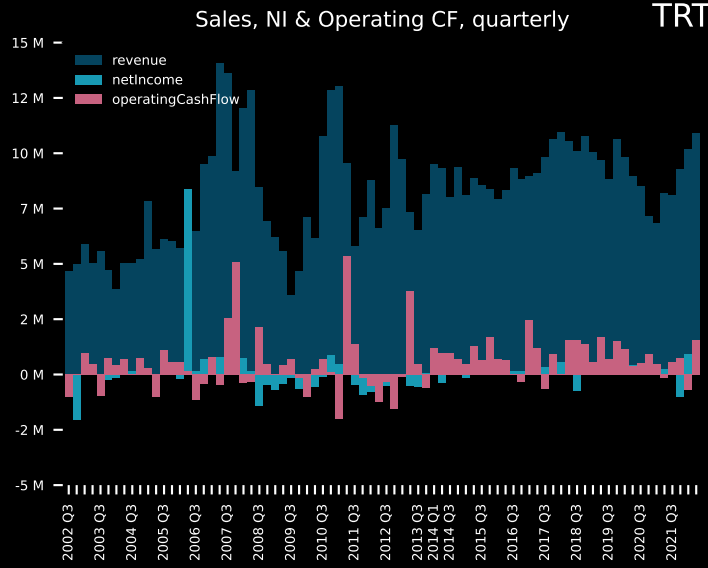
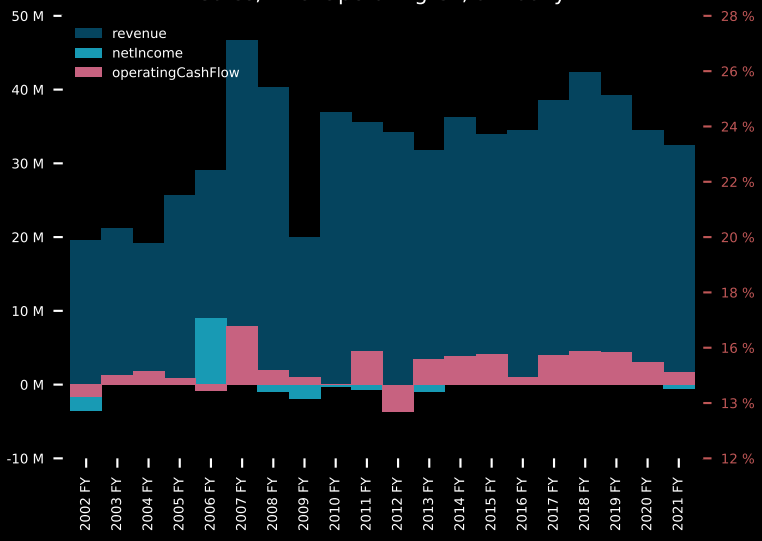
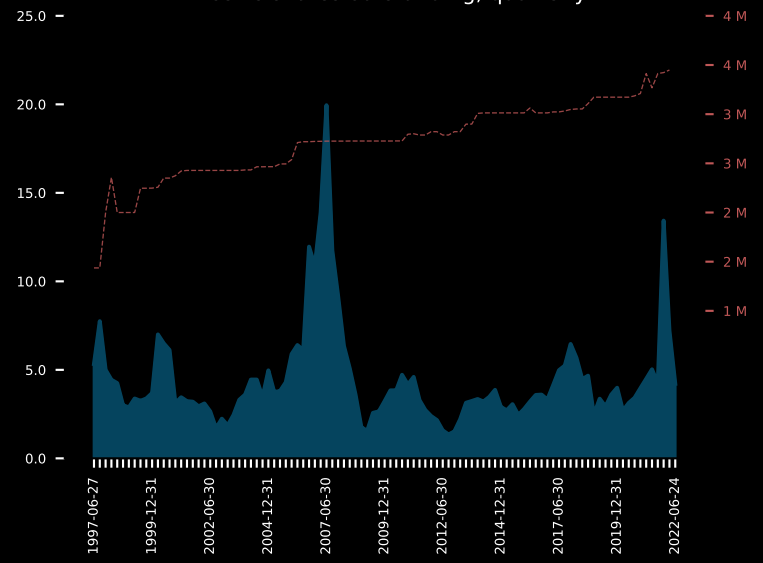
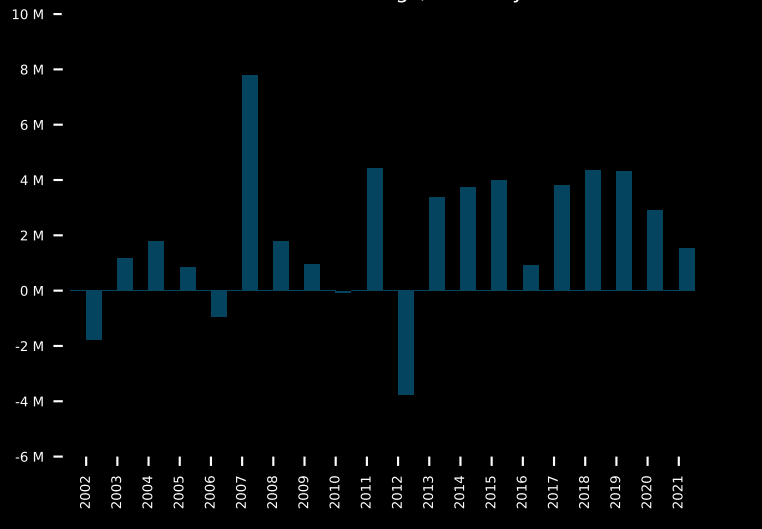
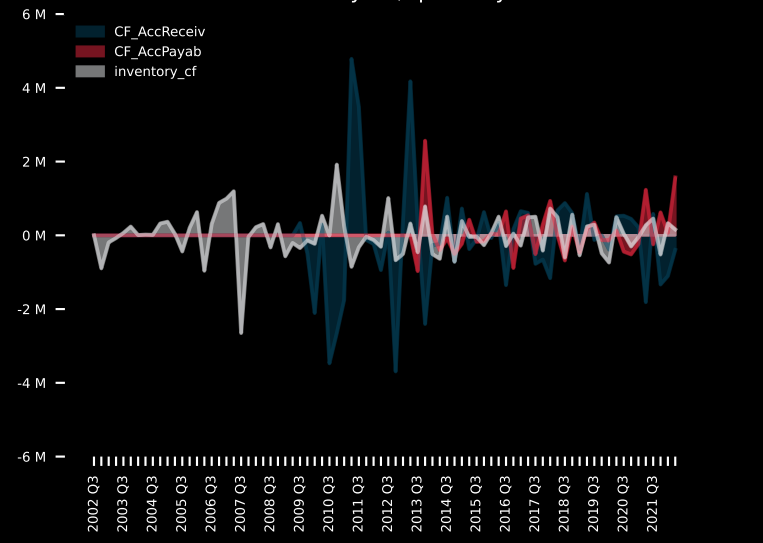
TRT / Semiconductor Equipment & Materials / US / 2022





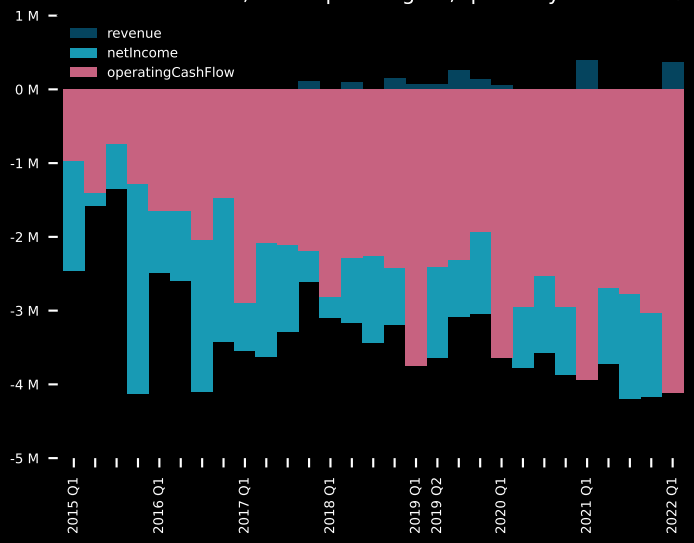


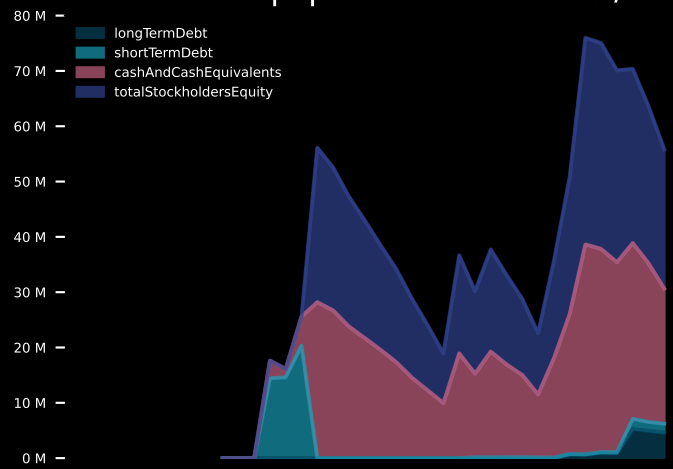


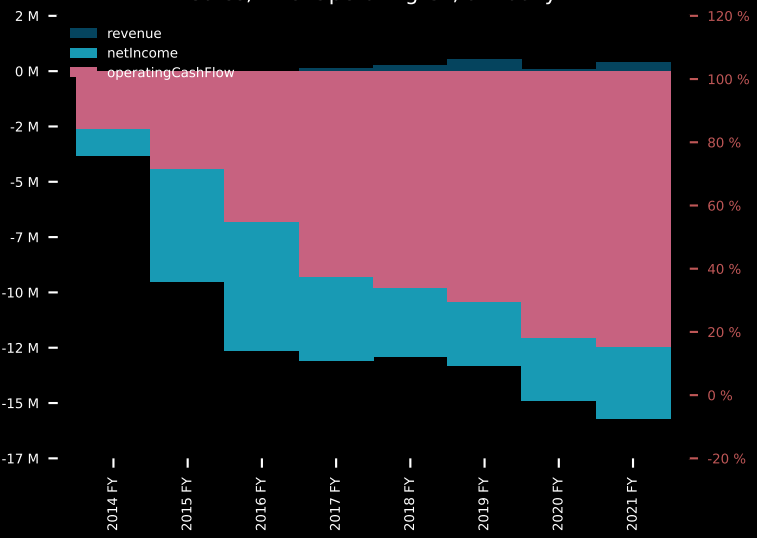


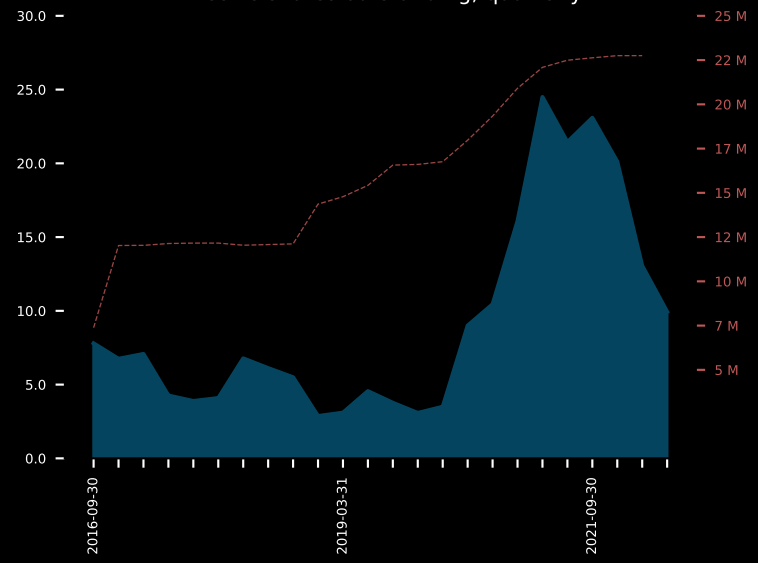
Trio-Tech International, together with its subsidiaries, provides manufacturing, testing, and distribution services to the semiconductor industry. The company's Testing Services segment offers stabilization bake, thermal shock, temperature cycling, mechanical shock, constant acceleration, gross and fine leak, electrical, static and dynamic burn-in, and vibration testing, as well as reliability lab and microprocessor equipment contract cleaning services. This segment also provides qualification testing services that test small samples of output from manufacturers for qualification of their processes and devices. Its Manufacturing segment manufactures front-end semiconductor test equipment, such as artic temperature-controlled wafer chucks used for test, characterization, and failure analysis of semiconductor wafers and other components; and wet process stations for cleaning, rinsing, and drying semiconductor

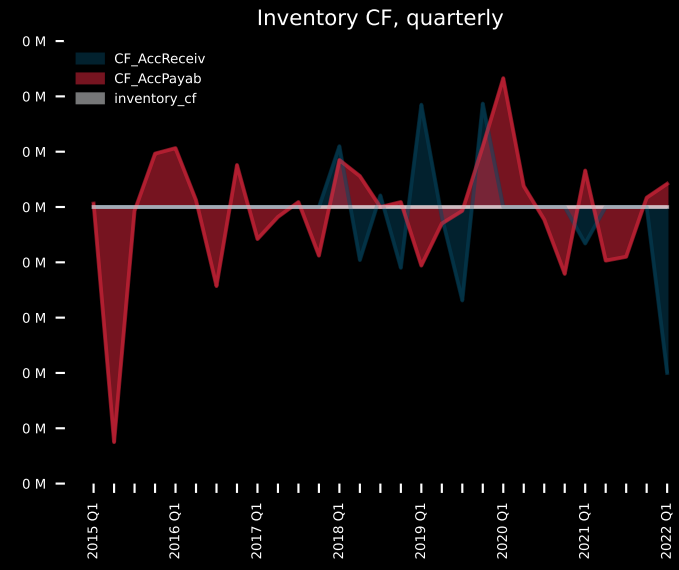
ATOM / Semiconductor Equipment & Materials / US / 202





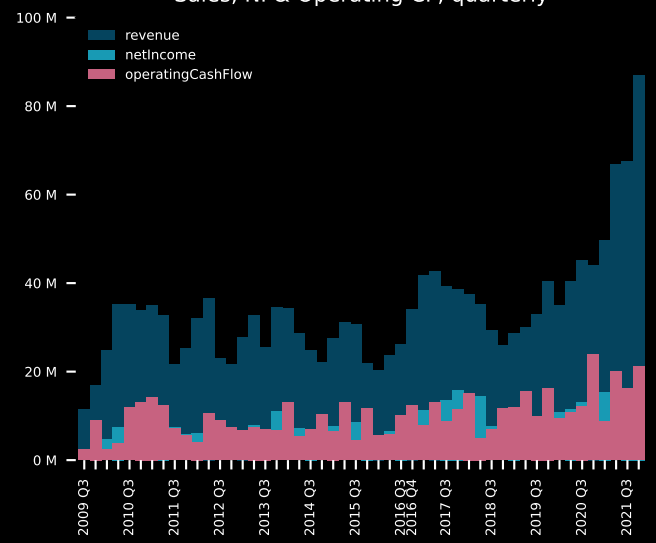


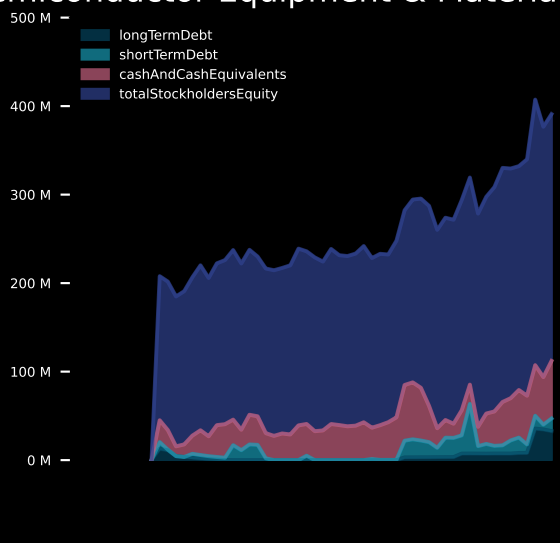


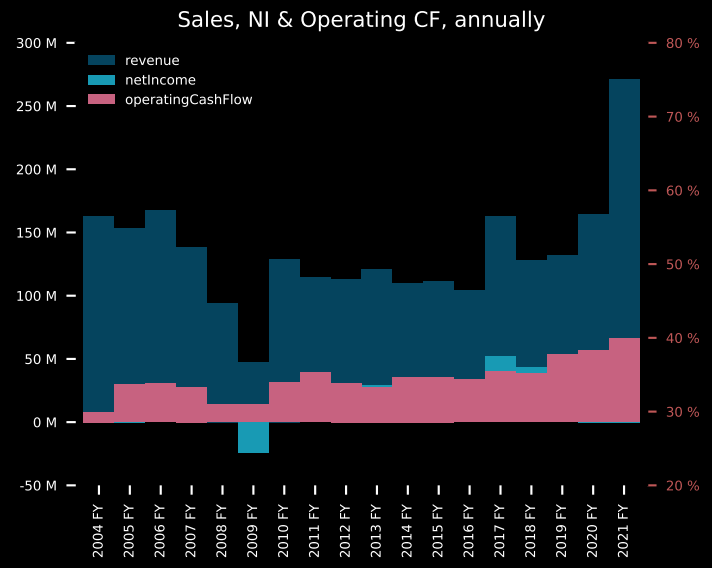


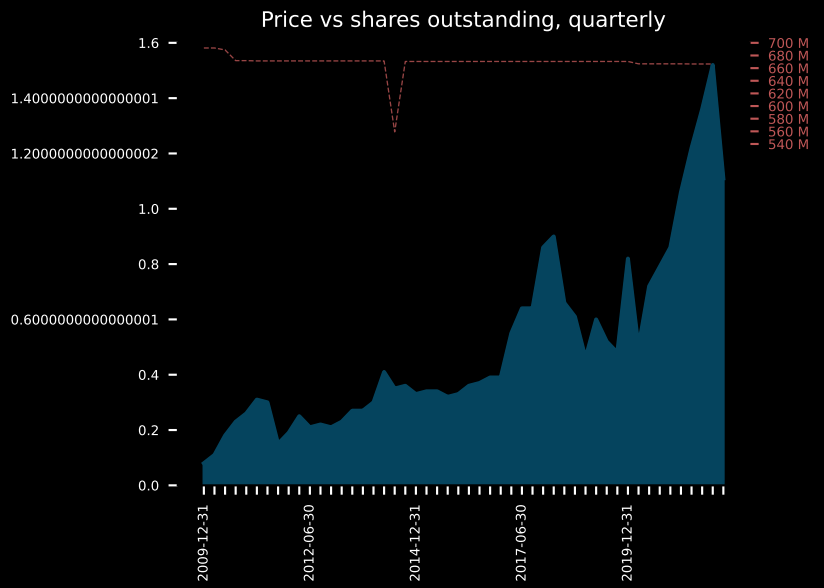
Atomera Incorporated develops, commercializes, and licenses proprietary materials, processes, and technologies for the semiconductor industry in North America and the Asia Pacific. The company's lead technology is the Mears Silicon Technology, a thin film of reengineered silicon that can be applied as a transistor channel enhancement to CMOS-type transistors. Its customers include foundries, integrated device manufacturers, fabless semiconductor manufacturers, original equipment manufacturers, and electronic design automation companies. The company was formerly known as Mears Technologies, Inc. and changed its name to Atomera Incorporated in January 2016. Atomera Incorporated was incorporated in 2001 and is headquartered in Los Gatos, California.

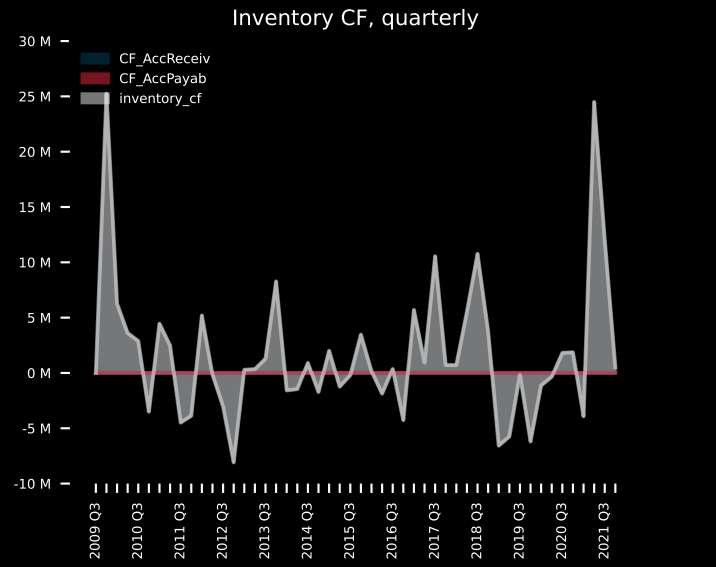
558.SI / Semiconductor Equipment & Materials / SG / 20





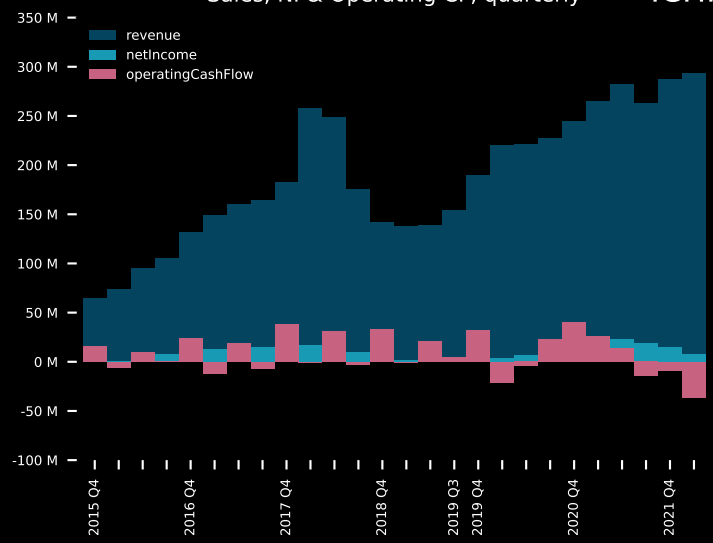


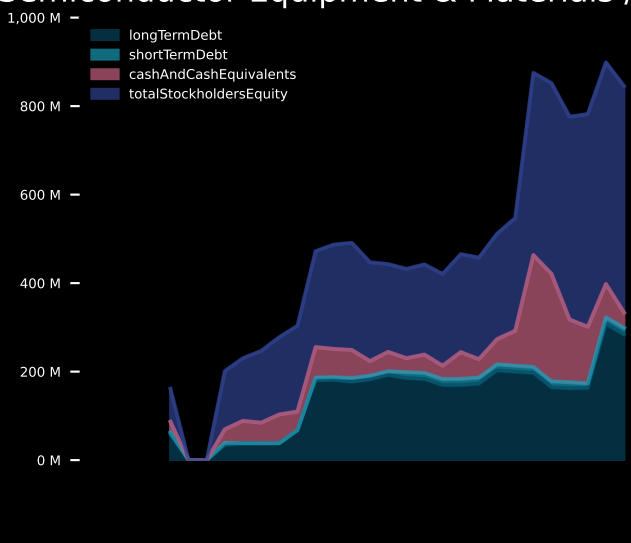


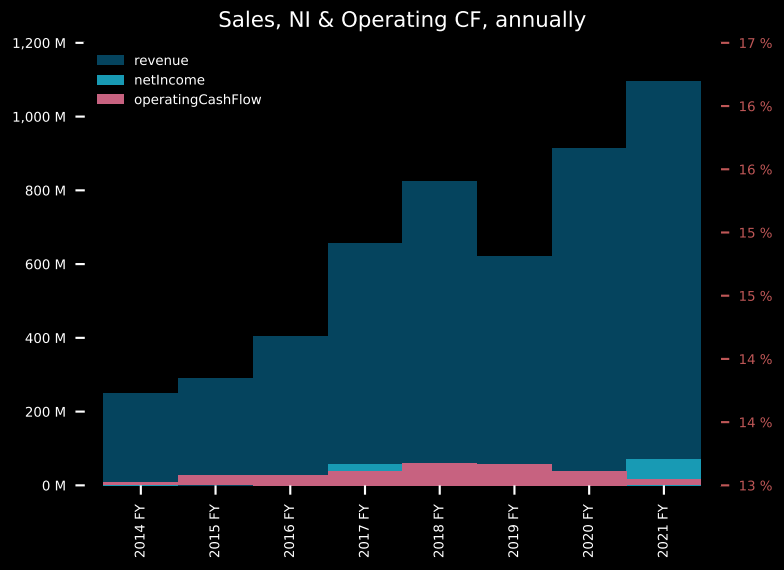


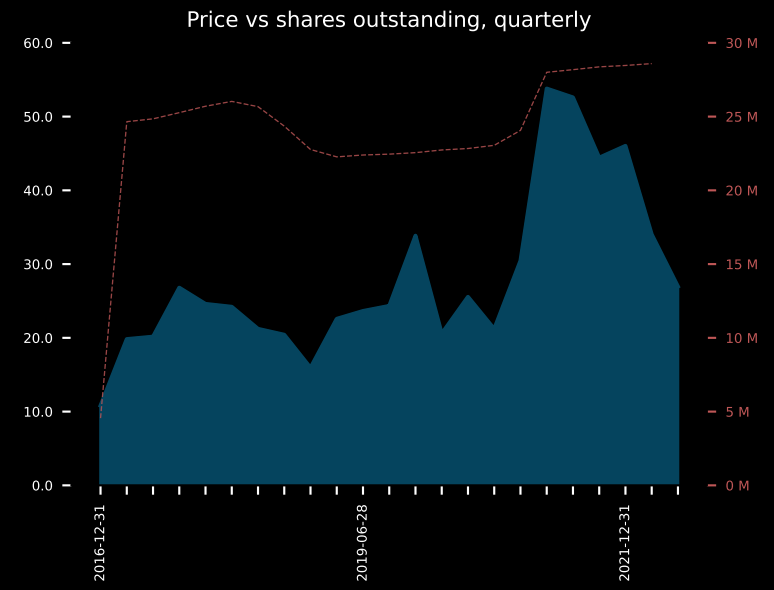
UMS Holdings Limited, an investment holding company, manufactures and markets high precision front-end semiconductor components, and provides electromechanical assembly and final testing services. It operates in three segments: Semiconductor, Aerospace, and Others. The Semiconductor segment offers precision machining components and equipment modules for semiconductor equipment manufacturers. The aerospace segment provides precision machining services including milling, lathe, horizontal, cleaning, anodizing, and CMM for the aerospace, electronics, and automotive industries. The Others segment provides water disinfection systems shipment services, as well as trades in nonferrous metal alloys. It also offers metal finishing services, such as electroless and selective nickel, anodizing, plating, e-polish, chemical cleaning, and parts refurbishment; and system integration, refurbishment, prototyping, and

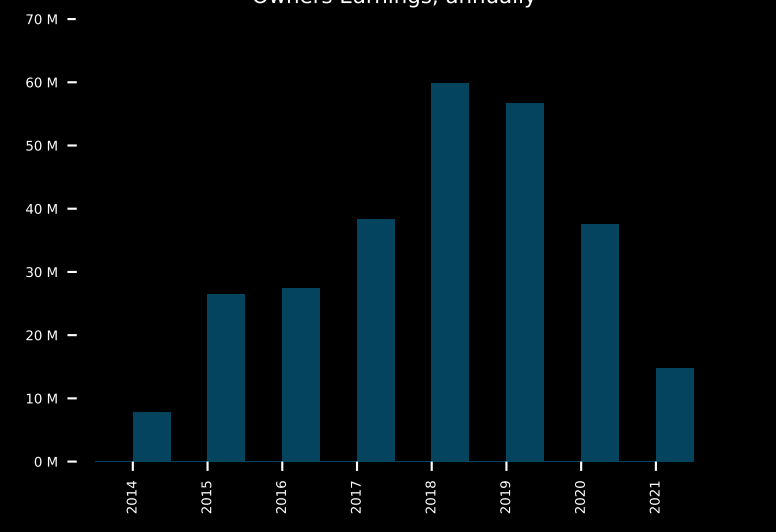
ICHR / Semiconductor Equipment & Materials / US / 2022

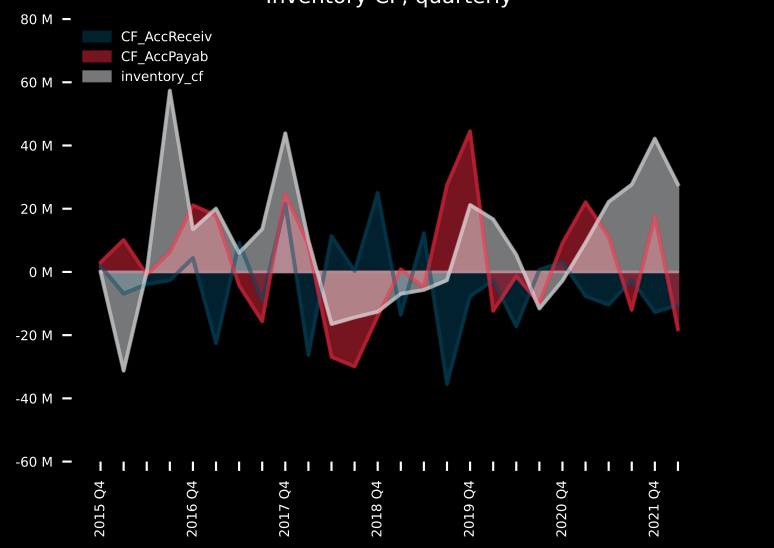






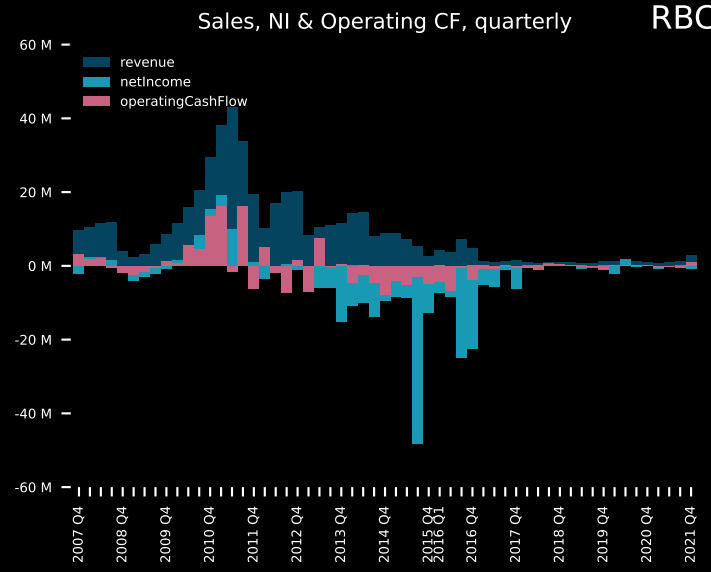


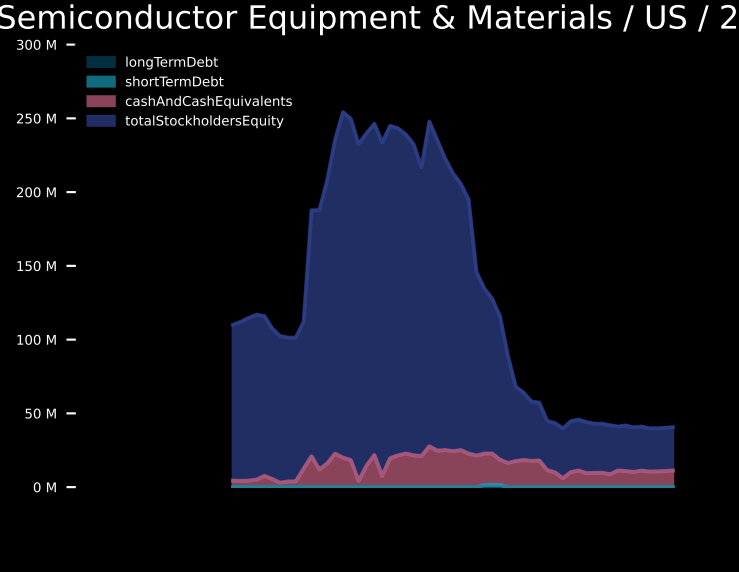


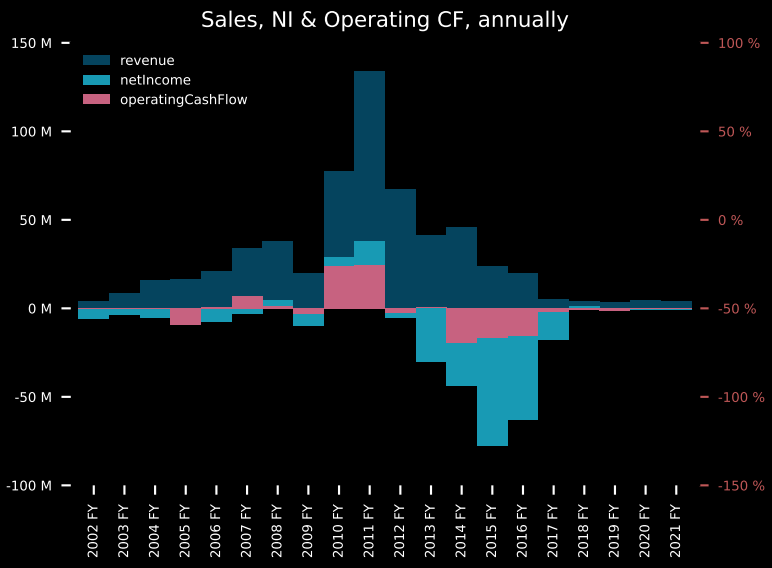


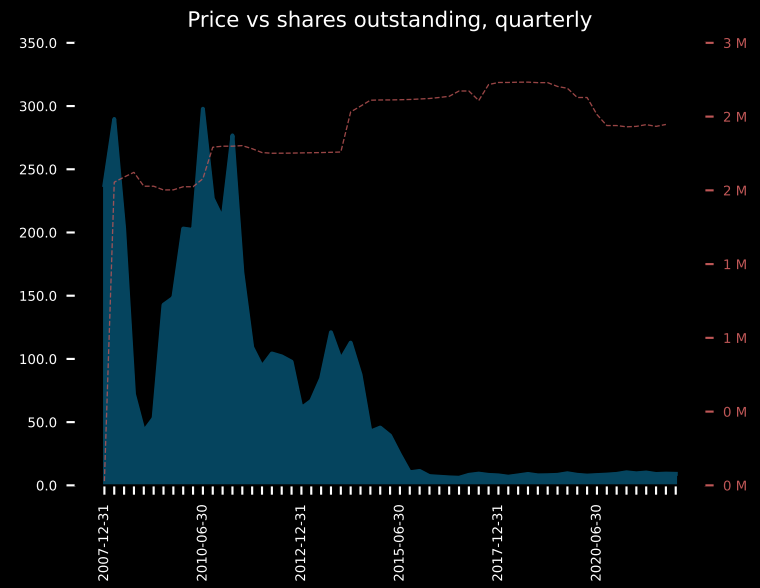
Ichor Holdings, Ltd. engages in the design, engineering, and manufacture of fluid delivery subsystems and components for semiconductor capital equipment. It primarily offers gas and chemical delivery systems and subsystems that are used in the manufacturing of semiconductor devices. The company's gas delivery subsystems deliver, monitor, and control gases used in semiconductor manufacturing processes, such as etch and deposition; and chemical delivery subsystems blend and dispense the reactive liquid chemistries used in semiconductor manufacturing processes comprising chemical-mechanical planarization, electroplating, and cleaning. It also manufactures precision machined components, weldments, electron beam, laser-welded components, precision vacuum and hydrogen brazing, surface treatment technologies, and other proprietary products for use in fluid delivery systems. The

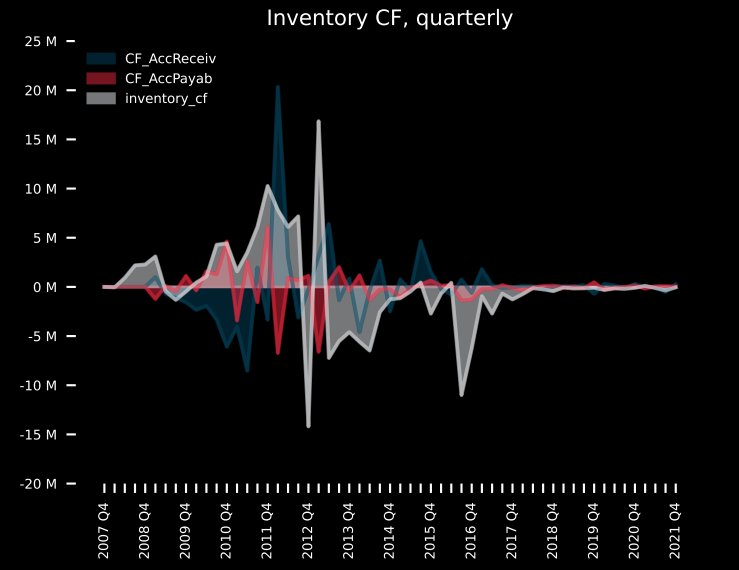
RBCN / Semiconductor Equipment & Materials / US / 202





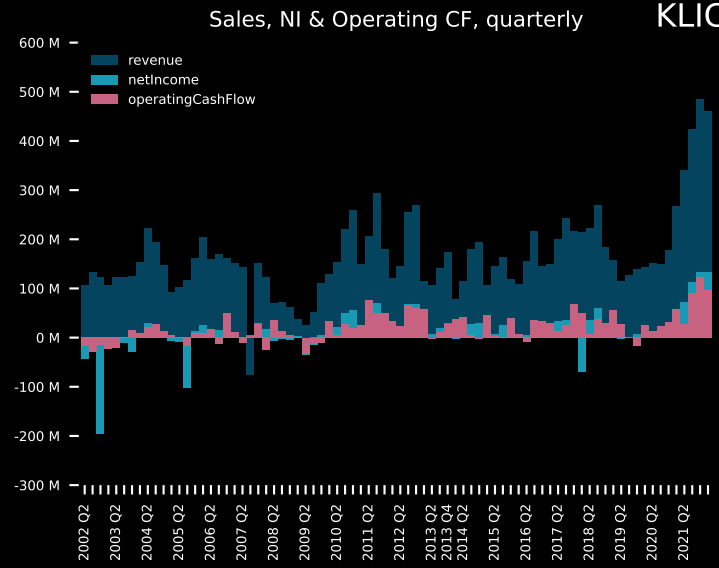


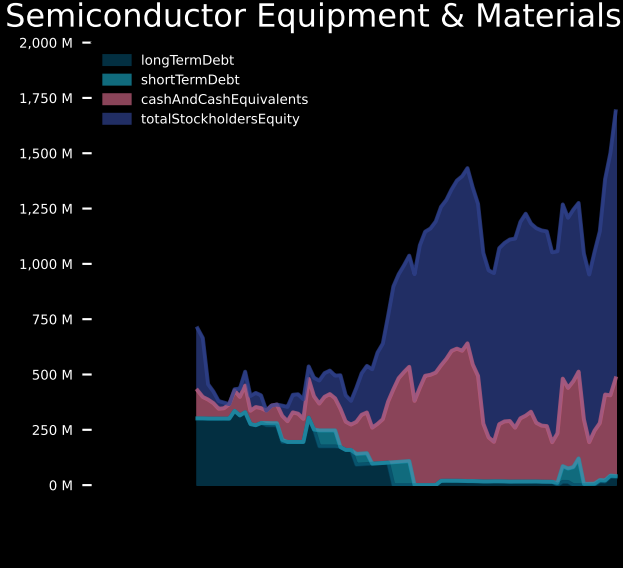


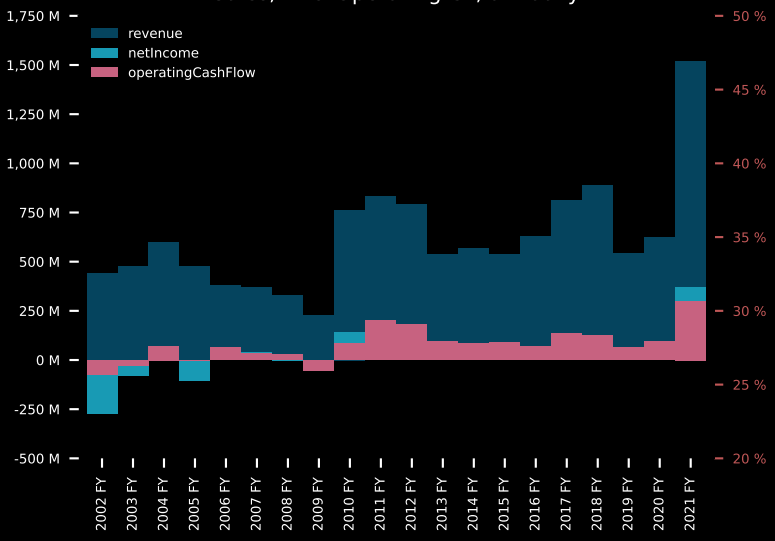


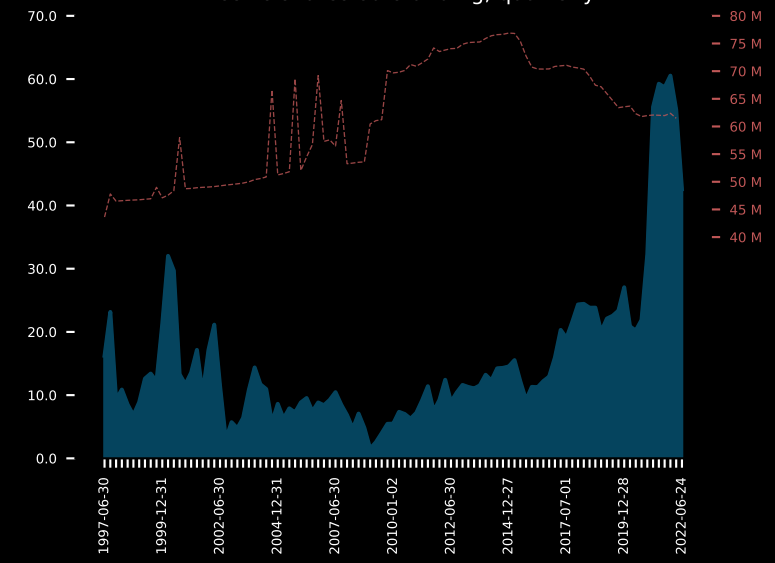
Rubicon Technology, Inc. provides monocrystalline sapphire for applications in optical and industrial systems in North America and Asia. The company offers optical and industrial sapphire products in various shapes and sizes, including round and rectangular windows and wafers, domes, tubes, and rods for a range of end markets comprising defense and aerospace, specialty lighting, instrumentation, sensors and detectors, semiconductor process equipment, electronic substrates, medical, and laser applications. It serves defense subcontractors, industrial manufacturers, fabricators, and resellers. The company was incorporated in 2001 and is based in Bensenville, Illinois.

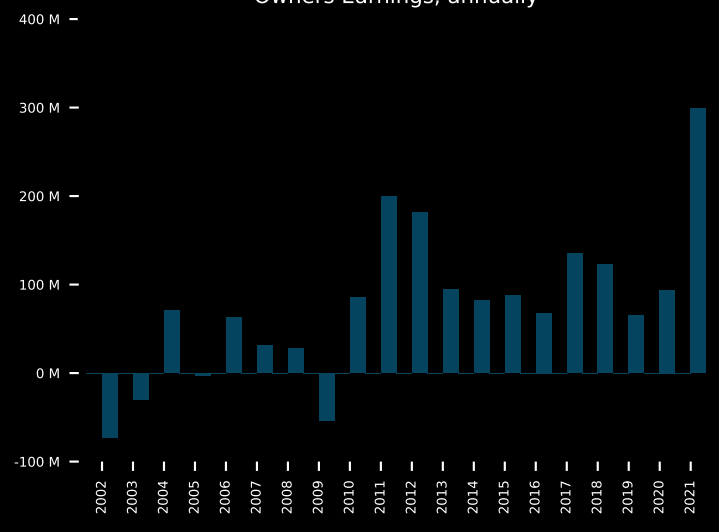
KLIC / Semiconductor Equipment & Materials / SG / 2022

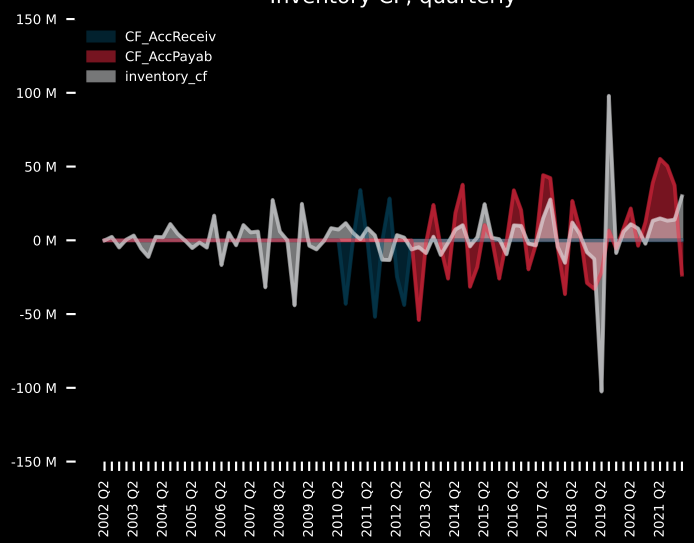




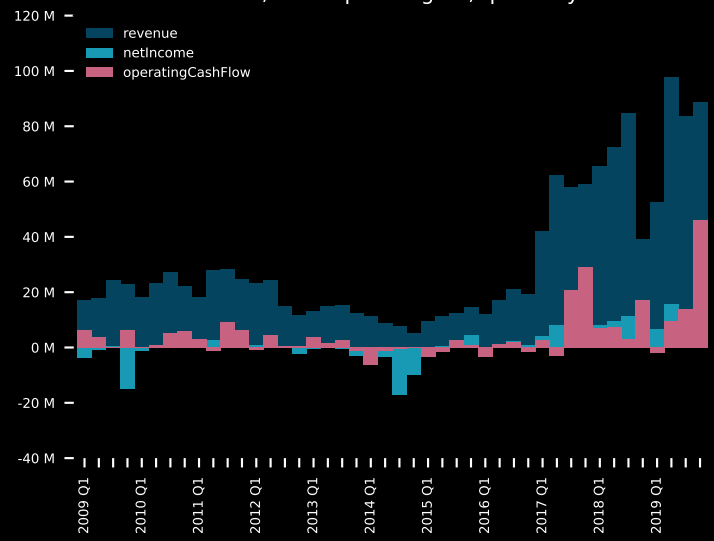


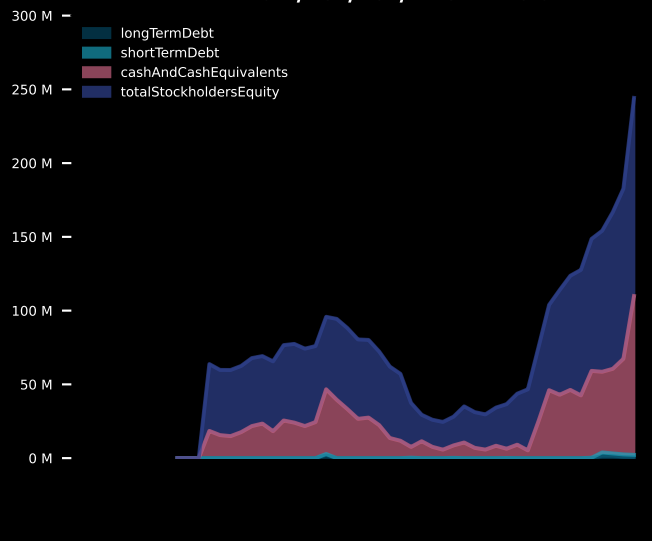


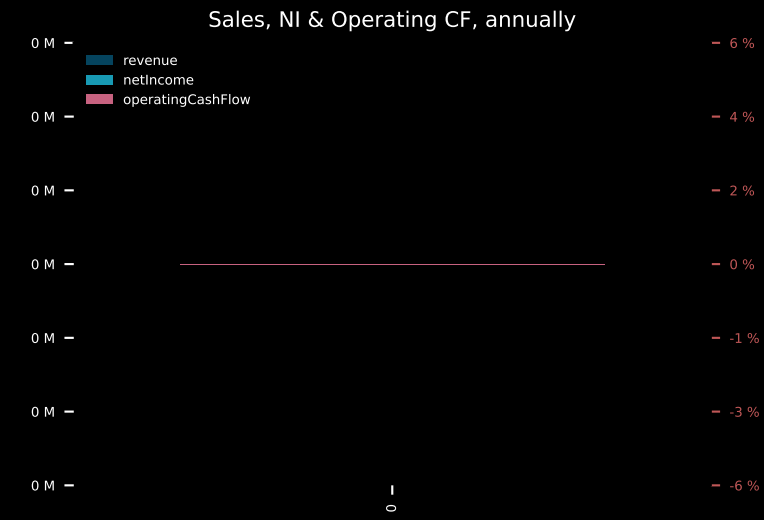


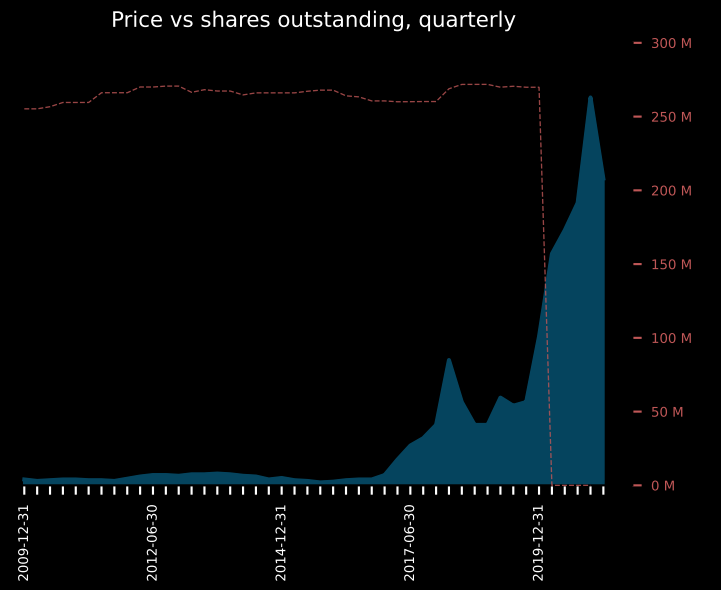


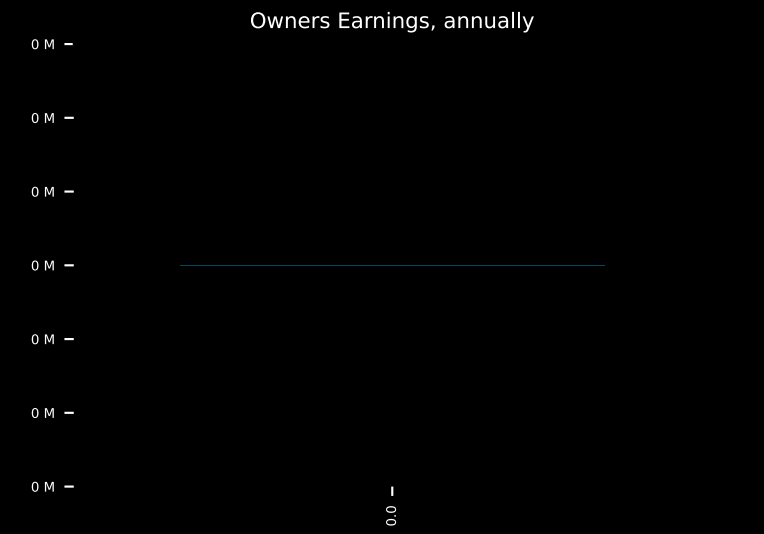
Kulicke and Soffa Industries, Inc. designs, manufactures, and sells capital equipment and tools used to assemble semiconductor devices. It operates through two segments, Capital Equipment, and Aftermarket Products and Services (APS). The company manufactures and sells advanced displays; die-transfer, flip-chip, and TCB advanced packaging products; ball bonder, die-attach, electronics assembly, lithography, wafer-level bonder, and wedge bonder products; consumables, such as capillaries, dicing blades, and wedge bonds; and auto offline programming, KNet PLUS, and new product introduction/manufacturing execution system software products. It also services, maintains, repairs, and upgrades equipment. The company serves semiconductor device manufacturers, integrated device manufacturers, outsourced semiconductor assembly and test providers, other electronics manufacturers, industrial

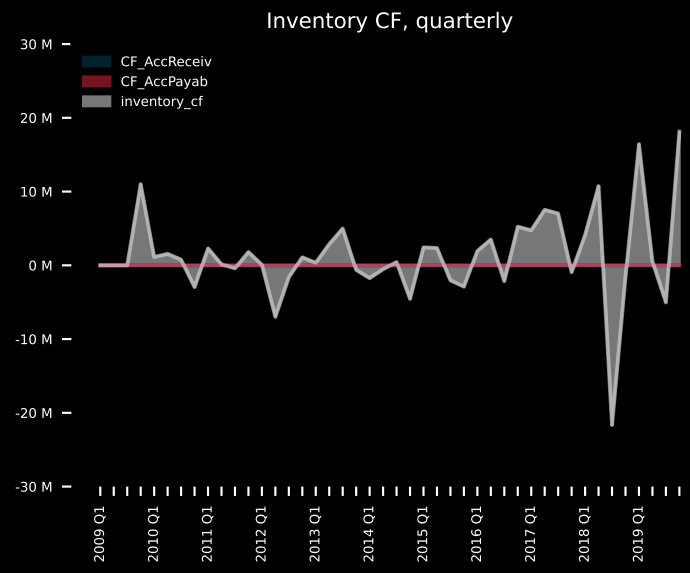

Sales, NI & Operating CF, quarterly
revenue
netIncome
operatingCashFlow
120 M
100 M
80 M
60 M
40 M
20 M
0 M
-20 M
-40 M
2009 Q1
2010 Q1
2011 Q1
2012 Q1
2013 Q1
2014 Q1
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1


AWX.SI / 0 / 0 / 2022-06-24
longTermDebt
shortTermDebt
cashAndCashEquivalents
totalStockholdersEquity
300 M
250 M
200 M
150 M
100 M
50 M
0 M


Sales, NI & Operating CF, annually
revenue
netIncome
operatingCashFlow
0 M
6 %
4 %
2 %
0 %
-1 %
-3 %
-6 %
0

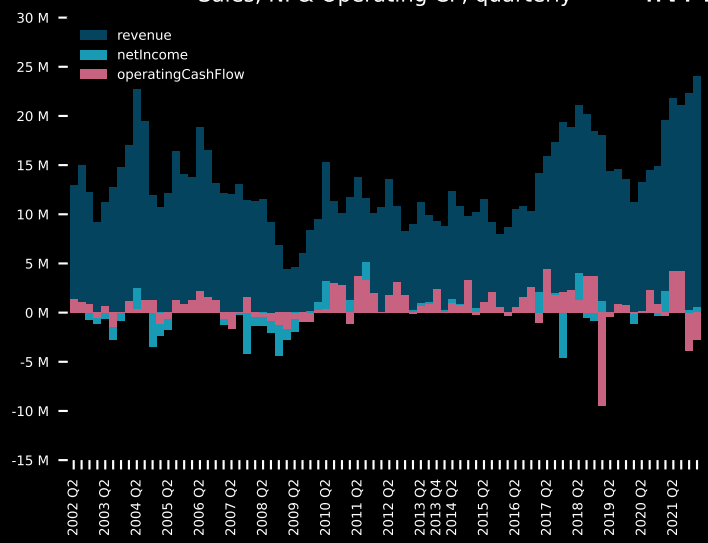

Price vs shares outstanding, quarterly
6.0
5.0
4.0
3.0
2.0
1.0
0.0
300 M
250 M
200 M
150 M
100 M
50 M
0 M
2009-12-31
2012-06-30
2014-12-31
2017-06-30
2019-12-31

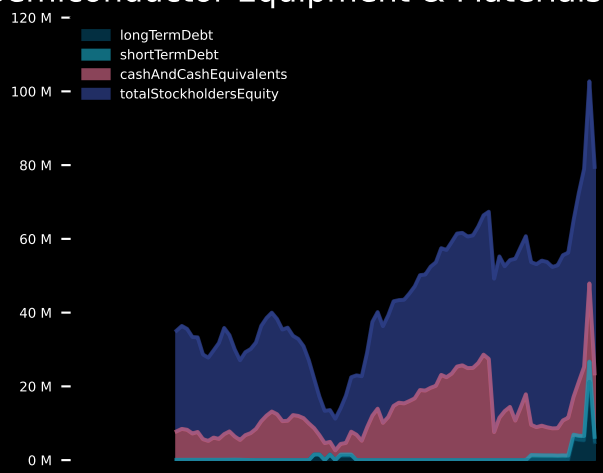

Owners Earnings, annually
0 M
0.0

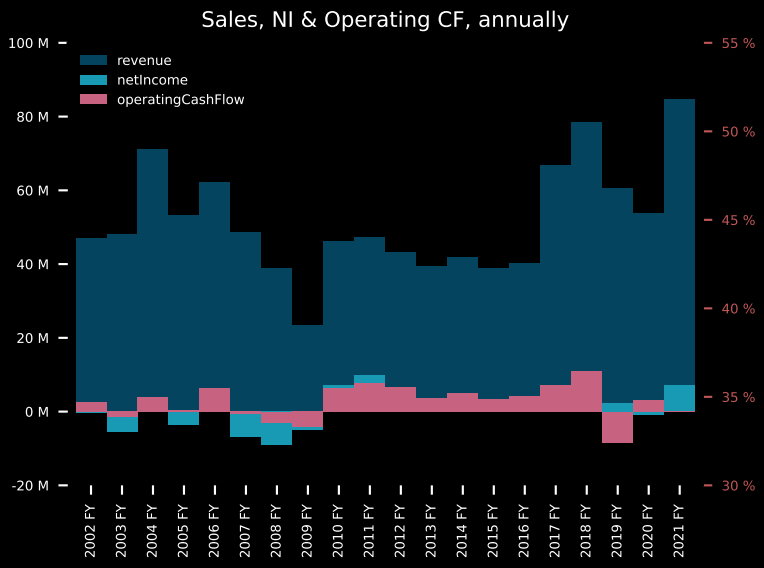

Inventory CF, quarterly
CF_AccReceiv
CF_AccPayab
inventory_cf
30 M
20 M
10 M
0 M
-10 M
-20 M
-30 M
2009 Q1
2010 Q1
2011 Q1
2012 Q1
2013 Q1
2014 Q1
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1

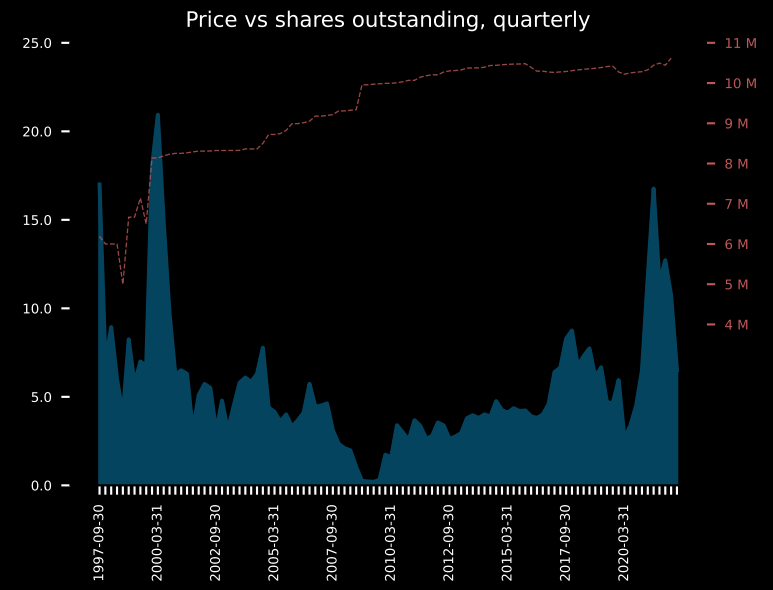
0

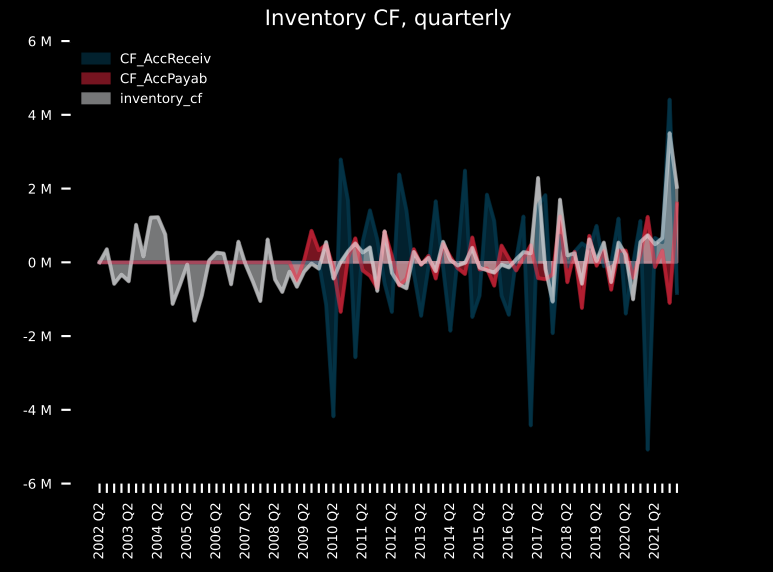
INTT / Semiconductor Equipment & Materials / US / 2022



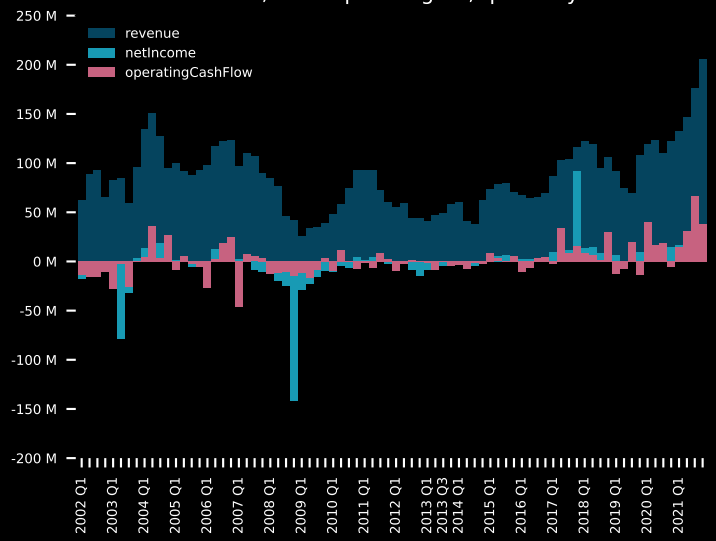








inTEST Corporation supplies test and process solutions for use in manufacturing and testing in automotive, defense/aerospace, industrial, life sciences, security, and semiconductor markets worldwide. The company operates through two segments, Thermal Products (Thermal) and Electromechanical Semiconductor Products (EMS). The Thermal segment offers ThermoStream products that are used in the semi market as a stand-alone temperature management tool, or in various electronic test applications; Thermal Chambers; Thermal Platforms; Thermonics temperature conditioning products that provide tempered gas or fluid; ultra-cold storage solutions, including biomedical freezers, refrigerators, and mobile storage solutions; EKOHEAT and EASYHEAT induction heating systems; and digital streaming and image capturing solutions. The EMS segment provides in2, Cobal, and LS series manipulators that hold various test heads


Sales, NI & Operating CF, quarterly
revenue
netIncome
operatingCashFlow
250 M
200 M
150 M
100 M
50 M
0 M
-50 M
-100 M
-150 M
-200 M
2002 Q1
2003 Q1
2004 Q1
2005 Q1
2006 Q1
2007 Q1
2008 Q1
2009 Q1
2010 Q1
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2013 Q3
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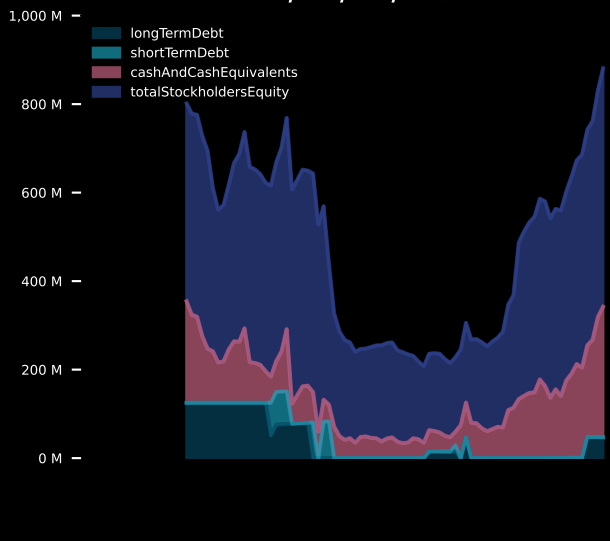
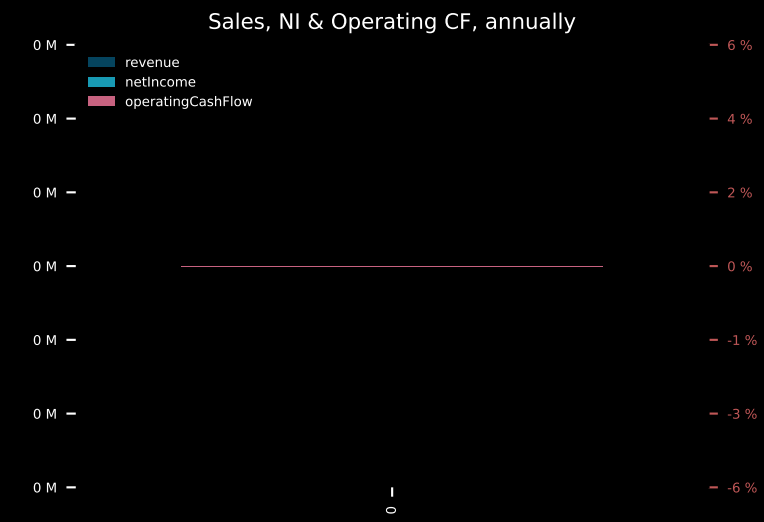
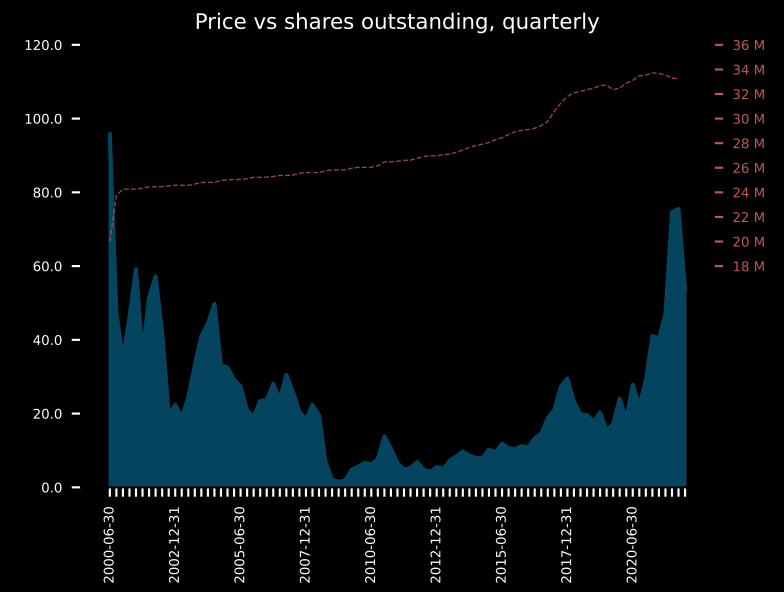
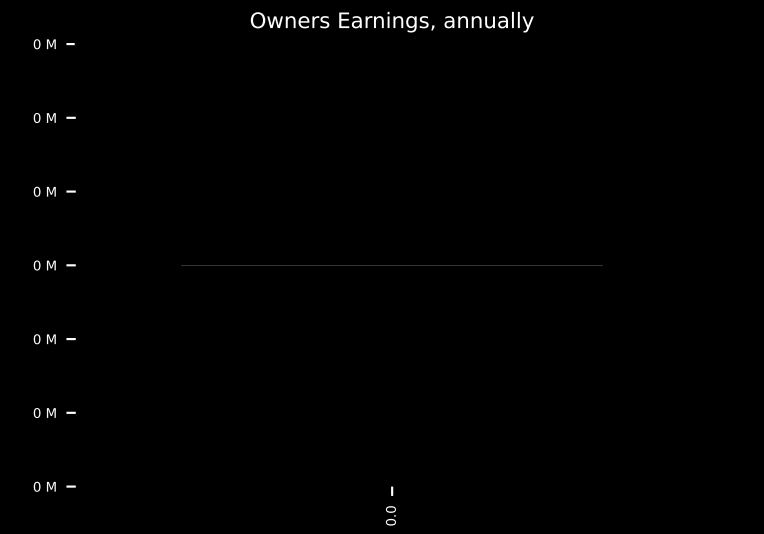
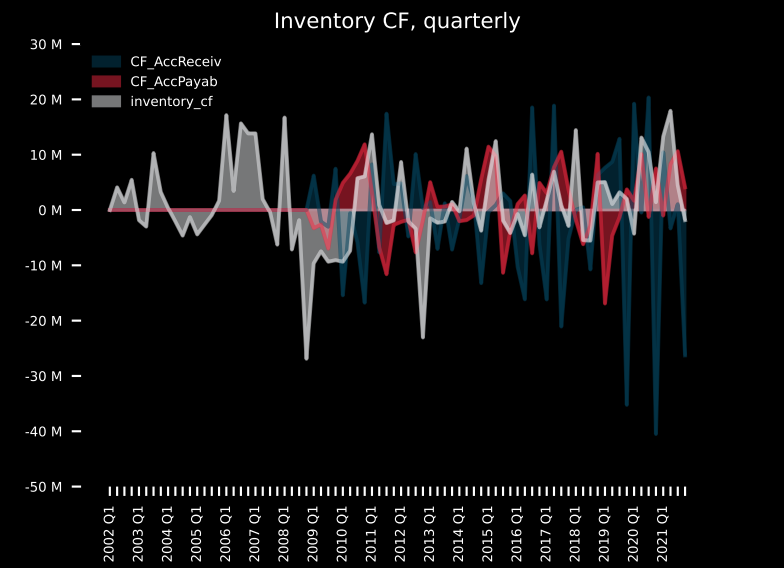
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1
2020 Q1
2021 Q1


ACLS / 0 / 0 / 2022-06-24
longTermDebt
shortTermDebt
cashAndCashEquivalents
totalStockholdersEquity
1,000 M
800 M
600 M
400 M
200 M
0 M


Sales, NI & Operating CF, annually
revenue
netIncome
operatingCashFlow
0 M
6 %
4 %
2 %
0 %
-1 %
-3 %
-6 %
0

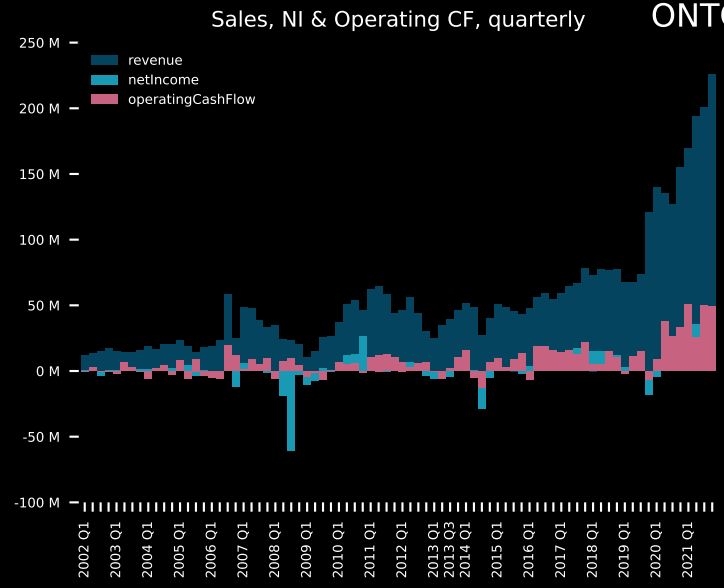

Price vs shares outstanding, quarterly
120.0
100.0
80.0
60.0
40.0
20.0
0.0
36 M
34 M
32 M
30 M
28 M
26 M
24 M
22 M
20 M
18 M
2000-06-30
2002-12-31
2005-06-30
2007-12-31
2010-06-30
2012-12-31
2015-06-30
2017-12-31
2020-06-30

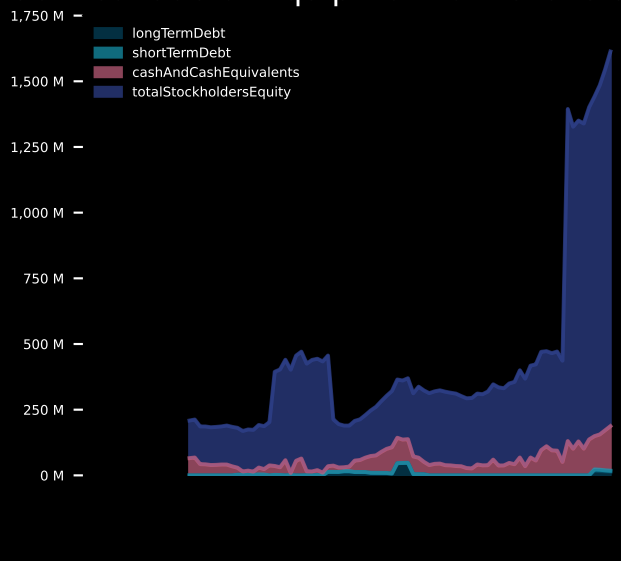

Owners Earnings, annually
0 M
0.0

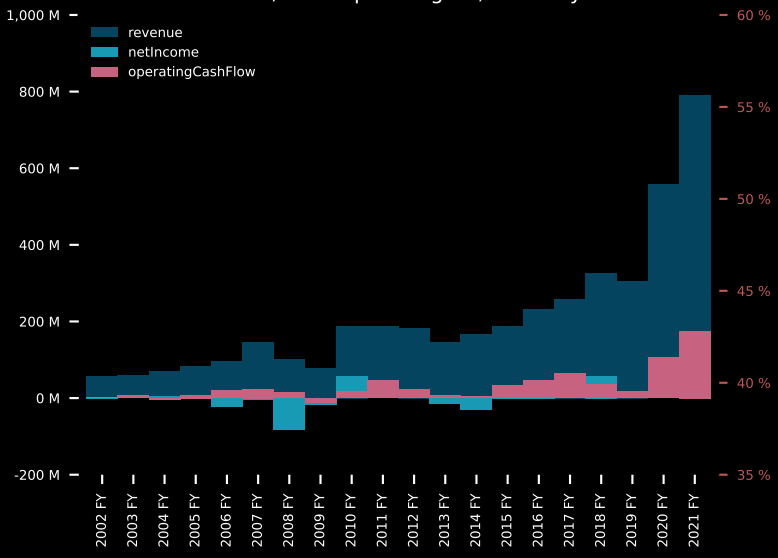

Inventory CF, quarterly
CF_AccReceiv
CF_AccPayab
inventory_cf
30 M
20 M
10 M
0 M
-10 M
-20 M
-30 M
-40 M
-50 M
2002 Q1
2003 Q1
2004 Q1
2005 Q1
2006 Q1
2007 Q1
2008 Q1
2009 Q1
2010 Q1
2011 Q1
2012 Q1
2013 Q1
2014 Q1
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1
2020 Q1
2021 Q1

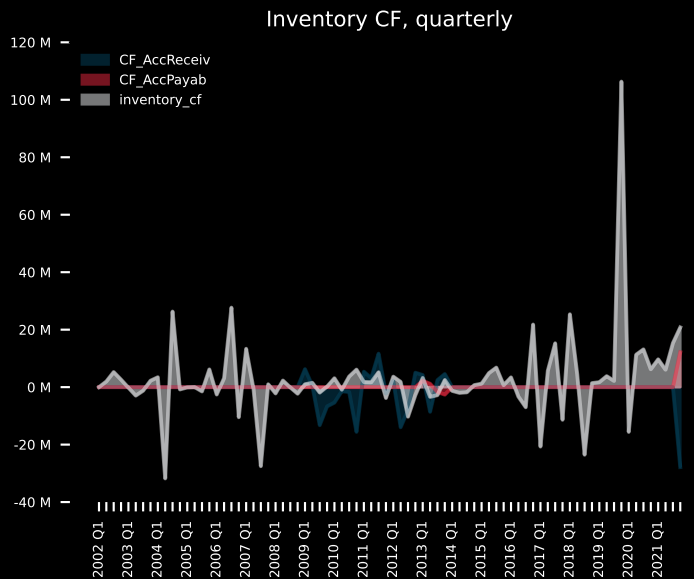
0

ONTO / Semiconductor Equipment & Materials / US / 202



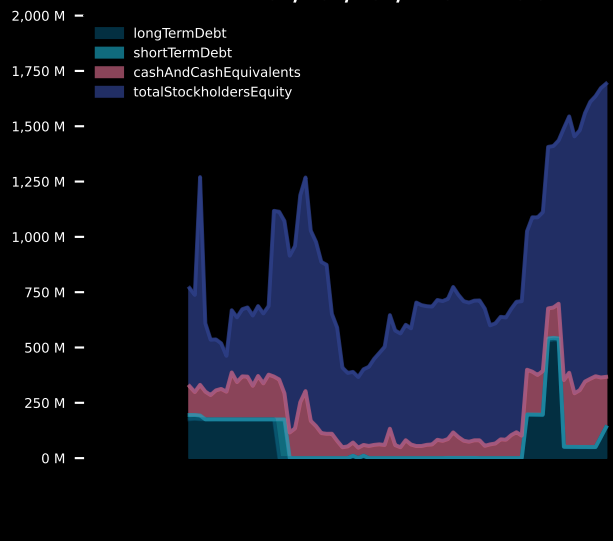


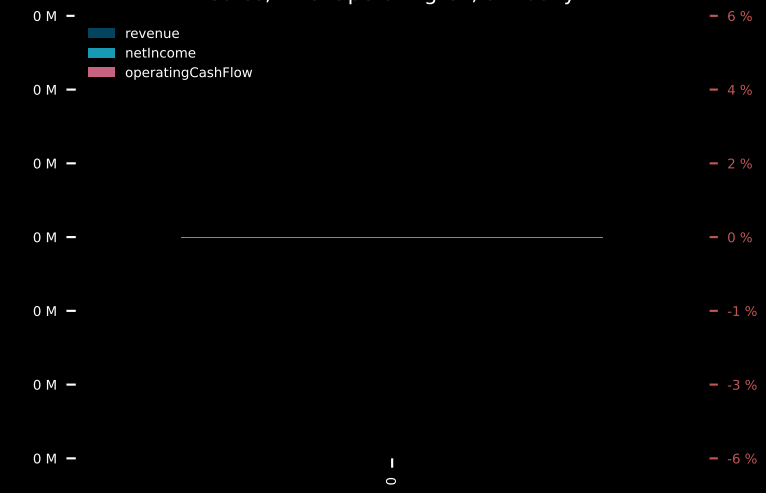


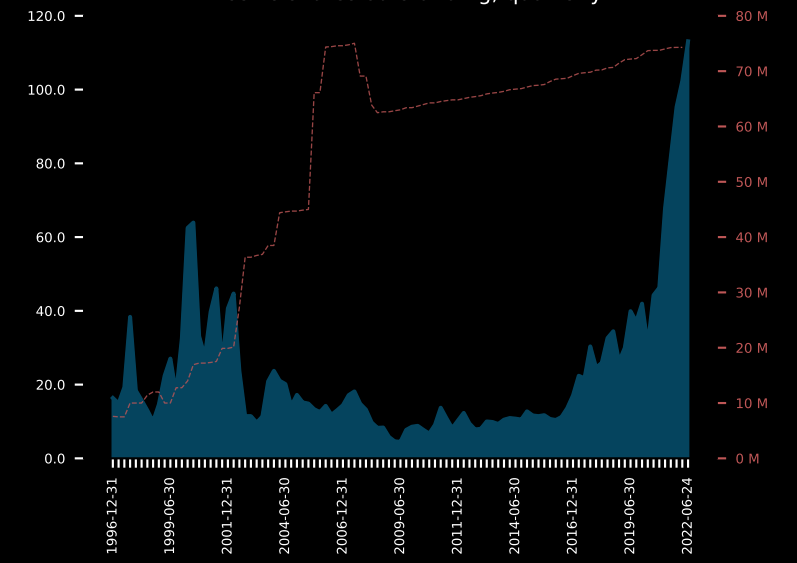


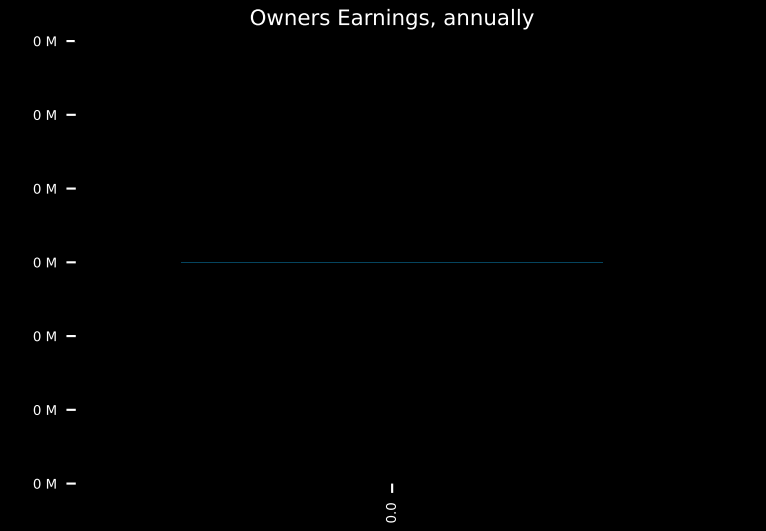
Onto Innovation Inc. engages in the design, development, manufacture, and support of process control tools that performs macro defect inspection and 2D/3D optical metrology, lithography systems, and process control analytical software worldwide. It offers process and yield management solutions, and device packaging and test facilities through standalone systems for macro-defect inspection, packaging lithography, probe card test and analysis, and transparent and opaque thin film measurements; and process control software portfolio that includes solutions for standalone tools, groups of tools, and enterprise-or factory-wide suites. The company also provides spare parts and software licensing services. Its products are used by semiconductor and advanced packaging device manufacturers; silicon wafer; light emitting diode; vertical cavity surface emitting laser; micro electromechanical system; CMOS image

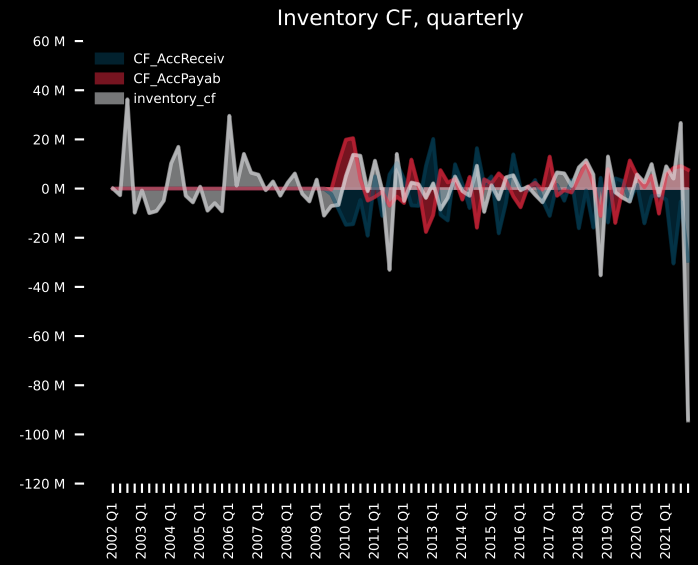

Sales, NI & Operating CF, quarterly
revenue
netIncome
operatingCashFlow
600 M
400 M
200 M
0 M
-200 M
-400 M
-600 M
-800 M
2002 Q1
2003 Q1
2004 Q1
2005 Q1
2006 Q1
2007 Q1
2008 Q1
2009 Q1
2010 Q1
2011 Q1
2012 Q1
2013 Q1
2013 Q3
2014 Q1
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1
2020 Q1
2021 Q1


BRKS / 0 / 0 / 2022-06-24
longTermDebt
shortTermDebt
cashAndCashEquivalents
totalStockholdersEquity
2,000 M
1,750 M
1,500 M
1,250 M
1,000 M
750 M
500 M
250 M
0 M

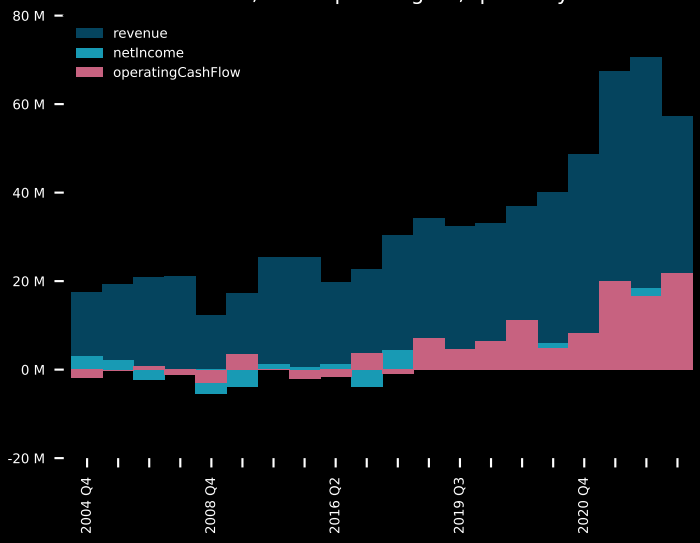

Sales, NI & Operating CF, annually
revenue
netIncome
operatingCashFlow
0 M
6 %
4 %
2 %
0 %
-1 %
-3 %
-6 %
0

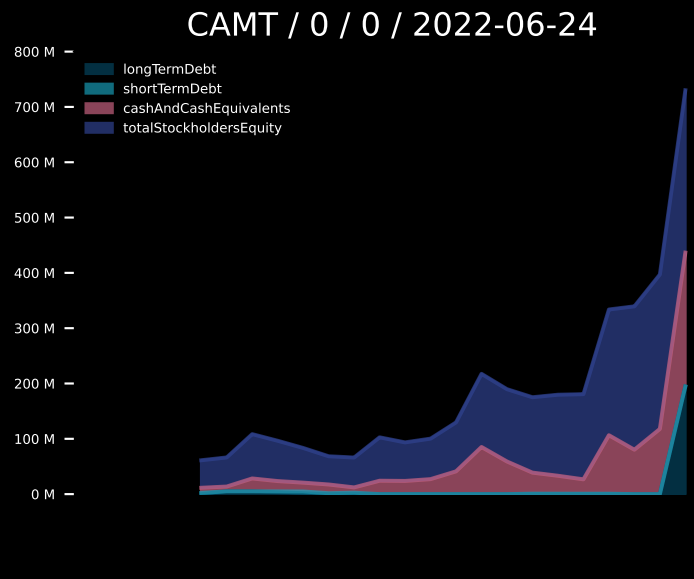

Price vs shares outstanding, quarterly
120.0
100.0
80.0
60.0
40.0
20.0
0.0
80 M
70 M
60 M
50 M
40 M
30 M
20 M
10 M
0 M
1996-12-31
1999-06-30
2001-12-31
2004-06-30
2006-12-31
2009-06-30
2011-12-31
2014-06-30
2016-12-31
2019-06-30
2022-06-24

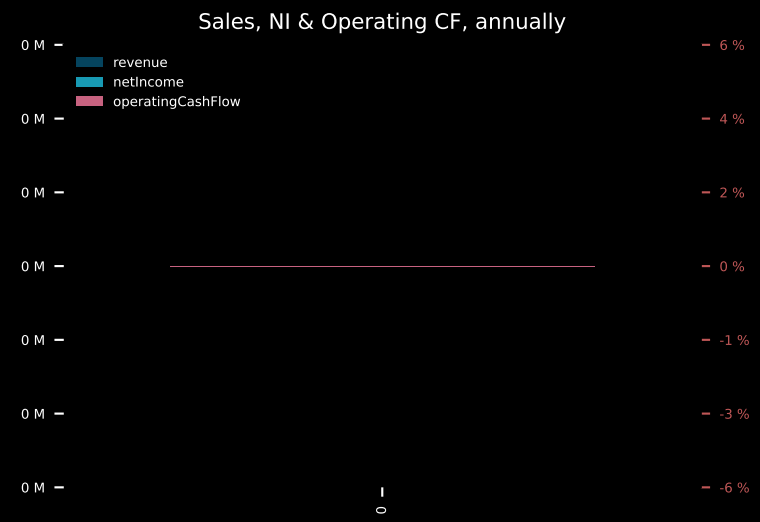

Owners Earnings, annually
0 M
0.0

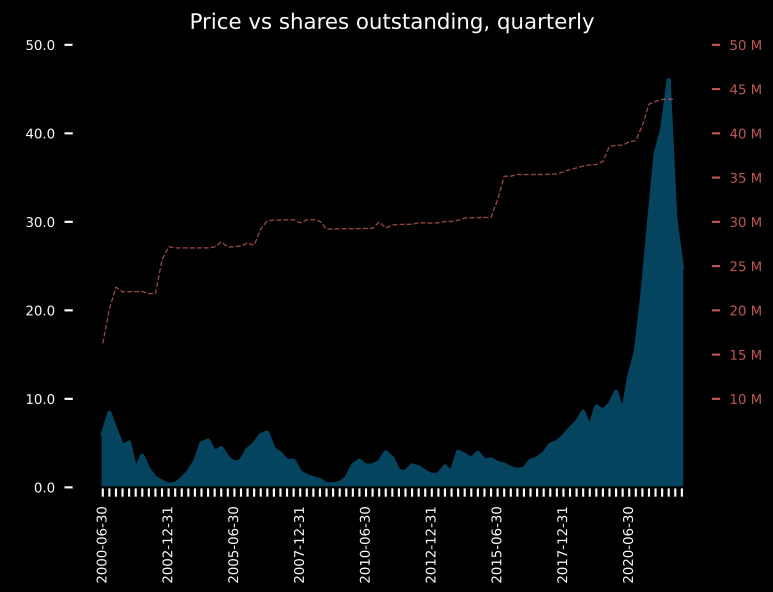

Inventory CF, quarterly
CF_AccReceiv
CF_AccPayab
inventory_cf
60 M
40 M
20 M
0 M
-20 M
-40 M
-60 M
-80 M
-100 M
-120 M
2002 Q1
2003 Q1
2004 Q1
2005 Q1
2006 Q1
2007 Q1
2008 Q1
2009 Q1
2010 Q1
2011 Q1
2012 Q1
2013 Q1
2014 Q1
2015 Q1
2016 Q1
2017 Q1
2018 Q1
2019 Q1
2020 Q1
2021 Q1

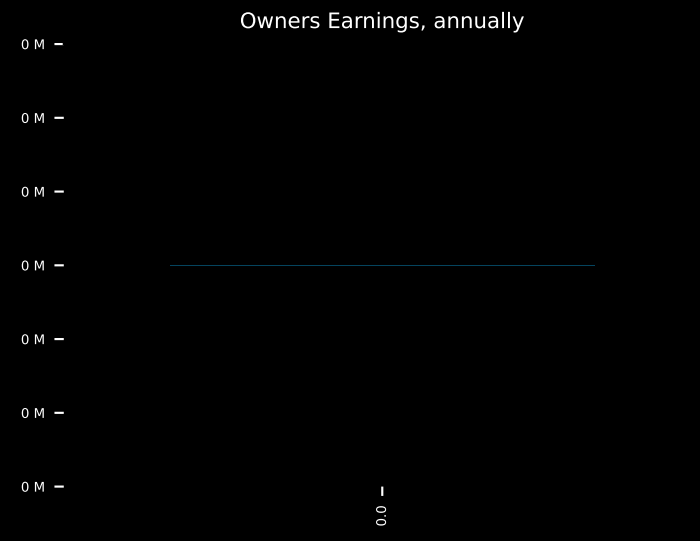
0

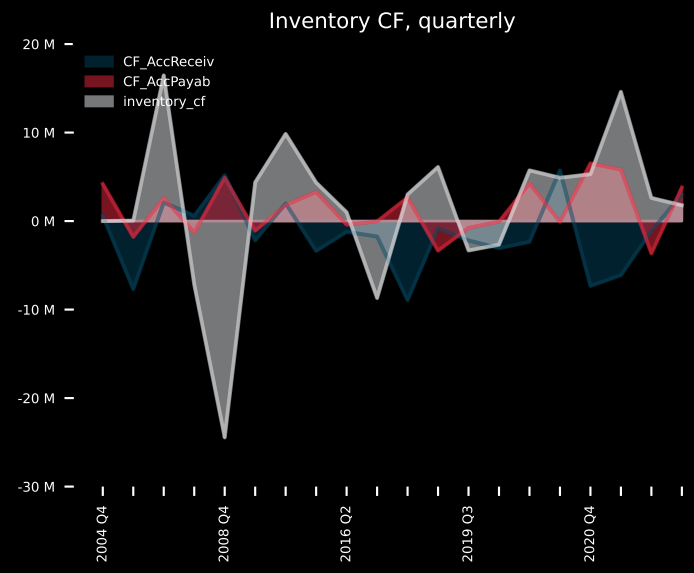

Sales, NI & Operating CF, quarterly
revenue
netIncome
operatingCashFlow
80 M
60 M
40 M
20 M
0 M
-20 M
2004 Q4
2008 Q4
2016 Q2
2019 Q3
2020 Q4


CAMT / 0 / 0 / 2022-06-24
longTermDebt
shortTermDebt
cashAndCashEquivalents
totalStockholdersEquity
800 M
700 M
600 M
500 M
400 M
300 M
200 M
100 M
0 M


Sales, NI & Operating CF, annually
revenue
netIncome
operatingCashFlow
0 M
6 %
4 %
2 %
0 %
-1 %
-3 %
-6 %
0

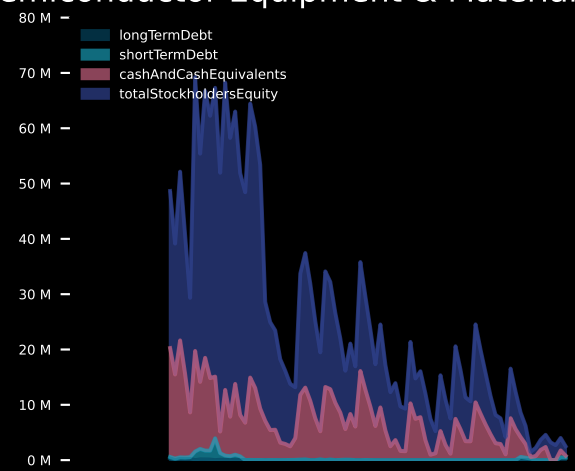

Price vs shares outstanding, quarterly
50.0
40.0
30.0
20.0
10.0
0.0
50 M
45 M
40 M
35 M
30 M
25 M
20 M
15 M
10 M
2000-06-30
2002-12-31
2005-06-30
2007-12-31
2010-06-30
2012-12-31
2015-06-30
2017-12-31
2020-06-30

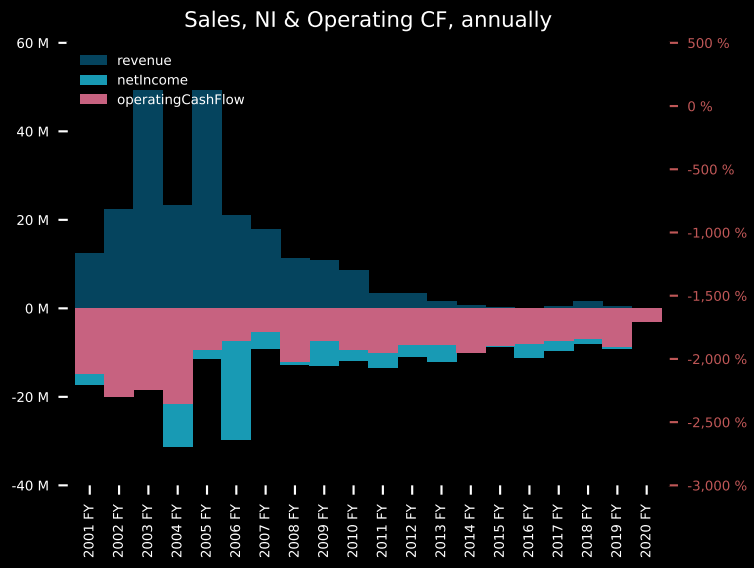

Owners Earnings, annually
0 M
0.0

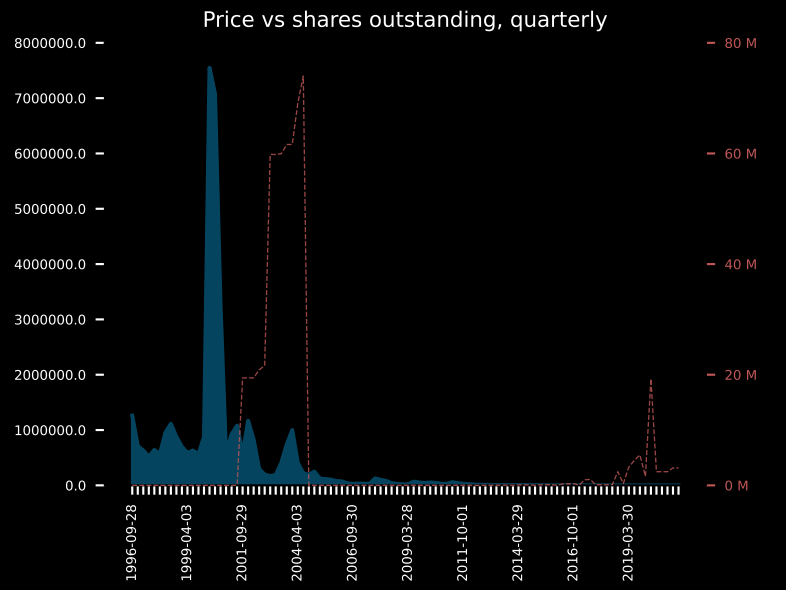

Inventory CF, quarterly
CF_AccReceiv
CF_AcctPayab
inventory_cf
20 M
10 M
0 M
-10 M
-20 M
-30 M
2004 Q4
2008 Q4
2016 Q2
2019 Q3
2020 Q4

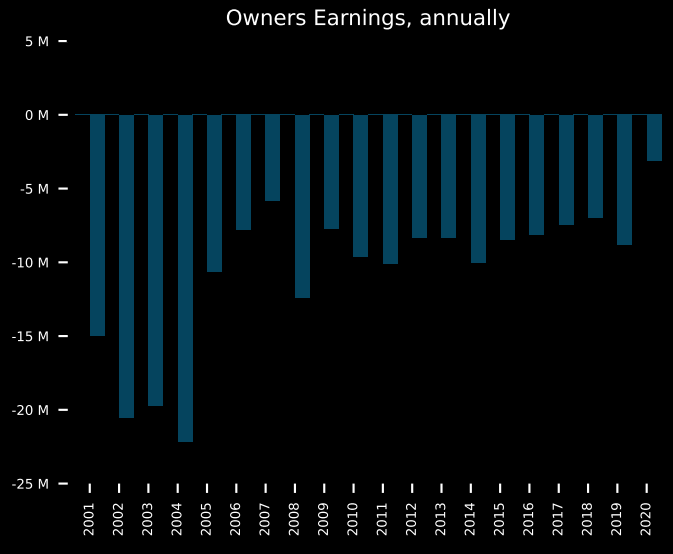
0

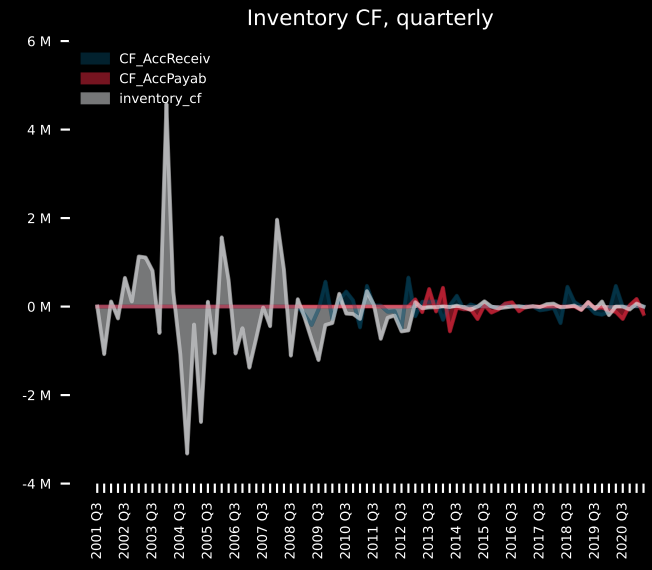
SCON / Semiconductor Equipment & Materials / US / 202



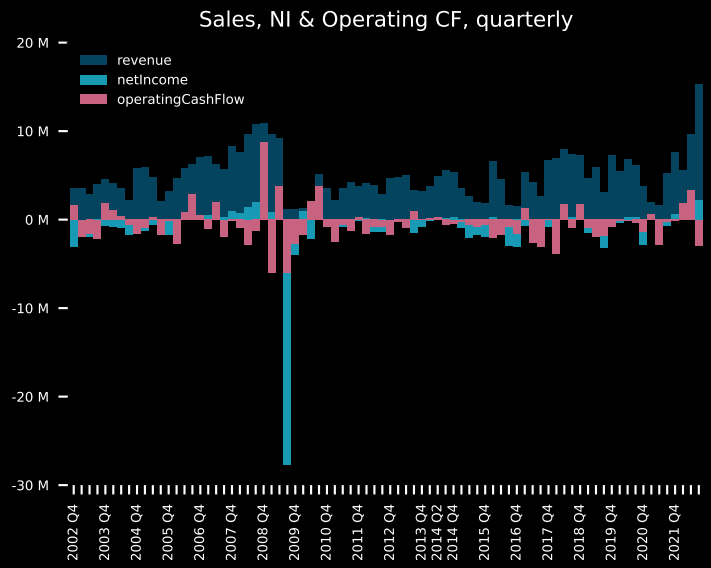


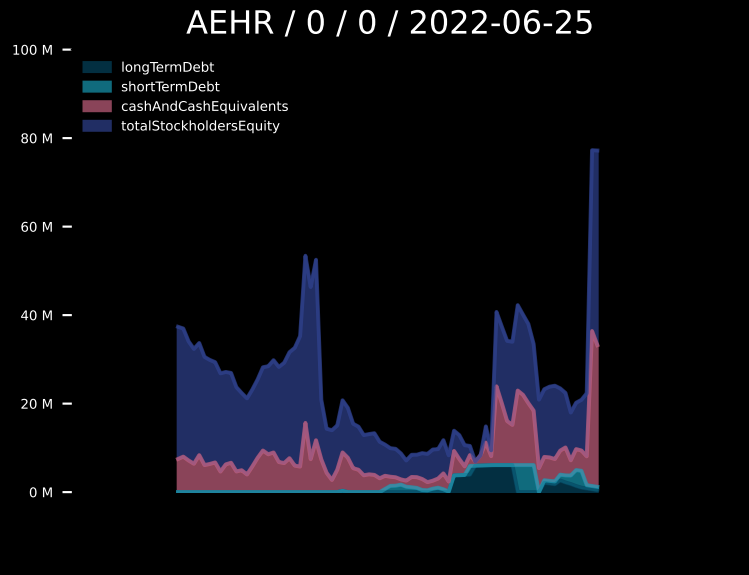


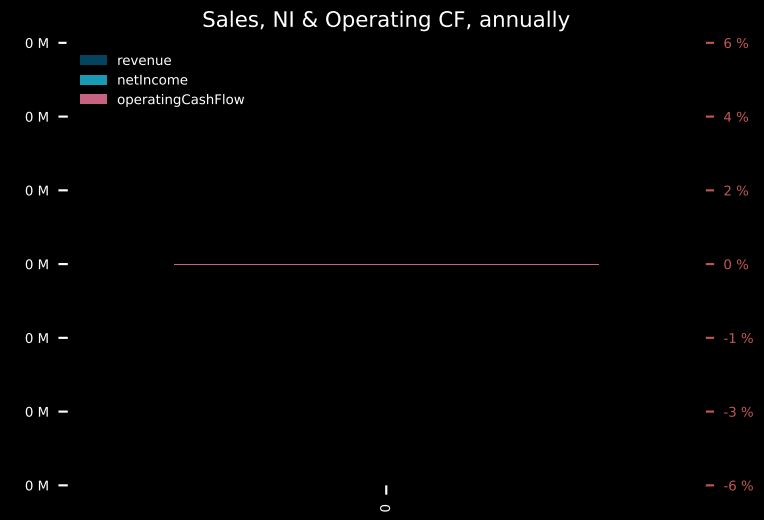


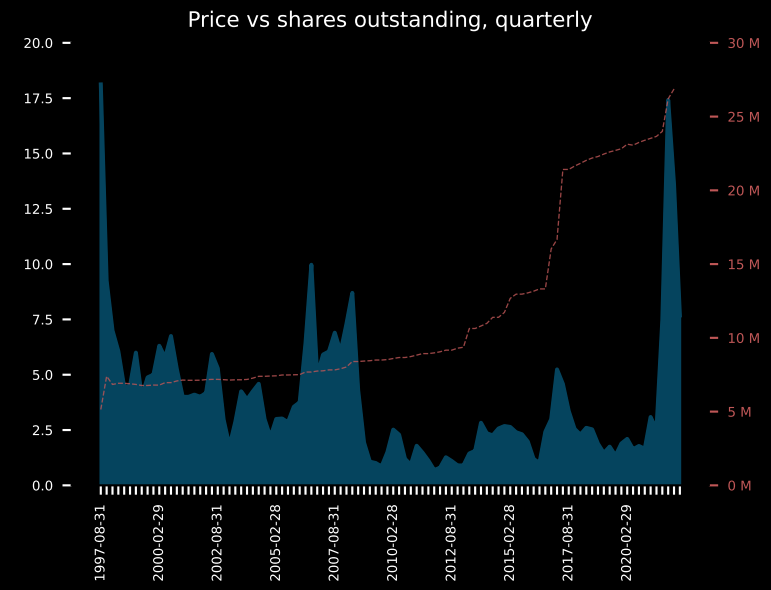


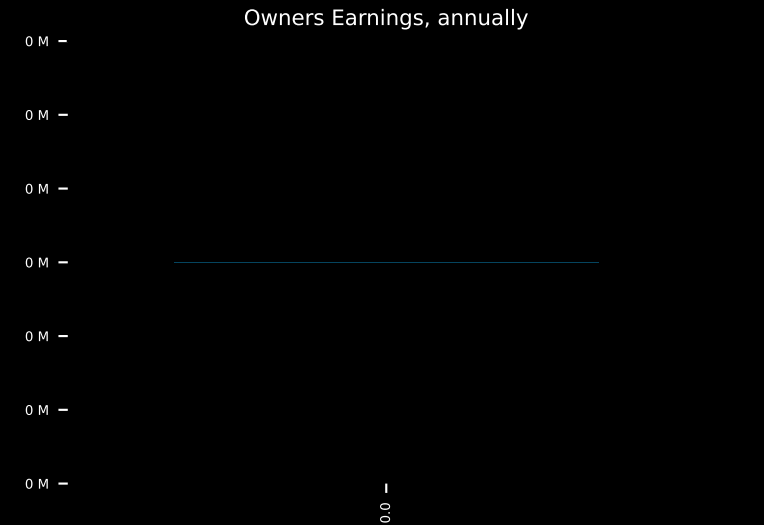
Superconductor Technologies Inc., together with its subsidiaries, develops, produces, and commercializes high temperature superconductor materials and related technologies in the United States. It is also involved in developing conductus superconducting wire for power applications. The company was founded in 1987 and is headquartered in Austin, Texas.

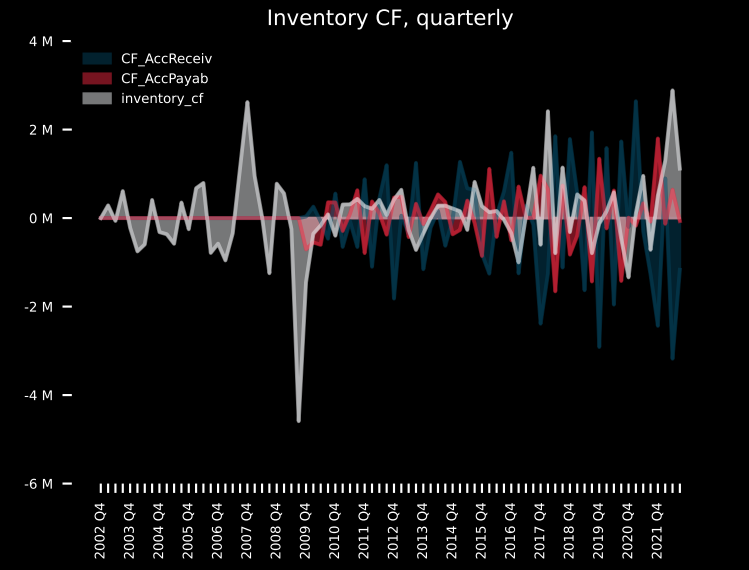

Sales, NI & Operating CF, quarterly
revenue
netIncome
operatingCashFlow
20 M
10 M
0 M
-10 M
-20 M
-30 M
2002 Q4
2003 Q4
2004 Q4
2005 Q4
2006 Q4
2007 Q4
2008 Q4
2009 Q4
2010 Q4
2011 Q4
2012 Q4
2013 Q4
2014 Q2
2014 Q4
2015 Q4
2016 Q4
2017 Q4
2018 Q4
2019 Q4
2020 Q4
2021 Q4


AEHR / 0 / 0 / 2022-06-25
longTermDebt
shortTermDebt
cashAndCashEquivalents
totalStockholdersEquity
100 M
80 M
60 M
40 M
20 M
0 M


Sales, NI & Operating CF, annually
revenue
netIncome
operatingCashFlow
0 M
6 %
4 %
2 %
0 %
-1 %
-3 %
-6 %
0

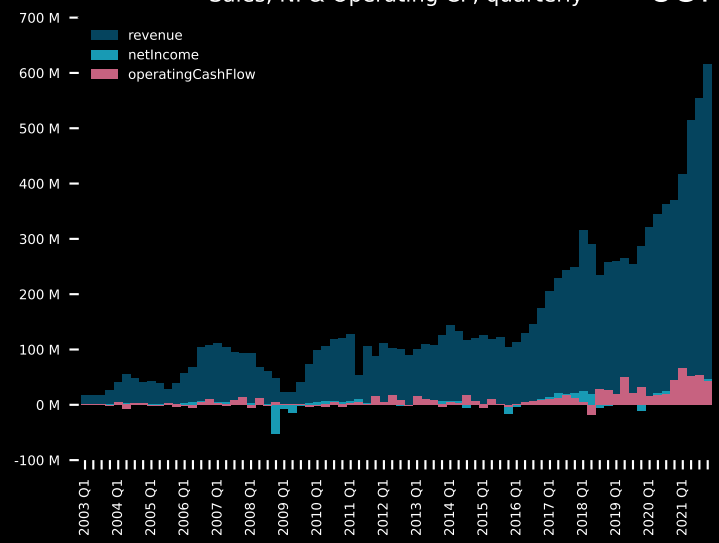

Price vs shares outstanding, quarterly
20.0
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
30 M
25 M
20 M
15 M
10 M
5 M
0 M
1997-08-31
2000-02-29
2002-08-31
2005-02-28
2007-08-31
2010-02-28
2012-08-31
2015-02-28
2017-08-31
2020-02-29

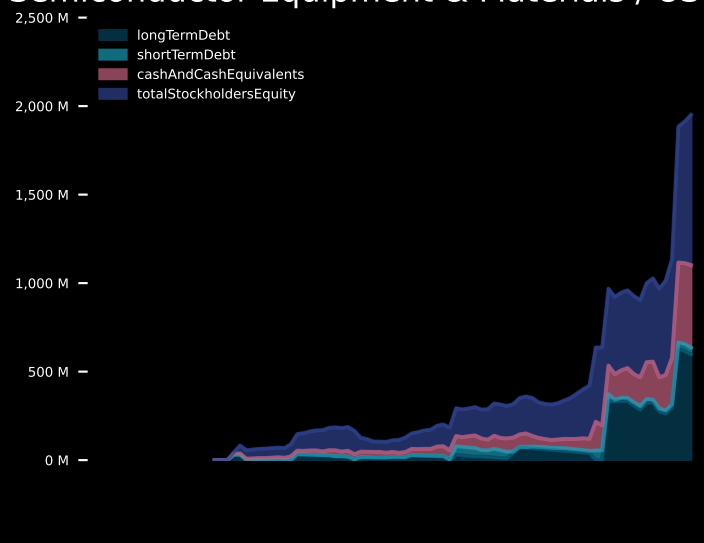

Owners Earnings, annually
0 M
0.0

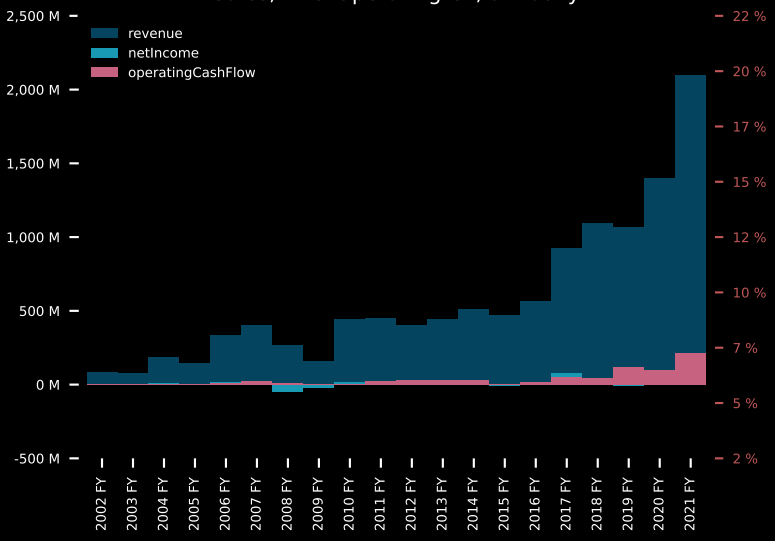

Inventory CF, quarterly
CF_AccReceiv
CF_AccPayab
inventory_cf
4 M
2 M
0 M
-2 M
-4 M
-6 M
2002 Q4
2003 Q4
2004 Q4
2005 Q4
2006 Q4
2007 Q4
2008 Q4
2009 Q4
2010 Q4
2011 Q4
2012 Q4
2013 Q4
2014 Q4
2015 Q4
2016 Q4
2017 Q4
2018 Q4
2019 Q4
2020 Q4
2021 Q4

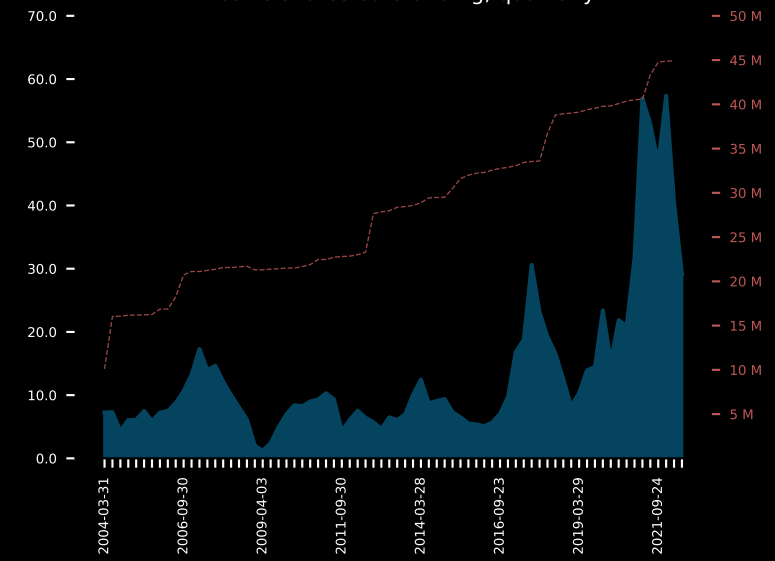
0

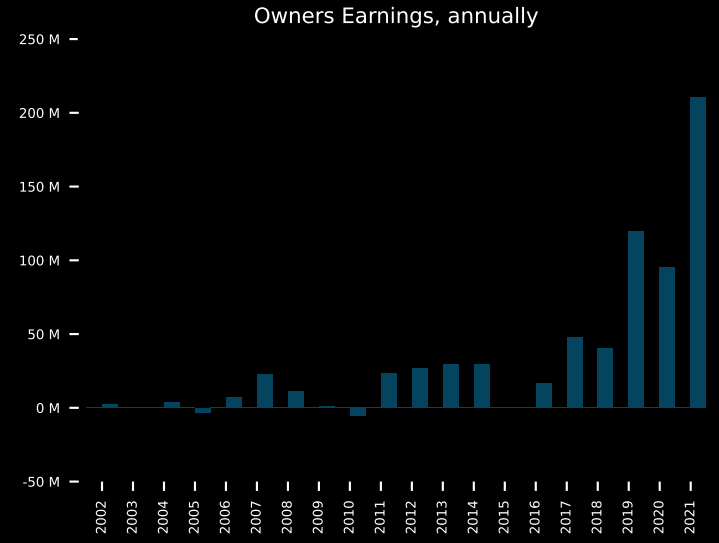
UCTT / Semiconductor Equipment & Materials / US / 2022

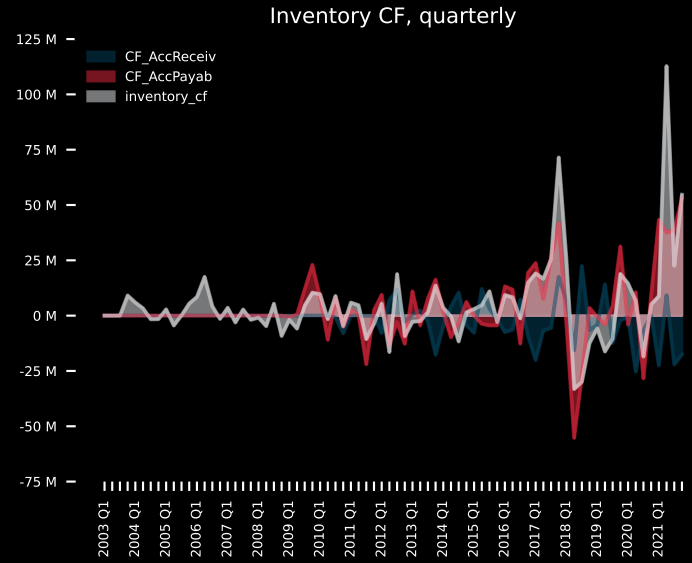






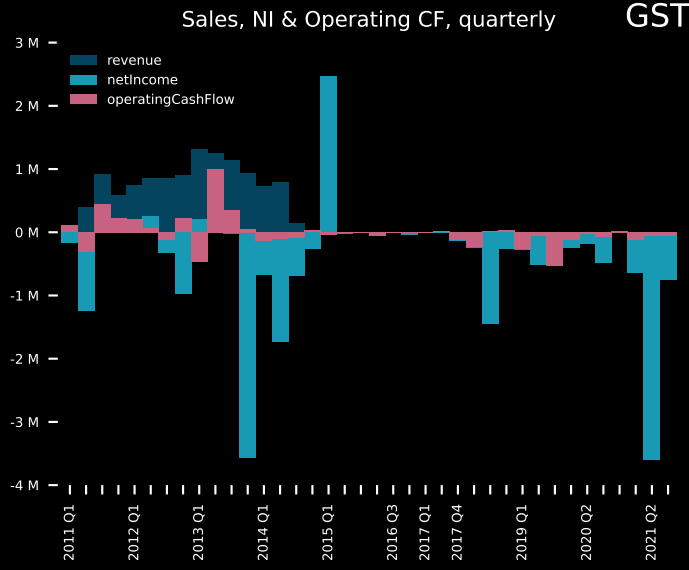


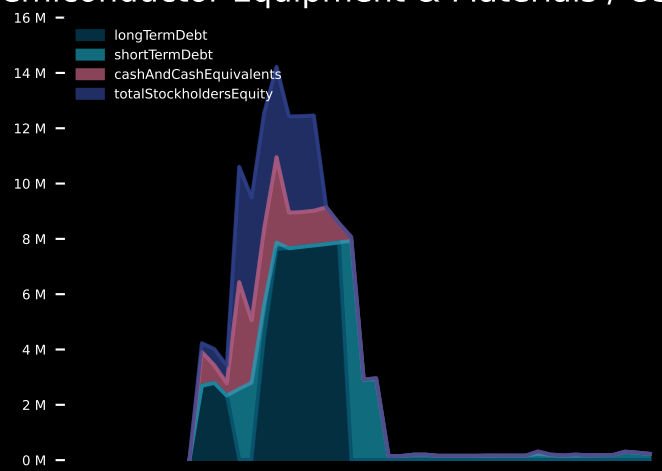


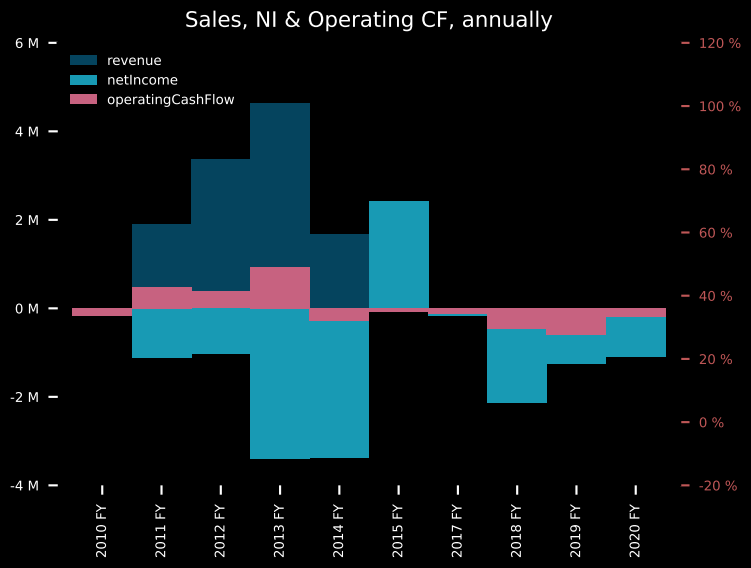


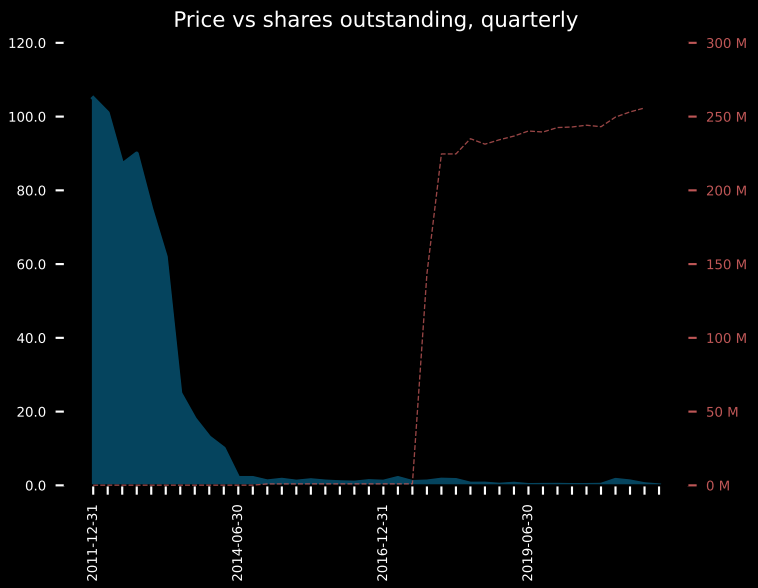
Ultra Clean Holdings, Inc. develops and supplies critical subsystems, components and parts, and ultra-high purity cleaning and analytical services for the semiconductor industry in the United States and internationally. The company provides ultra-clean valves, high purity connectors, industrial process connectors and valves, pneumatic actuators, manifolds and safety solutions, hoses, pressure gauges, and gas line and component heaters; chemical delivery modules that deliver gases and reactive chemicals in a liquid or gaseous form from a centralized subsystem to the reaction chamber; and gas delivery systems, such as weldments, filters, mass flow controllers, regulators, pressure transducers and valves, component heaters, and an integrated electronic and/or pneumatic control system. It also offers various industrial and automation production equipment; fluid delivery systems consist of one or more chemical delivery units

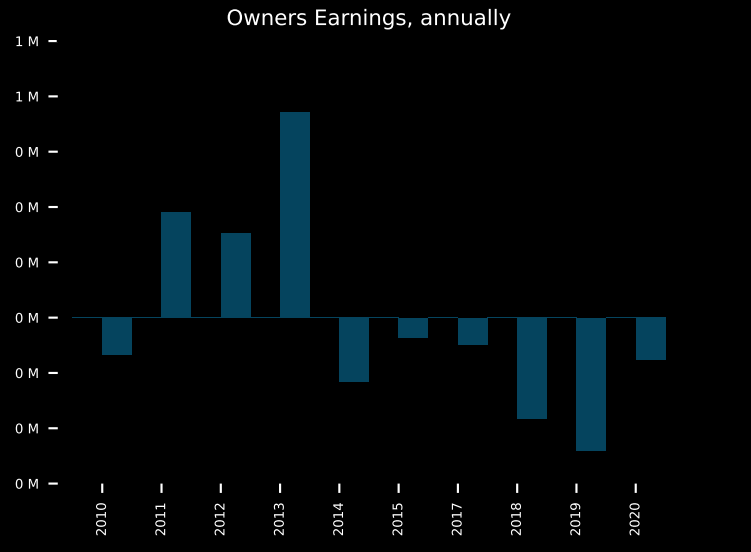
GSTX / Semiconductor Equipment & Materials / US / 2022

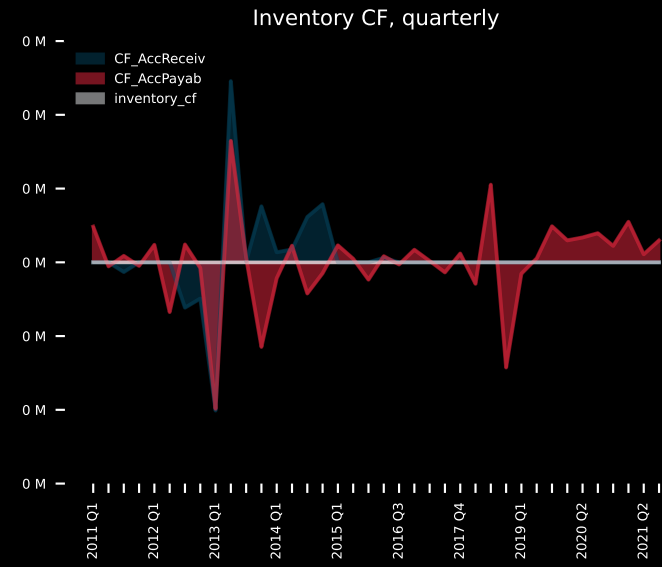






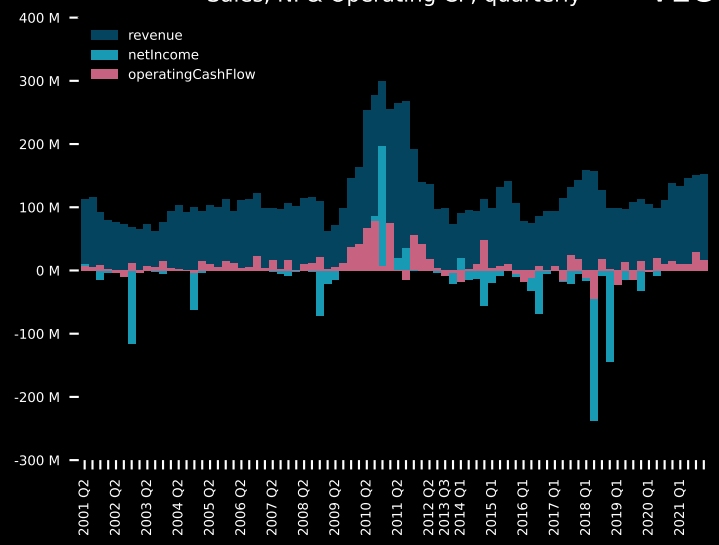


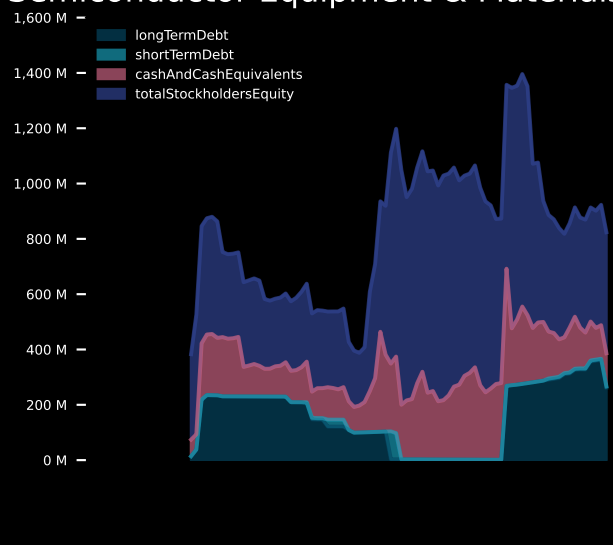


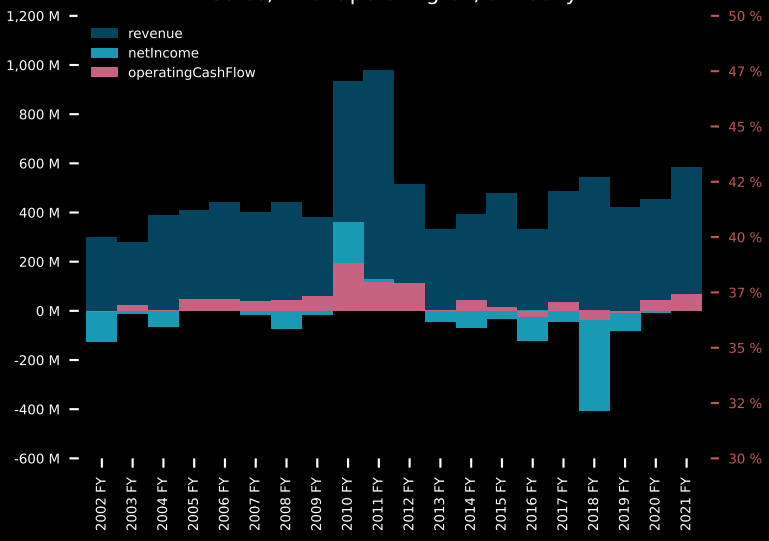


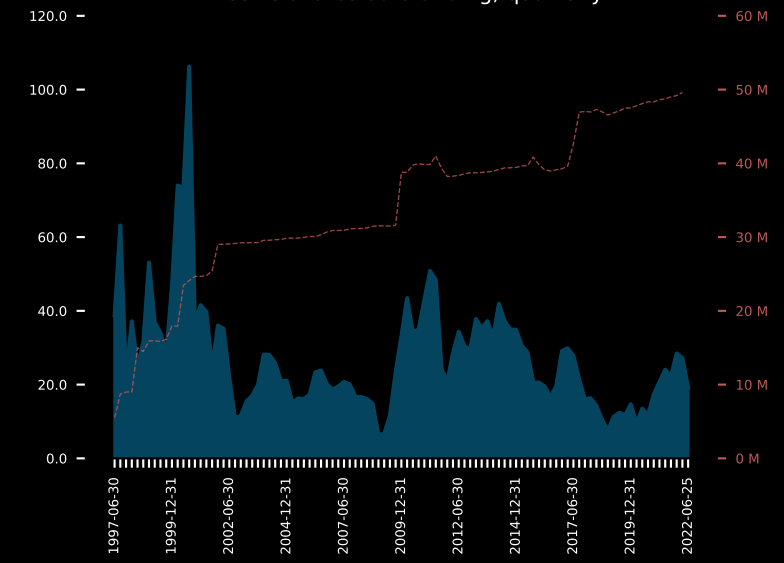
Graphene & Solar Technologies Limited produces high purity quartz sand. The company's products are used for manufacturing photovoltaic solar cells, semiconductors, and high-end electronics. It also owns Quartz Hill and White Springs deposits located in North Queensland, Australia. The company was formerly known as Solar Quartz Technologies Corporation and changed its name to Graphene & Solar Technologies Limited in September 2018. Graphene & Solar Technologies Limited was incorporated in 2010 and is based in Beverly Hills, California.

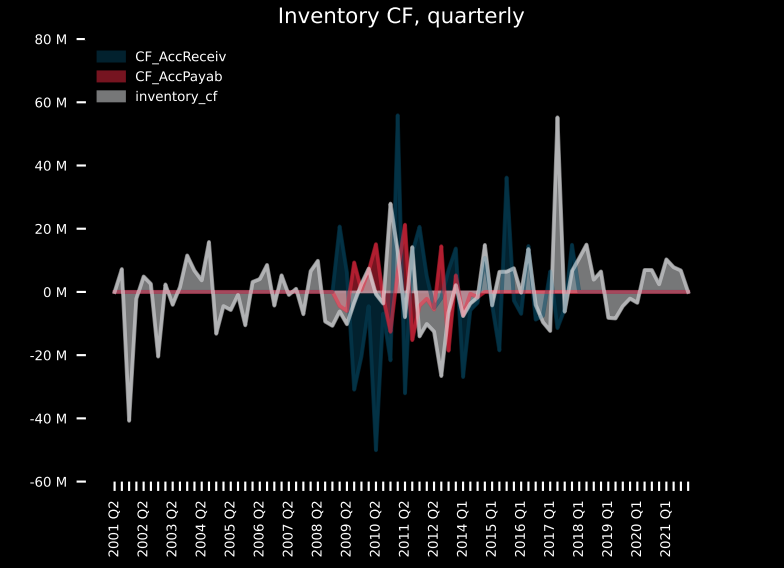
VECO / Semiconductor Equipment & Materials / US / 2022





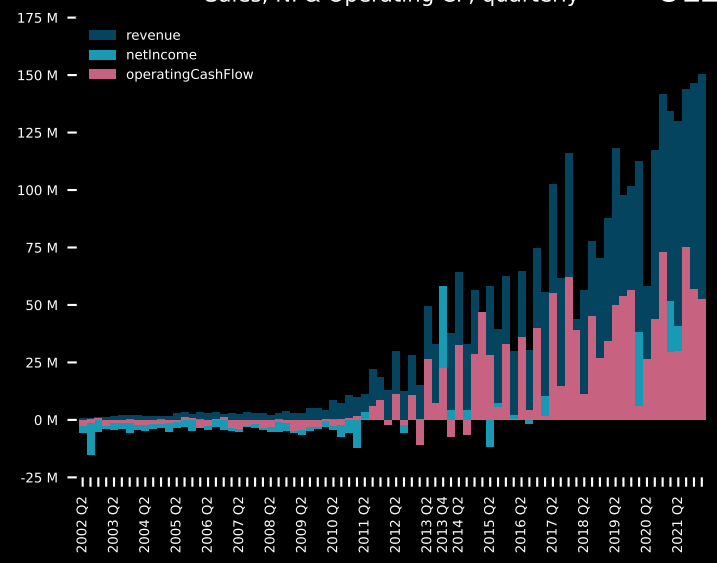


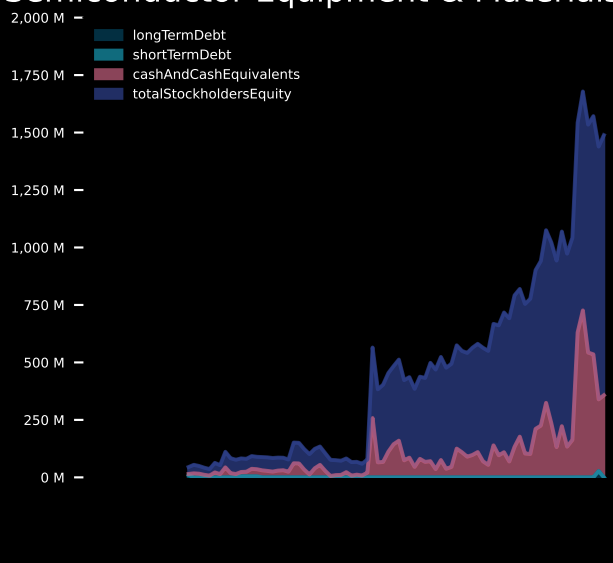


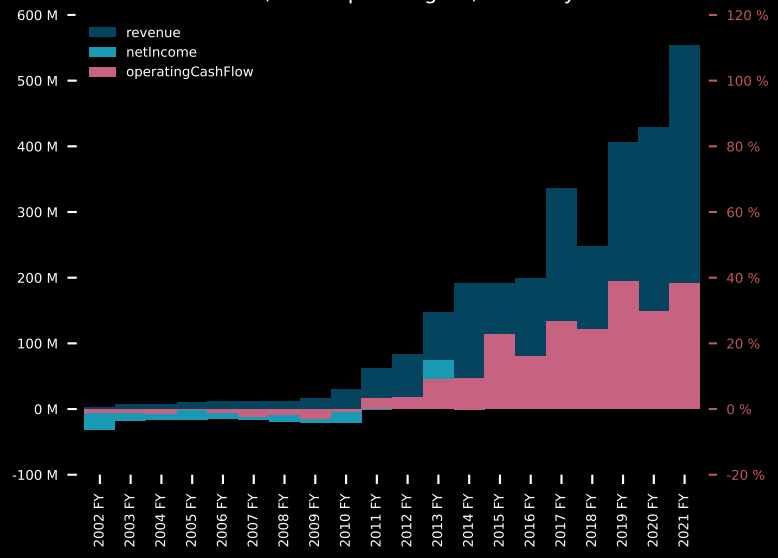


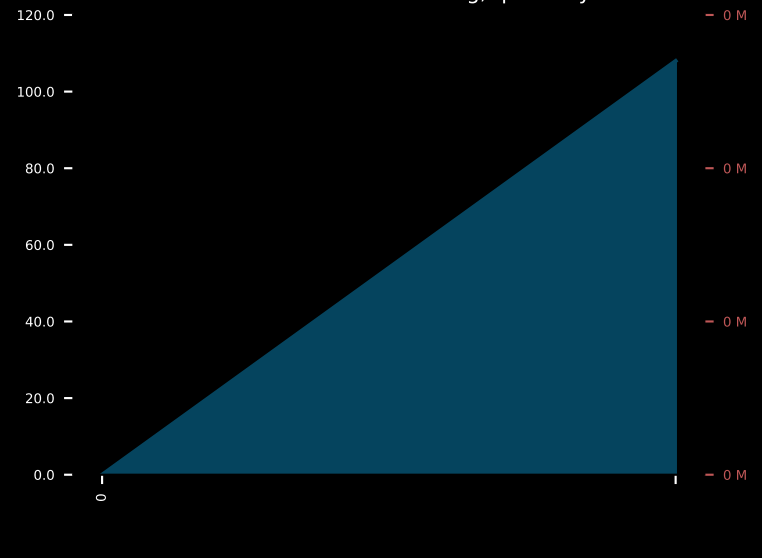
Veeco Instruments Inc., together with its subsidiaries, develops, manufactures, sells, and supports semiconductor and thin film process equipment primarily to make electronic devices worldwide. The company offers laser annealing, ion beam deposition and etch, metal organic chemical vapor deposition, single wafer wet processing and surface preparation, molecular beam epitaxy, and atomic layer deposition and other deposition systems, as well as packaging lithography equipment. Its process equipment systems are used in the production of a range of microelectronic components, including logic, dynamic random-access memory, photonics devices, power electronics, radio frequency filters and amplifiers, magnetic heads for hard disk drives, and other semiconductor devices. In addition, the company markets and sells its

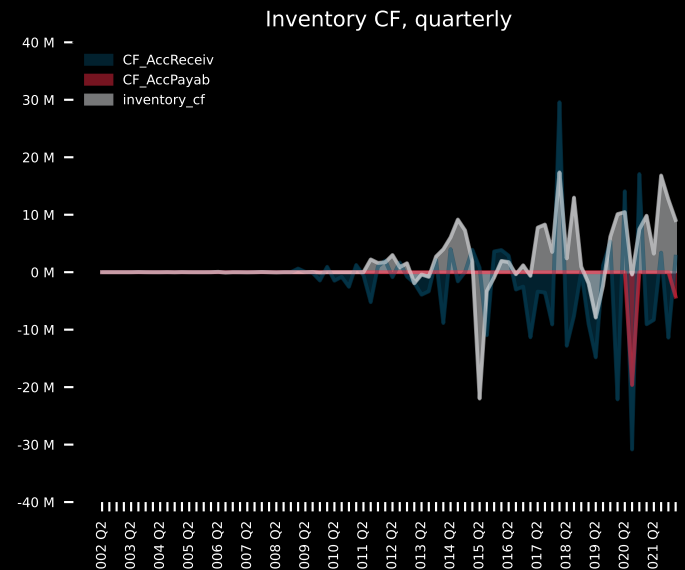
OLED / Semiconductor Equipment & Materials / US / 202





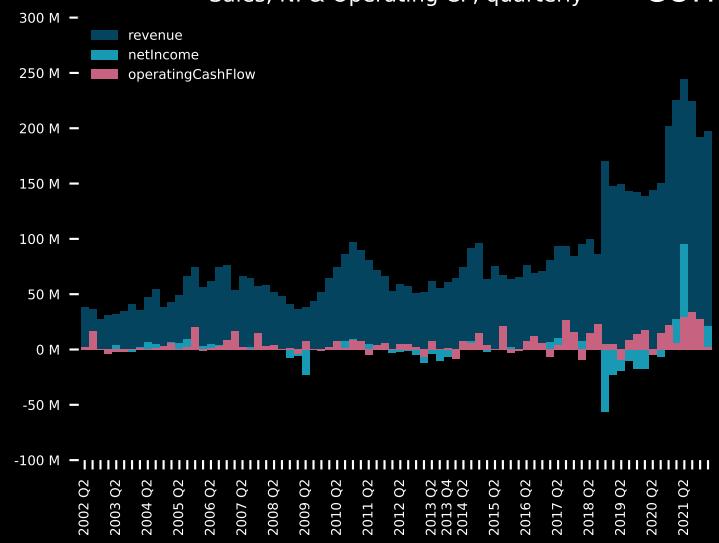


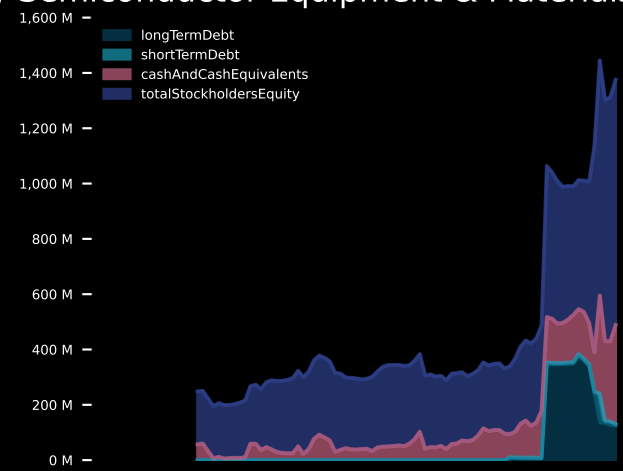


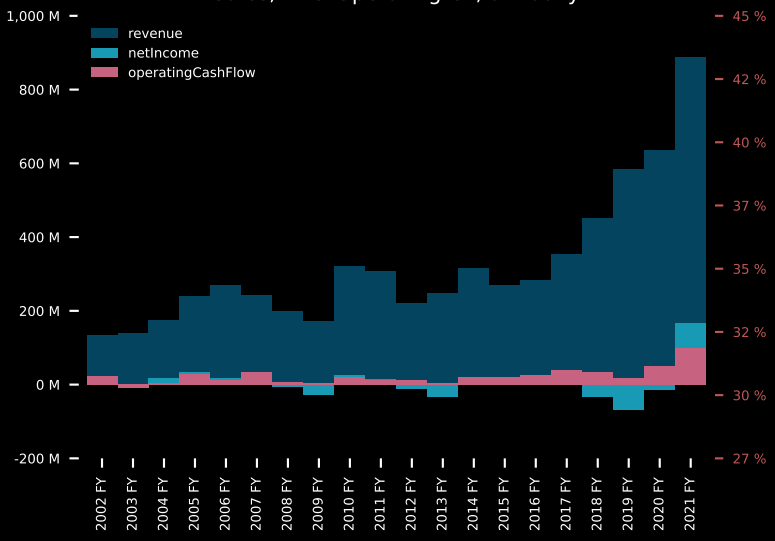


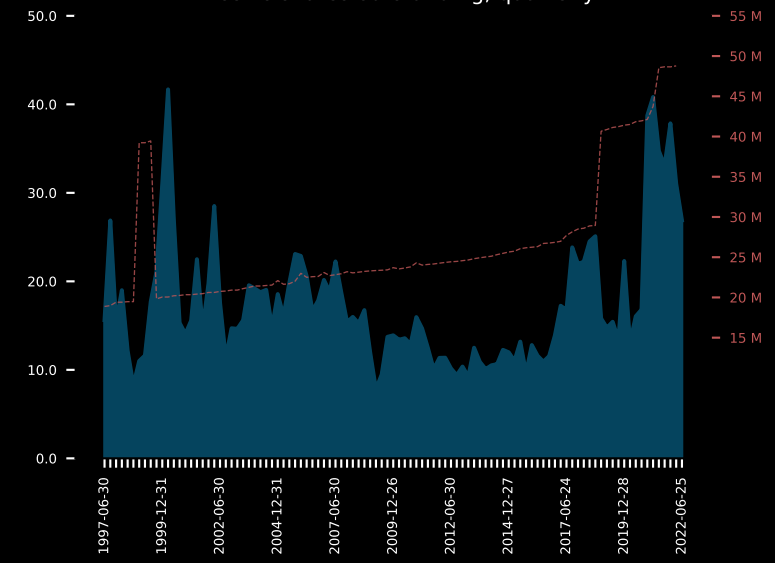
Universal Display Corporation engages in the research, development, and commercialization of organic light emitting diode (OLED) technologies and materials for use in display and solid-state lighting applications. It owns, exclusively licenses, or has sole rights to sublicense approximately 5,500 issued and pending patents worldwide. The company supplies its proprietary UniversalPHOLED materials to display and lighting manufacturers, and others. It is also involved in the research, development, and commercialization of other OLED device and manufacturing technologies, including FOLED that are flexible OLEDs for the fabrication of OLEDs on flexible substrates; OVJP, an organic vapor jet printing technology; thin-film encapsulation technology for the packaging of flexible OLEDs and other thin-film devices, as well as for use as a barrier film for plastic substrates; and UniversalP2OLED, which are printable

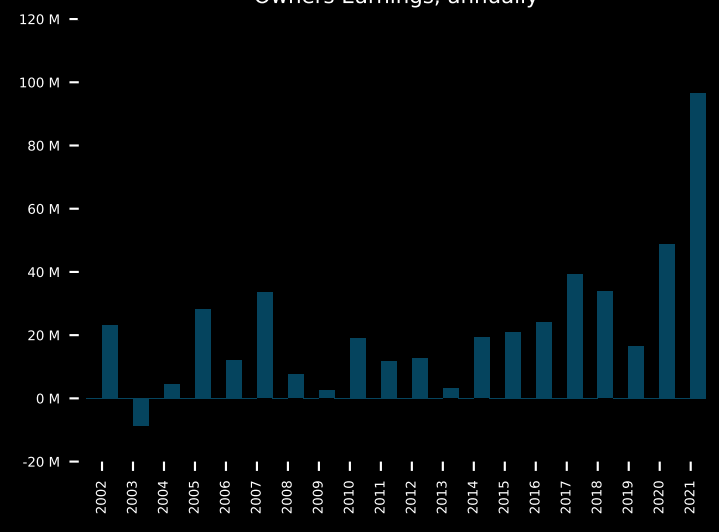
COHU / Semiconductor Equipment & Materials / US / 2022

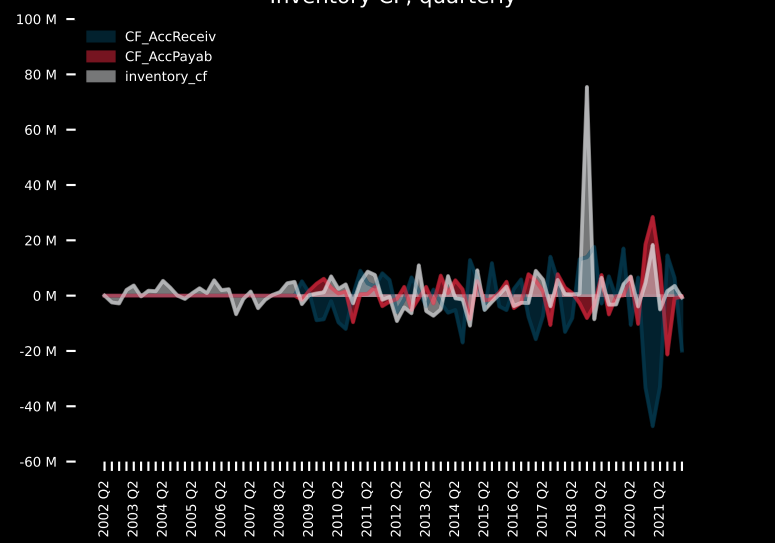






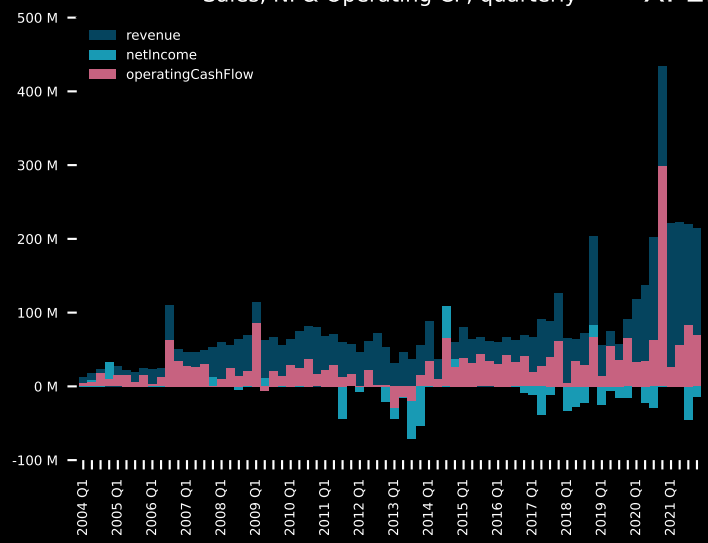


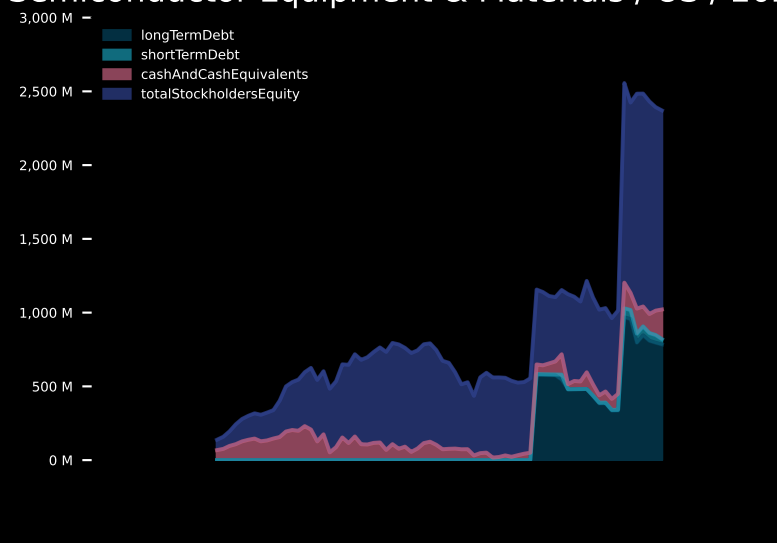


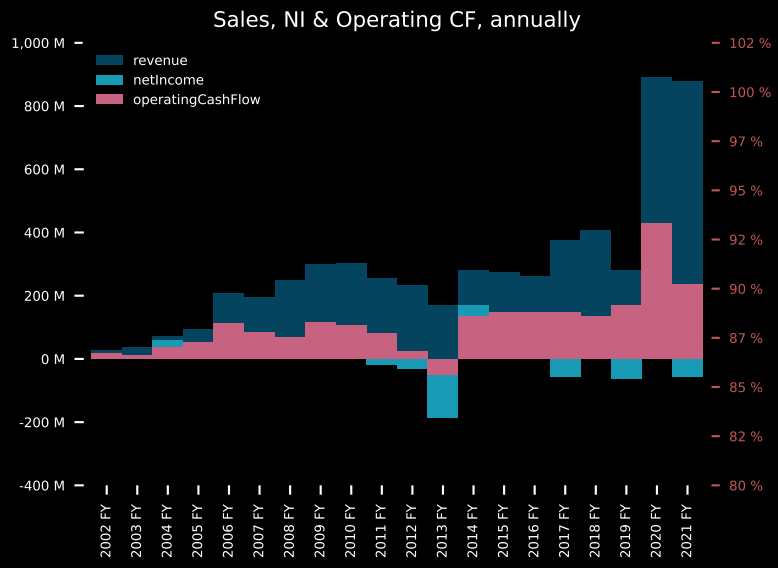


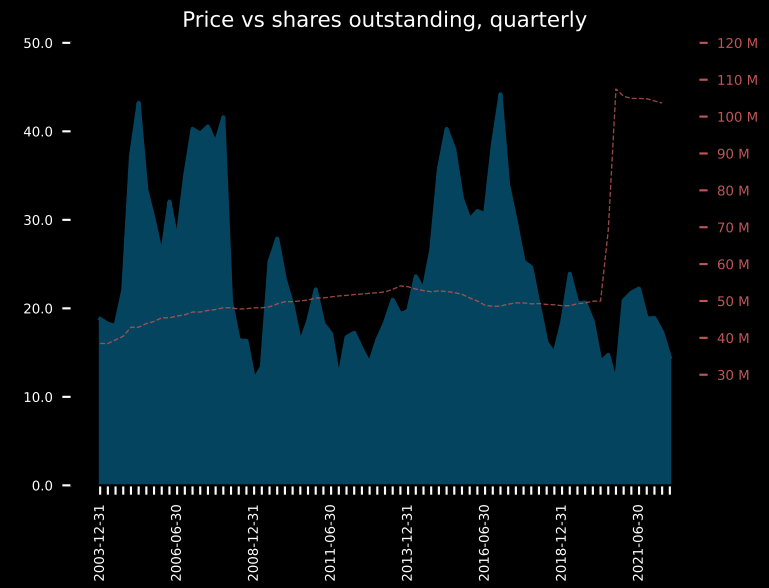
Cohu, Inc., through its subsidiaries, provides semiconductor test equipment and services in China, the United States, Taiwan, Malaysia, the Philippines, and internationally. The company supplies semiconductor test and inspection handlers, micro-electromechanical system (MEMS) test modules, test contactors, thermal sub-systems, and semiconductor automated test equipment for semiconductor and electronics manufacturers, and test subcontractors. It also provides semiconductor automated test equipment for wafer level and device package testing; various test handlers, including pick-and-place, turret, gravity, strip, and MEMS and thermal sub-systems; interface products comprising test contactors, and probe heads and pins; spares and kits; various parts and labor warranties on test and handling systems, and instruments; and training on the maintenance and operation of its systems, as well as application, data

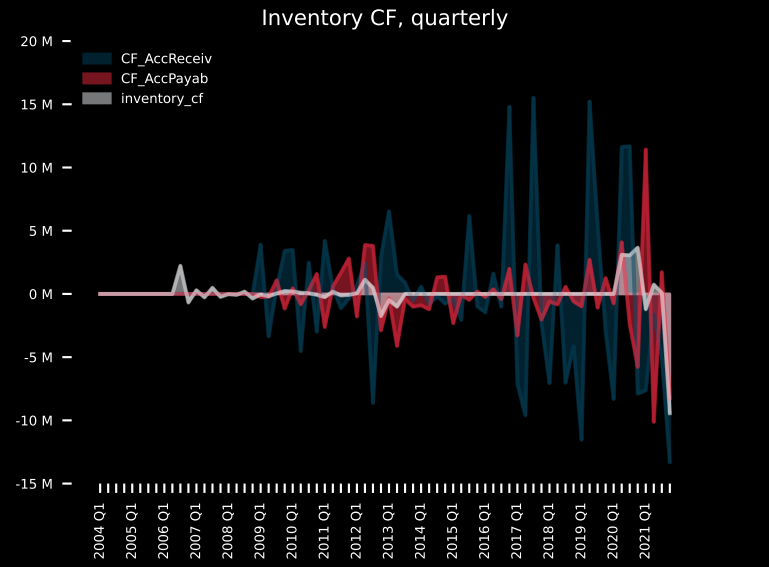
XPER / Semiconductor Equipment & Materials / US / 2022





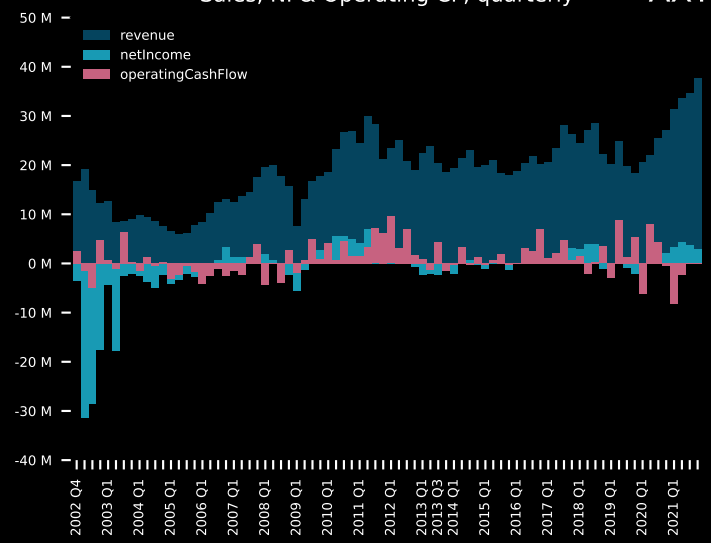


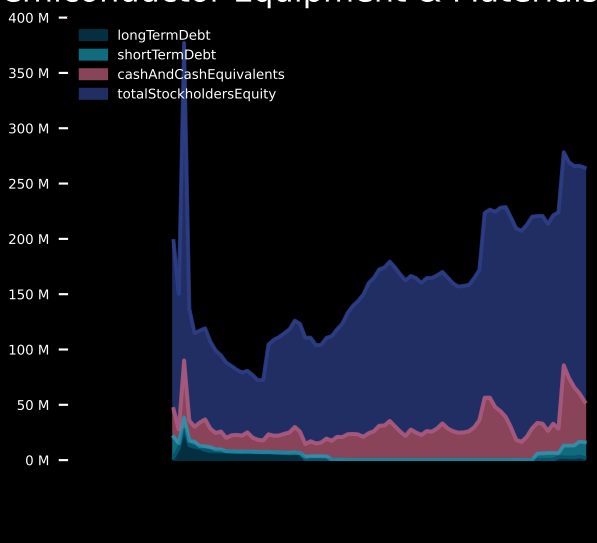


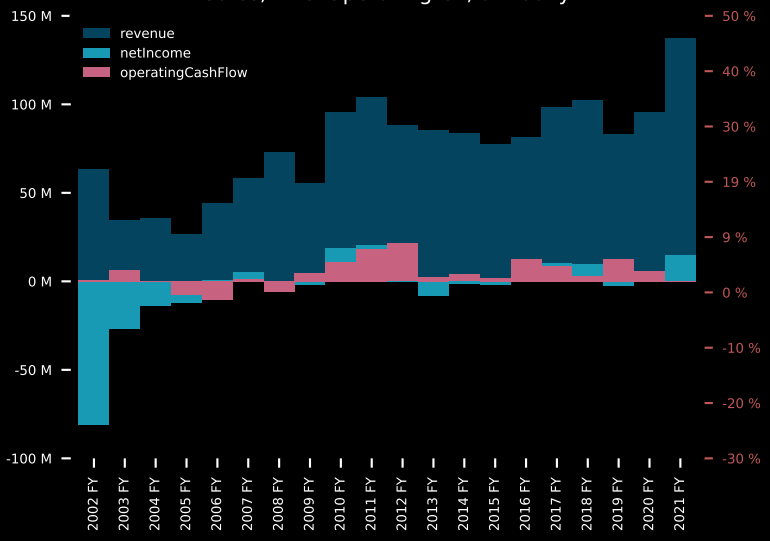


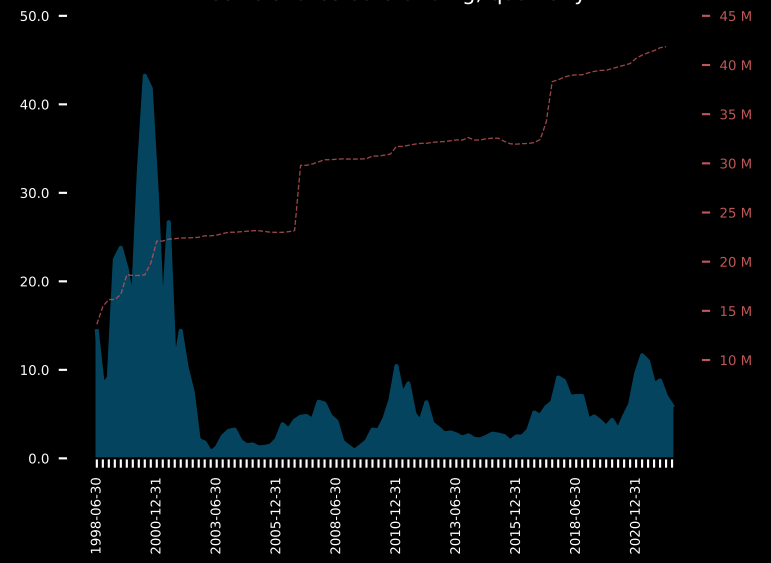
Xperi Holding Corporation, together with its subsidiaries, operates as a consumer and entertainment product/solutions licensing company worldwide. It operates through two segments, Intellectual Property Licensing and Product. The Intellectual Property Licensing segment primarily licenses its innovations to companies in the entertainment industry under the Adeia brand. This segment licenses its patent portfolios across various markets, including multichannel video programming distributors comprising cable, satellite, and telecommunications television providers that aggregate and distribute linear content over their own networks, as well as television providers that aggregate and stream linear content over broadband networks; over-the-top video service providers, social media, and other new media companies, such as subscription video on demand service providers and social media

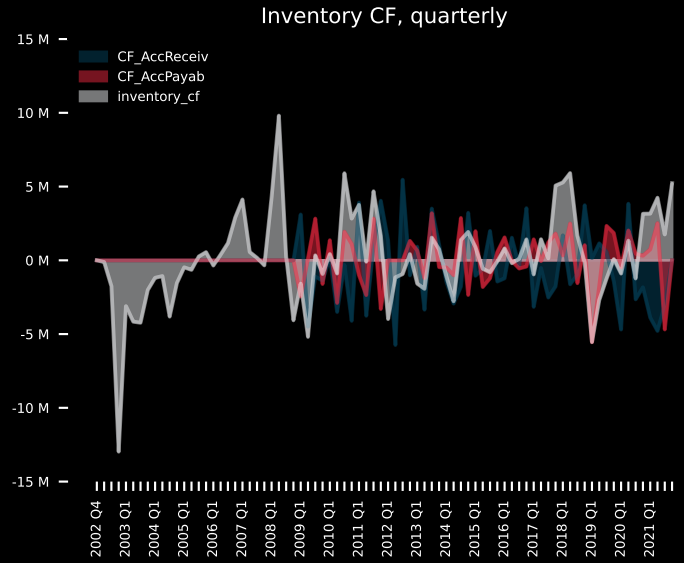
AXTI / Semiconductor Equipment & Materials / US / 2022





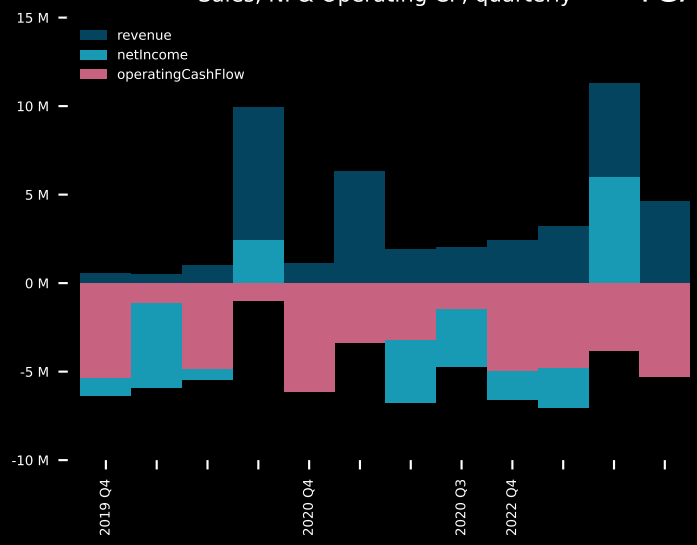


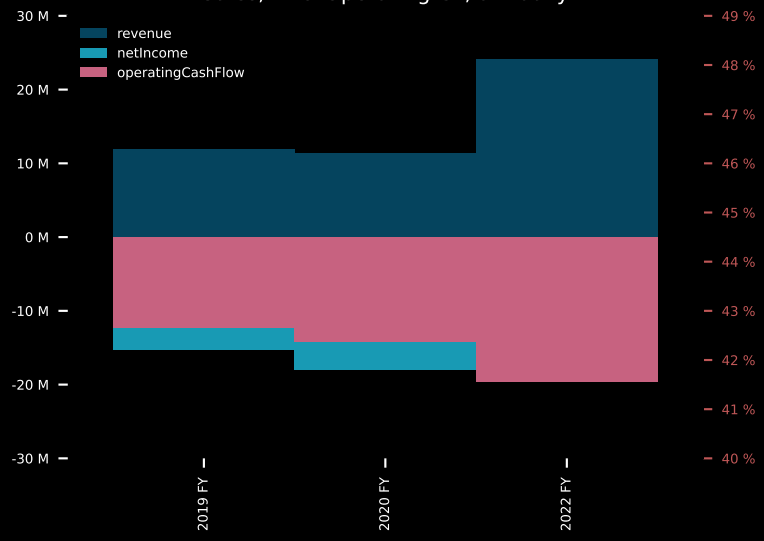


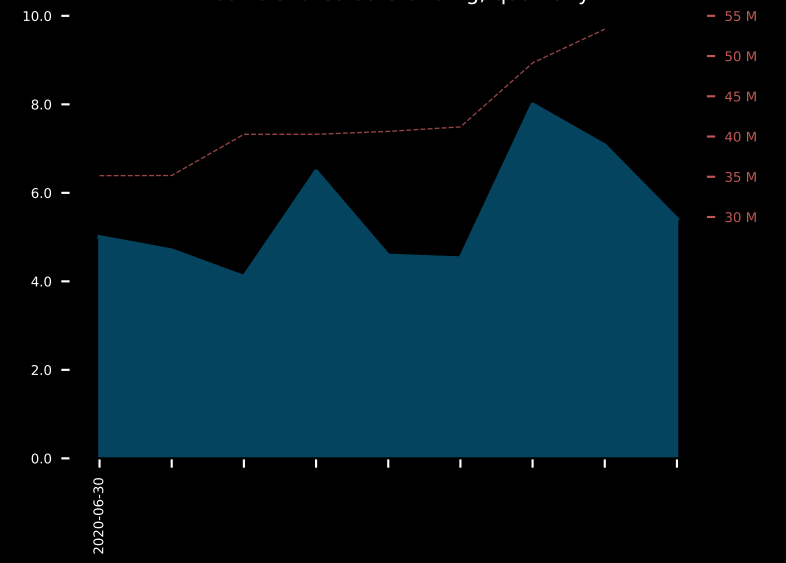


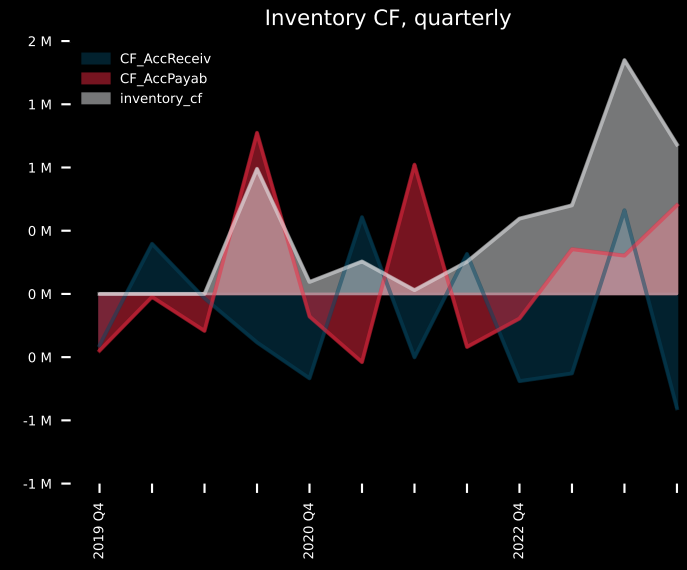
AXT, Inc. designs, develops, manufactures, and distributes compound and single element semiconductor substrates. It produces semiconductor substrates using its proprietary vertical gradient freeze technology. The company offers indium phosphide for use in data center connectivity using light/lasers, 5G communications, fiber optic lasers and detectors, passive optical networks, silicon photonics, photonic integrated circuits, terrestrial solar cells, RF amplifier and switching, infrared light-emitting diode (LEDS) motion control, lidar for robotics and autonomous vehicles, and infrared thermal imaging. It also provides semi-insulating gallium arsenide (GaAs) substrates for use in Wi-Fi and IoT devices, transistors, direct broadcast television, power amplifiers, satellite communications, and solar cells; and semi-conducting GaAs substrates that are used in LED, screen displays, printer head lasers and LEDs, 3-D

TGAN / Semiconductor Equipment & Materials / US / 2022



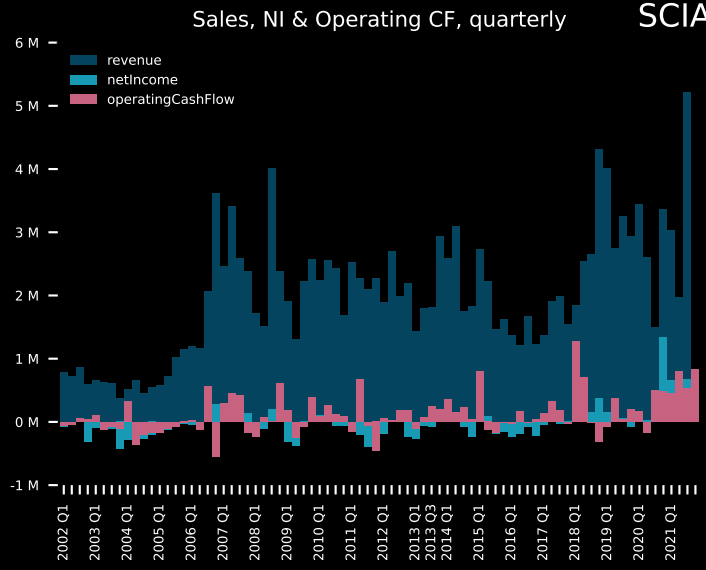


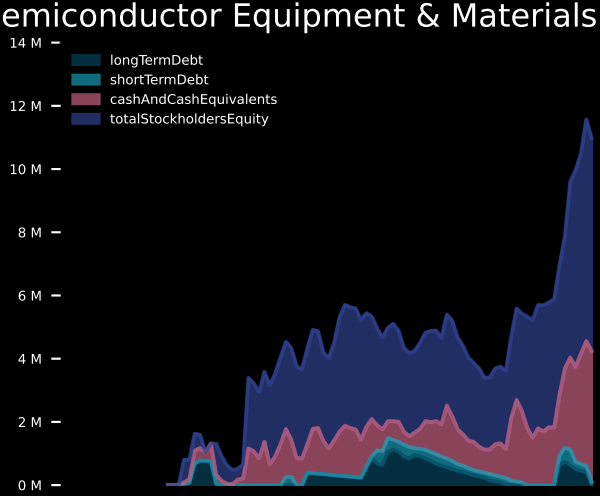


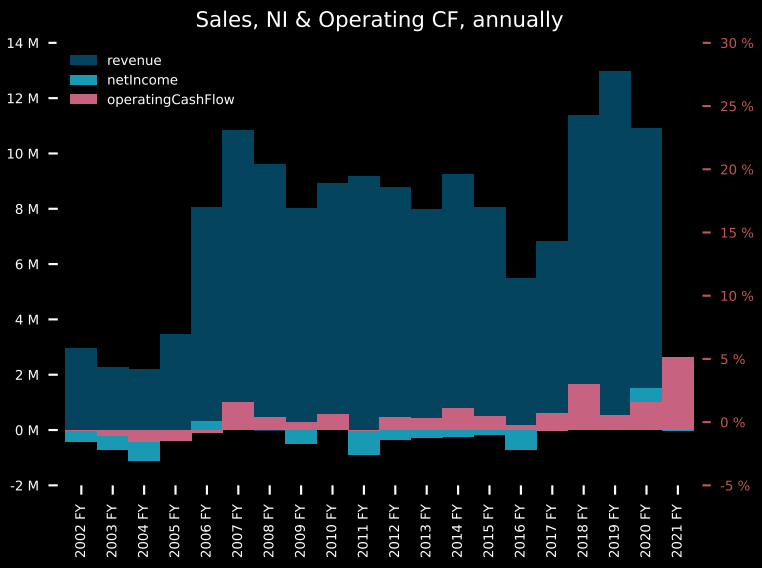


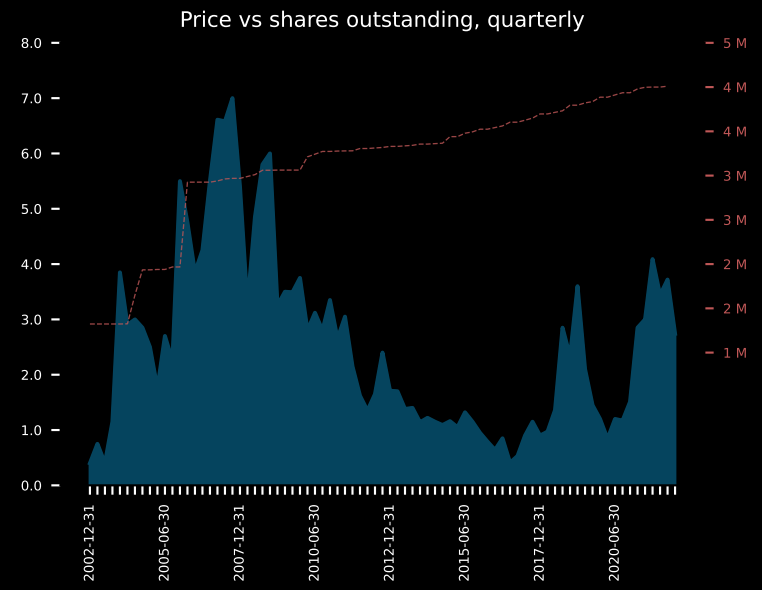
Transphorm, Inc. develops, manufactures, and sells gallium nitride (GaN) semiconductor components used in power conversion in Mainland China, Hong Kong, Taiwan, the United States, Japan, South Korea, and Europe. Its GaN devices allows customers to design smaller, lighter, and cooler power systems creating increased functional value in end products, including smartphone power adapters/fast-chargers, power supplies for datacenter servers/communication, industrial power converters, and chargers/converters/inverters for electric vehicles. The company offers its products through sales representatives and distributors. Transphorm, Inc. headquartered in Goleta, California.

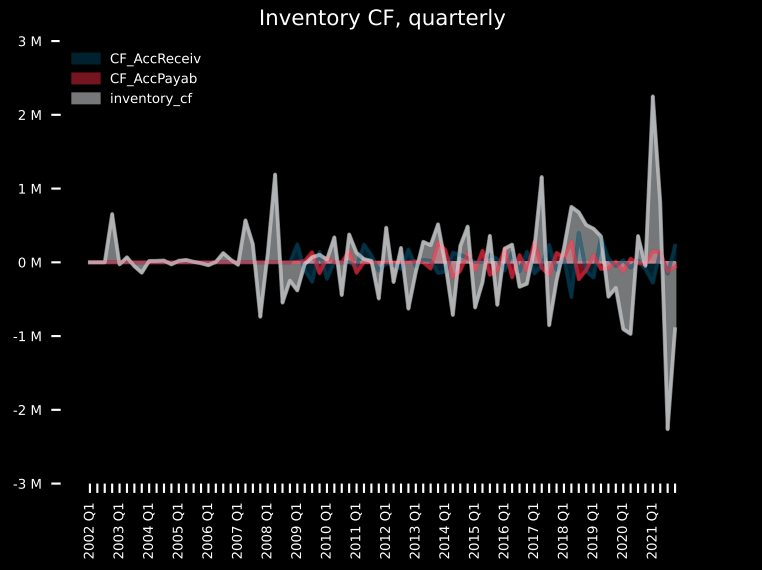
SCIA / Semiconductor Equipment & Materials / US / 2022





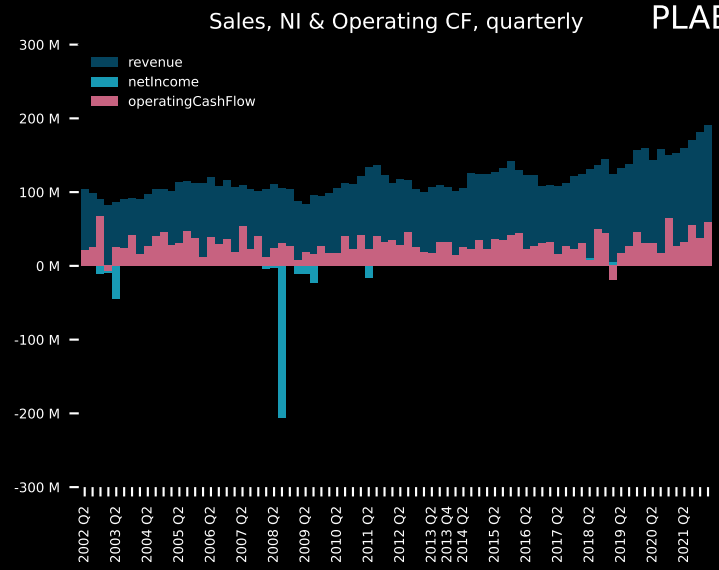


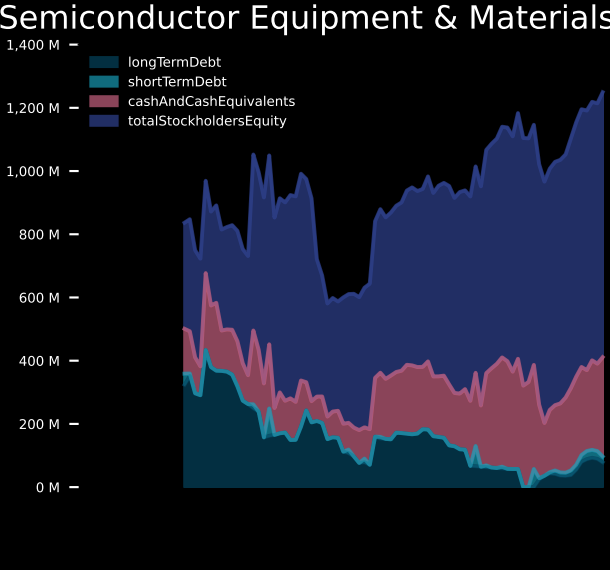


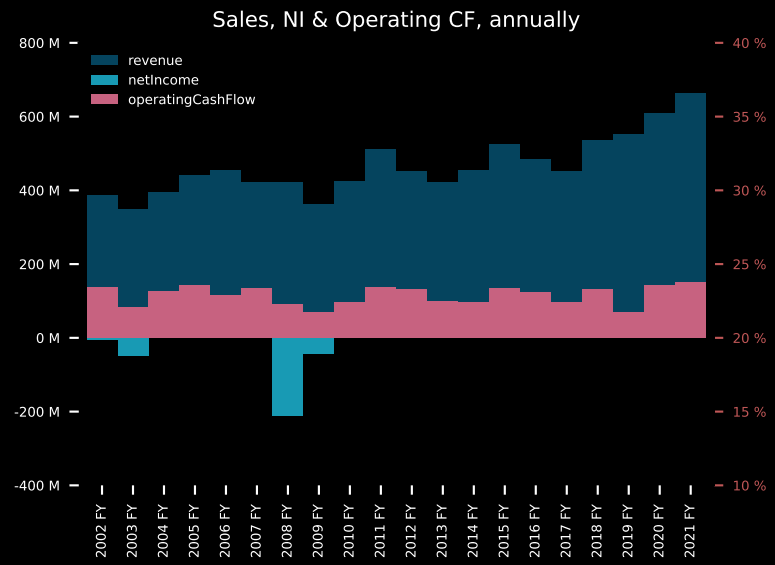


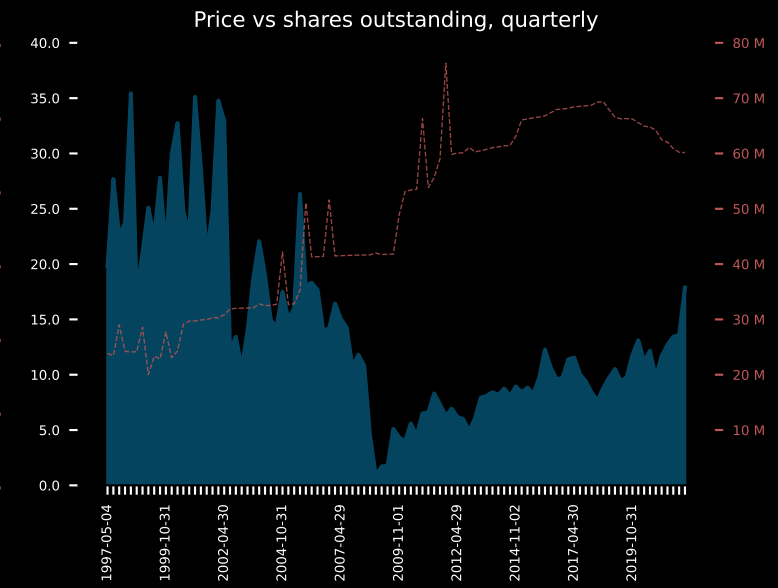
SCI Engineered Materials, Inc. manufactures and supplies materials for physical vapor deposition thin film applications. The company offers ceramic targets, metal sputtering targets, and backing plates for use in semiconductors, solar, flat panel displays, defense, aerospace, and photonics. Its materials are used to produce nano layers of metals and oxides for advanced material systems; and in applying decorative coatings for end uses, such as sink faucets to produce various electronic, photonic, and semiconductor products. The company serves domestic and multi-national corporations, universities, and research institutions. SCI Engineered Materials, Inc. distributes its products directly, as well as through independent distributors and manufacturers' representatives internationally. The company was formerly known as Superconductive Components, Inc. and changed its name to SCI Engineered Materials, Inc. in

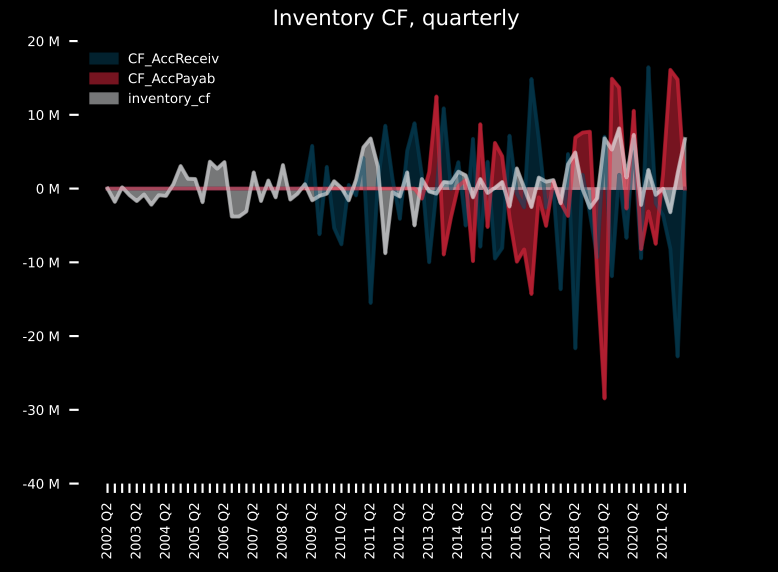
PLAB / Semiconductor Equipment & Materials / US / 2022



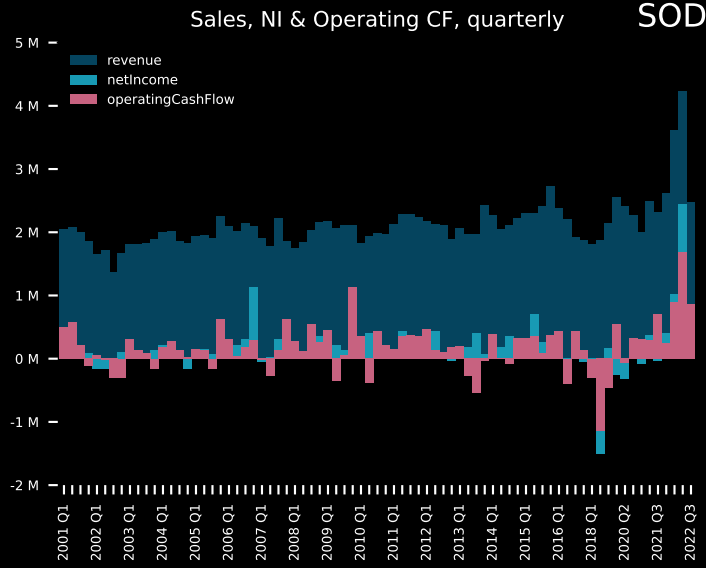


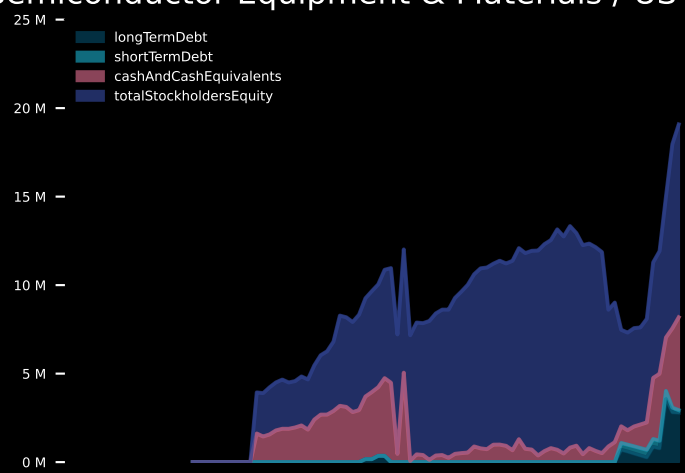


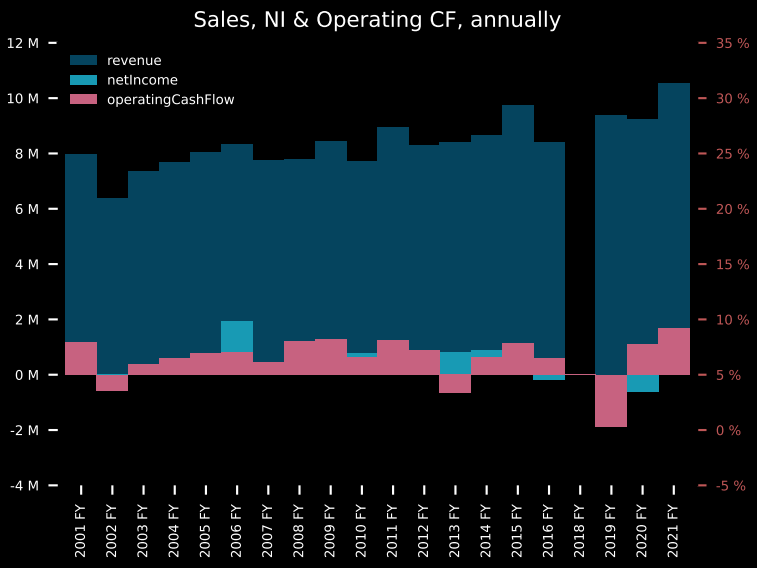


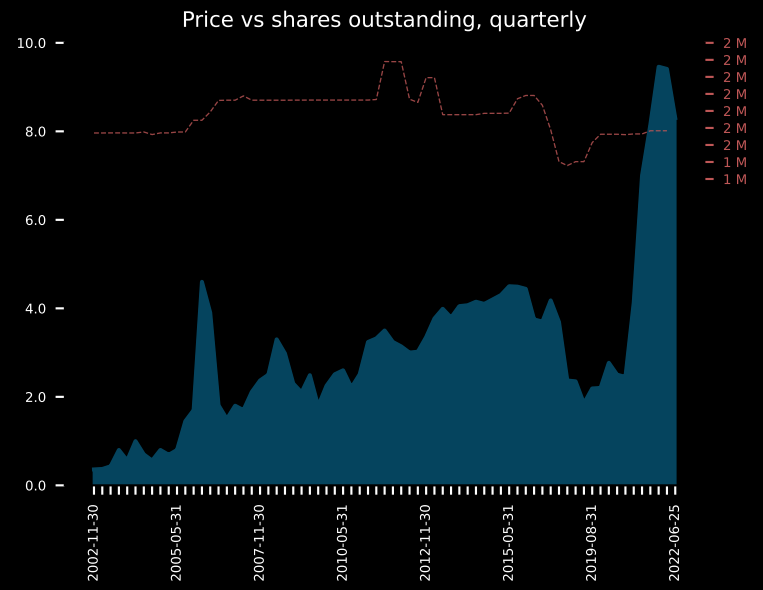


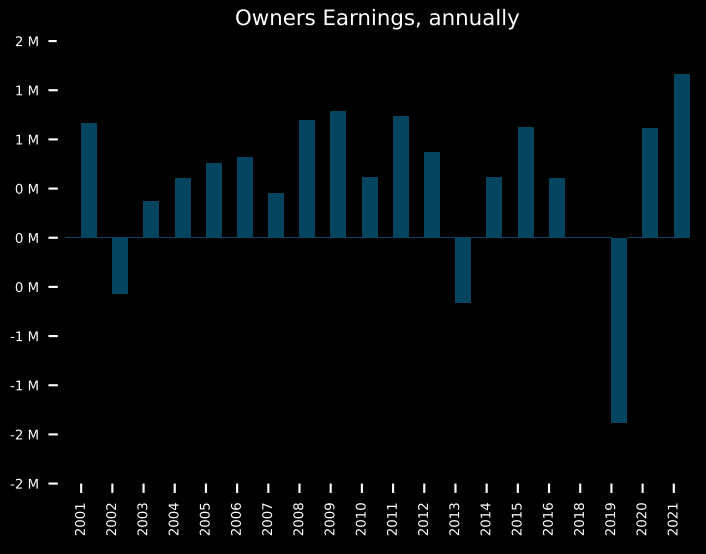
Photronics, Inc., together with its subsidiaries, engages in the manufacture and sale of photomask products and services in the United States, Taiwan, Korea, Europe, China, and internationally. The company offers photomasks that are used in the manufacture of integrated circuits and flat panel displays (FPDs); and to transfer circuit patterns onto semiconductor wafers, FDP substrates, and other types of electrical and optical components. It sells its products to semiconductor and FPD manufacturers, designers, and foundries, as well as to other high-performance electronics manufacturers through its sales personnel and customer service representatives. The company was formerly known as Photronic Labs, Inc. and changed its name to Photronics, Inc. in 1990. Photronics, Inc. was incorporated in 1969 and is based in Brookfield, Connecticut.

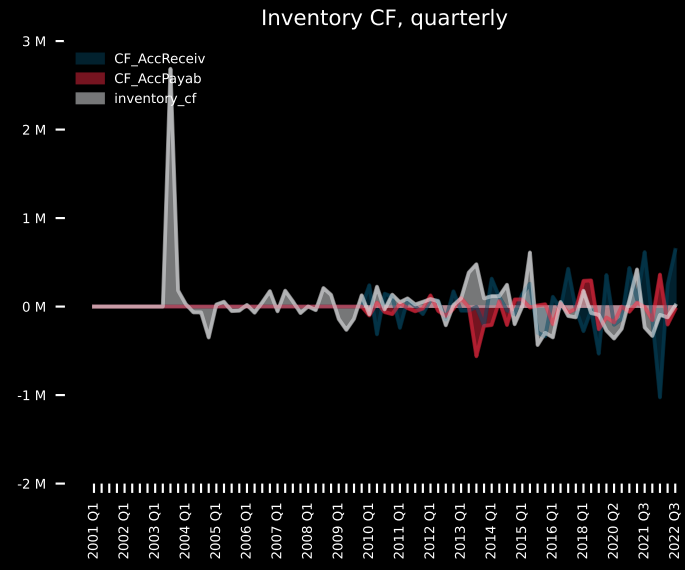






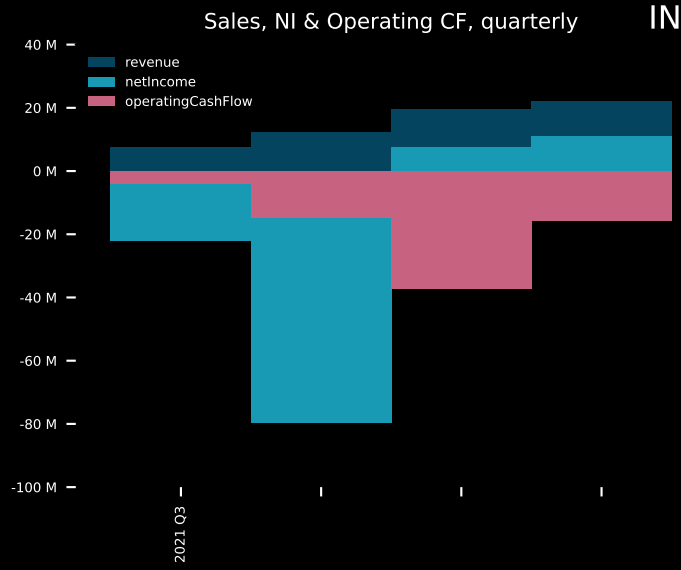


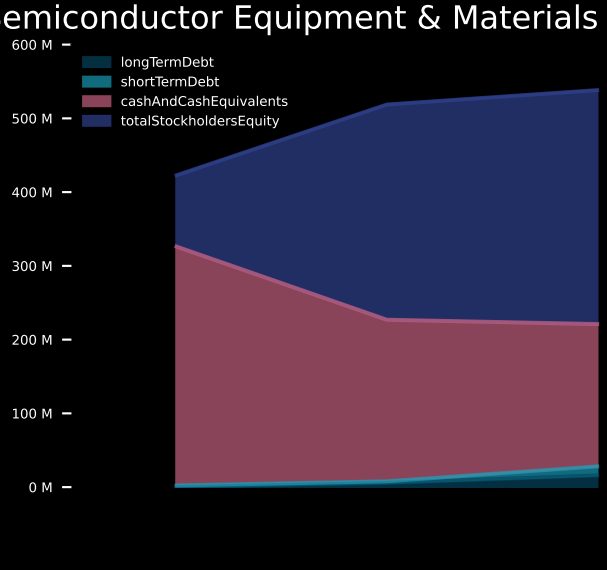


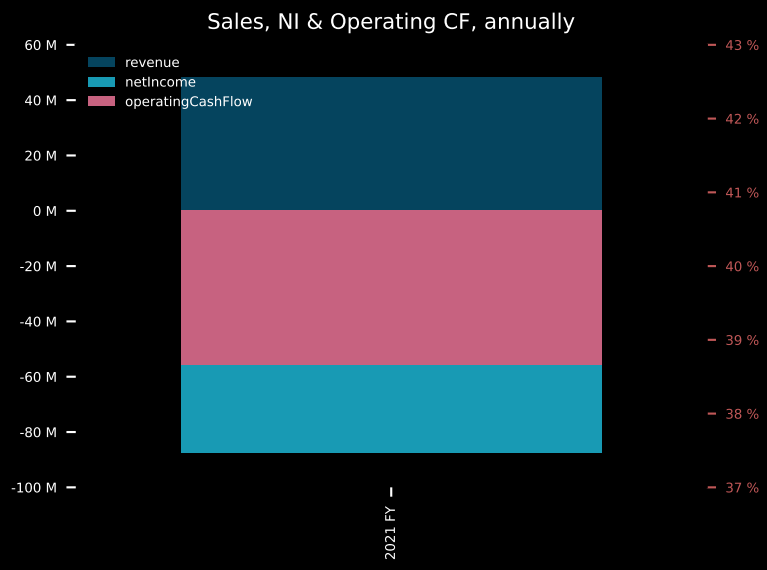


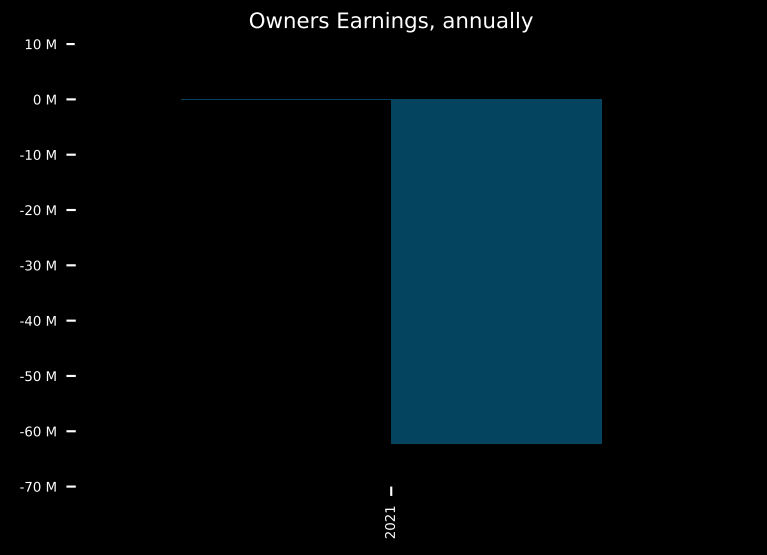
Solitron Devices, Inc. designs, develops, manufactures, and markets solid-state semiconductor components and related devices primarily for the military and aerospace markets. The company offers various bipolar and metal oxide semiconductor (MOS) power transistors, power and control hybrids, junction and power MOS field effect transistors, field effect transistors, and other related products. It also provides joint army/navy transistors, diodes, and standard military drawings voltage regulators to the general electronic industry. The company's semiconductor products are used as components of military, commercial, and aerospace electronic equipment, such as ground and airborne radar systems, power distribution systems, missiles, missile control systems, satellites, and space applications, as well as for non-military, scientific, and industrial applications. It operates in the United States, Canada, Latin America

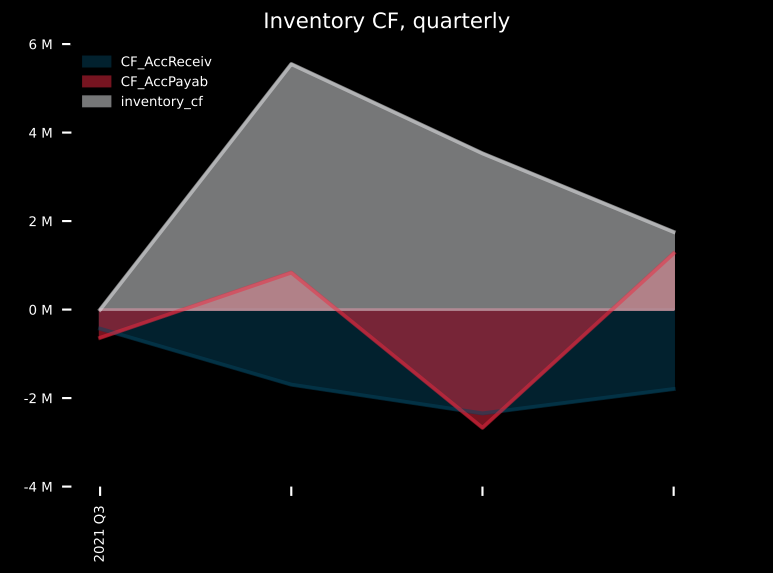
INDI / Semiconductor Equipment & Materials / US / 2022-





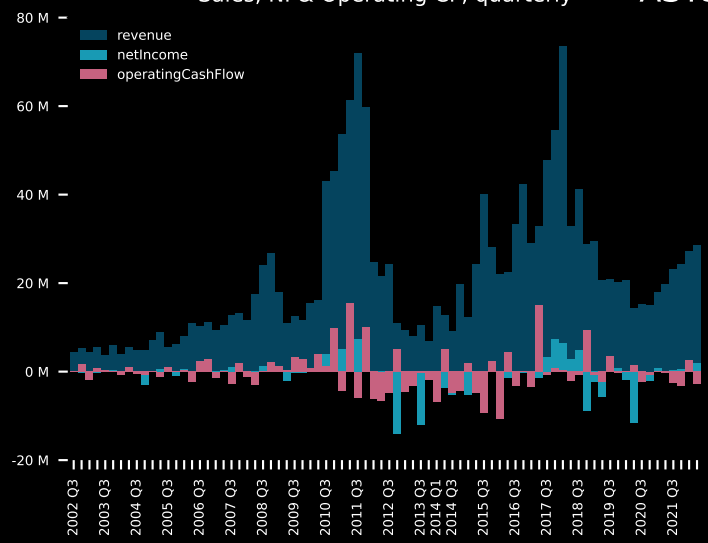


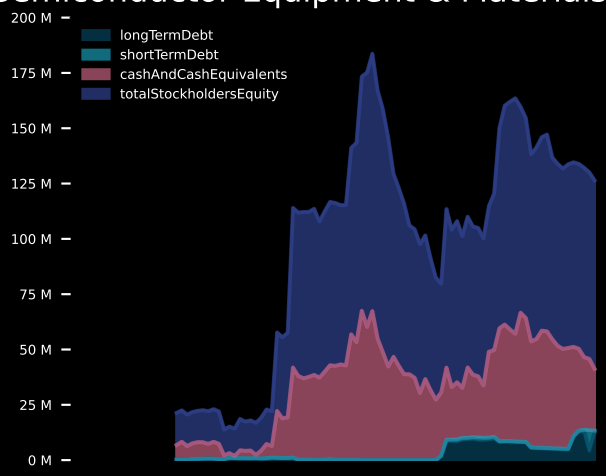


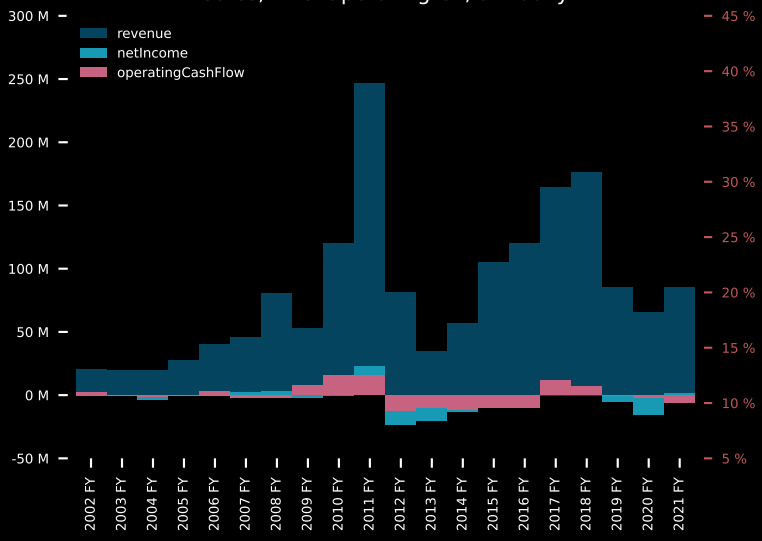


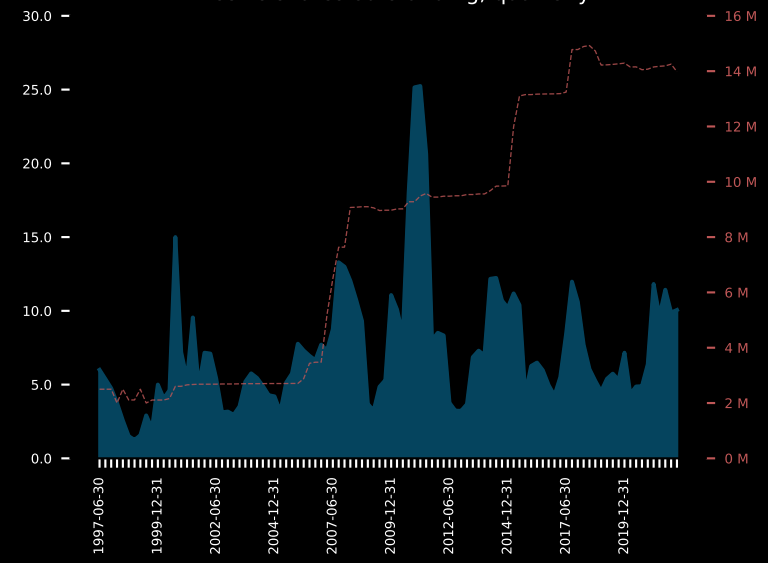
indie Semiconductor, Inc. provides automotive semiconductors and software solutions for advanced driver assistance systems, connected car, user experience, and electrification applications. It offers devices for a multitude of automotive applications spanning ultrasound for parking assistance, in cabin wireless charging, infotainment and LED lighting for enhancing the user experience, and telematics and cloud access for connectivity; and photonic components on various technology platforms, including fiber bragg gratings, low noise lasers, athermal and tunable packaging, photonic integration, and low noise and high-speed electronics for the laser systems, optical sensing, and optical communication markets. The company was incorporated in 2007 and is headquartered in Aliso Viejo, California.

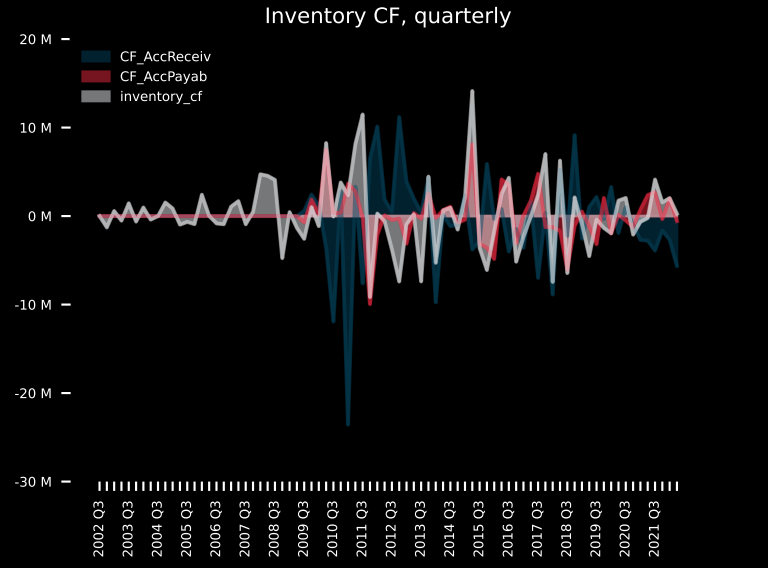
ASYS / Semiconductor Equipment & Materials / US / 2022





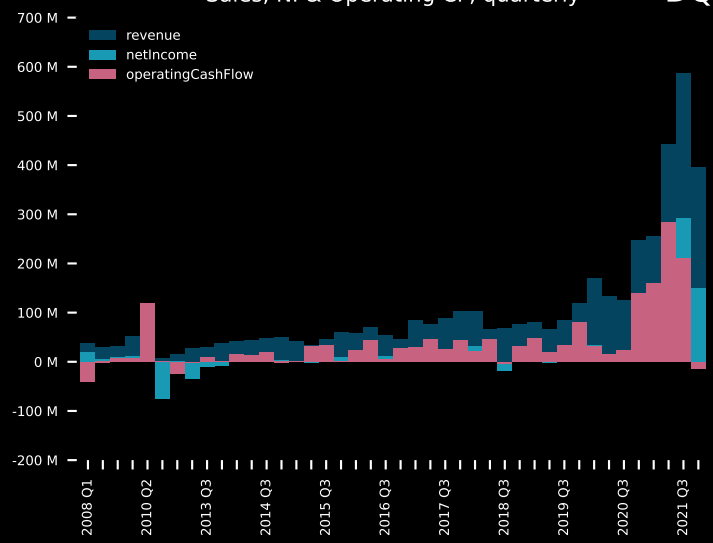


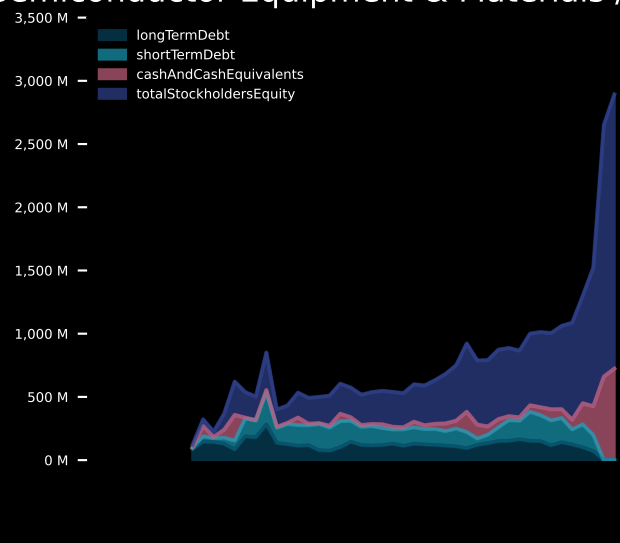


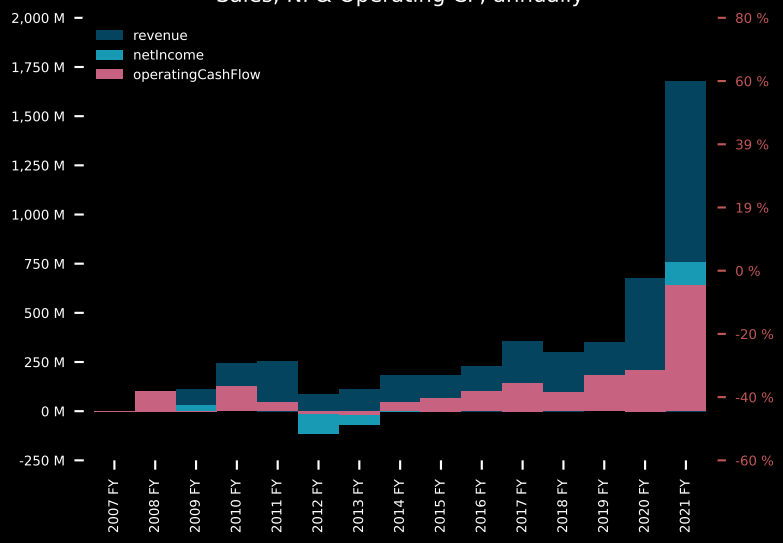


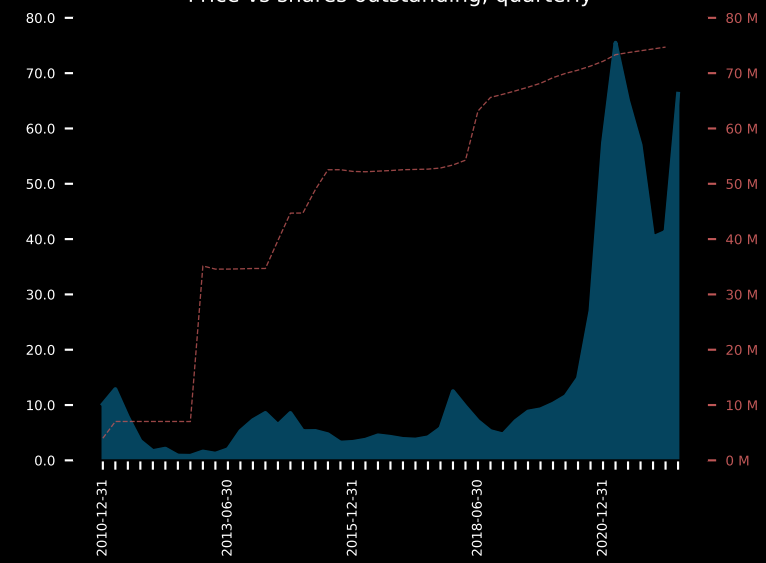
Amtech Systems, Inc. manufactures and sells capital equipment and related consumables for use in fabricating silicon carbide (SiC), silicon power devices, analog and discrete devices, electronic assemblies, and light-emitting diodes (LEDs) worldwide. The company operates in Semiconductor and Material and Substrate segments. The Semiconductor segment designs, manufactures, sells, and services thermal processing equipment, including solder reflow ovens, diffusion furnaces, and customer high-temp belt furnaces for use by semiconductor manufacturers, as well as in electronics, automotive and other industries; and wafer polishing equipment and related services. Its products include horizontal diffusion furnaces; and belt furnaces. The Material and Substrate segment manufactures and sells consumables and machinery for lapping and polishing of materials, such as silicon wafers for semiconductor

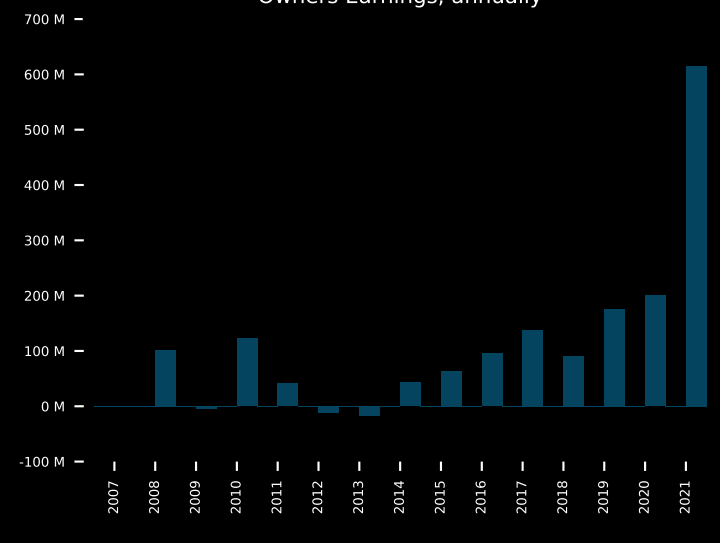
DQ / Semiconductor Equipment & Materials / CN / 2022-

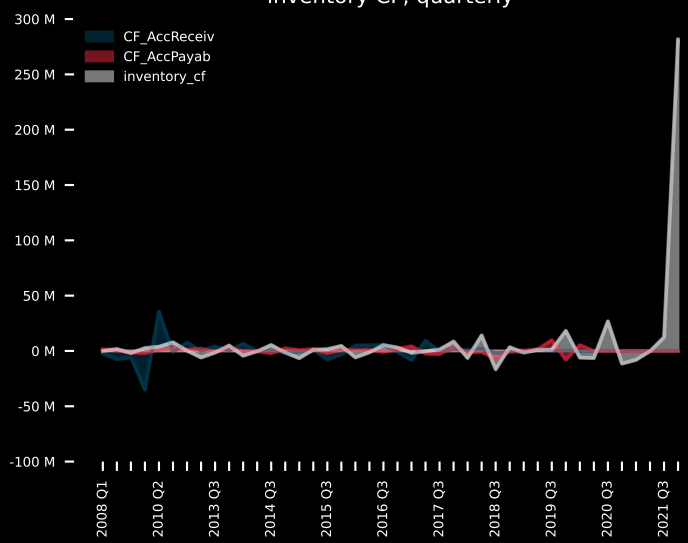












Daqo New Energy Corp., together with its subsidiaries, manufactures and sells polysilicon to photovoltaic product manufactures in the People's Republic of China. Its products are used in ingots, wafers, cells, and modules for solar power solutions. The company was formerly known as Mega Stand International Limited and changed its name to Daqo New Energy Corp. in August 2009. Daqo New Energy Corp. was founded in 2006 and is based in Shanghai, the People's Republic of China.

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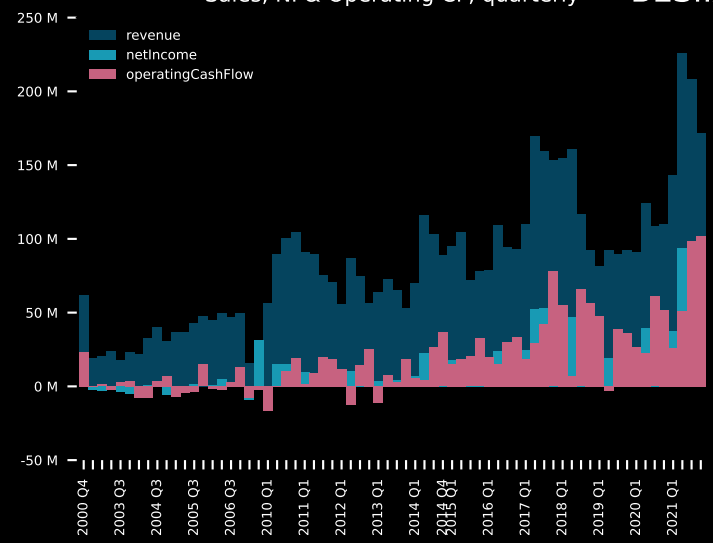

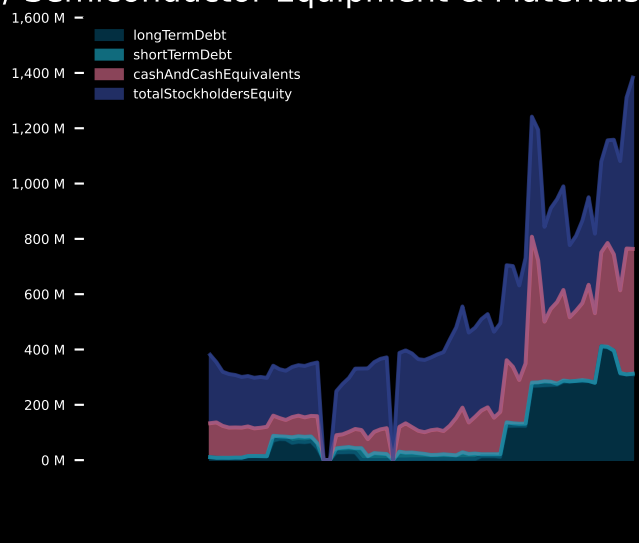

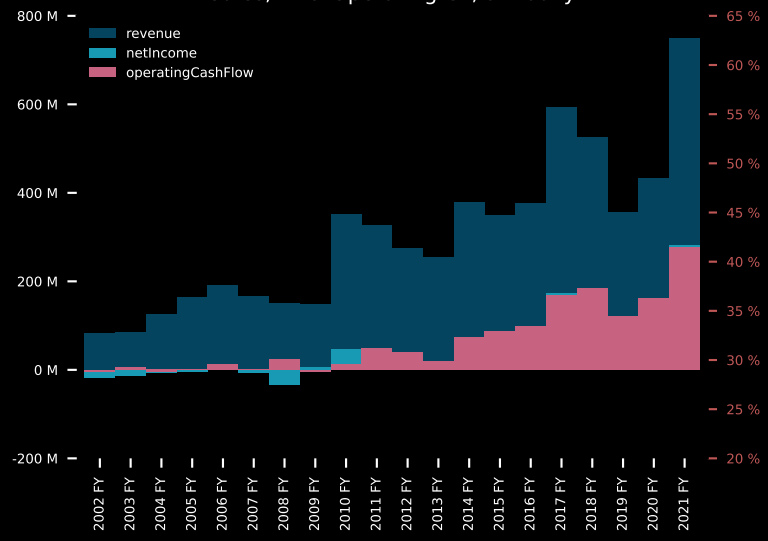

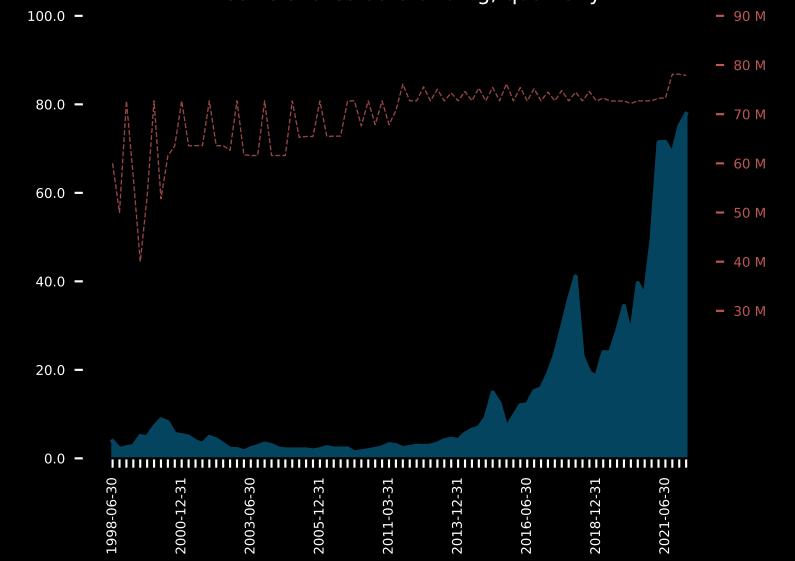

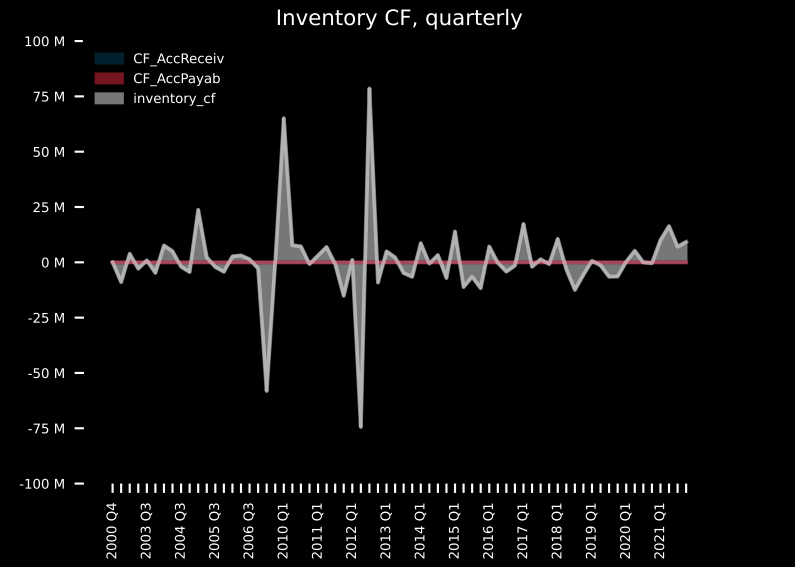

BE Semiconductor Industries N.V. develops, manufactures, markets, sells, and services semiconductor assembly equipment for the semiconductor and electronics industries worldwide. The company's principal products include die attach equipment, such as single chip, multi chip, multi module, flip chip, thermal compression bonding, fan out wafer level packaging, hybrid and embedded bridge die bonding, and die sorting systems; and packaging equipment, including conventional, ultra thin, and wafer level molding, as well as trim and form, and singulation systems. Its principal products also comprise plating equipment comprising tin, copper, and precious metal and solar plating systems, as well as related process chemicals; and tooling, conversion kits, spare parts, and other services. The company's principal brand names include Datacon, Esec, Fico, and Meco. It offers its products primarily to multinational chip

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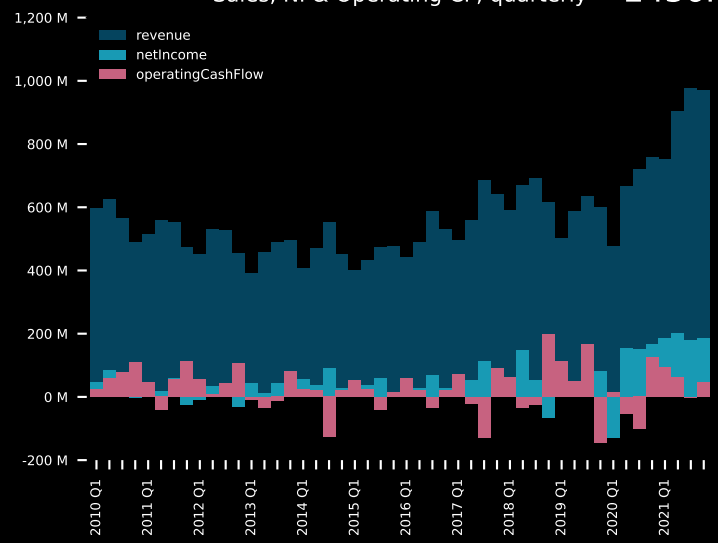

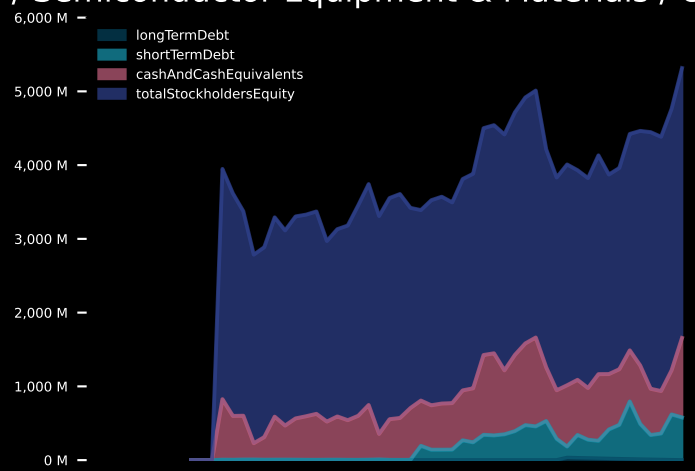

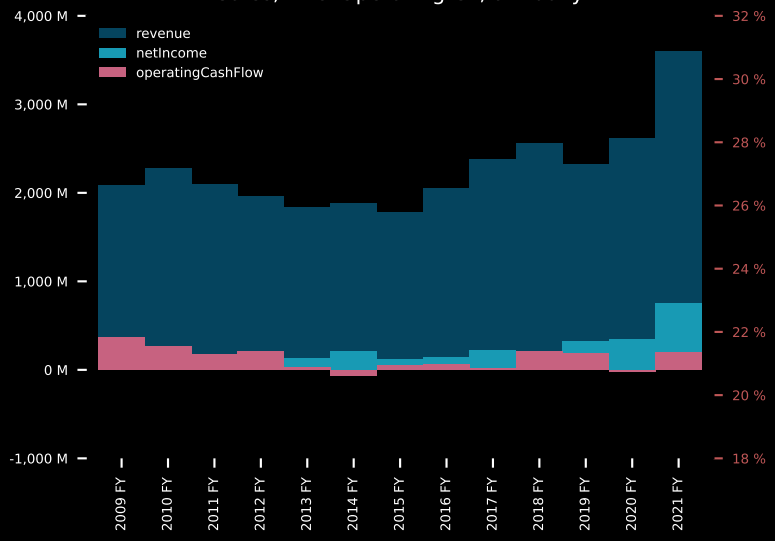

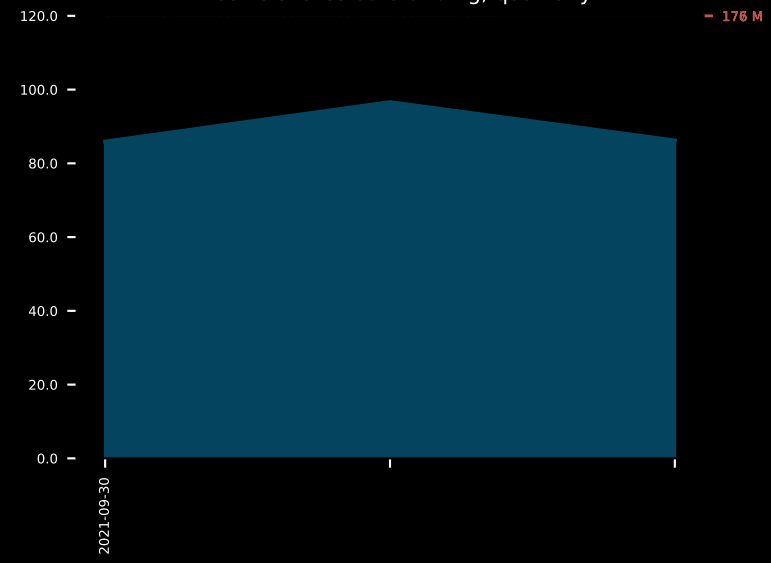

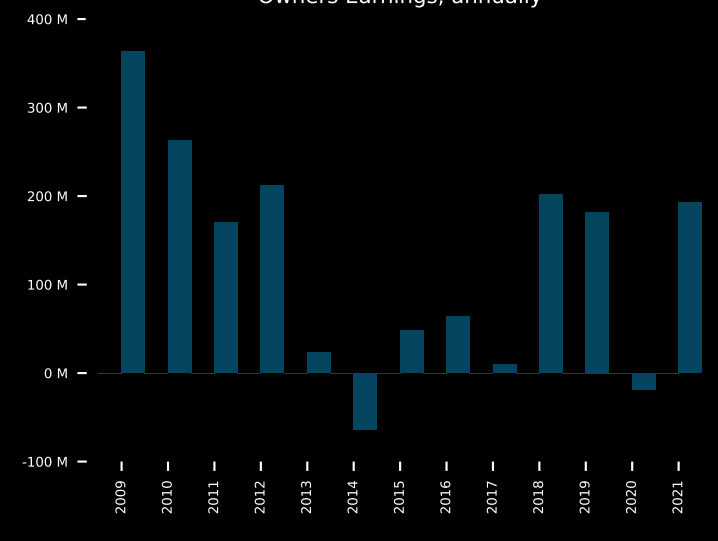

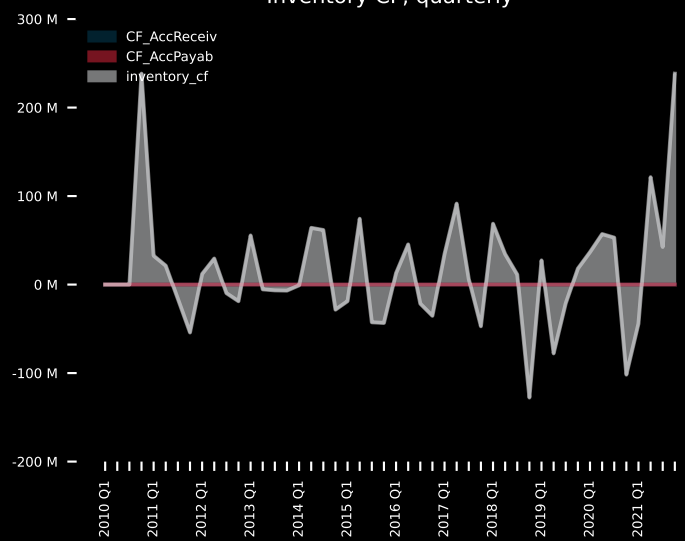

Weltrend Semiconductor, Inc., a fabless semiconductor company, engages in planning, designing, testing, developing, and distributing integrated circuit (IC) products in Taiwan and internationally. The company offers display ICs, including advanced driver assistance system SoC, display MCU, FPD SoC, 3D active shutter glasses ICs and smart projectors; and consumer ICs, such as consumer MCUs, touch device controllers, heart rate monitors, USB HID controllers, boosted NFC card solutions, and MSR and barcode decoders. It also provides power management and analog ICs comprising USB power and charging port controllers, motor drivers, LED drivers, SPS supervisors, and OP amplifiers; and microcontrollers include 8-bit ADC type MCUs, Andes and Arm based 32-bit MCUs products, and BLDC motor control ICs. In addition, the company distributes electronic components. Weltrend Semiconductor, Inc. was

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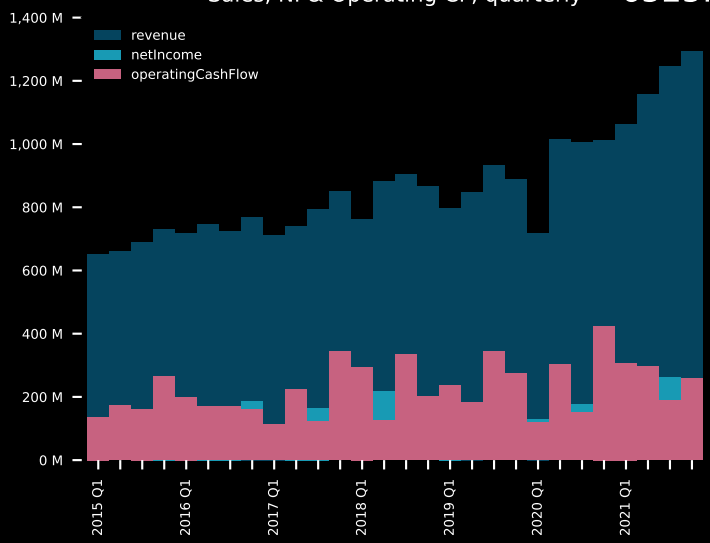

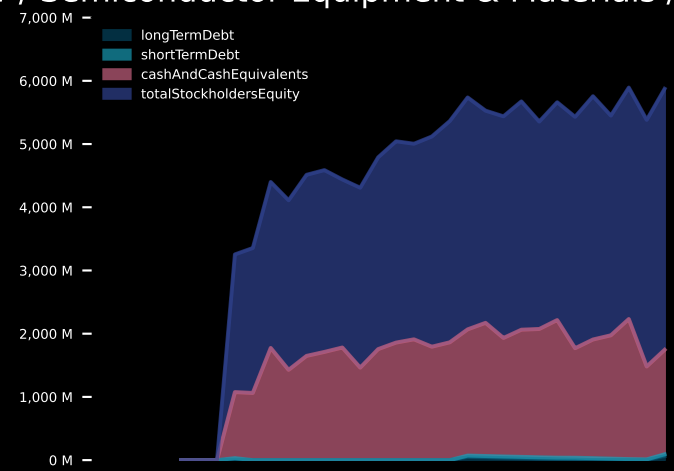

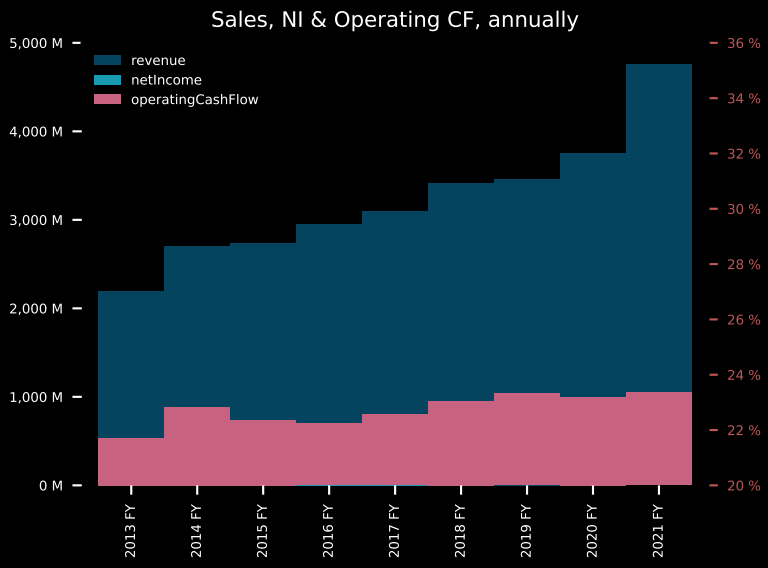

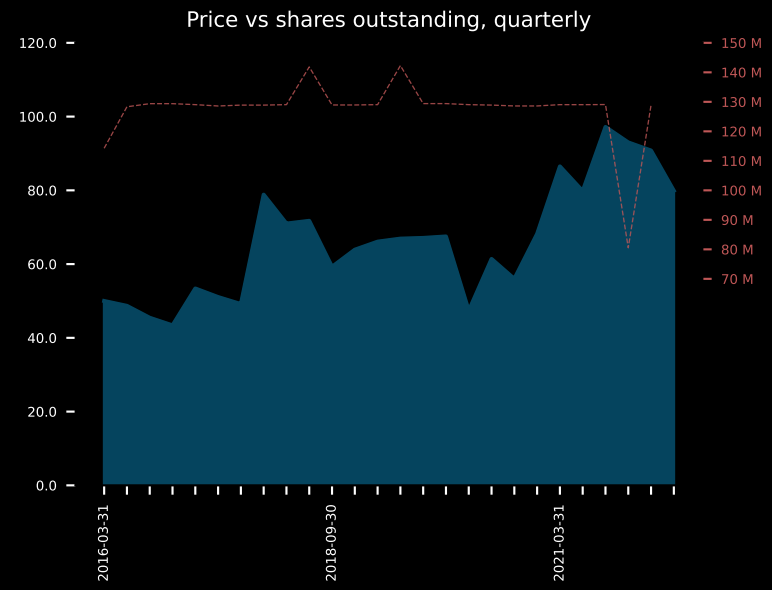

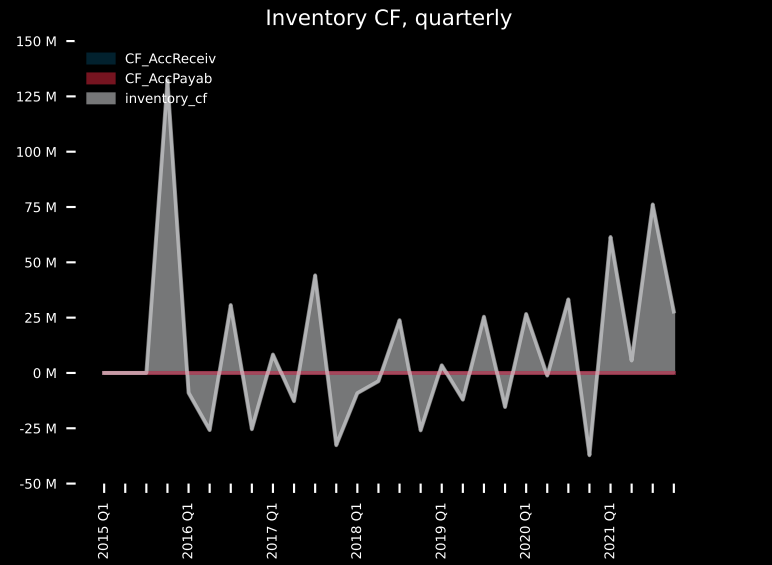

GEM Services, Inc., a semiconductor assembly and test contractor, provides manufacturing services for power management semiconductors. The company offers assembly services, including wafer probe, assembly, and test; packaging development; and electrical testing services, such as wafer probe, electrical test, data-log, and characterization testing. It also provides reliability testing services comprising reliability testing capability and failure analysis services; and logistic services consisting of drop shipment services and shipping directly to the end customers. GEM Services, Inc. was incorporated in 1998 and is based in New Taipei City, Taiwan. GEM Services, Inc. is a subsidiary of Elite Advanced Laser Corporation.

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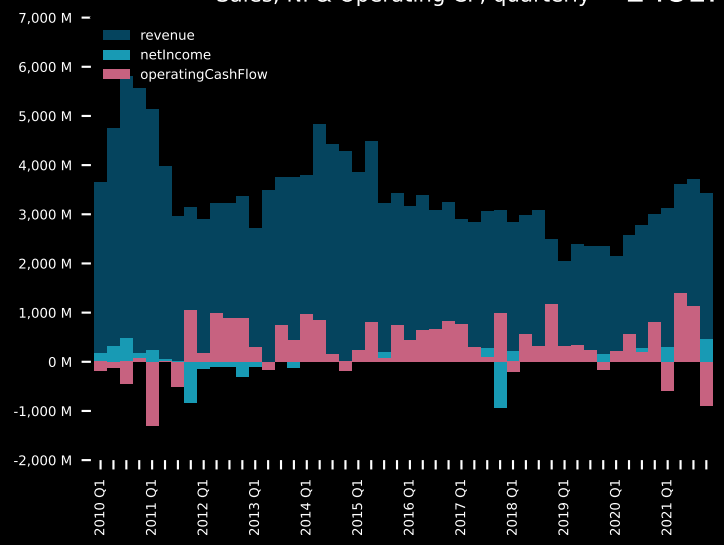
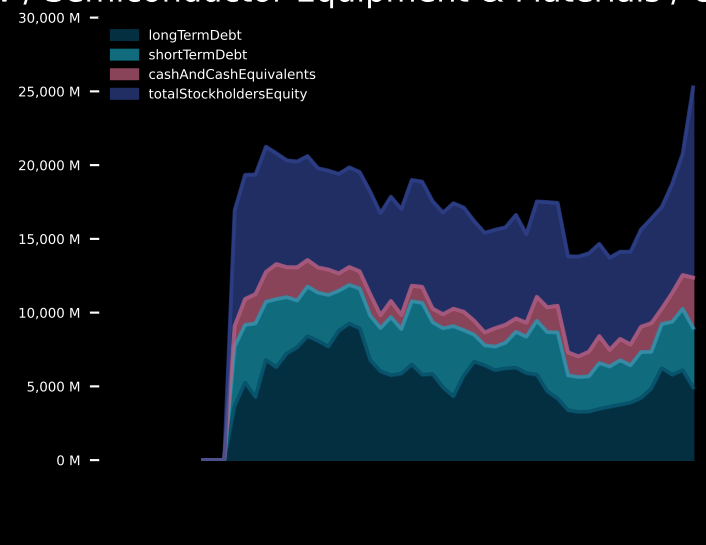
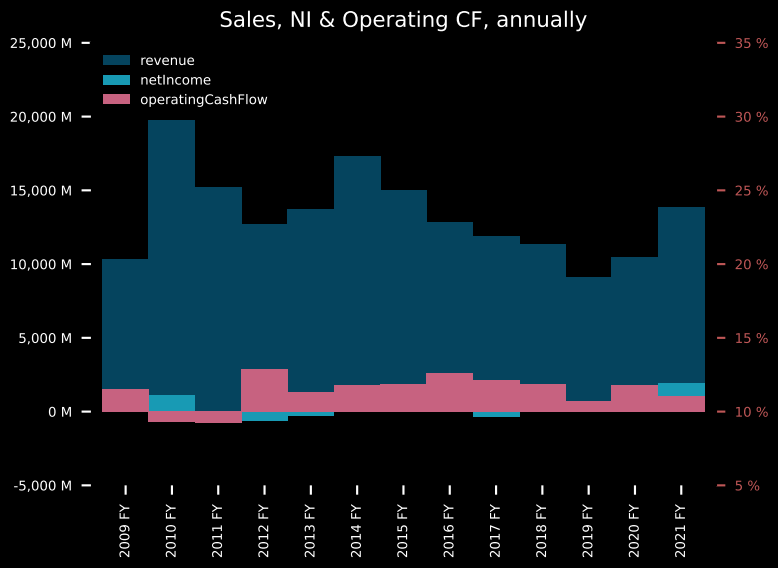
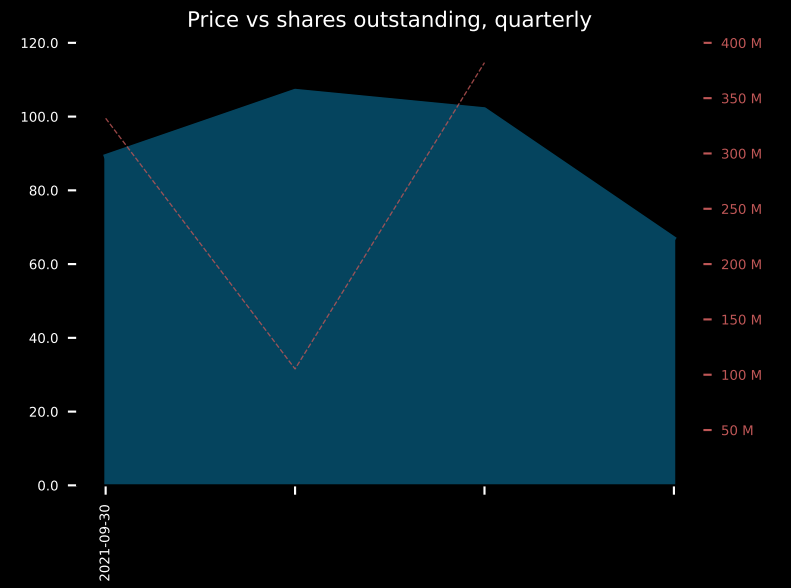
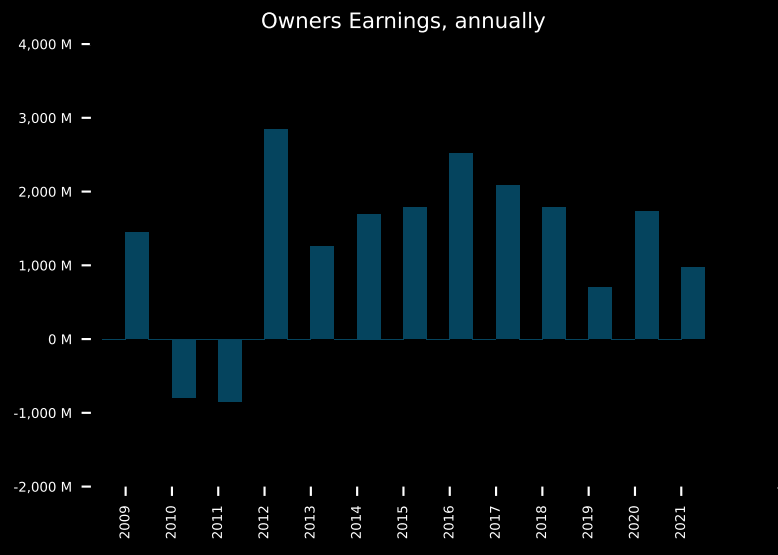
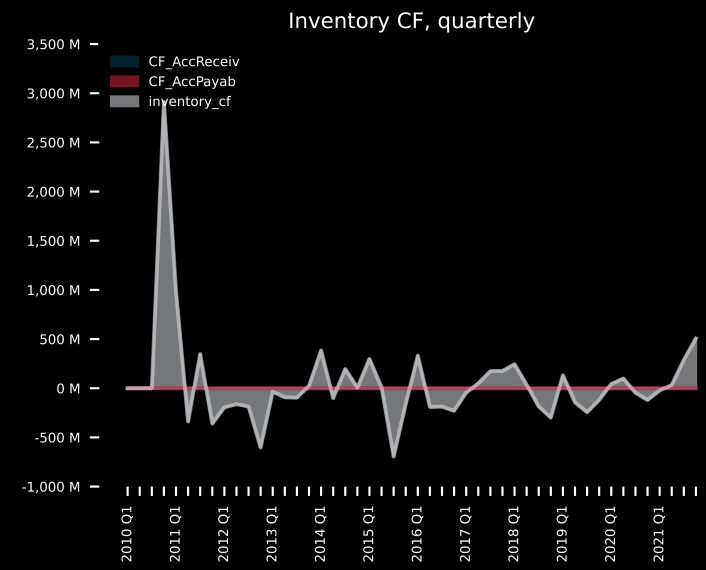




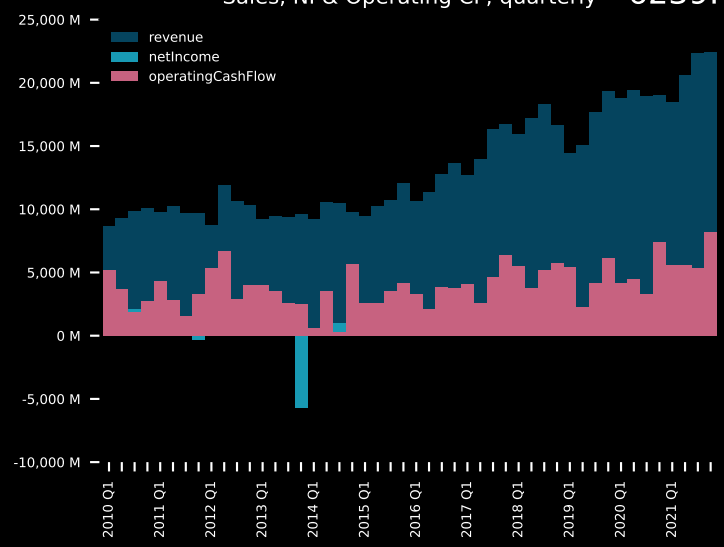


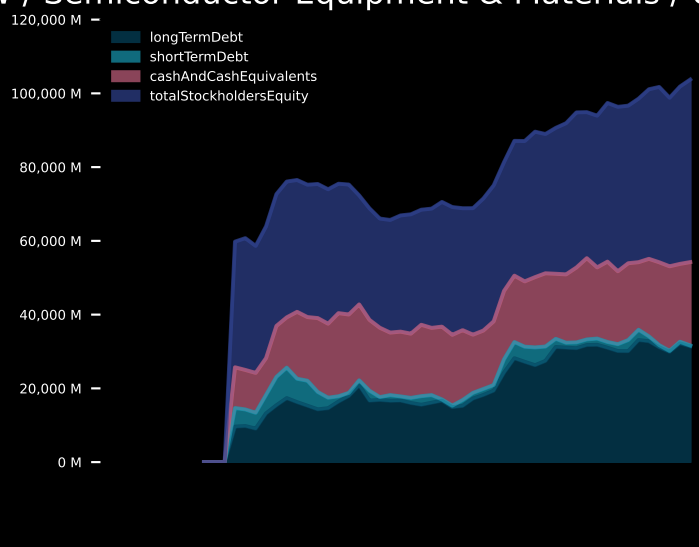


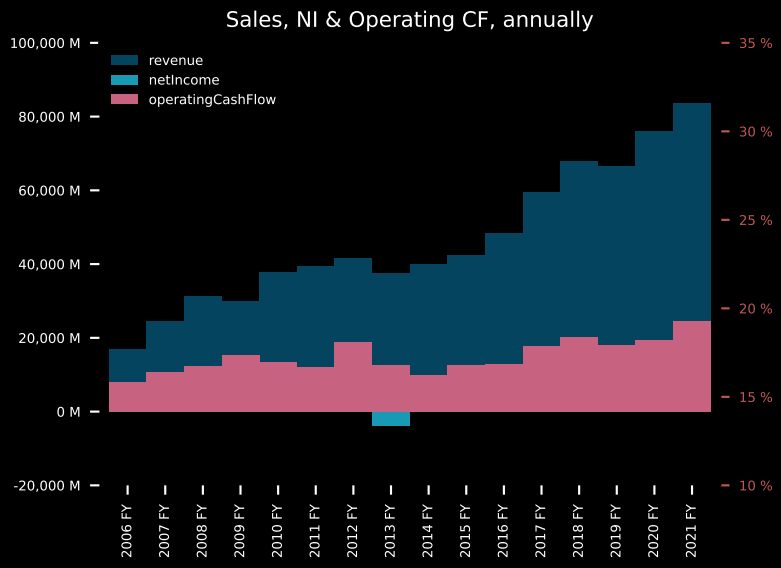


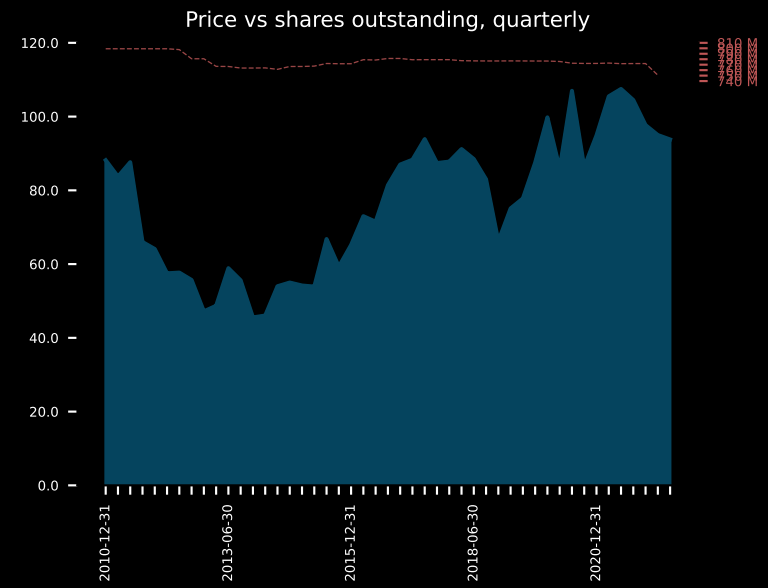


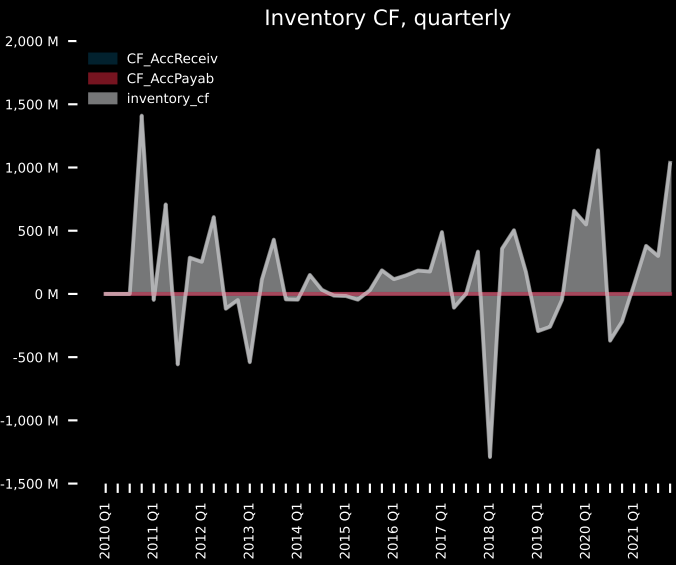
Panjit International Inc. designs, manufactures, and sells semiconductors in Taiwan, China, the United States, Japan, Germany, Italy, Korea, and internationally. It offers low/medium/high voltage MOSFETs; Schottky; SiC diodes; diode rectifiers; protection devices, such as Zener diodes, ESD protection devices, transient voltage suppressors, and load dump transient voltage suppressors; bipolar junction transistors; bridge rectifiers; sample kits; and packing information solutions. Its products are used in automotive, industrial, and power supply applications. The company was founded in 1986 and is headquartered in Kaohsiung, Taiwan.











Powertech Technology Inc., together with its subsidiaries, researches, designs, develops, assembles, manufactures, packages, tests, and sells various integrated circuit (IC) products primarily in Taiwan. The company offers packaging and testing services, such as high pin-count thin small outline package, multi-chip packaging (MCP, S-MCP), ball grid array (wBGA, FBGA) IC, solid state drive(SSD) embedded memory (eMMC, eMCP, UFS), DRAM chip-stacking, mobile memory, Package on Package/Package in Package, CMOS image sensor, and fan-out panel level, as well as secured digital memory Card (SD, microSD) USB. It also provides Quad Flat No-leads, wafer bumping, System-in-Package, wafer level chip scale package, flip-chip, copper pillar bump flip chip, electro-magnetic interference shield package, and module and system packaging services; and wafer testing and redistribution layer services. In addition, the company is

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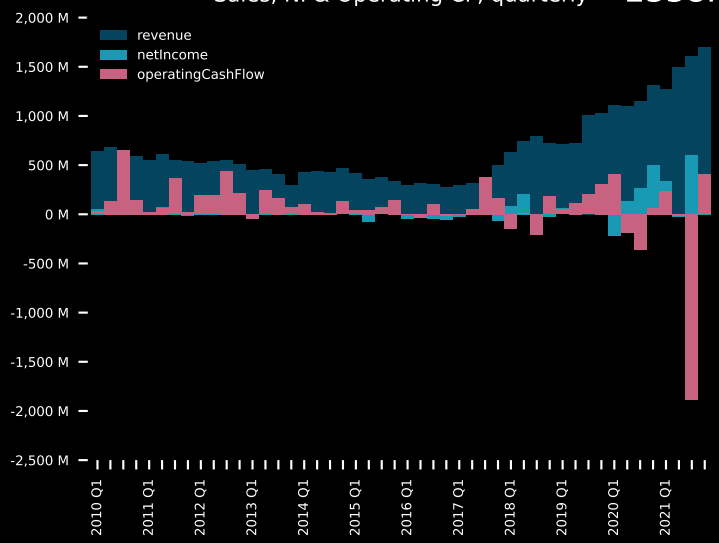

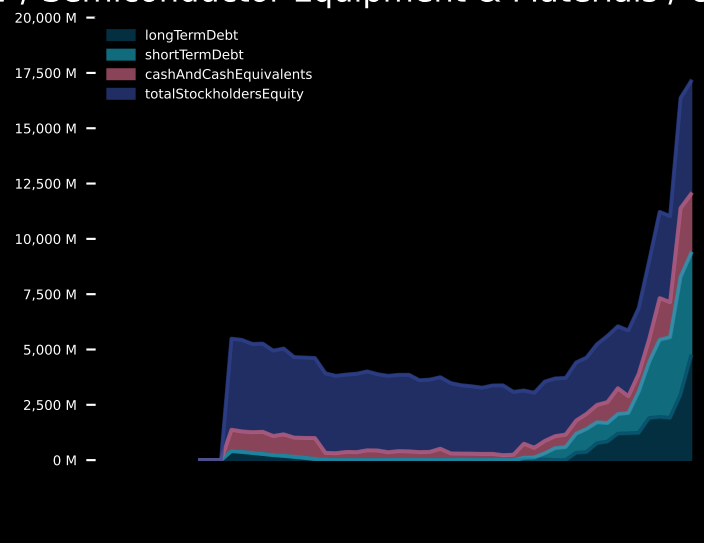

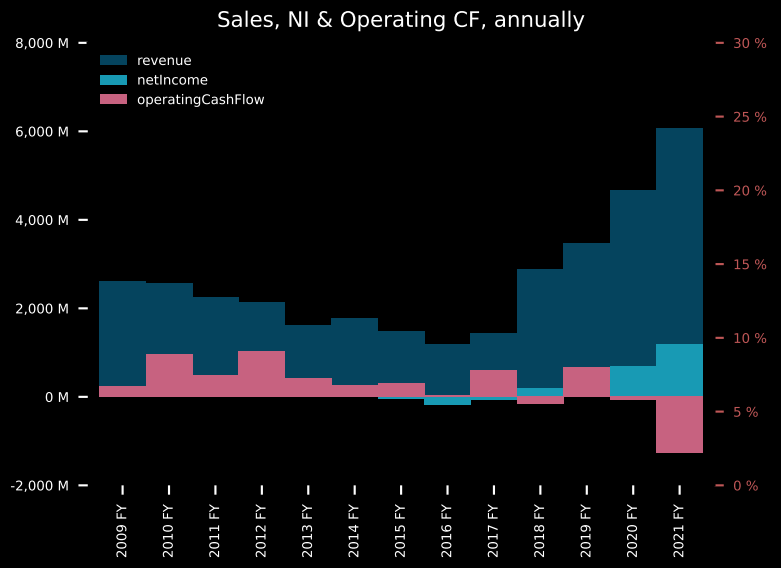

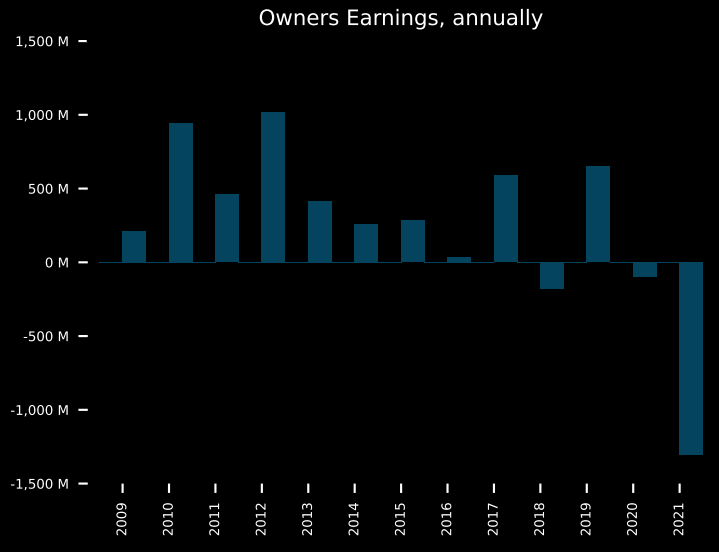

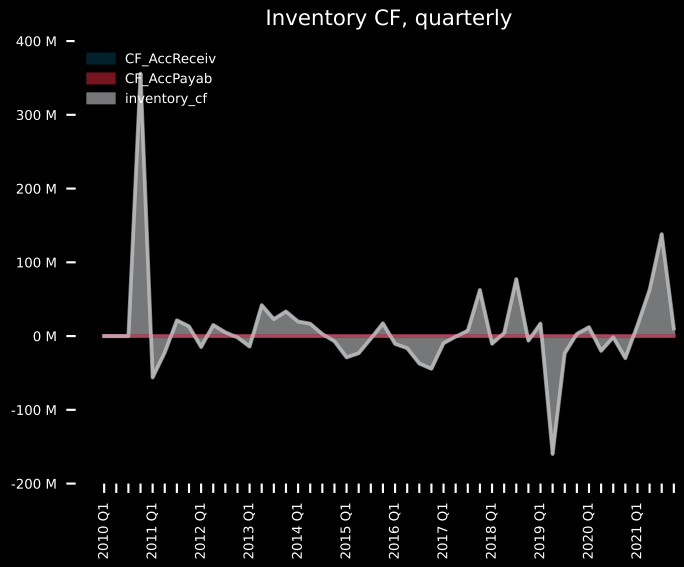

Taiwan Mask Corporation engages in the design, development, production, and sale of photomasks and integrated circuits for the semiconductor industry. The company also provides technology assistance, consultation, inspection, repair, and maintenance services for masks and circuits; foundry services; and packaging and testing services. In addition, it manufactures and sells medical equipment. The company has operations in Taiwan, Asia, the Americas, and internationally. Taiwan Mask Corporation was incorporated in 1988 and is headquartered in Hsinchu City, Taiwan.

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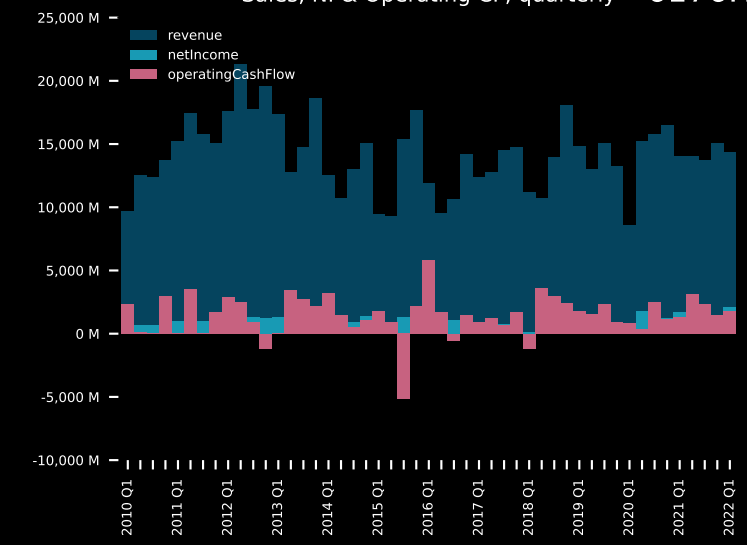

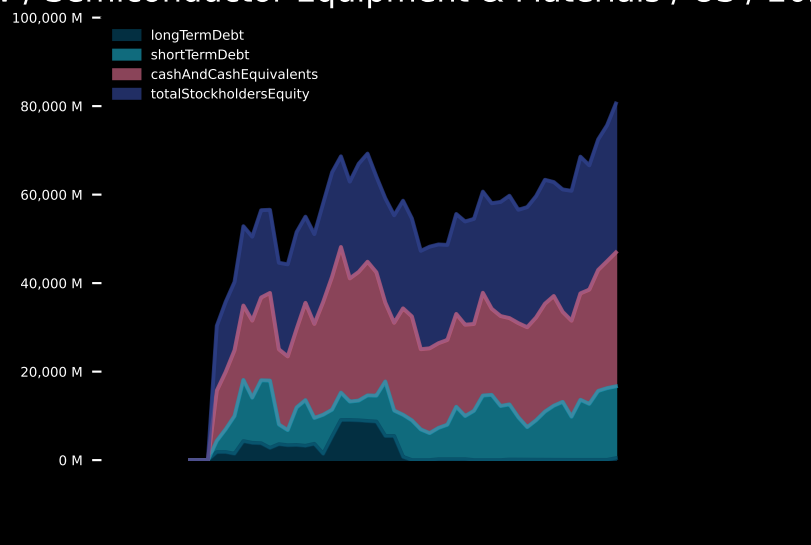

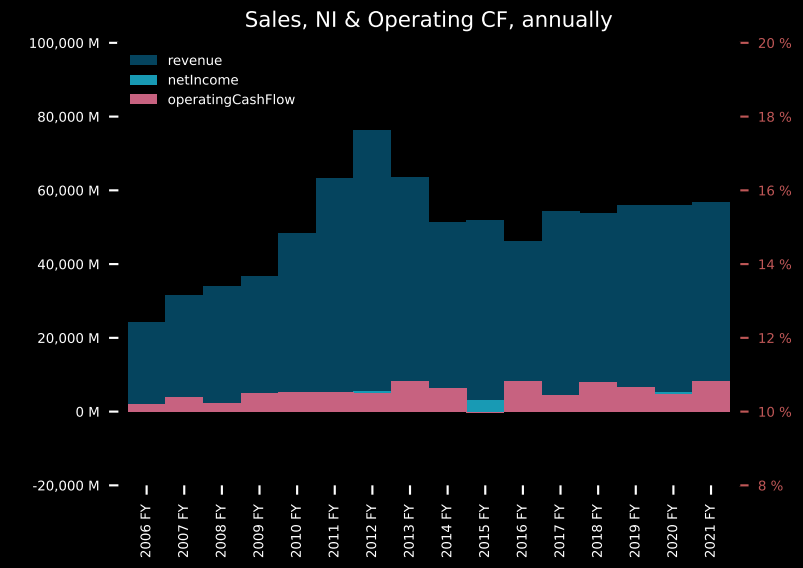

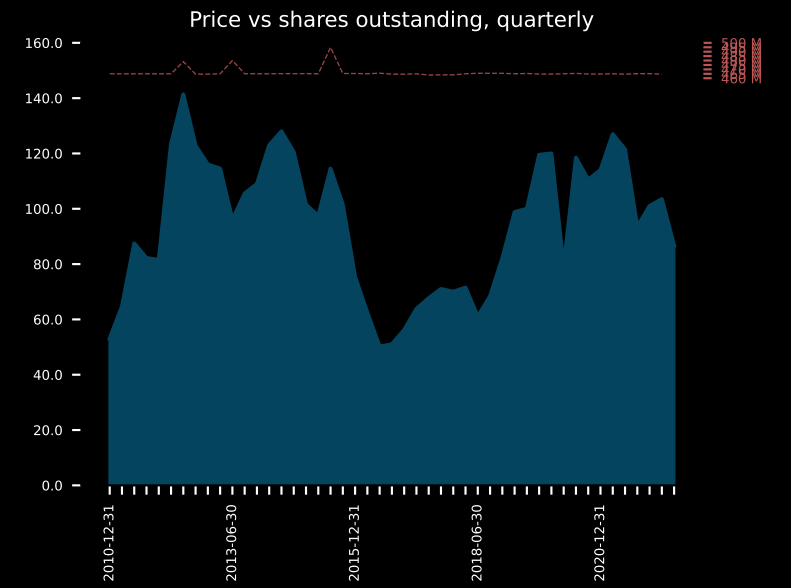

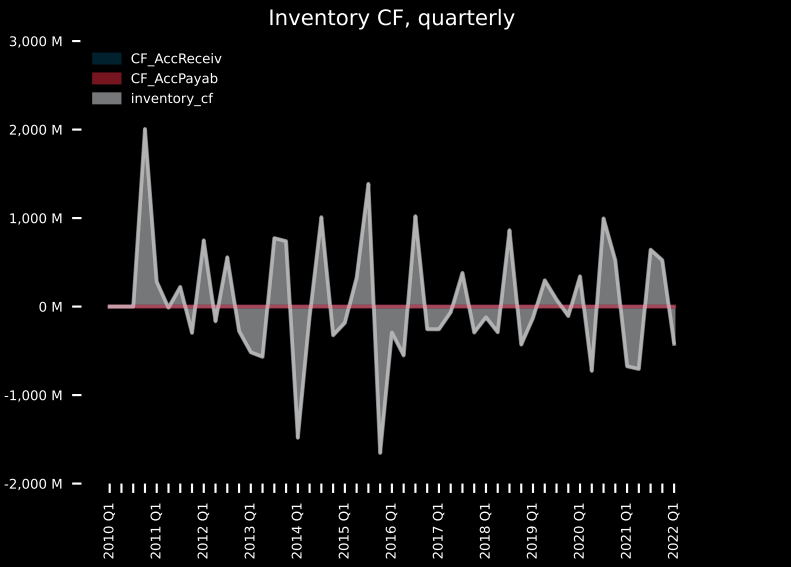

Radiant Opto-Electronics Corporation engages in the manufacture and sale of backlight panels and lighting components for liquid crystal display (LCD) panels in Asia, Europe, and the United States. The company's products are used in various applications, including smartphones, DSC, video phones, tablets, notebooks, dashboards, pocket TVs, DVD players, car navigations, monitors, all in one PCs, and TFT LCD TVs. Radiant Opto-Electronics Corporation was founded in 1984 and is headquartered in Kaohsiung, Taiwan.

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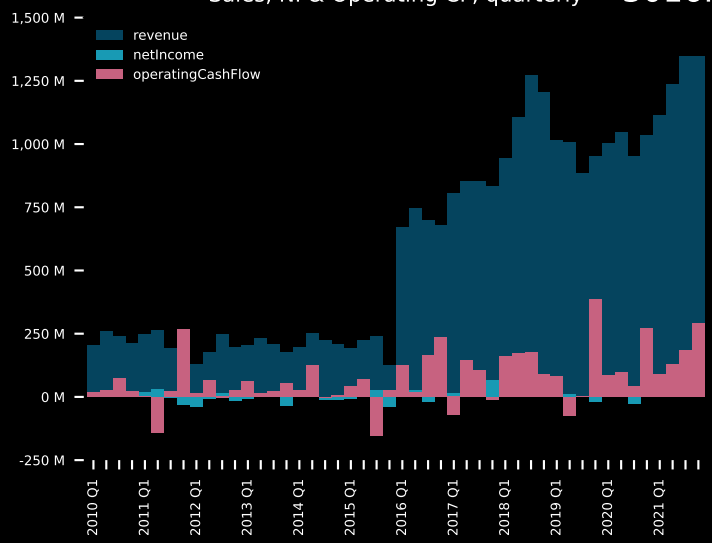

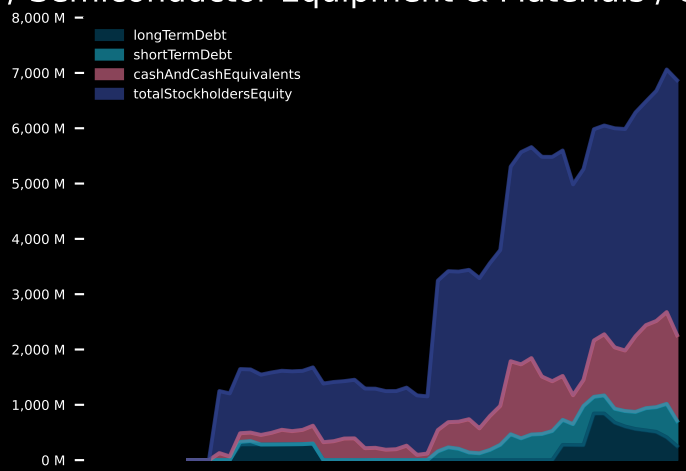

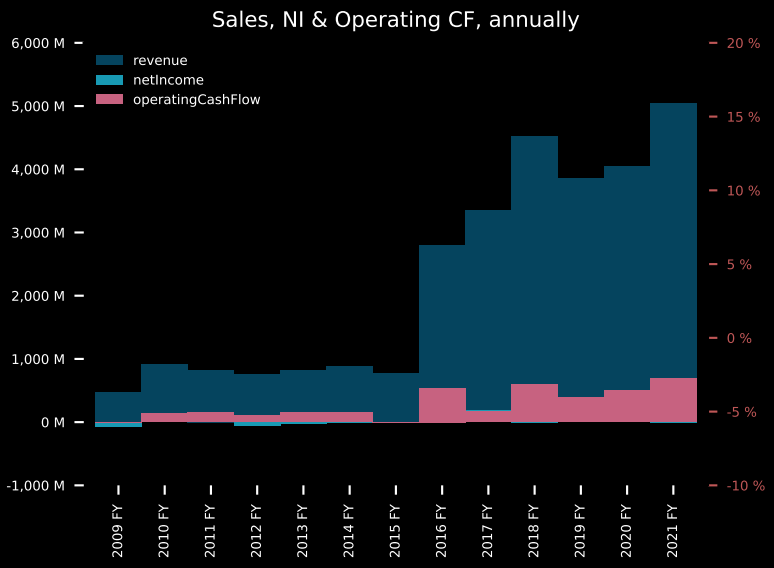

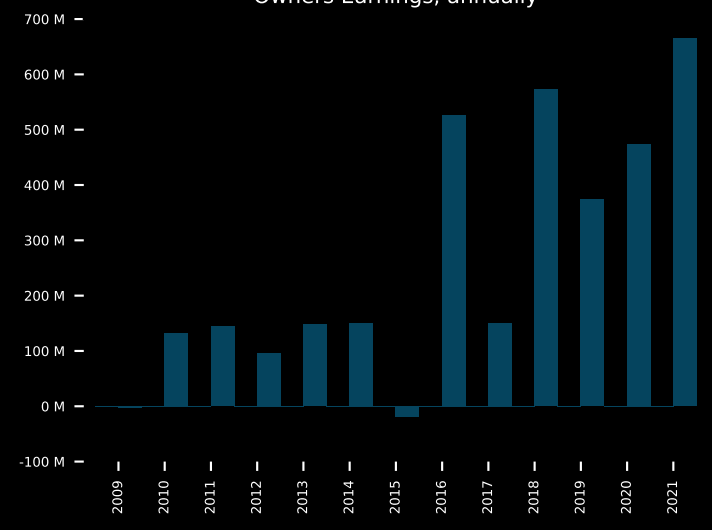

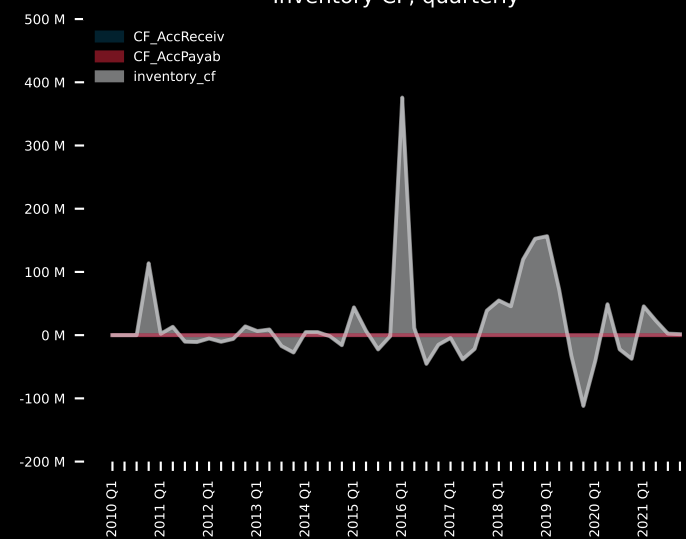

Episil-Precision Inc. engages in the research, development, production, and sale of epitaxial Si/SiC/GaN wafers in Taiwan and internationally. The company offers epitaxial wafers, such as silicon epitaxial, SiC on SiC epitaxial, and GaN-on-Si epitaxial wafers for use in power discretes, power ICs, image sensors, graded Epis, buried layer Epis, and multi-layer Epis. It also provides buried layer epitaxial services. The company was founded in 1998 and is headquartered in Hsinchu City, Taiwan. Episil-Precision Inc. is a subsidiary of Episil Holding Inc.

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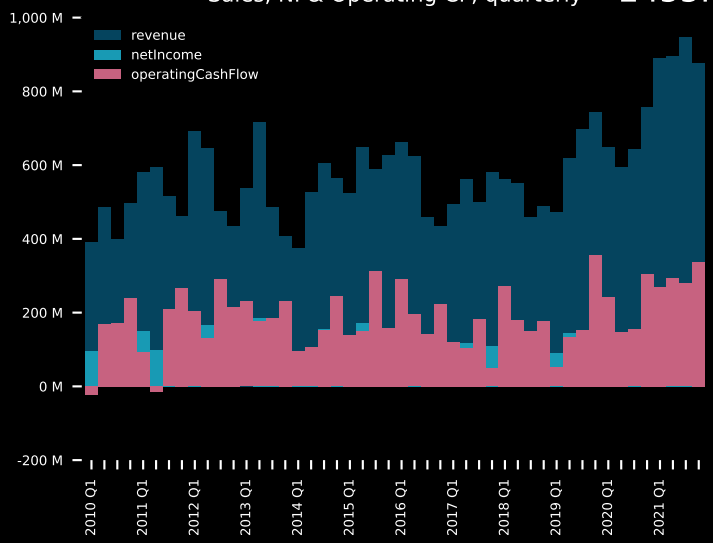

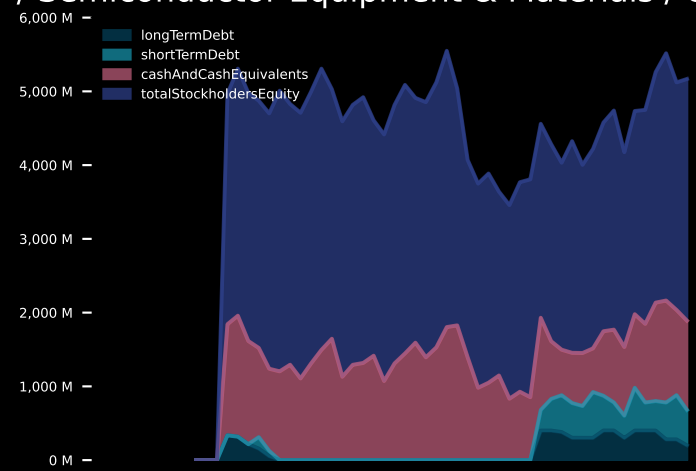

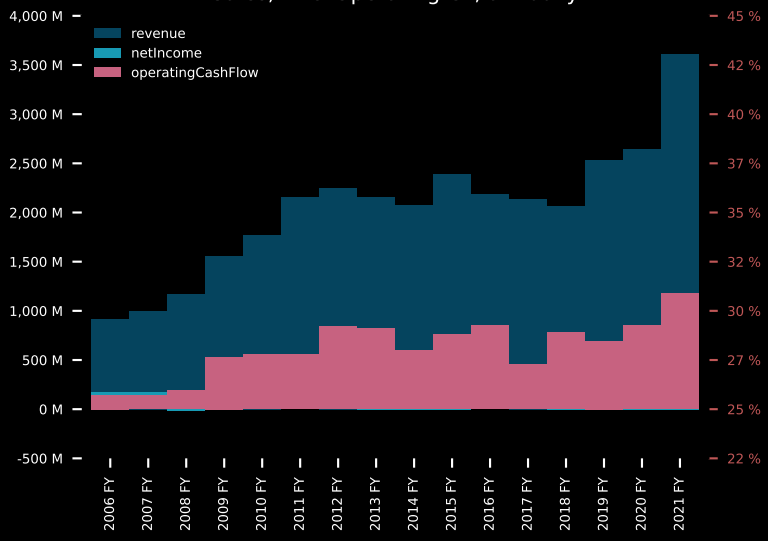

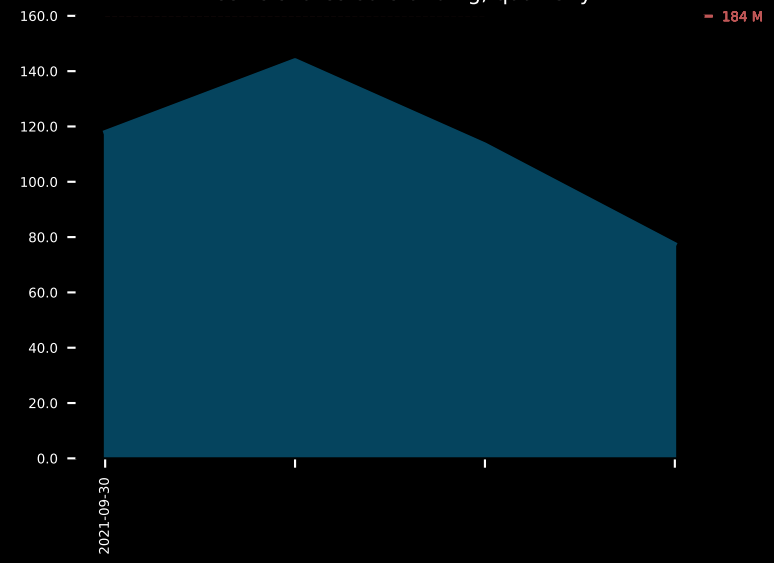

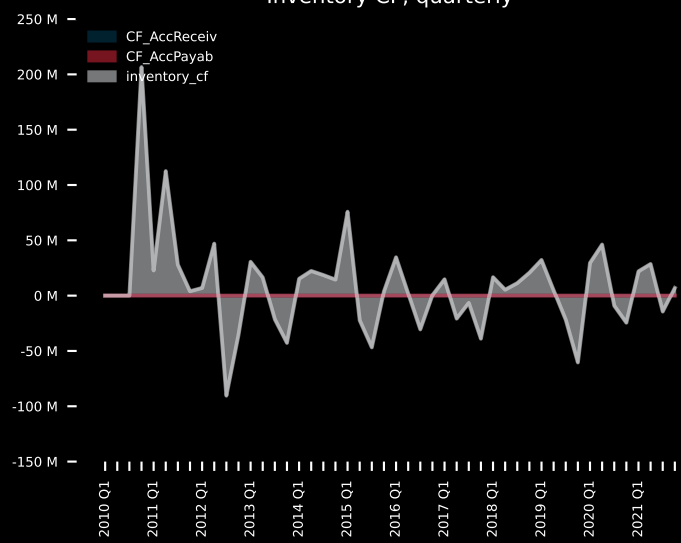

Visual Photonics Epitaxy Co., Ltd. provides solutions for wireless and optical fiber communications, and solar cell applications. The company offers gallium arsenide (GaAs) heterojunction bipolar transistor (HBT), low turn-on voltage HBT, high voltage HBT, InP HBT and HEMT, GaAs pseudomorphic high electron mobility transistor (PHEMT) and BiHEMT, and GaN epi wafers. It also provides GaAs PD, InGaAs PD and APD, Zn diffusion ready InGaAs PD and APD, long wavelength InGaAs PD, F-P and DFB LD, and VCSEL epi wafers; and solar cell epi wafers, as well as customerized epi foundry services. The company was founded in 1996 and is based in Taoyuan City, Taiwan.

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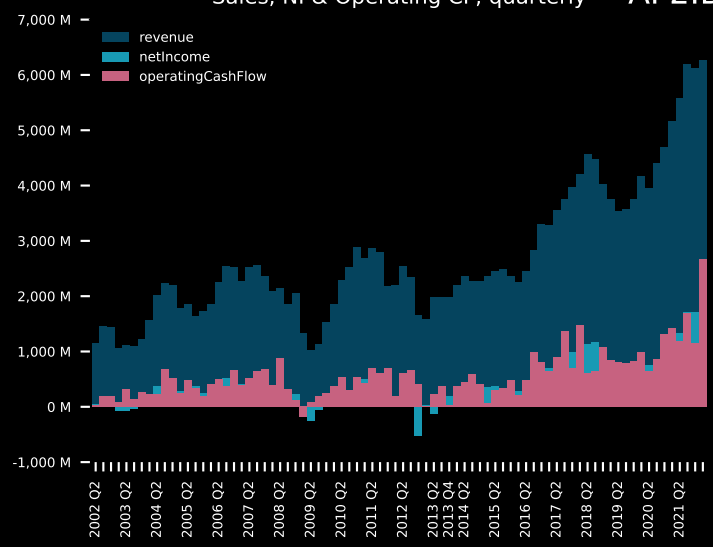
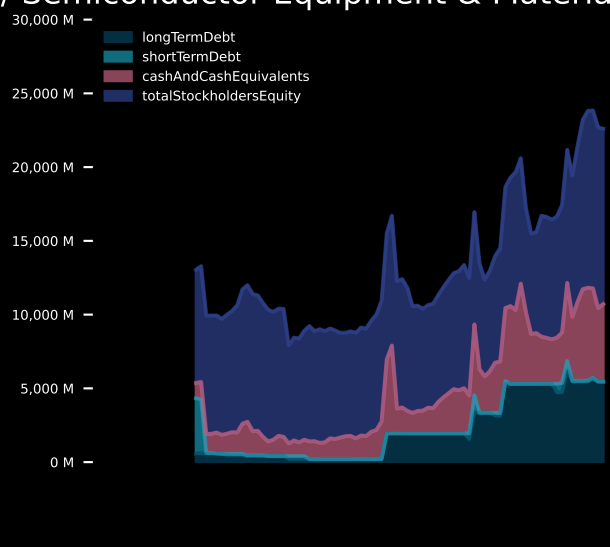
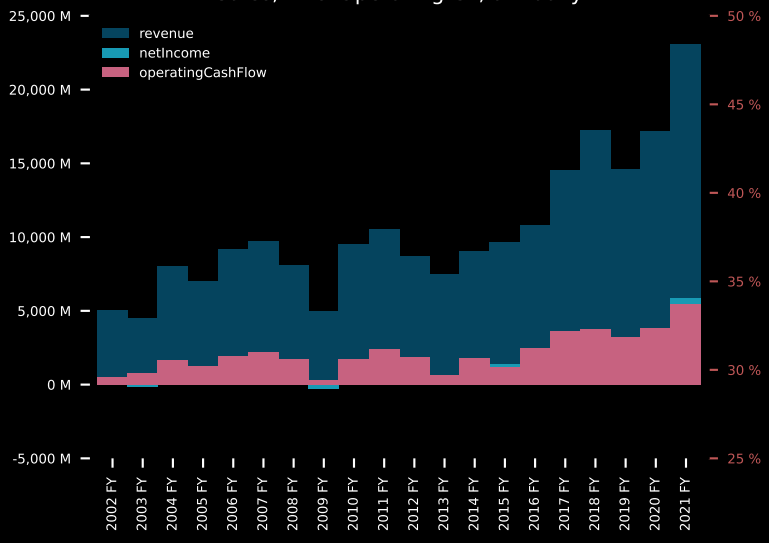
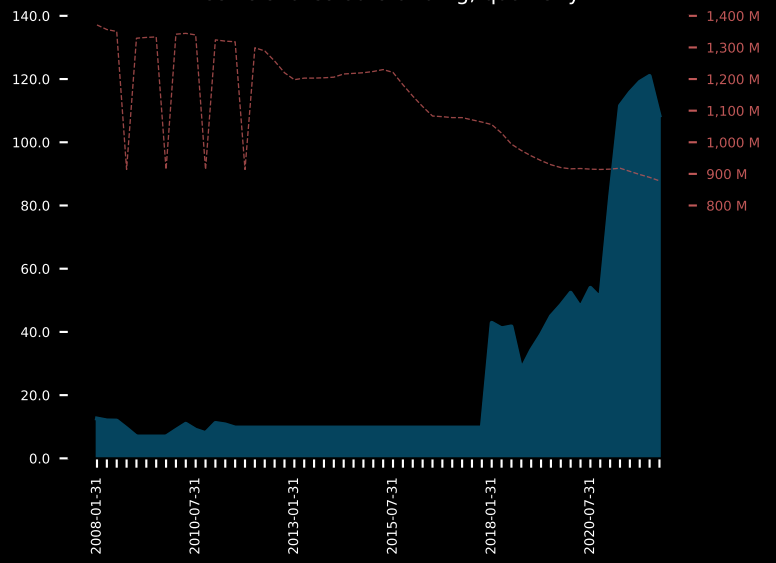
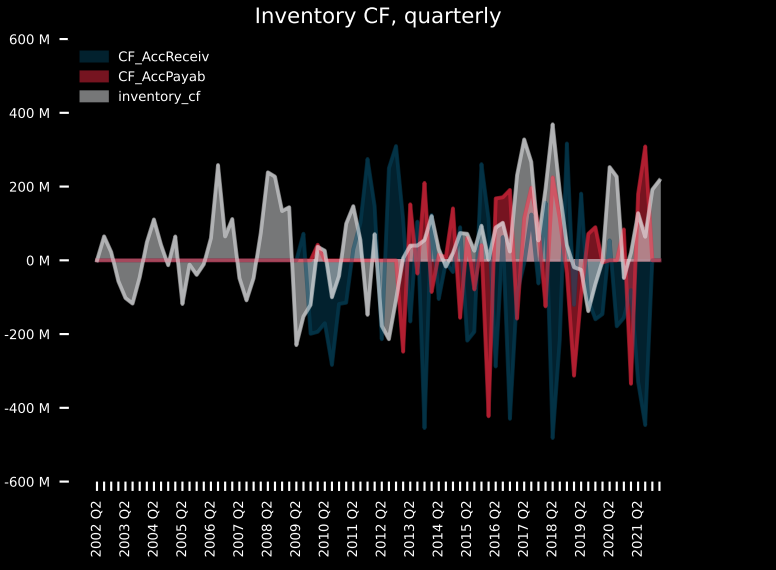


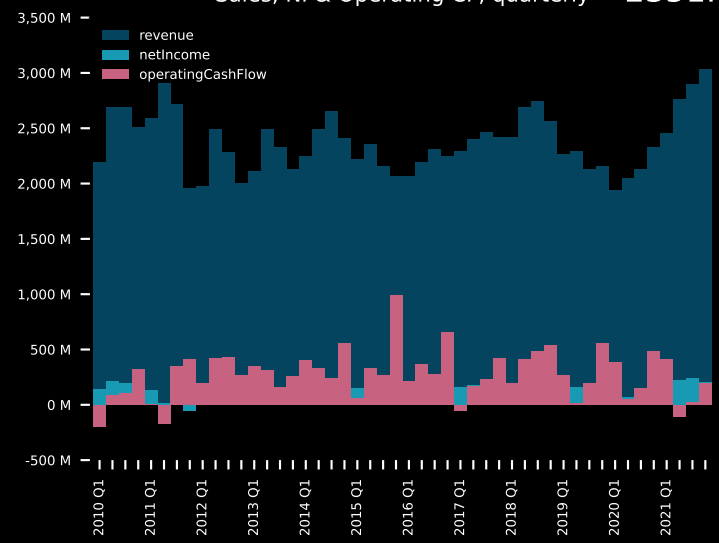


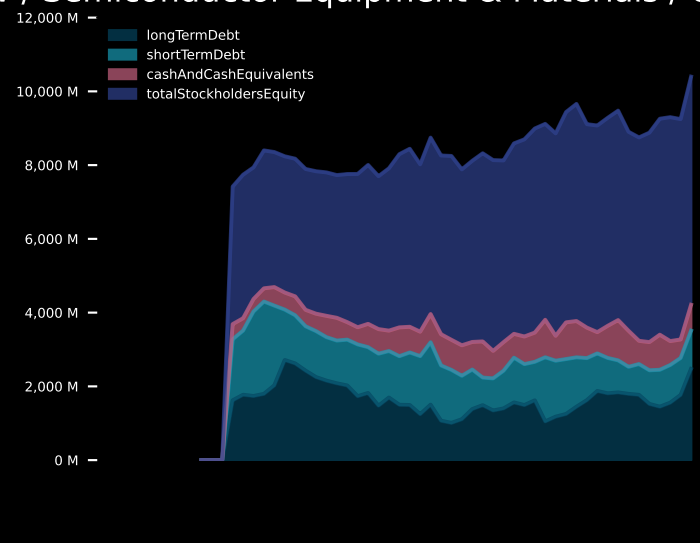


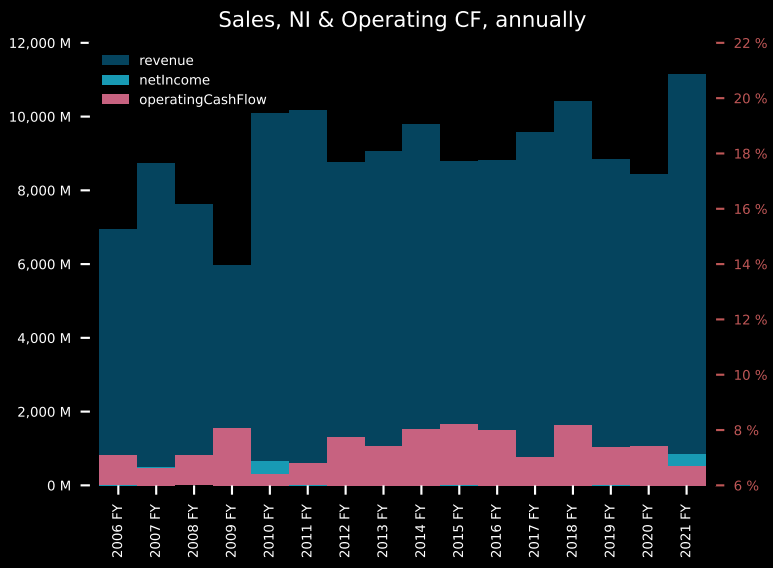


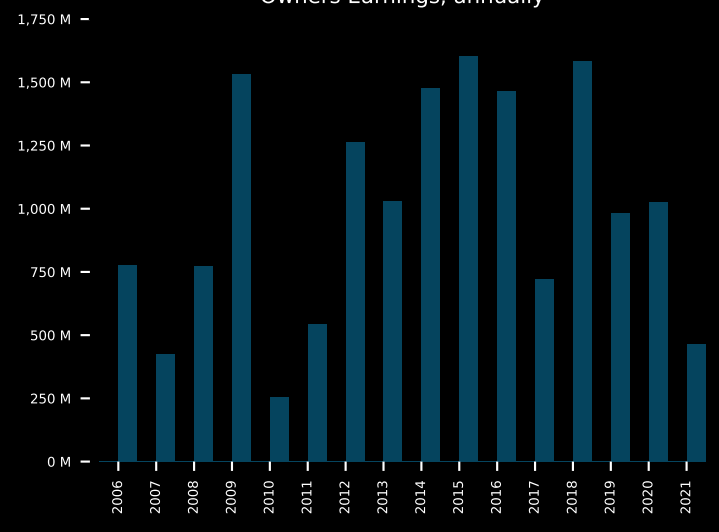


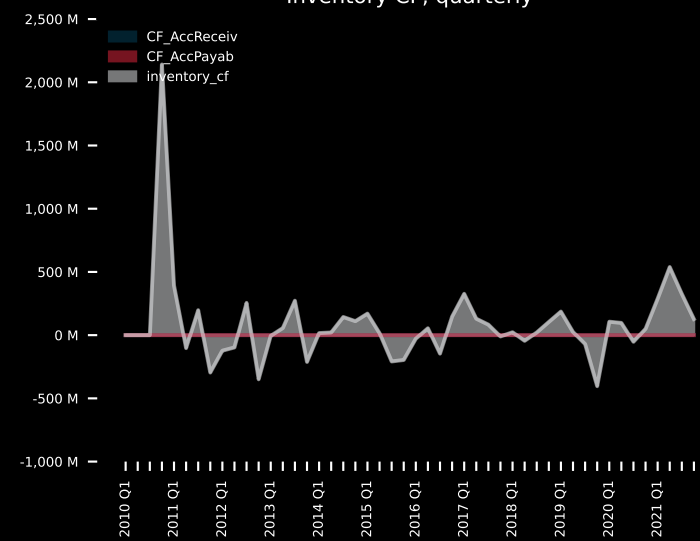
Applied Materials, Inc. provides manufacturing equipment, services, and software to the semiconductor, display, and related industries. It operates through three segments: Semiconductor Systems, Applied Global Services, and Display and Adjacent Markets. The Semiconductor Systems segment develops, manufactures, and sells various manufacturing equipment that is used to fabricate semiconductor chips or integrated circuits. This segment also offers various technologies, including epitaxy, ion implantation, oxidation/nitridation, rapid thermal processing, physical vapor deposition, chemical vapor deposition, chemical mechanical planarization, electrochemical deposition, atomic layer deposition, etching, and selective deposition and removal, as well as metrology and inspection tools. The Applied Global Services segment provides integrated solutions to optimize equipment and fab performance and











SDI Corporation manufactures and sells semiconductor lead frames, LED lead frames, stationery and office products, and high precision dies in Taiwan. The company also engages in the smelting and rolling of metal strips; electronic components; and international trade business. SDI Corporation was founded in 1953 and is headquartered in Changhua, Taiwan.

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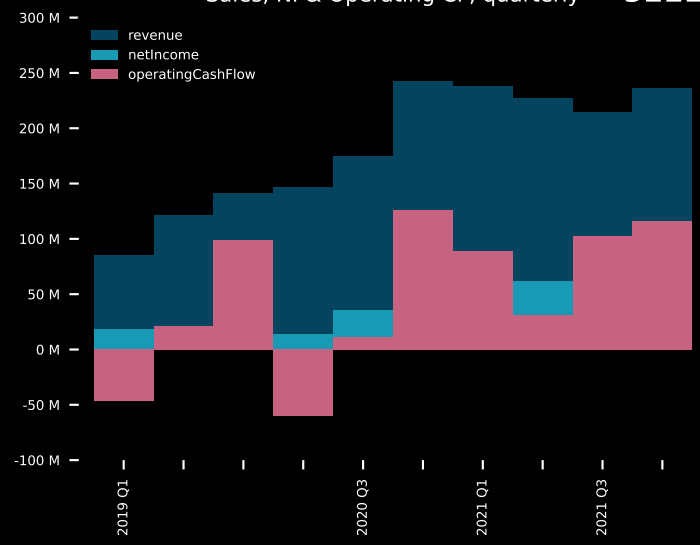

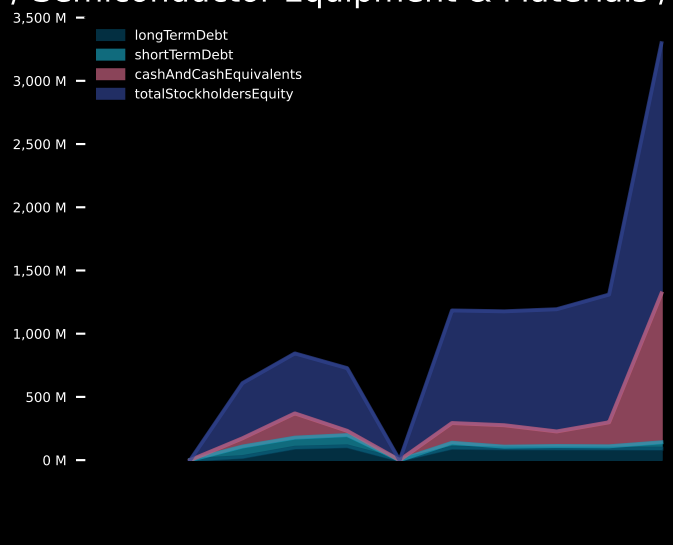

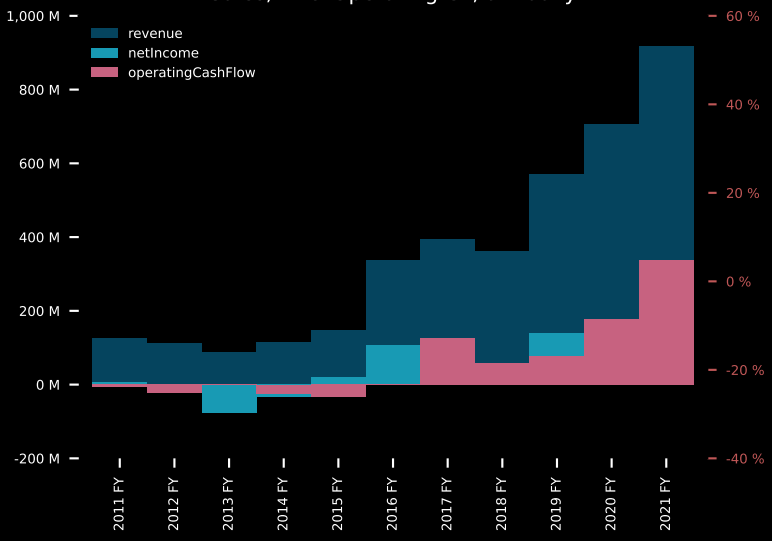

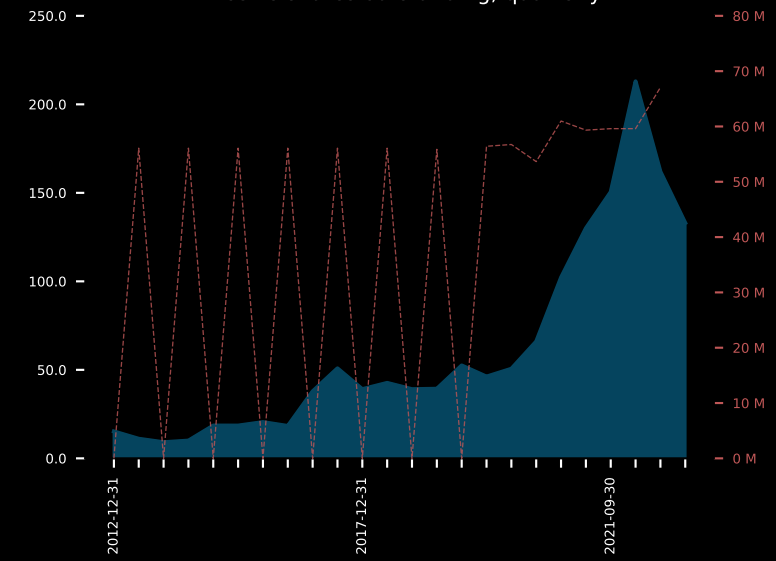

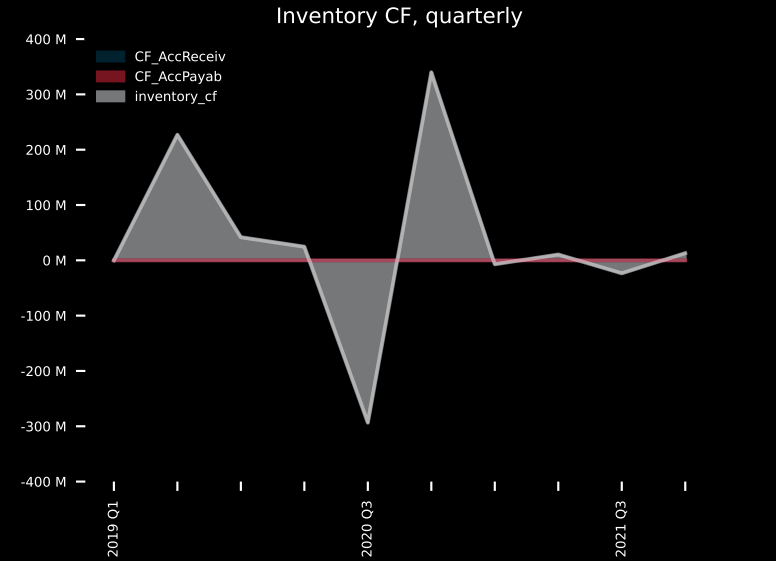

Transcom, Inc. operates as a microwave device and subsystem company in Taiwan and internationally. The company offers wideband and narrowband solid-state power amplifiers; MIC and transceiver modules; FET chips; packaged FETs; monolithic microwave integrated circuits (MMIC); hybrid ICs; directional couplers; power dividers; fixed attenuators and termination products; and MIS chip capacitors. It also provides MMIC foundry services. Transcom, Inc. was founded in 1998 and is headquartered in Tainan City, Taiwan.

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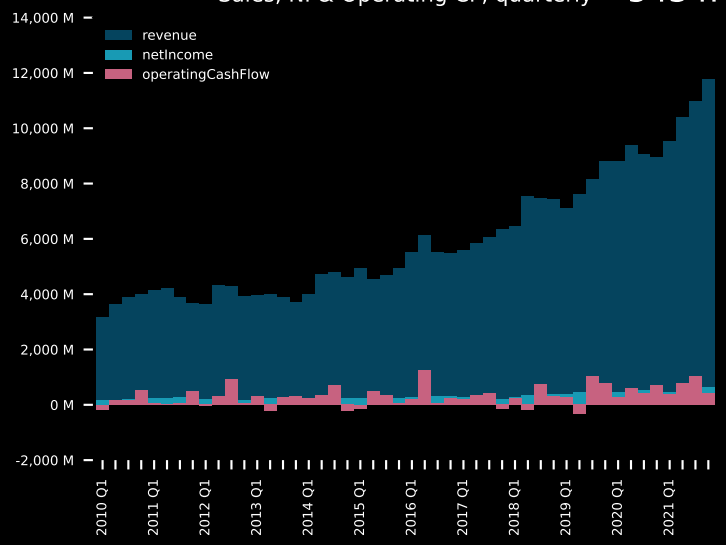

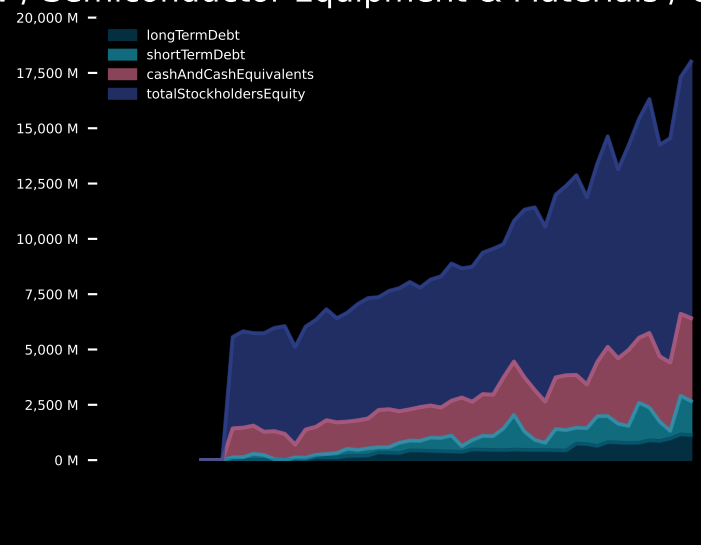

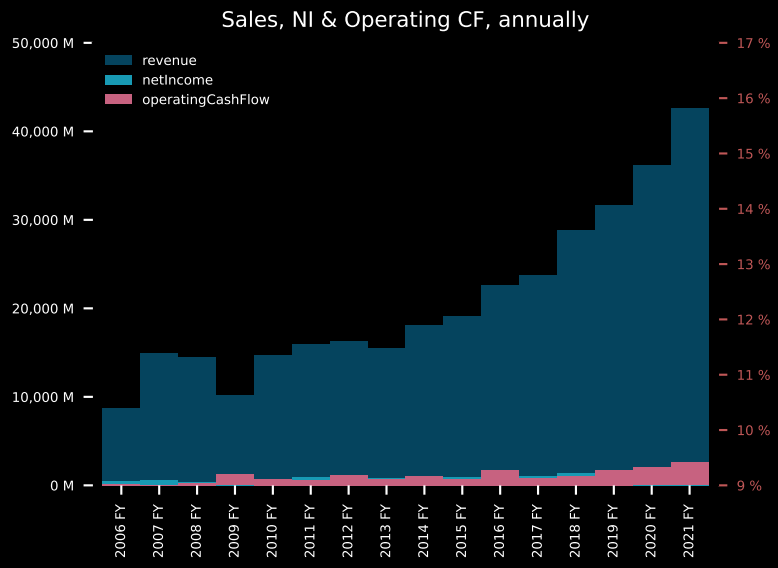

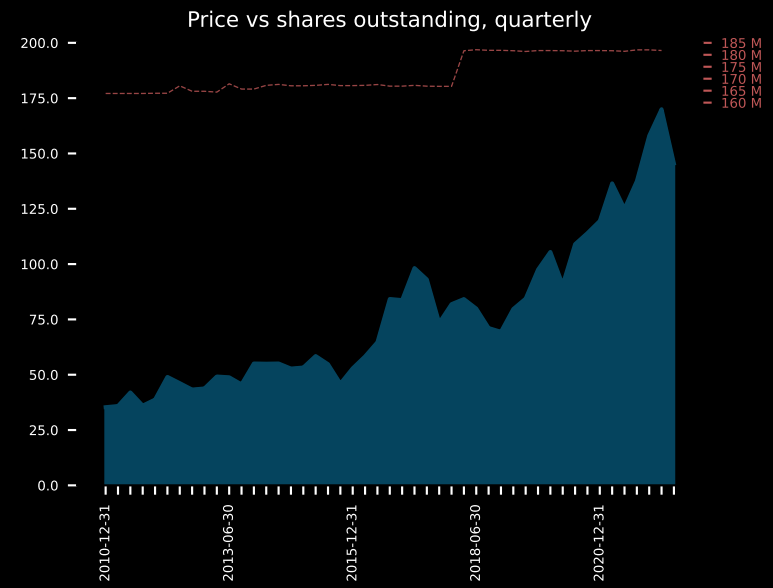

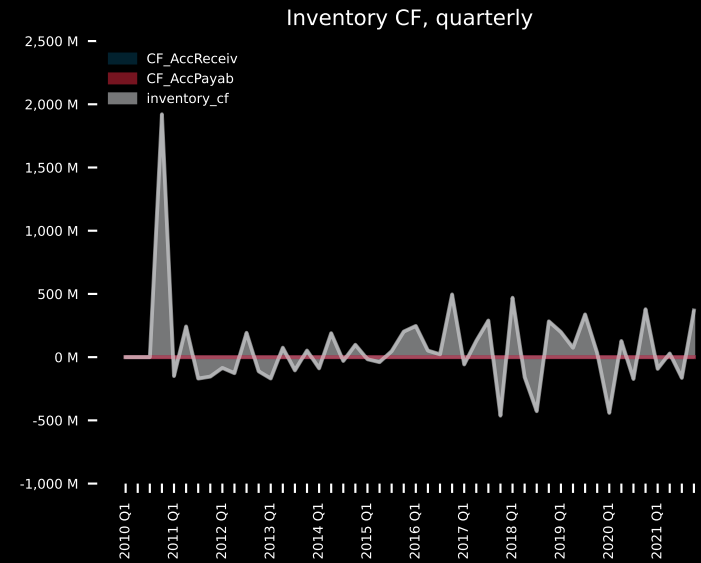

Topco Scientific Co., Ltd. provides precision materials, processing equipment, and components for semiconductor and opto-electronic industries in Taiwan, China, and internationally. It also offers semiconductor related products, such as wafer and wafer processing materials; wafer carriers; thin films; photolithography materials; etching and furnace products, including quartz glass products, chemical, and special gases; CMP slurry products; package and testing related materials and equipment; and semiconductor equipment. In addition, the company offers LCD related equipment and materials; LED related photoelectric related products; solar materials comprising conductive paste for solar cells, quartz crucibles, SiC powder, coolants, diamond wires, chemicals, and special gases; and electronic materials. Further, it undertakes water treatment, clean room and electromechanical, and public construction projects; and solar power

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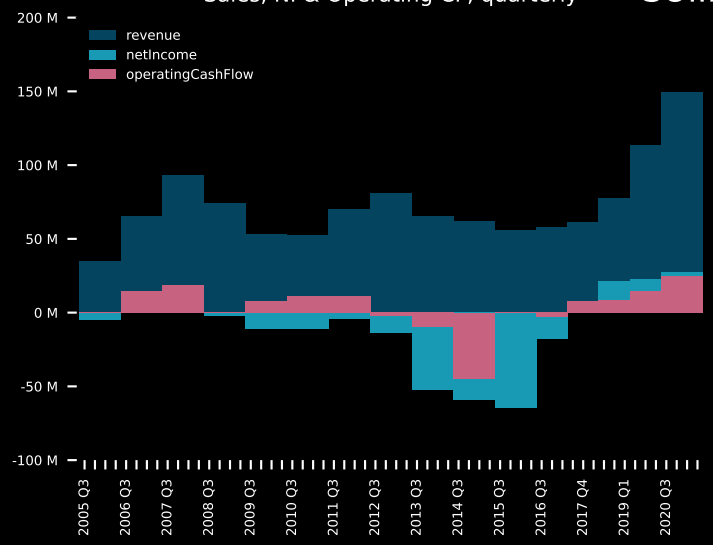

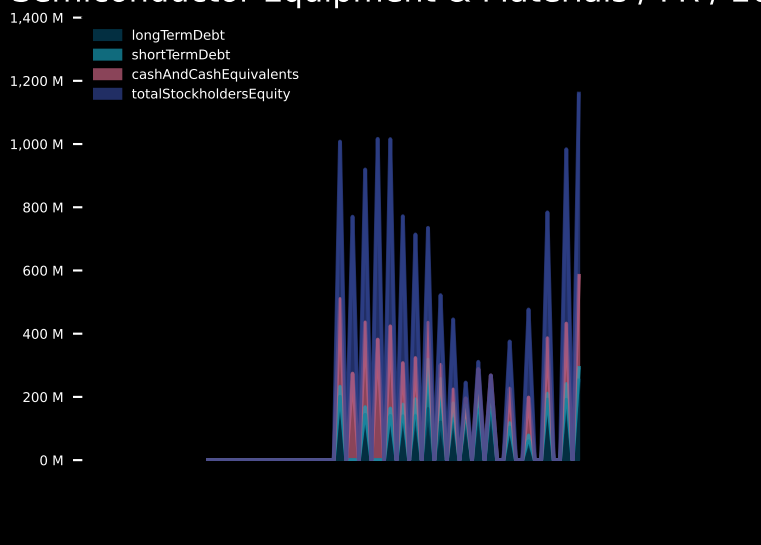

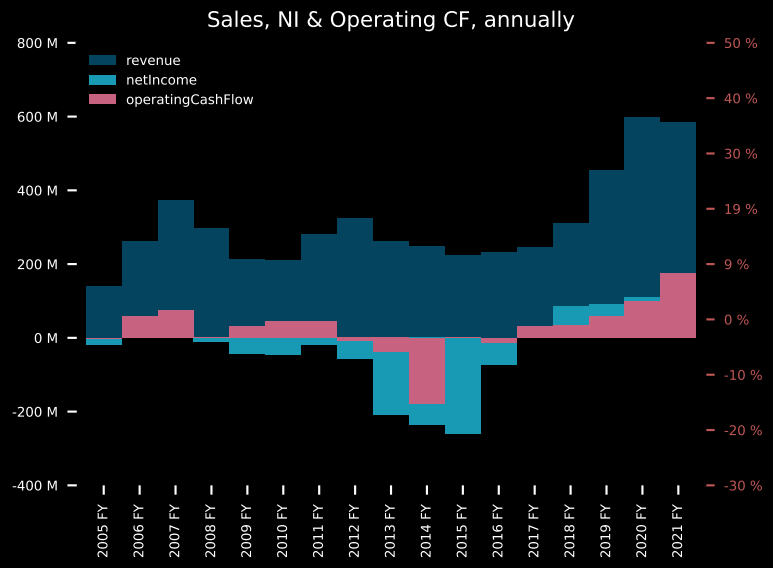

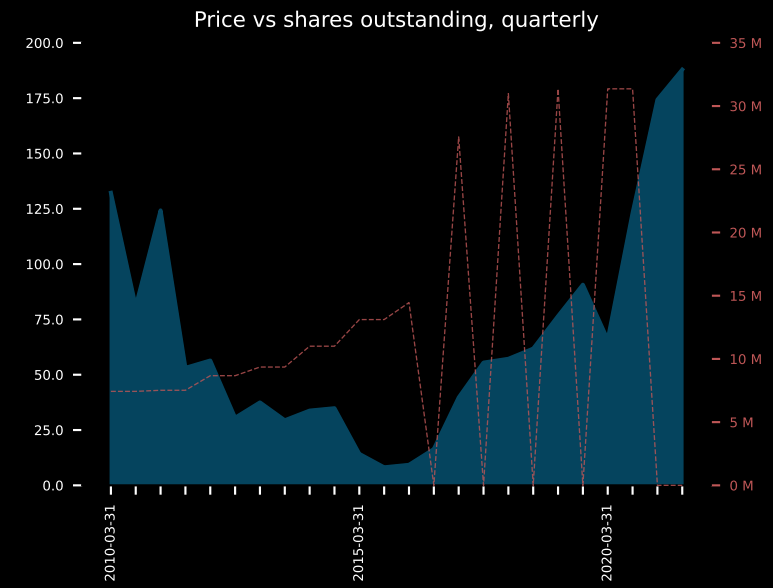

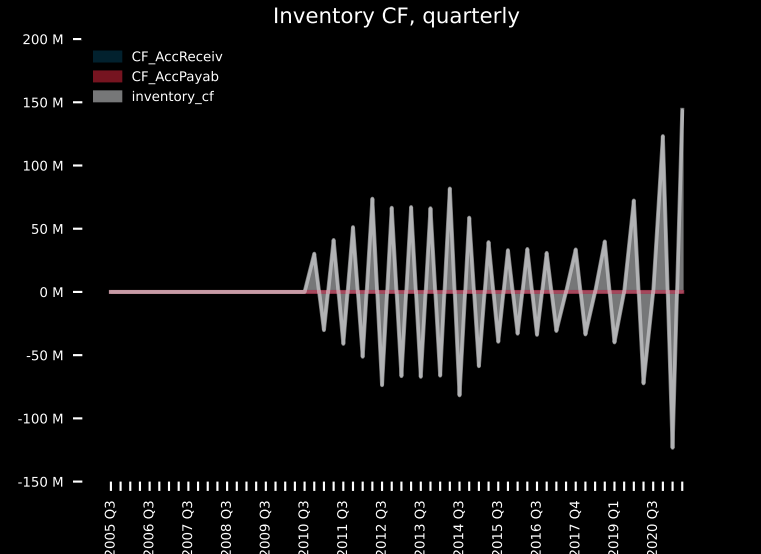

Soitec S.A. designs and manufactures semiconductor materials worldwide. Its products are used to manufacture chips that are used in smart phones, tablets, computers, IT servers, and data centers, as well as electronic components in cars, connected devices, and industrial and medical equipment. It offers Fully Depleted Silicon-On-Insulator (FD-SOI) for low power computing applications, and PD-SOI and FinFET-SOI products for high-performance computing markets. The company also offers RF-SOI substrates for front-end module devices, as well as supports 3G, 4G/LTE, LTE-advanced, and 5G requirements. In addition, it offers power-SOI products that address the requirements for integrating high-voltage and analog functions in power IC devices for automotive and industry markets. Further, the company offers photonics SOI products for high-speed optical transceivers in data centers; Imager SOI products

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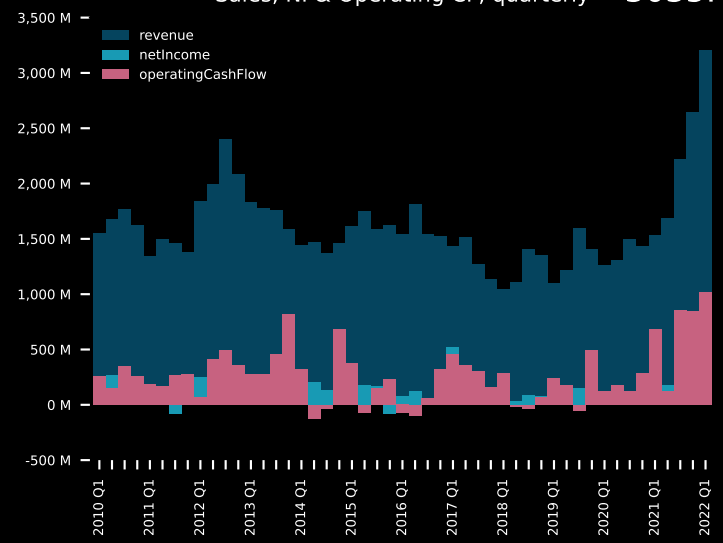

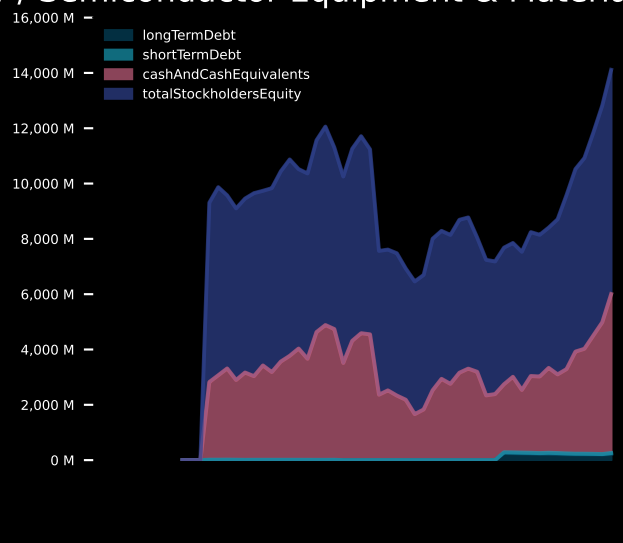

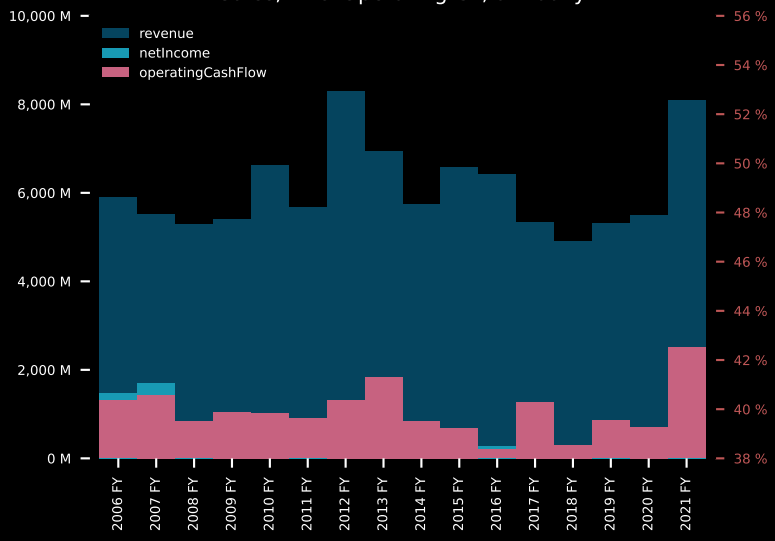

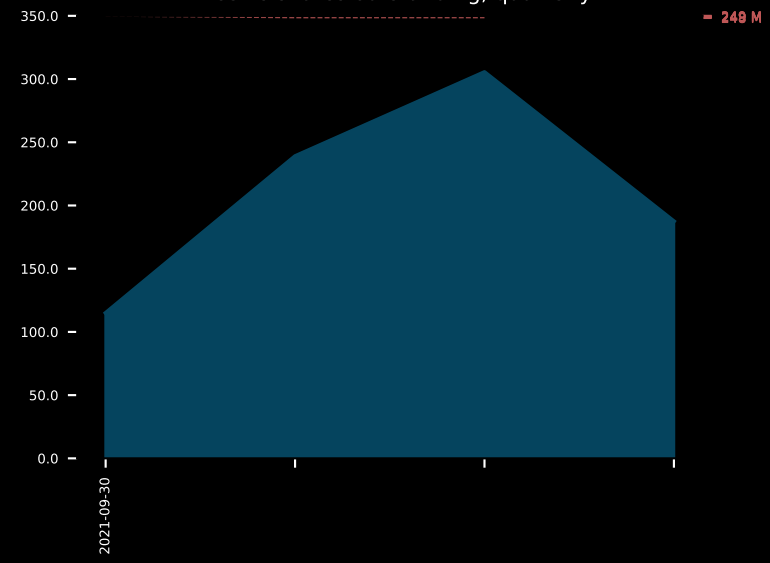

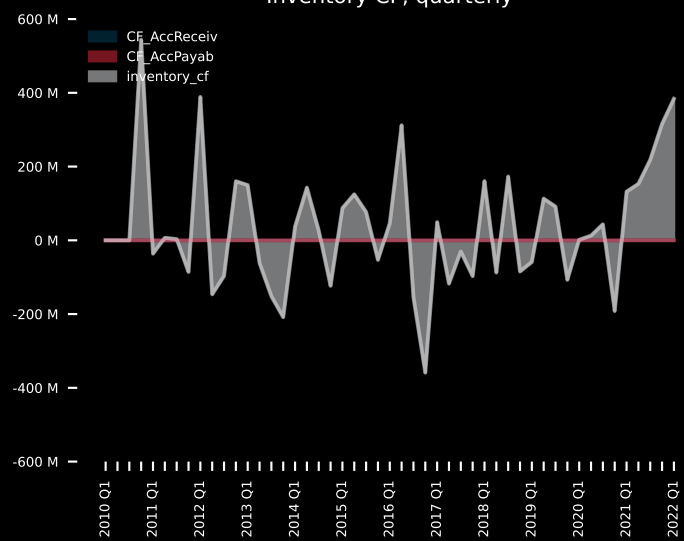

Faraday Technology Corporation, together with its subsidiaries, operates as a fabless ASIC/SoC and silicon intellectual property (IP) provider China, Taiwan, Japan, the United States, and internationally. The company offers SoC design services and evaluation platforms; and ASIC services. It also provides IP products, including library and memory compilers, processor cores, analog IPs, peripheral IPs, and interface IPs. The company offers design solutions for a range of applications comprising web communications, multimedia, computer storage and peripherals, consumer electronics, AIoT, etc. Faraday Technology Corporation was incorporated in 1993 and is headquartered in Hsinchu City, Taiwan.

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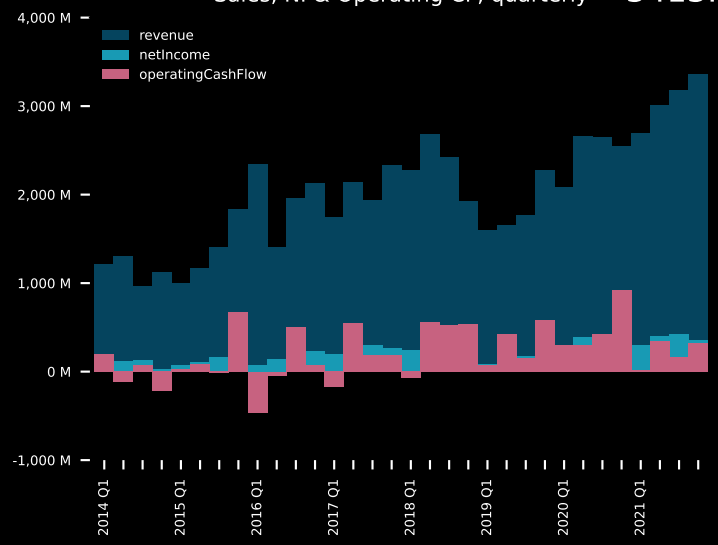

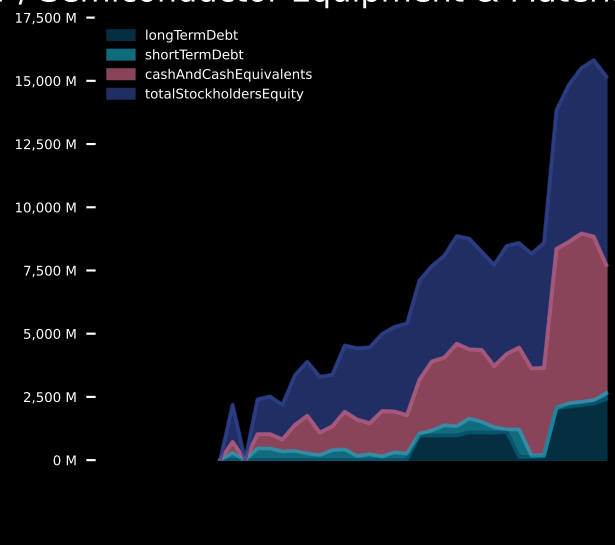

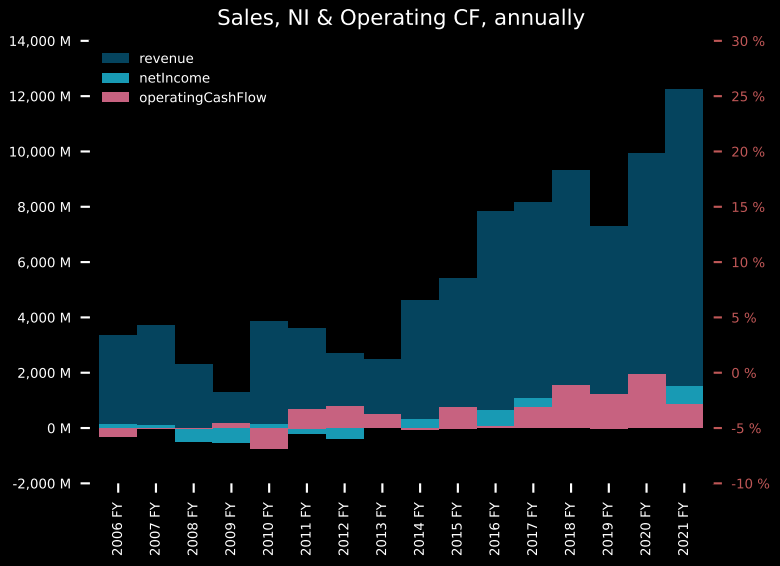

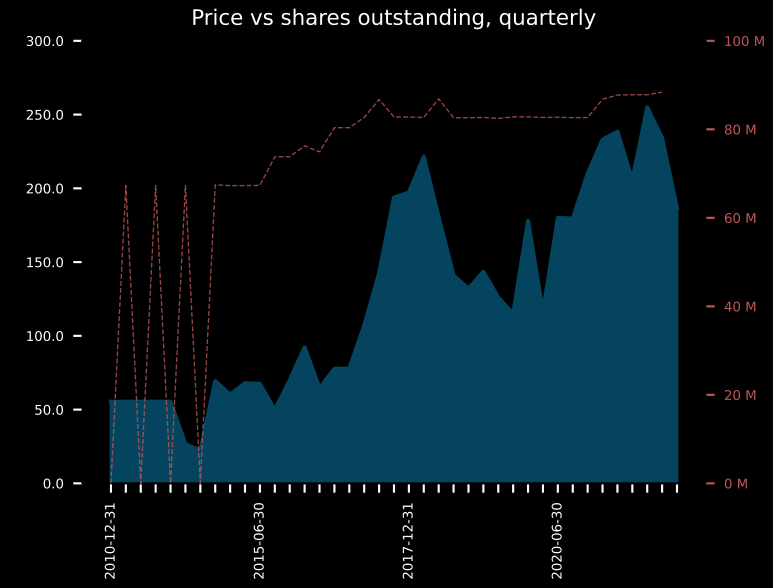

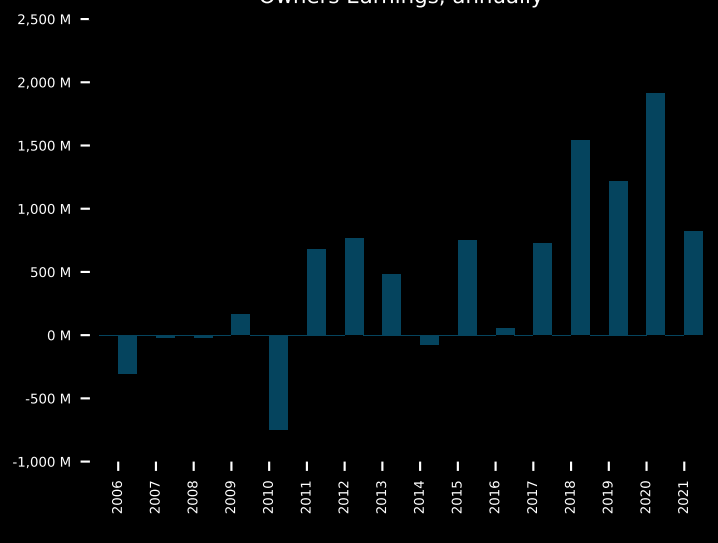

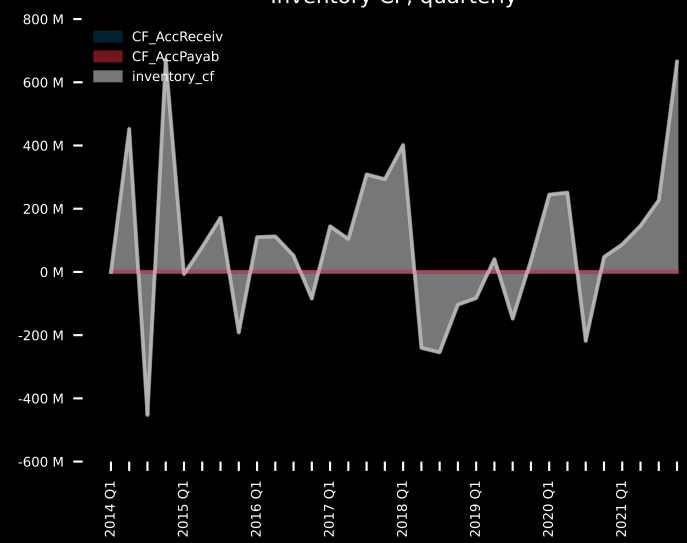

Foxsemicon Integrated Technology Inc. provides design and contract manufacturing services for semiconductor and TFT-LCD equipment manufacturing, and integrated system equipment in Taiwan and internationally. The company's services and products include equipment components, modules, solar energy equipment, and total systems used in the semiconductor and TFT-LCD industries. Foxsemicon Integrated Technology Inc. was incorporated in 2001 and is based in Chu-Nan, Taiwan.

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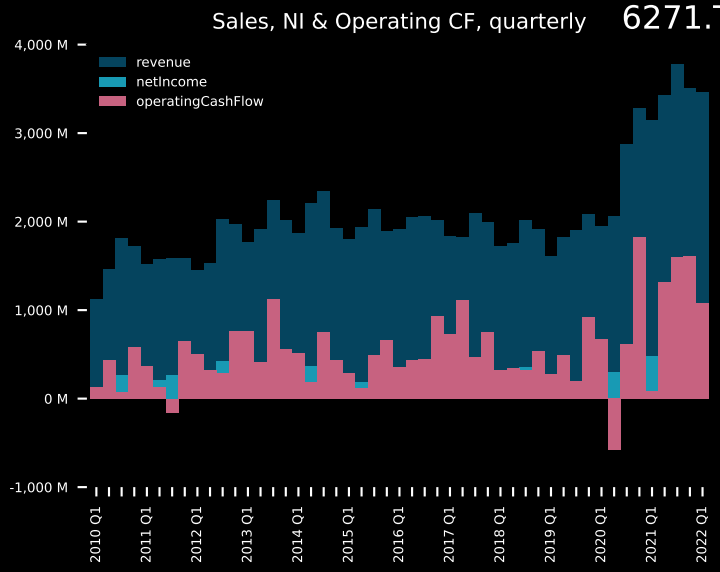
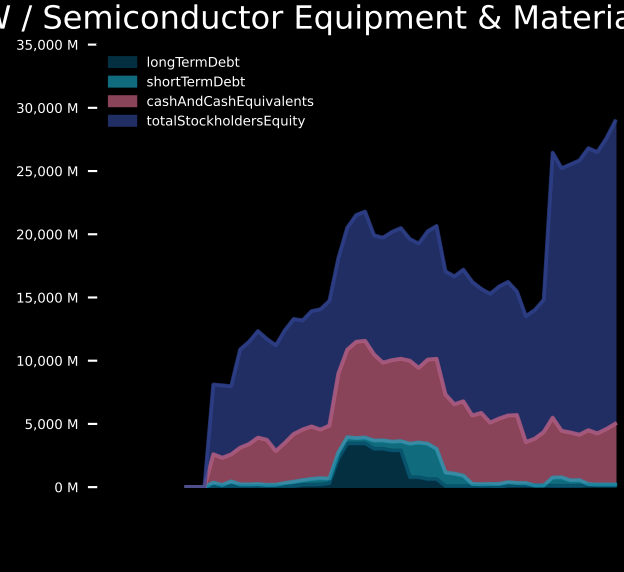
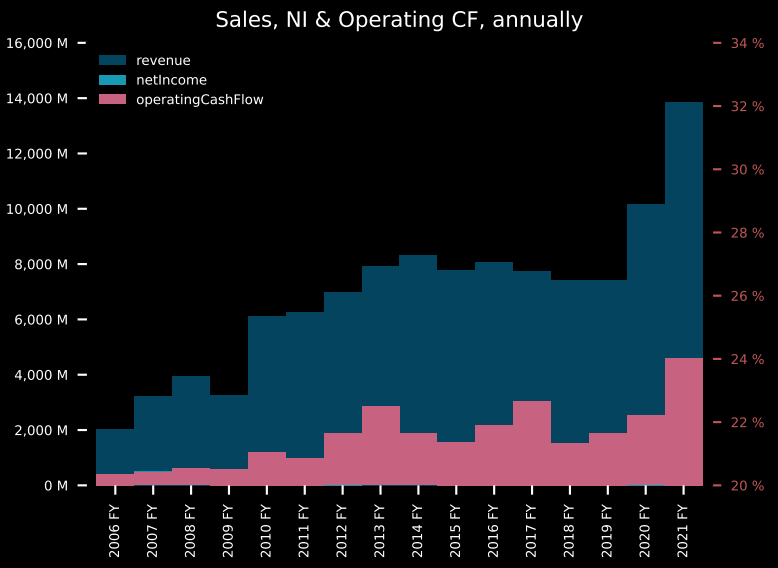
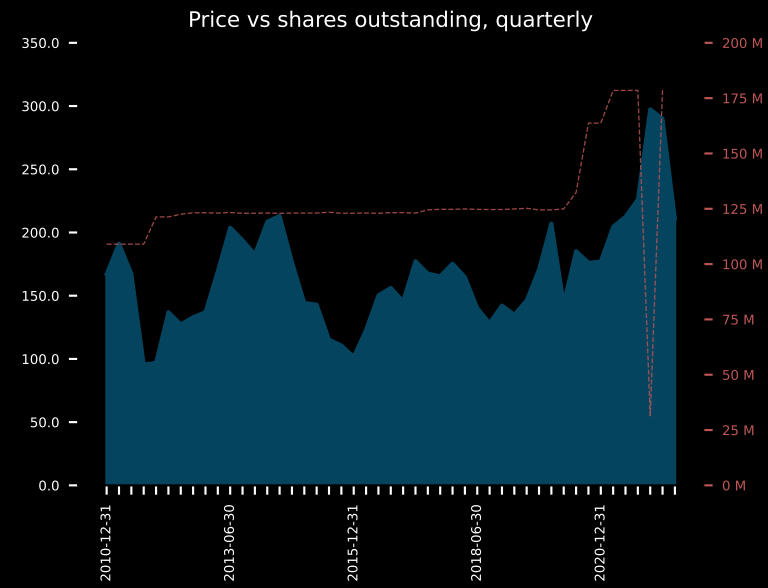
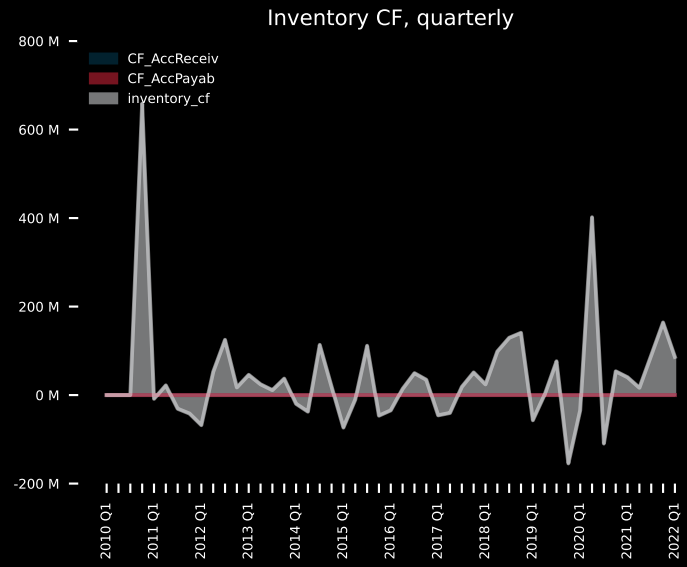


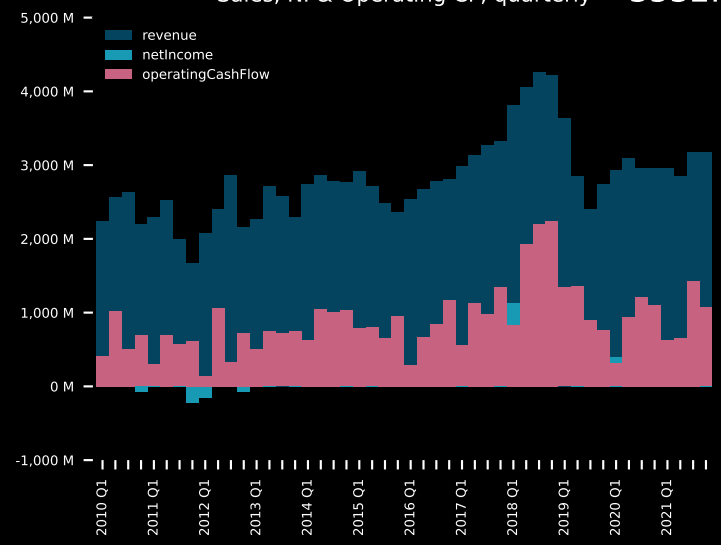


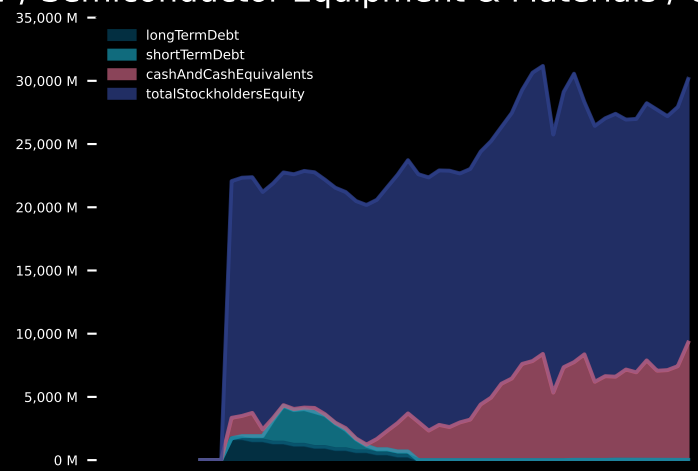


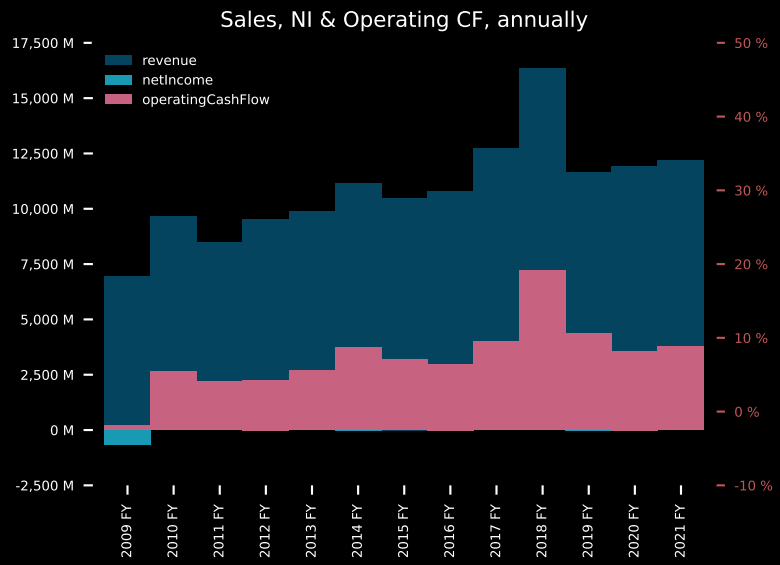


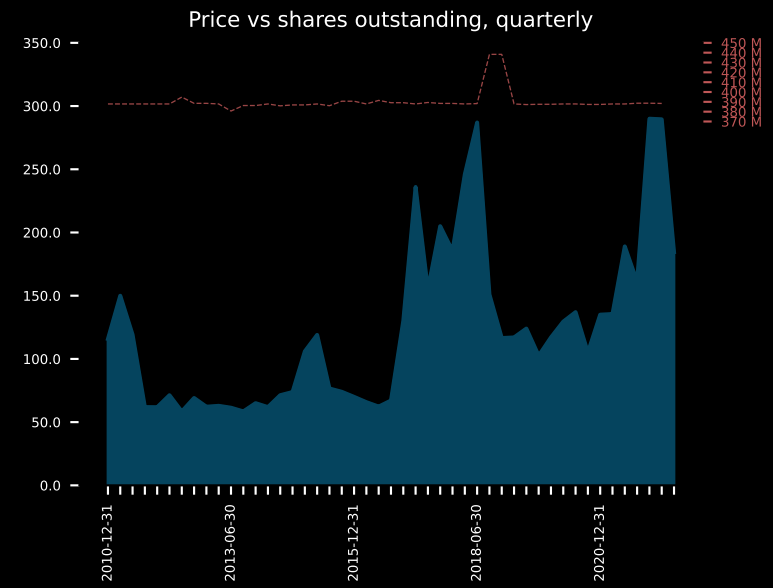


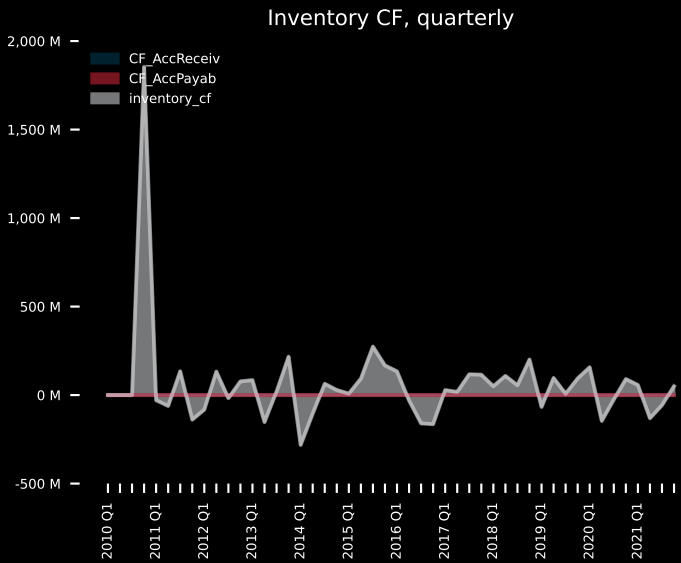
Tong Hsing Electronic Industries, Ltd. develops, manufactures, and sells micro modules and custom semiconductor packages in Taiwan. The company provides semiconductor micro module assembly, and thick and thin film substrate foundry services. It also offers microelectronic packaging technologies, such as assembly packaging services, backend technology and others, and RF testing services. In addition, the company provides contract manufacturing services for microelectronic packaging and ceramic thick/thin film substrate fabrication. Its products are used in IGBT, high-frequency switching power supply, automotive, aerospace, solar cell component, telecommunication power supply, laser system, high power LED, microwave, semiconductor process equipment, hybrid electric vehicles, computer peripherals, medical and network equipment, and sensor applications. The company was founded in 1974 and is











Formosa Sumco Technology Corporation manufactures, sells, and trades in silicon wafer semiconductors primarily in Taiwan. It offers polished, annealed, epitaxial, and test wafers. The company was incorporated in 1995 and is headquartered in Yunlin, Taiwan. Formosa Sumco Technology Corporation is a subsidiary of Sumco Techxiv Corporation.

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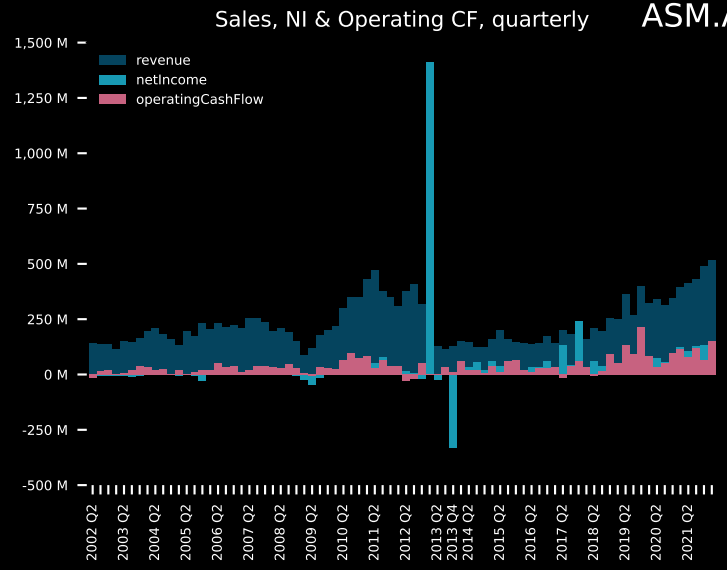
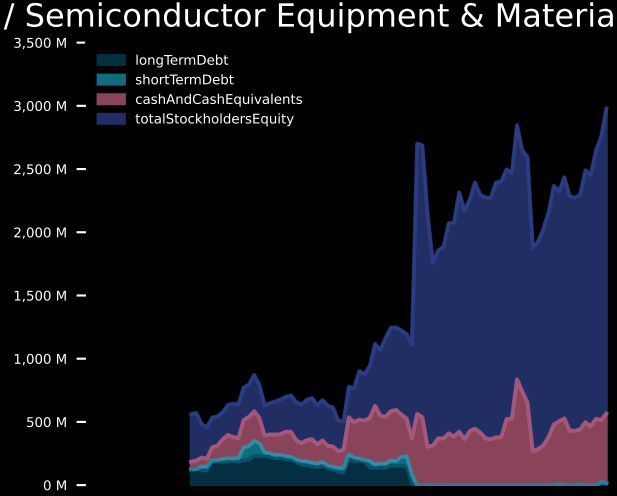
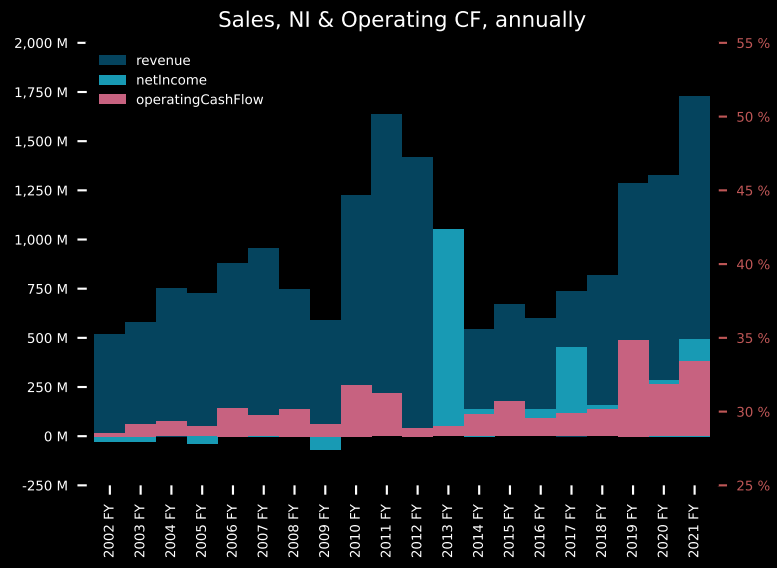
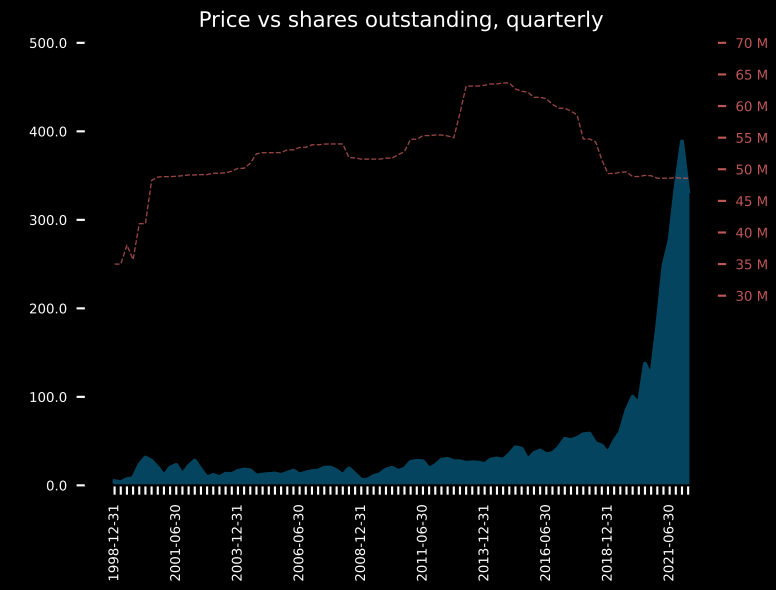
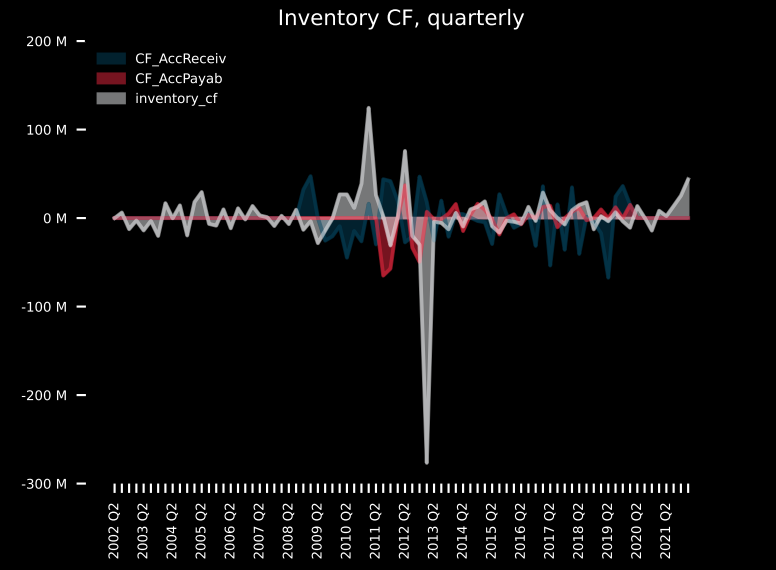


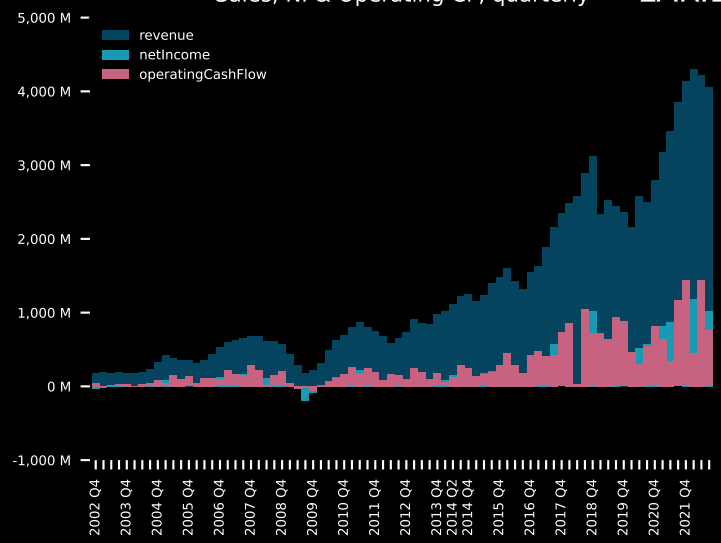


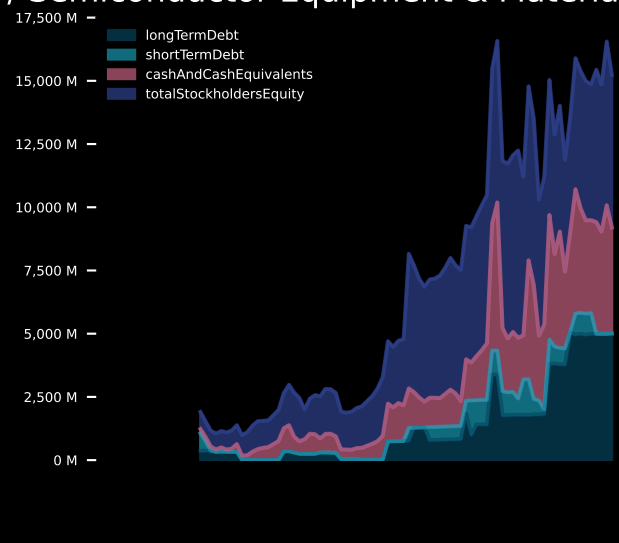


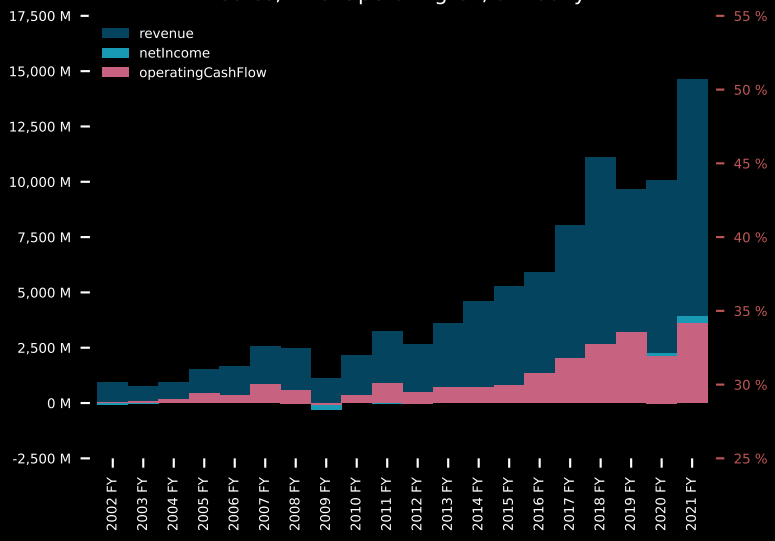


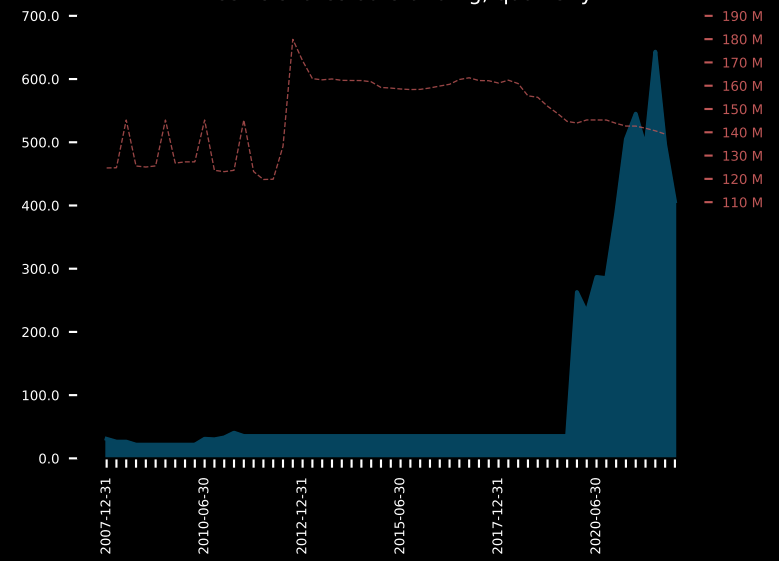


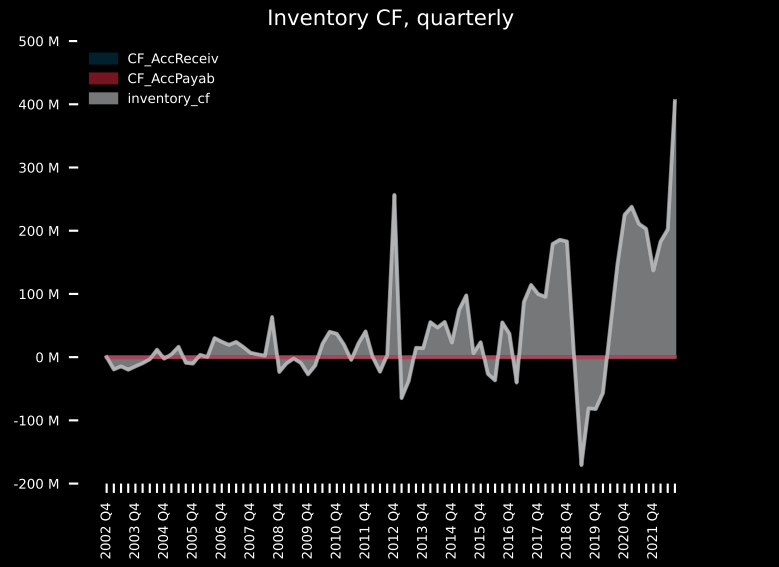
ASM International NV, together with its subsidiaries, engages in the research, development, manufacture, marketing, and servicing of equipment and materials that are used to produce semiconductor devices in the United States, Europe, and Asia. Its products include wafer processing deposition systems for single-wafer atomic layer deposition, plasma enhanced chemical vapor deposition, epitaxy, and batch diffusion/furnace systems, as well as provides spare parts and support services. The company also manufactures and sells equipment, which is used in wafer processing, encompassing the fabrication steps in which silicon wafers are layered with semiconductor devices. It serves manufacturers of semiconductor devices and integrated circuits. The company was formerly known as Advanced Semiconductor Materials International NV. ASM International NV was incorporated in 1968 and is headquartered in











Lam Research Corporation designs, manufactures, markets, refurbishes, and services semiconductor processing equipment used in the fabrication of integrated circuits. The company offers ALTUS systems to deposit conformal films for tungsten metallization applications; SABRE electrochemical deposition products for copper interconnect transition that offers copper damascene manufacturing; SOLA ultraviolet thermal processing products for film treatments; and VECTOR plasma-enhanced CVD ALD products. It also provides SPEED gapfill high-density plasma chemical vapor deposition products; and Striker single-wafer atomic layer deposition products for dielectric film solutions. In addition, the company offers Flex for dielectric etch applications; Kiyo for conductor etch applications; Syndion for through-silicon via etch applications; and Versys metal products for metal etch processes. Further, it provides

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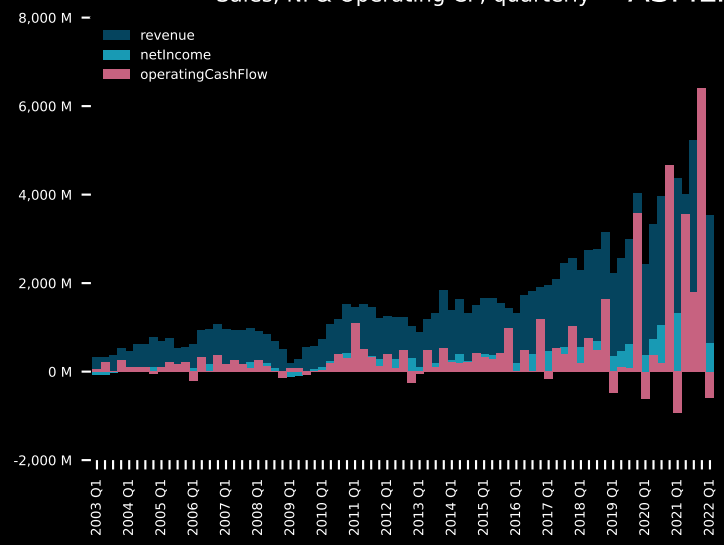

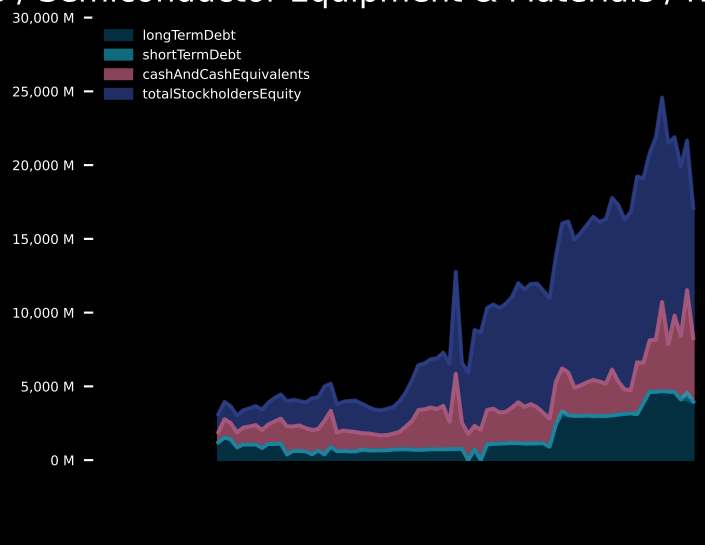

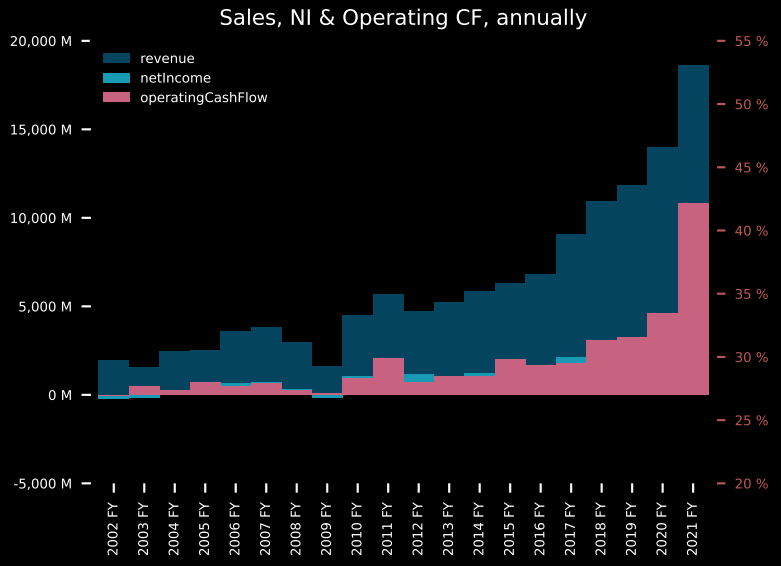

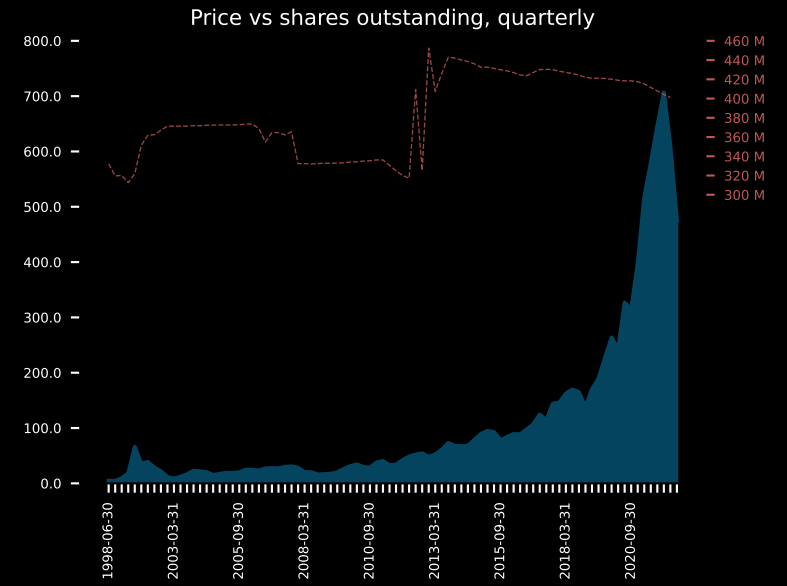

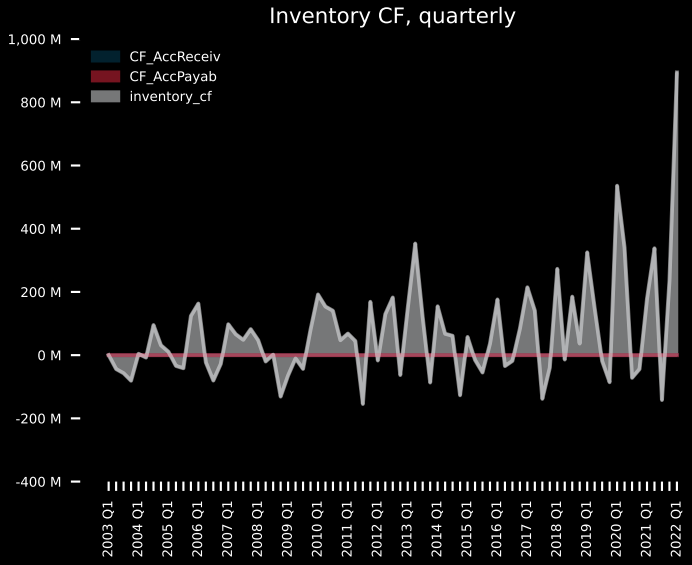

ASML Holding N.V. develops, produces, markets, sells, and services advanced semiconductor equipment systems consisting of lithography, metrology, and inspection related systems for memory and logic chipmakers. The company provides extreme ultraviolet lithography systems; and deep ultraviolet lithography systems comprising immersion and dry lithography solutions to manufacture various range of semiconductor nodes and technologies. It also offers metrology and inspection systems, including YieldStar optical metrology solutions to measure the quality of patterns on the wafers; and HMI e-beam solutions to locate and analyze individual chip defects. In addition, the company provides computational lithography and software solutions to create applications that enhance the setup of the lithography system; and mature products and services that refurbish used lithography equipment and offers associated services. It operates in

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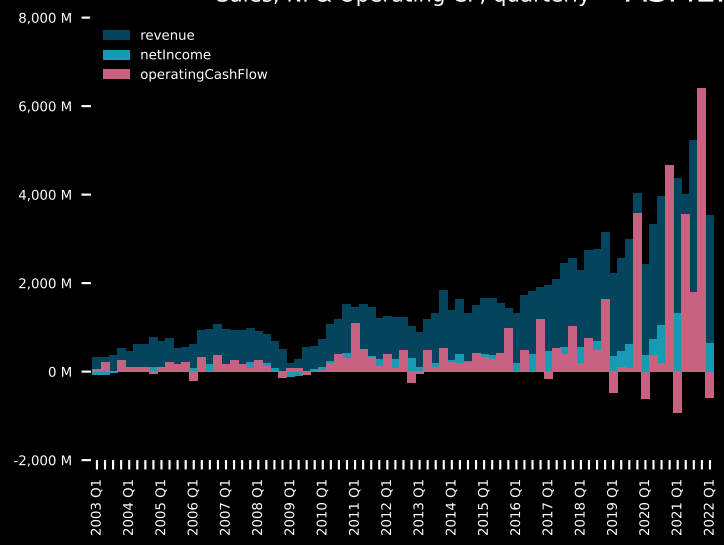

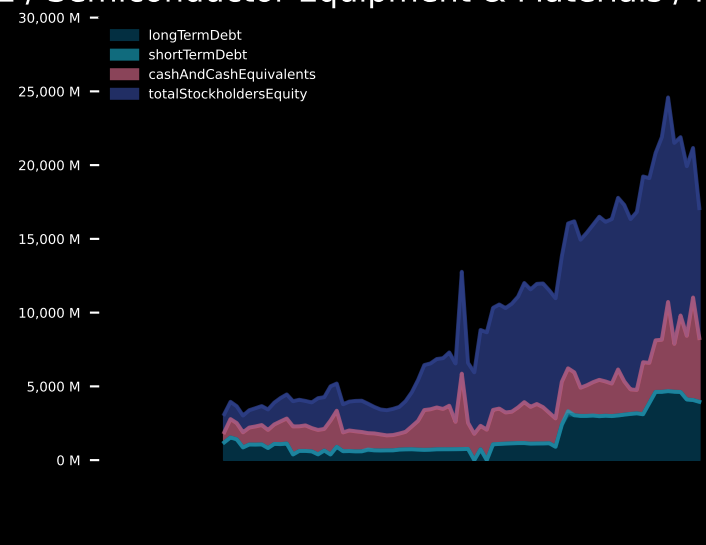

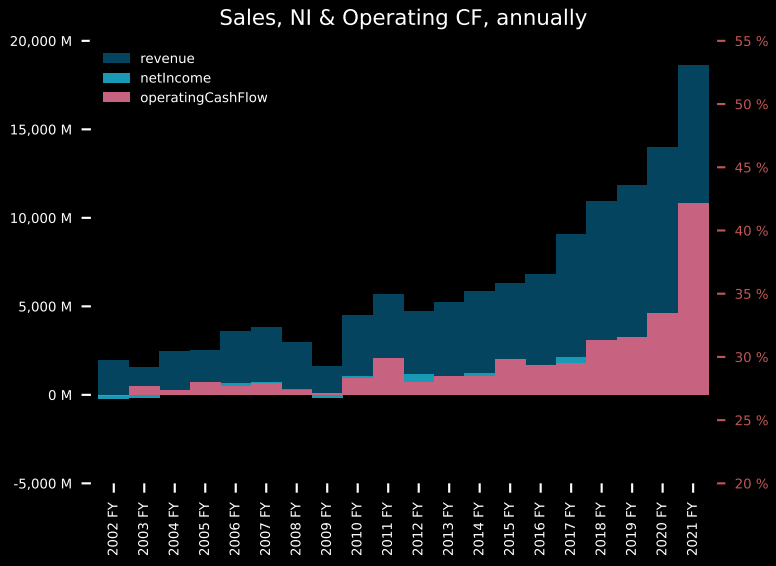

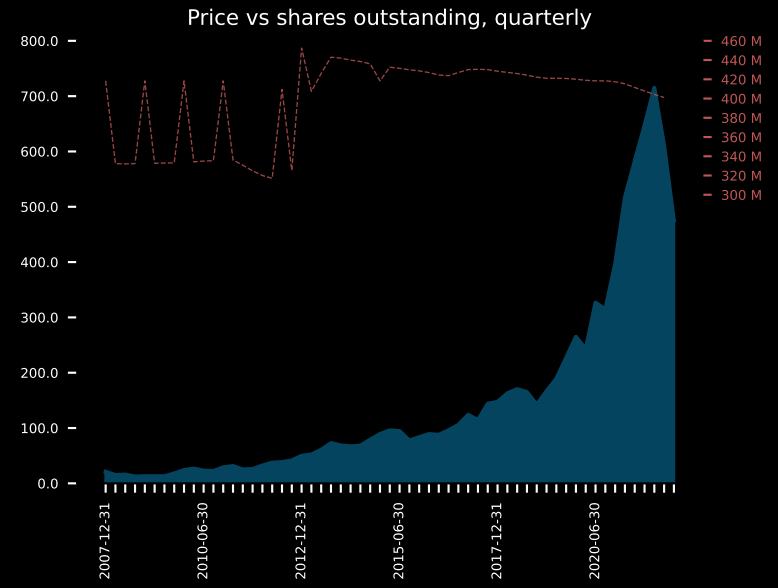

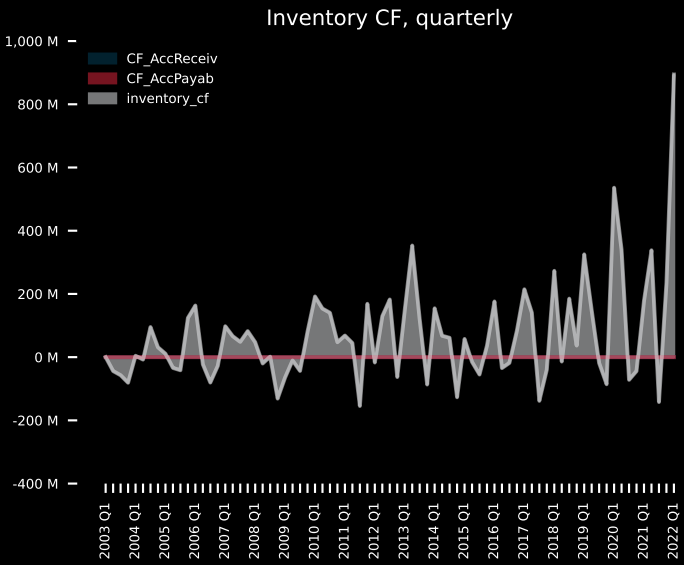

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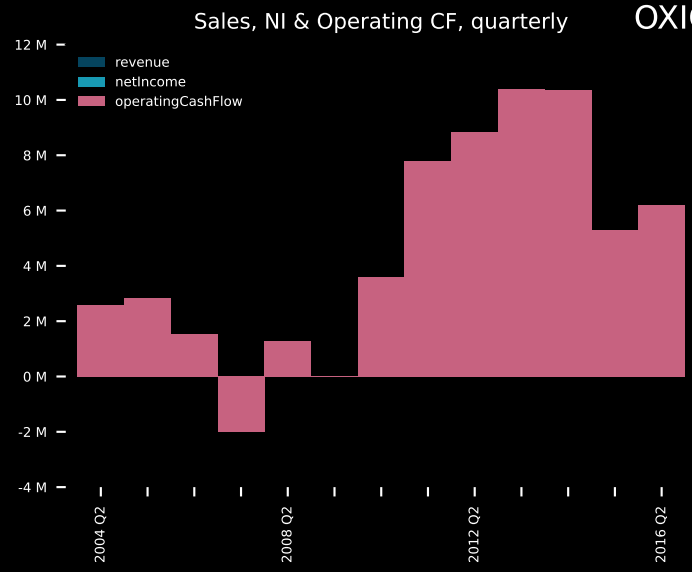

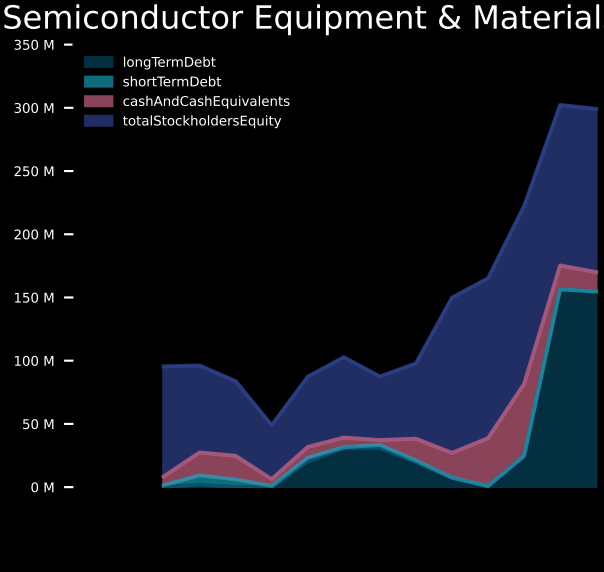

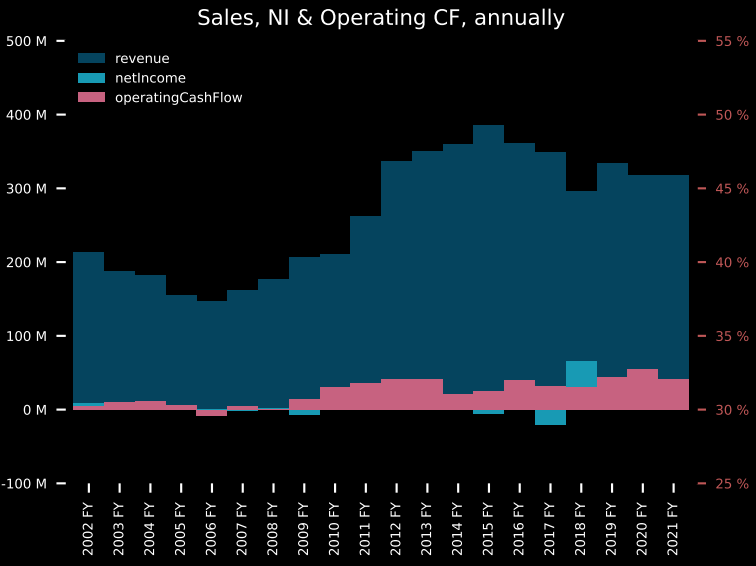

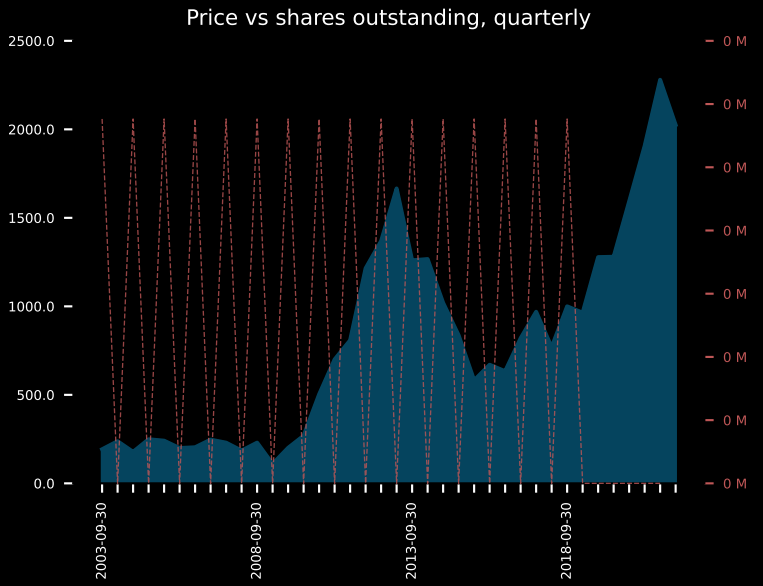

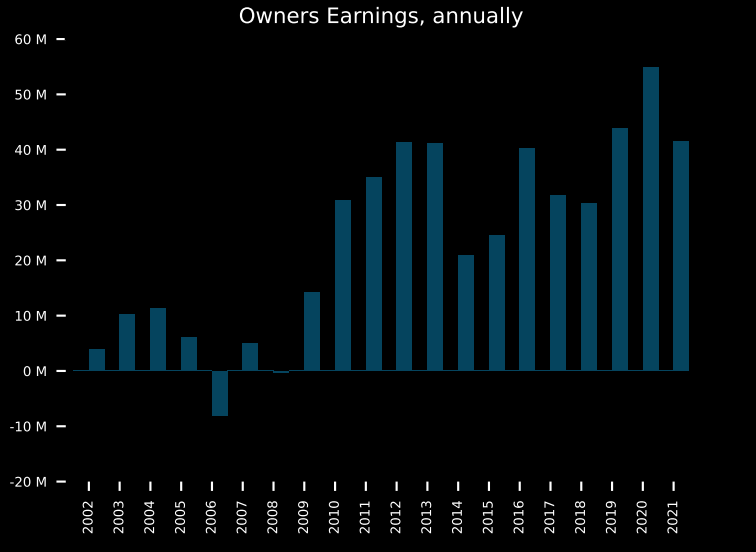

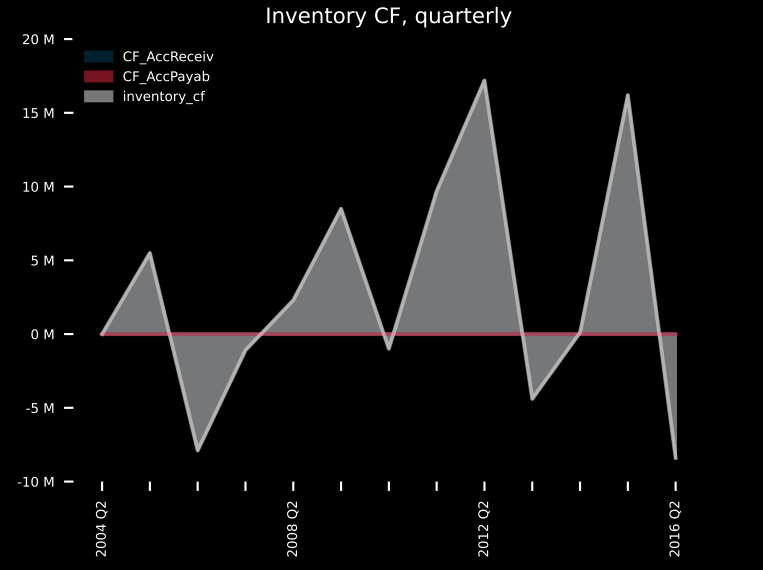

Oxford Instruments plc, through its subsidiaries, researches, develops, manufactures, rents, sells, and services tools and systems in the United Kingdom, China, Japan, the United States, Germany, rest of Europe, rest of Asia, and internationally. It operates through e Materials & Characterisation, Research & Discovery, and Service & Healthcare. The company offers atomic force microscopy products; tools for use in research and development across a range of applications, including semiconductors, renewable energy, mining, metallurgy, and forensics; etch and deposition processing equipment and solutions for use in power and RF devices, VCSELs/lasers, 2D materials, augmented reality, biomems, failure analysis, HBLEDs, infrared sensors, MEMS and sensors, and quantum; and low temperature systems comprising wet systems, magnet systems, instrumentation products, and custom and specialty systems. It also