u-blox

Leading the World to Reliably Connect
and Locate Every Thing

Investor Handbook

May 2024

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u-blox at a glance

A global innovation powerhouse

u-blox (SIX:UBXN) provides semiconductor chips, modules, and IoT services that reliably locate and connect every thing. Our cutting-edge solutions drive innovation for the car of the future and the Internet of Things. Headquartered in Thalwil (Zurich), Switzerland, we have a presence of 1,400 experts who enable our customers to build solutions for a precise, smart, and sustainable future. After a record year in 2022, revenue reached CHF 576.9 million, adjusted EBIT stood at CHF 69.7 million, and free cash flow reached CHF 10.9 million in 2023.
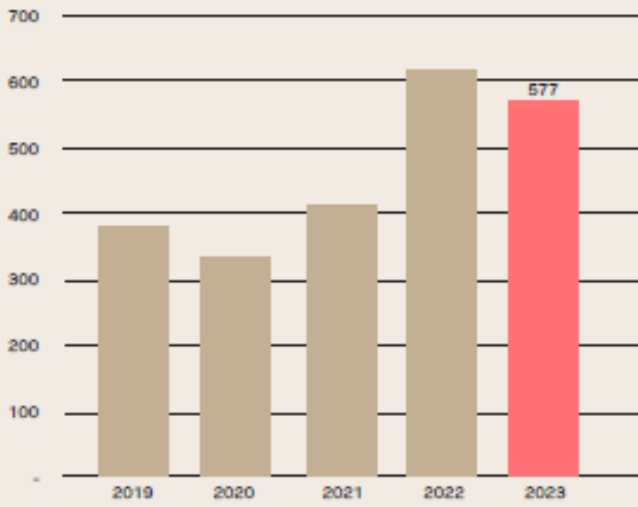
Vision and mission

Our vision: The future with us is precise, smart and sustainable.

u-blox positioning and connectivity chips, modules and services address megatrends. Our products are in the automated, electric car of the future, which reduces traffic jams and accidents; we enable tracking of assets and optimization of freight routes all over the globe; we connect home healthcare equipment reliably with doctors, and our products help to monitor environmental conditions in our neighborhoods. The push for a more sustainable world has highlighted the importance of managing resources efficiently. Economic success is important, we contribute more: A study by the World Economic Forum (WEF) reveals that 80% of IoT applications contribute to a more sustainable world. We have a great business opportunity based on our leading technology and can contribute to making the world more sustainable. This is an incredible motivation for the u-blox team to go the extra mile.
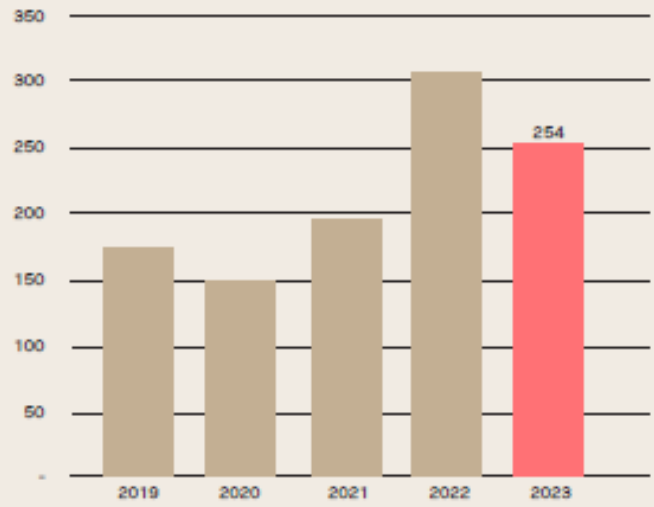
Our mission: Leading the world to reliably locate and connect every thing.

We have a clear ambition: We want to make an impact and be leaders in our field. Our focus is on locating and connecting everything. Examples include the electric, autonomous, shared car of the future, tracking assets and animals, remote healthcare, and everything in a fully digitalized factory.

Revenue CHF million

Year	Value
2019	~380
2020	~335
2021	~410
2022	~615
2023	577

Gross profit (adj.) CHF million

Year	Value
2019	~175
2020	~150
2021	~195
2022	~305
2023	254

EBIT (adj.) CHF million

Year	Value
2019	~45
2020	~20
2021	~38
2022	~132
2023	70
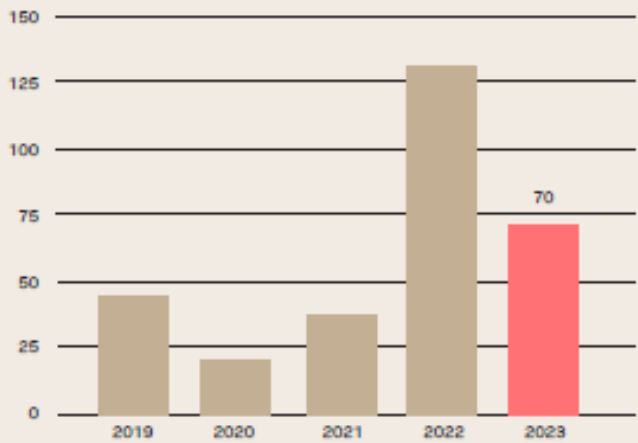
Net earnings (adj.) CHF million
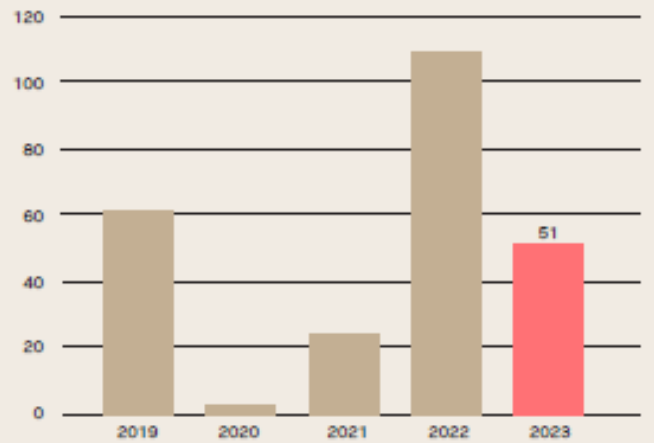
Year	Value
2019	~61
2020	~3
2021	~24
2022	~110
2023	51

Revenue by region

| 30 % EMEA | 23 % Amercia | 47 % Asia |

Revenue by product type

| 81 % Modules | 19 % Chips |

Revenue by market

| 29 % Automotive | 67 % Industrial | 4 % Consumer / Others |

Our vision

The future with us is precise, smart, and sustainable.

Our mission

Leading the world to reliably locate and connect every thing.

Strategy

Our world is moving fast. The first automated cars are already on the street; the car of the future will be automated and electric. You will carry your doctor in your pocket. Your home will power the grid. You and your "things" will be connected like never before. At u-blox, we are setting the pace of delivering tomorrow's technology to locate and connect objects (e. g., cars, machines, assets, healthcare equipment) or wearable products for humans or animals – every thing.

We are setting the pace of delivering tomorrow's technology to locate and connect every thing.

Our strategy is anchored in a commitment to empowering the potential of the Internet of Things (IoT) and positioning u-blox as a key enabler in the industry. Through continuous investment in research and development, we strive to bring forth leading edge solutions that redefine possibilities in our markets. Collaboration remains integral as we actively engage with customers, partners, employees, new talents – i.e., all our stakeholders to deliver beyond expectations. As we navigate the ever-evolving technological landscape, u-blox embraces change as an opportunity for growth. From harnessing emerging technologies to fortifying our market position, we remain committed to delivering value to our stakeholders.

Player in the ever-growing semiconductor industry
From the invention of the first transistor in the mid-20th century to the advent of integrated circuits and the subsequent boom, the semiconductor industry has been at the forefront of technological progress. Semiconductor solutions are part of our daily life. Society was reminded on the importance of those "hidden" products during the semiconductor supply crisis in 2021 and 2022.

u-blox plays a pivotal role in this narrative, contributing leading edge semiconductor solutions required by a diverse array of applications, ranging from smart cities to autonomous vehicles, industrial automation, and medical equipment.

Historically, the semiconductor sector has experienced remarkable growth, marked by continuous innovation, and it is expected to continue to be a driving force behind the digital transformation sweeping across industries. As the world embraces the era of automated driving, IoT penetration, and artificial intelligence, the demand for advanced semiconductor solutions continues to grow.
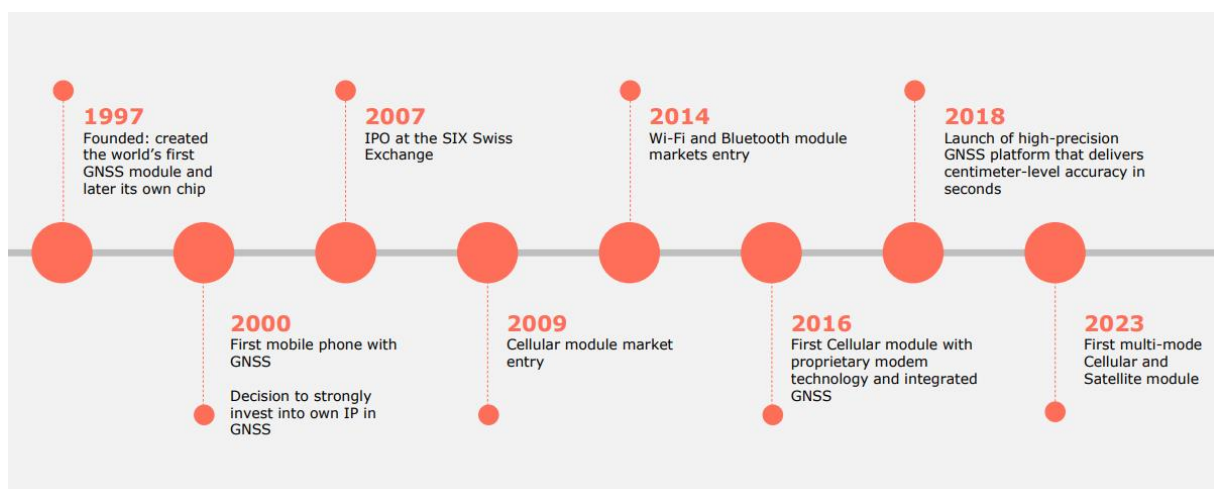
u-blox is strategically positioned to capitalize on these trends, with a commitment to developing semiconductor technologies that address the evolving needs of our interconnected world. From ultra-low power chips for positioning to high performance communication modules, our portfolio aligns seamlessly with the industry's trajectory.

From ETH Zurich startup to global technology leader: u-blox's evolution
Founded as a startup emanating from the Swiss Federal Institute of Technology (ETH Zurich) in 1997, u-blox embarked on a journey that would redefine the landscape of positioning and wireless connectivity technologies.

u-blox's journey began with a focus on Global Navigation Satellite System (GNSS) technology, positioning itself as a pioneer in the development of high-quality satellite signal receiver modules for GPS and other constellations.

u-blox's first significant milestone came in 2007 with its Initial Public Offering (IPO) on the SIX Swiss Exchange. With a solid financial foundation, u-blox intensified its efforts to diversify its product portfolio, expanding beyond GNSS into wireless communication modules and positioning itself as a comprehensive provider of connectivity solutions.

1997
Founded: created the world's first GNSS module and later its own chip

2000
First mobile phone with GNSS

Decision to strongly invest into own IP in GNSS

2007
IPO at the SIX Swiss Exchange

2009
Cellular module market entry

2014
Wi-Fi and Bluetooth module markets entry

2016
First Cellular module with proprietary modem technology and integrated GNSS

2018
Launch of high-precision GNSS platform that delivers centimeter-level accuracy in seconds

2023
First multi-mode Cellular and Satellite module

As of today, u-blox stands as a testament to the success that can be achieved through technology leadership and excellence, and a commitment to customer satisfaction. The company's journey from a startup born out of academic ingenuity to a globally recognized technology player reflects its resilience, adaptability, and unwavering commitment to shaping the future of wireless connectivity and positioning technologies.

Fabless IoT technology leader
u-blox is a global Internet of Things (IoT) technology leader and fabless semiconductor manufacturer offering solutions to reliably locate and connect every thing.

With our proprietary positioning chips, we have progressively outperformed the semiconductor market.

IoT describes physical objects embedded with sensors that communicate – allowing the physical world to be digitally monitored or controlled.

We offer semiconductor chips, modules, and services to our ingenious customers, addressing our world's megatrends with IoT location and connectivity solutions.

The breadth and depth of our expertise in positioning and connectivity gives us a leading edge within our key markets and the IoT industry. Our culture of entrepreneurial innovation has given us a sustainable competitive advantage with which we create significant long-lasting returns over the lifetime of our products.
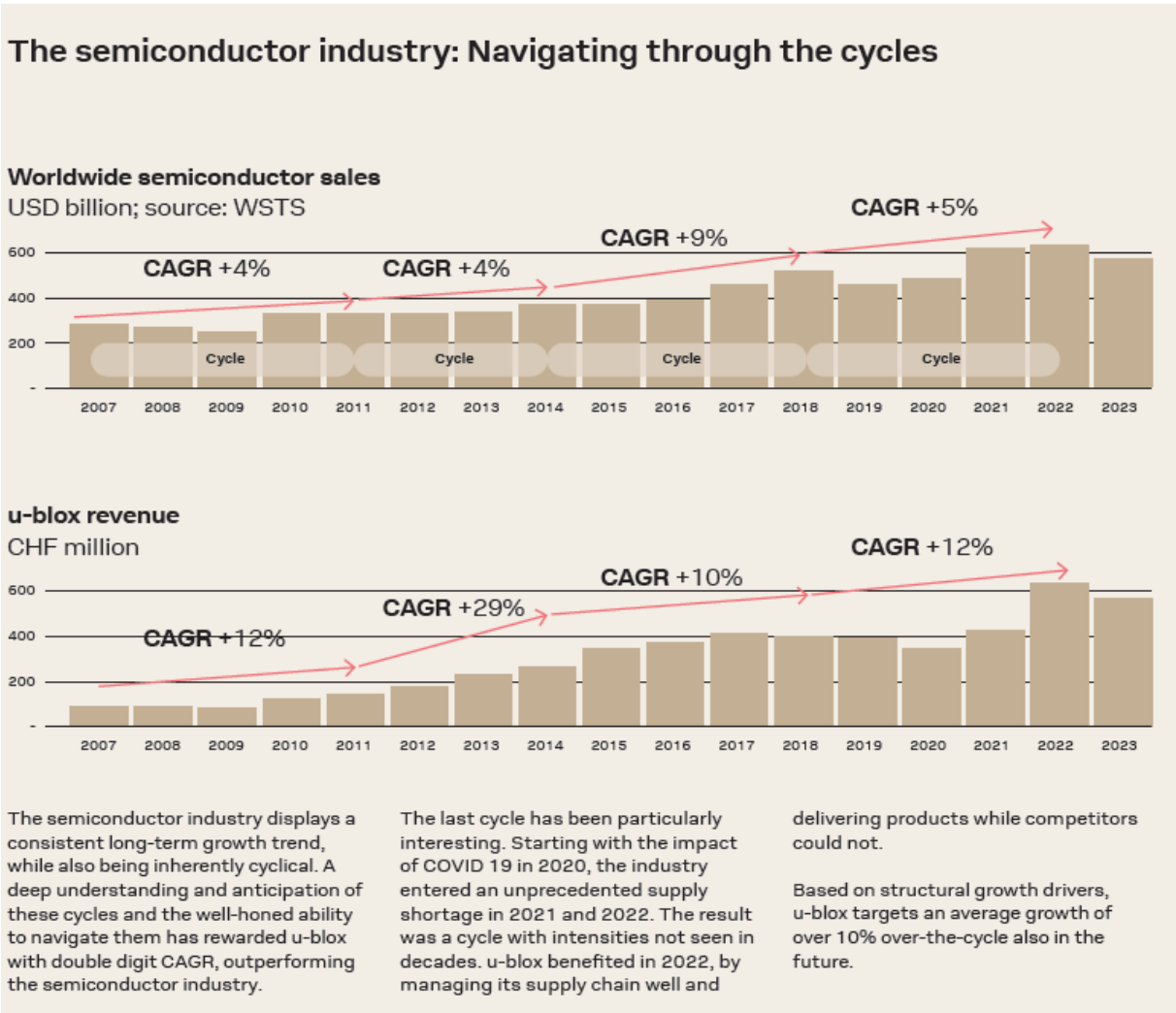
Our unique competencies in the IoT industry
We offer positioning chips and modules, shortrange radio modules, and cellular chips and modules. In simple terms, a module is several chips in a subsystem plus some software on top of it – and services, which are digital data streams to our products to make them better in the field.
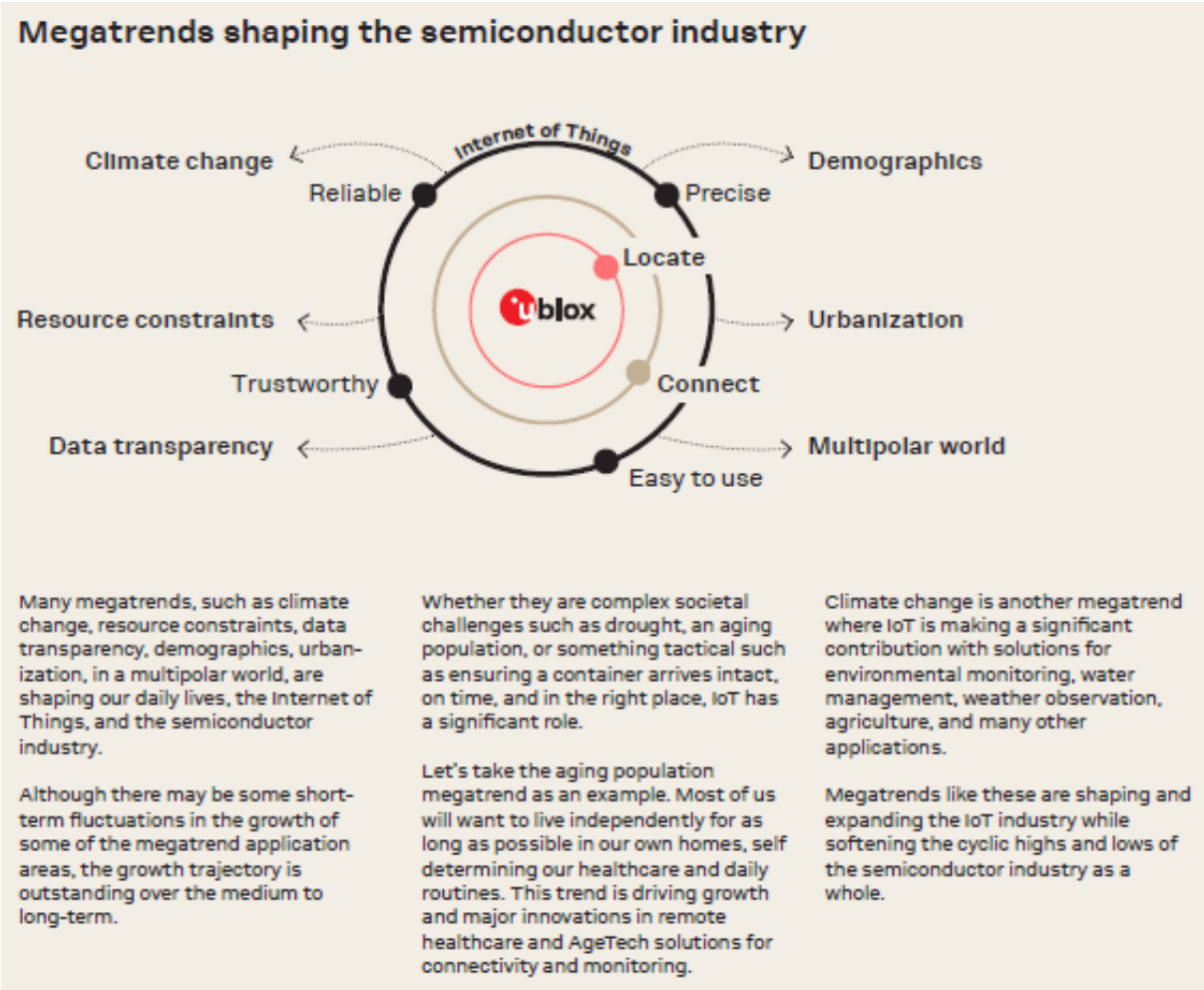
Our unique combination of technical competencies comprised of algorithms, chips, software, and cloud services often sets the industry standard for technological innovation and quality. This is why our key partners, many global leaders within their industries, partner with us to help them solve their most demanding positioning and connectivity challenges.

Entrepreneurial innovation from generation to generation
The pace of digital transformation is brisk. The semiconductor industry projected to reach a global market value of USD 1 trillion by 2030, according to McKinsey. u-blox is active in the two fastest high growth markets: Automotive – driven by Automated Driving and e-mobility and Industrial – driven by Industry 4.0 smart machines and smart factories.

The semiconductor industry displays a consistent long-term growth trend, while also being inherently cyclical. A deep understanding and anticipation of these cycles and the well-honed ability to navigate them has rewarded u-blox with double digit CAGR, outperforming the semiconductor industry.

The last cycle has been particularly interesting. Starting with the impact of COVID 19 in 2020, the industry entered an unprecedented supply shortage in 2021 and 2022. The result was a cycle with intensities not seen in decades. u-blox benefited in 2022, by managing its supply chain well and

delivering products while competitors could not.

Based on structural growth drivers, u-blox targets an average growth of over 10% over-the-cycle also in the future.
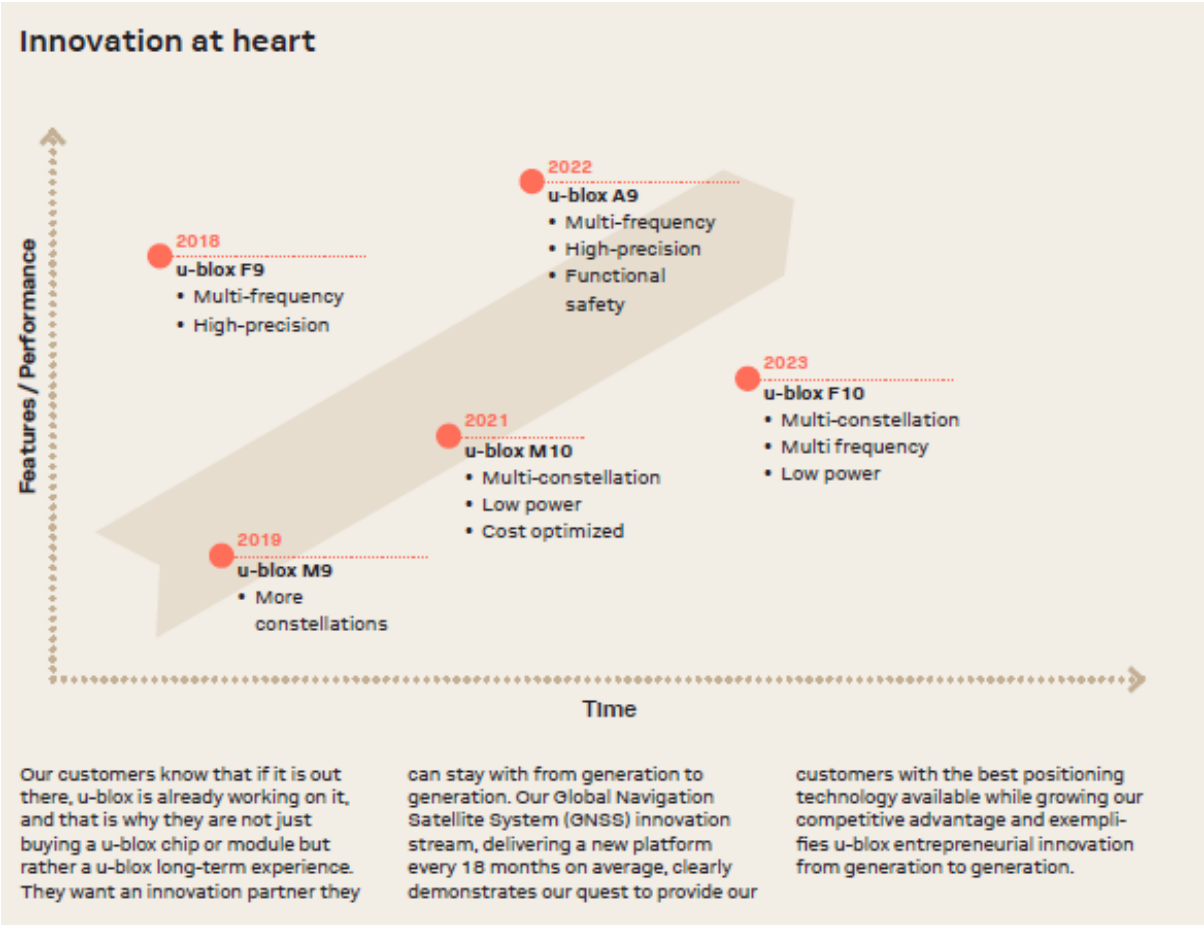
Anticipating and delivering on today's megatrends and consistently outperforming the semiconductor market while protecting and increasing our competitive advantage requires us to nurture our thriving entrepreneurial culture of innovation at u-blox.

Megatrends shaping the semiconductor industry

Many megatrends, such as climate change, resource constraints, data transparency, demographics, urbanization, in a multipolar world, are shaping our daily lives, the Internet of Things, and the semiconductor industry.

Although there may be some short-term fluctuations in the growth of some of the megatrend application areas, the growth trajectory is outstanding over the medium to long-term.

Whether they are complex societal challenges such as drought, an aging population, or something tactical such as ensuring a container arrives intact, on time, and in the right place, IoT has a significant role.

Let's take the aging population megatrend as an example. Most of us will want to live independently for as long as possible in our own homes, self determining our healthcare and daily routines. This trend is driving growth and major innovations in remote healthcare and AgeTech solutions for connectivity and monitoring.

Climate change is another megatrend where IoT is making a significant contribution with solutions for environmental monitoring, water management, weather observation, agriculture, and many other applications.

Megatrends like these are shaping and expanding the IoT industry while softening the cyclic highs and lows of the semiconductor industry as a whole.

A culture where doing the best for the customers we serve means prioritizing innovation and supporting the desire to find the best approach to ensure we consider a broad range of ideas that will ultimately add real value for our customers and shareholders.

A recent example is centimeter accuracy positioning, which was previously out of reach for most applications due to high costs and is now available to the mass market. This is the type of challenge that inspires the bright minds of our talented 1'400 people.

Our innovations are inspired by our trend-setting customers, strategic partners, and the ingenuity of our diverse team. This keeps us at the forefront to contribute and benefit from megatrend requirements.

Innovation at heart

Our customers know that if it is out there, u-blox is already working on it, and that is why they are not just buying a u-blox chip or module but rather a u-blox long-term experience. They want an innovation partner they can stay with from generation to generation. Our Global Navigation Satellite System (GNSS) innovation stream, delivering a new platform every 18 months on average, clearly demonstrates our quest to provide our customers with the best positioning technology available while growing our competitive advantage and exemplifies u-blox entrepreneurial innovation from generation to generation.

Our value proposition

The combination of our three core technologies offered in the form of chips, modules, and services, combined with a customer centric approach brings a unique value proposition in the market.

In positioning, large competitors focus mainly on the consumer and mobile phone market. Within our industrial and automotive target markets, u-blox has the lead and continues to push the envelope, providing customers with cutting edge innovation. Having our own silicon in positioning also provides us with a significant competitive advantage on modules, given we can optimize chips and software depending on the use case. u-blox has unique knowledge in all relevant domains: algorithms, software, radio-frequency hardware as well as chip hardware/software partitioning.

In connectivity, common feedback from customers on our modules is "it just works", and this doesn't happen by chance. u-blox puts emphasis on reliability, practicality, usability and easy to use aspects when designing its products, where software plays a major role.

The recent market consolidation in the module space has reduced our customers' options regarding sourcing solutions and innovation, creating an even greater market opportunity for u-blox.

Reliable, robust, secure, market ready solutions that work

As our customers around the world are continuously solving complex challenges requiring both location awareness and wireless connectivity through IoT – reliable, robust, market ready solutions, which rely heavily on our unique portfolio of services, are increasingly in demand.

Our customers trust that our products will do what they are supposed to, stand up to harsh conditions as specified, make cyberattacks more difficult, be available when needed, and be delivered on time. Further, their development teams won't have to spend resources integrating them into their systems.

Reliability means quality and security at the design and manufacturing levels and across the supply chain. Over many years, u-blox has created a unique quality system that ensures the delivery of functionally extremely robust and highly reliable products, which is recognized across the IoT industry. We are a renowned supplier to the automotive industry and comply with their specific requirements for process and product quality.

IoT security is complex, fast moving, and multifaceted. Addressing it demands a sophisticated, multipronged approach to protect our customers – and the users of their products – against the many and varied threats their devices and data face in the connected world. u-blox has established product standards based on industry requirements and best practices for the secure design and production of products and services.

Focus – Innovate – Execute

At u-blox, we are privileged to enable structural growth applications like automated driving, asset tracking and management, industrial automation and monitoring (digitalization), and remote healthcare. We expect 40% of our growth in the next five years to come from those four applications and this is why we put a major focus on those.

We structure our go-to-market approach in a way that we serve the top 250 customers directly and work closely with leading distribution partners to support medium and startup companies in the best way possible. We are a trustworthy Swiss partner in a multipolar world, enabling our customers' growth.
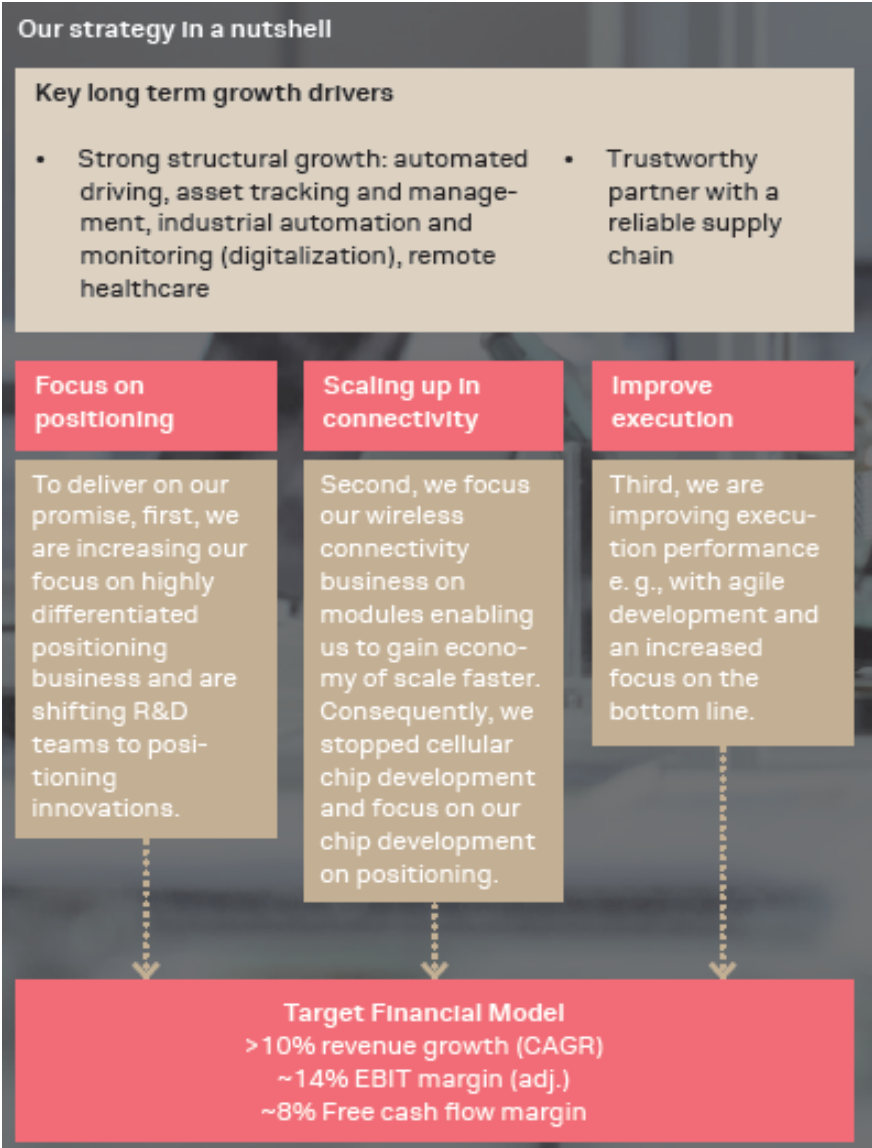
Our Focus – Innovate – Execute strategy will help us create and unlock value for years.

Our customers do not just buy a product from us; they buy an experience. They want to go from generation to generation, knowing they are working with a partner who will bring them to the next innovation level. They know that if it is out there, u-blox is already working on it, or we are working jointly on it.

Focus

u-blox will further strengthen its market leading Positioning business by allocating more resources and focusing on its highest-value business segments. By continuing development in fastest growing segments and expanding into new applications, u-blox will secure continued profitable growth.

Furthermore, u-blox has discontinued cellular chipset development and the renewed focus on cellular modules business aims to gain market share via leveraging our sales and distribution channels and benefiting from our trustworthiness as Swiss suppliers in multi-polar world.

Innovate

We provide solutions enabling our customers to determine their position precisely, have a reliable wireless connection to the cloud combined with more edge computing capabilities. Our solutions are reliable and safe, i.e., they do what they are supposed to do, and they are secure, i.e., it's hard to compromise them. Our solutions are easy to implement and designed to work for thousands of end-customers.
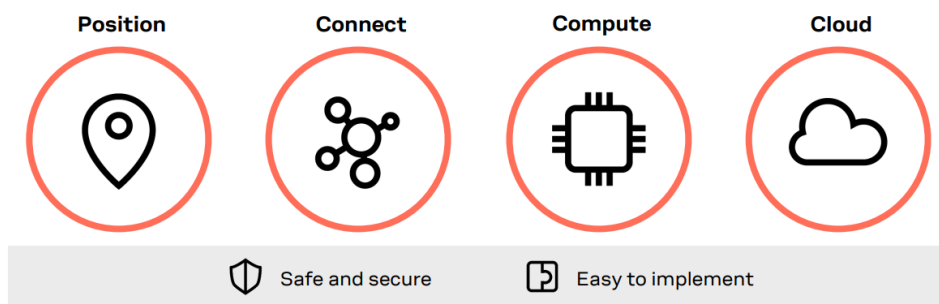
Our growth within the IoT value chain is accelerating because our unrivaled core technology combines positioning and connectivity. Additionally, we partner with our customers to deliver complex technology solutions, which are otherwise difficult for them to achieve. Furthermore, we offer a high-touch customer experience steeped in Swiss tradition. We continue to expand our reach based on secular growth drivers such as autonomous driving, remote healthcare, asset tracking and industrial digitalization.

Execute

u-blox is strategically enhancing procurement activities, aiming to leverage its substantial CHF 300 million sourcing volume in 2022 through process reorganization. This initiative targets improved efficiency and cost-effectiveness, notably within the cellular business, by implementing a design-to-cost toolset. These strategic changes, coupled with maximizing our global footprint, will streamline working capital management and optimize costs.

Underlining our commitment to operational excellence, we've introduced an agile development approach and a company-wide ERP system. Further intensifying this strategy, we're rapidly implementing agile R&D methodologies, expediting innovation-to-market timelines. This iterative approach ensures functional product iterations, enabling swift customer feedback, enhancing development prospects, and optimizing resource allocation.

Prioritizing profitability as both a process and a cultural shift, we're capitalizing on our growth trajectory to refine procurement, integrate cost-efficient designs, and bolster working capital management. By consolidating procurement efforts and embracing agile methodologies, our aim is to accelerate product development, solicit prompt customer feedback, and expedite market entry. This strategic alignment with dynamic market needs propels faster revenue generation, positioning us for agile adaptation and sustained growth in our ever-evolving markets.

Our go-to-market approach relies on four key initiatives to drive our strategy. First, we're intensifying focus on strategic customers to maximize our share of wallet and execute on the project funnel. Second, we're actively pursuing new business with customers leading in our focus markets. Third, we're harnessing the strength of our distribution partners to expand our customer base while enhancing service levels for mass market customers. And lastly, we're committed to simplifying our customers' experience by leveraging the solution capabilities of our distributors and design partners.

Target financial model

u-blox announces its new over-the-cycle Target Financial Model. Revenue is expected to grow by a CAGR of over 10%, ahead of the 7% CAGR expected for the semiconductor industry. Adj. EBIT margin is expected to be at around 14% and Free Cash Flow margin around 8%.

To enhance transparency going forward, u-blox will provide a trading update with revenue and adj. EBIT in the first and third quarter, in addition to the established full- and half-year results publications. Additionally, and in line with common market practice in the semiconductor industry, u-blox will replace its annual guidance with a quarterly guidance.

Business model

u-blox is an asset light engineering, marketing, and partner networking machine. As a fabless semiconductor manufacturer, we rely on solid partnerships with our suppliers based on shared respect and compliance with established international standards for human right, employee welfare, the environment, business ethics, and management systems.

We not only develop our own products with our intellectual property (IP) on our own silicon, but we also manage a complex flow of component products and services from our suppliers to our customers, thus helping them accelerate time to market.
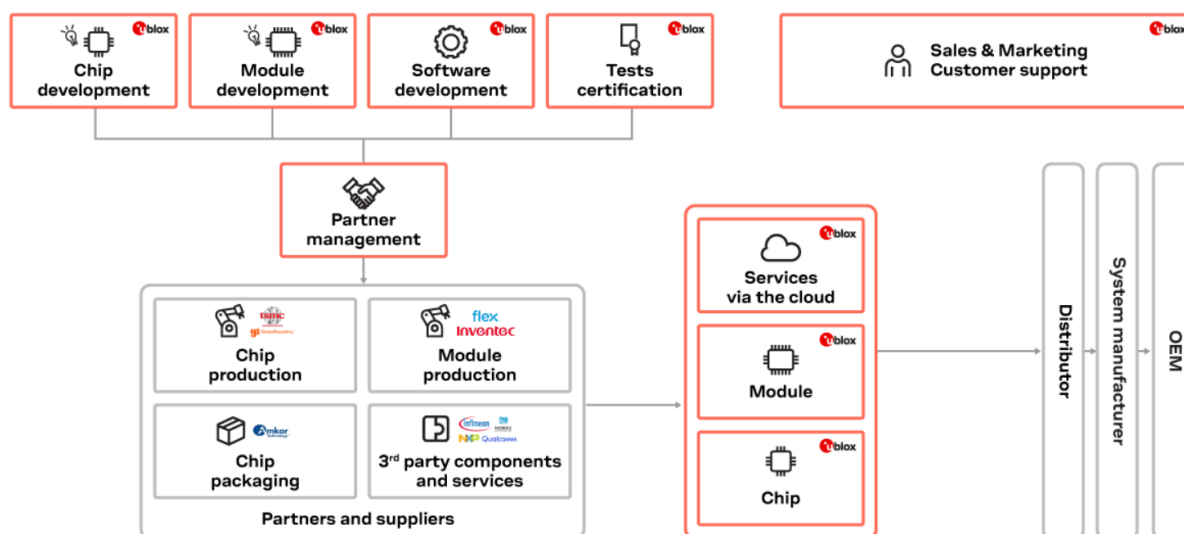
Since inception, u-blox has operated as a fabless company, directing capital away from production capacity toward R&D. In this area, u-blox creates substantial value across in-house chip design, module, and software development. This strategic emphasis uniquely positions u-blox, offering a diverse and extensive product portfolio spanning chips, modules, and services across a spectrum of positioning, cellular, and short-range technologies.

Our extensive partner network manages production: Global Foundries and TSMC for wafers; Flex and Inventec for modules. This agile model allowed us to grow by 50% even during the supply crisis in 2022, showcasing our robustness across our supply chain. Over 20 years of close collaboration with our partners ensures supply chain stability and reliability for our customers.

Industry and target applications

In the future years, the semiconductor industry is expected to grow significantly, particularly in sectors such as automotive and industrial electronics – key markets for u-blox. This strategically positions us favorably to create substantial value in these high-growth segments.

Global market value by vertical
Indicative (USD billion)
Source: McKinsey
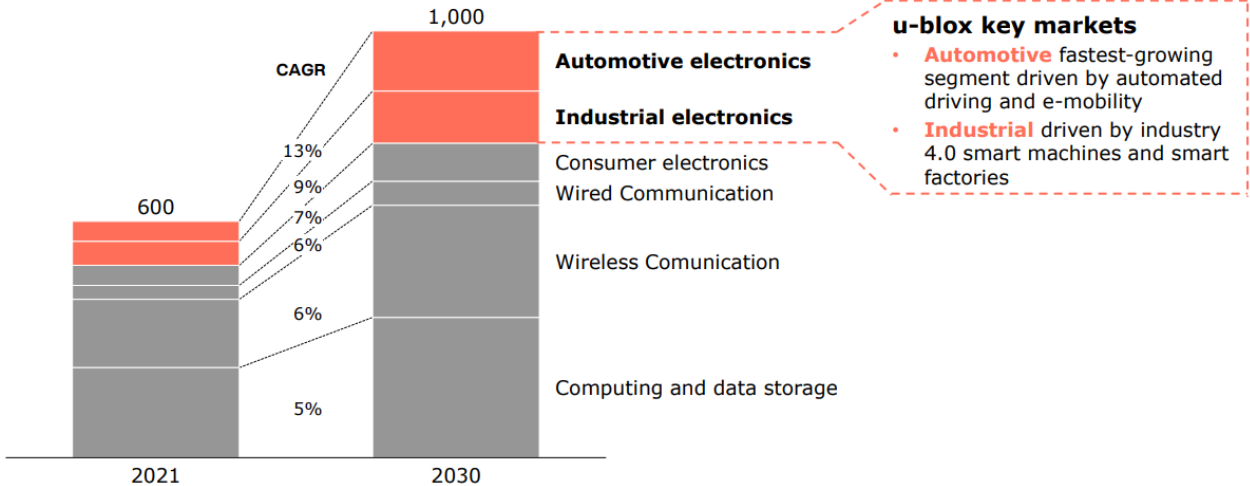
u-blox's extensive technology portfolio covering positioning, cellular, and short-range solutions provide our customers with comprehensive 'one-stop-shop' offerings, delivering multiple benefits across various applications and use-cases.

Automotive market
In the last decade, u-blox has witnessed remarkable success in the automotive sector. Our performance has not only outpaced car sales growth but has also expanded from servicing a few platforms to hundreds. We've consistently increased the content per car served, showcasing our extensive experience and commitment to this market.

Our track record illustrates our ability to drive innovation within the automotive landscape, positioning us to unlock significant additional value in the years to come.

Anticipating the trajectory of the automotive industry, the future car will be autonomous, electric, and increasingly shared. Over the next five years, our current offerings are poised to address nearly double the average bill of material in this evolving landscape. This growth primarily stems from the surge in telematics control units and the advancement of higher-level driver assistance systems.

Industrial market
The fourth and fifth industrial revolution requires that Industrial applications become connected and autonomous. Positioning – indoor and outdoor – will become widespread. Every industrial device will be connected to the cloud. Applications like remote monitoring and operations will be much more commonly used going forward.

Along with these developments, u-blox is a leading force in transforming industrial applications through innovative technology solutions. In precision agriculture, heavy

machine control, and autonomous mobile robots, our cost-effective, scalable centimeter-level positioning and global connectivity solutions open new frontiers. By driving efficiency, productivity, and safety enhancements, we offer tangible benefits, including resource optimization, error reduction, and heightened safety standards.

Our expertise extends to revolutionizing logistics through IoT asset tracking, ensuring real-time visibility, streamlined inventory management, and mitigated operational risks. In healthcare, u-blox enables continuous patient monitoring, simplified access to medical care, and improved health outcomes.

Additionally, our comprehensive connectivity solutions empower industrial automation, supporting predictive maintenance, connected tools, and worker safety. These efforts contribute significantly to the digital transformation of smart factories, enhancing productivity and safety across the manufacturing landscape.
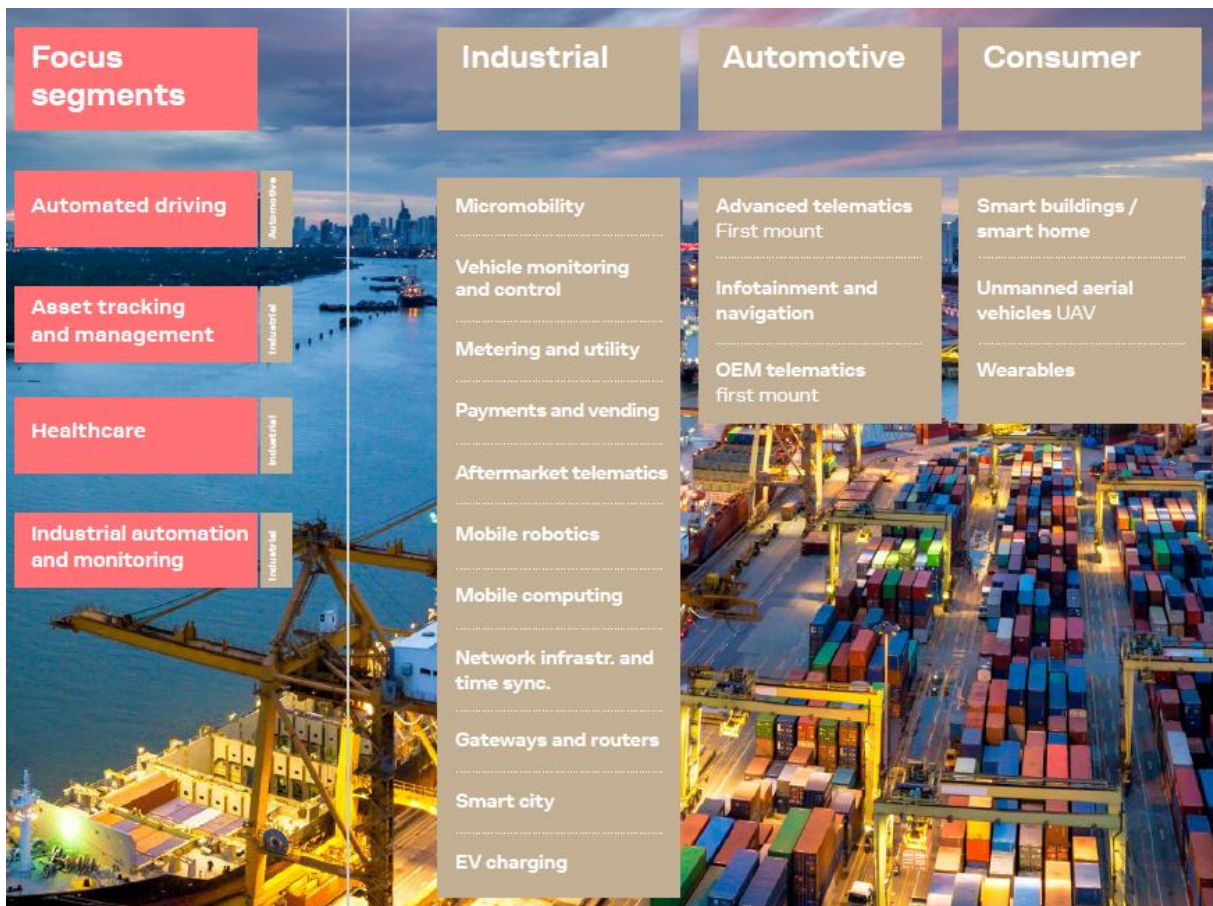
Target applications
IoT plays an essential role in a broad range of applications across the dynamic automotive, industrial, and consumer markets where u-blox is active. From our 21 market segments, we have identified four applications – automated driving, asset tracking and management, healthcare and industrial automation and monitoring – where we anticipate 40% of our growth over the next five years. Giving those a special focus enables us to capitalize on the full power of our technological expertise.

We are active across 21 market segments with four focus applications.

By aligning u-blox with these strategic market applications, we position ourselves to outpace industry growth, tapping into burgeoning opportunities that will propel us forward in the competitive landscape. As we navigate these dynamic markets, u-blox remains steadfast in our pursuit of innovation, differentiation, and sustained growth.

u-blox operates across 21 different applications, encompassing automotive, industrial, and consumer market areas. While engaged in all these markets, we've identified key areas – automated driving, asset tracking, healthcare, and industrial automation – where we expect exceptional growth. By 2028, we anticipate 40% of our revenue to stem from these focused market segments while still leveraging the remaining 17 segments for revenue contribution.

These focus segments promise high growth due to several factors: substantial market demand, low barriers to entry with our existing industry leaders, and our strong technological capabilities. For automated driving, u-blox will benefit from the increasing demand for high precision accuracy and safe GNSS requirements which is at the core of our technological capabilities. Furthermore, in asset tracking, healthcare, and industrial automation, our solutions cater to specific growth pockets such as, e.g., container tracking, remote patient monitoring, and predictive maintenance. Leveraging our extensive technology portfolio, we're positioned to capture substantial market share in these segments, fueling growth in the years to come.

Focus segments	Industrial	Automotive	Consumer
Automated driving (Automotive)	Micromobility	Advanced telematics First mount	Smart buildings / smart home
Asset tracking and management (Industrial)	Vehicle monitoring and control	Infotainment and navigation	Unmanned aerial vehicles UAV
Healthcare (Industrial)	Metering and utility	OEM telematics first mount	Wearables
Industrial automation and monitoring (Industrial)	Payments and vending		
	Aftermarket telematics		
	Mobile robotics		
	Mobile computing		
	Network infrastr. and time sync.		
	Gateways and routers		
	Smart city		
	EV charging		

Advanced Driver Assistance System (ADAS)

Automated driving is increasing the demand for high precision accuracy and safe GNSS positioning and services, where u-blox is the market leader and continues to experience expansive growth. As automated driving continues evolving above ADL2+ (partial driving automation) or ADL3 (conditional driving automation), more advanced positioning solutions are required. The positioning solutions include hardware components with GNSS receivers, software components including dead reckoning, real time kinematic algorithms, cloud-based assistance, and correction services for decimeter-level accuracy, when necessary.

u-safe, our pre-certified ISO-26262/ASIL-B end to end positioning solution designed to accelerate the adoption of autonomous vehicles. It comprises a correction service and on-board positioning engine, providing high-performance and reliable lane positioning. Together with our functional safety chip and custom integration expertise, u-safe offers an end-to-end solution aimed at future-proofing ADAS.

Asset Tracking and management

IoT has proven its potential to transform how assets are tracked and managed, whether for an international shipping company transporting containerized goods on airplanes, ships, trucks, and trains across the globe, a sheep farm tracking livestock movement, or a family searching for their lost pet. u-blox's portfolio of ultra-low power GNSS positioning technology, cloud based location services and wireless communication systems provide highly efficient, cost effective and tailored solutions for these high growth applications.

Container and trailer tracking
With optimized logistics, improved forecasting, detection and mitigation of theft, fraud, and tampering, and increased transparency across the supply chain with reduced operational costs, the benefit cost ratio of investing in IoT container and trailer tracking is unarguably positive. Market demand for time sensitive logistics is increasing, as is our portfolio of asset tracking and management products and services to reduce the uncertainty in inventory management. Automated freight monitoring and tracking of cargo containers and unit load devices (ULDs) transiting on roads, on rail, at sea, and in the air improves the efficiency of logistics operations, allowing to detect and swiftly address delays and other unforeseen challenges to meet service level agreements reliably.

Livestock tracking
Wearable IoT tracking devices transfer the real time location of livestock to a cloud-based livestock management platform, allowing farmers to detect changes in the behavior of each animal, guide the animals across the farm, paving the way for fenceless farming.

u-blox livestock asset tracking solutions are transforming livestock management and smart farms with GNSS technology, Bluetooth, Wi-Fi, low power wide area cellular connectivity and easy to set up cloud connectivity.

Pet tracking
Losing a pet can be heartbreaking, but thanks to IoT, this could soon become a thing of the past. The design challenges of pet trackers went beyond the collar itself and extended to the wireless network and the cloud. Our products and services for pet asset tracking solutions are now available globally with predictable, affordable costs to support this growing market application.

Healthcare
The digital transformation of healthcare system leads to improved patient experience, lower cost of care, increased patient access, improved work experience of healthcare professionals, and better health outcomes.

IoT plays a critical role in this transformation with remote patient monitoring and assisted living, two of the highest growth applications. By enabling health monitoring outside the clinic, home health monitoring devices help support patients suffering from chronic conditions such as diabetes, sleep apnea, and hypertension. At the same time, user friendly assisted living technology increases patient autonomy and promotes faster reintegration into society. We have proven our strengths and capabilities in this challenging market mainly on outpatient monitoring devices. Our hardware offering unlocks endless possibilities for our customers, as they reliably connect these devices to the cloud.

Form factor and software compatible modules using different chip platforms reduce risks in our customers' supply chain, by enabling second source components without increasing the design complexity, simplifying purchasing, and speeding up time to market.

<u>Remote patient monitoring</u>
Remote patient monitoring solutions extend healthcare services right into the patient's home. The rise of chronic diseases is putting additional pressure on an already strained global healthcare system.

By extending clinical care right into the patient's own four walls, remote health monitoring solutions are helping to optimize hospital capacity while letting patients stay at home. u-blox based remote patient monitoring solutions combine sensing and positioning technologies, wireless communication, and the cloud to improve preventative healthcare and the diagnosis, treatment, and monitoring of health conditions.

<u>Assisted living</u>
u-blox based assisted living solutions use sensing, wireless communication, and cloud-based platforms to help vulnerable elderly and disabled individuals prolong their autonomy or return home from the clinic. By triggering lifesaving alarms to relatives or first responders, these devices offer elderly individuals and those with special needs a "lifeline" they can rely on in an emergency.

Industrial Automation and Monitoring
A rapidly evolving digital transformation is reshaping manufacturing and supply chains globally. Industrial automation is pivotal, with IoT solutions improving smart factories, manufacturing plants, and construction sites and benefiting individual workers. Comprehensive connectivity can benefit various facets of smart, digital, and automated manufacturing, digitalizing the entire production process, spanning from the acquisition of raw materials to product delivery.

We focus on three high growth application areas: predictive maintenance, connected tools, and safe connected worker. In such demanding industrial automation environments, with very high sensor density and multiple hybrid solutions combining cellular, short-range, and positioning applications at work, our unique combination of technical competencies and robust, high-quality products set us apart.

<u>Predictive maintenance</u>
Predictive maintenance involves using sensor data, historical maintenance records, and other relevant information to predict process behavior and potential equipment failures. Predictive maintenance anticipates potential issues and schedules maintenance tasks more efficiently, leading to fewer failures and reduced downtime, by leveraging big data, machine learning, data analytics, and modeling.

Predictive maintenance is also a gateway to innovative business models. By offering "availability as a service," companies can transform their business model from merely selling motors to ensuring continuous machine rotation. This strategic shift is not limited to mere transactions but can help create enduring partnerships to enhance visibility, optimize maintenance, and guarantee sustained machine availability.

<u>Connected tools</u>
Connected tools facilitate personalized settings and integrated usage analysis, enhancing performance, precision, and efficiency. Alongside industrial assembly solutions, these tools benefit smart factories, manufacturing plants, and construction sites by harvesting and providing access to fundamental data that can improve various processes. Smart power tools, increasingly replacing traditional hand

tools, improve reliability, performance, precision, and time efficiency within connected factories and construction settings.

Connected tools enhance the user experience and facilitate the management of these smart tools, mitigating the risk of misuse, malfunction, theft, and loss within a smart site. It also allows for personalized user settings, catering to individual workers' specific needs and preferences.

Last but not least, connected tools play a major role in control and optimization processes. It helps to document that work was executed in compliance with process and tolerances. It can also be used as a source or improvements. An engineer can measure the results in production of a different torque applied in a screw, for example.

Safe connected worker
Safeguarding the connected worker in industrial environments is a key concern. u-blox's solutions enable customers to locate and connect workers on site, identifying risks and implementing corrective and preventive actions to enhance work security.

Measures should be taken to ensure that connected wearables or other connected solutions are accurate, reliable, and compliant with specific industry risk level regulations and standards to ensure the safety of a worksite. Additionally, providing workers with ergonomic and comfortable devices can prevent short or long-term injuries. Lastly, it is crucial to equip workers with wearables capable of monitoring changes in their surroundings that could potentially compromise their safety.

Businesses

Locate

We are the clear market leader in positioning with about a billion devices in the field, 28% of the global positioning market share, and 18 of the world's top 20 automobile manufacturers integrating u-blox GNSS positioning. Autonomous driving, specifically, represents a long-term growth driver. Asset tracking represents another growth opportunity. Overall, we expect the positioning market to grow double digit in the next five years.

Although we are proud to have achieved these milestones and have significant innovation in the pipeline, we intend to grow our leadership and market share significantly in positioning by expanding into new applications and customers.
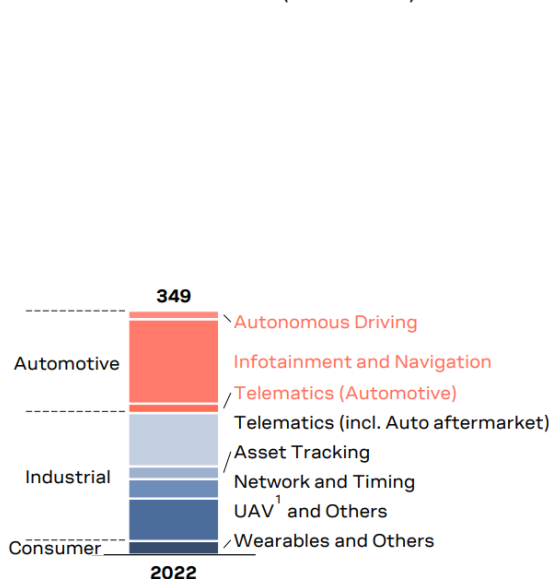
The concept of positioning technology is simple, but making it better, with even higher accuracy and integrity, will continue for decades.

Meeting the evolving functional safety certifications for automated driving and leveraging new satellite systems in low Earth orbit (LEO) and advanced sensor fusion are just some of the opportunities for increased positioning accuracy, integrity, differentiation, and profitable growth.
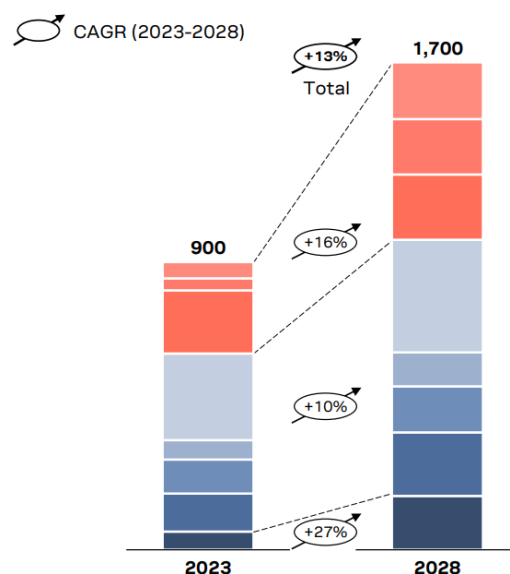
We are the clear market leader with 18 of the world's top 20 automobile companies as our customers.

Already, 60% of our R&D staff are dedicated to positioning innovations. Nonetheless, we are further focusing our R&D efforts to accelerate our positioning product innovation to develop new application offerings while leveraging our Services solutions to add additional customer value.

u-blox POS revenue 2022 (CHF million)

Automotive
- Autonomous Driving
- Infotainment and Navigation
- Telematics (Automotive)

Industrial
- Telematics (incl. Auto aftermarket)
- Asset Tracking
- Network and Timing
- UAV[1] and Others

Consumer
- Wearables and Others

349

2022

u-blox POS SAM development 2023-2028 (USD million)

CAGR (2023-2028)

+13% Total

1,700

900

+16%

+10%

+27%

2023   2028

Positioning chips and modules

Our positioning modules and chips set the benchmark in performance, with quick delivery of accurate position data. Our wide portfolio includes standard precision, high precision, precise timing, and dead reckoning solutions.

u-blox is a leading provider in GNSS solutions that are tailored for every customer's needs. Because we use our own silicon IP, we can offer controlled quality, high performance, quick support, and stable product life cycles. u-blox offers position and time products for in-car navigation systems, time synchronization for cellular base stations, Unmanned Aerial Vehicles (UAVs), and for people and asset tracking. Our products set the benchmark for performance and cost-effectiveness, with innovative advancements in accuracy, anti-spoofing, power efficiency, small size, and low cost.

Our positioning business, especially in automotive, demonstrated remarkable strength in 2022 revenue. Anticipating a solid 13% compound annual growth rate (CAGR) of the SAM between 2023 and 2028, substantial 16% growth in the automotive segment is driven by one of our focus segments: Automated Driving.

Anticipating future success, we're already pioneering advancements focused on higher accuracy, integrity assurance, functional safety, the incorporation of additional satellite systems, and advanced sensor fusion. This continuous innovation aligns with growing market demands, showcasing our commitment to staying ahead in an evolving industry.

Services

The complexity of IoT communication is solved by a comprehensive end-to-end solution based on the industry standard MQTT, with our network that is globally available in 190 countries. We simplify cost of ownership by offering a product "as-a-Service" at a predictable cost with on-demand scalability.

IoT Location-as-a-Service ensures reliable, fast position information and delivers accurate assistance and error correction data for IoT devices, even in constrained and challenging environments.

The concept of positioning is simple, making it better will continue for decades.

Positioning in theory

- Mathematical problem with four un-knowns: "length, width, height, time"
- Time measurement between receiver and four satellites allows for the solution
- Stationary receiver and satellites, perfect environment

Leading edge positioning solution by u-blox

- Up to 100 satellites channeled for best signal strength, faster time to first position calculation and avoiding reflection
- Sensor fusion for dead reckoning
- Anti-spoofing and anti-jamming algorithms

Theory

Reality

Today's success factors

- Attractive combination for the mass market
- Accuracy
- Time to first fix
- Power consumption
- Sensor fusion
- Quality
- Reliability: Performance in challenging environments
- Ease of use: "It just works"

Upcoming success factors

- Even higher accuracy
- Integrity: "How dependable is the position?"
- Functional safety certifications for automated driving
- New satellite systems, e. g., low Earth orbit (LEO)
- Advanced sensor fusion

u-blox

Connect

With over 90 million cellular and 45 million short-range devices in the field, and our "it just works" reputation for quality and ease of integration, we have an excellent foundation to gain market share in our connectivity business while increasing economies of scale and profitability.

We will continue to leverage being first to market with dedicated IoT modules and our reliable management of a complex supply chain as success factors. We will also leverage our position as a trustworthy Swiss supplier in a multipolar world to help us win market share and economies of scale to become a western cost leader.
The significant success of our cellular products within the healthcare industry sets the pace for u-blox to gain share in other industrial segments. The performance of our short-range products in automation and monitoring also lays the foundation for further market penetration.

Stopping future cellular chip development allows us to deepen relationships with other cellular chip suppliers, enabling faster reactions to emerging market trends with an even broader product portfolio. We focus on differentiating innovations, such as hybrid modules combining cellular and satellite connectivity as well as positioning. These solutions offer faster time to market for new cellular standards and satellite communications pre-integrated with cloud services and hybrid solutions combining cellular, short range, and positioning for asset tracking.

Bluetooth, Wi-Fi and Ultra-Wideband technologies in our short-range portfolio, increasingly enable indoor positioning solutions. While this is already addressing many use cases, we can deliver even greater value to our customers in combination with our GNSS products and services.
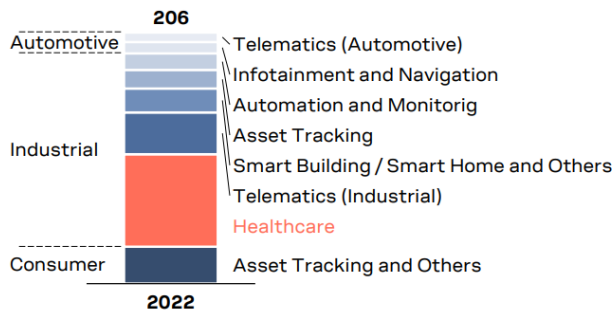
Cellular chips and modules

u-blox offers a comprehensive range of cellular modules characterized by their high-quality, scalability, and robust security features. These modules are designed for automotive, industrial, and consumer markets. They are compatible with different form factors, cost considerations, and quality standards.
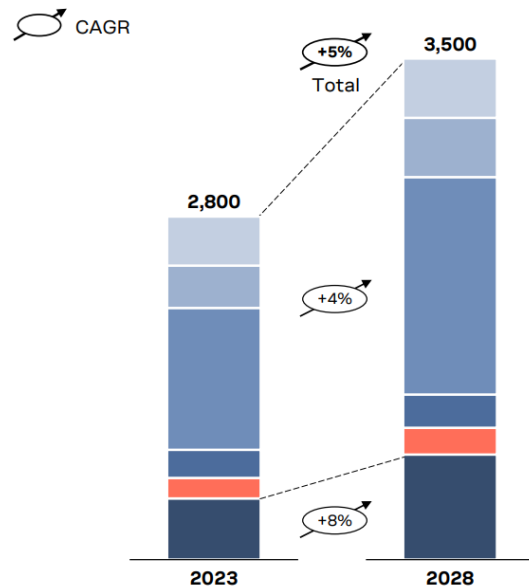
Our cellular technologies, including NB IoT, LTE-M, LTE Cat 1, LTE Cat 1bis, LTE Cat 4, 3G, and 2G modules, provide reliable global coverage depending on geographic requirements.

Our cellular modules are designed to support a wide range of IoT applications with varying data rate requirements. These modules support various use cases, from applications that demand high data rates for voice and video streaming, to those that prioritize optimized performance for ultra-low power consumption and extended in-building range.

u-blox CEL revenue 2022 (CHF million)

u-blox CEL SAM development 2023-2028 (USD million)

CAGR

206

Automotive
- Telematics (Automotive)
- Infotainment and Navigation

Industrial
- Automation and Monitorig
- Asset Tracking
- Smart Building / Smart Home and Others
- Telematics (Industrial)
- Healthcare

Consumer
- Asset Tracking and Others

2022

2,800

3,500

+5%
Total

+4%

+8%

2023   2028

Our cellular business presents a significant growth opportunity, with the SAM at a scale 10 times larger than our 2022 business size. While excelling in the health care segment, which constituted a small part of the SAM, there's ample room for growth in industrial segments, our focus for the cellular business.

Key success factors in cellular involve aligning with evolving standards, seizing market opportunities with new standards, and leveraging our experience to create user-friendly, quality-driven products that endure extended lifecycles. Our robust supply chain ensures reliability even in challenging times, enhancing our credibility as a dependable partner.

Looking ahead, we aim to establish ourselves further in the multipolar world as a trusted Swiss supplier, focusing on faster time-to-market and embracing new IoT standards like 5G. Our vision is to simplify the connection between the physical world and the cloud, streamlining communication pathways for our customers while pioneering technology to simplify these steps. This forward-looking approach positions us to meet evolving market needs and facilitate seamless connectivity solutions.

u-blox is the trustworthy cellular supplier with market shaping capabilities.

Today's success factors

- 1st in the market with dedicated IoT modules
- Customer centric product definition
- Quality
- Reliable management of a complex supply chain
- Ease of use: "It just works"

Upcoming success factors

- Trustworthy Swiss supplier in a multi polar world
- Faster time to market supporting new cellular standards and
- satellite communications
- Pre-integrated with cloud services
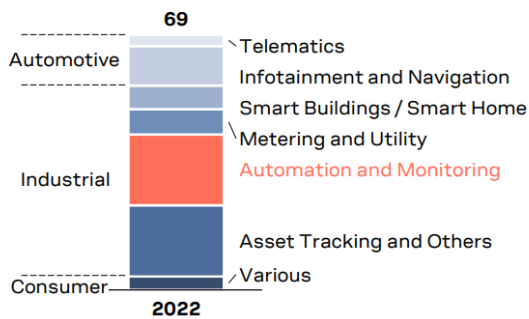
Short-range modules

Our Short-range components and software help you achieve a short time-to-revenue with efficient use of your own engineering team. Robustness, security, and flexibility are key, with powerful development tools and a global ecosystem of certification and technical support.

Targeting various markets from automotive, telematics, and industrial automation to smart cities, smart buildings, and healthcare, our short-range wireless offering includes Wi-Fi, Bluetooth®, individually and in combination.
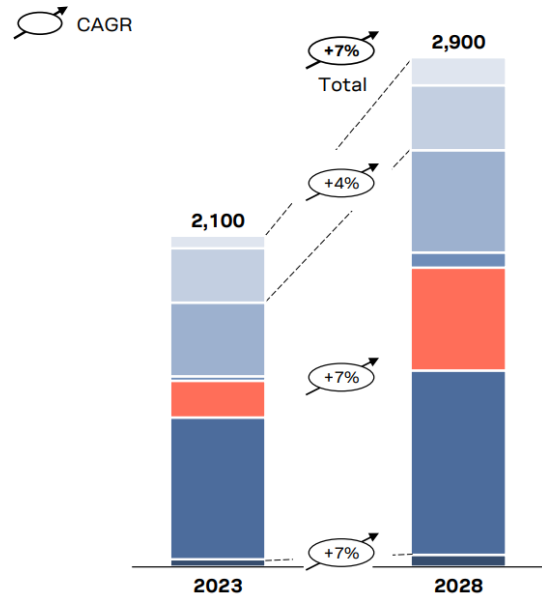
u-connect, our ready-to-use connectivity software makes it easy to integrate Bluetooth and Wi-Fi while reducing complexity, saving time and cost of development.

Robust, secure, and flexible, our modules are offered in two different architectures: stand-alone modules featuring an embedded MCU, which runs the driver, stack, and application and come in two variants (u-connectXpress, and open CPU) and host-based modules running the stack and applications on an external host processor.

u-blox SHO revenue 2022 (CHF million)

Automotive
- Telematics
- Infotainment and Navigation
- Smart Buildings / Smart Home
- Metering and Utility

Industrial
- Automation and Monitoring
- Asset Tracking and Others

Consumer
- Various

2022 — 69

u-blox SHO SAM development 2023-2028 (USD million)

CAGR

2023 — 2,100
2028 — 2,900

Total +7%
+4%
+7%
+7%

Within our short-range business, we're dealing with a large SAM, akin to the cellular segment, yet our current business share is relatively small. Notably, we hold a strong position in industrial automation, especially in the context of Industry 4.0. However, this is just a fraction of the expansive SAM, indicating considerable room for growth in adjacent market segments.

The success factors in this domain stem from our diverse portfolio – comprising a wide spectrum of WiFi and Bluetooth standards – enabling us to cater to varied customer needs, from cost-effective, simple modules to highly sophisticated, high-performance ones, a unique proposition in the market.

Looking ahead, we aim to consolidate our position as a trusted Swiss supplier in a multipolar world while delving deeper into indoor positioning capabilities, aligning well with our overarching Positioning strategy. Our innovation efforts prioritize creating easily deployable products for indoor positioning. Additionally, our integration strategy involves bundling short-range products with positioning and cellular offerings, culminating in comprehensive system solutions for our customers.

Anticipating future trends, we're focusing on edge computing, intending to imbue our short-range modules with added intelligence at the edge, complementing their existing role in connecting physical elements to the cloud. This forward-looking approach ensures we're aligned with market needs, providing cutting-edge solutions that transcend conventional connectivity paradigms.

u-blox's short-range solutions can shape the indoor positioning market.

Today's success factors	Upcoming success factors
• Diversified portfolio	• Trustworthy Swiss supplier in a multipolar world
• Partnership with chip suppliers	• Indoor positioning
• Distribution channel management	• Hybrid solutions combining cellular, short-range and positioning, e. g., for asset tracking in every location
• Quality	
• Ease of use: "it just works"	• Edge computing

Competitive landscape

u-blox stands out in the competitive landscape due to its extensive technology portfolio encompassing Positioning, Cellular, and Short-Range solutions, inclusive of chipsets, modules, and services. While competing against numerous companies none of them match u-blox's comprehensive range of offerings as illustrated in below table. This unique market position allows u-blox to provide the most complete and innovative solutions for their Industrial and Automotive focus markets.

	POS			CEL			SHO		
	Chip	Module	Service	Chip	Module	Service	Chip	Module	Service
u-blox	●	●	●	◑	●	●		●	●
Nordic				◑	◑		●	◑	●
Quectel, Telit Cinterion, Fibocom, Sunsea		●			●	●		●	
Semtech		●			●	●		●	
Hexagon, Trimble	◑	◑	◑						
Airoha, Furuno, Sony, STM, Unicorecomm	●	◑							
Broadcom	◑						●		
Sequans				●	●				
Espressif, Silicon Labs							●	●	
Altair, ASR, UniSoC				●					
Alps, Azurwave, Laird, Murata								●	

● coverage   ◑ partial coverage   ○ no coverage

Positioning

Within the global GNSS market, u-blox claims the #1 spot as market leader in terms of revenue and shipments, holding approximately 28% market share as of 2022. The second largest player is Broadcom (21% market share) focusing on Wearables with a dedicated chipset and Apple as the main customer. Other notable players are Airoha (13%), Sony (9%), and STM (6%) holding relevant market shares in this space. In China, Zhonkge Microlectronics commands a large share of the shipped volumes whereas UnicoreComm competes in Automotive and high-precision positioning solutions.
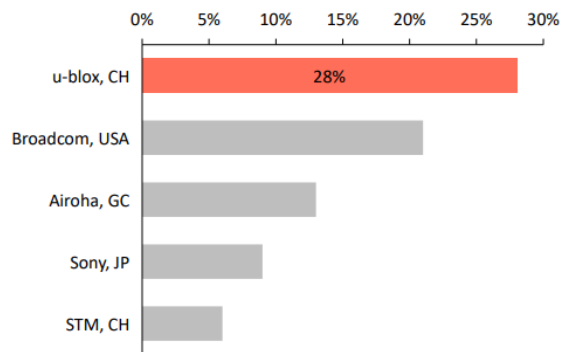
Cellular

In the cellular module sector outside of China, u-blox is among the top three Western players commanding a market share of about 7% in 2022. Overall, the market is dominated by Chinese players with Quectel leading in both volume and revenues (32% market share). The recent merger of Telit and Thales which resulted in the formation of the second-largest player, Telit Centerion (31%). Other notable players are Sierra Wireless (14%), Fibocom (12%), and SunSea (2%).

Short-range

Within the short-range module market, u-blox reflects approximately 2% market share outside of China. The market is dominated by Asian players with USI commanding about 38% market share, followed by Foxconn (21% market share). Other notable players are Azurewave (15%), Murata (13%), and Gemtek (12%). The diverse nature of businesses and the array of applications utilizing short-range modules have spurred the growth of numerous specialized module manufacturers leading to a fragmented competitive landscape.

POS market share

(modules + chips)

u-blox, CH	28%
Broadcom, USA	
Airoha, GC	
Sony, JP	
STM, CH	

Standalone GNSS chips/module market in 2022 (TAM): USD 1.4bn

CEL market share

(modules)

Quectel, GC	
Thales, FR [1]	
Telit, IT [1]	
Sierra Wireless, USA [2]	
Fibocom, GC	
u-blox, CH	7%
SunSea, GC	
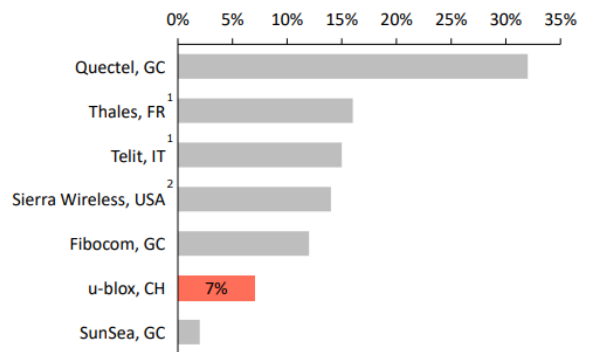
Cellular module market outside China in 2022 (TAM[3]): USD 6.7bn; SAM: USD 3.1 bn

Notes:
1. Telit acquired the assets of Thales cellular IoT products in July 2022. The deal closed in January 2023. The new company is called Telit Cinterion.
2. Semtech acquired Sierra Wireless in August 2022. The deal closed in January 2023.
3. Based on OMDIA and TSR market share data, China 2022 cellular module TAM is about $1.7B

GC: Greater China
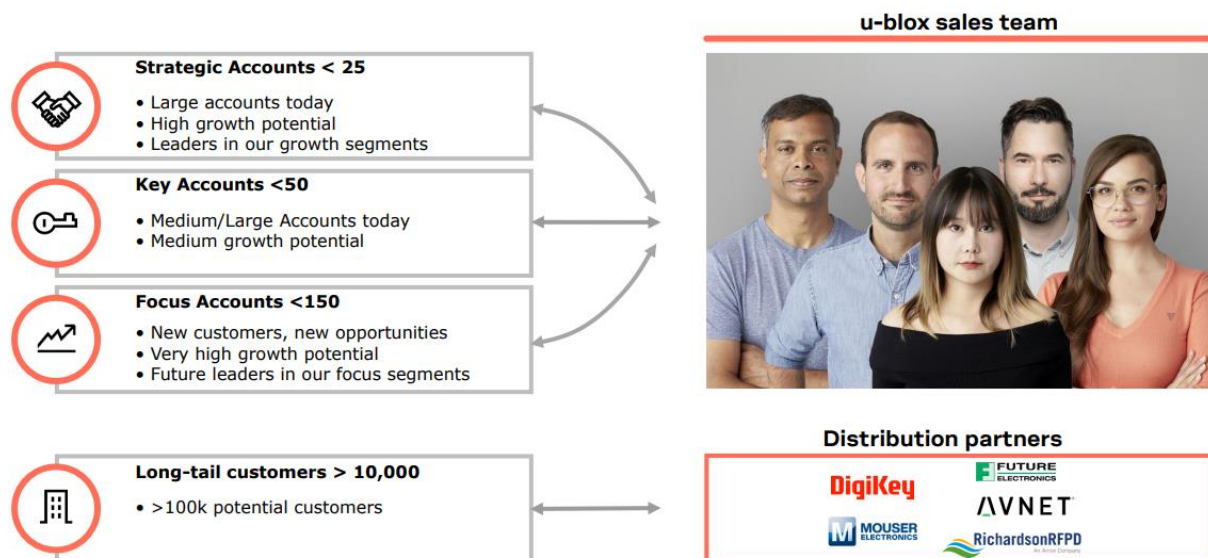Source: u-blox

Go-to-market

Customer centric approach

u-blox's go-to-market strategy is crafted to ensure direct and impactful customer engagement. Recognizing the importance of understanding the unique needs of our customers, we prioritize direct interactions to establish robust relationships. Our sales teams are equipped with in-depth product knowledge and industry expertise, allowing us to provide solutions that precisely align with the requirements of our diverse clientele. This direct approach not only facilitates a deep understanding of customer needs but also enables us to deliver value-added services, ensuring a seamless experience for our partners and end-users.

Focus on key accounts

u-blox adopts a channel optimization strategy to achieve effective market penetration. Through a balanced approach that combines direct engagement with customers and collaboration with distributors, we ensure a dynamic and adaptable presence in the marketplace.

Based on the strategy, we have strengthened our direct sales to our top 200 customers. Today, 75 customers make up 50% of our revenue. These are large and medium existing accounts, with about a third of those with high growth potential, leaders in our growth segments. Focus accounts are represented by new customers and new opportunities, with very high growth potential, representing the future protagonists in our focus segments.

We are leveraging the reach of our leading distribution partners to further increase market penetration and the service level for our long tail and mass market customers. Over 10,000 customers are now served by our distribution partners. They are not only better suited to cater to these customers but also have the potential to reach over 100,000 new potential customers.

At u-blox, we're privileged to collaborate with customers from 66 countries across diverse sectors, collectively revolutionizing how we shape the future of mobility or protect our planted form climate change by using resources more effectively. Together, we harness the power of IoT, engaging deeply with our customers daily to expand their knowledge and drive mutual success.

Our customers are the cornerstone of our innovation. Through strategic collaborations, we propel technological advancements and pioneer cutting-edge designs, ensuring our leadership position in the market. From industry giants to visionary startups, each contributes invaluable insights and sparks new ideas. We feel fortunate to be inspired by and work with some of the world's most innovative thinkers and industry champions.

We define high potential customers as those who want innovative solutions. Our demonstration tools make it much easier for them to choose u-blox followed by fast onboarding, which leads to the crucial design-in phase leading to a business win. In addition, we foster enduring relationships. We align ourselves as long-term partners, synchronizing with our customers' product lifecycles. Our technical, sales, and channel resources are committed to this collaborative approach.

Together with our customers, we've cultivated a vibrant learning community, empowering each member with knowledge and insights, thereby driving innovation and progress.

Unrivaled customer base

u-blox has witnessed significant success within our key markets, evidenced by a confirmed lifetime value of CHF 1 billion from customers. This business is slated to ramp up from 2024 onwards, representing solid commitments from customers for u-blox products in their applications.

Focusing specifically on automotive and industrial sectors, our reach and success are noteworthy. Among the top 20 global OEMs, 18 are currently utilizing u-blox GNSS technology, demonstrating our strong foothold in both traditional and new automotive players. In the Chinese EV market, we're present among the top 7 out of the top 10 EV car manufacturers.
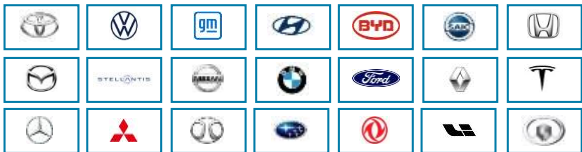
- 18 of top 20 car makers use u-blox GNSS
- Successful in automated driving in Americas, APAC, Europe
- Successful at traditional and new auto players

- Successful at classic industrial players and innovative startups globally
- Very successful in healthcare applications
- Encouraging long-tail demand creation via distribution

Going forward, we have defined four Go-to-Market initiatives for our future success:

- Increase focus on our strategic customers to maximize our share of wallet and execute on the project funnel that they awarded to us

- Develop new customers and new business with customers leading in our focus markets

- Leverage the power of leading distribution partners in order to further increase the number of customers and the service level for our long-tail customers and enable direct sales teams to focus on direct accounts.

- Make it easy for our customers working with us leveraging the solution capabilities of our distributors and design partners.

Sustainability

We are a sustainability enabler
Research by the World Economic Forum indicates that over 80% of IoT deployments are currently addressing, or have the potential, to address the UN Sustainable Development Goals (SDGs). They have also found that IoT is undoubtedly one of the most significant enablers for responsible digital transformation. Industrial IoT alone is estimated to add $14 trillion of economic value to the global economy by 2030. This means applications that support sustainability solutions are poised to structurally grow fast.

We are inspired by the potential of the Internet of Things to make the world more sustainable.

Our IoT products, services, and solutions are embedded into millions of devices designed by our customers around the world. They monitor, optimize, support, connect, and empower people and processes to support efficiency, human safety, environmental protection, health, and wellbeing.

We also observe IoT positively impacting humanity and the environment through sustainable applications, thus contributing to the UN Sustainable Development Goals.

Sustainability as an integral part of our strategy
At u-blox, we feel that to be an enabler in solutions and harvest its growth opportunities, sustainability must be part of our DNA, part of the thought process of everything we do.

Our new Mission and Vision launched in 2023 reflect this. It is important for us we act consistently, benefiting from these trends and acting accordingly internally and externally.

2023 Sustainability highlights

u-blox has been making significant progress on its sustainability program, and the highlights from 2023 are anchored within our sustainability strategy:

- Updated Code of Conduct

- Company wide business ethics training

- A series of 13 IT audits as a prerequisite for the ISO 27000 certification

- Establishment of a Diversity, Equity, and Inclusion Council to advance DE&I practice across our organization worldwide

We have also made progress on our environmental roadmap, net zero strategy, and Scope 1, 2, and 3 targets. Further, we have intensified our communication with our key contract manufacturing partners and component suppliers about their Code of Conduct practices. We are working with them to address any open challenges.

Additionally, we triggered a voluntary supply chain sustainability self assessment to benchmark our improvement.

By working with numerous NGOs, we have made progress in better understanding the barriers for young women in science, technology, engineering, and mathematics (STEM). We are also supporting the >>venture>> foundation, an NGO dedicated to empowering young entrepreneurial Swiss students and startups. In support of the International Red Cross organization's disaster aid in Slovenia and Pakistan, u-blox made corporate giving donations while u-blox employees generously donated their time to charitable organizations in their communities around the world.

The 2023 Sustainability Report is also the first u-blox Sustainability Report published following the requirements of the new Swiss legislation in the Swiss Code of Obligations (CO) Art. 964 and in accordance with the Global Reporting Initiative (GRI) Standards, another key milestone on our sustainability roadmap.

Stepping up for Sustainability

We value and align ourselves with international sustainability and ESG regulatory frameworks and closely monitor our sustainability impact and that of our partners as we do business with integrity, care for our employees, protect the environment, and contribute to the well-being of communities through sustainability projects worldwide.

As a company and through our innovations, u-blox envisions a precise, smart, and sustainable future and is working to help make it happen. With purposeful innovation and business integrity, we will continue to build on our progress and contribute towards a sustainable world.

Our five sustainability pillars

Pillar 1: Business Ethics, Privacy and Data Security
We believe in doing business the right way. Conducting ourselves with honesty and integrity – and maintaining high standards around privacy and security – is essential for winning and maintaining the respect of our stakeholders.

Pillar 2: People and Communities
Our strength comes from our people. We strive to give our employees an environment in which they can collaborate, innovate, learn, and grow. We encourage diversity and promote a culture of inclusion, health and safety. We believe in building sustainable communities around the world and collaborate and support them in many ways.

Pillar 3: Environmental Responsibility
We are committed to protecting our planet for future generations. We will do this by continually seeking ways to make the use and impact of our products, as well as our operations, even more environmentally friendly.

Pillar 4: Responsible Supply Chain
As a fabless company, it is our responsibility to ensure we create our products in ways that do not harm individuals, communities, or the environment and that all minerals and other materials are sourced in compliance with regulatory requirements.

Pillar 5: u-blox Innovations
Our IoT products, services and solutions are embedded into millions of devices designed by our customers and partners around the world. Many of them have a positive impact on sustainability. Through our continuous R&D work, we are always looking for new and better solutions, better ways to develop, manufacture, distribute and maintain our products.

Our 5 pillars
The u-blox sustainability strategy is based on five pillars: Business Ethics, Privacy and Data Security, People and Communities, Environmental Responsibility, Responsible Supply Chain, and u-blox Innovations. We report on the policies, management approaches and activities in each pillar and set out our targets and progress related to the Environment, Social, and Governance (ESG) issues within each pillar every year in our annual sustainability report.

People

After spinning off from the ETH Zurich 26 years ago, our entrepreneurial culture is thriving at u-blox. We are passionate about technology that creates value for our customers and us. We are known for pushing the boundaries of innovation.

The challenge of making centimeter-level positioning more affordable and therefore more accessible to everyone is the kind of achievement that inspires the bright minds of our 1'400 people.
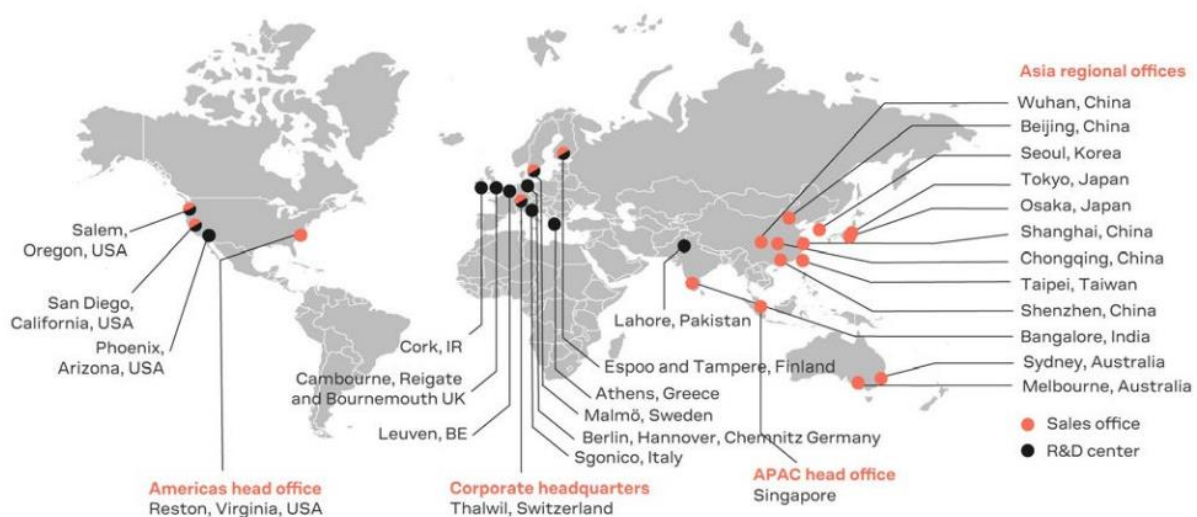
With high tech innovation, you do not want everyone to have the same opinion. You want to encourage people who are eager to learn from different expertise and experiences. This is why diversity and inclusion is essential for u-blox.

Our greatest asset
Our greatest asset at u-blox is our outstanding, highly skilled experts from over 70 nationalities across 33 sites worldwide. This diversity in background and nationality shapes our entrepreneurial culture and fosters our innovation. With high tech innovation, you do not want everyone to have the same opinion and do things the same way day after day. You want to encourage people who are eager to learn from different expertise and experiences.

Live and work in our markets
Our people also live and work in our global markets close to our customers, partners, and the end users of our products. Our culture of entrepreneurial innovation nurtures and draws upon the collective expertise of our people and partners. We share ideas around the globe to capitalize on new challenges and opportunities with the potential of IoT. Our global collaboration sets us apart.

Salem, Oregon, USA

San Diego, California, USA

Phoenix, Arizona, USA

Cork, IR

Cambourne, Reigate and Bournemouth UK

Leuven, BE

Lahore, Pakistan

Espoo and Tampere, Finland

Athens, Greece

Malmö, Sweden

Berlin, Hannover, Chemnitz Germany

Sgonico, Italy

Asia regional offices
Wuhan, China
Beijing, China
Seoul, Korea
Tokyo, Japan
Osaka, Japan
Shanghai, China
Chongqing, China
Taipei, Taiwan
Shenzhen, China
Bangalore, India
Sydney, Australia
Melbourne, Australia

● Sales office
● R&D center

Americas head office
Reston, Virginia, USA

Corporate headquarters
Thalwil, Switzerland

APAC head office
Singapore

A positive work environment

We want all our people to feel well, supported and inspired at u-blox so that they can realize their full potential. Mutual trust, competitive and fair rewards, our collaborative culture, and an open-door culture make working with us attractive for our highly specialized and diverse workforce. A positive working environment is crucial for productivity, efficiency, low employee turnover and shared success.

u-blox provides a safe, inspiring, and attractive workplace to its employees across the world and strives to be a role model for responsible employment. We offer our people exciting roles, continuous career development, generous training opportunities and various local benefits to help them succeed. Investments in future talent are also made through apprenticeship opportunities in Switzerland as well as an offering of internships at our different sites.

We treat each employee with dignity and respect and are committed to creating a work environment without discrimination and harassment – one in which diversity is encouraged. It is our responsibility to provide an environment for our people to thrive and reach their full potential. Forced, compulsory, and child labor are prohibited.

These principles are embedded in our Code of Conduct and also apply to our suppliers.

The challenge of making centimeter level positioning more affordable and thus widely more accessible is the type of achievement which inspires the bright minds of our 1,400 people.

You can discover more about how we nurture our people and entrepreneurial culture of innovation in our 2023 Sustainability Report.

Investors

u-blox focuses on generating value for our investors and benefits from operating in the ever-growing semiconductor sector. Additionally, our focus markets provide even higher growth potential. As an early innovator in the GNSS business, u-blox is the undisputed market leader in reliable and accurate positioning applications.

u-blox is committed to sustainable value creation for its stakeholders. Be it in the relationship with our employees, investments in the business, or working together with suppliers and customers, our focus is on the long-term development of our company.

Share price development
With a market capitalization of CHF 726 million as of December 31, 2023, u-blox has been listed on the SIX Swiss Exchange since 2007. u-blox's share price started the year at CHF 110.20, and after reaching a high of CHF 128.00 in March, it closed 2023 at CHF 99.90.

u-blox's trading volume in the SIX Swiss Exchange continued healthy in 2023. u-blox's average daily trading volume was approximately CHF 2.4 million in 2023.

In 2023, our new anchor shareholder SEO Management AG took a relevant ownership position and became one of our largest shareholders. u-blox envisages proposing the election of a representative of SEO for a seat on the Board of Directors at the 2024 Annual General Meeting.

We also saw former investors renewing their participation during 2023, such as Janus Henderson Group and Atlantic Value General Partner Limited. Other large investors also became significant shareholders, such as UBS Fund Management (Switzerland AG) and LLB Swiss Investments AG, disclosing above 3% ownership in u-blox.

With a free-float of 100%, u-blox's shareholders are well distributed with institutional investors mainly in Switzerland, the United Kingdom, and the United States.

Committed to fair and comprehensive market communication
We are committed to open and transparent communications with the financial market to present our investment story and opportunities. We pursue a constant, open dialog with investors, analysts, and the media through direct phone calls and email exchanges, regular roadshows, and one-to-one meetings. Senior management presents and discusses financial performance on a quarterly basis, and we provide the financial community and media with in depth reports and information through press and analyst conferences, conference calls, and webcasts.

As part of our 2023 Investor Relations activities, senior management and the investor relations team devoted 19 days to meeting investors directly or virtually through roadshows and conferences in Europe and North America, during which we met over 130 investors in one-on-one or group meetings and many more in presentations. Additionally, over 120 market participants joined our 2023 Capital Markets Day, in person and virtually.

Significant shareholders

The following shareholdings correspond to the ones reported according to the regulations of the Swiss Stock Exchange (SIX Swiss Exchange) as of December 31, 2023.
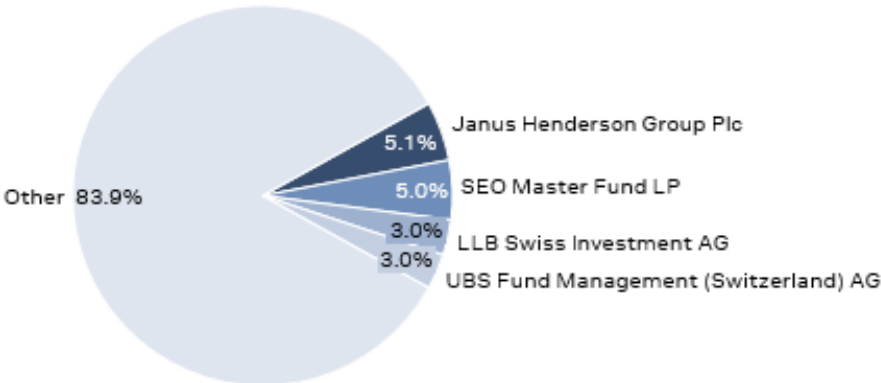

Certain shareholders have reduced or increased their shareholdings since.
For further details see https://www.ser-ag.com/en/resources/notifications-market-participants/significant-shareholders.html#//

Capital structure

The market capitalization at December 31, 2023 was CHF 726.2 million based on the outstanding ordinary share capital (7,268,884 shares).

Investment thesis

u-blox is incredibly strong in structural growth markets. We are the undisputed leader in Positioning based on a unique IP developed over more than 24 years. We create sustainable value for our shareholders and plan to further expand this.
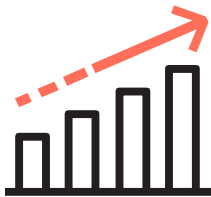
Strong in structural growth markets
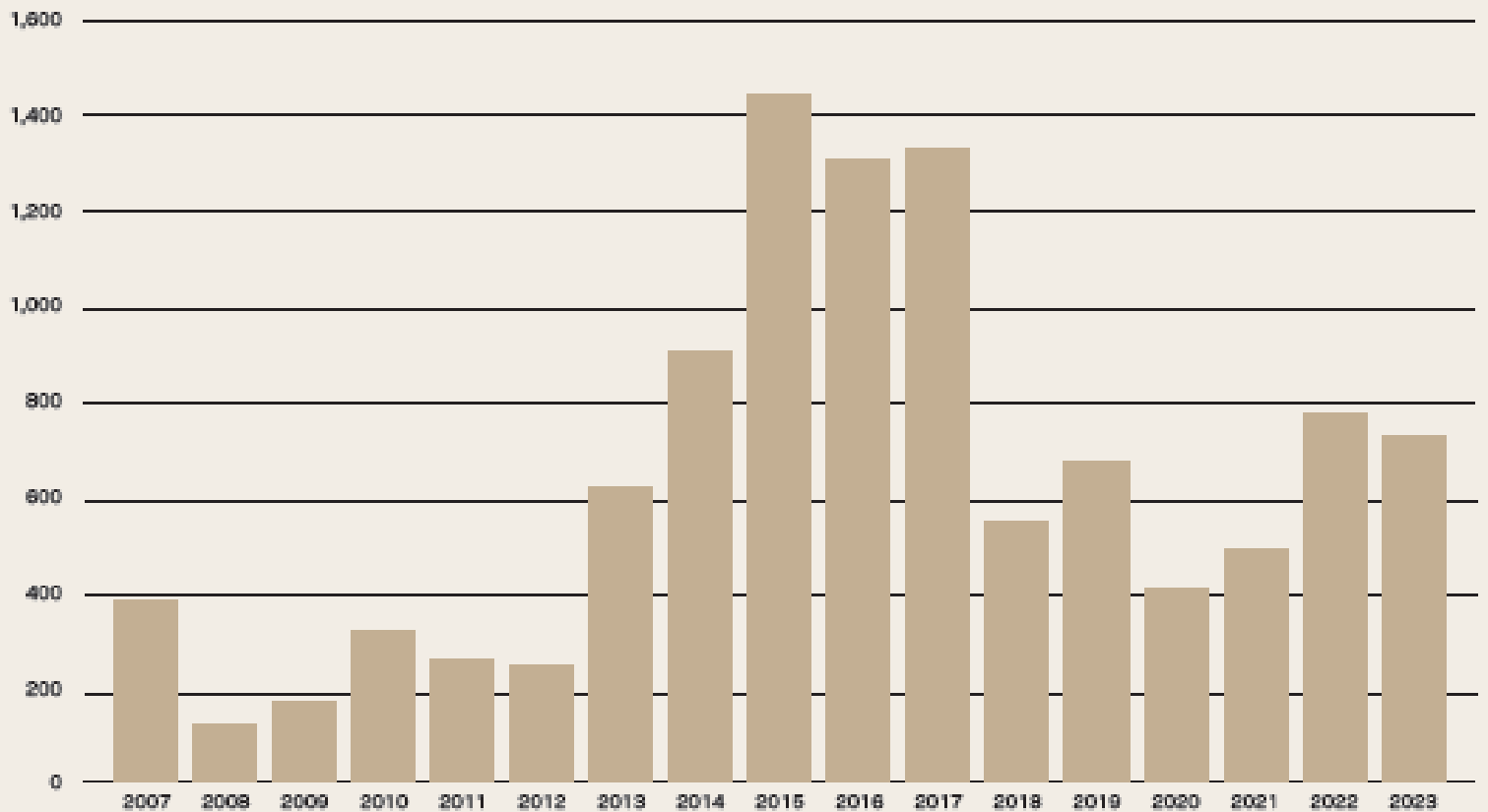
Undisputed market leader in Positioning based on unique IP

Sustainable value creation

u-blox share price CHF, SPI (rebased)

Trading volume (#shares)
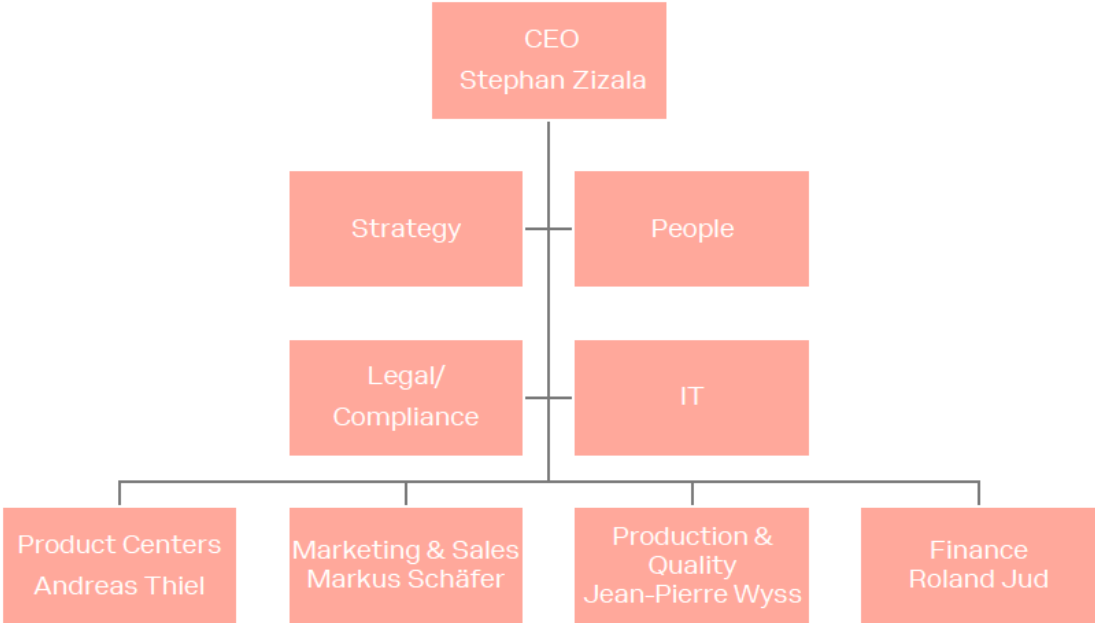

Market cap CHF million

Governance

u-blox group

The registered domicile of u-blox Holding AG and u-blox AG is: Zuercherstrasse 68, 8800 Thalwil, Switzerland. u-blox AG was founded in 1997. u-blox Holding AG, the only shareholder of u-blox AG, was incorporated in September 2007 and listed on the SIX Swiss Exchange on October 26, 2007 (Valor No. 3336167, ISIN CH0033361673, ticker symbol: UBXN). Hereinafter, u-blox Holding AG is referred to as u-blox. u-blox uses a "fabless" business model, i.e. u-blox outsources the production of modules and chips. u-blox is operationally managed by the executive committee ("EC"). Each member of the EC is responsible for certain functions, as reflected below.

Board of Directors
André Müller (Chairman), Ulrich Looser, Markus Borchert, Karin Sonnenmoser, Elke Eckstein, Fabian Rauch

Executive Committee
Stephan Zizala (CEO), Andreas Thiel, Jean-Pierre Wyss, Markus Schäfer, Roland Jud

CEO
Stephan Zizala

Strategy

People

Legal/ Compliance

IT

Product Centers
Andreas Thiel

Marketing & Sales
Markus Schäfer

Production & Quality
Jean-Pierre Wyss

Finance
Roland Jud

Board of Directors
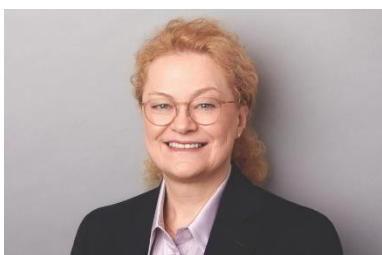

André Müller
Chairman

Ulrich Looser
Independent member
Nomination, Compensation and ESG
Committee (chairman); Audit
Committee

Markus Borchert
Independent member
Nomination, Compensation and ESG
Committee

Karin Sonnenmoser
Independent member
Audit Committee (chairwoman)

Elke Eckstein
Independent member
Strategy Committee

Fabian Rauch
Independent member
Strategy Committee

Executive Committee

Stephan Zizala
Chief Executive Officer

Andreas Thiel
Head of Product Centers, Co-founder
u-blox AG

Jean-Pierre Wyss
Head of Production and Logistics,
Co-founder u-blox AG

Roland Jud
Chief Financial Officer

Markus Schaefer
Executive Director Global Marketing &
Sales

Financials

2023 results

u-blox reported resilient results in 2023:
- Revenue of CHF 576.9 million
- EBIT (adjusted) of CHF 69.7 million
- EBITDA (adjusted) of CHF 112.4 million
- Free cash flow of CHF 10.9 million

Revenue

Revenue on a constant FX rates basis declined by –2.7% in 2023. Measured in Swiss Francs, it reached CHF 576.9 million in 2023, from CHF 623.9 million in 2022, representing a decline of –7.5% year-on-year. Foreign currency exchange rates negatively affected revenue by –4.8%, mainly from the strengthening of the Swiss Franc versus the US Dollar.

Asia Pacific: revenue in 2023 grew by 11.1% to CHF 272.3 million from CHF 245.0 million in the same period last year, mainly driven by significant demand from a healthcare customer.

EMEA: in 2023 revenue amounted to CHF 173.3 million, down from CHF 176.0 million one year earlier (-1.5%) primarily due to a decline in the Industrial segment partially compensated by growth in Automotive.

Americas: revenue in 2023 reached CHF 131.3 million compared to CHF 202.9 million in 2022 (-35.3%). The negative performance was mostly driven by the Industrial segment, which includes Healthcare, as a combination of overstocking and demand reduction.

Automotive: 2023 revenue decreased by –4.7% to CHF 169.2 million from CHF 177.5 million in 2022, mainly driven by a slowdown in demand in North America and Japan.

Industrial: 2023 revenue decreased to CHF 385.8 million from CHF 392.4 million in 2022 (-1.7%). The significant demand from a healthcare customer was partially compensated by a combination of overstocking and demand reduction in North America.

Consumer / Others: 2023 revenue amounted to CHF 21.9 million after CHF 53.9 million in 2022 (-59.4%) primarily due to the decline in consumer demand since mid-2022.

Gross profit

Gross profit (adjusted) reached CHF 254.3 million in 2023 from CHF 307.2 million in 2022. The respective gross profit margin (adjusted) reached 44.1% in 2023 from 49.2% one year earlier. The good performance in Cellular, with revenue growth and gross margin expansion, generated a negative mix effect, which explains most of the decline of the gross margin at Group level.

Research and Development expenses

R&D expenses (adjusted) grew by 10.5% in 2023 to CHF 117.4 million, compared to CHF 106.3 million in 2022. As a percentage of revenue, it increased to 20.4% in 2023 from 17.0% in 2022.

Cash R&D expenses (excluding amortization and adding back capitalization) grew less, +4.3% to CHF 129.1 million in 2023, from CHF 123.8 million in 2022. As a percentage of revenue, it increased to 22.4% in 2023 from 19.8% in 2022, mainly due to newly hired R&D staff in 2023.

Sales, General and Administrative (SG&A) expenses

SG&A expenses (adjusted) declined by 3.5% to CHF 67.2 million in 2023 (CHF 69.6 million in 2022), a consequence of lower sales bonus payments and cost discipline in the period. As a percentage of revenues, SG&A (adjusted) reached 11.6% in 2023, from 11.2% in the prior year.

Operating profit (EBIT)

EBIT (adjusted) reached CHF 69.7 million in 2023, lower than in 2022 (CHF 131.3 million). Accordingly, the adjusted EBIT margin decreased to 12.1% in 2023 as compared to 21.0% in 2022.

Adjusted operating profit before depreciation and amortization (EBITDA adjusted) amounted to CHF 112.4 million (2022: 169.9 million), a decline of 33.8% in 2023. The respective EBITDA margin (adjusted) reached 19.5% in 2023, from 27.2% in 2022.

Financial Results

Net finance results (adjusted) in 2023 amounted to CHF –8.7 million from CHF –1.5 million in 2022. Excluding FX effects, net finance costs (adjusted) in 2023 were practically nil.

FX results of CHF –9.0 million in 2023 (realized: CHF 3.2 million; unrealized: CHF –12.2 million) compared to nil in the same period last year (realized: CHF +4.2 million; unrealized: CHF –4.2 million).

Net Profit

Net profit (adjusted) reached CHF 51.1 million as compared to CHF 109.0 million in the prior year period. Diluted EPS (adjusted) in 2023 amounted to CHF 7.01 per share compared to CHF 15.36 per share in 2022.

Cash Flow

Change in net working capital was CHF –45.9 million in 2023 vs. CHF –58.2 million in 2022. Working capital improved significantly in the second half of the year, with a cash release of about CHF 20 million, driven by lower receivables and inventory levels.

Income tax paid was CHF –6.0 million in 2023, from CHF +4.9 million received in 2022. Capex in absolute terms of CHF 48.3 million in 2023 compares to CHF 51.2 million in 2022. As a percentage of revenue, Capex was slightly higher in 2023 (8.4%) versus 8.2% in 2022.

As a result, Free cash flow reached CHF 10.9 million in 2023 compared to CHF 66.2 million in the prior year.

Balance Sheet and Financing

During 2023, u-blox recognized CHF 65.4 million of impairment losses on intangible assets. The impairment was due to the decision to discontinue the future cellular chipset development. The impairment charge in 2023 was recognized in 'Research and development expenses' and relates to intangible assets in 'Intellectual property rights / acquired technology' and 'Capitalized development costs'.

u-blox's net cash position on December 31, 2023 stood at CHF 86.2 million after a dividend payment of CHF 14.2 million versus CHF 77.8 million on December 31, 2022. Based on the Company's solid net cash position, the Board of Directors will propose at the Annual General Meeting the payment of a dividend in the form of a par value reduction in the amount of CHF 1.00 per share in 2024.

Early in 2024, u-blox strengthened its financing and secured liquidity for the near future, by signing a new CHF 140 million credit facility with a three to five-year duration from a syndicate of banks led by Zürcher Kantonalbank.

in CHF 1,000	2023 (IFRS)	in %	adjustments	2023 (adjusted)	in %	(adjusted)	2022 in %
Revenue	576,910	100.0		576,910	100.0	623,852	100
Cost of sales	−323,021	−56.0	375	−322,646	−55.9	−316,701	−50.8
Gross Profit	253,889	44.0	375	254,264	44.1	307,151	49.2
Distribution and marketing expenses	−41,025	−7.1	1,055	−39,970	−6.9	−43,566	−7.0
Research and development expenses	−188,134	−32.6	70,720	−117,414	−20.4	−106,281	−17.0
General and administrative expenses	−29,957	−5.2	918	−29,039	−5.0	−28,003	−4.5
Other income	1,839	0.3		1,839	0.3	1,975	0.3
Operating (loss) / profit (EBIT)	−3,388	−0.6	73,068	69,680	12.1	131,276	21.0
Finance income	2,203	0.4		2,203	0.4	561	0.1
Finance costs	−11,125	−1.9	186	−10,939	−1.9	−2,075	−0.3
Share of loss of equity-accounted investees, net of taxes	−199	−0.0		−199	−0.0	−119	−0.0
(Loss) / profit before income tax (EBT)	−12,509	−2.2	73,254	60,745	10.5	129,643	20.8
Income tax benefit / (expense)	3,878	0.7	−13,513	−9,635	−1.7	−20,598	−3.4
Net (loss) / profit	−8,631	−1.5	59,741	51,110	8.9	109,045	17.5
Earnings per share in CHF	−1.21			7.17		15.65	
Diluted earnings per share in CHF	−1.21			7.01		15.36	

Disclaimer

This Investor Manual is issued by the management of u-blox Holding AG. It is being made available to current U-blox Holding AG shareholders as well as persons who are evaluating the possibility to enter into a shareholder relationship with U-blox Holding AG and thus making their own opinions on the transaction, for which they ultimately hold full responsibility. This document is for information purposes only and does not constitute or form part of, and should not be construed as an offer or invitation to subscribe or purchase any securities of U-blox Holding AG in Switzerland or in any other jurisdiction. It should, therefore, not form the basis of any investment decision for shares of U-blox Holding AG. This document contains forward-looking statements. These statements are based on information currently available to our management as well as on management's current assumptions and forecasts. Various known and unknown risks, uncertainties and other factors could lead to material differences between our actual and future results, financial situation, development or performance and the estimates given in this document. U-blox Holding AG does not assume any liability to update forward-looking statements or other information in this document or to confirm such forward-looking statements or other information to future events or developments. This document does not purport to be inclusive or to contain all the information which a prospective investor would require. Neither U-blox Holding AG nor any of their officers, directors, employees or agents may guarantee the accuracy or completeness of this handbook or any part thereof, and each therefore rejects liability concerning such information. The distribution of this document may be restricted by law. Any persons reading this document should inform themselves of and observe any such restrictions.

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