citizens are more willing to balance the risk of the virus with the need to work and keep the economy healthy.

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SUBSECTOR 311: Global Food and beverage manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
31111	Animal food manufacturing	313,970,000	-2%
31121	Flour milling and malt manufacturing	77,580,000	-7%
31122	Starch and vegetable fats and oils manufacturing	322,510,000	-3%
31123	Breakfast cereal manufacturing	61,060,000	0%
31131	Sugar manufacturing	73,690,000	4%
31134	Nonchocolate confectionery manufacturing	79,700,000	7%
31135	Chocolate and chocolate confectionery manufacturing	124,170,000	3%
31141	Frozen food manufacturing	217,590,000	2%
31142	Fruit and vegetable canning, pickling, and drying	241,860,000	-1%
31151	Dairy product (except frozen) manufacturing	621,080,000	-1%
31152	Ice cream and frozen dessert manufacturing	46,900,000	0%
31161	Animal slaughtering and processing	1,283,510,000	-1%
31171	Seafood product preparation and packaging	98,740,000	4%
31181	Bread and bakery product manufacturing	291,340,000	2%
31182	Cookie, cracker, and pasta manufacturing	135,820,000	-2%
31183	Tortilla manufacturing	27,790,000	2%
31191	Snack food manufacturing	283,560,000	4%
31192	Coffee and tea manufacturing	98,370,000	3%
31193	Flavoring syrup and concentrate manufacturing	109,530,000	11%
31194	Seasoning and dressing manufacturing	152,510,000	4%
31199	All other food manufacturing	213,160,000	5%

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SUBSECTOR 311: Global Food and beverage manufacturing (continued)

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
31211	Soft drink and ice manufacturing	282,110,000	0%
31212	Breweries	157,390,000	-4%
31213	Wineries	135,230,000	0%
31214	Distilleries	98,400,000	5%
31223	Tobacco manufacturing	382,230,000	8%
TOTAL		5,929,800,000	1%

The food and beverage manufacturing subsector globally is projected to be \$5.9 trillion in 2021, growing by 1 percent from 2020 to 2021.

The syrup and concentrate industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (11 percent) followed by the distilleries industry (8 percent).

The largest global industries in this subsector are the animal slaughtering and processing industry (\$1.2 trillion for 2021) and the dairy product manufacturing industry (\$621 billion).

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SUBSECTOR 325: Global Chemical manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
32511	Petrochemical manufacturing	357,550,000	3%
32512	Industrial gas manufacturing	83,210,000	11%
32513	Synthetic dye and pigment manufacturing	39,760,000	2%
32518	Other basic inorganic chemical manufacturing	165,050,000	-2%
32519	Other basic organic chemical manufacturing	488,830,000	-7%
32521	Resin and synthetic rubber manufacturing	498,770,000	-2%
32522	Artificial and synthetic fibers and filaments manufacturing	30,310,000	-6%
32531	Fertilizer manufacturing	93,480,000	-2%
32532	Pesticide and other agricultural chemical manufacturing	81,380,000	-2%
32541	Pharmaceutical and medicine manufacturing	1,676,970,000	5%
32551	Paint and coating manufacturing	169,020,000	1%
32552	Adhesive manufacturing	109,190,000	6%
32561	Soap and cleaning compound manufacturing	229,340,000	0%
32562	Toilet preparation manufacturing	269,210,000	1%
32591	Printing ink manufacturing	21,390,000	-5%
32592	Explosives manufacturing	13,730,000	1%
32599	All other chemical product and preparation manufacturing	244,860,000	1%
TOTAL		4,572,050,000	1%

The chemical manufacturing subsector globally is projected to be \$4.5 billion in 2021, growing by 1 percent from 2020 to 2021.

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SUBSECTOR 325: Global Chemical manufacturing (continued)

The industrial gas manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (11 percent) followed by the pharmaceutical manufacturing industry (5 percent).

The largest global industries in this subsector are the pharmaceutical and medicine manufacturing industry (\$1.6 trillion for 2021) and the resin and synthetic rubber manufacturing industry (\$498 billion).

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SUBSECTOR 326: Global Plastics and rubber products manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
32611	Plastics packaging materials and unlaminated film and sheet manufacturing	223,630,000	-2%
32612	Plastics pipe, pipe fitting, and unlaminated profile shape manufacturing	120,480,000	2%
32613	Laminated plastics plate, sheet (except packaging), and shape manufacturing	27,590,000	3%
32614	Polystyrene foam product manufacturing	63,800,000	4%
32615	Urethane and other foam product (except polystyrene) manufacturing	69,900,000	2%
32616	Plastics bottle manufacturing	53,840,000	-4%
32619	Other plastics product manufacturing	649,220,000	2%
32621	Tire manufacturing	105,860,000	-2%
32622	Rubber and plastics hoses and belting manufacturing	32,540,000	1%
32629	Other rubber product manufacturing	98,810,000	-2%
TOTAL		1,445,670,000	1%

The plastics and rubber products manufacturing subsector globally is projected to be \$1.4 trillion in 2021, growing by 1 percent from 2020 to 2021.

The plastics pipe, pipe fitting, and unlaminated profile shape mfg. industry is forecast to have the highest growth rate globally from 2019 to 2020 in the subsector (2 percent) followed by the laminated plastics plate, sheet (except packaging), and shape mfg. industry (3 percent).

The largest global industries in this subsector are the other plastics product manufacturing industry (\$649 billion for 2021) and the plastics packaging materials and unlaminated film and sheet manufacturing industry (\$223 billion).

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SUBSECTOR 332: Global Fabricated Metal Product manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
33211	Forging and stamping	158,340,000	-4%
33221	Cutlery and handtool manufacturing	54,650,000	-1%
33231	Plate work and fabricated structural product manufacturing	278,470,000	1%
33232	Ornamental and architectural metal products manufacturing	298,280,000	4%
33241	Power boiler and heat exchanger manufacturing	32,260,000	-5%
33242	Metal tank (heavy gauge) manufacturing	35,050,000	-7%
33243	Metal can, box, and other metal container (light gauge) manufacturing	93,300,000	-2%
33251	Hardware manufacturing	50,280,000	1%
33261	Spring and wire product manufacturing	56,730,000	1%
33271	Machine shops	185,570,000	-3%
33272	Turned product and screw, nut, and bolt manufacturing	167,110,000	0%
33281	Coating, engraving, heat treating, and allied activities	132,860,000	-3%
33291	Metal valve manufacturing	167,180,000	-2%
33299	All other fabricated metal product manufacturing	215,270,000	-3%
TOTAL		1,925,350,000	-1%

The fabricated metal product manufacturing subsector globally is projected to be \$1.9 trillion in 2020, growing by -1 percent from 2020 to 2021.

The plate work and fabricated structural product manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (1 percent) followed by the spring and wire product manufacturing industry (1 percent).

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SUBSECTOR 332: Global Fabricated Metal Product manufacturing (continued)

The largest global industries in this subsector are the plate work and fabricated structural product manufacturing industry (\$278 billion for 2021) and the ornamental and architectural metal products manufacturing industry (\$298 billion).

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SUBSECTOR 333: Global Machinery manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
333111	Farm machinery and equipment manufacturing	63,970,000	-14%
333112	Lawn and garden tractor and home lawn and garden equipment manufacturing	50,930,000	0%
333120	Construction machinery manufacturing	145,330,000	-5%
333131	Mining machinery and equipment manufacturing	21,450,000	0%
333132	Oil and gas field machinery and equipment manufacturing	39,540,000	-14%
333241	Food product machinery manufacturing	26,770,000	-2%
333242	Semiconductor machinery manufacturing	74,170,000	14%
333243	Sawmill, woodworking, and paper machinery manufacturing	19,950,000	0%
333244	Printing machinery and equipment manufacturing	11,560,000	1%
333249	Other industrial machinery manufacturing	89,270,000	1%
333314	Optical instrument and lens manufacturing	33,130,000	4%
333316	Photographic and photocopying equipment manufacturing	8,030,000	-3%
333318	Other commercial and service industry machinery manufacturing	99,190,000	-3%
333413	Industrial and commercial fan and blower and air purification equipment manufacturing	32,010,000	-2%

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SUBSECTOR 333: Global Machinery manufacturing (continued)

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
333414	Heating equipment (except warm air furnaces) manufacturing	24,400,000	-2%
333415	Air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing	207,000,000	1%
333511	Industrial mold manufacturing	39,430,000	1%
333514	Special die and tool, die set, jig, and fixture manufacturing	59,190,000	4%
333515	Cutting tool and machine tool accessory manufacturing	27,220,000	-3%
333517	Machine tool manufacturing	40,540,000	-2%
333519	Rolling mill and other metalworking machinery manufacturing	27,350,000	5%
333611	Turbine and turbine generator set units manufacturing	73,440,000	-2%
333612	Speed changer, industrial high-speed drive, and gear manufacturing	16,130,000	-4%
333613	Mechanical power transmission equipment manufacturing	25,700,000	1%
333618	Other engine equipment manufacturing	93,780,000	-8%
333912	Air and gas compressor manufacturing	41,360,000	-6%
333913	Measuring and dispensing pump manufacturing	91,860,000	-1%
333921	Elevator and moving stairway manufacturing	24,550,000	4%
333922	Conveyor and conveying equipment manufacturing	58,330,000	1%

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SUBSECTOR 333: Global Machinery manufacturing (continued)

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
333923	Overhead traveling crane, hoist, and monorail system manufacturing	34,670,000	-5%
333924	Industrial truck, trailer, and stacker machinery manufacturing	61,860,000	2%
333991	Power-driven handtool manufacturing	18,610,000	-2%
333992	Welding and soldering equipment manufacturing	20,900,000	-7%
333993	Packaging machinery manufacturing	53,610,000	7%
333994	Industrial process furnace and oven manufacturing	13,030,000	-3%
333995	Fluid power cylinder and actuator manufacturing	44,480,000	1%
333996	Fluid power pump and motor manufacturing	20,060,000	-2%
333997	Scale and balance manufacturing	6,140,000	2%
333999	All other miscellaneous general purpose machinery manufacturing	93,800,000	0%
TOTAL		1,932,740,000	-1%

The machinery manufacturing subsector globally is projected to be \$2.1 trillion in 2021, growing by -2 percent from 2020 to 2021.

The Elevator and moving stairway manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (8 percent) followed by the Packaging machinery manufacturing industry (5 percent).

The largest global industries in this subsector are the air-conditioning and warm air heating equipment and commercial and industrial refrigeration equipment manufacturing industry (\$216 billion for 2021) and the construction machinery manufacturing industry (\$150 billion).

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SUBSECTOR 334: Global Computer and electronic product manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
33411	Computer and peripheral manufacturing	109,230,000	-6%
33421	Telephone apparatus manufacturing	17,460,000	-11%
33422	Radio and television broadcasting equipment manufacturing	156,560,000	0%
33429	Other communications equipment manufacturing	24,060,000	0%
33431	Audio and video equipment manufacturing	16,160,000	-2%
33441	Semiconductor manufacturing	630,640,000	3%
334510	Electromedical and electrotherapeutic apparatus manufacturing	193,210,000	2%
334511	Search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing	367,740,000	6%
334512	Automatic environmental control manufacturing for residential, commercial, and appliance use	18,080,000	2%
334513	Instruments and related products manufacturing for measuring, displaying, and controlling industrial process variables	56,290,000	-2%
334514	Totalizing fluid meter and counting device manufacturing	35,990,000	2%
334515	Instrument manufacturing for measuring and testing electricity and electrical systems	65,350,000	0%
334516	Analytical laboratory instrument manufacturing	98,360,000	-1%
334517	Irradiation apparatus manufacturing	40,430,000	-6%
334519	Other measuring and controlling device manufacturing	67,130,000	0%
TOTAL		1,903,040,000	2%

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SUBSECTOR 334: Global Computer and electronic product manufacturing (continued)

The computer and electronic product manufacturing subsector globally is projected to be \$1.9 trillion in 2021, growing by 2 percent from 2020 to 2021.

The analytical laboratory instrument manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (8 percent) followed by the audio/visual equipment manufacturing industry (-1 percent).

The largest global industries in this subsector are the semiconductor manufacturing industry (\$630 billion for 2021) and the search, detection, navigation, guidance, aeronautical, and nautical system and instrument manufacturing industry (\$367 billion).

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SUBSECTOR 335: Global Electrical equipment, appliance, and component manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
33511	Electric lamp bulb and part manufacturing	13,850,000	14%
33512	Lighting fixture manufacturing	69,750,000	1%
33521	Small electrical appliance manufacturing	24,410,000	2%
33522	Major appliance manufacturing	131,250,000	4%
33531	Electrical equipment manufacturing	202,240,000	-2%
33591	Battery manufacturing	50,450,000	-4%
33592	Communication and energy wire and cable manufacturing	56,330,000	-6%
33593	Wiring device manufacturing	92,930,000	2%
33599	All other electrical equipment and component manufacturing	82,670,000	0%
TOTAL		723,880,000	0%

The electrical equipment, appliance, and component manufacturing subsector globally is projected to be \$723 billion in 2020, growing by 0 percent from 2020 to 2021.

The major appliance manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (4 percent) followed by the small electrical appliance manufacturing industry (2 percent).

The largest global industries in this subsector are the electrical equipment manufacturing industry (\$202 billion for 2020) and the major appliance manufacturing industry (\$131 billion).

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SUBSECTOR 336: Global Transportation equipment manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
336111	Automobile manufacturing	776,440,000	1%
336112	Light truck and utility vehicle manufacturing	1,235,310,000	0%
33612	Heavy duty truck manufacturing	122,200,000	-6%
33621	Motor vehicle body and trailer manufacturing	348,440,000	6%
33631	Motor vehicle gasoline engine and engine parts manufacturing	226,790,000	2%
33632	Motor vehicle electrical and electronic equipment manufacturing	192,790,000	5%
33633	Motor vehicle steering and suspension components (except spring) manufacturing	99,920,000	2%
33634	Motor vehicle brake system manufacturing	82,570,000	5%
33635	Motor vehicle transmission and power train parts manufacturing	245,760,000	2%
33636	Motor vehicle seating and interior trim manufacturing	237,830,000	5%
33637	Motor vehicle metal stamping	251,590,000	3%
33639	Other motor vehicle parts manufacturing	371,190,000	-1%
336411	Aircraft manufacturing	956,240,000	4%
336412	Aircraft engine and engine parts manufacturing	193,840,000	-4%
336413	Other aircraft parts and auxiliary equipment manufacturing	188,220,000	-3%
336414	Guided missile and space vehicle manufacturing	84,930,000	-6%

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SUBSECTOR 336: Global Transportation equipment manufacturing (continued)

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
336415	Guided missile and space vehicle propulsion unit and propulsion unit parts manufacturing	153,730,000	39%
336419	Other guided missile and space vehicle parts and auxiliary equipment manufacturing	4,880,000	-10%
33651	Railroad rolling stock manufacturing	52,960,000	-13%
33661	Ship and boat building	216,440,000	1%
33699	Other transportation equipment manufacturing	154,420,000	7%
TOTAL		6,196,490,000	2%

The transportation equipment manufacturing subsector globally is projected to be \$6.2 trillion in 2021, growing by 2 percent from 2020 to 2021.

The motor vehicle steering manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (6 percent) followed by the motor vehicle seating and interior trim manufacturing industry (10 percent).

The largest global industries in this subsector are the light truck and utility vehicle manufacturing industry (\$1.4 trillion for 2021) and the automobile manufacturing industry (\$910 billion).

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SUBSECTOR 339: Global Miscellaneous manufacturing

NAICS CODE	INDUSTRY TITLE	2021 Sales (\$Mill)	2020-2021 % Change
33911	Medical equipment and supplies manufacturing	503,550,000	-1%
33991	Jewelry and silverware manufacturing	37,620,000	-3%
33992	Sporting and athletic goods manufacturing	57,560,000	-1%
33993	Doll, toy, and game manufacturing	12,330,000	6%
33994	Office supplies (except paper) manufacturing	18,950,000	1%
33995	Sign manufacturing	80,900,000	1%
33999	All other miscellaneous manufacturing	138,670,000	-3%
TOTAL		849,580,000	-1%

The miscellaneous manufacturing subsector globally is projected to be \$1.0 trillion in 2021, growing by 0 percent from 2020 to 2021.

The sign manufacturing industry is forecast to have the highest growth rate globally from 2020 to 2021 in the subsector (5 percent) followed by the office supplies manufacturing industry (6 percent).

The largest global industries in this subsector are the medical equipment and supplies manufacturing industry (\$503 billion for 2021) and the sign manufacturing industry (\$80 billion).

Global Markets

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Industry: Printing

Market Size by Year (US\$ Millions)

Country Name	2015	2016	2017	2018	2019	2020	2021	2022
Argentina	62.1	84.2	81.1	74.4	93.8	106.2	120.5	128.4
Australia	67.6	77.5	75.6	93.4	101.5	113.3	127.0	139.9
Austria	56.1	60.9	69.3	87.0	103.6	126.9	155.9	179.9
Bangladesh	20.8	30.6	42.4	55.5	75.0	106.6	145.1	195.5
Belgium	52.0	56.9	61.7	75.2	85.6	98.7	114.3	130.1
Brazil	197.5	185.1	213.4	208.0	223.6	234.6	247.4	256.3
Canada	128.5	142.8	199.2	238.0	288.5	354.7	438.3	531.9
Chile	22.3	25.5	28.5	35.4	41.7	49.6	59.2	69.5
China	2,105.7	2,848.1	3,540.3	4,362.2	5,959.4	7,608.3	9,903.6	12,198.4
Czech Republic	38.1	44.3	51.0	63.8	76.7	92.7	112.6	134.3
Denmark	34.5	40.4	41.5	52.2	60.5	70.8	83.2	96.0
Egypt, Arab Rep.	34.5	49.8	38.0	45.8	49.3	52.9	57.2	60.6
Finland	32.0	34.4	38.0	45.7	51.8	59.5	68.7	77.9
France	224.6	242.7	254.5	311.0	345.2	391.2	445.5	498.3
Germany	613.6	677.6	739.8	908.7	1,082.3	1,310.3	1,590.7	1,814.2
Hungary	23.4	25.4	27.1	33.2	38.5	44.7	52.3	60.0
India	230.7	302.4	387.2	446.2	598.6	728.1	904.9	1,112.5
Indonesia	131.9	160.5	201.0	233.5	294.1	361.3	446.1	540.8
Ireland	65.2	88.4	104.3	139.8	193.1	246.4	303.1	361.3
Israel	27.7	34.2	41.8	50.0	62.1	76.1	93.8	113.5
Italy	235.7	262.3	287.8	352.8	404.5	470.2	549.2	630.0
Japan	693.1	816.9	990.0	1,159.2	1,428.2	1,727.8	2,100.6	2,508.1
Korea, Rep.	287.2	355.5	439.4	517.1	685.2	885.0	1,146.3	1,394.8
Malaysia	52.6	57.8	68.4	87.2	100.5	119.7	143.4	168.7
Mexico	167.1	192.9	196.1	238.4	271.9	311.3	358.3	404.9
Netherlands	71.5	80.7	90.5	114.5	134.2	159.9	191.4	225.0
Nigeria	37.1	37.0	32.2	43.3	39.5	40.5	41.7	42.1
Norway	26.3	25.8	25.0	28.9	30.0	31.8	33.9	35.4
Pakistan	22.5	30.4	35.9	43.2	54.3	64.1	77.3	92.3
Philippines	39.0	50.4	62.7	74.7	99.5	129.8	169.7	208.5
Poland	74.1	85.4	90.9	111.1	131.4	154.5	182.6	211.9
Puerto Rico	33.0	42.7	49.1	53.9	66.4	78.5	93.2	108.8
Romania	30.4	33.4	41.4	51.0	63.1	79.4	100.1	118.7
Russian Federation	194.3	164.2	188.8	245.3	301.5	433.0	546.7	672.5
Saudi Arabia	64.1	73.5	87.1	113.6	133.9	158.3	187.5	217.4

Global Markets

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Industry: Printing

Market Size by Year (US\$ Millions)

Country Name	2015	2016	2017	2018	2019	2020	2021	2022
Singapore	41.0	51.0	63.3	87.3	109.3	140.8	182.4	231.9
South Africa	32.2	37.1	41.2	48.8	57.0	66.4	77.8	89.4
Spain	133.9	148.9	147.1	179.8	201.6	227.8	258.8	288.7
Sweden	60.6	66.7	69.7	81.6	88.5	98.0	109.0	119.0
Switzerland	89.7	109.3	122.0	144.7	168.3	196.5	230.6	265.7
Thailand	76.8	95.9	122.3	152.7	194.4	246.3	313.6	392.1
Turkey	121.1	141.9	147.2	165.7	183.2	202.7	225.4	246.1
United Arab Emirates	24.7	29.7	34.3	41.6	52.9	65.4	81.1	98.8
United Kingdom	207.8	255.7	235.0	285.1	315.0	350.7	392.3	431.0
United States	1,462.2	1,766.0	2,133.0	2,582.0	3,132.8	3,801.6	4,713.6	5,844.3
Venezuela, RB	44.7	54.4	57.9	63.2	59.0	61.6	56.5	49.9
Vietnam	19.4	26.9	33.7	44.2	57.0	75.3	97.3	124.5
GLOBAL	8,511.0	10,304.1	12,127.9	14,669.7	18,387.9	22,609.7	28,129.4	33,919.9

Source: Barnes Reports

*2020-2022 Forecasts

Regional Markets

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in North America is estimated to be \$5.5 billion dollars in 2021 and is expected to change by 23.3 percent from 2020 to 2021. The market in the Asia-Pacific region for this equipment is estimated to be \$16.1 billion in 2021 and is forecast to change by 27.9 percent from 2021 to 2022. The European market is \$4.4 billion in 2021.

Market Size by Year (US\$ Millions)

	2015	2016	2017	2018	2019	2020	2021	2022
North America	1,757.9	2,101.7	2,528.2	3,058.5	3,693.1	4,467.7	5,510.2	6,781.2
Latin America	259.7	269.3	294.5	282.4	317.4	340.8	368.0	384.8
Europe	1,778.2	2,015.5	2,159.2	2,655.9	3,108.6	3,674.7	4,354.6	4,977.5
Asia-Pacific	3,942.3	5,010.6	6,175.0	7,501.9	9,926.5	12,557.6	16,061.5	19,660.5
Middle East	121.1	141.9	147.2	165.7	183.2	202.7	225.4	246.1
Africa	69.2	74.2	73.5	92.2	96.6	106.9	119.5	131.6
GLOBAL	7,859.2	9,539.0	11,304.1	13,664.3	17,228.8	21,243.5	26,519.6	32,050.0

Regional Distribution

	2015	2016	2017	2018	2019	2020	2021	2022
North America	22.4%	22.0%	22.4%	22.4%	21.4%	21.0%	20.8%	21.2%
Latin America	3.3%	2.8%	2.6%	2.1%	1.8%	1.6%	1.4%	1.2%
Europe	22.6%	21.1%	19.1%	19.4%	18.0%	17.3%	16.4%	15.5%
Asia-Pacific	50.2%	52.5%	54.6%	54.9%	57.6%	59.1%	60.6%	61.3%
Middle East	1.5%	1.5%	1.3%	1.2%	1.1%	1.0%	0.8%	0.8%
Africa	0.9%	0.8%	0.7%	0.7%	0.6%	0.5%	0.5%	0.4%
GLOBAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Year-to-Year Change

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021	2021-2022
North America	19.6%	20.3%	21.0%	20.8%	21.0%	23.3%	23.1%
Latin America	3.7%	9.3%	-4.1%	12.4%	7.4%	8.0%	4.6%
Europe	13.3%	7.1%	23.0%	17.0%	18.2%	18.5%	14.3%
Asia-Pacific	27.1%	23.2%	21.5%	32.3%	26.5%	27.9%	22.4%
Middle East	17.1%	3.7%	12.5%	10.6%	10.6%	11.2%	9.2%
Africa	7.1%	-0.9%	25.5%	4.8%	10.7%	11.7%	10.1%
GLOBAL	21.4%	18.5%	20.9%	26.1%	23.3%	24.8%	20.9%

Source: Barnes Reports

*2020-2022 Forecasts

Argentina

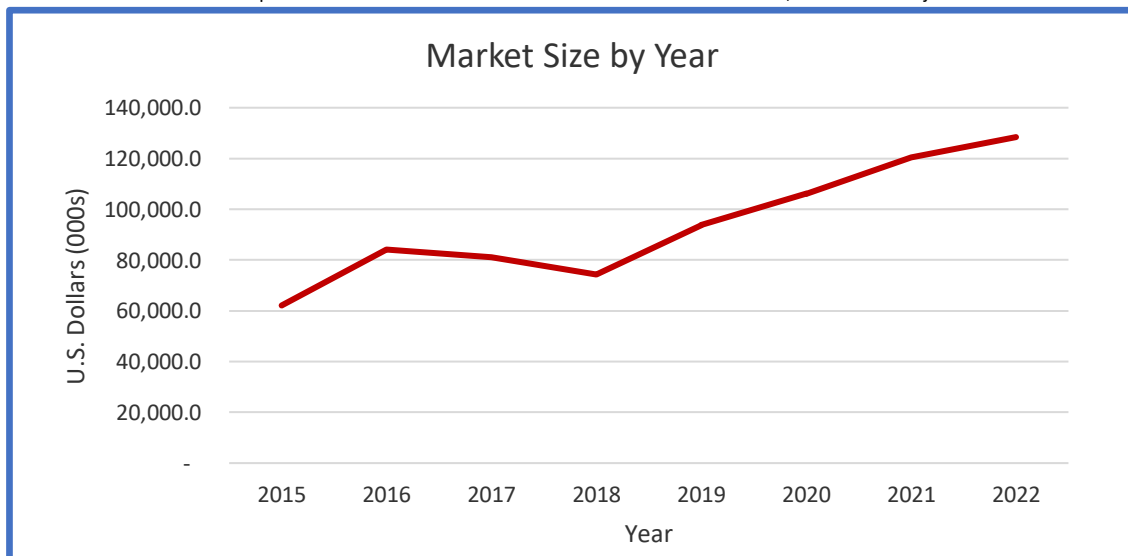
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Argentina is estimated to be \$120.5 million dollars in 2021 and is expected to change by 6.6 percent from 2021 to 2022. The market will be 7395.2 million Pesos in 2021 and is forecast to change by 52.9 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pesos
2015	62,091.3	664,197.7
2016	84,185.5	1,127,706.7
2017	81,069.9	1,342,737.1
2018	74,398.0	2,090,212.5
2019	93,812.6	3,279,613.3
2020	106,157.6	4,836,901.6
2021	120,466.1	7,395,224.6
2022	128,420.3	10,893,882.8
2027	204,092.0	81,874,890.4
Y-to-Y Change	US Dollars	Pesos
2015-2016	35.6%	69.8%
2016-2017	-3.7%	19.1%
2017-2018	-8.2%	55.7%
2018-2019	26.1%	56.9%
2019-2020	13.2%	47.5%
2020-2021	13.5%	52.9%
2021-2022	6.6%	47.3%
CAGR 2022-2027	11.8%	651.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Argentina

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Argentina will be \$12.42 million dollars in 2021 and the lease and rental payments for the market will be \$0.73 million dollars. The operating expenses for this market is expected to reach \$71.23 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	12,421.6
Operating Expenses (\$1,000)	71,227.3
Employer Costs for Fringe Benefits (\$1,000)	3,836.0
Contract Labor Costs including Temporary Help (\$1,000)	1,137.2
Cost of Health Insurance (\$1,000)	1,498.5
Taxes and License Fees (\$1,000)	367.0
Lease and Rental Payments (\$1,000)	725.9

Cost of Services Estimates

The cost of advertising for this market in Argentina will be \$0.27 million dollars in 2021 and the cost of professional services for the market will be \$0.62 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.95 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	139.9
Cost of Purchased Repair and Maintenance Services (\$1,000)	952.3
Cost of Purchased Communication Services (\$1,000)	98.5
Cost of Purchased Advertising and Promotional Services (\$1,000)	269.8
Cost of Purchased Professional & Technical Services (\$1,000)	620.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	283.0

*2020-2021 Forecasts

Source: Barnes Reports

Australia

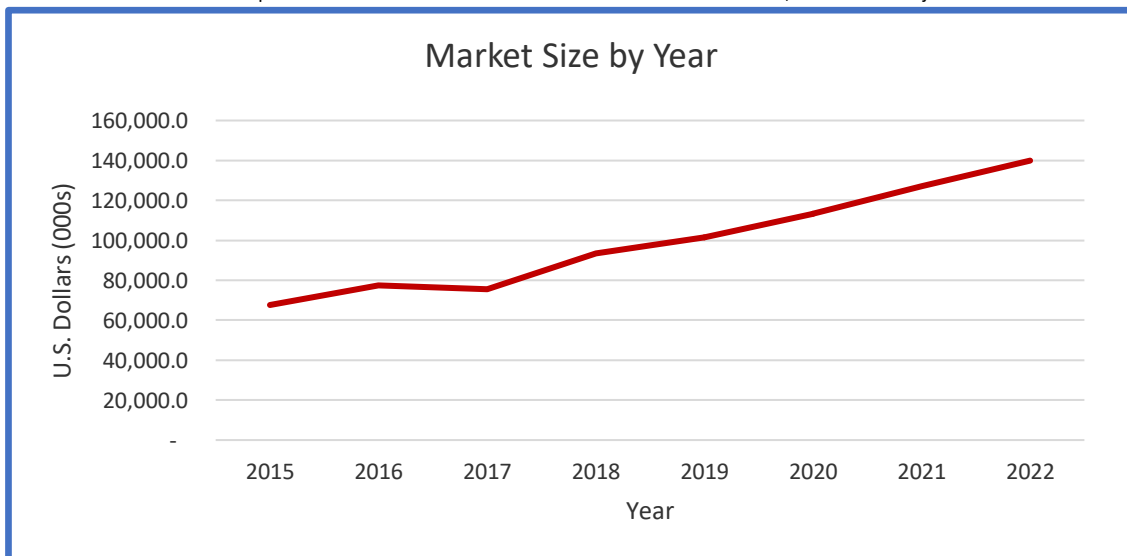
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Australia is estimated to be \$127.0 million dollars in 2021 and is expected to change by 10.1 percent from 2021 to 2022. The market will be 212.8 million Dollars in 2021 and is forecast to change by 22 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dollars
2015	67,629.4	72,057.4
2016	77,460.3	92,701.5
2017	75,642.0	100,293.8
2018	93,392.7	120,485.9
2019	101,487.4	146,055.8
2020	113,264.3	174,411.2
2021	127,027.1	212,799.3
2022	139,913.6	259,636.7
2027	261,833.9	715,472.0
Y-to-Y Change	US Dollars	Dollars
2015-2016	14.5%	28.6%
2016-2017	-2.3%	8.2%
2017-2018	23.5%	20.1%
2018-2019	8.7%	21.2%
2019-2020	11.6%	19.4%
2020-2021	12.2%	22.0%
2021-2022	10.1%	22.0%
CAGR 2022-2027	17.4%	175.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Australia

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Australia will be \$13.10 million dollars in 2021 and the lease and rental payments for the market will be \$0.77 million dollars. The operating expenses for this market is expected to reach \$75.11 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	13,098.2
Operating Expenses (\$1,000)	75,106.5
Employer Costs for Fringe Benefits (\$1,000)	4,044.9
Contract Labor Costs including Temporary Help (\$1,000)	1,199.1
Cost of Health Insurance (\$1,000)	1,580.1
Taxes and License Fees (\$1,000)	387.0
Lease and Rental Payments (\$1,000)	765.4

Cost of Services Estimates

The cost of advertising for this market in Australia will be \$0.28 million dollars in 2021 and the cost of professional services for the market will be \$0.65 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.00 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	147.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,004.1
Cost of Purchased Communication Services (\$1,000)	103.9
Cost of Purchased Advertising and Promotional Services (\$1,000)	284.5
Cost of Purchased Professional & Technical Services (\$1,000)	654.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	298.4

*2020-2021 Forecasts

Source: Barnes Reports

Austria

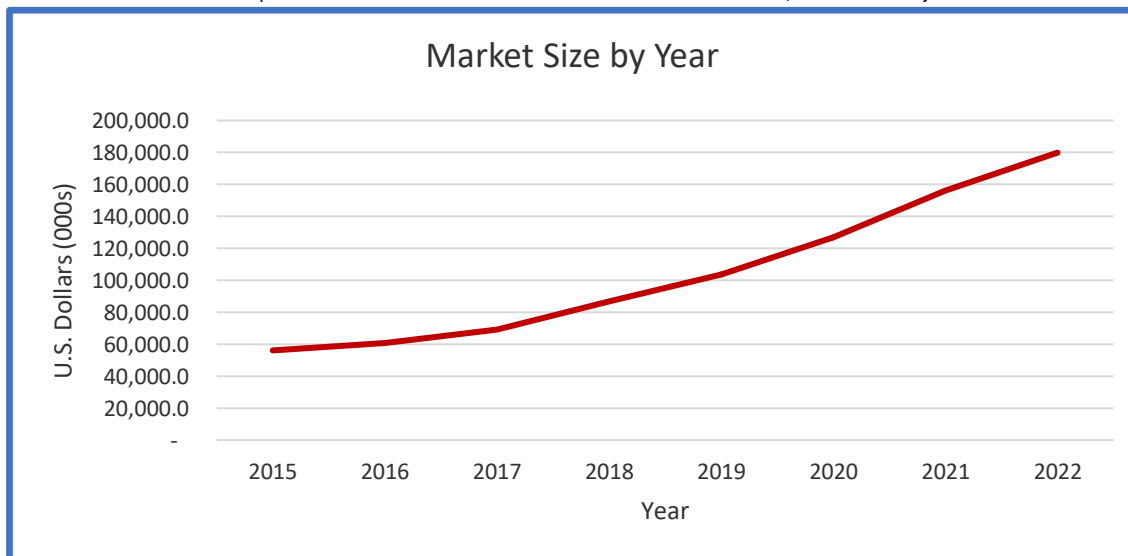
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Austria is estimated to be \$155.9 million dollars in 2021 and is expected to change by 15.4 percent from 2021 to 2022. The market will be 156.4 million Euros in 2021 and is forecast to change by 29.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	56,091.8	42,056.5
2016	60,913.5	54,803.2
2017	69,313.7	61,356.9
2018	86,954.3	73,630.5
2019	103,589.2	95,309.6
2020	126,896.6	120,897.5
2021	155,886.9	156,365.3
2022	179,897.1	193,445.3
2027	425,055.2	571,339.6
Y-to-Y Change	US Dollars	Euros
2015-2016	8.6%	30.3%
2016-2017	13.8%	12.0%
2017-2018	25.5%	20.0%
2018-2019	19.1%	29.4%
2019-2020	22.5%	26.8%
2020-2021	22.8%	29.3%
2021-2022	15.4%	23.7%
CAGR 2022-2027	27.3%	195.3%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Austria

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Austria will be \$16.07 million dollars in 2021 and the lease and rental payments for the market will be \$0.94 million dollars. The operating expenses for this market is expected to reach \$92.17 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	16,074.0
Operating Expenses (\$1,000)	92,170.3
Employer Costs for Fringe Benefits (\$1,000)	4,963.9
Contract Labor Costs including Temporary Help (\$1,000)	1,471.5
Cost of Health Insurance (\$1,000)	1,939.0
Taxes and License Fees (\$1,000)	474.9
Lease and Rental Payments (\$1,000)	939.3

Cost of Services Estimates

The cost of advertising for this market in Austria will be \$0.35 million dollars in 2021 and the cost of professional services for the market will be \$0.80 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.23 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	181.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,232.3
Cost of Purchased Communication Services (\$1,000)	127.5
Cost of Purchased Advertising and Promotional Services (\$1,000)	349.1
Cost of Purchased Professional & Technical Services (\$1,000)	802.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	366.2

*2020-2021 Forecasts

Source: Barnes Reports

Bangladesh

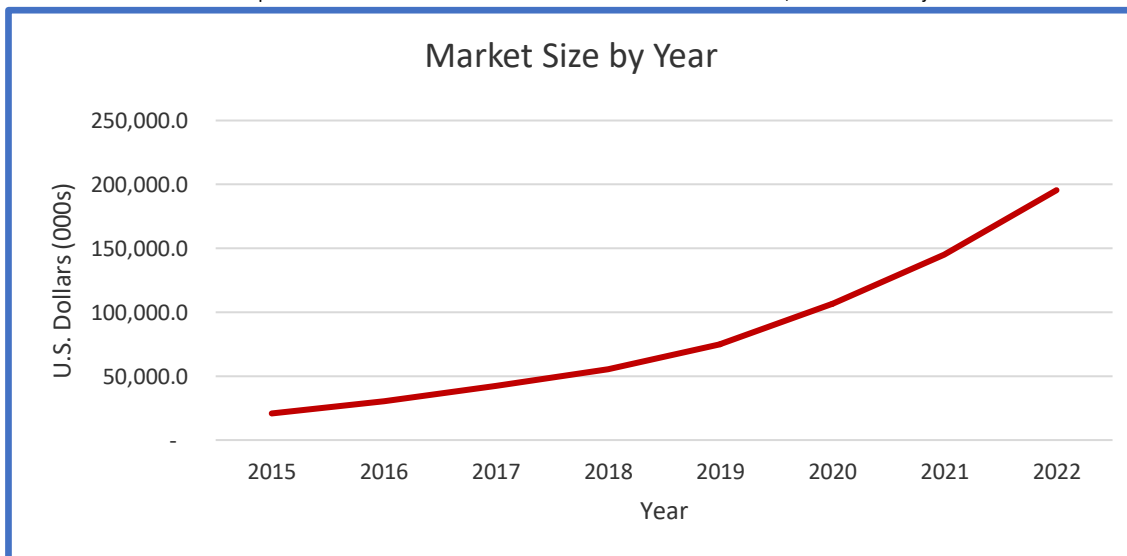
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Bangladesh is estimated to be \$145.1 million dollars in 2021 and is expected to change by 34.7 percent from 2021 to 2022. The market will be 11350.6 million Takas in 2021 and is forecast to change by 36.1 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Takas
2015	20,820.4	1,755,644.3
2016	30,622.4	2,646,579.7
2017	42,399.6	3,354,824.7
2018	55,493.7	4,557,285.5
2019	75,040.1	6,361,030.0
2020	106,571.3	8,336,906.1
2021	145,116.3	11,350,633.7
2022	195,481.0	15,566,381.5
2027	1,064,043.4	81,815,741.0
Y-to-Y Change	US Dollars	Takas
2015-2016	47.1%	50.7%
2016-2017	38.5%	26.8%
2017-2018	30.9%	35.8%
2018-2019	35.2%	39.6%
2019-2020	42.0%	31.1%
2020-2021	36.2%	36.1%
2021-2022	34.7%	37.1%
CAGR 2022-2027	88.9%	425.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Bangladesh

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Bangladesh will be \$14.96 million dollars in 2021 and the lease and rental payments for the market will be \$0.87 million dollars. The operating expenses for this market is expected to reach \$85.80 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	14,963.4
Operating Expenses (\$1,000)	85,802.0
Employer Costs for Fringe Benefits (\$1,000)	4,620.9
Contract Labor Costs including Temporary Help (\$1,000)	1,369.9
Cost of Health Insurance (\$1,000)	1,805.1
Taxes and License Fees (\$1,000)	442.1
Lease and Rental Payments (\$1,000)	874.4

Cost of Services Estimates

The cost of advertising for this market in Bangladesh will be \$0.32 million dollars in 2021 and the cost of professional services for the market will be \$0.75 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.15 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	168.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,147.1
Cost of Purchased Communication Services (\$1,000)	118.7
Cost of Purchased Advertising and Promotional Services (\$1,000)	325.0
Cost of Purchased Professional & Technical Services (\$1,000)	747.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	340.9

*2020-2021 Forecasts

Source: Barnes Reports

Belgium

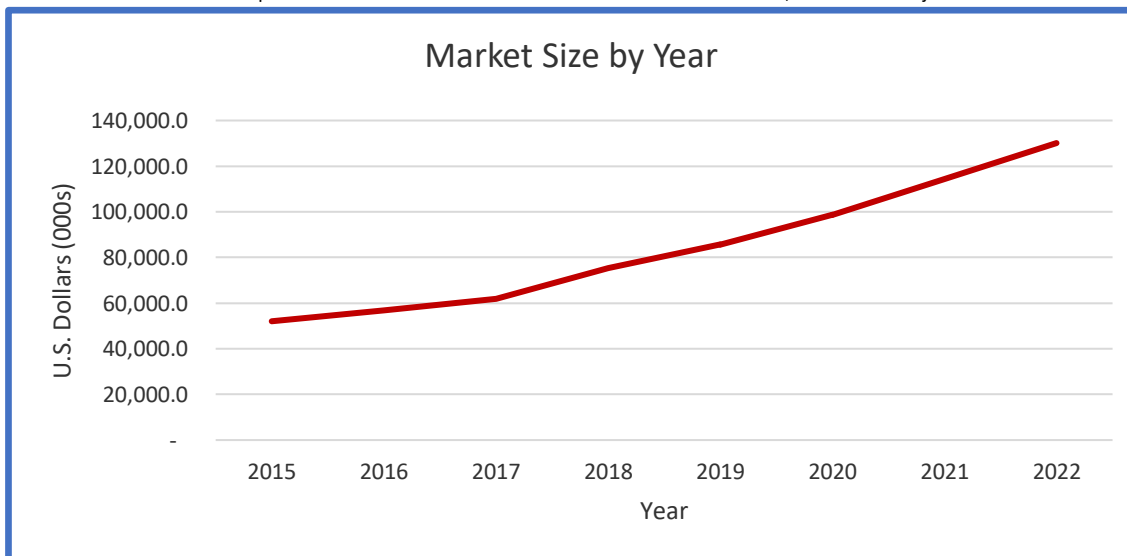
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Belgium is estimated to be \$114.3 million dollars in 2021 and is expected to change by 13.8 percent from 2021 to 2022. The market will be 115.8 million Euros in 2021 and is forecast to change by 22.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	52,041.5	38,681.3
2016	56,885.9	51,438.0
2017	61,747.2	54,709.0
2018	75,234.9	63,706.8
2019	85,600.5	79,138.7
2020	98,693.2	94,689.2
2021	114,345.7	115,758.5
2022	130,110.8	141,515.9
2027	286,501.8	393,835.1
Y-to-Y Change	US Dollars	Euros
2015-2016	9.3%	33.0%
2016-2017	8.5%	6.4%
2017-2018	21.8%	16.4%
2018-2019	13.8%	24.2%
2019-2020	15.3%	19.6%
2020-2021	15.9%	22.3%
2021-2022	13.8%	22.3%
CAGR 2022-2027	24.0%	178.3%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Belgium

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Belgium will be \$11.79 million dollars in 2021 and the lease and rental payments for the market will be \$0.69 million dollars. The operating expenses for this market is expected to reach \$67.61 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	11,790.5
Operating Expenses (\$1,000)	67,608.5
Employer Costs for Fringe Benefits (\$1,000)	3,641.1
Contract Labor Costs including Temporary Help (\$1,000)	1,079.4
Cost of Health Insurance (\$1,000)	1,422.3
Taxes and License Fees (\$1,000)	348.4
Lease and Rental Payments (\$1,000)	689.0

Cost of Services Estimates

The cost of advertising for this market in Belgium will be \$0.26 million dollars in 2021 and the cost of professional services for the market will be \$0.59 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.90 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	132.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	903.9
Cost of Purchased Communication Services (\$1,000)	93.5
Cost of Purchased Advertising and Promotional Services (\$1,000)	256.1
Cost of Purchased Professional & Technical Services (\$1,000)	588.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	268.6

*2020-2021 Forecasts

Source: Barnes Reports

Brazil

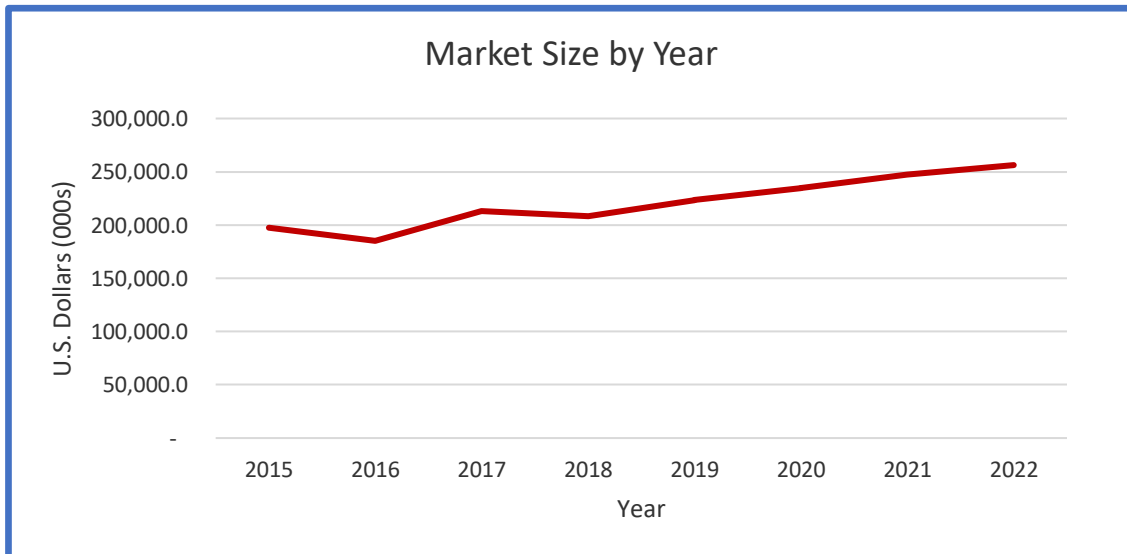
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Brazil is estimated to be \$247.4 million dollars in 2021 and is expected to change by 3.6 percent from 2021 to 2022. The market will be 1375.8 million Reals in 2021 and is forecast to change by 21.7 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Reals
2015	197,549.5	464,198.7
2016	185,128.5	625,841.0
2017	213,372.5	677,908.0
2018	207,989.0	759,950.0
2019	223,565.3	949,842.0
2020	234,619.2	1,130,914.4
2021	247,425.7	1,375,778.6
2022	256,263.3	1,673,660.7
2027	352,567.8	4,544,738.0
Y-to-Y Change	US Dollars	Reals
2015-2016	-6.3%	34.8%
2016-2017	15.3%	8.3%
2017-2018	-2.5%	12.1%
2018-2019	7.5%	25.0%
2019-2020	4.9%	19.1%
2020-2021	5.5%	21.7%
2021-2022	3.6%	21.7%
CAGR 2022-2027	7.5%	171.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Brazil

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Brazil will be \$25.51 million dollars in 2021 and the lease and rental payments for the market will be \$1.49 million dollars. The operating expenses for this market is expected to reach \$146.29 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	25,512.8
Operating Expenses (\$1,000)	146,293.9
Employer Costs for Fringe Benefits (\$1,000)	7,878.7
Contract Labor Costs including Temporary Help (\$1,000)	2,335.6
Cost of Health Insurance (\$1,000)	3,077.7
Taxes and License Fees (\$1,000)	753.8
Lease and Rental Payments (\$1,000)	1,490.9

Cost of Services Estimates

The cost of advertising for this market in Brazil will be \$0.55 million dollars in 2021 and the cost of professional services for the market will be \$1.27 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.96 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	287.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,955.9
Cost of Purchased Communication Services (\$1,000)	202.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	554.1
Cost of Purchased Professional & Technical Services (\$1,000)	1,274.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	581.3

*2020-2021 Forecasts

Source: Barnes Reports

Canada

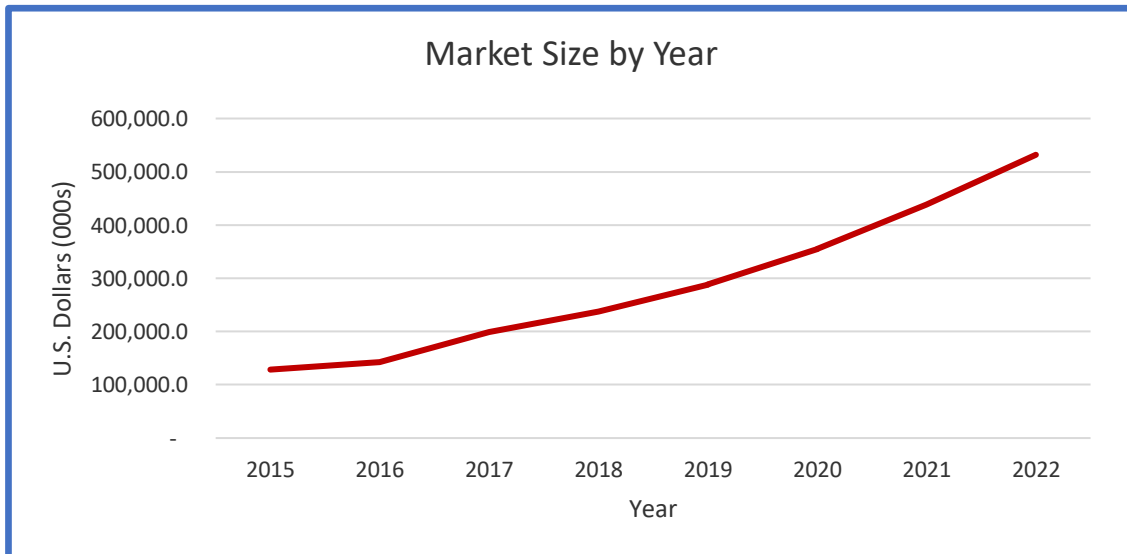
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Canada is estimated to be \$438.3 million dollars in 2021 and is expected to change by 21.3 percent from 2021 to 2022. The market will be 718.3 million Dollars in 2021 and is forecast to change by 33.5 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dollars
2015	128,533.9	137,059.1
2016	142,765.9	181,287.7
2017	199,156.2	258,020.3
2018	238,031.4	308,430.4
2019	288,524.1	412,088.0
2020	354,748.6	538,257.5
2021	438,310.1	718,341.1
2022	531,866.4	958,674.8
2027	1,615,311.1	4,136,391.3
Y-to-Y Change	US Dollars	Dollars
2015-2016	11.1%	32.3%
2016-2017	39.5%	42.3%
2017-2018	19.5%	19.5%
2018-2019	21.2%	33.6%
2019-2020	23.0%	30.6%
2020-2021	23.6%	33.5%
2021-2022	21.3%	33.5%
CAGR 2022-2027	40.7%	331.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Canada

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Canada will be \$45.20 million dollars in 2021 and the lease and rental payments for the market will be \$2.64 million dollars. The operating expenses for this market is expected to reach \$259.16 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	45,195.5
Operating Expenses (\$1,000)	259,157.0
Employer Costs for Fringe Benefits (\$1,000)	13,957.1
Contract Labor Costs including Temporary Help (\$1,000)	4,137.5
Cost of Health Insurance (\$1,000)	5,452.0
Taxes and License Fees (\$1,000)	1,335.4
Lease and Rental Payments (\$1,000)	2,641.1

Cost of Services Estimates

The cost of advertising for this market in Canada will be \$0.98 million dollars in 2021 and the cost of professional services for the market will be \$2.26 million dollars. The cost of repair and maintenance for this market is expected to reach \$3.46 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	509.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	3,464.8
Cost of Purchased Communication Services (\$1,000)	358.4
Cost of Purchased Advertising and Promotional Services (\$1,000)	981.5
Cost of Purchased Professional & Technical Services (\$1,000)	2,257.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	1,029.8

*2020-2021 Forecasts

Source: Barnes Reports

Chile

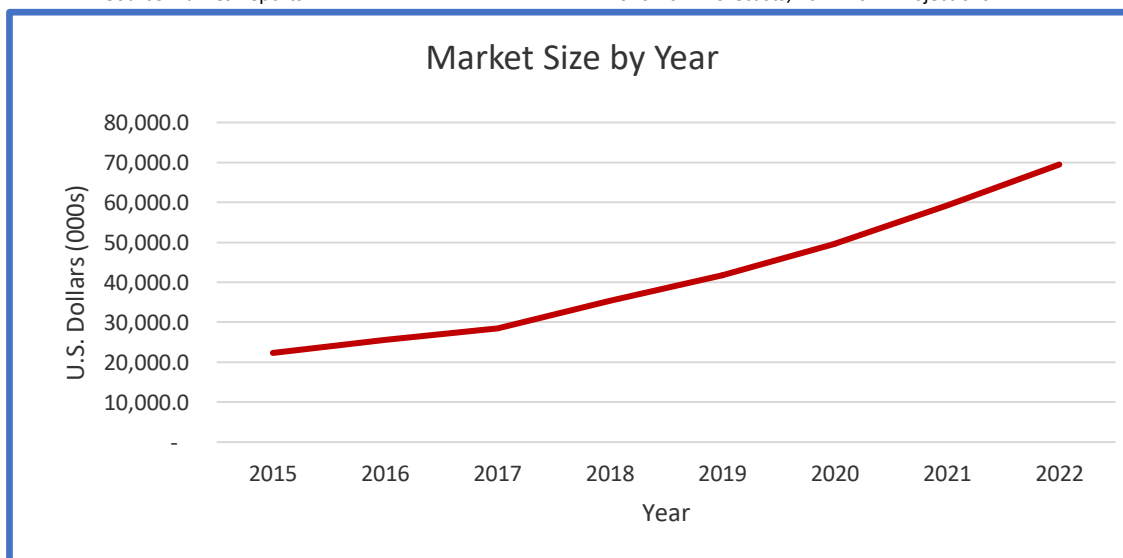
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Chile is estimated to be \$59.2 million dollars in 2021 and is expected to change by 17.3 percent from 2021 to 2022. The market will be 42807.7 million Pesos in 2021 and is forecast to change by 24.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pesos
2015	22,307.7	13,040,602.0
2016	25,511.3	17,115,448.1
2017	28,508.7	18,544,268.2
2018	35,408.7	22,706,792.9
2019	41,749.3	28,241,643.3
2020	49,610.8	34,398,182.1
2021	59,241.4	42,807,664.2
2022	69,476.0	53,273,051.2
2027	177,921.8	162,063,415.3
Y-to-Y Change	US Dollars	Pesos
2015-2016	14.4%	31.2%
2016-2017	11.7%	8.3%
2017-2018	24.2%	22.4%
2018-2019	17.9%	24.4%
2019-2020	18.8%	21.8%
2020-2021	19.4%	24.4%
2021-2022	17.3%	24.4%
CAGR 2022-2027	31.2%	204.2%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Chile

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Chile will be \$6.11 million dollars in 2021 and the lease and rental payments for the market will be \$0.36 million dollars. The operating expenses for this market is expected to reach \$35.03 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	6,108.6
Operating Expenses (\$1,000)	35,027.3
Employer Costs for Fringe Benefits (\$1,000)	1,886.4
Contract Labor Costs including Temporary Help (\$1,000)	559.2
Cost of Health Insurance (\$1,000)	736.9
Taxes and License Fees (\$1,000)	180.5
Lease and Rental Payments (\$1,000)	357.0

Cost of Services Estimates

The cost of advertising for this market in Chile will be \$0.13 million dollars in 2021 and the cost of professional services for the market will be \$0.31 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.47 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	68.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	468.3
Cost of Purchased Communication Services (\$1,000)	48.4
Cost of Purchased Advertising and Promotional Services (\$1,000)	132.7
Cost of Purchased Professional & Technical Services (\$1,000)	305.1
Cost of Purchased Refuse & Waste Removal (\$1,000)	139.2

*2020-2021 Forecasts

Source: Barnes Reports

China

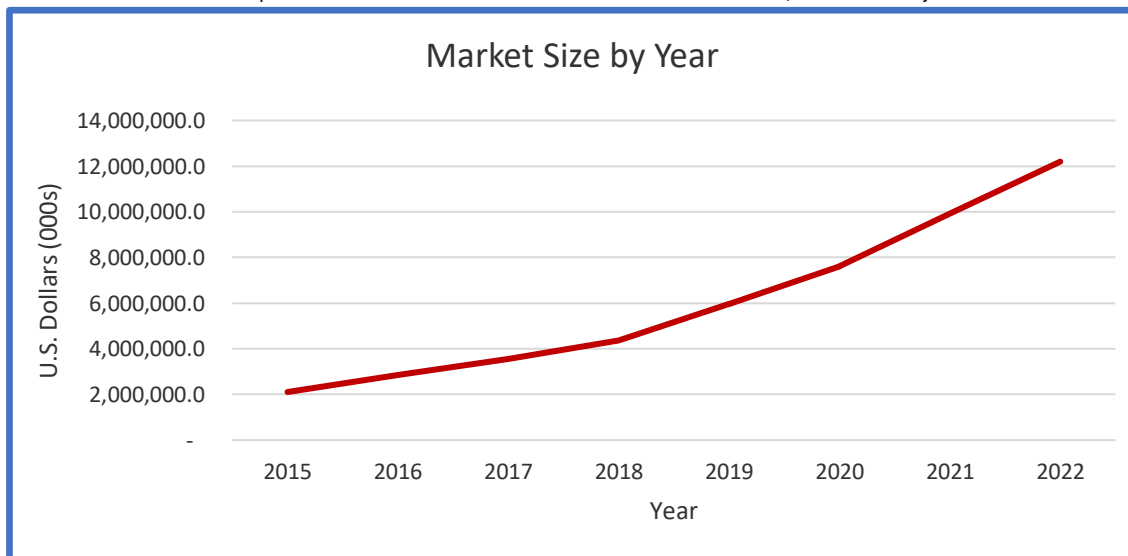
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in China is estimated to be \$9,903.6 million dollars in 2021 and is expected to change by 23.2 percent from 2021 to 2022. The market will be 76096.8 million Yuans in 2021 and is forecast to change by 38.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Yuans
2015	2,105,706.0	13,312,288.4
2016	2,848,128.3	18,636,299.5
2017	3,540,343.9	23,604,029.5
2018	4,362,221.3	28,860,456.4
2019	5,959,439.3	40,489,624.9
2020	7,608,314.0	54,971,054.8
2021	9,903,588.7	76,096,848.2
2022	12,198,440.0	100,761,381.5
2027	42,439,969.7	418,002,180.7
Y-to-Y Change	US Dollars	Yuans
2015-2016	35.3%	40.0%
2016-2017	24.3%	26.7%
2017-2018	23.2%	22.3%
2018-2019	36.6%	40.3%
2019-2020	27.7%	35.8%
2020-2021	30.2%	38.4%
2021-2022	23.2%	32.4%
CAGR 2022-2027	49.6%	314.8%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



China

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in China will be \$1,021.19 million dollars in 2021 and the lease and rental payments for the market will be \$59.68 million dollars. The operating expenses for this market is expected to reach \$5,855.64 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	1,021,189.4
Operating Expenses (\$1,000)	5,855,635.0
Employer Costs for Fringe Benefits (\$1,000)	315,358.9
Contract Labor Costs including Temporary Help (\$1,000)	93,487.0
Cost of Health Insurance (\$1,000)	123,188.5
Taxes and License Fees (\$1,000)	30,172.6
Lease and Rental Payments (\$1,000)	59,676.3

Cost of Services Estimates

The cost of advertising for this market in China will be \$22.18 million dollars in 2021 and the cost of professional services for the market will be \$51.01 million dollars. The cost of repair and maintenance for this market is expected to reach \$78.29 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	11,501.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	78,286.3
Cost of Purchased Communication Services (\$1,000)	8,098.9
Cost of Purchased Advertising and Promotional Services (\$1,000)	22,178.0
Cost of Purchased Professional & Technical Services (\$1,000)	51,005.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	23,267.3

*2020-2021 Forecasts

Source: Barnes Reports

Czech Republic

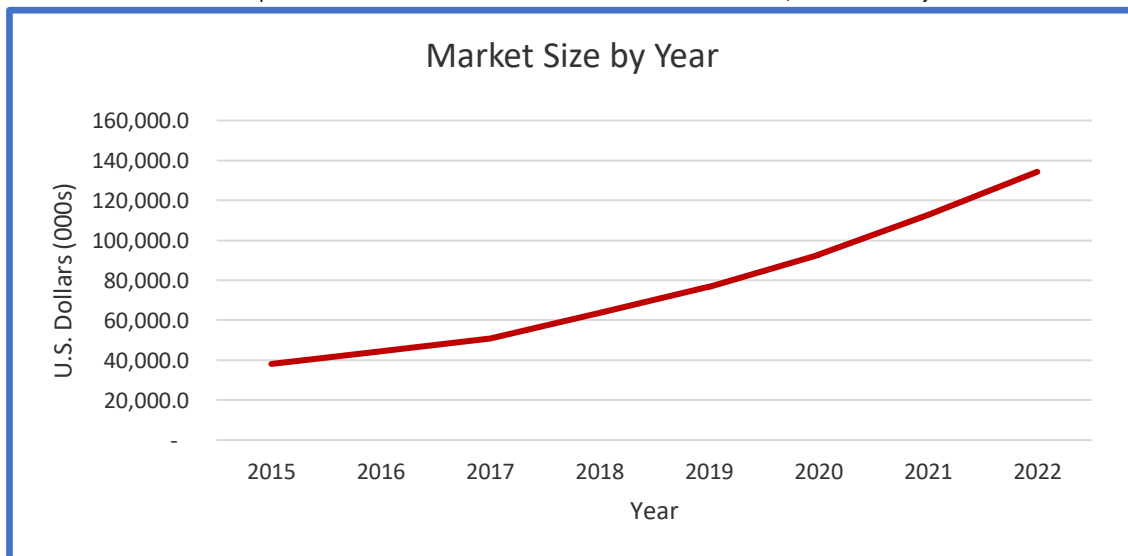
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Czech Republic is estimated to be \$112.6 million dollars in 2021 and is expected to change by 19.3 percent from 2021 to 2022. The market will be 2609.6 million Korunas in 2021 and is forecast to change by 23.5 percent from 2021 to 2022.

Year	Market Sales (000s)	
	US Dollars	Korunas
2015	38,103.1	810,397.7
2016	44,332.2	1,101,988.2
2017	50,988.1	1,191,913.8
2018	63,764.6	1,385,600.1
2019	76,680.6	1,746,879.4
2020	92,691.4	2,112,245.3
2021	112,594.0	2,609,554.0
2022	134,323.3	3,223,949.5
2027	374,696.7	9,456,820.0
Y-to-Y Change	US Dollars	Korunas
2015-2016	16.3%	36.0%
2016-2017	15.0%	8.2%
2017-2018	25.1%	16.3%
2018-2019	20.3%	26.1%
2019-2020	20.9%	20.9%
2020-2021	21.5%	23.5%
2021-2022	19.3%	23.5%
CAGR 2022-2027	35.8%	193.3%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Czech Republic

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Czech Republic will be \$11.61 million dollars in 2021 and the lease and rental payments for the market will be \$0.68 million dollars. The operating expenses for this market is expected to reach \$66.57 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	11,609.9
Operating Expenses (\$1,000)	66,572.8
Employer Costs for Fringe Benefits (\$1,000)	3,585.3
Contract Labor Costs including Temporary Help (\$1,000)	1,062.9
Cost of Health Insurance (\$1,000)	1,400.5
Taxes and License Fees (\$1,000)	343.0
Lease and Rental Payments (\$1,000)	678.5

Cost of Services Estimates

The cost of advertising for this market in Czech Republic will be \$0.25 million dollars in 2021 and the cost of professional services for the market will be \$0.58 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.89 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	130.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	890.0
Cost of Purchased Communication Services (\$1,000)	92.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	252.1
Cost of Purchased Professional & Technical Services (\$1,000)	579.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	264.5

*2020-2021 Forecasts

Source: Barnes Reports

Denmark

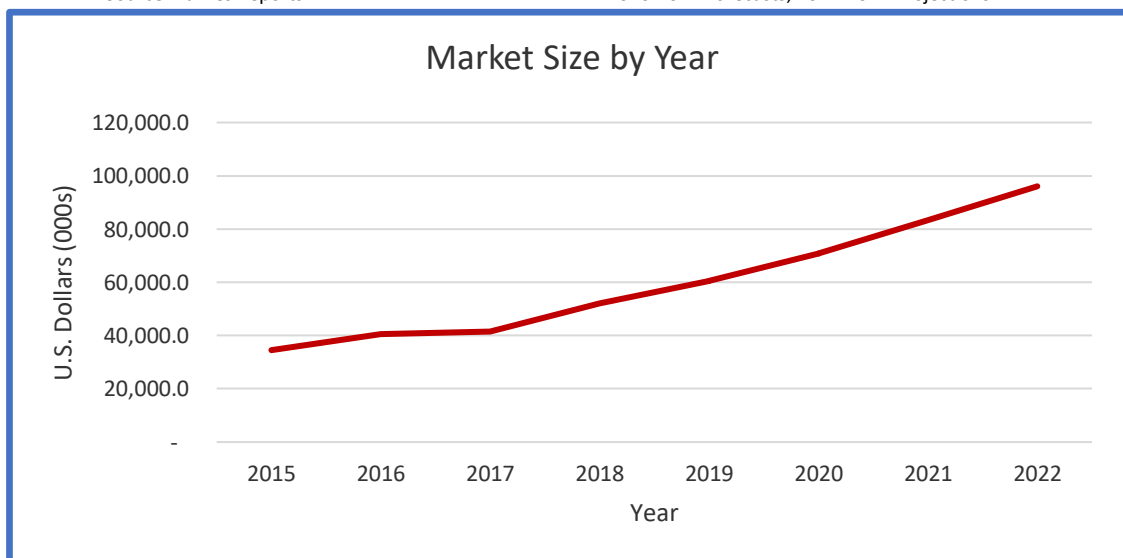
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Denmark is estimated to be \$83.2 million dollars in 2021 and is expected to change by 15.4 percent from 2021 to 2022. The market will be 631.6 million Kroner in 2021 and is forecast to change by 24.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Kroner
2015	34,514.2	190,620.9
2016	40,449.5	269,854.4
2017	41,485.0	273,921.0
2018	52,158.3	329,360.0
2019	60,529.8	417,924.0
2020	70,791.5	508,292.2
2021	83,198.5	631,640.6
2022	96,030.6	784,922.3
2027	227,106.8	2,370,592.7
Y-to-Y Change	US Dollars	Kroner
2015-2016	17.2%	41.6%
2016-2017	2.6%	1.5%
2017-2018	25.7%	20.2%
2018-2019	16.1%	26.9%
2019-2020	17.0%	21.6%
2020-2021	17.5%	24.3%
2021-2022	15.4%	24.3%
CAGR 2022-2027	27.3%	202.0%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Denmark

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Denmark will be \$8.58 million dollars in 2021 and the lease and rental payments for the market will be \$0.50 million dollars. The operating expenses for this market is expected to reach \$49.19 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	8,578.8
Operating Expenses (\$1,000)	49,192.3
Employer Costs for Fringe Benefits (\$1,000)	2,649.3
Contract Labor Costs including Temporary Help (\$1,000)	785.4
Cost of Health Insurance (\$1,000)	1,034.9
Taxes and License Fees (\$1,000)	253.5
Lease and Rental Payments (\$1,000)	501.3

Cost of Services Estimates

The cost of advertising for this market in Denmark will be \$0.19 million dollars in 2021 and the cost of professional services for the market will be \$0.43 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.66 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	96.6
Cost of Purchased Repair and Maintenance Services (\$1,000)	657.7
Cost of Purchased Communication Services (\$1,000)	68.0
Cost of Purchased Advertising and Promotional Services (\$1,000)	186.3
Cost of Purchased Professional & Technical Services (\$1,000)	428.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	195.5

*2020-2021 Forecasts

Source: Barnes Reports

Egypt

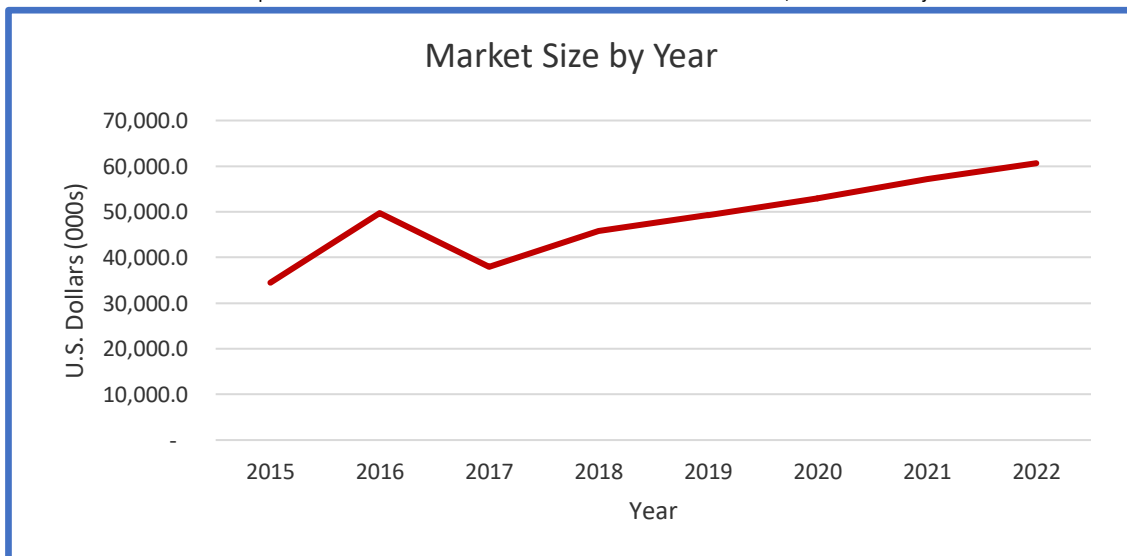
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Egypt is estimated to be \$57.2 million dollars in 2021 and is expected to change by 6.1 percent from 2021 to 2022. The market will be 2462.9 million Pounds in 2021 and is forecast to change by 45.7 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pounds
2015	34,473.2	265,200.5
2016	49,759.0	394,102.7
2017	37,984.4	559,996.5
2018	45,814.4	810,286.9
2019	49,257.3	1,206,012.2
2020	52,938.4	1,690,939.8
2021	57,173.3	2,462,874.6
2022	60,642.3	3,613,339.9
2027	93,980.1	26,610,486.4
Y-to-Y Change	US Dollars	Pounds
2015-2016	44.3%	48.6%
2016-2017	-23.7%	42.1%
2017-2018	20.6%	44.7%
2018-2019	7.5%	48.8%
2019-2020	7.5%	40.2%
2020-2021	8.0%	45.7%
2021-2022	6.1%	46.7%
CAGR 2022-2027	11.0%	636.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Egypt

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Egypt will be \$5.90 million dollars in 2021 and the lease and rental payments for the market will be \$0.34 million dollars. The operating expenses for this market is expected to reach \$33.80 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	5,895.3
Operating Expenses (\$1,000)	33,804.5
Employer Costs for Fringe Benefits (\$1,000)	1,820.6
Contract Labor Costs including Temporary Help (\$1,000)	539.7
Cost of Health Insurance (\$1,000)	711.2
Taxes and License Fees (\$1,000)	174.2
Lease and Rental Payments (\$1,000)	344.5

Cost of Services Estimates

The cost of advertising for this market in Egypt will be \$0.13 million dollars in 2021 and the cost of professional services for the market will be \$0.29 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.45 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	66.4
Cost of Purchased Repair and Maintenance Services (\$1,000)	451.9
Cost of Purchased Communication Services (\$1,000)	46.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	128.0
Cost of Purchased Professional & Technical Services (\$1,000)	294.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	134.3

*2020-2021 Forecasts

Source: Barnes Reports

Finland

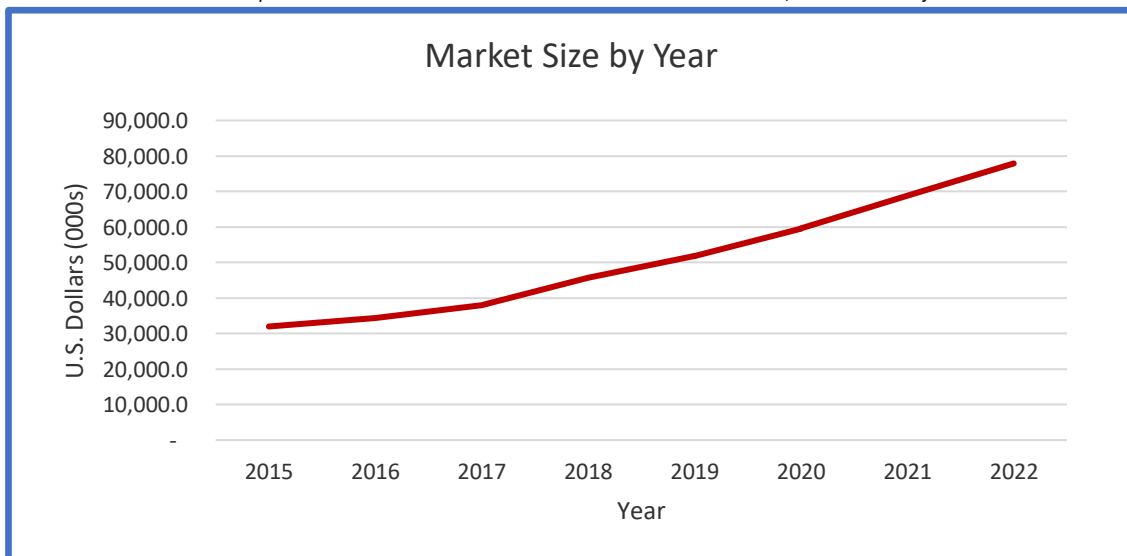
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Finland is estimated to be \$68.7 million dollars in 2021 and is expected to change by 13.4 percent from 2021 to 2022. The market will be 69.9 million Euros in 2021 and is forecast to change by 22 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	31,984.0	23,651.3
2016	34,414.7	31,079.5
2017	37,964.1	33,598.4
2018	45,688.9	38,688.1
2019	51,818.8	48,002.8
2020	59,526.2	57,314.2
2021	68,715.0	69,919.7
2022	77,903.2	85,297.5
2027	168,431.0	234,891.9
Y-to-Y Change	US Dollars	Euros
2015-2016	7.6%	31.4%
2016-2017	10.3%	8.1%
2017-2018	20.3%	15.1%
2018-2019	13.4%	24.1%
2019-2020	14.9%	19.4%
2020-2021	15.4%	22.0%
2021-2022	13.4%	22.0%
CAGR 2022-2027	23.2%	175.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Finland

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Finland will be \$7.09 million dollars in 2021 and the lease and rental payments for the market will be \$0.41 million dollars. The operating expenses for this market is expected to reach \$40.63 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	7,085.4
Operating Expenses (\$1,000)	40,628.7
Employer Costs for Fringe Benefits (\$1,000)	2,188.1
Contract Labor Costs including Temporary Help (\$1,000)	648.6
Cost of Health Insurance (\$1,000)	854.7
Taxes and License Fees (\$1,000)	209.3
Lease and Rental Payments (\$1,000)	414.1

Cost of Services Estimates

The cost of advertising for this market in Finland will be \$0.15 million dollars in 2021 and the cost of professional services for the market will be \$0.35 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.54 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	79.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	543.2
Cost of Purchased Communication Services (\$1,000)	56.2
Cost of Purchased Advertising and Promotional Services (\$1,000)	153.9
Cost of Purchased Professional & Technical Services (\$1,000)	353.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	161.4

*2020-2021 Forecasts

Source: Barnes Reports

France

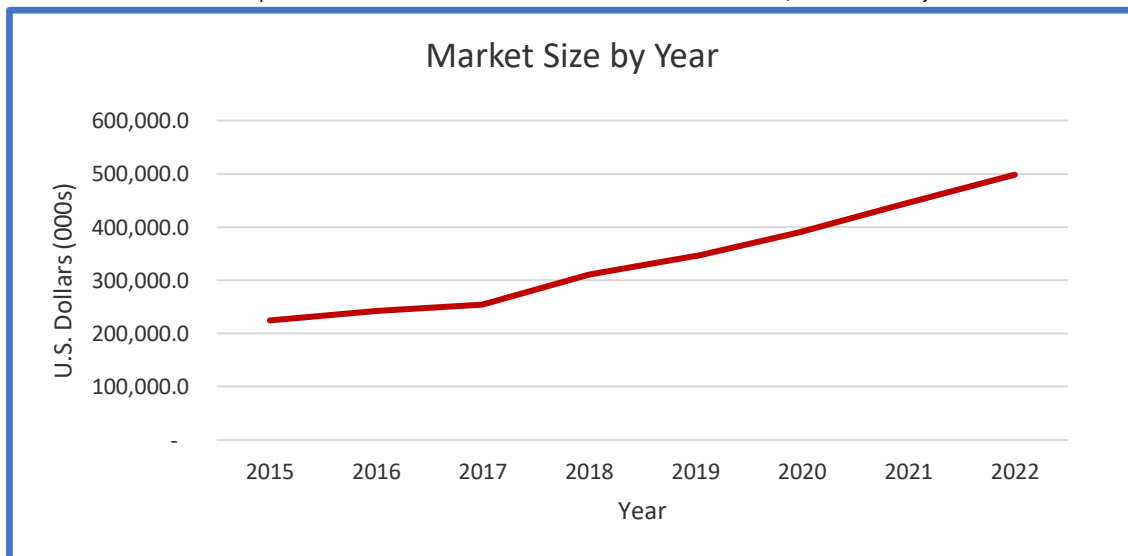
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in France is estimated to be \$445.5 million dollars in 2021 and is expected to change by 11.8 percent from 2021 to 2022. The market will be 453.5 million Euros in 2021 and is forecast to change by 20.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	224,589.3	166,340.2
2016	242,672.1	216,247.4
2017	254,541.4	225,107.7
2018	310,953.5	263,306.9
2019	345,198.2	319,409.1
2020	391,196.9	376,523.2
2021	445,496.6	453,499.5
2022	498,257.4	546,212.8
2027	1,006,580.5	1,411,023.6
Y-to-Y Change	US Dollars	Euros
2015-2016	8.1%	30.0%
2016-2017	4.9%	4.1%
2017-2018	22.2%	17.0%
2018-2019	11.0%	21.3%
2019-2020	13.3%	17.9%
2020-2021	13.9%	20.4%
2021-2022	11.8%	20.4%
CAGR 2022-2027	20.4%	158.3%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



France

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in France will be \$45.94 million dollars in 2021 and the lease and rental payments for the market will be \$2.68 million dollars. The operating expenses for this market is expected to reach \$263.41 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	45,936.5
Operating Expenses (\$1,000)	263,406.1
Employer Costs for Fringe Benefits (\$1,000)	14,185.9
Contract Labor Costs including Temporary Help (\$1,000)	4,205.4
Cost of Health Insurance (\$1,000)	5,541.4
Taxes and License Fees (\$1,000)	1,357.3
Lease and Rental Payments (\$1,000)	2,684.4

Cost of Services Estimates

The cost of advertising for this market in France will be \$1.00 million dollars in 2021 and the cost of professional services for the market will be \$2.29 million dollars. The cost of repair and maintenance for this market is expected to reach \$3.52 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	517.4
Cost of Purchased Repair and Maintenance Services (\$1,000)	3,521.6
Cost of Purchased Communication Services (\$1,000)	364.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	997.6
Cost of Purchased Professional & Technical Services (\$1,000)	2,294.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	1,046.6

*2020-2021 Forecasts

Source: Barnes Reports

Germany

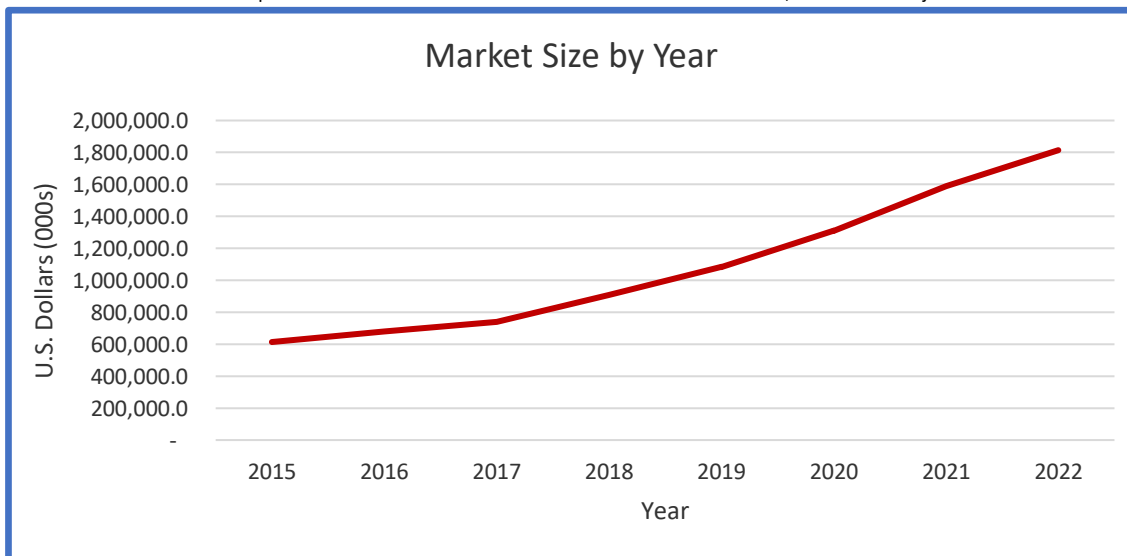
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Germany is estimated to be \$1,590.7 million dollars in 2021 and is expected to change by 14 percent from 2021 to 2022. The market will be 1587.2 million Euros in 2021 and is forecast to change by 27.6 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	613,554.3	461,628.8
2016	677,626.7	614,071.3
2017	739,773.4	654,851.5
2018	908,708.9	769,469.9
2019	1,082,310.0	994,078.4
2020	1,310,272.6	1,243,971.1
2021	1,590,726.6	1,587,238.6
2022	1,814,197.8	1,937,175.6
2027	4,040,899.7	5,346,260.2
Y-to-Y Change	US Dollars	Euros
2015-2016	10.4%	33.0%
2016-2017	9.2%	6.6%
2017-2018	22.8%	17.5%
2018-2019	19.1%	29.2%
2019-2020	21.1%	25.1%
2020-2021	21.4%	27.6%
2021-2022	14.0%	22.0%
CAGR 2022-2027	24.5%	176.0%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Germany

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Germany will be \$164.02 million dollars in 2021 and the lease and rental payments for the market will be \$9.59 million dollars. The operating expenses for this market is expected to reach \$940.54 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	164,024.7
Operating Expenses (\$1,000)	940,539.3
Employer Costs for Fringe Benefits (\$1,000)	50,653.3
Contract Labor Costs including Temporary Help (\$1,000)	15,016.0
Cost of Health Insurance (\$1,000)	19,786.7
Taxes and License Fees (\$1,000)	4,846.4
Lease and Rental Payments (\$1,000)	9,585.3

Cost of Services Estimates

The cost of advertising for this market in Germany will be \$3.56 million dollars in 2021 and the cost of professional services for the market will be \$8.19 million dollars. The cost of repair and maintenance for this market is expected to reach \$12.57 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	1,847.4
Cost of Purchased Repair and Maintenance Services (\$1,000)	12,574.4
Cost of Purchased Communication Services (\$1,000)	1,300.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	3,562.3
Cost of Purchased Professional & Technical Services (\$1,000)	8,192.6
Cost of Purchased Refuse & Waste Removal (\$1,000)	3,737.2

*2020-2021 Forecasts

Source: Barnes Reports

Hungary

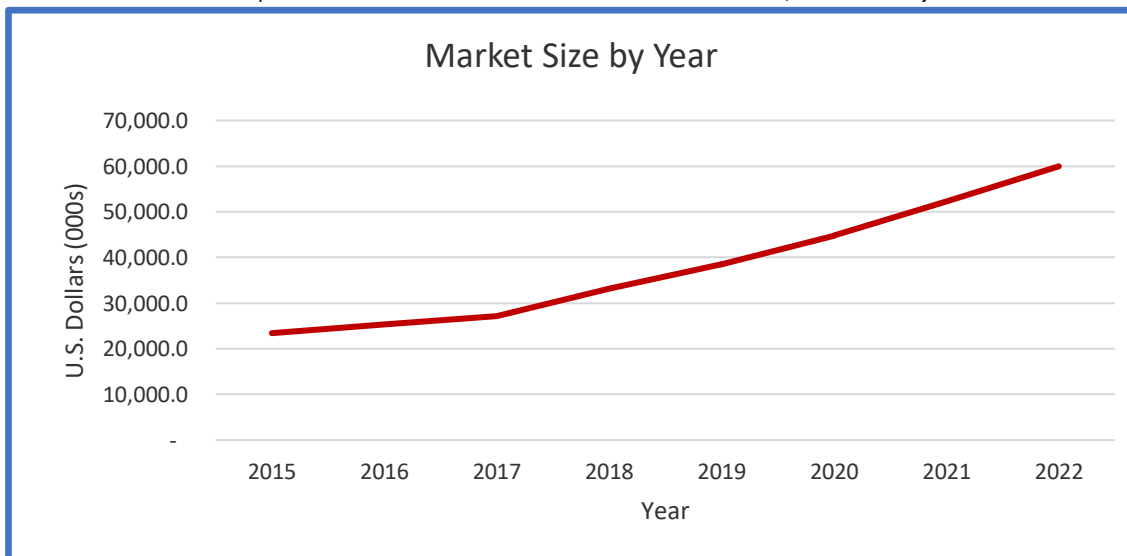
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Hungary is estimated to be \$52.3 million dollars in 2021 and is expected to change by 14.7 percent from 2021 to 2022. The market will be 16754.2 million Forints in 2021 and is forecast to change by 23.5 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Forints
2015	23,418.3	5,517,251.1
2016	25,350.5	7,109,720.9
2017	27,141.7	7,448,587.3
2018	33,187.2	8,967,576.6
2019	38,494.9	11,226,442.7
2020	44,746.2	13,567,899.5
2021	52,267.3	16,754,195.7
2022	59,960.5	20,688,764.2
2027	137,526.8	60,539,188.6
Y-to-Y Change	US Dollars	Forints
2015-2016	8.3%	28.9%
2016-2017	7.1%	4.8%
2017-2018	22.3%	20.4%
2018-2019	16.0%	25.2%
2019-2020	16.2%	20.9%
2020-2021	16.8%	23.5%
2021-2022	14.7%	23.5%
CAGR 2022-2027	25.9%	192.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Hungary

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Hungary will be \$5.39 million dollars in 2021 and the lease and rental payments for the market will be \$0.31 million dollars. The operating expenses for this market is expected to reach \$30.90 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	5,389.4
Operating Expenses (\$1,000)	30,903.8
Employer Costs for Fringe Benefits (\$1,000)	1,664.3
Contract Labor Costs including Temporary Help (\$1,000)	493.4
Cost of Health Insurance (\$1,000)	650.1
Taxes and License Fees (\$1,000)	159.2
Lease and Rental Payments (\$1,000)	314.9

Cost of Services Estimates

The cost of advertising for this market in Hungary will be \$0.12 million dollars in 2021 and the cost of professional services for the market will be \$0.27 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.41 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	60.7
Cost of Purchased Repair and Maintenance Services (\$1,000)	413.2
Cost of Purchased Communication Services (\$1,000)	42.7
Cost of Purchased Advertising and Promotional Services (\$1,000)	117.0
Cost of Purchased Professional & Technical Services (\$1,000)	269.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	122.8

*2020-2021 Forecasts

Source: Barnes Reports

India

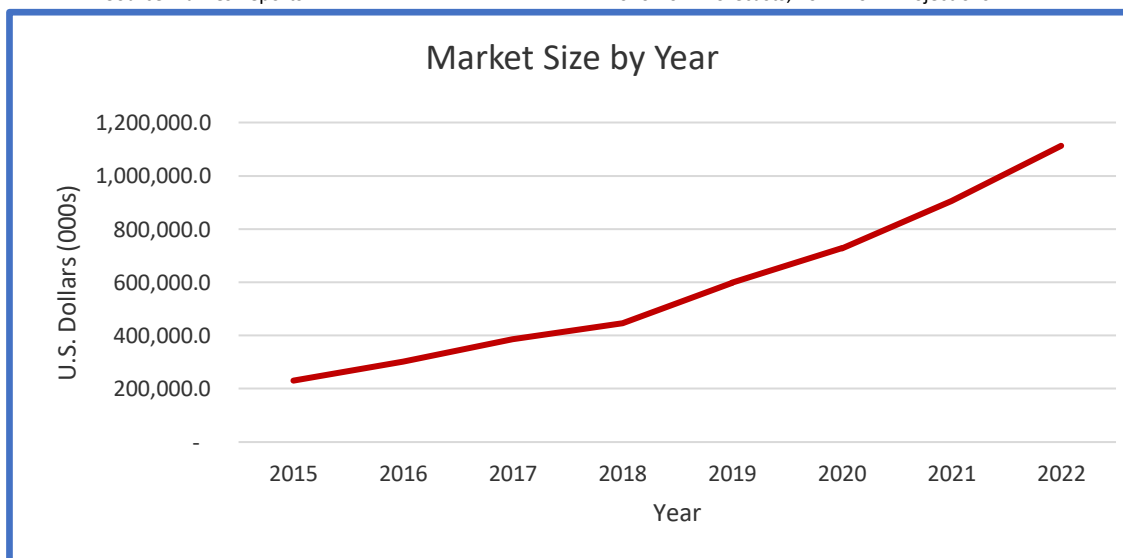
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in India is estimated to be \$904.9 million dollars in 2021 and is expected to change by 22.9 percent from 2021 to 2022. The market will be 71266.1 million Rupees in 2021 and is forecast to change by 32 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Rupees
2015	230,672.8	14,912,868.3
2016	302,401.0	21,376,373.4
2017	387,150.6	24,948,937.3
2018	446,193.2	31,199,121.3
2019	598,603.3	41,789,020.5
2020	728,131.4	53,988,643.5
2021	904,898.2	71,266,126.1
2022	1,112,506.2	94,072,760.4
2027	3,834,671.5	384,250,802.7
Y-to-Y Change	US Dollars	Rupees
2015-2016	31.1%	43.3%
2016-2017	28.0%	16.7%
2017-2018	15.3%	25.1%
2018-2019	34.2%	33.9%
2019-2020	21.6%	29.2%
2020-2021	24.3%	32.0%
2021-2022	22.9%	32.0%
CAGR 2022-2027	48.9%	308.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



India

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in India will be \$93.31 million dollars in 2021 and the lease and rental payments for the market will be \$5.45 million dollars. The operating expenses for this market is expected to reach \$535.03 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	93,306.8
Operating Expenses (\$1,000)	535,033.7
Employer Costs for Fringe Benefits (\$1,000)	28,814.6
Contract Labor Costs including Temporary Help (\$1,000)	8,542.0
Cost of Health Insurance (\$1,000)	11,255.8
Taxes and License Fees (\$1,000)	2,756.9
Lease and Rental Payments (\$1,000)	5,452.7

Cost of Services Estimates

The cost of advertising for this market in India will be \$2.03 million dollars in 2021 and the cost of professional services for the market will be \$4.66 million dollars. The cost of repair and maintenance for this market is expected to reach \$7.15 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	1,050.9
Cost of Purchased Repair and Maintenance Services (\$1,000)	7,153.1
Cost of Purchased Communication Services (\$1,000)	740.0
Cost of Purchased Advertising and Promotional Services (\$1,000)	2,026.4
Cost of Purchased Professional & Technical Services (\$1,000)	4,660.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	2,126.0

*2020-2021 Forecasts

Source: Barnes Reports

Indonesia

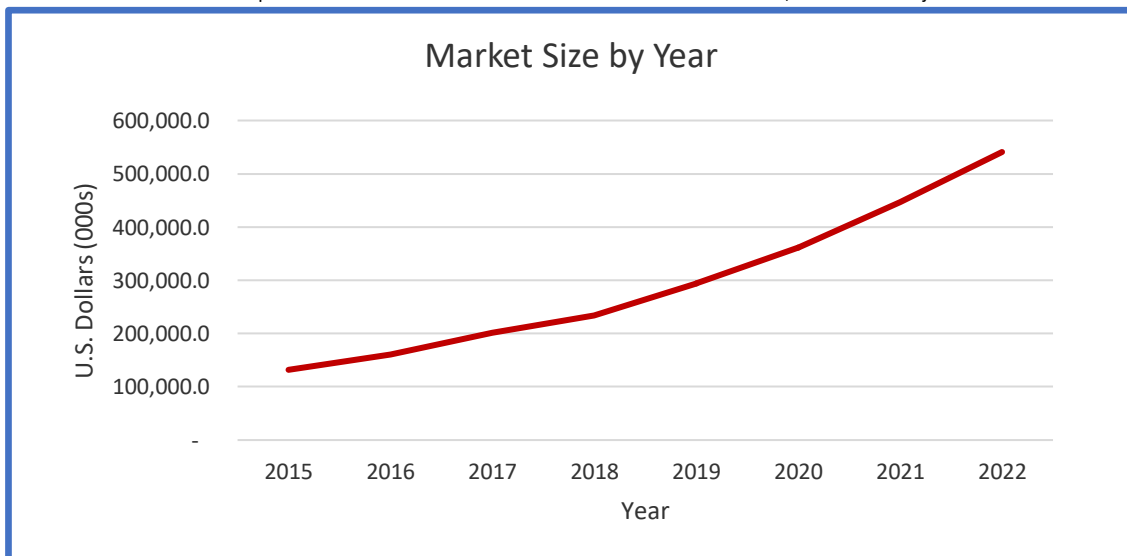
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Indonesia is estimated to be \$446.1 million dollars in 2021 and is expected to change by 21.2 percent from 2021 to 2022. The market will be 7187293.1 million Rupiahs in 2021 and is forecast to change by 30.1 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Rupiahs
2015	131,893.5	1,642,072,590.8
2016	160,508.9	2,249,666,795.2
2017	200,986.4	2,688,847,973.6
2018	233,453.1	3,323,658,115.2
2019	294,139.5	4,340,954,129.1
2020	361,343.9	5,525,925,443.0
2021	446,077.6	7,187,293,139.9
2022	540,829.5	9,348,150,497.4
2027	1,635,529.2	35,462,928,482.7
Y-to-Y Change	US Dollars	Rupiahs
2015-2016	21.7%	37.0%
2016-2017	25.2%	19.5%
2017-2018	16.2%	23.6%
2018-2019	26.0%	30.6%
2019-2020	22.8%	27.3%
2020-2021	23.4%	30.1%
2021-2022	21.2%	30.1%
CAGR 2022-2027	40.5%	279.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Indonesia

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Indonesia will be \$46.00 million dollars in 2021 and the lease and rental payments for the market will be \$2.69 million dollars. The operating expenses for this market is expected to reach \$263.75 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	45,996.4
Operating Expenses (\$1,000)	263,749.6
Employer Costs for Fringe Benefits (\$1,000)	14,204.4
Contract Labor Costs including Temporary Help (\$1,000)	4,210.8
Cost of Health Insurance (\$1,000)	5,548.7
Taxes and License Fees (\$1,000)	1,359.0
Lease and Rental Payments (\$1,000)	2,687.9

Cost of Services Estimates

The cost of advertising for this market in Indonesia will be \$1.00 million dollars in 2021 and the cost of professional services for the market will be \$2.30 million dollars. The cost of repair and maintenance for this market is expected to reach \$3.53 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	518.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	3,526.2
Cost of Purchased Communication Services (\$1,000)	364.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	998.9
Cost of Purchased Professional & Technical Services (\$1,000)	2,297.4
Cost of Purchased Refuse & Waste Removal (\$1,000)	1,048.0

*2020-2021 Forecasts

Source: Barnes Reports

Ireland

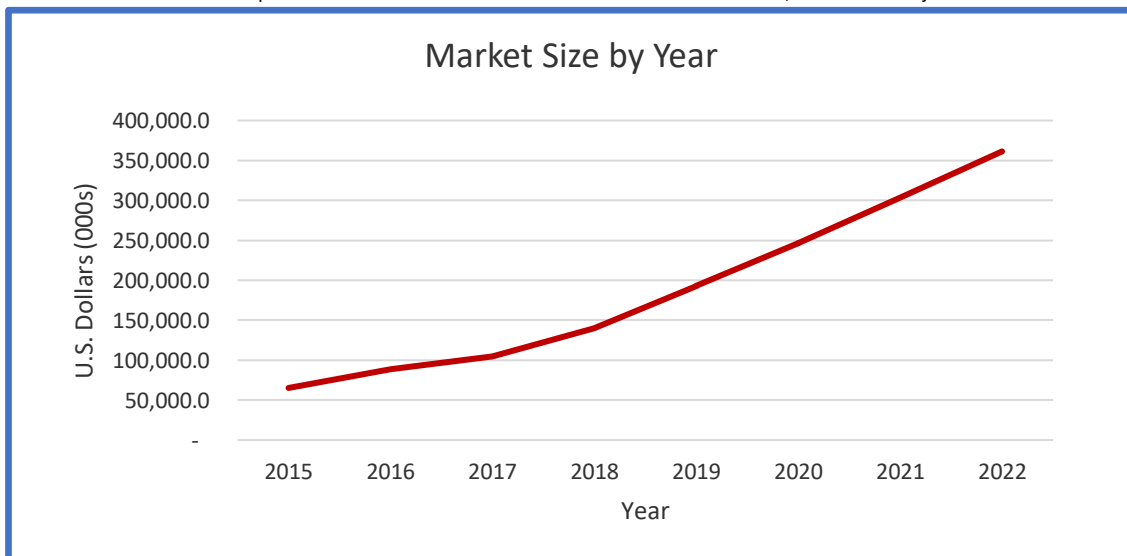
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Ireland is estimated to be \$303.1 million dollars in 2021 and is expected to change by 19.2 percent from 2021 to 2022. The market will be 226.2 million Euros in 2021 and is forecast to change by 19.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	65,234.0	63,696.2
2016	88,350.1	81,508.8
2017	104,289.8	92,317.9
2018	139,771.1	118,354.4
2019	193,126.6	162,428.2
2020	246,403.1	189,565.0
2021	303,096.0	226,231.6
2022	361,303.3	266,407.2
2027	1,922,187.6	1,177,262.8
Y-to-Y Change	US Dollars	Euros
2015-2016	35.4%	28.0%
2016-2017	18.0%	13.3%
2017-2018	34.0%	28.2%
2018-2019	38.2%	37.2%
2019-2020	27.6%	16.7%
2020-2021	23.0%	19.3%
2021-2022	19.2%	17.8%
CAGR 2022-2027	86.4%	341.9%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Ireland

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Ireland will be \$31.25 million dollars in 2021 and the lease and rental payments for the market will be \$1.83 million dollars. The operating expenses for this market is expected to reach \$179.21 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	31,253.2
Operating Expenses (\$1,000)	179,209.7
Employer Costs for Fringe Benefits (\$1,000)	9,651.5
Contract Labor Costs including Temporary Help (\$1,000)	2,861.1
Cost of Health Insurance (\$1,000)	3,770.1
Taxes and License Fees (\$1,000)	923.4
Lease and Rental Payments (\$1,000)	1,826.4

Cost of Services Estimates

The cost of advertising for this market in Ireland will be \$0.68 million dollars in 2021 and the cost of professional services for the market will be \$1.56 million dollars. The cost of repair and maintenance for this market is expected to reach \$2.40 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	352.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	2,395.9
Cost of Purchased Communication Services (\$1,000)	247.9
Cost of Purchased Advertising and Promotional Services (\$1,000)	678.8
Cost of Purchased Professional & Technical Services (\$1,000)	1,561.0
Cost of Purchased Refuse & Waste Removal (\$1,000)	712.1

*2020-2021 Forecasts

Source: Barnes Reports

Israel

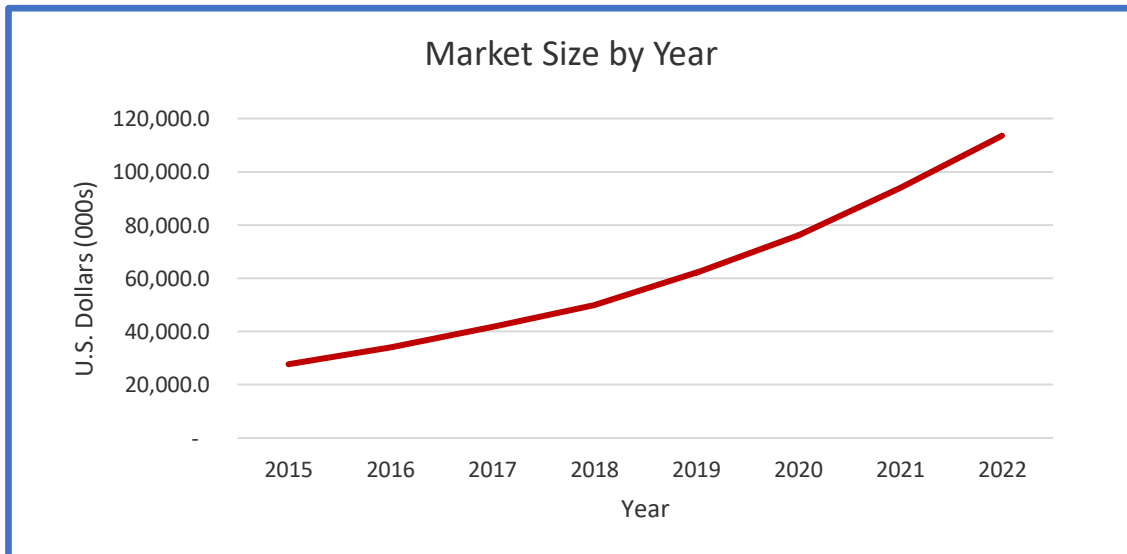
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Israel is estimated to be \$93.8 million dollars in 2021 and is expected to change by 21 percent from 2021 to 2022. The market will be 332.7 million New Shekels in 2021 and is forecast to change by 23.7 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	New Shekels
2015	27,729.6	100,524.5
2016	34,164.4	135,622.3
2017	41,848.0	150,634.1
2018	49,971.0	179,423.8
2019	62,055.7	222,026.3
2020	76,109.8	268,882.4
2021	93,803.9	332,706.1
2022	113,543.4	411,679.4
2027	340,576.4	1,217,021.6
Y-to-Y Change	US Dollars	New Shekels
2015-2016	23.2%	34.9%
2016-2017	22.5%	11.1%
2017-2018	19.4%	19.1%
2018-2019	24.2%	23.7%
2019-2020	22.6%	21.1%
2020-2021	23.2%	23.7%
2021-2022	21.0%	23.7%
CAGR 2022-2027	40.0%	195.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Israel

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Israel will be \$9.67 million dollars in 2021 and the lease and rental payments for the market will be \$0.57 million dollars. The operating expenses for this market is expected to reach \$55.46 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	9,672.4
Operating Expenses (\$1,000)	55,462.9
Employer Costs for Fringe Benefits (\$1,000)	2,987.0
Contract Labor Costs including Temporary Help (\$1,000)	885.5
Cost of Health Insurance (\$1,000)	1,166.8
Taxes and License Fees (\$1,000)	285.8
Lease and Rental Payments (\$1,000)	565.2

Cost of Services Estimates

The cost of advertising for this market in Israel will be \$0.21 million dollars in 2021 and the cost of professional services for the market will be \$0.48 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.74 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	108.9
Cost of Purchased Repair and Maintenance Services (\$1,000)	741.5
Cost of Purchased Communication Services (\$1,000)	76.7
Cost of Purchased Advertising and Promotional Services (\$1,000)	210.1
Cost of Purchased Professional & Technical Services (\$1,000)	483.1
Cost of Purchased Refuse & Waste Removal (\$1,000)	220.4

*2020-2021 Forecasts

Source: Barnes Reports

Italy

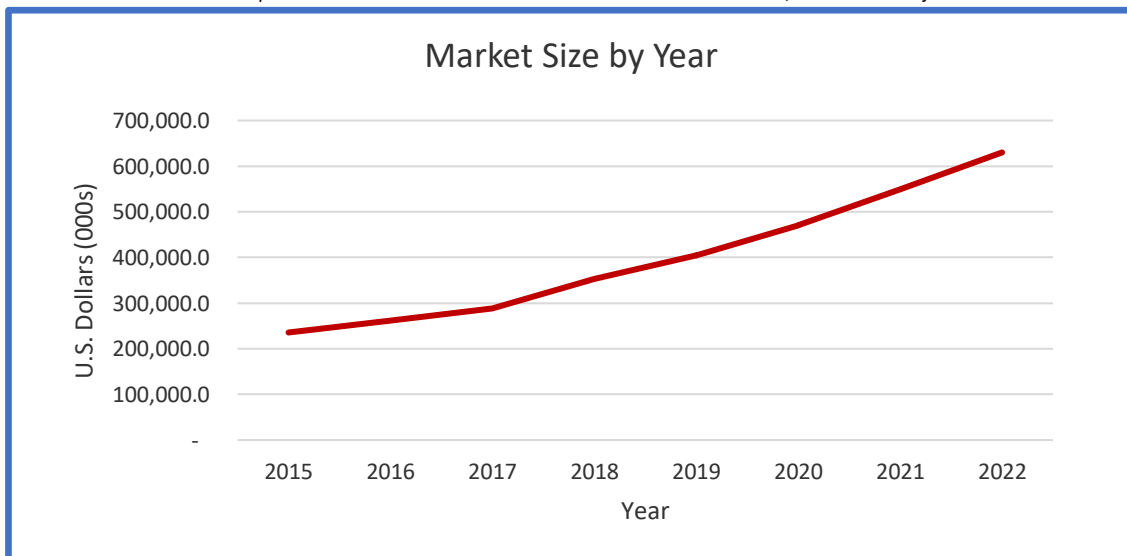
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Italy is estimated to be \$549.2 million dollars in 2021 and is expected to change by 14.7 percent from 2021 to 2022. The market will be 560.9 million Euros in 2021 and is forecast to change by 23.6 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	235,662.2	174,075.5
2016	262,257.1	234,013.8
2017	287,849.1	254,806.9
2018	352,780.5	298,724.9
2019	404,480.6	374,941.8
2020	470,165.3	453,696.7
2021	549,193.7	560,929.0
2022	630,029.5	693,506.0
2027	1,445,059.3	2,041,780.0
Y-to-Y Change	US Dollars	Euros
2015-2016	11.3%	34.4%
2016-2017	9.8%	8.9%
2017-2018	22.6%	17.2%
2018-2019	14.7%	25.5%
2019-2020	16.2%	21.0%
2020-2021	16.8%	23.6%
2021-2022	14.7%	23.6%
CAGR 2022-2027	25.9%	194.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Italy

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Italy will be \$56.63 million dollars in 2021 and the lease and rental payments for the market will be \$3.31 million dollars. The operating expenses for this market is expected to reach \$324.72 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	56,629.0
Operating Expenses (\$1,000)	324,718.5
Employer Costs for Fringe Benefits (\$1,000)	17,487.9
Contract Labor Costs including Temporary Help (\$1,000)	5,184.2
Cost of Health Insurance (\$1,000)	6,831.3
Taxes and License Fees (\$1,000)	1,673.2
Lease and Rental Payments (\$1,000)	3,309.3

Cost of Services Estimates

The cost of advertising for this market in Italy will be \$1.23 million dollars in 2021 and the cost of professional services for the market will be \$2.83 million dollars. The cost of repair and maintenance for this market is expected to reach \$4.34 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	637.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	4,341.3
Cost of Purchased Communication Services (\$1,000)	449.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	1,229.9
Cost of Purchased Professional & Technical Services (\$1,000)	2,828.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	1,290.3

*2020-2021 Forecasts

Source: Barnes Reports

Japan

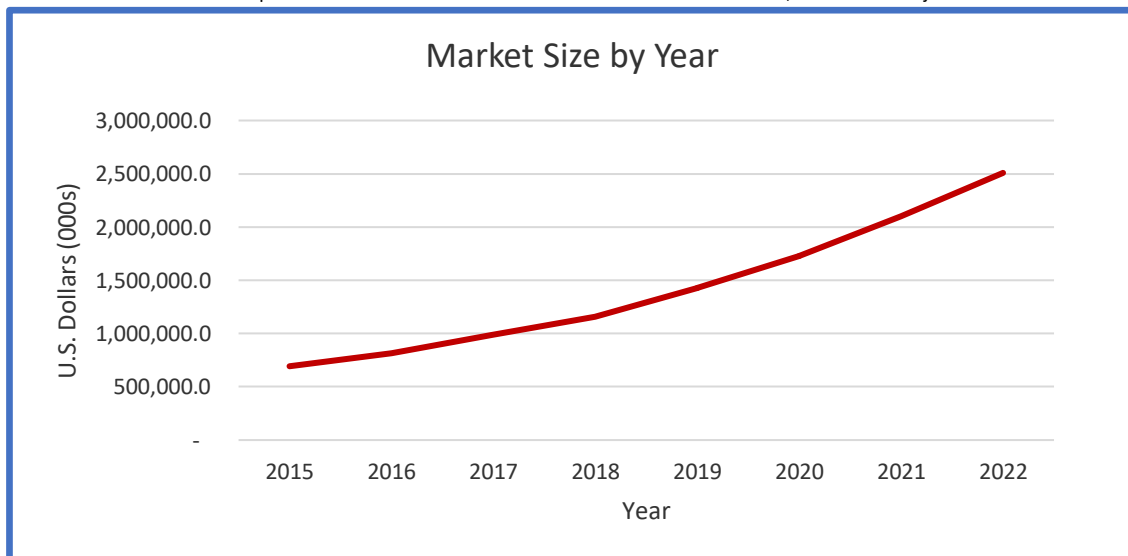
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Japan is estimated to be \$2,100.6 million dollars in 2021 and is expected to change by 19.4 percent from 2021 to 2022. The market will be 246701.5 million Yens in 2021 and is forecast to change by 24.5 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Yens
2015	693,051.4	73,105,361.2
2016	816,902.2	97,374,814.6
2017	990,035.6	110,890,716.9
2018	1,159,175.0	127,999,790.8
2019	1,428,158.7	162,505,105.0
2020	1,727,821.4	198,083,876.2
2021	2,100,600.2	246,701,480.8
2022	2,508,119.8	307,251,765.1
2027	7,026,203.6	938,328,165.0
Y-to-Y Change	US Dollars	Yens
2015-2016	17.9%	33.2%
2016-2017	21.2%	13.9%
2017-2018	17.1%	15.4%
2018-2019	23.2%	27.0%
2019-2020	21.0%	21.9%
2020-2021	21.6%	24.5%
2021-2022	19.4%	24.5%
CAGR 2022-2027	36.0%	205.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Japan

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Japan will be \$216.60 million dollars in 2021 and the lease and rental payments for the market will be \$12.66 million dollars. The operating expenses for this market is expected to reach \$1,242.01 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	216,599.3
Operating Expenses (\$1,000)	1,242,009.2
Employer Costs for Fringe Benefits (\$1,000)	66,889.2
Contract Labor Costs including Temporary Help (\$1,000)	19,829.1
Cost of Health Insurance (\$1,000)	26,128.9
Taxes and License Fees (\$1,000)	6,399.7
Lease and Rental Payments (\$1,000)	12,657.6

Cost of Services Estimates

The cost of advertising for this market in Japan will be \$4.70 million dollars in 2021 and the cost of professional services for the market will be \$10.82 million dollars. The cost of repair and maintenance for this market is expected to reach \$16.60 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	2,439.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	16,604.9
Cost of Purchased Communication Services (\$1,000)	1,717.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	4,704.1
Cost of Purchased Professional & Technical Services (\$1,000)	10,818.6
Cost of Purchased Refuse & Waste Removal (\$1,000)	4,935.1

*2020-2021 Forecasts

Source: Barnes Reports

South Korea

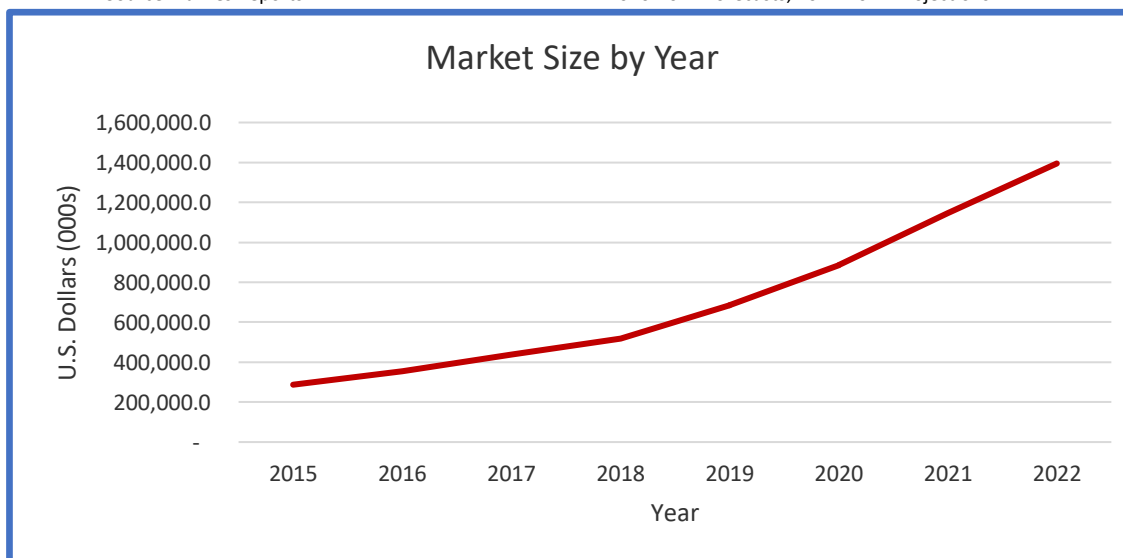
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in South Korea is estimated to be \$1,146.3 million dollars in 2021 and is expected to change by 21.7 percent from 2021 to 2022. The market will be 1287045.2 million Wons in 2021 and is forecast to change by 31.9 percent from 2021 to 2022.

Year	Market Sales (000s)	
	US Dollars	Wons
2015	287,192.5	306,109,609.0
2016	355,469.5	409,548,992.0
2017	439,435.6	468,254,249.6
2018	517,050.5	569,014,129.3
2019	685,157.0	753,913,394.3
2020	884,975.0	975,520,704.5
2021	1,146,293.5	1,287,045,218.4
2022	1,394,812.4	1,624,224,153.2
2027	4,295,005.9	5,298,512,625.3
Y-to-Y Change	US Dollars	Wons
2015-2016	23.8%	33.8%
2016-2017	23.6%	14.3%
2017-2018	17.7%	21.5%
2018-2019	32.5%	32.5%
2019-2020	29.2%	29.4%
2020-2021	29.5%	31.9%
2021-2022	21.7%	26.2%
CAGR 2022-2027	41.6%	226.2%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



South Korea

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in South Korea will be \$118.20 million dollars in 2021 and the lease and rental payments for the market will be \$6.91 million dollars. The operating expenses for this market is expected to reach \$677.76 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	118,197.8
Operating Expenses (\$1,000)	677,762.0
Employer Costs for Fringe Benefits (\$1,000)	36,501.3
Contract Labor Costs including Temporary Help (\$1,000)	10,820.7
Cost of Health Insurance (\$1,000)	14,258.5
Taxes and License Fees (\$1,000)	3,492.3
Lease and Rental Payments (\$1,000)	6,907.2

Cost of Services Estimates

The cost of advertising for this market in South Korea will be \$2.57 million dollars in 2021 and the cost of professional services for the market will be \$5.90 million dollars. The cost of repair and maintenance for this market is expected to reach \$9.06 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	1,331.2
Cost of Purchased Repair and Maintenance Services (\$1,000)	9,061.3
Cost of Purchased Communication Services (\$1,000)	937.4
Cost of Purchased Advertising and Promotional Services (\$1,000)	2,567.0
Cost of Purchased Professional & Technical Services (\$1,000)	5,903.7
Cost of Purchased Refuse & Waste Removal (\$1,000)	2,693.1

*2020-2021 Forecasts

Source: Barnes Reports

Malaysia

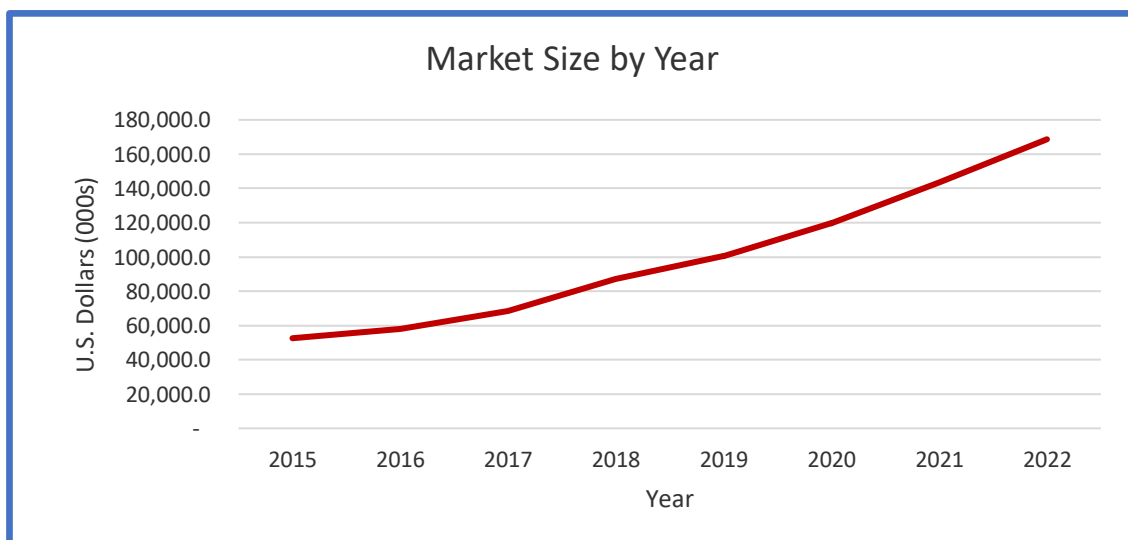
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Malaysia is estimated to be \$143.4 million dollars in 2021 and is expected to change by 17.6 percent from 2021 to 2022. The market will be 769.1 million Ringgits in 2021 and is forecast to change by 30.2 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Ringgits
2015	52,588.2	173,204.3
2016	57,835.2	233,508.6
2017	68,418.4	294,226.3
2018	87,194.0	351,836.7
2019	100,484.0	463,308.4
2020	119,749.9	590,532.0
2021	143,408.8	769,054.6
2022	168,669.6	1,001,546.2
2027	438,217.1	3,823,729.1
Y-to-Y Change	US Dollars	Ringgits
2015-2016	10.0%	34.8%
2016-2017	18.3%	26.0%
2017-2018	27.4%	19.6%
2018-2019	15.2%	31.7%
2019-2020	19.2%	27.5%
2020-2021	19.8%	30.2%
2021-2022	17.6%	30.2%
CAGR 2022-2027	32.0%	281.8%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Malaysia

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Malaysia will be \$14.79 million dollars in 2021 and the lease and rental payments for the market will be \$0.86 million dollars. The operating expenses for this market is expected to reach \$84.79 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	14,787.3
Operating Expenses (\$1,000)	84,792.5
Employer Costs for Fringe Benefits (\$1,000)	4,566.6
Contract Labor Costs including Temporary Help (\$1,000)	1,353.7
Cost of Health Insurance (\$1,000)	1,783.8
Taxes and License Fees (\$1,000)	436.9
Lease and Rental Payments (\$1,000)	864.1

Cost of Services Estimates

The cost of advertising for this market in Malaysia will be \$0.32 million dollars in 2021 and the cost of professional services for the market will be \$0.74 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.13 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	166.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,133.6
Cost of Purchased Communication Services (\$1,000)	117.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	321.1
Cost of Purchased Professional & Technical Services (\$1,000)	738.6
Cost of Purchased Refuse & Waste Removal (\$1,000)	336.9

*2020-2021 Forecasts

Source: Barnes Reports

Mexico

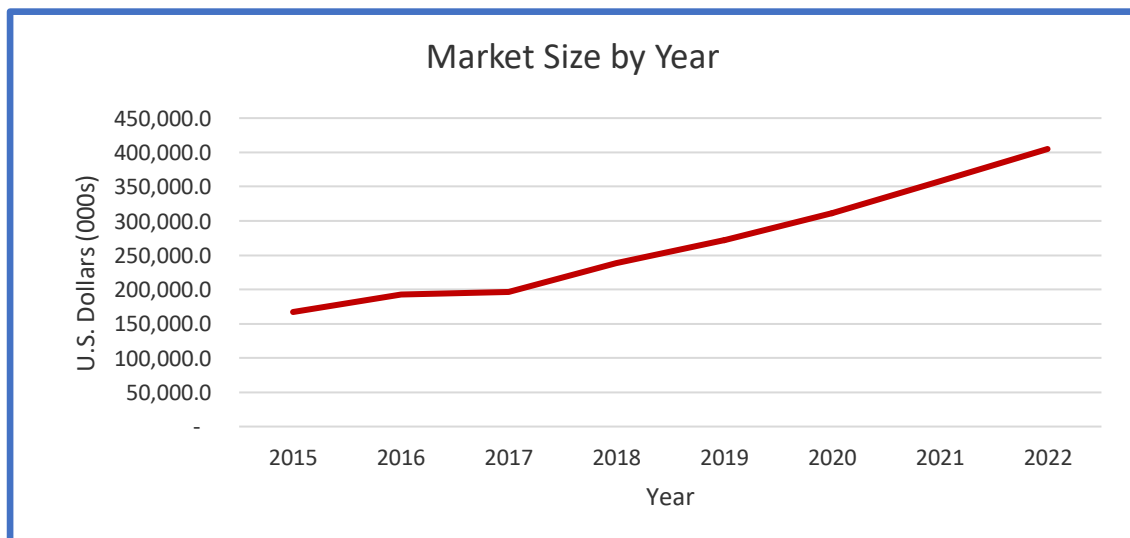
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Mexico is estimated to be \$358.3 million dollars in 2021 and is expected to change by 13 percent from 2021 to 2022. The market will be 10531.8 million Pesos in 2021 and is forecast to change by 31.9 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pesos
2015	167,136.4	2,260,679.4
2016	192,943.6	3,183,401.0
2017	196,101.7	3,711,518.3
2018	238,443.6	4,588,680.7
2019	271,852.2	6,188,510.4
2020	311,329.5	7,986,834.2
2021	358,286.0	10,531,827.1
2022	404,948.4	13,887,778.3
2027	862,178.2	56,431,975.9
Y-to-Y Change	US Dollars	Pesos
2015-2016	15.4%	40.8%
2016-2017	1.6%	16.6%
2017-2018	21.6%	23.6%
2018-2019	14.0%	34.9%
2019-2020	14.5%	29.1%
2020-2021	15.1%	31.9%
2021-2022	13.0%	31.9%
CAGR 2022-2027	22.6%	306.3%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Mexico

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Mexico will be \$36.94 million dollars in 2021 and the lease and rental payments for the market will be \$2.16 million dollars. The operating expenses for this market is expected to reach \$211.84 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	36,944.0
Operating Expenses (\$1,000)	211,841.6
Employer Costs for Fringe Benefits (\$1,000)	11,408.9
Contract Labor Costs including Temporary Help (\$1,000)	3,382.1
Cost of Health Insurance (\$1,000)	4,456.6
Taxes and License Fees (\$1,000)	1,091.6
Lease and Rental Payments (\$1,000)	2,158.9

Cost of Services Estimates

The cost of advertising for this market in Mexico will be \$0.80 million dollars in 2021 and the cost of professional services for the market will be \$1.85 million dollars. The cost of repair and maintenance for this market is expected to reach \$2.83 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	416.1
Cost of Purchased Repair and Maintenance Services (\$1,000)	2,832.2
Cost of Purchased Communication Services (\$1,000)	293.0
Cost of Purchased Advertising and Promotional Services (\$1,000)	802.3
Cost of Purchased Professional & Technical Services (\$1,000)	1,845.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	841.8

*2020-2021 Forecasts

Source: Barnes Reports

Netherlands

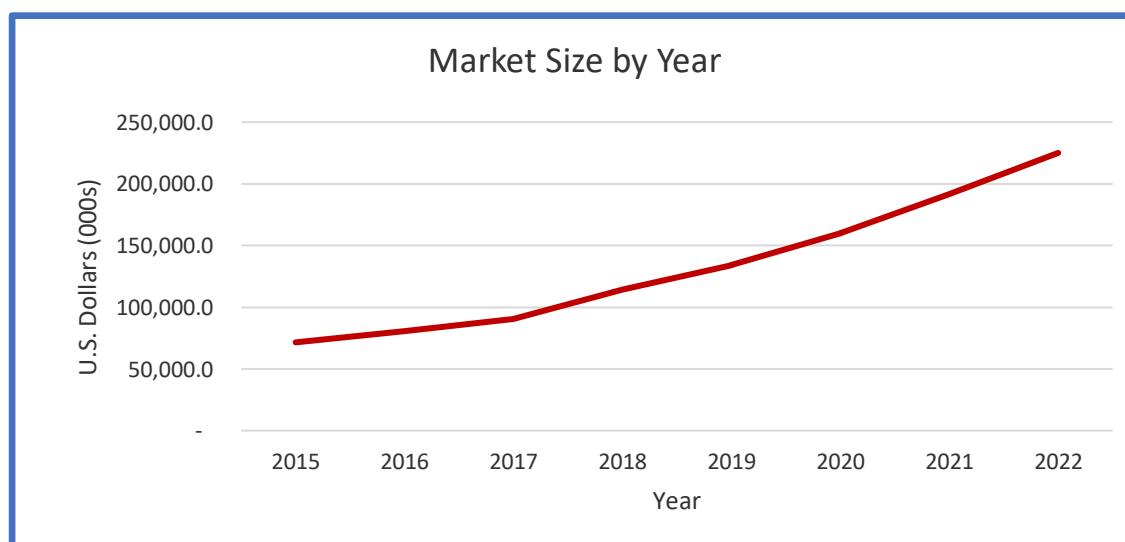
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Netherlands is estimated to be \$191.4 million dollars in 2021 and is expected to change by 17.6 percent from 2021 to 2022. The market will be 192.6 million Euros in 2021 and is forecast to change by 26.1 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	71,507.3	53,434.5
2016	80,674.8	72,760.2
2017	90,451.7	80,068.4
2018	114,486.7	96,944.2
2019	134,196.1	123,678.2
2020	159,871.8	152,687.2
2021	191,393.0	192,598.4
2022	225,030.0	242,942.1
2027	583,661.3	790,678.8
Y-to-Y Change	US Dollars	Euros
2015-2016	12.8%	36.2%
2016-2017	12.1%	10.0%
2017-2018	26.6%	21.1%
2018-2019	17.2%	27.6%
2019-2020	19.1%	23.5%
2020-2021	19.7%	26.1%
2021-2022	17.6%	26.1%
CAGR 2022-2027	31.9%	225.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Netherlands

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Netherlands will be \$19.74 million dollars in 2021 and the lease and rental payments for the market will be \$1.15 million dollars. The operating expenses for this market is expected to reach \$113.16 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	19,735.1
Operating Expenses (\$1,000)	113,163.8
Employer Costs for Fringe Benefits (\$1,000)	6,094.5
Contract Labor Costs including Temporary Help (\$1,000)	1,806.7
Cost of Health Insurance (\$1,000)	2,380.7
Taxes and License Fees (\$1,000)	583.1
Lease and Rental Payments (\$1,000)	1,153.3

Cost of Services Estimates

The cost of advertising for this market in Netherlands will be \$0.43 million dollars in 2021 and the cost of professional services for the market will be \$0.99 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.51 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	222.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,512.9
Cost of Purchased Communication Services (\$1,000)	156.5
Cost of Purchased Advertising and Promotional Services (\$1,000)	428.6
Cost of Purchased Professional & Technical Services (\$1,000)	985.7
Cost of Purchased Refuse & Waste Removal (\$1,000)	449.7

*2020-2021 Forecasts

Source: Barnes Reports

Nigeria

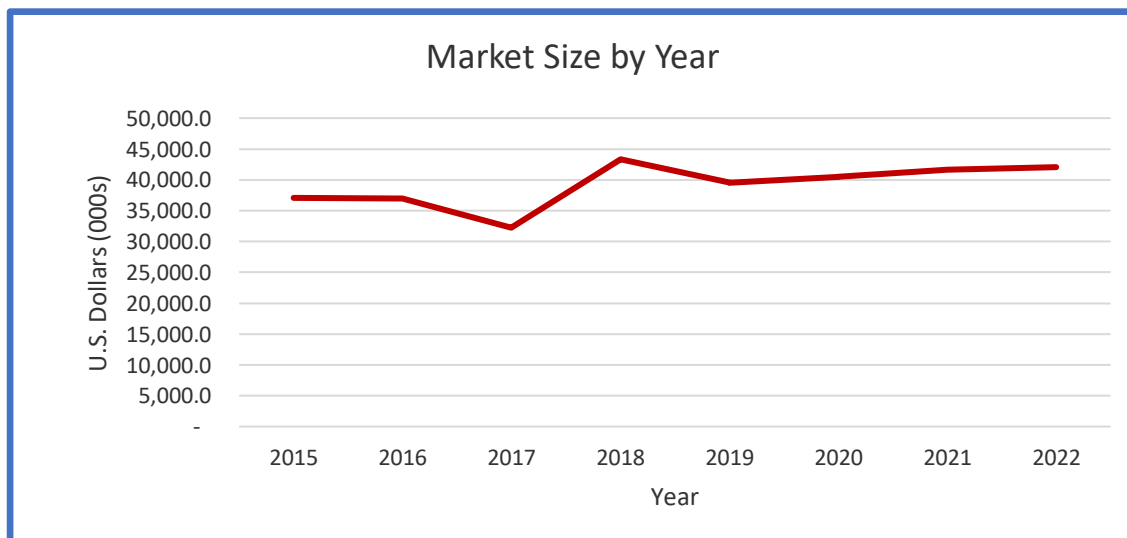
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Nigeria is estimated to be \$41.7 million dollars in 2021 and is expected to change by 1.1 percent from 2021 to 2022. The market will be 31120.4 million Nairas in 2021 and is forecast to change by 34.2 percent from 2021 to 2022.

Year	Market Sales (000s)	
	US Dollars	Nairas
2015	37,054.8	5,966,401.3
2016	36,978.7	7,671,513.2
2017	32,237.8	9,858,004.0
2018	43,321.9	14,045,329.1
2019	39,521.4	17,657,701.9
2020	40,474.5	23,191,011.0
2021	41,653.7	31,120,437.7
2022	42,100.3	41,761,078.9
2027	51,261.6	185,203,416.1
Y-to-Y Change	US Dollars	Nairas
2015-2016	-0.2%	28.6%
2016-2017	-12.8%	28.5%
2017-2018	34.4%	42.5%
2018-2019	-8.8%	25.7%
2019-2020	2.4%	31.3%
2020-2021	2.9%	34.2%
2021-2022	1.1%	34.2%
CAGR 2022-2027	4.4%	343.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Nigeria

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Nigeria will be \$4.30 million dollars in 2021 and the lease and rental payments for the market will be \$0.25 million dollars. The operating expenses for this market is expected to reach \$24.63 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	4,295.0
Operating Expenses (\$1,000)	24,628.3
Employer Costs for Fringe Benefits (\$1,000)	1,326.4
Contract Labor Costs including Temporary Help (\$1,000)	393.2
Cost of Health Insurance (\$1,000)	518.1
Taxes and License Fees (\$1,000)	126.9
Lease and Rental Payments (\$1,000)	251.0

Cost of Services Estimates

The cost of advertising for this market in Nigeria will be \$0.09 million dollars in 2021 and the cost of professional services for the market will be \$0.21 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.33 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	48.4
Cost of Purchased Repair and Maintenance Services (\$1,000)	329.3
Cost of Purchased Communication Services (\$1,000)	34.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	93.3
Cost of Purchased Professional & Technical Services (\$1,000)	214.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	97.9

*2020-2021 Forecasts

Source: Barnes Reports

Norway

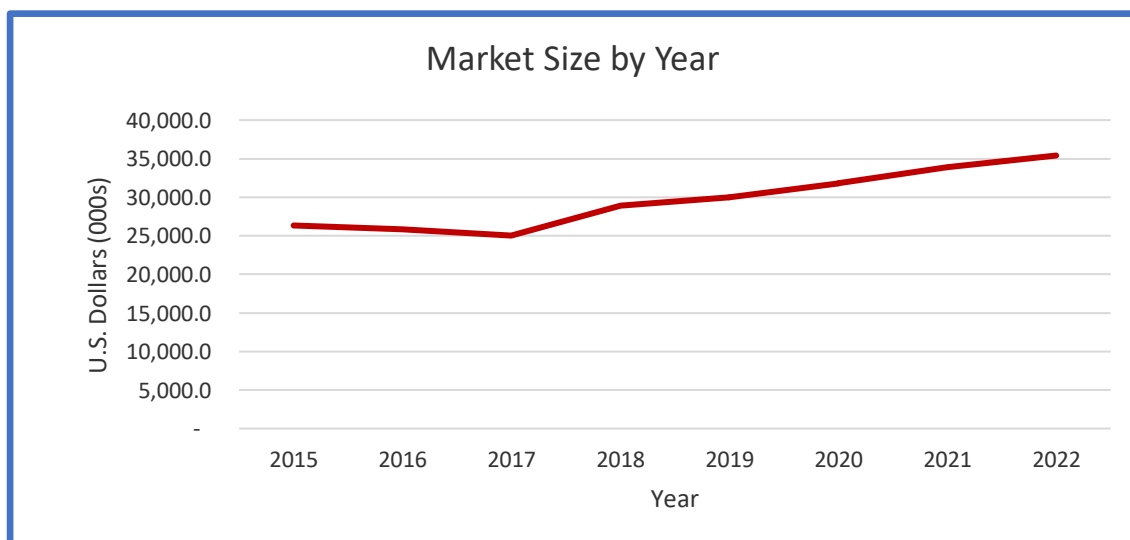
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Norway is estimated to be \$33.9 million dollars in 2021 and is expected to change by 4.6 percent from 2021 to 2022. The market will be 398.2 million Kroner in 2021 and is forecast to change by 19.2 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Kroner
2015	26,309.4	158,004.9
2016	25,802.2	202,374.5
2017	25,025.3	207,001.2
2018	28,880.3	234,869.0
2019	29,992.1	286,251.7
2020	31,785.5	334,024.9
2021	33,851.2	398,244.8
2022	35,406.1	474,811.6
2027	51,162.2	1,165,801.8
Y-to-Y Change	US Dollars	Kroner
2015-2016	-1.9%	28.1%
2016-2017	-3.0%	2.3%
2017-2018	15.4%	13.5%
2018-2019	3.8%	21.9%
2019-2020	6.0%	16.7%
2020-2021	6.5%	19.2%
2021-2022	4.6%	19.2%
CAGR 2022-2027	8.9%	145.5%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Norway

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Norway will be \$3.49 million dollars in 2021 and the lease and rental payments for the market will be \$0.20 million dollars. The operating expenses for this market is expected to reach \$20.01 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	3,490.5
Operating Expenses (\$1,000)	20,015.0
Employer Costs for Fringe Benefits (\$1,000)	1,077.9
Contract Labor Costs including Temporary Help (\$1,000)	319.5
Cost of Health Insurance (\$1,000)	421.1
Taxes and License Fees (\$1,000)	103.1
Lease and Rental Payments (\$1,000)	204.0

Cost of Services Estimates

The cost of advertising for this market in Norway will be \$0.08 million dollars in 2021 and the cost of professional services for the market will be \$0.17 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.27 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	39.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	267.6
Cost of Purchased Communication Services (\$1,000)	27.7
Cost of Purchased Advertising and Promotional Services (\$1,000)	75.8
Cost of Purchased Professional & Technical Services (\$1,000)	174.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	79.5

*2020-2021 Forecasts

Source: Barnes Reports

Pakistan

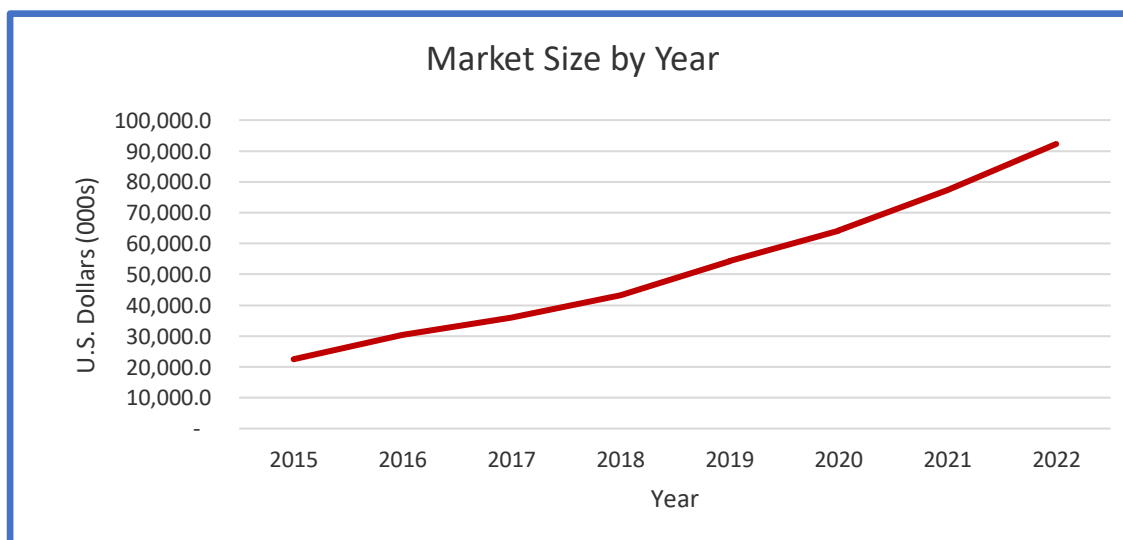
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Pakistan is estimated to be \$77.3 million dollars in 2021 and is expected to change by 19.3 percent from 2021 to 2022. The market will be 9296.2 million Rupees in 2021 and is forecast to change by 27 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Rupees
2015	22,484.0	2,428,485.6
2016	30,350.4	3,176,364.9
2017	35,865.2	3,759,100.7
2018	43,219.2	4,756,022.7
2019	54,305.8	5,886,909.7
2020	64,109.0	7,318,578.5
2021	77,323.4	9,296,224.7
2022	92,260.5	11,808,275.8
2027	273,811.2	39,795,419.1
Y-to-Y Change	US Dollars	Rupees
2015-2016	35.0%	30.8%
2016-2017	18.2%	18.3%
2017-2018	20.5%	26.5%
2018-2019	25.7%	23.8%
2019-2020	18.1%	24.3%
2020-2021	20.6%	27.0%
2021-2022	19.3%	27.0%
CAGR 2022-2027	39.4%	237.0%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Pakistan

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Pakistan will be \$7.97 million dollars in 2021 and the lease and rental payments for the market will be \$0.47 million dollars. The operating expenses for this market is expected to reach \$45.72 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	7,973.1
Operating Expenses (\$1,000)	45,718.5
Employer Costs for Fringe Benefits (\$1,000)	2,462.2
Contract Labor Costs including Temporary Help (\$1,000)	729.9
Cost of Health Insurance (\$1,000)	961.8
Taxes and License Fees (\$1,000)	235.6
Lease and Rental Payments (\$1,000)	465.9

Cost of Services Estimates

The cost of advertising for this market in Pakistan will be \$0.17 million dollars in 2021 and the cost of professional services for the market will be \$0.40 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.61 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	89.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	611.2
Cost of Purchased Communication Services (\$1,000)	63.2
Cost of Purchased Advertising and Promotional Services (\$1,000)	173.2
Cost of Purchased Professional & Technical Services (\$1,000)	398.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	181.7

*2020-2021 Forecasts

Source: Barnes Reports

Philippines

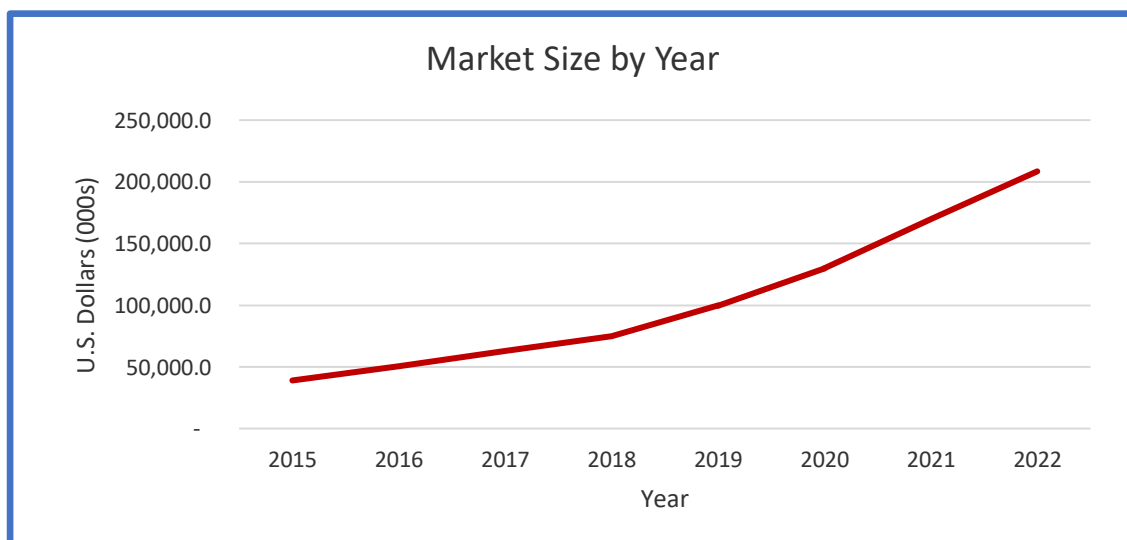
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Philippines is estimated to be \$169.7 million dollars in 2021 and is expected to change by 22.8 percent from 2021 to 2022. The market will be 10320.5 million Pesos in 2021 and is forecast to change by 39.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pesos
2015	38,990.8	1,755,430.8
2016	50,400.3	2,425,392.6
2017	62,719.6	3,018,278.4
2018	74,695.6	3,933,575.5
2019	99,520.6	5,418,420.6
2020	129,773.0	7,405,696.3
2021	169,699.1	10,320,514.9
2022	208,463.5	13,757,251.5
2027	673,177.9	59,010,655.5
Y-to-Y Change	US Dollars	Pesos
2015-2016	29.3%	38.2%
2016-2017	24.4%	24.4%
2017-2018	19.1%	30.3%
2018-2019	33.2%	37.7%
2019-2020	30.4%	36.7%
2020-2021	30.8%	39.4%
2021-2022	22.8%	33.3%
CAGR 2022-2027	44.6%	328.9%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Philippines

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Philippines will be \$17.50 million dollars in 2021 and the lease and rental payments for the market will be \$1.02 million dollars. The operating expenses for this market is expected to reach \$100.34 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	17,498.2
Operating Expenses (\$1,000)	100,337.0
Employer Costs for Fringe Benefits (\$1,000)	5,403.7
Contract Labor Costs including Temporary Help (\$1,000)	1,601.9
Cost of Health Insurance (\$1,000)	2,110.8
Taxes and License Fees (\$1,000)	517.0
Lease and Rental Payments (\$1,000)	1,022.6

Cost of Services Estimates

The cost of advertising for this market in Philippines will be \$0.38 million dollars in 2021 and the cost of professional services for the market will be \$0.87 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.34 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	197.1
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,341.4
Cost of Purchased Communication Services (\$1,000)	138.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	380.0
Cost of Purchased Professional & Technical Services (\$1,000)	874.0
Cost of Purchased Refuse & Waste Removal (\$1,000)	398.7

*2020-2021 Forecasts

Source: Barnes Reports

Poland

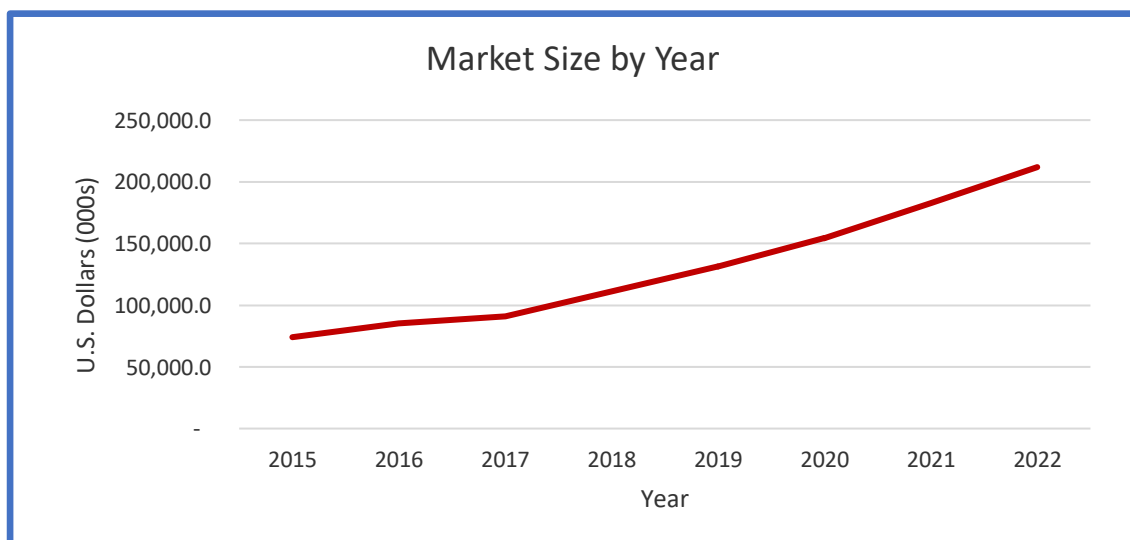
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Poland is estimated to be \$182.6 million dollars in 2021 and is expected to change by 16.1 percent from 2021 to 2022. The market will be 789.7 million Zlotys in 2021 and is forecast to change by 24.9 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Zlotys
2015	74,071.4	235,169.9
2016	85,413.4	323,622.5
2017	90,871.2	343,322.5
2018	111,124.4	401,347.9
2019	131,355.4	517,525.7
2020	154,482.0	632,458.8
2021	182,570.2	789,719.8
2022	211,905.6	986,084.0
2027	515,291.0	3,050,459.7
Y-to-Y Change	US Dollars	Zlotys
2015-2016	15.3%	37.6%
2016-2017	6.4%	6.1%
2017-2018	22.3%	16.9%
2018-2019	18.2%	28.9%
2019-2020	17.6%	22.2%
2020-2021	18.2%	24.9%
2021-2022	16.1%	24.9%
CAGR 2022-2027	28.6%	209.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Poland

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Poland will be \$18.83 million dollars in 2021 and the lease and rental payments for the market will be \$1.10 million dollars. The operating expenses for this market is expected to reach \$107.95 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	18,825.4
Operating Expenses (\$1,000)	107,947.2
Employer Costs for Fringe Benefits (\$1,000)	5,813.6
Contract Labor Costs including Temporary Help (\$1,000)	1,723.4
Cost of Health Insurance (\$1,000)	2,271.0
Taxes and License Fees (\$1,000)	556.2
Lease and Rental Payments (\$1,000)	1,100.1

Cost of Services Estimates

The cost of advertising for this market in Poland will be \$0.41 million dollars in 2021 and the cost of professional services for the market will be \$0.94 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.44 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	212.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,443.2
Cost of Purchased Communication Services (\$1,000)	149.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	408.8
Cost of Purchased Professional & Technical Services (\$1,000)	940.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	428.9

*2020-2021 Forecasts

Source: Barnes Reports

Puerto Rico

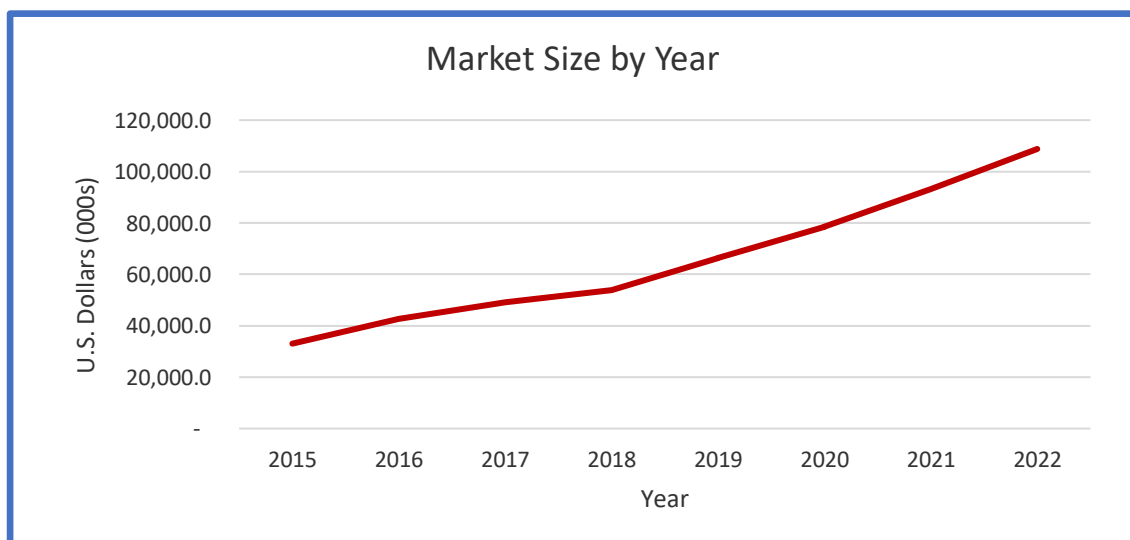
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Puerto Rico is estimated to be \$93.2 million dollars in 2021 and is expected to change by 16.7 percent from 2021 to 2022. The market will be 98.9 million Dollars in 2021 and is forecast to change by 22.2 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dollars
2015	33,041.2	31,993.8
2016	42,734.0	42,340.4
2017	49,105.6	49,487.6
2018	53,940.3	53,940.3
2019	66,379.0	67,718.6
2020	78,474.8	80,973.5
2021	93,229.2	98,927.8
2022	108,776.2	120,863.2
2027	271,514.2	335,288.3
Y-to-Y Change	US Dollars	Dollars
2015-2016	29.3%	32.3%
2016-2017	14.9%	16.9%
2017-2018	9.8%	9.0%
2018-2019	23.1%	25.5%
2019-2020	18.2%	19.6%
2020-2021	18.8%	22.2%
2021-2022	16.7%	22.2%
CAGR 2022-2027	29.9%	177.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Puerto Rico

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Puerto Rico will be \$9.61 million dollars in 2021 and the lease and rental payments for the market will be \$0.56 million dollars. The operating expenses for this market is expected to reach \$55.12 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	9,613.1
Operating Expenses (\$1,000)	55,123.1
Employer Costs for Fringe Benefits (\$1,000)	2,968.7
Contract Labor Costs including Temporary Help (\$1,000)	880.1
Cost of Health Insurance (\$1,000)	1,159.7
Taxes and License Fees (\$1,000)	284.0
Lease and Rental Payments (\$1,000)	561.8

Cost of Services Estimates

The cost of advertising for this market in Puerto Rico will be \$0.21 million dollars in 2021 and the cost of professional services for the market will be \$0.48 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.74 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	108.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	737.0
Cost of Purchased Communication Services (\$1,000)	76.2
Cost of Purchased Advertising and Promotional Services (\$1,000)	208.8
Cost of Purchased Professional & Technical Services (\$1,000)	480.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	219.0

*2020-2021 Forecasts

Source: Barnes Reports

Romania

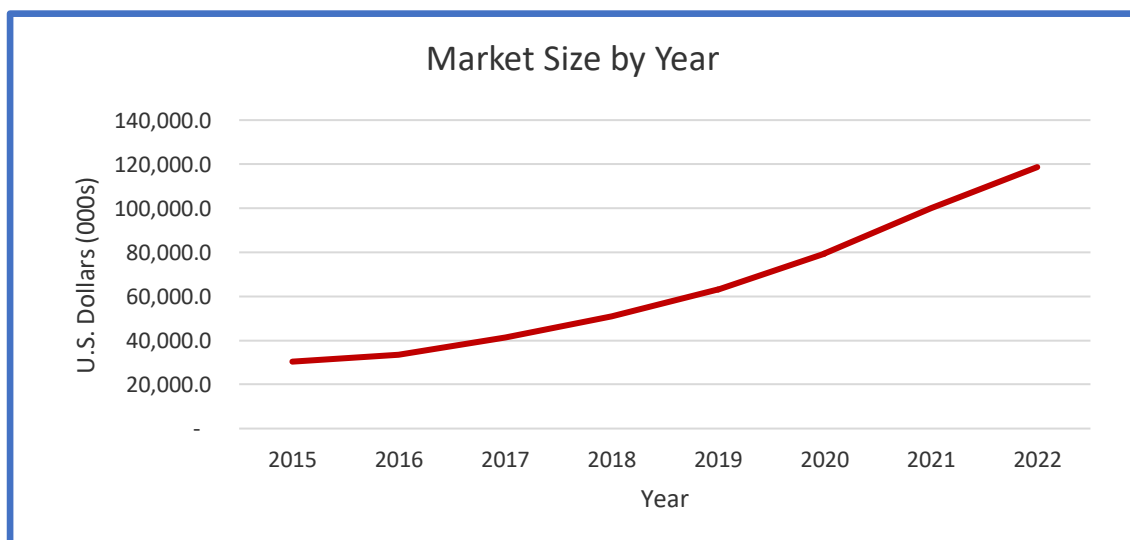
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Romania is estimated to be \$100.1 million dollars in 2021 and is expected to change by 18.5 percent from 2021 to 2022. The market will be 470.7 million Leus in 2021 and is forecast to change by 33.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Leus
2015	30,384.8	104,393.0
2016	33,423.7	139,186.5
2017	41,421.3	167,859.9
2018	50,973.7	200,918.0
2019	63,077.1	270,021.4
2020	79,358.3	353,048.0
2021	100,123.6	470,664.8
2022	118,668.7	600,184.1
2027	320,392.1	2,062,507.3
Y-to-Y Change	US Dollars	Leus
2015-2016	10.0%	33.3%
2016-2017	23.9%	20.6%
2017-2018	23.1%	19.7%
2018-2019	23.7%	34.4%
2019-2020	25.8%	30.7%
2020-2021	26.2%	33.3%
2021-2022	18.5%	27.5%
CAGR 2022-2027	34.0%	243.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Romania

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Romania will be \$10.32 million dollars in 2021 and the lease and rental payments for the market will be \$0.60 million dollars. The operating expenses for this market is expected to reach \$59.20 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	10,324.1
Operating Expenses (\$1,000)	59,199.5
Employer Costs for Fringe Benefits (\$1,000)	3,188.2
Contract Labor Costs including Temporary Help (\$1,000)	945.1
Cost of Health Insurance (\$1,000)	1,245.4
Taxes and License Fees (\$1,000)	305.0
Lease and Rental Payments (\$1,000)	603.3

Cost of Services Estimates

The cost of advertising for this market in Romania will be \$0.22 million dollars in 2021 and the cost of professional services for the market will be \$0.52 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.79 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	116.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	791.5
Cost of Purchased Communication Services (\$1,000)	81.9
Cost of Purchased Advertising and Promotional Services (\$1,000)	224.2
Cost of Purchased Professional & Technical Services (\$1,000)	515.7
Cost of Purchased Refuse & Waste Removal (\$1,000)	235.2

*2020-2021 Forecasts

Source: Barnes Reports

Russia

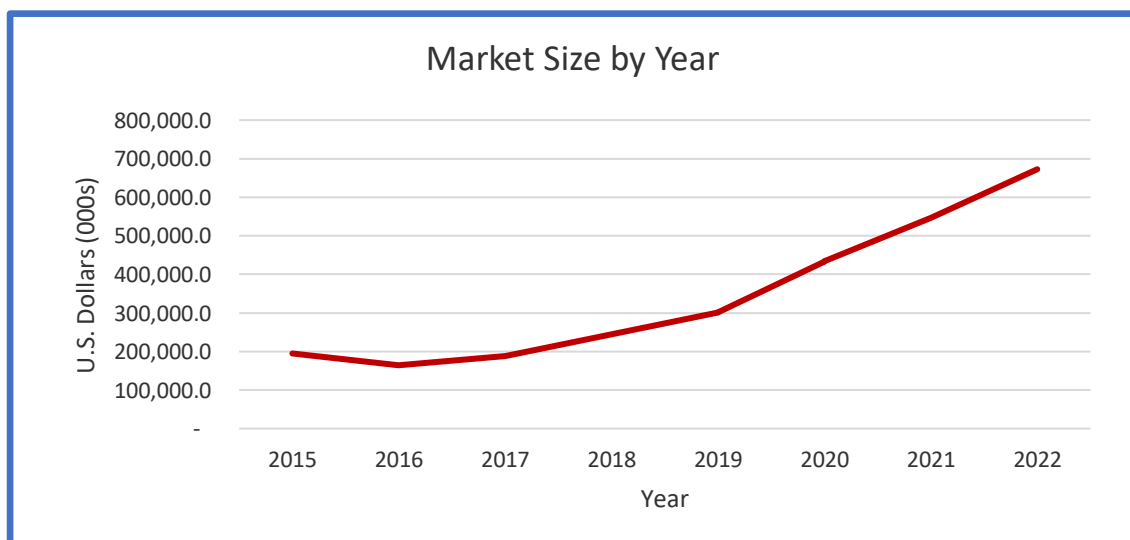
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Russia is estimated to be \$546.7 million dollars in 2021 and is expected to change by 23 percent from 2021 to 2022. The market will be 31615.9 million Rubles in 2021 and is forecast to change by 29.8 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Rubles
2015	194,299.4	7,536,831.7
2016	164,227.9	10,065,831.5
2017	188,759.0	11,043,683.2
2018	245,287.8	15,371,720.3
2019	301,500.6	19,163,357.1
2020	432,998.3	24,351,082.1
2021	546,682.1	31,615,892.9
2022	672,525.8	41,048,060.1
2027	1,817,860.5	154,339,036.1
Y-to-Y Change	US Dollars	Rubles
2015-2016	-15.5%	33.6%
2016-2017	14.9%	9.7%
2017-2018	29.9%	39.2%
2018-2019	22.9%	24.7%
2019-2020	43.6%	27.1%
2020-2021	26.3%	29.8%
2021-2022	23.0%	29.8%
CAGR 2022-2027	34.1%	276.0%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Russia

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Russia will be \$56.37 million dollars in 2021 and the lease and rental payments for the market will be \$3.29 million dollars. The operating expenses for this market is expected to reach \$323.23 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	56,370.1
Operating Expenses (\$1,000)	323,233.4
Employer Costs for Fringe Benefits (\$1,000)	17,407.9
Contract Labor Costs including Temporary Help (\$1,000)	5,160.5
Cost of Health Insurance (\$1,000)	6,800.1
Taxes and License Fees (\$1,000)	1,665.5
Lease and Rental Payments (\$1,000)	3,294.2

Cost of Services Estimates

The cost of advertising for this market in Russia will be \$1.22 million dollars in 2021 and the cost of professional services for the market will be \$2.82 million dollars. The cost of repair and maintenance for this market is expected to reach \$4.32 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	634.9
Cost of Purchased Repair and Maintenance Services (\$1,000)	4,321.4
Cost of Purchased Communication Services (\$1,000)	447.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	1,224.2
Cost of Purchased Professional & Technical Services (\$1,000)	2,815.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	1,284.4

*2020-2021 Forecasts

Source: Barnes Reports

Saudi Arabia

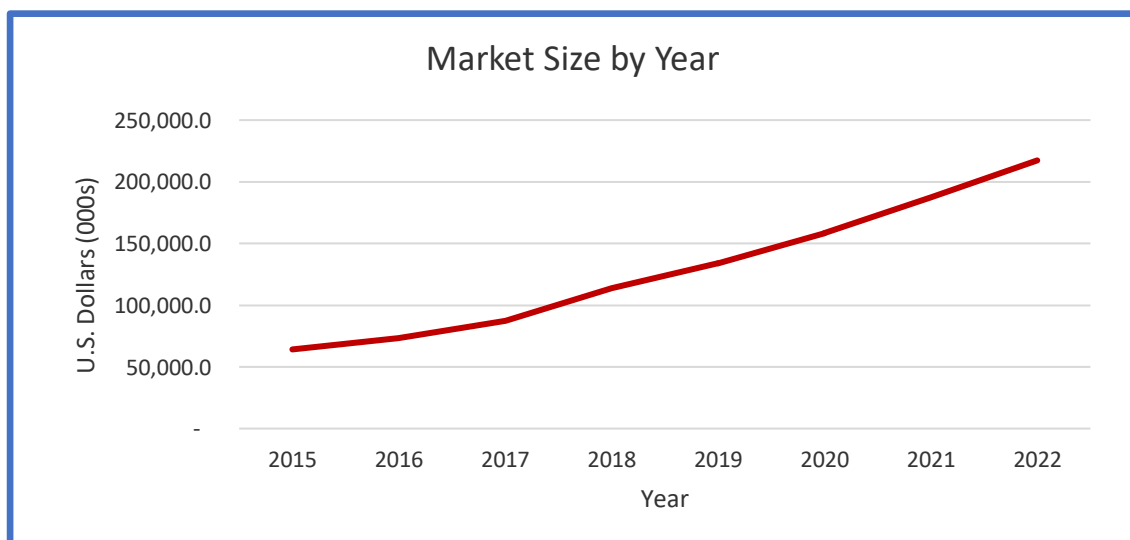
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Saudi Arabia is estimated to be \$187.5 million dollars in 2021 and is expected to change by 15.9 percent from 2021 to 2022. The market will be 885.3 million Riyals in 2021 and is forecast to change by 27.9 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Riyals
2015	64,142.9	199,344.9
2016	73,492.8	265,955.2
2017	87,125.6	326,720.9
2018	113,607.6	426,028.7
2019	133,897.5	551,557.8
2020	158,306.0	692,365.0
2021	187,500.3	885,272.9
2022	217,351.0	1,128,012.6
2027	666,689.5	4,901,859.5
Y-to-Y Change	US Dollars	Riyals
2015-2016	14.6%	33.4%
2016-2017	18.5%	22.8%
2017-2018	30.4%	30.4%
2018-2019	17.9%	29.5%
2019-2020	18.2%	25.5%
2020-2021	18.4%	27.9%
2021-2022	15.9%	27.4%
CAGR 2022-2027	41.3%	334.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Saudi Arabia

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Saudi Arabia will be \$19.33 million dollars in 2021 and the lease and rental payments for the market will be \$1.13 million dollars. The operating expenses for this market is expected to reach \$110.86 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	19,333.7
Operating Expenses (\$1,000)	110,862.2
Employer Costs for Fringe Benefits (\$1,000)	5,970.6
Contract Labor Costs including Temporary Help (\$1,000)	1,769.9
Cost of Health Insurance (\$1,000)	2,332.3
Taxes and License Fees (\$1,000)	571.2
Lease and Rental Payments (\$1,000)	1,129.8

Cost of Services Estimates

The cost of advertising for this market in Saudi Arabia will be \$0.42 million dollars in 2021 and the cost of professional services for the market will be \$0.97 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.48 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	217.7
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,482.2
Cost of Purchased Communication Services (\$1,000)	153.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	419.9
Cost of Purchased Professional & Technical Services (\$1,000)	965.7
Cost of Purchased Refuse & Waste Removal (\$1,000)	440.5

*2020-2021 Forecasts

Source: Barnes Reports

Singapore

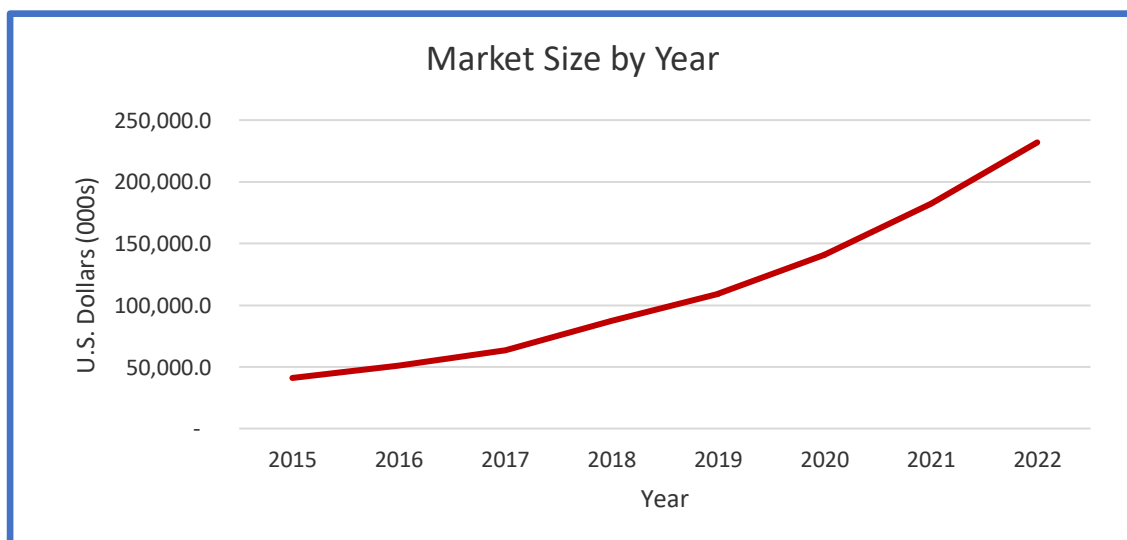
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Singapore is estimated to be \$182.4 million dollars in 2021 and is expected to change by 27.2 percent from 2021 to 2022. The market will be 269 million Dollars in 2021 and is forecast to change by 34.2 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dollars
2015	41,035.2	52,267.3
2016	51,023.1	68,613.0
2017	63,315.1	86,547.7
2018	87,291.1	117,738.3
2019	109,266.3	152,676.2
2020	140,812.7	200,493.3
2021	182,355.7	269,010.3
2022	231,930.2	360,942.5
2027	891,035.5	1,599,670.2
Y-to-Y Change	US Dollars	Dollars
2015-2016	24.3%	31.3%
2016-2017	24.1%	26.1%
2017-2018	37.9%	36.0%
2018-2019	25.2%	29.7%
2019-2020	28.9%	31.3%
2020-2021	29.5%	34.2%
2021-2022	27.2%	34.2%
CAGR 2022-2027	56.8%	343.2%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Singapore

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Singapore will be \$18.80 million dollars in 2021 and the lease and rental payments for the market will be \$1.10 million dollars. The operating expenses for this market is expected to reach \$107.82 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	18,803.3
Operating Expenses (\$1,000)	107,820.4
Employer Costs for Fringe Benefits (\$1,000)	5,806.7
Contract Labor Costs including Temporary Help (\$1,000)	1,721.4
Cost of Health Insurance (\$1,000)	2,268.3
Taxes and License Fees (\$1,000)	555.6
Lease and Rental Payments (\$1,000)	1,098.8

Cost of Services Estimates

The cost of advertising for this market in Singapore will be \$0.41 million dollars in 2021 and the cost of professional services for the market will be \$0.94 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.44 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	211.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,441.5
Cost of Purchased Communication Services (\$1,000)	149.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	408.4
Cost of Purchased Professional & Technical Services (\$1,000)	939.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	428.4

*2020-2021 Forecasts

Source: Barnes Reports

South Africa

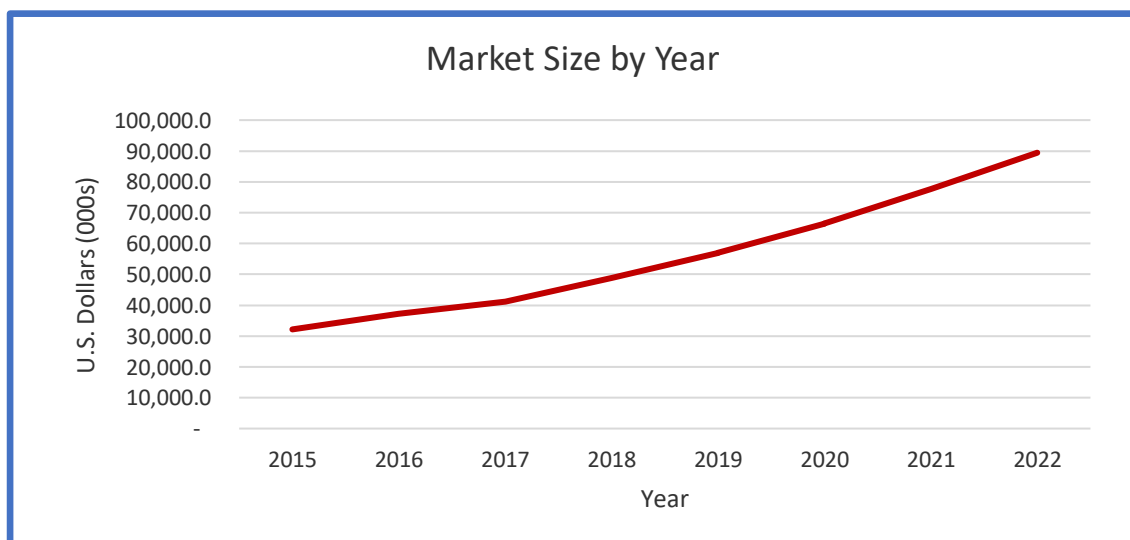
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in South Africa is estimated to be \$77.8 million dollars in 2021 and is expected to change by 15 percent from 2021 to 2022. The market will be 1274.4 million Rands in 2021 and is forecast to change by 25.5 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Rands
2015	32,152.0	356,652.8
2016	37,131.9	494,326.2
2017	41,206.6	548,579.9
2018	48,818.8	646,063.4
2019	56,997.6	826,346.6
2020	66,413.2	1,015,209.3
2021	77,763.2	1,274,352.2
2022	89,424.0	1,599,643.9
2027	207,587.9	5,080,890.5
Y-to-Y Change	US Dollars	Rands
2015-2016	15.5%	38.6%
2016-2017	11.0%	11.0%
2017-2018	18.5%	17.8%
2018-2019	16.8%	27.9%
2019-2020	16.5%	22.9%
2020-2021	17.1%	25.5%
2021-2022	15.0%	25.5%
CAGR 2022-2027	26.4%	217.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



South Africa

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in South Africa will be \$8.02 million dollars in 2021 and the lease and rental payments for the market will be \$0.47 million dollars. The operating expenses for this market is expected to reach \$45.98 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	8,018.4
Operating Expenses (\$1,000)	45,978.6
Employer Costs for Fringe Benefits (\$1,000)	2,476.2
Contract Labor Costs including Temporary Help (\$1,000)	734.1
Cost of Health Insurance (\$1,000)	967.3
Taxes and License Fees (\$1,000)	236.9
Lease and Rental Payments (\$1,000)	468.6

Cost of Services Estimates

The cost of advertising for this market in South Africa will be \$0.17 million dollars in 2021 and the cost of professional services for the market will be \$0.40 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.61 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	90.3
Cost of Purchased Repair and Maintenance Services (\$1,000)	614.7
Cost of Purchased Communication Services (\$1,000)	63.6
Cost of Purchased Advertising and Promotional Services (\$1,000)	174.1
Cost of Purchased Professional & Technical Services (\$1,000)	400.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	182.7

*2020-2021 Forecasts

Source: Barnes Reports

Spain

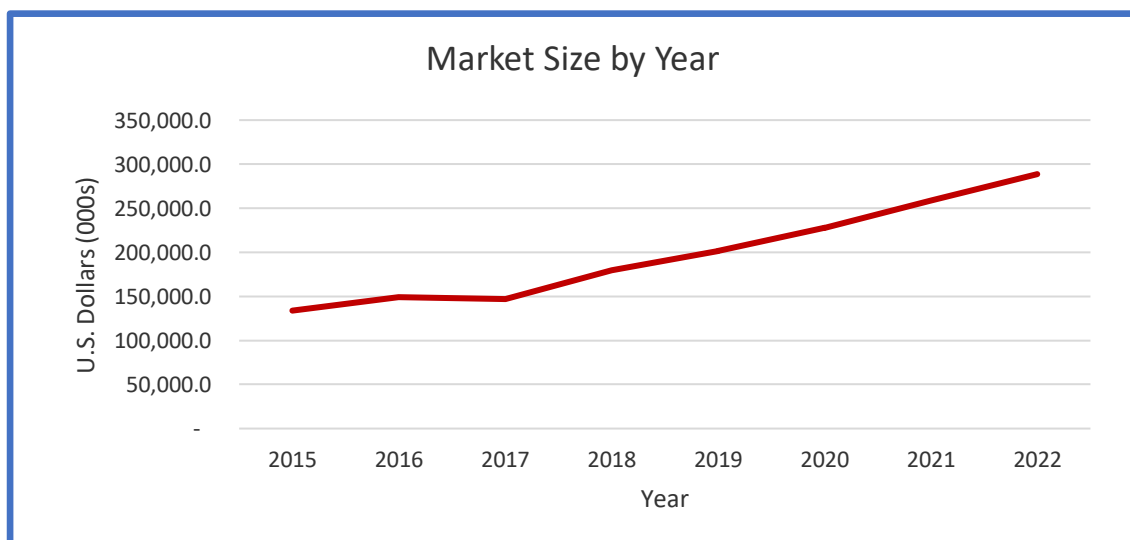
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Spain is estimated to be \$258.8 million dollars in 2021 and is expected to change by 11.6 percent from 2021 to 2022. The market will be 257.3 million Euros in 2021 and is forecast to change by 19.3 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Euros
2015	133,851.5	100,972.5
2016	148,941.7	135,322.9
2017	147,147.8	130,256.0
2018	179,832.7	152,277.4
2019	201,563.5	184,889.0
2020	227,832.3	215,794.0
2021	258,786.0	257,340.5
2022	288,686.5	306,886.0
2027	575,709.4	754,342.4
Y-to-Y Change	US Dollars	Euros
2015-2016	11.3%	34.0%
2016-2017	-1.2%	-3.7%
2017-2018	22.2%	16.9%
2018-2019	12.1%	21.4%
2019-2020	13.0%	16.7%
2020-2021	13.6%	19.3%
2021-2022	11.6%	19.3%
CAGR 2022-2027	19.9%	145.8%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Spain

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Spain will be \$26.68 million dollars in 2021 and the lease and rental payments for the market will be \$1.56 million dollars. The operating expenses for this market is expected to reach \$153.01 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	26,684.2
Operating Expenses (\$1,000)	153,010.8
Employer Costs for Fringe Benefits (\$1,000)	8,240.5
Contract Labor Costs including Temporary Help (\$1,000)	2,442.9
Cost of Health Insurance (\$1,000)	3,219.0
Taxes and License Fees (\$1,000)	788.4
Lease and Rental Payments (\$1,000)	1,559.4

Cost of Services Estimates

The cost of advertising for this market in Spain will be \$0.58 million dollars in 2021 and the cost of professional services for the market will be \$1.33 million dollars. The cost of repair and maintenance for this market is expected to reach \$2.05 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	300.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	2,045.7
Cost of Purchased Communication Services (\$1,000)	211.6
Cost of Purchased Advertising and Promotional Services (\$1,000)	579.5
Cost of Purchased Professional & Technical Services (\$1,000)	1,332.8
Cost of Purchased Refuse & Waste Removal (\$1,000)	608.0

*2020-2021 Forecasts

Source: Barnes Reports

Sweden

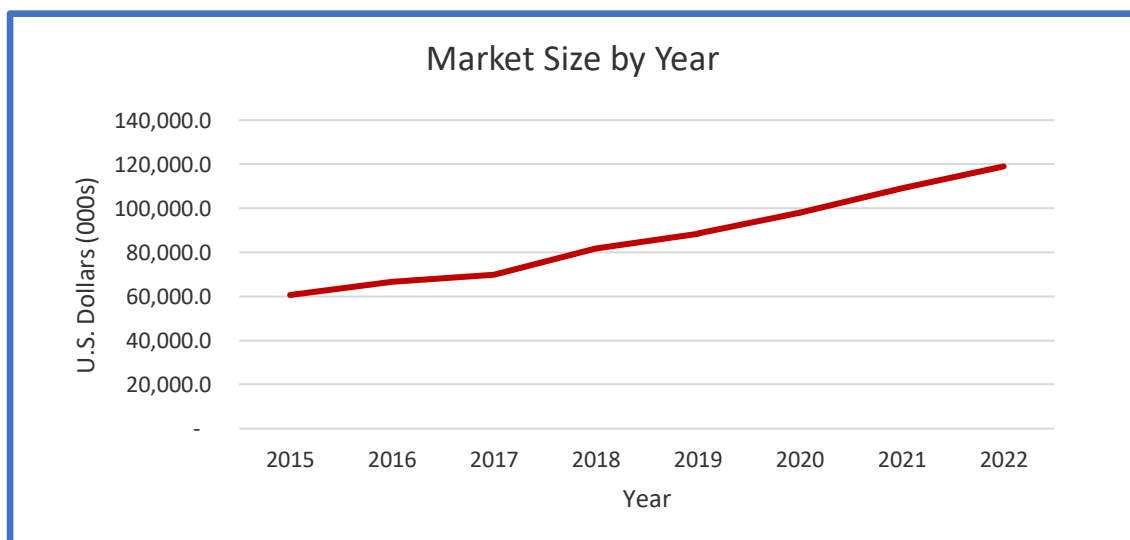
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Sweden is estimated to be \$109.0 million dollars in 2021 and is expected to change by 9.2 percent from 2021 to 2022. The market will be 1202.1 million Kronas in 2021 and is forecast to change by 20.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Kronas
2015	60,629.9	426,786.2
2016	66,672.7	573,862.8
2017	69,692.8	595,272.5
2018	81,622.8	709,507.7
2019	88,546.5	847,850.3
2020	97,983.8	998,747.1
2021	108,958.0	1,202,077.2
2022	118,993.8	1,446,802.4
2027	213,402.3	3,724,266.1
Y-to-Y Change	US Dollars	Kronas
2015-2016	10.0%	34.5%
2016-2017	4.5%	3.7%
2017-2018	17.1%	19.2%
2018-2019	8.5%	19.5%
2019-2020	10.7%	17.8%
2020-2021	11.2%	20.4%
2021-2022	9.2%	20.4%
CAGR 2022-2027	15.9%	157.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Sweden

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Sweden will be \$11.23 million dollars in 2021 and the lease and rental payments for the market will be \$0.66 million dollars. The operating expenses for this market is expected to reach \$64.42 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	11,235.0
Operating Expenses (\$1,000)	64,422.9
Employer Costs for Fringe Benefits (\$1,000)	3,469.5
Contract Labor Costs including Temporary Help (\$1,000)	1,028.5
Cost of Health Insurance (\$1,000)	1,355.3
Taxes and License Fees (\$1,000)	332.0
Lease and Rental Payments (\$1,000)	656.6

Cost of Services Estimates

The cost of advertising for this market in Sweden will be \$0.24 million dollars in 2021 and the cost of professional services for the market will be \$0.56 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.86 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	126.5
Cost of Purchased Repair and Maintenance Services (\$1,000)	861.3
Cost of Purchased Communication Services (\$1,000)	89.1
Cost of Purchased Advertising and Promotional Services (\$1,000)	244.0
Cost of Purchased Professional & Technical Services (\$1,000)	561.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	256.0

*2020-2021 Forecasts

Source: Barnes Reports

Switzerland

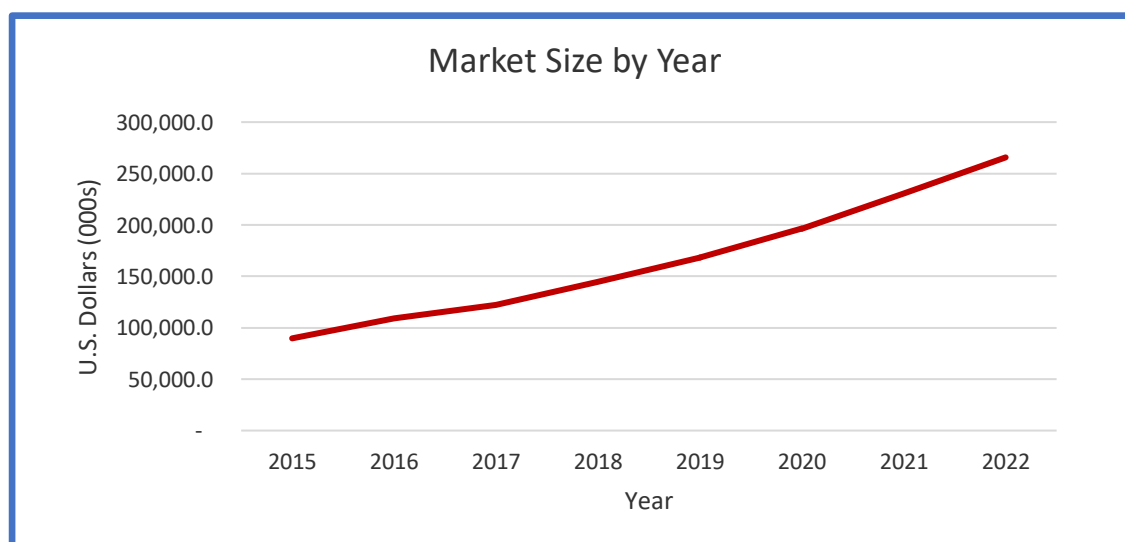
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Switzerland is estimated to be \$230.6 million dollars in 2021 and is expected to change by 15.2 percent from 2021 to 2022. The market will be 258.4 million Francs in 2021 and is forecast to change by 23.4 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Francs
2015	89,686.8	79,512.4
2016	109,269.3	103,134.9
2017	122,006.0	120,138.4
2018	144,694.7	141,494.5
2019	168,309.6	173,457.5
2020	196,515.3	209,456.6
2021	230,571.7	258,425.6
2022	265,690.4	318,843.1
2027	623,122.4	929,033.7
Y-to-Y Change	US Dollars	Francs
2015-2016	21.8%	29.7%
2016-2017	11.7%	16.5%
2017-2018	18.6%	17.8%
2018-2019	16.3%	22.6%
2019-2020	16.8%	20.8%
2020-2021	17.3%	23.4%
2021-2022	15.2%	23.4%
CAGR 2022-2027	26.9%	191.4%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Switzerland

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Switzerland will be \$23.77 million dollars in 2021 and the lease and rental payments for the market will be \$1.39 million dollars. The operating expenses for this market is expected to reach \$136.33 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	23,775.0
Operating Expenses (\$1,000)	136,328.7
Employer Costs for Fringe Benefits (\$1,000)	7,342.1
Contract Labor Costs including Temporary Help (\$1,000)	2,176.5
Cost of Health Insurance (\$1,000)	2,868.0
Taxes and License Fees (\$1,000)	702.5
Lease and Rental Payments (\$1,000)	1,389.4

Cost of Services Estimates

The cost of advertising for this market in Switzerland will be \$0.52 million dollars in 2021 and the cost of professional services for the market will be \$1.19 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.82 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	267.8
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,822.6
Cost of Purchased Communication Services (\$1,000)	188.6
Cost of Purchased Advertising and Promotional Services (\$1,000)	516.3
Cost of Purchased Professional & Technical Services (\$1,000)	1,187.5
Cost of Purchased Refuse & Waste Removal (\$1,000)	541.7

*2020-2021 Forecasts

Source: Barnes Reports

Thailand

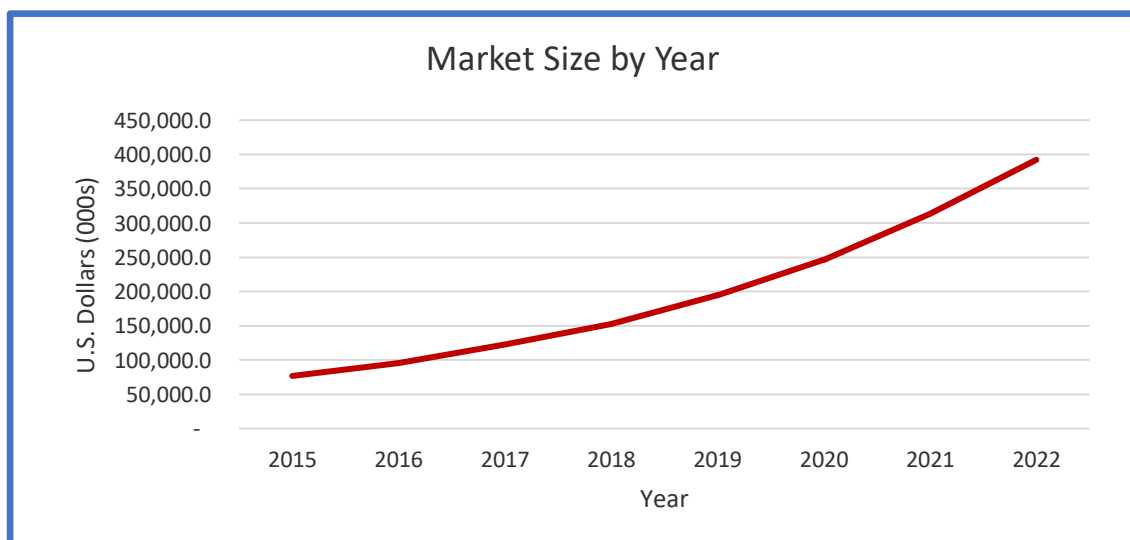
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Thailand is estimated to be \$313.6 million dollars in 2021 and is expected to change by 25 percent from 2021 to 2022. The market will be 10462.4 million Bahts in 2021 and is forecast to change by 29 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Bahts
2015	76,797.4	2,484,192.0
2016	95,916.8	3,358,231.1
2017	122,347.1	4,143,159.5
2018	152,713.2	4,934,192.9
2019	194,402.9	6,426,761.4
2020	246,291.7	8,112,259.7
2021	313,558.8	10,462,417.1
2022	392,056.4	13,493,425.4
2027	1,383,070.8	49,070,483.8
Y-to-Y Change	US Dollars	Bahts
2015-2016	24.9%	35.2%
2016-2017	27.6%	23.4%
2017-2018	24.8%	19.1%
2018-2019	27.3%	30.2%
2019-2020	26.7%	26.2%
2020-2021	27.3%	29.0%
2021-2022	25.0%	29.0%
CAGR 2022-2027	50.6%	263.7%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Thailand

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Thailand will be \$32.33 million dollars in 2021 and the lease and rental payments for the market will be \$1.89 million dollars. The operating expenses for this market is expected to reach \$185.40 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	32,332.0
Operating Expenses (\$1,000)	185,396.0
Employer Costs for Fringe Benefits (\$1,000)	9,984.6
Contract Labor Costs including Temporary Help (\$1,000)	2,959.9
Cost of Health Insurance (\$1,000)	3,900.3
Taxes and License Fees (\$1,000)	955.3
Lease and Rental Payments (\$1,000)	1,889.4

Cost of Services Estimates

The cost of advertising for this market in Thailand will be \$0.70 million dollars in 2021 and the cost of professional services for the market will be \$1.61 million dollars. The cost of repair and maintenance for this market is expected to reach \$2.48 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	364.1
Cost of Purchased Repair and Maintenance Services (\$1,000)	2,478.6
Cost of Purchased Communication Services (\$1,000)	256.4
Cost of Purchased Advertising and Promotional Services (\$1,000)	702.2
Cost of Purchased Professional & Technical Services (\$1,000)	1,614.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	736.7

*2020-2021 Forecasts

Source: Barnes Reports

Turkey

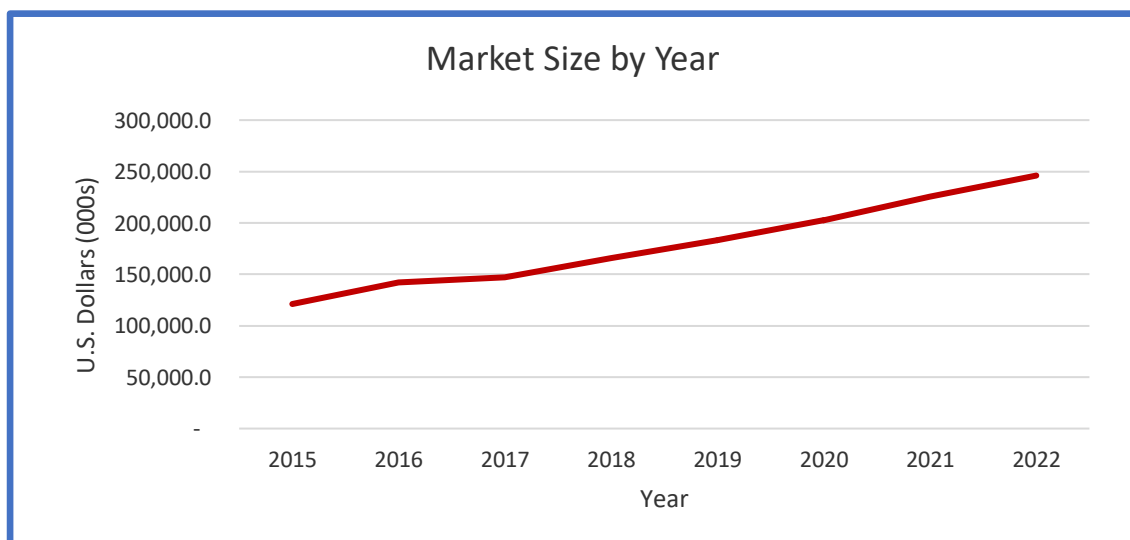
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Turkey is estimated to be \$225.4 million dollars in 2021 and is expected to change by 9.2 percent from 2021 to 2022. The market will be 2000.4 million Liras in 2021 and is forecast to change by 38.1 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Liras
2015	121,141.1	291,671.5
2016	141,893.4	418,845.7
2017	147,205.5	537,020.3
2018	165,669.4	799,918.3
2019	183,240.1	1,089,070.4
2020	202,721.5	1,448,177.7
2021	225,372.6	2,000,440.0
2022	246,072.4	2,783,437.9
2027	440,777.8	15,727,982.9
Y-to-Y Change	US Dollars	Liras
2015-2016	17.1%	43.6%
2016-2017	3.7%	28.2%
2017-2018	12.5%	49.0%
2018-2019	10.6%	36.1%
2019-2020	10.6%	33.0%
2020-2021	11.2%	38.1%
2021-2022	9.2%	39.1%
CAGR 2022-2027	15.8%	465.1%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Turkey

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Turkey will be \$23.24 million dollars in 2021 and the lease and rental payments for the market will be \$1.36 million dollars. The operating expenses for this market is expected to reach \$133.25 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	23,238.9
Operating Expenses (\$1,000)	133,254.7
Employer Costs for Fringe Benefits (\$1,000)	7,176.5
Contract Labor Costs including Temporary Help (\$1,000)	2,127.5
Cost of Health Insurance (\$1,000)	2,803.4
Taxes and License Fees (\$1,000)	686.6
Lease and Rental Payments (\$1,000)	1,358.0

Cost of Services Estimates

The cost of advertising for this market in Turkey will be \$0.50 million dollars in 2021 and the cost of professional services for the market will be \$1.16 million dollars. The cost of repair and maintenance for this market is expected to reach \$1.78 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	261.7
Cost of Purchased Repair and Maintenance Services (\$1,000)	1,781.5
Cost of Purchased Communication Services (\$1,000)	184.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	504.7
Cost of Purchased Professional & Technical Services (\$1,000)	1,160.7
Cost of Purchased Refuse & Waste Removal (\$1,000)	529.5

*2020-2021 Forecasts

Source: Barnes Reports

United Arab Emirates

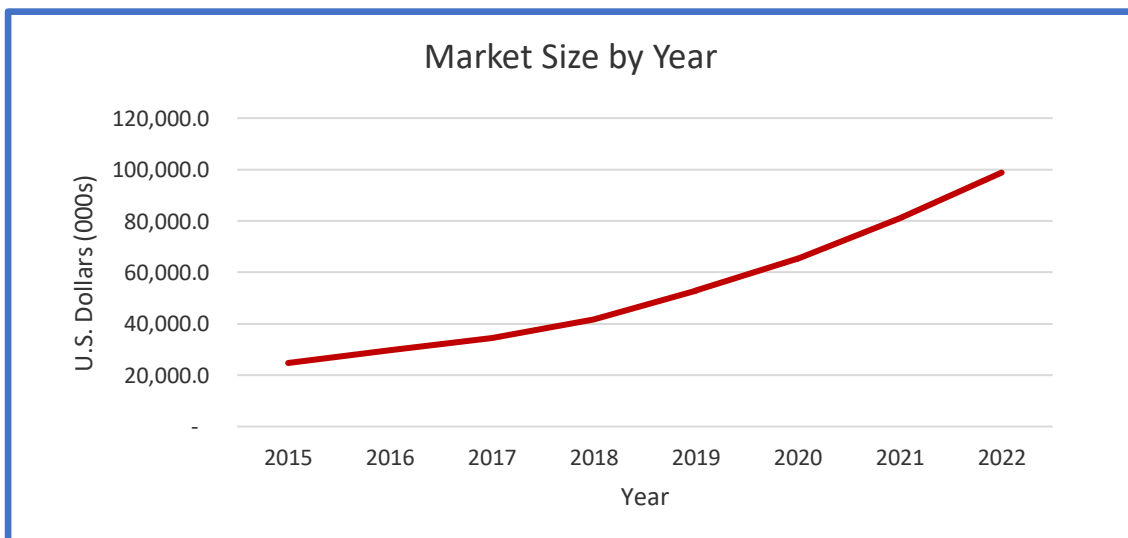
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in United Arab Emirates is estimated to be \$81.1 million dollars in 2021 and is expected to change by 21.9 percent from 2021 to 2022. The market will be 358.9 million Dirhams in 2021 and is forecast to change by 32.7 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dirhams
2015	24,738.5	77,571.3
2016	29,686.4	103,346.2
2017	34,329.8	123,491.6
2018	41,580.7	152,705.0
2019	52,929.8	208,200.5
2020	65,352.8	270,432.3
2021	81,086.8	358,902.2
2022	98,808.9	476,314.2
2027	306,461.2	1,998,609.4
Y-to-Y Change	US Dollars	Dirhams
2015-2016	20.0%	33.2%
2016-2017	15.6%	19.5%
2017-2018	21.1%	23.7%
2018-2019	27.3%	36.3%
2019-2020	23.5%	29.9%
2020-2021	24.1%	32.7%
2021-2022	21.9%	32.7%
CAGR 2022-2027	42.0%	319.6%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



United Arab Emirates

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in United Arab Emirates will be \$8.36 million dollars in 2021 and the lease and rental payments for the market will be \$0.49 million dollars. The operating expenses for this market is expected to reach \$47.94 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	8,361.1
Operating Expenses (\$1,000)	47,943.7
Employer Costs for Fringe Benefits (\$1,000)	2,582.0
Contract Labor Costs including Temporary Help (\$1,000)	765.4
Cost of Health Insurance (\$1,000)	1,008.6
Taxes and License Fees (\$1,000)	247.0
Lease and Rental Payments (\$1,000)	488.6

Cost of Services Estimates

The cost of advertising for this market in United Arab Emirates will be \$0.18 million dollars in 2021 and the cost of professional services for the market will be \$0.42 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.64 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	94.2
Cost of Purchased Repair and Maintenance Services (\$1,000)	641.0
Cost of Purchased Communication Services (\$1,000)	66.3
Cost of Purchased Advertising and Promotional Services (\$1,000)	181.6
Cost of Purchased Professional & Technical Services (\$1,000)	417.6
Cost of Purchased Refuse & Waste Removal (\$1,000)	190.5

*2020-2021 Forecasts

Source: Barnes Reports

United Kingdom

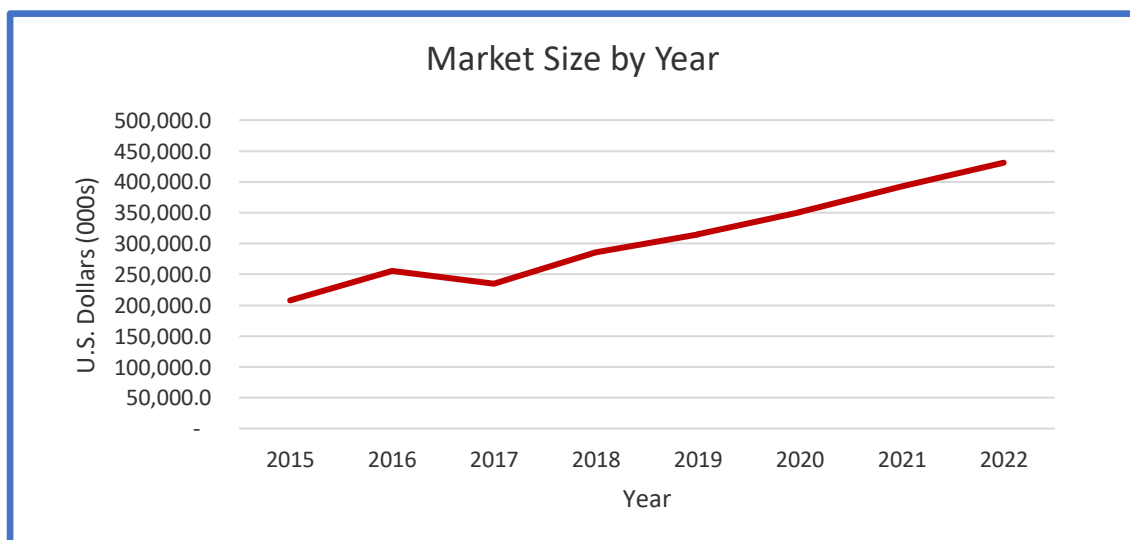
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in United Kingdom is estimated to be \$392.3 million dollars in 2021 and is expected to change by 9.9 percent from 2021 to 2022. The market will be 400.8 million Pounds in 2021 and is forecast to change by 23.5 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Pounds
2015	207,779.6	124,860.0
2016	255,748.2	169,301.7
2017	234,987.7	182,586.1
2018	285,141.8	213,737.1
2019	314,990.9	268,483.7
2020	350,657.8	324,534.1
2021	392,275.5	400,814.3
2022	430,982.1	495,023.8
2027	796,429.4	1,449,732.6
Y-to-Y Change	US Dollars	Pounds
2015-2016	23.1%	35.6%
2016-2017	-8.1%	7.8%
2017-2018	21.3%	17.1%
2018-2019	10.5%	25.6%
2019-2020	11.3%	20.9%
2020-2021	11.9%	23.5%
2021-2022	9.9%	23.5%
CAGR 2022-2027	17.0%	192.9%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



United Kingdom

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in United Kingdom will be \$40.45 million dollars in 2021 and the lease and rental payments for the market will be \$2.36 million dollars. The operating expenses for this market is expected to reach \$231.94 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	40,448.7
Operating Expenses (\$1,000)	231,938.4
Employer Costs for Fringe Benefits (\$1,000)	12,491.2
Contract Labor Costs including Temporary Help (\$1,000)	3,703.0
Cost of Health Insurance (\$1,000)	4,879.4
Taxes and License Fees (\$1,000)	1,195.1
Lease and Rental Payments (\$1,000)	2,363.7

Cost of Services Estimates

The cost of advertising for this market in United Kingdom will be \$0.88 million dollars in 2021 and the cost of professional services for the market will be \$2.02 million dollars. The cost of repair and maintenance for this market is expected to reach \$3.10 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	455.6
Cost of Purchased Repair and Maintenance Services (\$1,000)	3,100.9
Cost of Purchased Communication Services (\$1,000)	320.8
Cost of Purchased Advertising and Promotional Services (\$1,000)	878.5
Cost of Purchased Professional & Technical Services (\$1,000)	2,020.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	921.6

*2020-2021 Forecasts

Source: Barnes Reports

United States

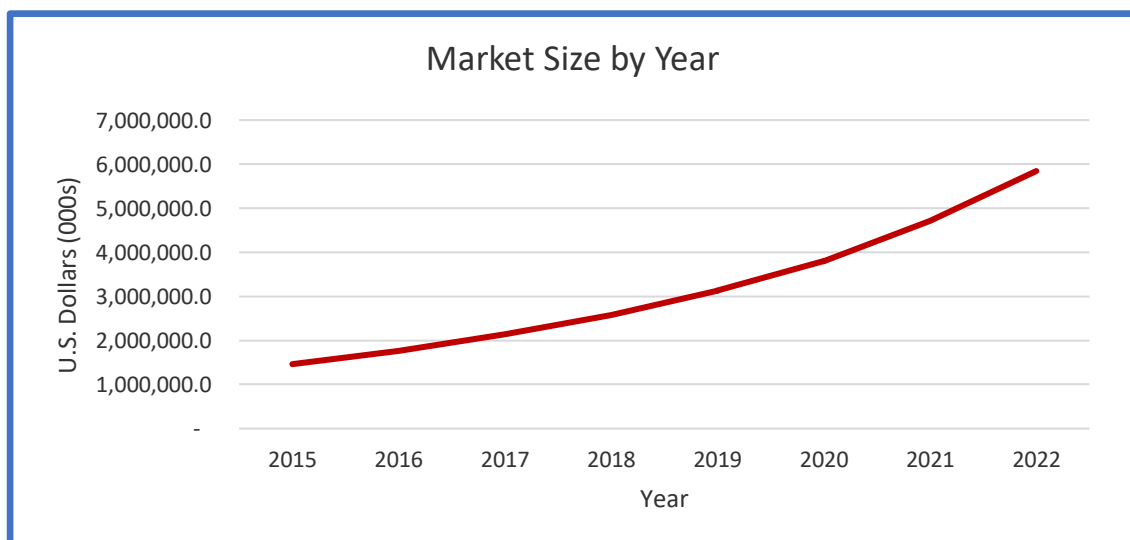
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in United States is estimated to be \$4,713.6 million dollars in 2021 and is expected to change by 24 percent from 2021 to 2022. The market will be 4713.6 million Dollars in 2021 and is forecast to change by 24 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dollars
2015	1,462,213.6	1,462,213.6
2016	1,765,987.7	1,765,987.7
2017	2,132,970.3	2,132,970.3
2018	2,581,980.2	2,581,980.2
2019	3,132,757.3	3,132,757.3
2020	3,801,625.9	3,801,625.9
2021	4,713,597.8	4,713,597.8
2022	5,844,342.6	5,844,342.6
2027	17,454,146.3	17,454,146.3
Y-to-Y Change	US Dollars	Dollars
2015-2016	20.8%	20.8%
2016-2017	20.8%	20.8%
2017-2018	21.1%	21.1%
2018-2019	21.3%	21.3%
2019-2020	21.4%	21.4%
2020-2021	24.0%	24.0%
2021-2022	24.0%	24.0%
CAGR 2022-2027	39.7%	198.7%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



United States

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in United States will be \$486.03 million dollars in 2021 and the lease and rental payments for the market will be \$28.40 million dollars. The operating expenses for this market is expected to reach \$2,786.98 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	486,033.5
Operating Expenses (\$1,000)	2,786,980.5
Employer Costs for Fringe Benefits (\$1,000)	150,094.6
Contract Labor Costs including Temporary Help (\$1,000)	44,495.0
Cost of Health Insurance (\$1,000)	58,631.4
Taxes and License Fees (\$1,000)	14,360.6
Lease and Rental Payments (\$1,000)	28,402.8

Cost of Services Estimates

The cost of advertising for this market in United States will be \$10.56 million dollars in 2021 and the cost of professional services for the market will be \$24.28 million dollars. The cost of repair and maintenance for this market is expected to reach \$37.26 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	5,474.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	37,260.3
Cost of Purchased Communication Services (\$1,000)	3,854.6
Cost of Purchased Advertising and Promotional Services (\$1,000)	10,555.6
Cost of Purchased Professional & Technical Services (\$1,000)	24,276.2
Cost of Purchased Refuse & Waste Removal (\$1,000)	11,074.1

*2020-2021 Forecasts

Source: Barnes Reports

Venezuela

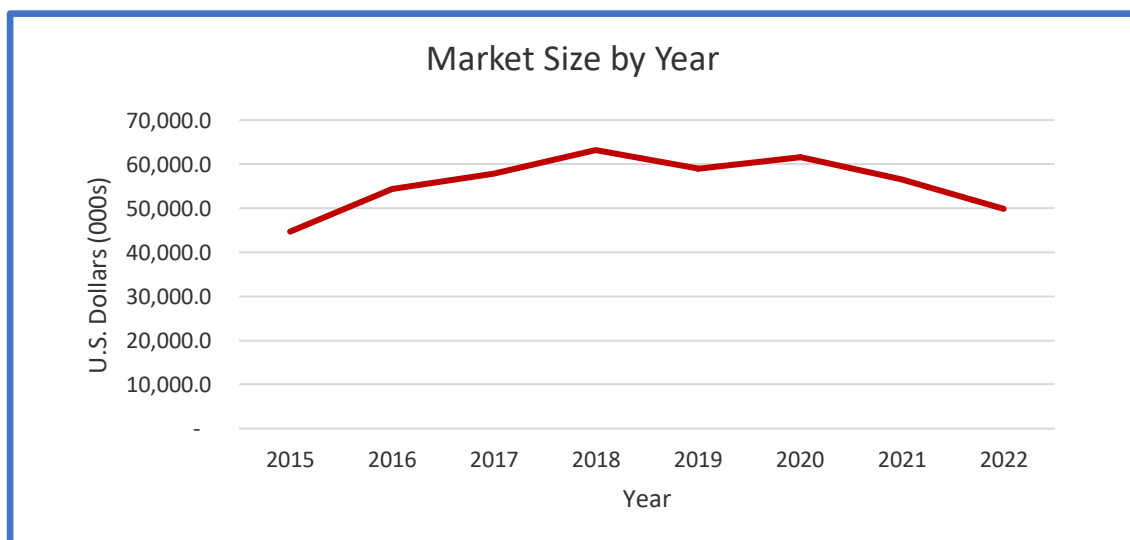
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Venezuela is estimated to be \$56.5 million dollars in 2021 and is expected to change by -11.6 percent from 2021 to 2022. The market will be 704.4 million Bolivars in 2021 and is forecast to change by 13.6 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Bolivars
2015	44,698.8	270,151.8
2016	54,412.9	350,202.9
2017	57,898.5	415,247.9
2018	63,197.4	477,107.1
2019	58,964.8	565,363.9
2020	61,566.2	620,102.2
2021	56,489.0	704,358.6
2022	49,916.3	803,103.1
2027	53,743.7	2,128,561.4
Y-to-Y Change	US Dollars	Bolivars
2015-2016	21.7%	29.6%
2016-2017	6.4%	18.6%
2017-2018	9.2%	14.9%
2018-2019	-6.7%	18.5%
2019-2020	4.4%	9.7%
2020-2021	-8.2%	13.6%
2021-2022	-11.6%	14.0%
CAGR 2022-2027	1.5%	165.0%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Venezuela

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Venezuela will be \$5.82 million dollars in 2021 and the lease and rental payments for the market will be \$0.34 million dollars. The operating expenses for this market is expected to reach \$33.40 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	5,824.8
Operating Expenses (\$1,000)	33,399.9
Employer Costs for Fringe Benefits (\$1,000)	1,798.8
Contract Labor Costs including Temporary Help (\$1,000)	533.2
Cost of Health Insurance (\$1,000)	702.7
Taxes and License Fees (\$1,000)	172.1
Lease and Rental Payments (\$1,000)	340.4

Cost of Services Estimates

The cost of advertising for this market in Venezuela will be \$0.13 million dollars in 2021 and the cost of professional services for the market will be \$0.29 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.45 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	65.6
Cost of Purchased Repair and Maintenance Services (\$1,000)	446.5
Cost of Purchased Communication Services (\$1,000)	46.2
Cost of Purchased Advertising and Promotional Services (\$1,000)	126.5
Cost of Purchased Professional & Technical Services (\$1,000)	290.9
Cost of Purchased Refuse & Waste Removal (\$1,000)	132.7

*2020-2021 Forecasts

Source: Barnes Reports

Vietnam

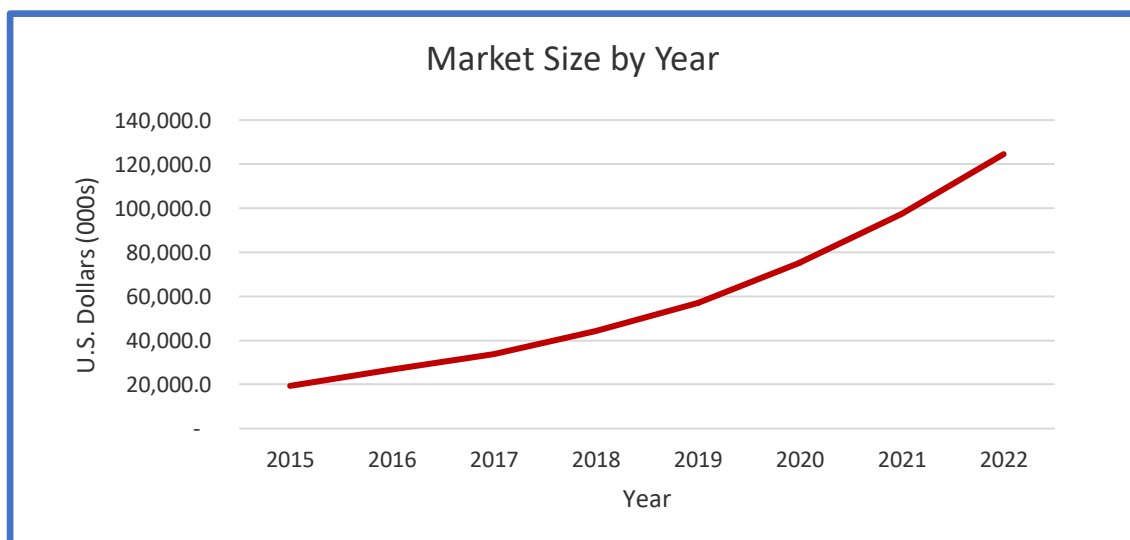
Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

The market for this equipment in Vietnam is estimated to be \$97.3 million dollars in 2021 and is expected to change by 27.9 percent from 2021 to 2022. The market will be 2508648.5 million Dongs in 2021 and is forecast to change by 37 percent from 2021 to 2022.

Market Sales (000s)		
Year	US Dollars	Dongs
2015	19,380.1	419,699,412.5
2016	26,851.0	608,734,841.0
2017	33,672.0	753,246,170.0
2018	44,232.3	999,741,475.5
2019	56,996.8	1,365,810,969.9
2020	75,265.1	1,831,238,660.9
2021	97,343.5	2,508,648,495.1
2022	124,546.9	3,436,645,046.1
2027	524,051.4	16,898,813,664.1
Y-to-Y Change	US Dollars	Dongs
2015-2016	38.5%	45.0%
2016-2017	25.4%	23.7%
2017-2018	31.4%	32.7%
2018-2019	28.9%	36.6%
2019-2020	32.1%	34.1%
2020-2021	29.3%	37.0%
2021-2022	27.9%	37.0%
CAGR 2022-2027	64.2%	391.7%

Source: Barnes Reports

*2020-2021 Forecasts; 2022-2027 Projections



Vietnam

Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Operating Costs Estimates

The annual payroll for this market in Vietnam will be \$10.04 million dollars in 2021 and the lease and rental payments for the market will be \$0.59 million dollars. The operating expenses for this market is expected to reach \$57.56 million dollars in 2021.

2021 Operating Costs	US Dollars (000s)
Annual Payroll (\$1,000)	10,037.4
Operating Expenses (\$1,000)	57,555.7
Employer Costs for Fringe Benefits (\$1,000)	3,099.7
Contract Labor Costs including Temporary Help (\$1,000)	918.9
Cost of Health Insurance (\$1,000)	1,210.8
Taxes and License Fees (\$1,000)	296.6
Lease and Rental Payments (\$1,000)	586.6

Cost of Services Estimates

The cost of advertising for this market in Vietnam will be \$0.22 million dollars in 2021 and the cost of professional services for the market will be \$0.50 million dollars. The cost of repair and maintenance for this market is expected to reach \$0.77 million dollars in 2021.

2021 Cost of Services	US Dollars (000s)
Cost of Purchased Computer Hardware & Software (\$1,000)	113.0
Cost of Purchased Repair and Maintenance Services (\$1,000)	769.5
Cost of Purchased Communication Services (\$1,000)	79.6
Cost of Purchased Advertising and Promotional Services (\$1,000)	218.0
Cost of Purchased Professional & Technical Services (\$1,000)	501.3
Cost of Purchased Refuse & Waste Removal (\$1,000)	228.7

*2020-2021 Forecasts

Source: Barnes Reports

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Product/Service Type: Extreme Ultraviolet Lithography (EUVL)

Number of Establishments

General Definition

An establishment is a single physical location at which business is conducted and/or services are provided. It is not necessarily identical with a company or enterprise, which may consist of one establishment or more. Economic census figures represent a summary of reports for individual establishments rather than companies. For cases where a census report was received, separate information was obtained for each location where business was conducted. When administrative records of other Federal agencies were used instead of a census report, no information was available on the number of locations operated. Each economic census establishment was tabulated according to the physical location at which the business was conducted.

When two activities or more were carried on at a single location under a single ownership, all activities generally were grouped together as a single establishment. The entire establishment was classified on the basis of its major activity and all data for it were included in that classification. However, when distinct and separate economic activities (for which different industry classification codes were appropriate) were conducted at a single location under a single ownership, separate establishment reports for each of the different activities were obtained in the census.

Sector-Specific Information

Construction sector. Establishments are defined as a relatively permanent office or other place of business where the usual business activities related to construction are conducted. Establishments do not represent each project or construction site. Includes all establishments that were in business at any time during the year. It covers all full-year and part-year operations. Construction establishments which were inactive or idle for the entire year were not included. Establishments are based on a survey which included all large employers and a sample of the smaller ones.

Information; Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors. An establishment is included in the census if it is an employer, the establishment has \$1,000 in payroll, and was in operation at any time during 1997. Leased service departments (separately owned businesses operated as departments or concessions of other service establishments or of retail businesses, such as a separately owned shoeshine parlor in a barber shop, or a beauty shop in a department store) are treated as separate service establishments for census purposes. Leased retail departments located in service establishments (e.g., a gift shop located in a hotel) are considered separate retail establishments.

Manufacturing sector. Includes all manufacturing establishments (plants) with one employee or more and establishments in operation at any time during the year.

Mining sector. Includes all mineral establishments with one employee or more and establishments in operation at any time during the year. Establishments in the crude petroleum and natural gas and support activities for mining represent statewide operations rather than those at a single physical location.

Real Estate and Rental and Leasing sector. Data for individual properties leased or managed by property lessors or property managers are not normally considered separate establishments, but rather the permanent offices from which the properties are leased or managed are considered establishments. Data for separate automotive rental offices or concessions (e.g., airport locations) in the same metropolitan area for which a common fleet of cars is maintained are merged together and not considered as separate establishments.

Retail Trade sector. Leased departments are treated as separate establishments and are classified according to the kind of business they conduct. For example, a leased department selling shoes within a department store would be considered a separate retail establishment under the "shoe stores" classification.

Accommodation and Foodservices sector. Leased departments are treated as separate establishments and are classified according to the kind of business they conduct. For example, a leased department selling gifts/souvenirs within a hotel would be considered a separate retail establishment under the "gift, novelty, and souvenir stores" classification.

Auxiliaries sector. In the Standard Industrial Classification (SIC) system, auxiliary establishments (i.e., those establishments primarily serving other establishments of the same enterprise) were classified in

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industry of the establishments served. In the North American Industry Classification System (NAICS), auxiliary establishments are classified according to the services performed rather than the industry served.

Sales, Shipments, Receipts, Revenue, or Business Done

General Definition

Includes the total sales, shipments, receipts, revenue, or business done by establishments within the scope of the economic census. The definition of each of these items is included in the information provided below.

Sector-Specific Information

Construction sector - Includes the value of construction work and other business receipts for work done by establishments during the year. Included is new construction, additions and alterations or reconstruction, and maintenance and repair construction work. Also included is the value of any construction work done by the reporting establishments for themselves.

Speculative builders were instructed to include the value of buildings and other structures built or being built for sale in the current year but not sold. They were to include the costs of such construction plus normal profit. Also included is the cost of construction work done on buildings for rent or lease.

Establishments engaged in the sale and installation of such construction components as plumbing, heating, and central air-conditioning supplies and equipment; lumber and building materials; paint, glass, and wallpaper; electrical and wiring supplies; and elevators or escalators were instructed to include both the value for the installation and the receipts covering the price of the items installed.

Excluded was the cost of industrial and other specialized machinery and equipment, which are not an integral part of a structure.

Finance and Insurance sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees from all sources, rents, net investment income, interest, dividends, royalties, and net insurance premiums earned. Revenue from leasing property marketed under operating leases is included, as well as interest earned from property marketed in the census year under capital, finance, or full payout leases. Revenue also includes the total value of service contracts and amounts received for work subcontracted to others.

Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.

Information sector - Includes receipts from customers or clients for services rendered, from the use of facilities, and from merchandise sold, whether or not payment was received. Receipts include royalties, license fees, and other payments from the marketing of intangible products (e.g., licensing the use of or granting reproduction rights for software, musical compositions, and other intellectual property). Receipts also include the rental and leasing of vehicles, equipment, instruments, tools, etc.; total value of service contracts; market value of compensation received in lieu of cash; amounts received for work subcontracted to others; dues and assessments for members and affiliates; this establishment's share of receipts from departments, concessions, and vending and amusement machines operated by others. Receipts from services provided to foreign customers from U.S. locations, including services performed for foreign parent firms, subsidiaries, and branches are included. For public broadcast stations and libraries, include receipts from contributions, gifts, grants, and income from interest, rental of real estate, and dividends.

Receipts DO NOT include sales and other taxes collected directly from customers or clients and paid directly to a local, state, or Federal tax agency. Also excluded are gross receipts collected on behalf of others; gross receipts or departments or concessions operated by others; sales of used equipment previously rented or leased to customers; proceeds from the sale of real estate (land and buildings), investments, or other assets (except inventory held for resale); contributions, gifts, grants, and income from interest, rental of real estate, and dividends EXCEPT for public broadcast stations and libraries; domestic intracompany transfers; receipts of foreign subsidiaries; and other nonoperating income.

Management of Companies and Enterprises sector- For holding companies, revenue includes revenue of only the holding company establishment, including net investment income, interest, and dividends.

Manufacturing sector - Covers the received or receivable net selling values, f.o.b. plant (exclusive of freight and taxes), of all products shipped, both primary and secondary, as well as all miscellaneous receipts, such as receipts for contract work performed for others, installation and repair, sales of scrap, and sales of products bought and resold without further processing. Included are all items made by or for the establishments from materials owned by it, whether sold, transferred to other plants of the same company, or shipped on consignment. The net selling value of products made in one plant on a contract basis from materials owned by another was reported by the plant providing the materials.

In the case of multiunit companies, the manufacturer was requested to report the value of products

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transferred to other establishments of the same company at full economic or commercial value, including not only the direct cost of production but also a reasonable proportion of "all other costs" (including company overhead) and profit.

Mining sector - Includes the net selling values, f.o.b. mine or plant after discounts and allowances, excluding freight charges and excise taxes. Shipments includes all products physically shipped from the establishment during the year, including material withdrawn from stockpiles and products shipped on consignment, whether or not sold in the current year. Prepared material or concentrates includes preparation from ores mined at the same establishment, purchased, received from other operations of the same company, or received for milling on a custom or toll basis. For products transferred to other establishments of the same company or prepared on a custom basis, companies were requested to report the estimated value, not merely the cost of producing the items. Multiestablishment companies were asked to report value information for each establishment as if it were a separate economic unit. They were instructed to report the value of all products transferred to other plants of the company at their full economic value; to include, in addition to direct cost of production, a reasonable proportion of company overhead and profits. For all establishments classified in an industry, value of shipments and receipts includes (1) the value of all primary products of the industry; (2) the value of secondary products which are primary to other industries; (3) the receipts for contract work done for others, except custom milling; and (4) the value of products purchased and resold without further processing. Receipts for custom milling are not included to avoid duplication with the value of custom milled ores included in an industry's primary and secondary products. Some duplication exists in industry and industry group totals because of the inclusion of materials transferred from one establishment to another for mineral preparation or resale.

Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors - TAXABLE ESTABLISHMENTS: Includes receipts from customers or clients for services rendered, from the use of facilities, and from merchandise sold whether or not payment was received. For advertising agencies, travel industries, and other service establishments operating on a commission basis, receipts include commissions, fees, and other operating income, NOT gross billings and sales. Excise taxes on gasoline, liquor, tobacco, etc., which are paid by the manufacturer or wholesaler and passed on in the cost of goods purchased by the service establishment are also included. The establishments share of receipts from departments, concessions, and vending and amusement machines operated by others are included as part of receipts. Receipts also include the total value of service contracts, market value of compensation received in lieu of cash, amounts received for work subcontracted to others, and dues and assessments from members and affiliates. Receipts from services provided to foreign customers from U.S. locations, including services preformed for foreign parent firms, subsidiaries, and branches are included.

Receipts are net after deductions for refunds and allowances for merchandise returned by customers. Receipts DO NOT include sales, occupancy, admissions, or other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency, nor do they include income from such sources as contributions, gifts, and grants; dividends, interest, and investments; or sale or rental of real estate. Also excluded are receipts (gross) of departments and concessions which are operated by others; sales of used equipment rented or leased to customers; domestic intracompany transfers; receipts of foreign subsidiaries; and other nonoperating income, such as royalties, franchise fees, etc. Receipts DO NOT include service receipts of manufacturers, wholesalers, retail establishments, or other businesses whose primary activity is other than service. They do, however, include receipts other than from services rendered (e.g., sale of merchandise to individuals or other businesses) by establishments primarily engaged in performing services and classified in the service industries.

TAX EXEMPT ESTABLISHMENTS: Includes revenue from customers or clients for services rendered and merchandise, whether or not payment was received, and gross sales of merchandise, minus returns and allowances. Also included are income from interest, dividends, gross rents (including display space rentals and share of receipts from departments operated by other companies), gross contributions, gifts, grants (whether or not restricted for use in operations), royalties, dues and assessments from members and affiliates, commissions earned from the sale of merchandise owned by others (including commissions from vending machine operators), and gross receipts from fundraising activities. Receipts from taxable business activities of firms exempt from Federal income tax (unrelated business income) are also included in revenue. Revenue DOES NOT include sales, admissions, or other taxes collected by the organization from customers or clients and paid directly to a local, state, or Federal tax agency; income from the sale of real estate, investments, or other assets (except inventory held for resale); gross receipts of departments, concessions, etc., that are operated by others; and amounts transferred to operating funds from capital or reserve funds.

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Real Estate and Rental and Leasing sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees from all sources, rents, net investment income, interest, dividends, and royalties. Revenue from leasing property marketed under operating leases is included. Revenue also includes the total value of service contracts, amounts received for work subcontracted to others, and rents from real property sublet to others.

Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.

Retail Trade sector - Includes merchandise sold for cash or credit at retail and wholesale by establishments primarily engaged in retail trade; amounts received from customers for layaway purchases; receipts from rental of vehicles, equipment, instruments, tools, etc.; receipts for delivery, installation, maintenance, repair, alteration, storage, and other services; the total value of service contracts; and gasoline, liquor, tobacco, and other excise taxes which are paid by the manufacturer or wholesaler and passed on to the retailer.

Sales are net after deductions for refunds and allowances for merchandise returned by customers. Trade-in allowances are not deducted from sales. Sales do not include carrying or other credit charges; sales (or other) taxes collected from customers and forwarded to taxing authorities; gross sales and receipts of departments or concessions operated by other companies; and commissions or receipts from the sale of government lottery tickets.

Sales do not include retail sales made by manufacturers, wholesalers, service establishments, or other businesses whose primary activity is other than retail trade. They do include receipts other than from the sale of merchandise at retail, e.g., service receipts, sales to industrial users, and sales to other retailers, by establishments primarily engaged in retail trade.

Transportation and Warehousing sector - Includes revenue from all business activities whether or not payment was received in the census year, including commissions and fees for arranging the transportation of freight.

Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.

Utilities sector - Includes revenue from all business activities whether or not payment was received in the census year.

Revenue does not include sales and other taxes collected from customers and remitted directly by the firm to a local, state, or Federal tax agency.

Accommodation and Foodservices sector - Includes sales from customers for services rendered, from the use of facilities, and from merchandise sold. Also includes dues and assessments from members and affiliates.

Sales do not include carrying or other credit charges; sales (or other) taxes collected from customers and forwarded to taxing authorities; gross sales and receipts of departments or concessions operated by other companies; and commissions or receipts from the sale of government lottery tickets.

Excludes sales from civic and social organizations, amusement and recreation parks, theaters, and other recreation or entertainment facilities providing food and beverage services.

Number of Employees

General Definition

Paid employees consists of full-time and part-time employees, including salaried officers and executives of corporations. Included are employees on paid sick leave, paid holidays, and paid vacations; not included are proprietors and partners of unincorporated businesses. The definition of paid employees is the same as that used on IRS Form 941.

Sector-Specific Information

Construction and Manufacturing sectors. Comprises all full-time and part-time employees on the payrolls of establishments who worked or received pay for any part of the pay period including the 12th of March, May, August, and November, divided by 4.

Finance and Insurance sector. Includes all employees who were on the payroll during the pay period including March 12. Excludes independent (nonemployee) agents.

Information; Professional, Scientific, and Technical Services; Administrative and Support and Waste Management and Remediation Services; Educational Services; Health Care and Social Assistance; Arts, Entertainment, and Recreation; and Other Services (Except Public Administration) sectors - Includes all employees who were on the payroll during the pay period including March 12. Includes members of a professional service organization or association which operates under state professional corporation statutes and files a corporate Federal income tax return. Excludes employees of departments or concessions operated by other companies at the establishment.

Management of Companies and Enterprises sector. Includes all employees who were on the payroll during the pay period including March 12.

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Mining sector. Also included are employees working for miners paid on a per ton, car, or yard basis. Excluded are employees at the mine but on the payroll of another employer (such as employees of contractors) and employees at company stores, boardinghouses, bunkhouses, and recreational centers. Also excluded are members of the Armed Forces and pensioners carried on the active rolls but not working during the period. Includes all employees who were on the payroll during the pay period including March 12.

Real Estate and Rental and Leasing sector. Includes all employees who were on the payroll during the pay period including March 12. Excludes independent (nonemployee) agents.

Retail Trade and Accommodation and Foodservices sectors. Includes all employees on the payroll during the pay period including March 12. Excludes employees of departments or concessions operated by other companies at the establishment.

Transportation and Warehousing sector. Includes all employees who were on the payroll during the pay period including March 12.

Utilities sector. Includes all employees who were on the payroll during the pay period including March 12.