

The Global Market for Micro- and Nanoelectronics 2024-2035

<https://marketpublishers.com/r/GB850188F612EN.html>

Date: April 2024

Pages: 1130

Price: US\$ 1,900.00 (Single User License)

ID: GB850188F612EN

Abstracts

Micro- and nanoelectronics refer to the study, design, and fabrication of electronic devices and systems at the micro- and nanoscale levels. These fields encompass a wide range of technologies and applications, leveraging the unique properties and behaviours of materials and structures at these scale levels. Microelectronics deals with the development of electronic devices and components with dimensions ranging from a few micrometers (10^{-6} meters) to a few millimeters. It includes the design and manufacture of integrated circuits (ICs), microprocessors, microcontrollers, and other microscale electronic devices. Nanoelectronics focuses on the manipulation and exploitation of materials, devices, and systems at the nanoscale level, typically ranging from 1 to 100 nanometers (10^{-9} meters). This field explores the unique physical, chemical, and electrical properties that emerge at the nanoscale, enabling the creation of novel electronic devices and systems with enhanced performance, efficiency, and functionality. Ongoing miniaturization combined with performance improvements and increasing functionality as

well as the integration of novel materials, radically new device concepts and new applications are pushing technological limits further and further. As such, micro- and nanoelectronics is the key and enabling technology for innovation in all areas of life. Megatrends such as artificial intelligence or the metaverse as well as critical infrastructures such as power plants or telecommunications networks, are heavily dependent on micro- and nanoelectronics.

Micro- and nanoelectronics are driving innovations across industries, from consumer electronics and computing to healthcare, energy, and advanced manufacturing. This in-depth market report provides a comprehensive analysis of the global micro- and nanoelectronics landscape, including market sizing, emerging trends, key drivers and

opportunities, competitive landscape, and future outlook.

The report includes a detailed introduction to micro- and nanoelectronics, covering definitions, importance, applications, and major market segments such as consumer electronics, computing, communications, automotive, aerospace and defense, healthcare, energy, industrial automation, Internet of Things (IoT), and optoelectronics.

A core focus is on the device technology driving micro- and nanoelectronics innovations, including transistors (FinFETs, Gate-All-Around FETs, Tunnel FETs, Carbon Nanotube FETs), integrated circuits, MEMS devices, nanoelectronic structures (carbon nanotubes, graphene, quantum dots), optoelectronic devices (LEDs, lasers, photodetectors), and energy storage/conversion devices. Market sizing and forecasts are provided for each device type through 2035.

The report also covers the electronic circuits and architectures powering today's systems, examining analog and mixed-signal circuits, microprocessors/microcontrollers, FPGAs, ASICs, System-on-Chip designs, memory architectures (DRAM, SRAM, emerging non-volatile), and advanced interconnects/packaging technologies like 3D ICs, chiplets, fan-outs, and silicon interposers. Again, comprehensive market data is included. Emerging technologies like spintronics, molecular electronics, neuromorphic computing, and 3D printed electronics are analyzed regarding their current status, applications, key players, and future potential.

The market analysis section covers key trends, applications, and market forecasts across industries:

Consumer Electronics (smartphones, wearables, home appliances)

Computing and Data Storage

Communications

Automotive Electronics (ADAS, displays, sensors)

Aerospace & Defense

Healthcare and Biomedical (imaging, biosensors, wearables, implantables)

Energy and Power (solar cells, energy harvesting, power management)

Industrial Automation

IoT (smart home, cities, sensor networks)

Optoelectronics (displays, lighting, photonics)

Sustainable Electronics

Smart Packaging Electronics

Over 1,100 company profiles are included, covering start-ups to industry leaders across devices, circuits, packaging, end-use applications, and enabling technologies.

Companies profiled include 3DSEMI, AMD (Advanced Micro Devices), Aspinity, BeFC, C3 Nano, Canatu, CHASM, ChipMOS, Chiral Nano, Efficient Computer, Electroninks, Elephantech, Eliyan Corporation, e-peas Semiconductors, Heraeus Epurio, Inkron Oy (Nagase), Innatera Nanosystems, Lotus Microsystems, Lumotive, Lux Semiconductors, MICLEDI Microdisplays, Neurophos, Ookuma Diamond Device, Oriole Networks, Point2 Technology, Pragmatic Semiconductor, Printoptix, PVNanoCell, SiFive, Silicon Box, SK hynix, SynSense, tacterion GmbH, Tactotek, Taiwan Semiconductor Manufacturing Company (TSMC), TopoLogic, TracXon, Voltera, Wise Integration, Xymox Technologies, Inc. and Ynvisible.

With insights into the latest market developments, disruptive technologies, competitive strategies, and opportunities across applications, this report is an invaluable resource for companies, investors, and professionals navigating the dynamic micro- and nanoelectronics space.

Contents

1 RESEARCH METHODOLOGY

2 INTRODUCTION

- 2.1 Definition of Micro- and Nanoelectronics
- 2.2 The evolution of electronics
- 2.3 Market segments
 - 2.3.1 Consumer Electronics
 - 2.3.2 Computing and Data Storage
 - 2.3.3 Communications
 - 2.3.4 Automotive Electronics
 - 2.3.5 Aerospace and Defense
 - 2.3.6 Healthcare and Biomedical
 - 2.3.7 Energy and Power
 - 2.3.8 Industrial Automation
 - 2.3.9 Internet of Things (IoT)
 - 2.3.10 Optoelectronics
- 2.4 Device Technology
 - 2.4.1 Transistors
 - 2.4.2 Integrated Circuits (ICs)
 - 2.4.3 Micro-Electro-Mechanical Systems (MEMS)
 - 2.4.4 Nanoelectronics
 - 2.4.5 Optoelectronics
 - 2.4.6 Energy Storage and Conversion
- 2.5 Electronic Circuits and Architectures
 - 2.5.1 Analog Circuits
 - 2.5.2 Mixed-Signal Circuits
 - 2.5.3 Microprocessors and Microcontrollers
 - 2.5.4 Field-Programmable Gate Arrays (FPGAs)
 - 2.5.5 Application-Specific Integrated Circuits (ASICs)
 - 2.5.6 System-on-Chip (SoC)
 - 2.5.7 Memory Architectures
 - 2.5.8 Interconnects and Packaging

3 TECHNOLOGY ANALYSIS

3.1 DEVICE TECHNOLOGY

- 3.1.1 Transistors
 - 3.1.1.1 FinFET (Fin Field-Effect Transistor)
 - 3.1.1.2 Gate-All-Around FET
 - 3.1.1.3 Tunnel FET (TFET)
 - 3.1.1.4 Carbon Nanotube FET (CNTFET)
 - 3.1.1.5 Graphene FET
 - 3.1.1.6 Negative Capacitance FET (NC-FET)
 - 3.1.1.7 Spin FET
 - 3.1.1.8 Global market size
- 3.1.2 Micro-Electro-Mechanical Systems (MEMS)
 - 3.1.2.1 Inertial Sensors
 - 3.1.2.2 Pressure Sensors
 - 3.1.2.3 Microfluidics
 - 3.1.2.4 RF MEMS
 - 3.1.2.5 Optical MEMS
 - 3.1.2.6 Energy Harvesting MEMS
 - 3.1.2.7 Global market size
- 3.1.3 Nanoelectronics
 - 3.1.3.1 Carbon Nanotubes
 - 3.1.3.2 Graphene
 - 3.1.3.3 Quantum Dots
 - 3.1.3.4 Nanowires
 - 3.1.3.5 Molecular Electronics
 - 3.1.3.6 Spin-Based Devices
 - 3.1.3.7 Global market size
- 3.1.4 Optoelectronics devices
 - 3.1.4.1 Light-Emitting Diodes (LEDs)
 - 3.1.4.2 Mini and Micro LEDs
 - 3.1.4.3 Lasers
 - 3.1.4.4 Photodetectors
 - 3.1.4.5 Optical Modulators
 - 3.1.4.6 Photonic Integrated Circuits (PICs)
 - 3.1.4.7 Quantum Cascade Lasers
 - 3.1.4.8 Global market size
- 3.1.5 Energy Storage and Conversion Devices
 - 3.1.5.1 Lithium-ion Batteries
 - 3.1.5.2 Supercapacitors
 - 3.1.5.3 Solid-state thin film batteries
 - 3.1.5.4 Flexible and stretchable batteries for electronics

- 3.1.5.5 Printed batteries
- 3.1.5.6 Fuel Cells
- 3.1.5.7 Photovoltaics
- 3.1.5.8 Thermoelectric Devices
- 3.1.5.9 Micro-scale Energy Harvesters

3.2 ELECTRONIC CIRCUITS AND ARCHITECTURES

- 3.2.1 Integrated Circuits (ICs)
 - 3.2.1.1 System-on-Chip (SoC)
 - 3.2.1.2 3D Integrated Circuits
 - 3.2.1.3 Neuromorphic Circuits
 - 3.2.1.4 Quantum Integrated Circuits
 - 3.2.1.5 Heterogeneous Integration
 - 3.2.1.6 Monolithic 3D Integration
 - 3.2.1.7 Global market size
- 3.2.2 Microprocessors and Microcontrollers
 - 3.2.2.1 Types
 - 3.2.2.2 Global market size
- 3.2.3 Memory Architectures
 - 3.2.3.1 Dynamic RAM (DRAM)
 - 3.2.3.2 Static RAM (SRAM)
 - 3.2.3.3 Flash Memory
 - 3.2.3.4 Resistive RAM (ReRAM)
 - 3.2.3.5 Phase-Change Memory (PCM)
 - 3.2.3.6 Ferroelectric RAM (FeRAM)
 - 3.2.3.7 Magnetoresistive RAM (MRAM)
 - 3.2.3.8 Global market size
- 3.2.4 Interconnects and Packaging
 - 3.2.4.1 Wafer Level Packaging
 - 3.2.4.2 Through-Silicon Vias (TSVs)
 - 3.2.4.3 Flip-Chip Packaging
 - 3.2.4.4 Fan-Out Wafer-Level Packaging
 - 3.2.4.5 Chiplets
 - 3.2.4.6 Integrated Fan-Out Packaging
 - 3.2.4.7 Silicon Interposers
 - 3.2.4.8 Advanced Substrates
 - 3.2.4.9 Embedded Multi-Die Interconnect Bridge (EMIB)
 - 3.2.4.10 2D and 3D packaging
 - 3.2.4.11 Monolithic 3D
 - 3.2.4.12 Global market size

3.3 SYSTEM DESIGN AND APPLICATION

3.3.1 Embedded Systems

3.3.2 Internet of Things (IoT) Systems

3.3.3 Wearable and Implantable Systems

3.4 OTHER TECHNOLOGIES

3.4.1 Spintronics

3.4.1.1 Overview

3.4.1.2 Applications

3.4.1.3 Companies

3.4.2 Molecular Electronics

3.4.2.1 Overview

3.4.2.2 Applications

3.4.2.3 Companies

3.4.3 Neuromorphic Computing

3.4.3.1 Overview

3.4.3.2 Applications

3.4.3.3 Companies

3.4.4 3D printed electronics

3.4.4.1 Overview

3.4.4.2 Applications

3.4.4.3 Companies

4 MARKET ANALYSIS

4.1 Industry 4.0 and Smart Manufacturing

4.2 Integration with Artificial Intelligence (AI)

4.3 Internet of Things (IoT) and Connected Devices

4.4 Consumer electronics

4.4.1 Trends

4.4.2 Markets and applications

4.4.2.1 Smartphones

4.4.2.2 Tablets and laptops

4.4.2.3 Wearables

4.4.2.4 E-Textiles

4.4.2.5 Home appliances

4.4.3 Global market size

4.5 Computing and Data Storage

4.5.1 Trends

4.5.2 Markets and applications

- 4.5.2.1 Microprocessors
- 4.5.2.2 Memory devices
- 4.5.2.3 Solid-state drives (SSDs)
- 4.5.3 Global market size
- 4.6 Communications
 - 4.6.1 Trends
 - 4.6.2 Markets and applications
 - 4.6.2.1 Wireless communication systems
 - 4.6.2.2 Networking devices
 - 4.6.2.3 Optical communications
 - 4.6.3 Global market size
- 4.7 Automotive Electronics
 - 4.7.1 Trends
 - 4.7.2 Markets and applications
 - 4.7.2.1 Advanced driver assistance systems (ADAS)
 - 4.7.2.2 Displays
 - 4.7.2.3 Sensors
 - 4.7.3 Global market size
- 4.8 Aerospace and Defense
 - 4.8.1 Trends
 - 4.8.2 Markets and applications
 - 4.8.2.1 Avionics
 - 4.8.2.2 Navigation systems
 - 4.8.2.3 Radar systems
 - 4.8.2.4 Satellite communication
 - 4.8.3 Global market size
- 4.9 Healthcare and Biomedical
 - 4.9.1 Trends
 - 4.9.2 Markets and applications
 - 4.9.2.1 Medical imaging
 - 4.9.2.2 Biosensors
 - 4.9.2.3 Medical wearables
 - 4.9.2.4 Implantable devices
 - 4.9.3 Global market size
- 4.10 Energy and Power
 - 4.10.1 Trends
 - 4.10.2 Markets and applications
 - 4.10.2.1 Solar cells
 - 4.10.2.2 Energy harvesting devices

- 4.10.2.3 Power management systems
- 4.10.3 Global market size
- 4.11 Industrial Automation
 - 4.11.1 Trends
 - 4.11.2 Markets and applications
 - 4.11.2.1 Industrial control systems
 - 4.11.2.2 Robotics
 - 4.11.2.3 Automation equipment
 - 4.11.3 Global market size
- 4.12 Internet of Things (IoT)
 - 4.12.1 Trends
 - 4.12.2 Markets and applications
 - 4.12.2.1 Smart homes
 - 4.12.2.2 Smart cities
 - 4.12.2.3 Connected devices
 - 4.12.2.4 Sensor networks
 - 4.12.3 Global market size
- 4.13 Optoelectronics
 - 4.13.1 Trends
 - 4.13.2 Markets and applications
 - 4.13.2.1 Displays
 - 4.13.2.2 Lighting
 - 4.13.2.3 Photonics
 - 4.13.2.4 Optical interconnects
 - 4.13.2 Global Market size
- 4.14 Green and Sustainable Electronics
 - 4.14.1 Trends
 - 4.14.2 Markets and applications
 - 4.14.3 Global market size
- 4.15 Smart Packaging Electronics
 - 4.15.1 Trends
 - 4.15.2 Markets and applications
 - 4.15.3 Global market size

5 COMPANY PROFILES 268 (1,105COMPANY PROFILES)

6 REFERENCES 1125

List Of Tables

LIST OF TABLES

Table 1. Market Segments and Applications.

Table 2. Micro- and Nanoelectronics Device Technology by Type.

Table 3. Devices and structures in nanoelectronics.

Table 4. Electronic Circuits and Architectures by Type.

Table 5. Types of Analog Circuits in Advanced Micro- and Nanoelectronics.

Table 6. Types of Mixed-Signal Circuits in Advanced Micro- and Nanoelectronics.

Table 7. Types of Field-Programmable Gate Arrays (FPGAs) in Advanced Micro- and Nanoelectronics.

Table 8. Types of Application-Specific Integrated Circuits (ASICs) in Advanced Micro- and Nanoelectronics.

Table 9. Types of Transistors in Advanced Micro- and Nanoelectronics.

Table 10. Global market revenues for transistors by type, 2020-2035 (billions USD).

Table 11. Types of Micro-Electro-Mechanical Systems (MEMS) in Advanced Micro- and Nanoelectronics.

Table 12. Global market revenues MEMS devices by type, 2020-2035 (billions USD).

Table 13. Devices and Structures in Nanoelectronics.

Table 14. Global market revenues for nanoelectronics by type, 2020-2035 (billions USD).

Table 15. Types of Optoelectronic Devices in Advanced Micro- and Nanoelectronics.

Table 16. Global market revenues for Optoelectronic Devices by type, 2020-2035 (billions USD).

Table 17. Types of Energy Storage and Conversion Devices in Advanced Micro- and Nanoelectronics.

Table 18. Types of flexible and stretchable batteries for electronics.

Table 19. Types of Integrated Circuits in Advanced Micro- and Nanoelectronics.

Table 20. Types of System-on-Chip (SoC) in Advanced Micro- and Nanoelectronics.

Table 21. Global market revenues for Integrated Circuits by type, 2020-2035 (billions USD).

Table 22. Types of Microprocessors and Microcontrollers in Advanced Micro- and Nanoelectronics.

Table 23. Global market revenues for Microprocessors and Microcontrollers by type, 2020-2035 (billions USD).

Table 24. Types of Memory Architectures in Advanced Micro- and Nanoelectronics.

Table 25. Global market revenues for Memory Architectures by type, 2020-2035 (billions USD).

Table 26. Types of Interconnects and Packaging in Advanced Micro- and Nanoelectronics

Table 27. Use cases and benefits of using chiplets in semiconductor design.

Table 28. Global market revenues for Interconnects and Packaging by type, 2020-2035 (billions USD).

Table 29. Spintronics applications.

Table 30. Spintronics companies.

Table 31. Molecular electronics applications.

Table 32. Molecular electronics companies.

Table 33. Neuromorphic Computing applications.

Table 34. Neuromorphic Computing companies.

Table 35. 3D printed electronics applications.

Table 36. 3D printed electronics companies.

Table 37. Trends in consumer electronics.

Table 38. Markets and applications in consumer electronics.

Table 39. Companies in wearables.

Table 40. Companies in hearables.

Table 41. Global market for consumer electronics, by application, 2020-2035 (billions USD).

Table 42. Trends in computing and data storage.

Table 43. Global market for computing and data storage, by application, 2020-2035 (billions USD).

Table 44. Trends in communications.

Table 45. Markets and applications in communications.

Table 46. Global market for communications, by application, 2020-2035 (billions USD).

Table 47. Trends in automotive electronics.

Table 48. Markets and applications in automotive electronics.

Table 49. Types of automotive display technologies.

Table 50. Global market for automotive electronics, by application, 2020-2035 (billions USD).

Table 51. Trends in aerospace and defence electronics.

Table 52. Markets and applications in aerospace and defences electronics.

Table 53. Global market for aerospace & defence electronics, by application, 2020-2035 (billions USD).

Table 54. Trends in healthcare and biomedical electronics.

Table 55. Markets and applications in healthcare and biomedical electronics.

Table 56. Types of medical wearables.

Table 57. Global market for healthcare and biomedical electronics, by application, 2020-2035 (billions USD).

- Table 58. Trends in energy and power electronics.
- Table 59. Markets and applications in energy and power electronics.
- Table 60. Global market for energy and power electronics, by application, 2020-2035 (billions USD).
- Table 61. Trends in industrial automation electronics.
- Table 62. Markets and applications in industrial automation electronics.
- Table 63. Global market for industrial automation, by application, 2020-2035 (billions USD).
- Table 64. Trends in Internet of Things (IoT).
- Table 65. Markets and applications in IoT.
- Table 66. Semiconductor Components of IoT Devices.
- Table 67. Global market for IoT, by application, 2020-2035 (billions USD).
- Table 68. Trends in optoelectronics.
- Table 69. Markets and applications in optoelectronics.
- Table 70. Global market for displays, by application, 2020-2035 (billions USD).
- Table 71. Types of advanced micro- and nanoelectronics in lighting.
- Table 72. Global market for lighting, by application, 2020-2035 (billions USD).
- Table 73. Types of advanced micro- and nanoelectronics in photonics.
- Table 74. Global market for photonics, by application, 2020-2035 (billions USD).
- Table 75. Types of advanced micro- and nanoelectronics in optical interconnects.
- Table 76. Global market for optical interconnects, by application, 2020-2035 (billions USD).
- Table 77. Trends in green and sustainable electronics.
- Table 78. Markets and applications in green and sustainable electronics.
- Table 79. Global market for green and sustainable electronics, by application, 2020-2035 (billions USD).
- Table 80. Trends in smart packaging electronics.
- Table 81. Markets and applications in smart packaging electronics.
- Table 82. Global market for smart packaging electronics, by application, 2020-2035 (billions USD).
- Table 83. TCL Mini-LED product range.
- Table 84. AMD AI chip range.
- Table 85. Intel's products that adopt 3D FOVEROS.
- Table 86. LG mini QNED range 1071
- Table 87. Samsung Neo QLED TV range. 1098
- Table 88. San an Mini and MicroLED Production annual target. 1100
- Table 89. NPQDTM vs Traditional QD based MicroLEDs. 1102
- Table 90. TCL MiniLED product range. 1111

List Of Figures

LIST OF FIGURES

Figure 1. Evolution of electronics.

Figure 2. Global market revenues for transistors by type, 2020-2035 (billions USD).

Figure 3. Global market revenues for MEMS devices by type, 2020-2035 (billions USD).

Figure 4. Global market revenues for nanoelectronics by type, 2020-2035 (billions USD).

Figure 5. Global market revenues for Optoelectronic Devices by type, 2020-2035 (billions USD).

Figure 6. Global market revenues for Integrated Circuits by type, 2020-2035 (billions USD).

Figure 7. Global market revenues for Microprocessors and Microcontrollers by type, 2020-2035 (billions USD).

Figure 8. Global market revenues for Memory Architectures by type, 2020-2035 (billions USD).

Figure 9. Wafer-level chip scale packaging (WLCSP)

Figure 10. Embedded wafer-level ball grid array (eWLB).

Figure 11. Fan-out wafer-level packaging (FOWLTP).

Figure 12. Chiplet design.

Figure 13. Global market revenues for Interconnects and Packaging by type, 2020-2035 (billions USD).

Figure 14. Nuheara IQbuds? Max.

Figure 15. Global market for consumer electronics, by application, 2020-2035 (billions USD).

Figure 16. Global market for computing and data storage, by application, 2020-2035 (billions USD).

Figure 17. Global market for communications, by application, 2020-2035 (billions USD).

Figure 18. Global market for automotive electronics, by application, 2020-2035 (billions USD).

Figure 19. Global market for aerospace & defence electronics, by application, 2020-2035 (billions USD).

Figure 20. Global market for healthcare and biomedical electronics, by application, 2020-2035 (billions USD).

Figure 21. Global market for energy and power electronics, by application, 2020-2035 (billions USD).

Figure 22. Global market for industrial automation, by application, 2020-2035 (billions USD).

- Figure 23. Global market for IoT, by application, 2020-2035 (billions USD).
- Figure 24. Global market for displays, by application, 2020-2035 (billions USD).
- Figure 25. Global market for lighting, by application, 2020-2035 (billions USD).
- Figure 26. Global market for photonics, by application, 2020-2035 (billions USD).
- Figure 27. Global market for optical interconnects, by application, 2020-2035 (billions USD).
- Figure 28. Global market for smart packaging electronics, by application, 2020-2035 (billions USD).
- Figure 29. 1.39-inch full-circle microLED display
- Figure 30. 9.4 flexible MicroLED display.
- Figure 31. Transparent 3D touch control with LED lights and LED matrix.
- Figure 32. Flexible microLED.
- Figure 33. Hyperfluorescence OLED display.
- Figure 34. 9.4" flexible MicroLED display.
- Figure 35. 7.56-inch transparent Micro LED display.
- Figure 36. Micro-LED stretchable display.
- Figure 37. TCL phone and tablet concepts.
- Figure 38. 7.56 Transparent Display.
- Figure 39. e-Tint cell in the (a) OFF and in the (b) ON states.
- Figure 40. 1.39-inch full-circle Micro-LED display
- Figure 41. 9.4" flexible Micro-LED display.
- Figure 42. AUO Micro-LED transparent automotive display.
- Figure 43. AUO Micro LED immersive Cockpit Display.
- Figure 44. BMW in-car gaming on curved display.
- Figure 45. BOE Mini-LED display TV.
- Figure 46. BOE Mini-LED automotive display.
- Figure 47. BOE 27" MiniLED display.
- Figure 48. Brelyon monitor.
- Figure 49. Schematic of TD HUD display in operation.
- Figure 50. Continental's Scenic View Head-up Display (HUD).
- Figure 51. Driver Identification Display.
- Figure 52. Schematic of Magic Glass.
- Figure 53. Application of Magic Glass in office.
- Figure 54. Installation schematic of Magic Glass.
- Figure 55. Envisics HUD.
- Figure 56. Hyundai Mobis rollable automotive display.
- Figure 57. Innolux curved display.
- Figure 58. Flexible microLED.
- Figure 59. Prototype Micro-LED display.

- Figure 60. LG automotive displays.
- Figure 61. LG Mercedes Hyperscreen.
- Figure 62. LG Display's 55-inch transparent automotive display.
- Figure 63. LG 15.6-inch Light Field 3D display.
- Figure 64. Switchable privacy mode in 'On' position.
- Figure 65. LG Electronics Inc in-car display concepts.
- Figure 66. Lextar 2021 micro LED and mini LED products.
- Figure 67. Marelli cockpit display.
- Figure 68. Peugeot Inception Concept.
- Figure 69. 9.4" flexible Micro-LED display.
- Figure 70. 7.56-inch transparent Micro LED display.
- Figure 71. PixeLED Matrix Modular Micro-LED Display in 132-inch.
- Figure 72. Dashboard - 11.6-inch 24:9 Automotive Micro-LED Display.
- Figure 73. Center Console - 9.38-inch Transparent Micro-LED Display.
- Figure 74. Raontech microdisplays.
- Figure 75. Raythink AR-HUD.
- Figure 76. Samsung Display digital cockpit.
- Figure 77. Wicop technology.
- Figure 78. Synaptics SmartBridge SB7900.
- Figure 79. TCL Mini-LED TV schematic.
- Figure 80. TCL 8K Mini-LED TV.
- Figure 81. The Cinema Wall Micro-LED display.
- Figure 82. TCL CSOT 47" miniLED automotive display.
- Figure 83. 7.56 Transparent Display.
- Figure 84. 7.56" Flexible Micro-LED.
- Figure 85. 5.04" seamless splicing Micro LED.
- Figure 86. 7.56" Transparent Micro LED.
- Figure 87. Lightscape Panoramic Display.
- Figure 88. Holographic AR automotive display.
- Figure 89. Absolic glass substrate.
- Figure 90. AMD Radeon Instinct.
- Figure 91. AMD Ryzen 7040.
- Figure 92. Alveo V70.
- Figure 93. Versal Adaptive SOC.
- Figure 94. AMD s MI300 chip.
- Figure 95. 12-layer HBM3.
- Figure 96. The Apollo wearable device.
- Figure 97. Cyclops HMD.
- Figure 98. C2Sense sensors.

- Figure 99. Coachwhisperer device.
- Figure 100. Cogwear headgear.
- Figure 101. CardioWatch 287.
- Figure 102. FRENZ Brainband.
- Figure 103. NightOwl Home Sleep Apnea Test Device.
- Figure 104. eQ02+LifeMontor.
- Figure 105. Cove wearable device.
- Figure 106. German bionic exoskeleton.
- Figure 107. UnlimitedHand.
- Figure 108. Apex Exosuit.
- Figure 109. Humanox Shin Guard.
- Figure 110. Airvida E1.
- Figure 111. Footrax.
- Figure 112. eMacula .
- Figure 113. G2 Pro.
- Figure 114. REFLEX.
- Figure 115. Ring ZERO.
- Figure 116. Mawi Heart Patch.
- Figure 117. Ayo wearable light therapy.
- Figure 118. Nowatch.
- Figure 119. ORII smart ring.
- Figure 120. Proxxi Voltage.
- Figure 121. RealWear HMT-1.
- Figure 122. Moonwalkers from Shift Robotics Inc.
- Figure 123. SnowCookie device.
- Figure 124. Soter device.
- Figure 125. Feelzing Energy Patch.
- Figure 126. Williot tags.
- Figure 127. Libre 3.
- Figure 128. Libre Sense Glucose Sport Biowearable.
- Figure 129. AcuPebble SA100.
- Figure 130. Vitalgram .
- Figure 131. Alertgy NICGM wristband.
- Figure 132. ALLEVX.
- Figure 133. Gastric Alimetry.
- Figure 134. Alva Health stroke monitor.
- Figure 135. amofit S.
- Figure 136. MIT and Amorepacific's chip-free skin sensor.
- Figure 137. Sigi Insulin Management System.

- Figure 138. The Apollo wearable device.
- Figure 139. Apos3.
- Figure 140. Artemis is smart clothing system.
- Figure 141. KneeStim.
- Figure 142. PaciBreath.
- Figure 143. Structure of Azalea Vision s smart contact lens.
- Figure 144. Belun Ring.
- Figure 145. Evo Patch.
- Figure 146. Neuronaute wearable.
- Figure 147. biped.ai device.
- Figure 148. circul+ smart ring.
- Figure 149. Cala Trio.
- Figure 150. BioSleeve .
- Figure 151. Cognito's gamma stimulation device.
- Figure 152. Cogwear Headband.
- Figure 153. First Relief.
- Figure 154. Jewel Patch Wearable Cardioverter Defibrillator .
- Figure 155. enFuse.
- Figure 156. EOPatch.
- Figure 157. Epilog.
- Figure 158. FloPatch.
- Figure 159. gSKIN .
- Figure 160. Hinge Health wearable therapy devices.
- Figure 161. MYSA - 'Relax Shirt'.
- Figure 162. Atusa system.
- Figure 163. Kenzen ECHO Smart Patch.
- Figure 164. The Kernel Flow headset.
- Figure 165. KnowU .
- Figure 166. LifeSpan patch.
- Figure 167. Mawi Heart Patch.
- Figure 168. MetaSCOPE.
- Figure 169. WalkAid.
- Figure 170. Monarch Wireless Wearable Biosensor
- Figure 171. Modoo device.
- Figure 172. Munevo Drive.
- Figure 173. Electroskin integration schematic.
- Figure 174. Modius Sleep wearable device.
- Figure 175. Neuphony Headband.
- Figure 176. Nix Biosensors patch.

- Figure 177. BODY-CASE.
- Figure 178. Otolith wearable device.
- Figure 179. Peerbridge Cor.
- Figure 180. Point Fit Technology skin patch.
- Figure 181. Sylvee 1.0.
- Figure 182. RootiRx.
- Figure 183. Sylvee 1.0.
- Figure 184. Silvertree Reach.
- Figure 185. Smardii smart diaper.
- Figure 186. Subcuject.
- Figure 187. Nerivio.
- Figure 188. Feelzing Energy Patch.
- Figure 189. Ultrahuman wearable glucose monitor.
- Figure 190. Vaxxas patch.
- Figure 191. S-Patch Ex.
- Figure 192. Zeit Medical Wearable Headband.
- Figure 193. Skinetic vest.
- Figure 194. IntelliPix design for 0.26" 1080p microLED display.
- Figure 195. Dapeng DPVR P1 Pro 4k VR all-in-one VR glasses.
- Figure 196. Vive Focus 3 VR headset Wrist Tracker.
- Figure 197. Huawei smart glasses.
- Figure 198. Jade Bird Display micro displays.
- Figure 199. JBD's 0.13-inch panel.
- Figure 200. 0.22 Monolithic full colour microLED panel and inset shows a conceptual monolithic polychrome projector with a waveguide.
- Figure 201. Kura Technologies' AR Glasses.
- Figure 202. Smart contact lenses schematic.
- Figure 203. OQmented technology for AR smart glasses.
- Figure 204. VISIRIUM Technology smart glasses prototype.
- Figure 205. SenseGlove Nova.
- Figure 206. MeganeX.
- Figure 207. A micro-display with a stacked-RGB pixel array, where each pixel is an RGB-emitting stacked microLED device (left). The micro-display showing a video of fireworks at night, demonstrating the full-colour capability (right). N.B. Areas around the display
- Figure 208. JioGlass mixed reality glasses type headset.
- Figure 209. Vuzix uLED display engine.
- Figure 210. Xiaomi Smart Glasses.
- Figure 211. BioMan+.

- Figure 212. EXO Glove.
- Figure 213. LED hooded jacket.
- Figure 214. Heated element module.
- Figure 215. Carhartt X-1 Smart Heated Vest.
- Figure 216. Cionic Neural Sleeve.
- Figure 217. Graphene dress. The dress changes colour in sync with the wearer's breathing.
- Figure 218. Descante Solar Thermo insulated jacket.
- Figure 219. G+ Graphene Aero Jersey.
- Figure 220. HiFlex strain/pressure sensor.
- Figure 221. KiTT motion tracking knee sleeve.
- Figure 222. Healables app-controlled electrotherapy device.
- Figure 223. LumeoLoop device.
- Figure 224. Electroskin integration schematic.
- Figure 225. Nextiles compression garments.
- Figure 226. Nextiles e-fabric.
- Figure 227. Nuada.
- Figure 228. Palarum PUP smart socks.
- Figure 229. Smardii smart diaper.
- Figure 230. Softmatter compression garment.
- Figure 231. Softmatter sports bra with a woven ECG sensor.
- Figure 232. MoCap Pro Glove.
- Figure 233. Teslasuit.
- Figure 234. ZOZO FIT wearable at-home 3D body scanner.
- Figure 235. YouCare smart shirt.
- Figure 236. WireLED in 12 Silicon Wafer.
- Figure 237. Typical GaN-on-Si LED structure.
- Figure 238. 300 mm GaN-on-silicon epiwafer.
- Figure 239. MicroLED chiplet architecture.
- Figure 240. Concept Apple Vr Ar Mixed Reality Headset.
- Figure 241. 1.39-inch full-circle MicroLED display
- Figure 242. 9.4" flexible MicroLED display.
- Figure 243. BOE MiniLED display TV.
- Figure 244. BOE MiniLED automotive display.
- Figure 245. Image obtained on a blue active-matrix WVGA (wide video graphics array) micro display.
- Figure 246. Fabrication of the 10- m pixel pitch LED array on sapphire.
- Figure 247. A 200-mm wafer with CMOS active matrices for GaN 873 ? 500-pixel micro display at 10- m pitch.

- Figure 248. IntelliPix design for 0.26" 1080p MicroLED display.
- Figure 249. C Seed 165-inch M1 MicroLED TV.
- Figure 250. N1 folding MicroLED TV.
- Figure 251. C Seed outdoor TV.
- Figure 252. Focally Universe AR glasses.
- Figure 253. Flexible MicroLED.
- Figure 254. Jade Bird Display micro displays.
- Figure 255. JBD's 0.13-inch panel.
- Figure 256. 0.22 Monolithic full colour MicroLED panel and inset shows a conceptual monolithic polychrome projector with a waveguide.
- Figure 257. Prototype MicroLED display.
- Figure 258. APHAEA MicroLED watch.
- Figure 259. KONKA 59" tiled microLED TV prototype screen.
- Figure 260. Lextar 2021 microLED and mini LED products.
- Figure 261. LSAB009 MicroLED display.
- Figure 262. LG MAGNIT 4K 136-inch TV.
- Figure 263. 12" 100 PPI full-colour stretchable microLED display.
- Figure 264. Schematic of Micro Nitride chip architecture.
- Figure 265. Nationstar Mini LED IMD Package P0.5mm.
- Figure 266. 9.4" flexible MicroLED display.
- Figure 267. 7.56-inch transparent MicroLED display.
- Figure 268. PixeLED Matrix Modular MicroLED Display in 132-inch.
- Figure 269. Dashboard - 11.6-inch 24:9 Automotive MicroLED Display.
- Figure 270. Center Console - 9.38-inch Transparent MicroLED Display.
- Figure 271. 48 x 36 Passive Matrix MicroLED display.
- Figure 272. MicroLED micro display based on a native red InGaN LED.
- Figure 273. MicroLED stretchable display.
- Figure 274. The Wall.
- Figure 275. Samsung Neo QLED 8K.
- Figure 276. NPQD Technology for MicroLEDs.
- Figure 277. Wicop technology.
- Figure 278. B-Series and C-Series displays.
- Figure 279. A micro-display with a stacked-RGB pixel array, where each pixel is an RGB-emitting stacked MicroLED device (left). The micro-display showing a video of fireworks at night, demonstrating the full-colour capability (right). N.B. Areas around the display/ 1110
- Figure 280. TCL MiniLED TV schematic.
- Figure 281. TCL 8K MiniLED TV.
- Figure 282. The Cinema Wall MicroLED display.

Figure 283. Photo-polymer mass transfer process.

Figure 284. 7.56" Transparent Display.

Figure 285. 7.56" Flexible MicroLED.

Figure 286. 5.04" seamless splicing MicroLED.

Figure 287. 7.56" Transparent MicroLED.

Figure 288. VueReal Flipchip MicroLED (30x15 μm^2).

Figure 289. Vuzix uLED display engine.

I would like to order

Product name: The Global Market for Micro- and Nanoelectronics 2024-2035

Product link: <https://marketpublishers.com/r/GB850188F612EN.html>

Price: US\$ 1,900.00 (Single User License / Electronic Delivery)

If you want to order Corporate License or Hard Copy, please, contact our Customer Service:

info@marketpublishers.com

Payment

To pay by Credit Card (Visa, MasterCard, American Express, PayPal), please, click button on product page <https://marketpublishers.com/r/GB850188F612EN.html>

To pay by Wire Transfer, please, fill in your contact details in the form below:

First name:
Last name:
Email:
Company:
Address:
City:
Zip code:
Country:
Tel:
Fax:
Your message:

****All fields are required**

Customer signature _____

Please, note that by ordering from marketpublishers.com you are agreeing to our Terms & Conditions at <https://marketpublishers.com/docs/terms.html>

To place an order via fax simply print this form, fill in the information below and fax the completed form to +44 20 7900 3970